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Rebecca Cressman: Hi I'm Rebecca Cressman, and this is Living Essentials, with helpful ideas to enrich and simplify our everyday lives. Today we're talking about emergency preparedness. We've been hearing about food storage and 72 hour kits for years and it's something that many of us have a tendency to say, "We'll get to tomorrow." But the events of September 11th changed that for everyone, especially for members of the Manhattan fifth ward in New York City. The devastation unfolded right before their eyes.

Luci Holman: I remember waking up and looking out my windows and it was just the clearest blue day and I was looking out my window because I was going to head right downtown to the World Trade Centers.

Ron Robison: I actually worked in the 72nd floor of the World Trade Center. I usually leave at 5 or 5:30 in the morning and go and work out and then I get to my office about 7:30 but on this occasion I decided to stay home and so I was still here at the apartment when all this started to unfold.

Megumi Vogelmann: I was doing exercise in the living room and suddenly an enormous sound, and the whole building shook.

Thomas Vogelmann: When it happened she came racing into the bedroom to get me and said, "A bomb went off in the World Trade Center." And I went out to our balcony, looked around at the World Trade Center and I told her, "That's not a bomb, it was a plane, can't you see the shape on the side of the building? See where the wings and the main part of the fuselage." It was very obvious that a plane had gone into the building and of course everyone thought that it was a terrible mistake. Nobody realized at that moment that it was an act of terrorism.

Glade Holman: The week of September 11th I happened to be in Georgia and somebody said, "Aren't you from New York, you should, there's something here on the news, you should take a look." It was before the second plane had hit and it was still the speculation that, you know, it was a FedEx plane or it was a small plane or it was an accident.

Susan Robison: And all of a sudden, we heard this huge loud roar, and what it was, it was the second plane and the second plane came in right over our building and then we heard the huge explosion. So we knew something was very wrong.

Glade Holman: You start to realize, this is – I haven't thought about it in a long time – This is not an ordinary event, that people I know work in those buildings and live literally just feet away from there, and this is not going to be something simple and easy.

Susan Robison: We watched on top of our building until the first tower fell.

Ron Robison: I heard a loud rumble, it sounded like an airplane. It was a loud vuvuvuvu and then a crash. (loud rumbles and screams) And then I saw people running, from my dock, and I could see them on the ground running saying, "Get out, run run, get out, get out."

Thomas Vogelmann: The cloud of smoke and dust came rushing toward us, it was just fierce. And people were running up the west side highway, trying to get away as fast as possible, many running for their lives.

Rebecca Cressman: As we all know, soon after that, the North Tower fell too, and everyone realized that this disaster had changed the world. It also changed the way we feel about our own safety.

Michael Stever: A lot of the recent, national and worldwide focus on being prepared for acts of terrorism, has heightened awareness to emergency preparedness and kind of, driven the message home a little bit. However, we do see the same thing occurring after a major tornado or hurricane or earthquake or a major winter storm. There's always this heightened level of awareness.

Randy Frank: Emergencies are basically all the same. You have an event and then you go to recover from that event. So if you prepare for that event, you put together your 72 hour kits, and your items that you need to take with you, and you prepare for a variety of events. An earthquake, a flood, a mudslide, whatever it may be, but the preparation is basically the same for all.

Michael Stever: One of my favorite emergency management slogans is the farmer who said, "I can sleep when the wind blows." The correlation to this of course is that when there are troubled times and the wind is blowing, that his farm is secure. Things are in place, they're tied down, and he knows exactly what he's going to do, first second and third if the wind really starts blowing hard. That gives people a certain peace of mind and allows you to focus on other things. Once you know that that is taken care of, doing your duty to people that you have stewardship over, getting to work on time, taking care of the family.

Rebecca Cressman: On September 11th, shortly after the second tower fell, Glade Holman left Atlanta and began driving home. As an LDS Bishop he was very concerned about the welfare of his ward. While he was on the road, his wife and other ward leaders began the overwhelming task of finding each and every member.

Glade Holman: I basically didn't sleep for three nights as we were just, from the time I left Georgia driving through that thing for 17 hours, landed here, finally back here in the house, and then coordinating the efforts. Finding people, where they were, making sure they were someplace where they had a roof over their heads.

Thomas Vogelmann: We received calls from quite a number of people, I think all the members that knew where we lived called, that were aware of what had happened. We received wonderful support from the church and concern from them.

Glade Holman: We were emailing lists back and forth. "We found this one did you find that one?" "No, we got this one, did you get that one?" And we just had a story for every single name in the end. When we had an excel spreadsheet with the time that they were contacted, the comment, and that's a spreadsheet I don't want to live, but it's got the story for every single person. "Talked to the doorman who saw him yesterday, he's okay." Or "Met the sister, says they're fine." And finally, I could not personally myself let it go, until I had every name signed off.

Rebecca Cressman: With the help of ward leadership, Bishop Holman was able to locate every member of the ward and confirm that all were alive and okay. As night fell on September 11th, the rescue efforts continued. Many of those who lived nearby had not yet been evacuated. They had however lost power and water.

Megumi Vogelmann: The hallway is completely dark without the light, so everybody opened their door and kept it open, and we could see each other and we went in each other's apartment. "Are you okay?" And so on, worried about each other, and then somebody said, "I don't have any water," and I invited neighbors and shared my candles, water and we were really one, united that night.

Rebecca Cressman: Eventually, all of lower Manhattan was evacuated. That meant members of the fifth ward didn't have access to their food storage. They had to rely on help from friends and relief agencies instead. But there are other emergency situations where it's vital to have food storage within reach. Extended power outages, truck driver strike, or even losing a job. For the Richards family of Falmouth, Maine, it was an ice storm. Bruce and Nancy Richards enjoy living on the beautiful eastern seaboard, but the winters in Maine can be severe. This was the case in January of 1998 when a terrible ice storm hit. Throughout the state, tree branches heavy with ice were knocking down power lines, smashing cars, and blocking roads. Most Mainers found themselves without power for up to two weeks. Within hours, grocery store shelves were virtually empty. And trucks were unable to get in to restock them. Without power, food in refrigerators and freezers was quickly

going bad. Many of them found themselves in a situation where they needed food, they needed heat, and they needed these things right away.

Bruce Richards: Unlike I guess many of our neighbors who were rushing out to the store to try and stock up on food, we didn't even think about it, because we just go to the basement anyway to prepare our meals. And so, that wasn't really an issue for us at all.

Rebecca Cressman: The Richards have always maintained a supply of food storage in their basement. For them, it's just a way of life.

Bruce Richards: We sort of look at it as a reservoir, a pool of foodstuffs if you will, and so when Nancy shops, she just buys to put into the reservoir. Whenever we fix a meal, we just go to the food storage and take the ingredients out of that so that it's always being replenished and I would say that almost all of our meals come to us that way.

Rebecca Cressman: Not only do they stock their shelves from the local grocery store, but they also grow a garden, things like potatoes, tomatoes, onions, and carrots, will end up in their food storage and will be used throughout the year. But for the Richards, gardening together is more than just for food storage. It's also a time to talk, a time to think, and a time to learn about the law of the harvest.

Nancy Richards: I think when President Kimball told everyone to grow a garden, it wasn't necessarily the food he was concerned about, it's the, you learn a different sort of pace of life when you have to wait for things to grow and when you plant the pumpkin seed, you're not going to get a pumpkin until you go through the natural cycle of what it takes to grow a pumpkin, so you learn patience, you learn those things that our forefathers knew just because they were tied to the land and those are things I think President Kimball knew we needed to know.

Rebecca Cressman: After the ice storm when temperatures dropped to 20 below at night, a source of heat was another big concern for many. Once again, the Richards were prepared.

Bruce Richards: We actually have three different energy sources to heat our home and the wood stove is the most useful when all the electricity's out. And so we try during the course of the year to chop wood and save it and dry it and have it ready.

Rebecca Cressman: Their preparation beforehand allowed the Richards to not only survive the ice storm, but to thrive in it. They were even able to reach out to their neighbors and share what they had.

Nancy Richards: We called everybody and invited them over and we had a big chili cook-off and I had some frozen bread dough downstairs in the freezer, thawed that and made fried bread in a big castiron frying pan, and admission to the party was a bucket of water. One bucket of water was good for a free dinner. And we just sat around and visited with each other and it was a fun experience.

Bruce Richards: In a sense, it's kind of an adventure, you know, when that occurs. And I wouldn't say it was a disaster in the sense that people were worried about dying or anything like that, but it was an inconvenience and people and neighbors had to pull together and help each other more. It almost, it feels like you need to have a little mini-disaster every once in a while just to remember and learn again that you should watch out for each other.

Lisa Harkness: President Benson gave counsel saying that we should not go into debt to get our food storage or to become prepared for emergencies. Instead he said we needed to realign our priorities and if that means that we need to forego a vacation, or forego a bigger TV set or an upgrade in our car, or perhaps even smaller things like movie tickets or eating out every weekend, and we needed to readjust our priorities. And he actually said the words, "And we need to do this now."

Leslie Probert: People find that overwhelming because planning for a whole year's supply is a big job, certainly trying to figure out what you would store, how you

would rotate it, how you're going to finance all of that, where you're going to put it in your home. Those are things people find are very difficult to figure out. The key is to keep it simple.

Lisa Harkness: I know lots of families who decide they're going to have a food storage budget for their family and they set aside X amount of dollars every week or every month and then they use that money to get a little bit at a time, so they either get small packages of things or things in bigger quantities and that food storage budget then allows them to have that dedicated, they don't spend that money on other things, and what you'll find is, getting just a little bit of something will encourage you and will get you excited about getting more.

Leslie Probert: The basic foods that have been recommended for many years are inexpensive, they're space efficient and that means that they're a very good place to start. Those basic foods would include: wheat and other grains, legumes, sugar and honey, oil, salt, garden seeds, and water.

Lisa Harkness: The church actually has a booklet, it's a brown booklet and it's called *Essentials of Home Production and Storage* and in there there's a list of how much to store for each person for a year. So, if you look at those quantities and you times them out by the number of people in your family, you'll get a large amount of food. Don't be overwhelmed or don't be discouraged because the amount seems so large. Start maybe with ten pounds of something, twenty pounds of something. You need enough water to get you through two weeks, and for that it's recommended that we have fourteen gallons per person. Now that's not a whole lot of water, but it's enough for simple hygiene and it's enough for cooking, and instead of keeping those barrels of wheat in the basement actually start using some of that wheat, start experimenting with some of it so that you know how to fix it in an emergency and your family is accustomed to eating it.

Leslie Probert: Unfortunately in the past there have been recipes that float around that people try and they're just not that good, so that has caused people to decide in their minds that this is an impossibility that food storage never really could taste good anyway, so why would I even try to find good tasting recipes. It is possible to find very good tasting recipes using only stored food and it is well worth the search to find them. I can have a good food storage recipe put together in about five minutes. These recipes are so fast, that even a husband can fix them, when the wife is busy, teenagers can fix food storage meals because they are so easy and fast. If you're using dried vegetables, they're already cut up so children can learn, fixing a food storage recipe because they're so simple.

Lisa Harkness: Different families and different localities will find that they have to adjust how they store their food storage in different ways. A family in Southern California may only have room to store their food storage in a hot garage and that may be the only place because of the size of a home, or an apartment or a condo or whatever. In an apartment you may only have room to store food storage in a closet, or under a bed, or to actually make a lovely side table out of stacks of your boxes of wheat or whatever. Whatever works for you in your situation is what you need to do.

Megumi Vogelmann: We lifted the bed way up, that I'm kind of short so I have to get in the bed by stool, and so we have plenty of water, wheat, and then I have lots of dry food in the jar and then I have fresh food, canned that you have to use within two years, all in the front of the shelves.

Rebecca Cressman: When it comes to food storage, anyone living in an apartment knows you have to be creative. Curtis and Rhondalynn Paige live with their four children in an apartment in Pasadena, CA. They too have found innovative ways to make it work.

Curtis Paige: We have a coat closet in the hall that I put some shelving up in and we put most of our food supply in there and then in one of the bedroom closets, we've dedicated a small portion of that to store water.

Rhondalynn Paige: We have two cribs; we put baby supplies things like that, toiletries, under cribs and under bunk beds. We **Michael Stever:** An interesting point about storing water is that it should be stored in small enough containers that could be carried. Water is heavy, anything that's designed for long term storage of liquid is good, stay away from milk cartons, stay away from Clorox bottles, things like that, the two-liter pop bottles are generally considered a good source. They're small enough that a child could carry it if they had to and it's easy to rotate that water, pour it out and refill it once a year if you need to. So, remember what you store that you may have to carry and if you have a 50 gallon drum of water nobody could roll it out and it probably won't fit in the Volkswagen.

Rebecca Cressman: The Paige's live right between two fault lines and not far from Northridge where in 1994 a terrible earthquake hit measuring 6.7 on the Richter scale, the quake caused severe stretch-roll damage, displaced thousands, and took 51 lives. Being prepared for this kind of an emergency, where there is literally no warning, is obviously very important to the Paige's in their ward they serve as emergency preparedness coordinators for their area. Every other month they host an emergency preparedness meeting with neighbors and members of the ward who live close by. They review their emergency response plan, update contact information, and discuss ways to become more prepared for an earthquake or any other emergency that may occur. Many in the group are Ham radio and CPR certified. They have designated an empty lot up the street as a meeting place should they have to evacuate their homes. Each meeting they offer preparedness items that can be purchased at a discount, such as first aid kits and flashlights, wheat grinders and water barrels. They've learned that by working together, they can be more prepared should disaster strike. In their own family, the Paige's discuss their emergency plan with their children and try to reassure them that should something happen they know what they need to do.

Rhondalynn Paige: To be prepared, I mean is just a calming thing, just to know that we can take care of our family and we can take care of others if they need it.

Michael Stever: In creating a family emergency plan, look first to the type of emergencies that you might face and what are the most common emergencies that happen to families. Extended power outages because of storms is very common. Fires in the home, hazardous material spills, things like that. So we actually need to plan out what would we do. If we have to get out of this house, how can we do it? Is there more than one way out of the house? Just reminding the family what the smoke detector sounds like, what the carbon monoxide detector sounds like, where will we meet once we get out? So we plan that out as a family, we work through it and then decide to practice it.

Randy Frank: My family every once in a while, usually on a Friday night because there's no school the next day, about 10:30 or 11 o'clock at night I will intentionally set off the fire alarms in my house to see how my children are going to react, and if you're standing outside my house you see kids flying out windows because they all know that that's their escape route.

Rebecca Cressman: The tragic events of September 11th motivated the members of the Manhattan fifth ward to be better prepared. Now, virtually every family has an emergency response plan and 72 hour kits.

Glade Holman: We've done it through our Enrichment nights, we continue to do follow ups on it, adaptations to it, and kind of brought in the stuff, everyone kind of made them. We've got ours, it's more than a backpack because we've got three little kids that can't wear theirs.

Megumi Vogelmann: 72 hour kits, I have it and I always have it right next to the bed, so when something happens I can just grab it.

Kaia Seefeldt: We kept actually a camping lantern, you know, the Coleman camping lantern, next to our bed so that in case something were to happen at nighttime, we have a lantern there. I keep one, a flashlight in my dresser drawer. We keep our backpacks right at the front door and they're inside the front hall closet so that they can easily be taken and go.

Dan Seefeldt: We have all of our church documents and our journals and things like that, closer to the door as opposed to placed in different closets throughout the house, and it makes it a lot easier in case there's another problem, we can just grab it and go.

Michael Stever: So for that first 72 hours you want to have things that the family will eat that don't require a lot of preparation, maybe that don't even require cooking, that you can eat cold if you had to. That's going to help you a long ways. You may not be in a position to grind too many pounds of wheat when you evacuated your home.

Rebecca Cressman: When preparing 72 hour kits, there are some basic items you want to include, such as water, food, and clothing. Of course, depending on where you live and your particular circumstances, there are a number of additional items you'll want to consider. Some people even have mini 72 hour kits for work, for their car, or even for their purse.

Megumi Vogelmann: Every time I go out, even now when I go out, my purse has a miniature 72 hour kit. I have flashlight in there, of course cell phone I always have, and make sure battery is on, and I have a kit of band aids, ointment, everything in a little kit in my purse.

Rebecca Cressman: A lot of us have been fortunate enough not to have to rely on our food storage or 72 hour kits. We may even wonder, why should we have them at all? But the very nature of emergencies is that we don't know where or when they will occur. And there's peace in mind knowing that we're ready, just in case.

Megumi Vogelmann: Whether it's wasted or not, we did obey the prophet, that's what counts, how obedient we are.

Susan Robison: I think it's more important that we were prepared than that we had to use it. Also it may be that we're not the ones that have to use it, it may be that someone else needs it and we're able to offer it to someone else.

Glade Holman: I could never imagine actually using a year supply for a year. What kind of disaster? The world must be at an end if that were the case, but I could imagine that our year supply gets split twelve ways between twelve families and lasts for a month. So I think it's not only for ourselves that we're prepared, but so that we can help others.

Lisa Harkness: Some people think, "I get food storage and it's mine and I hold on to it and it will help me in an emergency." But actually the opposite is true. Just as with all gifts that our Heavenly Father gives us, he gives them to us so that we can share and help and enrich other people's lives. Should food storage or the way we prepare for emergencies be any different? Really he helps us prepare so that we can help others of his children.

Rebecca Cressman: Understandably, preparedness is of great importance to members of the Manhattan fifth ward. Every family has taken steps to be more prepared should another emergency happen. But they have also gained a spiritual preparedness that has developed through the events of September 11th and its aftermath.

Glade Holman: I think for everyone, in my ward particularly, it ended up being an opportunity to exercise faith in the Lord and when you exercise faith it's always rewarded and strengthens your faith and with such a tragic, heartfelt, just despicable

event that was so heinous, so much good came from it. It's almost like you feel tighter as a family, as a ward because you've shared those experiences and you've exercised the faith together and come to those questionings and shared that group process almost of mourning and coming to resolution and having your prayers be answered and the spirit comfort you and help you make sense of something that doesn't make sense.

[Rebecca Cressman](#): Now to be ready for an emergency, we don't need to go through life thinking a tragedy is just around the corner. We just need to take steps to be prepared and remember, what's important is that everyday we do the small things, the essentials, that add up to a balanced and more fulfilling life. Thanks for watching. We'll see you next time on *Living Essentials*.

>>Next on *Living Essentials*, we're talking about canning for keeps. Perhaps you've never done any canning, or you just want to brush up on the basics. Today we'll show you just how easy canning can be, and we'll give you a few tips that maybe you haven't heard of. Stay tuned.

Rebecca Cressman: Welcome to *Living Essentials*. I'm Rebecca Cressman, and today we're talking about canning. In recent years, the popularity of canning has dropped off quite a bit. For many people, it just doesn't seem cost effective or maybe even worth the time and the energy. But if it's done correctly, it can be a very satisfying and rewarding process. Joining me today to show us how it's done is **Teresa Hunsaker**. Teresa is an educator with the Utah State University extension. Welcome.

Teresa Hunsaker: Thank you.

Rebecca: Now first of all, tell us why should we can?

Teresa: You bet. I think there's probably many reasons why people can, but for me, it's a matter of convenience. It's kind of like time in a bottle just waiting on the shelf for me to come home on one of those hurried evenings and want to put a meal together for my family and kids. And I have lots of options when I have some home-bottled products ready to go.

Rebecca: There are a lot of reasons why some people have kind of pulled away from it. A lot of the canning that I have to do, for example, in the summer, it's already hot and kind of sweaty, you've got to pick – I mean, stem, and there's so many bottles, and you know, it just doesn't seem economical sometimes. I could just go to the store and get a case of cans. What makes it worth it?

Teresa: Well, there's probably for many different people reasons why it's worth it for them. Maybe perhaps it's worth it because of the overall quality and the color and the flavor and the texture – I think it's a little bit better than the commercially prepared counterpart. But also, if you think about it, if you already have all of your canning supplies, your jars, your equipment, the tools and everything that you need, those can be used over and over and over again, and so I don't have the economics of having to re-purchase those through time. If I have a garden, if I have my own fruit trees or things like that, or have access to those products inexpensively, then it does make it economical and worth it that way. But it's true – in the heat of the summer when I'm standing in the kitchen and all of that produce is staring me in the face, it can be a little discouraging. But I also have to remember, too, that for many people it's kind of an intrinsic value. It's important to them to be able to know how to can, to be able to put food by, and have some bottles on their shelves--in kind of a preparedness, self-sufficiency attitude.

Rebecca: I like the idea you were saying that on a hurried day, because so many of us are busy, that you actually have laid out in front of you in beautiful glass some of the food that you can prepare. But are there some foods that are better than others to can with?

Teresa: There are. And one of the recommendations I would make right from the start would be to know which ones are better for canning than others, and our canning guides will help us with that, *The Ball Book* or the *USDA Canning Guide*. But as you're preparing to can and looking at the options, definitely making selections of good quality produce – if it's fruit, I want to make sure that it isn't bruised, that it's not overripe, that it isn't damaged and skin broken and things like that. And the very same with my

vegetables – I want them to be nice and firm and clean relatively. I don't want to have a lot of ground dirt and things like that on them. And so when I make a selection, I do want to make sure that I am selecting – “quality in, quality out,” as my mother always used to say.

Rebecca: In just a moment we're going to get started and actually put some of this into practice, but how about some basic things we need to know before we do?

Teresa: You bet. For me, especially with the extension service, the most important thing that any canner should keep in mind is **food safety** as the number one priority. And so with that in mind, they need to understand that recipes are scientifically calculated. They're determined based on things like Ph and the density of the food and the heat penetration curves that are going to be taking place in the water bath or in the pressure canner. Also things like the altitude that I'm preparing the food at makes a difference. Also things like the bacteria load – just in a standard kitchen, what kinds of bacteria and microorganisms am I going to be dealing with? And all of those things factor into those determined and calculated times and methods that they give us.

Rebecca: I think so many of us have heard about pH and maybe when we're thinking of skincare products, but tell us a little bit about what pH is and how that factors into the canning process.

Teresa: You bet – **pH is the acidity level of the food**, and if I have a lower number, that means higher acidity. For example, an apple might be at about a 3.0 pH, whereas if I have a higher number, that means less acidity, such as a green pepper that might have about a 5.0 pH. I am concerned in canning with the pH probably first and most primarily because of a microorganism called botulism. And I need to have an acidic environment for that botulism spore to be dormant so it doesn't produce its toxin.

Rebecca: How about the food density?

Teresa: The **food density** is important because in heat penetration, I want to make sure that I kill microorganisms with a certain amount of time and temperature being subjected to those microorganisms. And those microorganisms, some of them are pretty heat-hearty, and so the density of the food, how thick it is or how porous it is, all comes into play when I am looking at a recipe.

Rebecca: So, it really does, if it says in the recipe, you need to boil it for 20 minutes versus boiling something else for ten minutes, we're actually targeting maybe the density.

Teresa: The density of the product – also, as we mentioned earlier, the bacteria load comes into play here, too. They look at **standard bacteria loads** in a kitchen, and we do need to kill different microorganisms, not just botulism. Botulism requires, if I were actually going to kill the spore, it would require a higher temperature, one that would only be achieved in a pressure canner of 240 to 250 degrees. But I can also make that spore go dormant by having it in an acid environment. That's why I can do water bath canning.

Rebecca: How about altitude? I'm in Utah. The altitude plays a role. Tell us about that.

Teresa: Anywhere that we are canning, we want to check and make sure that we are making **altitude adjustments** for the level that we are at. And so in water bath canning, I add time. In pressure canning, I add pounds of pressure because I need to get the temperatures up. At sea level, water boils at 212, but at about 4,500, 5,000 feet, water may boil at only 206, for example. And the same in the pressure canner – I need to have

more pressure created inside there to bring my temperatures up in order to kill that botulism spore.

Rebecca: Interesting.

Teresa: Yeah, it's really interesting. There's actually more of a scientific background to the art of canning, or I like to call it the art of canning – I really don't feel artistic when I'm doing it.

Rebecca: None of us do. But in terms of, you mentioned bacteria loads and went back to that, but how do you compute what is necessary to be able to take, in consideration, bacteria loads? What do you come up with, or what formula are you following?

Teresa: The scientists in kitchens are using home atmosphere kinds of microorganisms that would be standard to most homes, and even the dirt that comes in, the dust that's in the air, dirt on the produce, all of those kinds of things would be taken into account as a standard home setting that they would use, so across the board they would have what they call a standard bacteria load to kill.

Rebecca: Okay. Now I want us to get started now, and we're going to assume that this is completely clean and hygienic and go that way. Let's get some aprons on, and we were going to be canning four different things today, and we're going to start with apples and then we'll have beef cubes.

Teresa: We're going to do some beef cubes, some green beans, and then we're going to end with salsa.

Rebecca: Okay, let's start with **APPLES**. And before we actually get going on the apples, you said that, or you've said that you need to be kind of organized in the kitchen.

Teresa: There are some steps that really make it helpful. If I'm going to spend the time, I want to do it right, and one of the parts of doing it right is to have some organization to the kitchen. And so I want to have my produce ready – if I need to wash the produce, which I usually do, I want to have that rinsed and ready to go. I want to have all of my equipment, and I kind of want to do it in an organized fashion. So in the case of apples today, we want to have them peeled and move on to the preparation steps.

Rebecca: Now there are ten basic steps. What are those ten basic steps?

Teresa: The very first step is to **have everything organized** and to have my equipment necessary, have things out ready to go. The next step is to also make sure that in my equipment that I have **standard and good canning jars** that would be considered safe for canning.

Rebecca: And what are some of the standards?

Teresa: Well, the Ball canning equipment is good, the Kerr canning equipment is good. There are many others, but we also want to make sure that we're using standard sizes, as well. For example, this is a quart, and that would be a standard canning size, and this one would be a pint. It doesn't matter whether it's a narrow mouth or a wide-mouth jar.

Rebecca: Well, this is about the same size as my mayonnaise jar. What about that?

Teresa: Mayonnaise jars aren't recommended or other kinds of pickle jars, either. The rims on those are a little bit different. They don't shape quite as nicely with the sealing compound as the nice, level surface of a canning jar.

Rebecca: Okay, so maybe reserve those for freezing, jam, something like that. Okay, so let's move on, see what else is there.

Teresa: Shall we get started, then? What we're going to do today – and I have brought tools and equipment that help make this process a little bit easier for us.

Rebecca: Now I have one of these at home.

Teresa: Don't you love it?

Rebecca: And what do you call yours, then?

Teresa: An apple peeler/corer/slicer

Rebecca: My kids have a great time saying it, apple peeler/corer/slicer. But based on, I guess, how firm the apple is, it'll go through the peeler/corer/slicer easily.

Teresa: A little bit easier than others. If you want to get started on this one, we will start by – we have already pretreated these, and I will finish doing this one since this one probably was a little bit soft.

Rebecca: Now you pretreated this – what did you do to **pretreat fruit**?

Teresa: With many of the fruits that turn dark, such as peaches or apples – pears are another one – we want to have them in a treatment such as ascorbic acid, which could also be vitamin C tablets, or citric acid, which I have here. And that can be purchased at a number of different places – it's a crystal, it's a salt.

Rebecca: This is the citric acid?

Teresa: This is the citric acid. And we'd want to put that in our water with a little bit of lemon juice or citric acid, like I said, ascorbic acid, something to keep that color brighter so it doesn't turn as dark while we're working with it.

Rebecca: Now right now we're looking at a very small jar, looks like we've got less than three cups. About how much citric acid are we using in a small container?

Teresa: In a quart of water, about a half a teaspoon of citric acid or a tablespoon of lemon juice, or about six 500-milligram tablets of vitamin C that I would crush and put into the water.

Rebecca: Citric acid and vitamin C are the same?

Teresa: No, no – ascorbic acid is vitamin C. And sometimes you can also find preparations in the store that have a combination of ascorbic and citric acid that are used – they're in powder form that have the instructions on how to dilute.

Rebecca: So we've pretreated the fruit, and in this case, this will keep the nice color of the apple for us.

Teresa: It does make it much nicer.

Rebecca: Then we move to what?

Teresa: Now we're ready to go ahead and we want to – in the case of apples, their recommendation in the canning guides are to have **precooked the fruit** and do a hot fill on the apple. (Check your canning guide on whether to precook or not.) So once we have them pretreated, now we're going to go ahead and slice.

Rebecca: Do you want me to peel this?

Teresa: Yeah, if you want to trim that off, and then we'll use our apple slicer today. Now if you have some kind of equipment like this that you want to have a little bit thinner slice on it, you could actually set this up for coring and slicing and peeling all at once. But I like to have my apples a little thicker, so I use the apple wedger, and so when yours is ready, feel free to put that in the pan.

Rebecca: All right, can we pretend it's ready, because I'm not getting this very fast.

Teresa: Obviously the peeler/corer/slicer would have removed the core for us if the apple was a little bit more firm. So this little device also did the same thing. It's great.

Rebecca: It took the core out.

Teresa: Then we'll put these in the saucepan, and we want to have. . .

Rebecca: So these are not in the jar – we’re cooking them first in the pot.

Teresa: They’re going into a hot pack treatment first, and the reason that we’re doing this is for overall quality and better fill in a bottle. Apples are quite porous, and so consequently they will shrink quite a bit, and I will get a nicer fill and a better pack in my jars if I do a **hot pack for just ten minutes** or so prior to the canning, the bottling process.

Rebecca: So, hot pack – tell me what a hot pack is?

Teresa: A hot pack is where I take a saucepan, and in the case of my fruits, I would have my sugar syrup, my sugar and water, already mixed, and I would simmer these for about five to ten minutes is all. And then I would pack them hot in the canning jars instead of just taking the apples straight from here into the jar and pouring the hot syrup over it.

Rebecca: So once the boiled apples--they’ve been boiled for ten minutes in the sweetened water--you take them out and you put them in the jar. And we’ve got two jars actually here that we could use today. Okay, let’s go ahead and fill these up.

Teresa: You bet. We’ll assume it’s hot and cooked. Okay, when those come off the stove. . .

Rebecca: Do you have a funnel?

Teresa: Use the funnel there. And place those into the canning jar.

Rebecca: Let’s just do this one, and that will be great.

Teresa: Okay.

Rebecca: And we’ve got a canner over here that we’ll have you tell us about as soon as we get that full. So they’ve been pretreated, they’ve been peeled, cored, sliced.

Teresa: That’s correct. And then we’ll want to finish off with the hot syrup that’s on them. We want to make sure we **get the air bubbles out** by sliding a knife down through.

Rebecca: Now what does the knife do with that?

Teresa: The knife will help get a better fill on my liquids by sliding this down through the produce, whatever kind it is, whether it’s green beans or apples or peaches. And I want those air bubbles out, because I want to eliminate as much oxygen as I can out of the jar to get a nicer seal and a better pack on the product.

Rebecca: Okay, at this point it’s ready for the lid.

Teresa: We want to make sure we **wipe down the rims** really well with the rag, if you want to do that real quick.

Rebecca: A clean rag.

Teresa: A nice, clean rag. You want to make sure that your canning lids are cleaned and ready to go, and then you want to make sure that the **ring and lid are screwed on** nice and tight, but **don’t torque it down** so tight that it causes buckling.

Rebecca: Now does it get a lot snugger in the heated process?

Teresa: It will. Not in the heating process, but in the cooling process it’ll tighten back up. Then we put it into the canning . . .

Rebecca: Now is it warm? Do you usually need to use a tool, or is it cool to the touch?

Teresa: Not going in. Usually it might be a little warm, but generally I can move fast enough.

Rebecca: Now Teresa, you’ve given us a sample already of some quarts that are already there. This is actually some that have already been steamed as well.

That’s correct.

Rebecca: Let me set that aside for you. So there is one of the sample apples, and they've floated to the top through the process.

Teresa: Right. They will do that through the process, and if you want to use the jar lifter over there.

Rebecca: Now if this was on the stove, how long would they have needed to boil for?

Teresa: In a hot pack, they would need to **boil for 30 minutes**. And applesauce is the same – it needs to go in hot.

Rebecca: Lid is on through the process?

Teresa: Uh huh. Let's talk a little bit about that process real quickly. I want to make sure that I have a complete coverage of water over the tops of my jars inside the canner, and I don't want my water to be boiling so hard that it's just this raucous boil everywhere. A nice, steady bubble up through is sufficient, and I don't **start the timing process** until that water actually starts to boil, again, once my jars have been dropped down in. That's when I start the timing. Then I just have a nice, steady boil, make sure that the water stays covered. And then **the last minute or so before the time is up, I want to take the lid off of my canner** just to allow a little bit of an atmospheric pressure change, because what I'll get if I don't is siphoning. The liquids inside that bottle are so agitated and hot that if I immediately pulled that out of the canner, those jars would siphon all of the nice liquids and sugar syrup.

Rebecca: Interesting. So you avoid that, you take off the lid for just a moment, let it go. Great, wonderful. What do you use to remove the jars?

Teresa: Use the jar lifter.

Rebecca: I've never seen one of these before. I've always used a hot pad.

Teresa: It's really quite handy. It grabs it quite nicely, and then when I take this out of the canner after I have allowed that to sit for just a minute, then I would **place any of my product onto a towed surface**, whether it's out of the pressure canner or whether it's out of the water bath canner, so that, again, the shock of the temperature isn't so much.

Rebecca: How about a cooling rack?

Teresa: Cooling rack would also work as well.

Rebecca: Okay, we're ready to do the **BEEF**, and these are already precooked.

Teresa: Yes. And the reason that we have done this is because they get a better fill in the bottle. Similar to the apples, when we precooked the apples for a hot pack, or a hot fill, we get a nicer fill in the jar. And so these have been pre-browned, and then I have my broth all ready to go. You could use water if you wanted to, but before we make that step, I want to just point out a couple of things. When we talk about **why we precook**, I want you to see the difference between this fill, which is a raw pack, no liquid added – it created its own juices, that's true, but I don't have nice color really, and I don't have near as nice a fill as if I'm using something that is precooked with the broth that goes on it. I get a much nicer fill, so if I'm spending the time and effort, I think--let me get more in my bottle--and so that's why.

Rebecca: So this has only been packed, then, with meat only, and it created its own juices.

Teresa: Meat only, and salt, right. And it created its own juices, but I don't have near the amount of meat. I can get a better pack, plus, I think, a little nicer color by pre-browning the meat. So we've already done that. Like all of our other procedures in canning, we want to make sure that we have our assembly line, we've pre-browned the

meat, we have our equipment ready, we have standard canning jars, we've got our canning recipe ready to go. In this particular case, all we need is the broth or the salt, or saltwater if we wanted to, but we're going to use a beef broth today. So let's put those into the jar, shall we?

Rebecca: Now the size of these beef cubes is, just basically. . .

Teresa: You know, it really doesn't matter. They could be smaller. They could also be beef strips if I wanted to have more of the strips. One of the nice things about canning beef, though, that I especially like, is the fact that it makes it tender so I don't have to buy expensive cuts of meat. I can buy the less expensive. . .

Rebecca: A rump roast.

Teresa: Exactly. Or even briskets or something that would be less expensive but a little tougher, because the canning process is going to soften those nicely.

Rebecca: Now did you gather that juice from the boiling process, or the cooking process of the meat?

Teresa: I could do it that way and add a little extra water and a little seasoning, beef bouillon. I could use a beef bouillon can if I wanted to, or the cubes, whichever. And some people like to just use the saltwater, a half a teaspoon of salt to a pint of water, or a pint jar, and they're ready to go that way, too. But I like the flavor.

Rebecca: Okay, once we're here with the beef already cooked – now are these boiled, then?

Teresa: These are – you can sauté them in a skillet, you can do a little bit of boiling with them in some water.

Rebecca: So just so that they're thoroughly cooked.

Teresa: They don't actually even have to be completely cooked – just five to ten minutes, similar to the apples when we did those a minute ago, and they're ready to go. I just want them nice and browned, kind of the color and flavor comes out that way. Then I want to pack them nicely into the jar.

Rebecca: Now will they expand as they're cooking?

Teresa: They won't. And then I want to make sure in filling the jar I have about an **inch of headspace**, and so I want to allow some room for the liquid to be added on top.

Rebecca: And so when you say an inch of headspace, you're talking from the top of the jar.

Teresa: That's about this far. Yeah, it's about the part, actually, for the rings to go on as far as the whole band itself.

Rebecca: So you'll fill that up all the way almost to the top?

Teresa: Almost, right where that first – can you see that?

Rebecca: Where the first ring is.

Teresa: Three-quarters of an inch.

Rebecca: So you're still leaving a half of an inch or so.

Teresa: I do. I need some expansion because of the heat in there, yes. And it'll pull back down after it cools.

Rebecca: So we do again –

Teresa: Then you wipe that down, thank you, nice and clear. Particles, whether it's sugar particles or meat particles or whatever of food anywhere on that sealing compound will cause the lid not to have a nice, good seal, and so we want to make sure that we clean off that rim really well.

Rebecca: Now with the apples we used a canner. What are we going to use to cook the meat?

Teresa: Again, in the case of the low acid foods such as vegetables, meats, or soups and meat combinations, we have to **use a pressure canner**, and so I want to spend just a minute if I could talking about a pressure canner and a pressure cooker and what to look for.

Rebecca: And the other thing I was calling a canner is called a water bath?

Teresa: A **water bath canner**, uh huh. Let's look at this for just a minute. When I'm making a selection on a canner, I want to make sure that I have a good canner that is up-to-date as far as its styling is concerned. I want to have a canner that has some kind of an escape venting system, and there are different types. This one is a little bit different than the venting system here, and you can see those differences.

Rebecca: And this vents off the top.

Teresa: This vents off the top. This one has a latchet that would lock back down when I want to close that off. Another thing that I also want to look for when I'm selecting a canner--and the reason that I mention it, because today we can find a lot of canners at yard sales or at discount stores--while they're a great price for us that way, I need to make sure that they have an overpressure plug and they're not so old in design that they would not have this. They need to have the overpressure plug, because that's going to be my safety valve that would go if something should happen.

Rebecca: So in other words, you would use this if the canner was squealing and the pressure was hot, this would be the way to release the air pressure?

Teresa: This would release on its own if I got too high in my pressure. And remember, in a pressure canner, I need to have an environment that allows the temperatures to climb beyond boiling, sea level boiling points, up to 240, because I don't have acid in meat like I did to protect me from botulism in fruits, so I have to kill the spore itself.

Rebecca: So 240 degrees.

Teresa: 240 to 250 degrees.

Rebecca: For meat.

Teresa: Also in pressure cooking, I have to make sure that when I'm looking at altitude adjustments, I'm adding pressure in order for my temperatures to climb. So **in the water bath canner, I add time. In the pressure canner, I add more pounds of pressure.** So I like to have a gauge that lets me see exactly where my pressure is at.

Rebecca: Now how much would something like this cost?

Teresa: Probably close to 100 dollars.

Rebecca: Okay, so this is an investment that we get a lot of use out of through the canning process.

Teresa: Exactly.

Rebecca: All right, now we would get this can of beef into the pressure cooker.

Teresa: Into the canner, that's right. And then I would **allow it to steam vent** through my petcock system, and that only takes about 10 to 15 minutes. But the first thing that I need to have in here is about **two inches of water up the sides** of the bottles. I don't need to have them covered like I do in a boiling water bath. I need to have just a couple of inches once the bottles are in there. Get that nice and hot, put the lid on, let the steam come through the petcock or venting system, either one. When that is allowed to steam for about seven to ten minutes, then I put either put my weight on or lock this down, turn

the heat down, and allow my pressure to climb. In the case of a pressure canner that has just the weight, this will start to rock and you'll hear a nice little chu-shuu, chu-shuu, chu-shuu.

Rebecca: That's the type I have at home.

Teresa: And you get used to hearing that sound, and so then you know at a nice steady rock, depending on the use and care manual, what yours will sound like when it is working properly. You would also, then, in this particular kind just watch it till it comes up to 12 and a half pounds, so I'm either going to listen for the rock or I'm going to maintain it at 12 and a half at altitudes here in most of Utah.

Rebecca: Now that I've learned how to take cans out, you want to actually show me the correct way. So let's say that we'd put this in and it had cooked for its approximately correct amount of time.

Teresa: 75 minutes on pints for meat. And then I would clamp this down over and again set this on a counter.

Rebecca: We have some that have actually already been cooked, because the texture of the meat changes a bit through the cooking process, is that correct?

Teresa: It does, it does just a little bit.

Rebecca: Here's one that we could grab right off the top, okay?

Teresa: Great. And there we have our meat.

Rebecca: That's wonderful. Now how long will it stay stored for?

Teresa: This will keep for a year. We recommend a year on most home canned products just for overall nutrition and quality. They will keep longer than that, we know that.

Rebecca: All right, we're ready for **SALSA**. (There is not enough time for green beans, but they follow the same basic procedure as for the meat.)

Teresa: Yes, let's do. The one thing that I want to point out in salsa making is that we are adding an acid, our tomato mixture, with vegetables. Now remember, the difference between whether I can water bath something and whether I can pressure can something has to do with that pH, with the acidity, and tomatoes are already so close to the cutoff. Tomatoes are about a 4.1 to a 4.6, and my cutoff pH-wise, whether I can water bath, is 4.6. And below, or in lower acidity – and that's where the vegetables are – so when I start adding cilantro and I start adding onions and peppers to my tomatoes, I'm bringing the acidity level down, and already, remember, they're close.

Rebecca: Now we have on our website, on the Living Essentials website, all of this in terms of what it is that we are adding, the quantities, the recipe, and we'll have a lot of other recipes as well.

Teresa: You bet.

Rebecca: So we want you to. . .

Teresa: But we are adding those vegetables, and so we do want to make sure that we have the **acidity where it needs to be**. And how can I know that unless I'm using a tested recipe? And recipes that have been designed with vinegar or lemon juice to bring that acidity back up is what I need to make sure that I'm following good procedures. And also in the case of salsa, I'm going to let this simmer for at least 10 minutes, 30 minutes, maybe a little bit longer, too. Now because this is a tested recipe and because I know that the acidity is okay with this particular recipe, I can water bath this one. I can use the water bath canner. If I questioned it, I could also pressure can it, and that could be done

in the pressure canner for the length of time for the longest vegetable. So that would be another cue for me to know.

Rebecca: So when in doubt, especially when you're mixing two different types of fruits or vegetables and you're unsure, it's your own invention of a recipe, stay away from the water bath. Stay with the pressure cooker.

Teresa: It's a safety precaution.

Rebecca: So here is what it will look like as it comes out of the canner.

Teresa: That's correct, yes.

Rebecca: We want to taste it, because all good cooks taste what they've made.

Teresa: Absolutely. Thank you.

Rebecca: I'll let you have the first dip. Now I was really excited to know that in addition to the typical fruit and vegetables, you introduced me to meat today. But what other combinations can you actually do?

Teresa: Oh, there are some great combinations. We have chili meat ready to go. There's spaghetti sauce that I could have. One of the things that we love to do is sausage patties, and we have that on the display today, too. And I just pre-brown my sausage and stack it into my jars, add the bouillon or the juices again, so there's many other things. Potatoes and onion combination ready to go for clam chowder in the winter, all kinds of things ready for meals.

Rebecca: And that's a good place to wrap things up. Thank you, Teresa, so much for joining us. Your expertise and your insight has been very valuable for us today. And we want to thank you for watching us, and we hope you'll join us next time on Living Essentials.

>>For more information on this and other episodes of Living Essentials, or to order a copy of the program, visit us online at byubroadcasting.org/livingessentials. There you'll find helpful hints and additional information that will enrich and simplify your everyday life.

Next on Living Essentials, we're talking about 72-hour emergency kits. We'll help you get prepared by hearing some advice from the experts on what every emergency kit should contain. And we'll also get some tips on some of those special items that you might want to include in your personal kit. To find out if you're prepared, stay tuned.

Rebecca: Welcome to Living Essentials. I'm Rebecca Cressman, and today we're talking about building an emergency kit for all reasons. A disaster or an emergency could happen to all of us, and perhaps you're wondering how you could be better prepared. Joining me to help us out today is Marilyn Hoff of the Utah Department of Public Safety and Division of Emergency Services and Homeland Security. Welcome, and thank you so much for joining us today, Maralin. Now before we get to these things that we have here on the counter today, we first have a primary issue that everyone at first needs to be aware of when they're dealing with Preparedness, and that is what?

Maralin Hoff: Before you even think of preparing, you should sit down with your family and talk about a plan, and talk about how you're going to go through the house and gather up items to start your emergency kits, what the safe areas are, and where to meet, and you just literally plan.

Rebecca: Now you have a family, and I'm imagining that not only is this your full-time job, but you probably have taken some steps to prepare your family. Tell us a little bit about what you've done along that line.

Maralin : Well, I did sit down with my family. They listened to me, and we talked about preparing, and how they could help me gather these things through the household and put them in containers. And just go from there, step by step and make it a fun task.

Rebecca: Now what about the specifics of the step-by-step process of creating emergency preparedness kits – we've got a lot of supplies here today, so are there steps that we should be taking to get ready?

Maralin : What crossed my mind was “how do I begin?” I figured I needed to know what to put these items in, so I started with what containers I'm going to use. You can use suitcases, foot lockers, garbage cans, backpacks. Then we did the search through the house for items to put in these containers.

Rebecca: Now you say that there are six basics, and we'll go right to these items here. You mentioned that there are six basics that every home should have to be prepared. These are all general categories, but let's talk about those.

Maralin : Okay, the six basics you should have with your emergency kits are: water, food, first aid, emergency tools, clothing and bedding, and then we have items for the special needs of the elderly and handicapped folks.

Rebecca: Would that be medication as well? Now how do I go about getting all this together? You talked about sitting down with your family and saying, “Okay, I need your help.” But what's your advice about going about actually getting this all together?

Maralin : Well, when we started going through the house, we gathered things through the house. We cleaned out the junk drawer, the closet, the garage, the basement, and put all these things together in the kits. We started with the bathroom, and then after the bathroom, we started with our clothing and bedding and then our food and water--simple.

Rebecca: So you started with your – when you say you're starting with the bathroom, you made sure you had those basic hygiene elements that you'll need, and then you moved on from there, ending with food? Well, let's start talking about toiletries and what

would be some of the basic toiletries we should be planning.

Maralin : Okay, since you're starting in the bathroom, you need your toothbrush, toothpaste, towel, washcloth, lotions.

Rebecca: Okay, we've got examples over here as well. So toothbrush, and this time you've actually used a travel size. It's easier to pack, I'm assuming--the travel size. Toothpaste and mouthwash – what else?

Maralin : Shampoos, lotions, first aid.

Rebecca: And that would be enough to get through 72 hours, or whatever length of time that you want to prepare for? Now you've got some kind of towelette. And here's also some kind of disposable towelette, and you've got some that are not normally kept in the closet but are actually packed away and so this would be a great, too.

Rebecca: Now should we go out and actually purchase these, or are you advising that we actually kind of take a look at what we've got already in our closets?

Maralin : You gather things that you already have. You don't need to go out and spend money right now. Gather the things through the house, and then start from there.

Rebecca: All right, so you can actually do a scavenger hunt, where you can go through the house, and if we have young kids in the family, they'd actually probably appreciate it being a game.

Maralin : But go through the house, find those basic things that we already are using, just take a small percentage of those and stock those away.

Rebecca: Well, wonderful – now you mentioned also after we've got our bathroom toiletries kind of taken care of, we move on to first aid. Now you have a first aid kit here and some Band-aids and other essentials – talk to us about what basic first aid we should have with us.

Maralin : Different size Band-aids, ointments, a burn kit, tweezers, things like that, gauze pads, and just things that will take care of a wound.

Rebecca: Okay, and a lot of this is what we use on an everyday basis, and making sure that if we used it sometime in the last few months, we've got to make sure it's in that first aid kit.

Maralin : There's nothing in there to operate on anybody.

Rebecca: Wonderful – right next, what I think is wonderful that we've got laid out here today is we actually have the medication side by side with the first aid kit, because some of this is life-sustaining medication that we'd need to make sure we had with us in a disaster. How do you recommend actually packaging and storing the medication?

Maralin : Well, what works for me is I have my medicine in the medicine cabinet, a week's worth in my purse, and a week's worth in my car kit. When it's gone out of the medicine cabinet, I'll start using the pills in my purse, and when it's half gone in my purse, I'll work on the car, and then that's how you can rotate.

Rebecca: And that's very wise, because you were talking about three different locations where you have a supply, both in your home and your car and in your purse. Let's also move down here as well. You have a sample of the type of clothing and bedding we should be keeping on supply.

Maralin : For clothing, pack warm clothes in all your emergency kits. If a disaster occurs during the summer, you can cut the sleeves, cut the legs off, until you can get to more clothing. So warm clothes, sweatshirts, sweatpants, socks are the ideal clothing.

Rebecca: Now I'm thinking with a growing family, there might be a need to actually rotate this clothing, because it could be the pair of socks you put away five years ago – it only fits the dog and doesn't fit anyone anymore. Do you recommend actually kind of rotating the clothing?

Maralin : Yes, let your emergency kits grow with the children.

Rebecca: And now what about shoes – do you recommend any type? Should we be looking at tennis shoes or some hard sole?

Maralin : Put hard sole shoes in your kits.

Rebecca: And why is that?

Maralin : Because, for instance, I wear high heels at work, and so I do have a pair of hard sole shoes under my desk. And you also should put a pair of hard sole shoes underneath the head of your bed.

Rebecca: And those are more sturdy and help you navigate. Now you've got a shiny blanket here that's all folded up and it's not tinfoil, but actually we can get these at a lot of the emergency shelters or first aid supply stores. We're quite familiar with these. Explain to us what this reflective paper is.

Maralin : Well, this is called a Mylar blanket, or emergency blanket, and your astronauts use this material. It looks like tinfoil but it's not. It doesn't rip. You can use it over and over. You can go outside during the coldest winter day without a coat on and wrap yourself up in this blanket, and you will start sweating.

Rebecca: I'm looking at it, how condensed it is. It can fold down to about three inches by five inches versus the blanket that it's sitting on that is, you know, taking up a good one foot by two foot space. Do you have an instance where actually this has been life-saving?

Maralin : Yes, yes – as a matter of fact, we've had so many snowmobilers stranded in the mountains, and in this one incident, a snowmobiler was stranded overnight and he so happened to have one of these with him – \$1.99 kept him warm all night.

Rebecca: And that's what saved his life because the temperatures drop so much at night. Now we've moved from some of these basics over into the food area, and you've got some samples here of different types of food. What do you advise?

Maralin : We have your favorite, Top Ramen.

Rebecca: I had some yesterday.

Maralin : Freeze-dried foods. We have liquids in cans, and we have MREs – that's Army food – and it's good.

Rebecca: And now are there any recommendations – obviously you've got some that are freeze-dried so they'll reconstitute in a much larger portion, but do you have advice that we should go through when we're deciding how much of a portion or whatever we should have for each family member?

Maralin : If you're going to store freeze-dried foods, pack for each member of the household for 72 hours. And the freeze-dried foods come in different varieties. You just add water, it's a lot of protein, and it's really good.

Rebecca: Now is protein an item we should be thinking of packing as well? I also see that you've got some items like ramen noodles that last quite a while, but is there a recommended time in terms of rotating that so that we can make sure that when we go to eat the Vienna sausage or the fruit cocktail, it's still fresh?

Maralin : Yes, everything you buy out of a store has an expiration date, so watch for

your expiration dates. And eat your foods, your emergency foods, every six months.

Rebecca: And again, you've got examples of carbohydrates as well as proteins, both of which are energy foods and provide that. Now you have a great display here on water, and some of these even come in some small kind of Mylar bags. So talk to us about the importance of water and about how much we should be storing.

Maralin : Okay, you should have one gallon per person per day. So figure out how much water you need to store in case of an emergency. In my garage, I have five-gallon water jugs, and I rotate the water in them every six months – and put your date on it. And you can also store water in liter bottles, and liter bottles are great – not your plastic milk cartons with the handle – but liter bottles are great. And then the water packets are wonderful for smaller kits, for baby diaper bags, children's backpacks, mountain climbers, even in your desk drawer. And this water you do not need to rotate every six months; the shelf life in the packaged water pouches is five years.

Rebecca: That's a long time, and these are those Mylar sealed packages of water, individual servings. And I love the size because I think that brings up and underscores the point which you teach, which is portability. Because if we have a big 50-gallon drum of water outside and we need to evacuate, it's not very likely we can strap that to our back and head out, so look for portable water. Now where would you advise getting containers? You talked about the two-liter bottle for water – is that one that you've reused from soda pop?

Maralin : Yes, that's your soft drinks – save your bottles, wash them out, rinse them, and then fill it up with regular tap water. You can – you have a choice if you want to put purifier in your water or not.

Rebecca: Now one facet as well, with this two-liter bottle, you actually have a harness attached to it – and I just pulled that bottle out – but is that for carrying purposes, so someone can sling that over their shoulder?

Maralin : Yes, yes, you can purchase these at the emergency stores also, and you just put it on your shoulder.

Rebecca: A harness for water, that's wonderful. There's another facet of water storage. I have in my home stackable Mylar bags, and they're stackable in cardboard boxes, and they all come with spigots, which are wonderful for being able to pour the water. And so the spigot and this jug, which is a five-gallon jug, where would you also find that type of a supply?

Maralin : You can purchase these at any emergency supply store and they're great for storing water. Especially if you need to evacuate your home, you can pick these up, put a couple of them in your trunk, and be off.

Rebecca: Wonderful – again, everything that's been here on the counter we're going to have information on our website through Living Essentials. Now we just took a look before at a lot of the different elements that would go into disaster preparedness or an emergency preparedness kit, and those could go in any type of kit, but one of the primary kits that you teach we all need to first assemble is the one for our home, for our personal use. And you've got some great tips here on ways that we can actually package and organize these items, and we're going to go into that. But first of all, it's hard to miss this big container we have, and I love it because of the wheels. That means that we can actually transport that with us very easily in the time of an emergency. And what do you use that size of a container for, Marilyn?

Maralin : This holds all the needs for an emergency – food, water, clothing, tools, everything.

Rebecca: Is that for one person or for a family?

Maralin : For one person.

Rebecca: All right, one person for 72 hours. Okay, and we went ahead, and did you consciously make a choice to use one with wheels so that you'd be able to pull that back and forth?

Maralin : Wheels are wonderful, because the more you add to just a box, the heavier it will become, so wheels are nice when you can just grab it and wheel off.

Rebecca: Also it being made out of rubber or plastic has some advantages over cardboard boxes. You've had problems with people storing things in cardboard boxes and then the flood comes and the container is gone. Great tips here. Now one of the specific tips that you advise has to do with a plastic bag, which you've said the Ziploc bags are your best friend when it comes to storage. But you advise putting clothing in a plastic bag and adding a surprise, and what would that be?

Maralin : It's a dryer sheet. People make a face when they see a dryer sheet in with my blankets and clothing, and the reason for that is once you seal your Ziploc packages, a year later, you open up the package, your clothing won't smell dusty or mildewy. The dryer sheet actually keeps it smelling fresh.

Rebecca: Well, it's a wonderful tip to have. Now you also have an interesting way of packaging some of your toiletries.

Maralin : Yes, you can vacuum-pack your items, and it takes all the air out. It looks – hard. But it preserves your soaps longer and keeps out the dust and bugs. . .

Rebecca: And in case of a flood or where there's rain, again. Now I also wanted to bring something up here. You mentioned again Ziploc bags as a great container . I want to show this container, because when you talk about personal toiletries, there's nothing more personal than a commode, and this toilet seat – I don't know whether they can see it by me tipping it this way – but actually this has been converted. Is it a ten-gallon bucket?

Maralin : It's a five-gallon bucket, and you can get the seats that snap onto the five-gallon bucket at emergency stores, hardware stores.

Rebecca: And it converts it right into a commode. And inside, you have stacked your toilet paper and other hygiene things so it becomes a storage container for you as well. It also has a handle so you can pick it up and run with it, so it makes it easier to carry.

Maralin : Yes, and I protect what I package, and so even your razor blades are packed in Ziploc bags, just protect your items from moisture and dust.

Rebecca: All right, now that's taking a look at the toiletries. We also have here – and I'll hold this one up, too – this is a package of laminated papers, going back to lamination because it's plastic. What numbers and what information is key to have at a fingertip when there's a disaster?

Maralin : In all your kits no matter if they're small or large, you should have a list of your family names, and other relatives and friends with their addresses, phone numbers, and work numbers. And under their names, put how they belong to you.

Rebecca: Also you've also included a photo page – is this for identification purposes in an emergency? And I'm also seeing on the back maybe some important certifications, marriage licenses, birth certificates, so it's a wonderful way. This time you've used plastic sheets, but they can be laminated as well if needed. Now moving on to another

essential is your light source, and you also have stored an energy source in a very neat way. What do we need to know about batteries?

Maralin : Batteries need to be rotated every six months, just like water. And so you keep a calendar, you keep track of payday, what bills to pay, holidays, birthdays – mark on the calendar to take all your batteries out of all your kits and use them around the house and place new batteries into your kits.

Rebecca: And you could also insert maybe an index card in here with the date of when you put the batteries in. Now we've got three different types of flashlights here – do you actually have a certain type of flashlight you recommend for storage?

Maralin : Any flashlight, just protect it, keep it from getting wet--and there's all types of lighting and flashlights out there.

Rebecca: Now you have also brought some samples from your personal storage of some of the tools that we can include. You have a hand warmer, and this is a very small little envelope, and how would this help us out?

Maralin : You can use hand warmers for anything, it's not just for an emergency kit. When you go sleigh riding, play out in the cold, camping, your hands are cold, your feet are cold – hand warmers are wonderful for that.

Rebecca: Okay, and you've also got little baggies with a folded up emergency poncho. These come in handy in times of rain.

Maralin : If you don't have a jacket handy, then a poncho will come in handy.

Rebecca: All right, now you also have a special tool here. We've got lots of utensils that you're used to seeing in a camping situation, but this is a new one – open this up.

Maralin : Well, it doesn't look like a knife, fork, spoon, but here's your salt and pepper right on the end here.

Rebecca: Oh, interesting, so right in here, salt and pepper, okay.

Maralin : And then you open it up, shake it, close it, turn it around, do the pepper.

Rebecca: I keep thinking of the holidays and thinking this would be a great stocking stuffer for every family member. That is a wonderful idea. Now we also have some very small, compact ways of cooking food that you've got here on display. This one is using what source in order to heat a skillet?

Maralin : This is a stove in a can, and it's so compact. And people, that's their concern, "How do I cook? I don't have room to put a stove in my emergency kit." So this is a stove in a can, and all it is--it looks like a half-sized paint can--and then you have some woodchips inside that you can make your fire. And one tablet will last for 90 minutes.

Rebecca: Oh, so you should be able to complete a meal easily in 90 minutes.

Maralin : Right, and it comes apart; it's very compact.

Rebecca: And this is fairly affordable, a little stove in a can like this. And you also have one now that is actually gas-powered that you've brought. It's called a Quick Range.

Maralin : This is a butane gas stove, and it's easy and compact. It doesn't take a lot of space. And so there's all different types of ways to cook your food. See what will work best for you and your family.

Rebecca: Great, thank you. Now we appreciate that you've brought us some samples, or some demonstrations of the different type of kits. We've gone over some of the basics that need to be in every kit, but you've actually tailored each of these to a different situation, so let's start with what you have at the office. What do you recommend having?

Maralin : This is a tote bag on wheels, and wheels are wonderful because again, I can just grab it and wheel off. And the wheels fold under. You can purchase tote bags with wheels at any luggage store. And then inside it is a colored pouch here, I have all the needs – toothbrush, toothpaste, combs, lotion.

Rebecca: And that normally fits right inside.

Maralin : Yes. I have a battery-operated radio inside and things that will take care of me in the office, because if we have a disaster during the daytime, we may not be able to just get in our car and drive home; we'll be stranded at our place of business.

Rebecca: I thought this was very smart, too, for you to include a pair of headphones to plug into the radio so that you'd have that available. I also noticed that on your office kit, you have a pretty noisy whistle – what's the point of having a whistle with your office kit?

Maralin : Whistles can be heard over voice, and so put a whistle in every kit that you create, because whistles are important.

Rebecca: And you also made an important point earlier about why you pack hard sole shoes in your office kit, and that has a lot to do with just your personal dress habits. You groom nicely; you like to wear high heels; and you don't want to be running out in high heels for the rest of the day, so you include a pair of shoes and that's something we need to think about. Here, though, is a typical diaper bag. Now let's talk a little bit about how we can be prepared in taking care of our infants and children. Is this a separate one that you advise people to have accessible?

Maralin : No, this does not mean that Mom has to create a separate emergency diaper bag if she can just make it a habit to keep the diaper bag refilled, but it doesn't hurt to put emergency items in the diaper bag, like a small flashlight, emergency blanket, poncho, and whistle--things that she could use for an emergency--but normally this is what baby uses.

Rebecca: Okay, so it's just a little bit more of an elaboration of what you would carry with you every day. You just add some of the emergency essentials, which were the flashlight, poncho. Now what about formula? I noticed here, though, that you've brought this. Why do you have a separate container of formula?

Maralin : Well, Mom needs formula for baby, and also pack water pouches in with the diaper bag, maybe three or four pouches with the formula, and there you have the formula for the baby.

Rebecca: Wonderful, and this would be easily 72 hours, this much formula, depending on the size of the baby. Now we have a smaller backpack, but it's full of a lot of items, and this is something we use for our children.

Maralin : Yes, every child should have their own emergency backpack by their bedside, and place it under the head of your bed with the handle out so you can just reach underneath and pull it out.

Rebecca: Well, and you make a point – speaking of pulling it out-- this backpack again has wheels at the bottom, and kids love to have these handles and pull it right behind them--so exciting. You also have some custom items beyond the basic toiletries and the clothing, you've also included a stuffed animal.

Maralin : Yes, it's a stress relief – a stuffed animal, coloring books, even a little radio with music, reading books, to relieve the stress from a disaster.

Rebecca: Now you have beautiful nails, and so Maralin's included in her own personal kit, supplies to be able to file and take care of your nails.

Maralin : That's right, that's right, so we just pack things that the children – like Band-aids, tissues, toothbrush, toothpaste, little things to add to their kit.

Rebecca: And if you keep the backpack small and portable, then can you, I guess, ideally expect that the child would be able to carry this, because I can imagine somebody, a mother of six children, trying to carry six different backpacks pulling it all along. And so the idea is to try to keep children as portable as possible and able to take their own kits.

Maralin : Right, you won't have food and water in their backpacks, just their clothing and reading.

Rebecca: I'm sorry for interrupting at that point – do you also encourage, you've got a little pouch with the basics--flashlight, the whistle. But can you also include in that maybe some identification information?

Maralin : Yes, there's phone numbers to call grandparents and Mom and Dad, and then hard candies for an energy boost, because when you experience something traumatic, it just takes the energy right out of you, so hard candy will give you energy.

Rebecca: I'll probably put that in my own personal kit, too, because they're somewhat soothing. Let's talk – speaking of soothing, one of the areas we get fearful about in a disaster is what's going to happen to our pets. And we just have another couple minutes left in this show – I do want us to take an opportunity to show what you have, that you actually can prepare an emergency kit for a pet.

Maralin : That's right – your house pets are part of the family also, so have water packets and food. I have a cat, and so I have litter for her, a shirt box for the litter box.

Rebecca: All Ziploc-ed in small containers.

Maralin : And then blankets and leash, collar, things that your house pet needs.

Rebecca: And that would fit, and these are wonderful little backpacks, so this could actually fit some of those basic essentials for the pet there as well. Now you have a wonderful car kit – this is something that I think I would like to emulate. So go ahead and stand on this side, and I'm going to stand behind you for just a minute and lift this up, because this is a multilayered car kit. Another plastic, rubber container on wheels, and yet it has wonderful information. Now compared to the other kits that we prepared, are there any things that are specific to the car kit that you don't have in other kits?

Maralin : Well, everybody should have a shovel, flashlight, blanket or emergency blanket in their vehicle, and water. You can put anything in your car besides the tools to change your flat tire, first aid, but make sure you have those four items.

Rebecca: You also have some cash ready on hand – I thought that was an important thing as well. This is just a fabulous way for someone to go ahead and store their items. Now I'm thinking about my house and where we store different things – what is your advice for the best place to store these types of packs or kits so that they're ready to go when we head out the door?

Maralin : If you can--remember not to store any of your emergency kits in the basement of your home. Try to keep your kits on the main level of your home, or like my office, it's under my desk; for the car, it's in the trunk; for children, it's under their bed; and the baby diaper bag, place it by the crib.

Rebecca: Maralin, thank you so much for joining us today with such helpful information – we’ll have more of this information available for you when you check our website. And thank you so much for joining us here on Living Essentials. Be sure to join us next time. Bye, bye.

For more information on this and other episodes of Living Essentials, or to order a copy of the program, visit us online at byubroadcasting.org/livingessentials. There you’ll find helpful hints and additional information that will enrich and simplify your everyday life.

Next on Living Essentials we're talking about preparing for emergencies, for today's world an emergency or disaster could happen anytime, anyplace. We'll give you some tips on how to be prepared -- just in case -- and we'll show you the four skills that every citizen should know.

Rebecca Cressman: Welcome to Living Essentials, I'm Rebecca Cressman and today we're talking about preparing for emergencies and disasters. With the events of recent years, this is a major issue for everyone. People want to know how to be prepared and also how to help in the event of an emergency. So we've called on two experts. We have **Michael Stever**; he's the Director of the Salt Lake City Office of Emergency Preparedness. We also have **Randy Frank**; he's the Director of Emergency Services for the Mountain Valley Chapter of the American Red Cross. And welcome to both of you. Now Michael, there are different emergencies that require different responses. How can we prepare for an emergency?

Michael Stever: Well, the first thing you want to do is look at what could occur in your area, where you live, where you work, where your kids go to school, just a kind of all-hazards approach. Disasters are generally classified in three categories: natural disasters which is earthquakes, winter storms, the things Mother Nature sends to us; the technological disasters: those are accidents, hazardous material spills, power failures, things like that; and then the last category is new and that is we may be victims of terrorism or crime.

Rebecca: So in the event of a basic emergency what should be our response? Maybe the first things we should be doing.

Michael: Well, cooler heads prevail, and when disaster or emergency occurs, the first things we encourage people to do, is what's called "size-up." And that's basically taking a look at the situation up and down, all around you. In the event of an earthquake for example, you might crawl out from under the table and there could be wires down that weren't there 15 seconds earlier. So you want to size up and make sure that the situation is safe for you to proceed. Take good care of yourself and then decide what is the most important. It may be evacuation, it may be first-aid, it may be putting out a small fire.

Rebecca: Now you recommend that every household should have some basic items to be prepared for an emergency and we're actually going to take a look at that today and present that so let's go there. Now Michael, you brought with you today some of the basic items that we need in an emergency. Can you go with this?

Michael: When disaster strikes there are three important emergency tools you ought to have handy within an arm's reach as much as practical 24-hours a day. **The first is a light source** and we go from new fashion to old fashion here. This is a hand-cranked flashlight that is always handy. You don't need batteries for it or anything. This is a chemical light that you just pop it in half and it'll generate light.

Rebecca: How long does this last by the way?

Michael: There are different times. This one is good up to twelve hours and you could see bright enough to read or find your way out of a dark home with something like that. This is a good old-fashioned garden-variety industrial flashlight that we've got handy. A smaller one you may want to have in your car or in your office. I even carry this in my travel kit when I go on the road. Then there are the old-fashioned good old emergency candles, and a kerosene lamp.

Rebecca: Now are any of these preferred to have if you needed to make a choice? What would be the best light source for your home?

Michael: Well, the most reliable is going to be the hand-cranked flashlight because it doesn't require batteries but if you have fresh batteries and you rotate the batteries and keep them in your cupboard--you don't need to keep them in your fridge like we used to--batteries are good for a long time, alkaline batteries are preferred.

Rebecca: Okay, now you also mentioned that it's important for us to have a radio so that we can get emergency messages, let's go over that.

Michael: Absolutely, when disaster strikes myth and rumor abounds. You want to get accurate information so you need to turn into the emergency broadcast system and for that you need a **radio**. We all have a radio in our car, most of us, and that's one you can count on. This is an old-fashioned radio that runs both by power cord and by battery. You see the kids with these all the time. You can listen to AM/FM all the time.

Rebecca: So this is a walkman of sorts.

Michael: Sure, and this is probably the most handy emergency radio. It's got a solar power cell on the top, and then if that fails and it's dark you can crank it up and get that radio signal. Now on the radio, they'll tell you things like: Is the water safe to drink? What routes should you take for evacuation? Are we opening shelters? When's the power going to come on? Hopefully we can get that word out to people. All that good disaster information will come over the radio, that's why that's important.

Rebecca: Now how would a resident know what radio station to tune in to for an emergency alert?

Michael: The emergency broadcast system, the new EAS, the new alert system has radio stations that are specific to different areas. So you need to ask your local fire, police, or emergency manager and they'll be able to tell you. For the Salt Lake metropolitan area it's KSL 1160 AM.

Rebecca: All right, now we've started looking at light sources, radio sources, to be able to get the emergency information we need. You also mentioned first aid kits, let's look at that.

Michael: A well-stocked **first-aid kit** is essential and we'll hand that to the expert.

Rebecca: Okay, tell us a little bit about that, Randy.

Randy Frank: This is a first-aid kit we call the "pillow pack" for several reasons. One is it's soft, you can actually sleep on it if you need it as an extra pillow. But the reason I like this particular pillow pack is that inside this first aid kit, you open it up, it gives you directions for the different injuries that could occur. So if you're not really skilled on your first aid, you can look at this and still apply some first aid. And the other nice thing about this too is that all the packets are numbered. Like this one is number one, goes in the number one packet, so if your children take it out you can always stick it in the right spot and be back in business again.

Rebecca: Now in my house we have a number of different first aid kits in various sizes and all. What are some of the basic components that we should at least have in our first-aid kit?

Randy: Some of the basic components are, you know, bandages, a cream or salve for burns, for example, an electrical burn if you get one of those, or from a fire. Other things are an emergency blanket, one of those small compressed silver ones that you see work real well for that. Some other things such as scissors, tape, triangle bandages. These

gauze bandages they call 4 by 4s because they're 4 inches by 4 inches and you use those for bleeding instances.

Rebecca: A question I have as well, we have an active family and we continually have our bandages and band-aids being tapped into. Should we have one that's kind of an "on reserve for emergencies" and one that's actually being used on a day-to-day basis or what do you recommend in terms of being completely prepared for that time when we actually need lots of reliance on that first-aid kit?

Randy: The thing to remember is you could do it either way. If you're going to take a band-aid out of this kit, put a band-aid back in it, so you're always stocked. Never deplete your first-aid kit and run off to the next event and forget to put things in, because the next event may require you to do a first-aid item to someone who's fallen or hurt themselves. So if you take something out--put something right back in it.

Rebecca: Now you represent the Red Cross. Is there training from the Red Cross, maybe other organizations, on how to use a first-aid kit in your home?

Randy: There is. We provide training for individuals to learn how to do basic first-aid and CPR and other emergency skills in the medical field.

Rebecca: And is it better to buy one that's like this--already prepackaged--or are there some cases where we want to build our own first-aid kit?

Randy: There are some cases where you'd want to do that. For example, if you have children who have asthma, you may want to throw an inhaler in there to take care of that. In my personal first-aid kit, I throw in an extra pair of contacts so that if mine dry out or something happens to them, I can take them out and I'll still be able to see.

Rebecca: Okay great. Well what we want you to know is that you can visit our website for complete lists of all of these emergency supplies and these first-aid kits so you can take a look at that. Now Randy, you say there are four skills that everyone should know to be able to help out their family or their community in an emergency. What are those skills?

Randy: Well, you should know how to do CPR; the Heimlich maneuver is a good one to know as well, also how to treat bleeding victims and victims who go into shock.

Rebecca: Now Randy is going to demonstrate each of these skills but we want you to know at home that this is not a substitute for hands-on training and so you should get proper training from qualified experts. So let's take a look at number one which is CPR.

Randy: Okay, first of all, anytime you deal with any individual that needs your help, you need to make sure you've put on the protective barriers, so we're going to put on a pair of gloves here that should be in your first-aid kit.

Rebecca: These are latex?

Randy: These are latex gloves. They make them with or without the powder in case some folks are allergic to different things that are in these gloves.

Rebecca: If you have a child or an adult in your family that is allergic to balloons, they'll also need to have the special gloves on hand.

Randy: Right, and remember sometimes as you put these on, and it happens to me a lot, if you have a large wedding band, it'll rip your gloves so you have to be careful when you put them on so you don't contaminate yourself. As you approach a victim that you see, there are three things that you need to do: first of all, and we call them the three Cs, **Check, Call, and Care**. First of all you need to check the area around where your victim is lying because you don't want to become a victim yourself. For example, if this

individual was shocked by an electrical shock, you don't want to go into the room where it's going to shock you as well and now there's two victims. Then I'll have to have Mike come help me out. So, you want to check the area and make sure it's safe. The next thing is you're going to make that phone call to 911 especially if you're there by yourself because you want to get them coming as quickly as possible because they're your backup. And the sooner they get there, the quicker that this individual is going to get the help they need.

Rebecca: Okay, Check, Call...

Randy: And then Care, and that's providing the care and in this case we're demonstrating CPR and that's the care we're going to talk about. As you come in, the demonstration is very short, so of course, they need the training, but you come to an individual, you make sure that, first of all the CPR is what they're going to need. You don't want to give CPR to someone who is actually still breathing and just unconscious so then you go into what's called the **ABCs, Airway, Breathing, and Circulation**. You want to check their airway to make sure that that is working well.

Rebecca: And you do that?

Randy: And we do that. You do that by adjusting the head so that their airway is straight and they can breathe. Sometimes that's all it takes to get someone breathing again. You just open the airway.

Rebecca: **Tilt the head back gently?**

Randy: Right, then you check their breathing and you can do that in a couple ways. You can do it as you put your head down by their mouth or their nose and if you feel some breath coming out, because it will be a warm breath coming out, and as your head is down there, you're looking down across their body and if you see the chest is rising then you know they are breathing. Still we're not at a point they need CPR right? Because they're breathing, it means their heart's beating so you don't want to do that.

Rebecca: **CPR is only if you have no breathing and no heartbeat.**

Randy: That's right, then you **check the circulation** which is the blood moving through the body. And you can do that by checking the arteries in the neck here. You should be able to feel that. If you don't have that, then now's the time that you start doing your CPR.

Rebecca: Okay so you feel no pulse in the neck, no air appearing to come through the victim, then you begin your CPR.

Randy: That is correct. Always you should use a mask, you should have a barrier not only for your hands but also for your mouth too so that you don't contract certain types of things that could be infectious. So you want to make sure that you do that.

Rebecca: And what is this?

Randy: This is a mask that has been specially manufactured for emergency responders so that they can place that over the mouth and protect themselves as they do CPR. This is different than a mask I would probably have at home. There are several different versions of a mask to use when you do CPR. This is the one that I use because I'm an emergency responder and it's just a higher rated mask. They all will protect you. Some are made to fit into your pocket as well.

Rebecca: Okay great.

Randy: So as you get ready, you're going to come up here, you're going to check all your ABCs real quick. You've determined now that you need to do CPR on this

individual. So what you're going to do is you're going to **give them two quick breaths**, real quick. So you come up here and you give them two breaths.

Rebecca: Now what I'm also noting is that **the mask is over their nose and their mouth.**

Randy: That is correct, so that the air is not coming back through--because the way the body is set up. So you watch as you make your two breaths, you're also watching the chest to make sure the chest is actually rising. So now you know, you've got a good seal on your mask and the air is getting into the body.

Rebecca: What about a child?

Randy: **There are different rates for adult, child, and infants** that you give the breathing and compressions. And those are things people will learn as they attend classes and learn these things.

Rebecca: All right so you've given the two breaths, now you've moved on.

Randy: Now you do your compressions. And what you do is you find the location you need to be. You would be up higher than I am, and you would start your compressions and you would count them as you're going through. For an adult, as we're doing it, it is 15 and 2--**15 compressions, 2 breaths.** Then you go back and forth and at one point you will stop, check the circulation again, you may have got the heart going again because you don't want to continue CPR once you get them going again.

Rebecca: Next we have the Heimlich maneuver and we have Randy's assistant Katrina here from the local Red Cross. Thank you so much assisting us with this demonstration. Can you show us the Heimlich?

Randy: Right. First of all, you align yourself behind the individual so one of your two legs, whichever one you use, is actually supporting their body. So as you're behind them, if they do actually go unconscious, you'll be able to catch them.

Rebecca: All right, now we have Katrina up on a stool right now just so that our audience can actually see where your hand placement is today.

Randy: Right, so what you do is you come up behind the individual and you'll find their hip is the best place to find the location because your hands are going to go just above the belly button. So you find the hip and you run your hand across to where the belly button is and then you take your other hand, thumb side towards the body and you breathe in and then **you push inward and upward at the same time** which gives you that thrust. Now each thrust is going to be an individual act. So you do one thrust then you'll do another thrust and this is what helps dislodge whatever it is that's caught in the throat.

Rebecca: Wonderful, and I've actually used the Heimlich maneuver and it was very successful on someone about a foot taller than me. So this example is working for us. You also wanted us to learn about what to do in **severe bleeding.**

Randy: If you have an individual that is bleeding severely they've got a wound here. First of all, you want to put on your gloves again. Cover yourself with a barrier, then get some gauze, these are the 4 by 4's that we talked about earlier, and you're going to put that on there and you're going to apply pressure. If your patient is conscious as well, you can have them help you out, and what I'd have her do is put her hand right here and actually, what she's doing is she's applying direct pressure to this artery which will slow the blood flow down. Once that's done and she's doing that then I will take a gauze roll and we'll roll that around her arm providing more pressure. As we get it done, then we'll tie it off with more pressure. Last, we put her arm up.

Rebecca: So we use gauze pads to put pressure on the nearest artery to slow the bleeding down, elevate the arm, and then place on additional clean gauze continue to apply pressure. Wonderful. Another area you said is very common in emergencies is shock. How should we best treat someone in shock?

Randy: Okay, an individual can go into **shock** for a lot of reasons. Generally, it's a traumatic event that chases them into shock. For example, if Katrina had a compound fracture where the bone is actually sticking out of her skin, just seeing that could send someone into shock. Or any other traumatic event could go on. So what you want to do is, of course, have the person **lie down**. You don't want them to fall down on their own. Have them sit down and lie down. The next thing you're going to want to do is you're going to want to **elevate their feet**. And what this is going to do is it's going to help the blood go up to the top part of the body and get some blood in their brain. It helps bring them out of it. So we're going to lift her feet up.

Rebecca: And we're using blankets right now to elevate her feet.

Randy: We are using blankets to elevate her feet. And the other thing that you're going to want to do is you're going to want to **cover up your victim**. Okay, this also warms up their body and helps bring them out of shock. You don't have to have blankets on hand, you don't have to be carrying them around. You could use your coat that you're wearing to cover them up with--whatever is available to get them warmed up. If you have one of those silver 72 hour blankets in your first-aid kit that you have in your car--that'll work just as well. Propping their feet up--that could be something like a piece of firewood just laying around--get their legs propped up.

Rebecca: So elevate their feet, keep them warm, and have them lie down before they could fall down and hurt themselves.

Randy: That's right, and as always, keep checking their vital signs. As before we've called for help in our check-call care.

Rebecca: Okay, we're waiting for that help to arrive.

Randy: We're waiting for the ambulance to show up.

Rebecca: Now training. How is it that someone then who is, wherever they might be living in the United States or another country, where should they go to get training to learn these four skills that you've presented today.

Randy: The training is available through the American Red Cross, or through the Red Crescent Organization which are affiliates of the Red Cross. Also fire departments, businesses have health and safety people that do training within their businesses. So there are a lot of areas that you can find this kind of training.

Rebecca: Terrific. And as a reminder on certification, I was CPR certified at one point, but actually how long does that certification last?

Randy: With the American Red Cross, **CPR certification is annually**.

Rebecca: And that process helps you remember all of the compressions and breathing there. How much time does it really take for someone to become CPR certified, for example, how long are the sessions?

Randy: The CPR, we teach CPR and first-aid together and it makes an eight-hour session. We break them up into a couple of days if that makes it easier for individuals.

Rebecca: Wonderful. Now Michael you strongly suggest that a family or an individual have a 72 hour kit, what are the basic essentials.

Michael: Well, the 72 hours is a planning figure. We want you to be able to stand on your own. You won't really need wilderness survival--things like a signal mirror. You ought to have **a whole emergency kit at home, one in your car, one at the office.** I brought some samples for you. This is part of my car kit which you see is kind of small, will fit in the trunk, and there are some basic components to every kit whether it's at home or in the car, or at the office. First is **food and water.** This is a box that has a mylar bag in it that contains drinking water. A lot of people use the 2 liter pop bottles. You know you clean them out, wash them up, fill them with cold clean water and they're good to go. For food, anything that doesn't spoil and that your family will eat is useful. Some people choose a military ration--the MRE, it means Meal Ready to Eat. This is some freeze-dried food. Some people just like the good old ordinary Top Ramen, or *Ramon* as my family calls it. You can use canned goods, anything that doesn't spoil.

Rebecca: Now I understand also though that Randy recommends Oreos. Can you give me some information that way?

Randy: I feel in any disaster there's a lot of stress that goes on, and I use Oreos as a **mental health food.** And it's a wonderful thing because as I go through my kits once a year, I get to eat a package of Oreos as well.

Rebecca: All right, how about a family photo?

Randy: I do, in our family we have **a family photo** on a lanyard for every individual in our family. This does a couple of things. One it is a photograph of your family and if you're separated, you've got that glimmer of hope that we're going to get back together. The other thing, on the back of these photos we put our home address on it so if Mike's Emergency Center opens up or the Red Cross opens shelters, and my child shows up at one of these shelters, they can look at the address and they're going to say--we sent all these people to this area there. So we can start putting families back together quickly.

Rebecca: And both of you suggest that families have an emergency response plan in the home and rehearsed. How should we start with that Mike in developing one?

Michael: Well, the key word was family. Everyone needs to be a part of **a home emergency plan** from the children on up to some of us who are caring for our parents, seniors. You take a look at what your family's needs are. If there are some people in the family with disabilities or particularly young children, they may need special care. Then you take a good long look at the type of things that could happen to you, the type of things that may affect your home. And once you've decided all those things you play a game of "what if." What would we do if the house catches on fire? What would we do if we had to shelter in place? And then make sure all the family is involved in that.

Rebecca: I understand the American Red Cross has some resources for families, some sample plans. How does an individual get a hold of those **sample emergency plans**?

Randy: You could do it one of two ways. One you could come into the office and pick up one of the pamphlets or you can go online and they are in PDF files and you can just download them.

Rebecca: What should we do, during 9/11 for example, kids were at school when some of this all took off and people were frantically trying to figure out what to do. What do we do as parents if our children are at school and an emergency takes place, a disaster?

Randy: Well, once again it falls into that pre-planning category. Every school is different on what their release policy is and it may be different between an elementary school, a junior high, and a high school. So you need to take the initiative, go to your

school, **find out what your school emergency plan** is. Find out what the release plan is for the students. Some schools will keep them; others will release them only to parents or someone that's on a specified list, something like that. And make sure they have supplies.

Rebecca: Okay and what happens if we're at work when the emergency strikes, Mike?

Michael: Well, it's basically the same principle: you may be a long way from home and have difficulty getting back very soon. So I recommend that every time you leave the house, you be prepared for extended cold-weather operations. Have a pair of comfortable shoes at the office or in the car, in case you have to walk home. And then, find out what the evacuation plan is for your office or your building or your school. Where do we assemble if we have to leave? What are the warning signs? What does it mean when the bell goes off?

Rebecca: Now you both underscore the importance of **practicing these drills** in your homes. When's a good time to do it?

Michael: Well, for me the first thing you do is **talk about what you're going to do**. And then every great sports team practices, every great theatrical company rehearses, and you practice what you're going to do. You actually walk through it. Do it when everybody's up for it and then when they become proficient, you may want to try it at 3 o'clock in the morning on Easter Sunday.

Rebecca: Randy is anyone crazy enough to practice a 3 a.m. drill?

Randy: I know that we are in my home. We've done it on several occasions. I will intentionally walk through the house and set off the fire alarms and if you happen to be driving by my house, you'll see my children going out their bedroom windows because that's their escape route.

Rebecca: Now do the children support that or how often would you run a drill like that by the way, in the middle of the night?

Randy: We usually do it at most **once a month**; generally every other month and I make sure it's on a Friday night so it doesn't interrupt their school the next day.

Rebecca: That's a good idea. You know one thing about being in a wonderful community—and all of us have opportunities to live in great communities--people want to help in face of the disaster. Where should they go if they are able to offer help in a disaster? Who should they call Randy?

Randy: Well, there are a couple places you can go to. Of course, we take volunteers during disasters to help and we will train them before we put them out into shelters for example. Every city emergency manager has a volunteer coordinator that takes care of that as well. Our recommendation is to find a volunteer organization that is active in disasters, **become a volunteer, become trained** so that you become a part of the solution and not the problem.

Rebecca: Okay, so prior to a disaster if you're the type of individual that wants to help, you need to get your training now so that if something happens later you can be of service and help.

Michael: We usually have hundreds of volunteers that want to help after a disaster. What we need are people that are prepared to help. You can get that training with the American Red Cross. The Amateur Radio Operators are another good source of valuable communications for us in the event of a disaster. And also, many communities have community emergency response teams or **CERTS**.

Rebecca: CERTS, what is CERTS? Can you tell me about that?

Michael: Yeah, it's normally sponsored by a local emergency management or a local fire department and it's a process in which citizens are trained how to basically take care of themselves in the event of disaster. They cover things like firefighting, how to use a fire extinguisher, very light search and rescue, first aid, disaster psychology preparedness. Once they graduate from the training, they organize into neighborhood teams and they get a distinctive green hardhat and a vest that has Community Emergency Response Team. They go about helping themselves and their neighbors. They're trained on how to turn off the natural gas in case of an earthquake, how to diagnose a problem. They're not really trained to be first-responders--that's not the goal. It's basically that they help in a community way and it's how to be safe doing it.

Rebecca: We so appreciate both of you coming today and sharing your expertise and inspiring all of us to get ourselves trained and get ready so that not only can we help ourselves and our family but very possibly our community. Thank you again both of you for coming today. And thank you for watching. Be sure to join us next time on *Living Essentials*.

>>For more information on this and other episodes of Living Essentials, or to order a copy of the program, visit us online at byubroadcasting.org/livingessentials. There you'll find helpful hints and additional information that will enrich and simplify your everyday life.

Welcome to *Living Essentials*. We're talking about the basics of food storage. Maybe you already have lots of food stores up, or maybe you're just getting started. Either way we'll share some helpful tips about how to gather it all up and where to store it. Stay tuned.

Rebecca: Welcome to *Living Essentials*. I'm Rebecca Cressman and today we're talking about the basics of food storage. Joining me today are Lisa Harkness and Leslie Probert. They're both authors and lecturers on food storage and emergency preparedness. Welcome to both of you. And we have some great ideas we're going to share with our audience today. But before we go into all the basics of food storage, tell us why it's so important Lisa?

Lisa: Well we live in uncertain times and there are many situations in which we would find a store or supply of food very beneficial. Think about situations such as natural disasters like hurricanes or floods or earthquakes, or severe weather like ice storms or even droughts, then there's major power outages like we've seen recently. People even lose their jobs and they're out of work for several months. And then there's sickness and injury and disability. In all of these circumstances, having a supply of food would be a great help. It would provide comfort and some stability when getting to the grocery store either wasn't economically feasible or physically feasible.

Rebecca: Great, thank you for that. Leslie, many members of the Church of Jesus Christ of Latter-day Saints have heard for decades the importance of having a years supply of food storage for their family in case of an emergency and yet many of us have not accomplished that task. What are some of those common barriers that we're all encountering as we try to make sure we have what we need?

Leslie: Getting a years supply of food is a big job. Some people don't know where to start. People are concerned about the cost, and where they'll store all that food. Some people don't know how to cook with it and they're worried that it won't taste good. Good information helps people get around these barriers.

Rebecca: Okay, then let's give them some of that great information. We have samples here right now. Lisa we've got wonderful displays of grains but, in general, besides grains, what are some of the other general types of food we should be storing Lisa?

Lisa: Well, you want to look for food that is inexpensive and space efficient to store. You also want food that's highly nutritious and that has a long shelf-life. By that I mean food that can actually sit on the shelf without refrigeration for quite some time. Now foods that meet all of these criteria are: grains, legumes, oil, powdered milk, sugars, salt, and some water.

Rebecca: Now are there some actual specific health benefits from the types of foods that we choose to store?

Leslie: Yes, actually. Whole-grains and legumes are at the top of the list of foods recommended for our day. Currently in the United States we have serious health concerns with heart-disease, cancer, obesity, and Type II Diabetes. The soluble fiber in oats, barley, dried beans, peas, and lentils, has been scientifically proven to lower blood cholesterol. The fiber in whole-grains significantly lowers the risk of coronary heart-disease and type II diabetes. Let's talk about cancer for a minute. One-third of all cancer deaths is related to nutrition, exercise, obesity, and other lifestyle factors. The American Cancer Association has said that beans are especially rich in nutrients that may protect

against cancer and they're a low fat, high protein alternative to meat. So this is a huge argument for not only storing these foods, but eating them now.

Rebecca: Which has been one of the concepts that has always been taught to me, is store the type of foods that you will eat, and maybe some of us need to go back to eating the food that we're storing in order to get back to healthy lifestyles. Earlier I started to kind of point us in the grain direction because I think when I'm thinking of food storage, one of my first thoughts is the grains. Making sure we either have the beans there or the rice or the grains. And there is a lot Lisa, introduce us here.

Lisa: In the grain category it is recommended that you store 300 pounds per person for a years supply. Now there are a lot of options in the grains like you were saying. You could add to the wheat, you could add rice, macaroni, some barley, pasta, lots of different things in this category. When it comes to wheat though you have two nice options - there is a hard white option and a hard red wheat. Both of them store 20 years or more. Both of them are very nutritious and have about the same nutrition. However, the white wheat, this one right here, makes a lighter colored and a lighter tasting product and it has become very, very popular today.

Rebecca: So when we see breads that are made out of light wheat, this is what they're referring to? And this is the typical red-grain? Now what would you typically use if you're trying to cycle this through, Leslie, what would you use recipe-wise, these red-grain and lighter-grain?

Leslie: It's just so easy to grind wheat up, either grain, and use it as you would regular white-flour in the usual kinds of foods that we eat everyday, bread, cookies, pancakes, muffins. When it comes to cooking barley, barley takes about 45 minutes to cook so you can throw it in any super stew and just let it cook along with the rest of the ingredients.

Rebecca: About 45 minutes is what you're saying with the barley? If anyone has not seen barley before, this was the first time for me, try to recognize that. But it is also a member of the grain family and very nutritious. And 45 minutes is about the same length as long-grain rice.

Leslie: Long-grain rice is only 20 minutes.

Rebecca: It feels like 45 to me. We have some samples of grains, that's one type of food we're encouraged to store as well, but what about legumes?

Lisa: Well, in the legume category, it's recommended that 60 pounds would be sufficient for one person for a year and again, in this category you want to store a variety of legumes. You've got things like your kidney beans, you've got split-peas, you've got white beans and pinto beans. So there's a lot of different things that you can do in this category to suit your tastes and your needs.

Rebecca: In terms of tips for cooking the legumes, you included the beans, and we have an example here of the split-peas. Any tips for cooking we have for these?

Lisa: Yes, you can use either in this area. You can store the dried beans or the canned beans. If you store dried beans you need to know that they will need to be hydrated. They're a little hard to taste. This is so easy to do. All you do is soak them for a little while beforehand and then you cook them and once they're cooked they can easily be added to soups and stews and casseroles and even some baked goods. Now if you decide to store canned beans like these here instead of storing them dried and you don't want to go through the soaking and cooking process, you can store these and just store 2 1/2 times the dried amount. Now there's one more alternative here. Some people don't like

beans at all or don't want to eat them very much. And if that's you, what you can actually do is store some canned meats. They can switch out pound for pound with your dried legumes.

Rebecca: Because they're both protein-rich

Lisa: That's right. So you can store things like canned roast beef, canned ham, canned turkey or chicken, instead of your beans and legumes. Remember you switch them out pound for pound with your dried legumes.

Rebecca: That's a great idea. Now we need to have these legumes, we need to have the grains. We also need powdered milk. Introduce us to what we have here on display.

Leslie: The original recommendation for powdered milk was 75 pounds per person. However with the brands of milk that are available today, and the change in mixing instructions, it's possible to store 50 pounds per person to get the recommended three cups of milk a day. There is another option. It is possible to store as little as 16 pounds of powdered milk if you increase the grains to 400 pounds per person. Currently there is research ongoing about whether this option provides enough calcium in the diet. Certainly it does not for growing children and pregnant and lactating women. Milk has a shorter shelf-life. It lasts between 3 and 5 years. Some will go as long as 10 years, so it's really important to store a kind of milk that you like and to rotate it so it doesn't go to waste.

Rebecca: Now I use a lot of the nonfat dry milk at my house in all of the cream soups that I have. Anytime I make a cream of broccoli or cream soup, this is kind of what we use, but do you actually have tips that you can recommend, because some of us might not exactly know, some of the kids are not sure they're thrilled with instant milk. But what's your advice?

Leslie: Well you will use some milk, some dried milk in your cooking and baking but by far, the largest use of dried milk will be in drinking.

Rebecca: So as Leslie mentioned, dried milk is the most expensive and also the most wasted item in food storage, so you really want to taste a variety of milks before you go buying anything in larger quantities so that you're sure that you'll drink the amount that you're actually storing. And how long would a typical container of nonfat dry milk last?

Lisa: Well, like she said, most brands will recommend 3-5 years. But some will actually go and be quite fine for 10 years or more. And you'd be surprised with the quality of dried milk that there is on the market today. There is some really great tasting powdered milk so it's worth experimenting.

Rebecca: We've also tried whey, dried whey, and liked that as well. We also have sugars here and people might be surprised that we actually have the sweeteners and the sugars here as part of our staples, but let's talk a little bit about why we need to have those in our food storage as well.

Leslie: Sugar is really important and it's a good way to get things to taste good and people don't realize that you can store a variety of sweet tasting foods. Besides storing honey and sugar you can include maple syrup, jams and jellies, fruit drink mix, and flavored gelatin.

Rebecca: Wonderful. We also have some examples here, Lisa, of the different types of oils that we need to be storing.

Lisa: In this category you're going to want to store 20 pounds or 10 liquid quarts of oil. Of all the different types of food-storage things we've talked about so far though, oil has

the tightest shelf-life. It stores for 1-2 years if in a cool, dark place. There is a nice thing to note though about this. If you're worried about getting through all your liquid oil before it goes bad you have an option of putting some of that recommended amount into shortening. Now Crisco brand actually says that their shortening, if stored in a cool dark place unopened will store indefinitely. So that means you could put some of the recommended amount like I said in shortening, and then just worry about getting through your liquid amount before it gets bad.

Rebecca: That's a great idea.

Lisa: Isn't that great? The other things that fall into this category would be things like mayonnaise, peanut butter, and salad dressings--all would count for oils as well.

Rebecca: All of those contain oil in there as well? Now the very front of this display we have some other basics that are recommended for every family's storage area. We've got salts, and we also have some other vitamins, and interestingly enough garden seeds. Let's talk about those.

Leslie: Salt is important in the diet. And it's recommended that you store 8 pounds per person. It's a good idea to get Iodine salt to ensure that you have enough iodine in your diet. Multivitamins also ensure that we have the needed vitamins and minerals and garden seeds are a really great idea. It's good to practice growing vegetables from seed and be using fresh produce out of your very own garden right now.

Rebecca: How long would an envelope of seeds actually last?

Leslie: Seeds from different vegetables last a varying amount of time. So to keep that all simple which is our bottom line, we just rotate seeds every year. You can buy them on sale and then plant them the next year and buy some more and that keeps it simple.

Rebecca: Wonderful, that's great. Another basic element in our food storage is the water. And what is the basic recommendation for each family member?

Lisa: Well it's impossible to store a year's supply of water right? But a two-week supply which is 14 gallons per person is recommended. Now this is different from and in addition to a 72 hour supply which is 3 gallons per person. So the 14 gallon--2 week supply would have 7 gallons for cooking/drinking, and 7 gallons for hygiene. And of all the water to store, believe it or not, your municipal or city water is the safest and the cheapest water to store.

Rebecca: Now there's also been some new tips that have been out from national agencies about emergency preparedness related to water.

Lisa: Yes, there are, and they help to dispel some myths that are circulating around. The American Red Cross is now saying that if you store city or municipal water, you do not need to pre-treat it with bleach before you store it. In fact the American Red Cross and FEMA, the Federal Emergency Management Agency actually say that if you do pre-treat water with bleach, it is superfluous, and does not extend the shelf life of water.

Rebecca: Interesting. That's important to note because that's a big difference and I think one of the hallmarks of why we're always so afraid to drink the containered water because it tasted so much like bleach water that's been out there.

Lisa: Now one more thing, if your tap water comes from a well, you will need to follow what your local water authority tells you to do for pre-treating water, so follow what they say.

Rebecca: Go ahead and contact your local water authority and they'll have the information you need. You have lots of different containers you brought today. Show us samples of what we can use for storing water and the differences between.

Lisa: There are safe and unsafe water containers. Unsafe water containers would be things like water beds or bleach bottles or milk cartons because they tend to disintegrate over time, but safe water containers would be things like 2 liter soda pop bottles, food grade plastic containers or even larger barrels. The American Red Cross is suggesting that we rinse all of our containers with a diluted bleach solution before actually storing water in them. During Y2K we saw lots, because of the concern there, we saw lots of used soda pop syrup barrels on the market. They were very inexpensive and many people bought them, but they are not recommended for storing drinking water because the sugars from the syrup get into the plastic and they provide food for bacteria over time. So when storing that 2 week supply, that 14 gallons, and you may need quite a bit if you have a family, but you're going to want to have maybe a larger, new container, or new barrel.

Rebecca: Speaking of barrels, I actually store something that you don't have represented here. Its Mylar bags with a spigot and they come in a cardboard box. I actually get it from a water company and they stack quite nicely. They're also made for recycling purposes quite nicely because we camp a lot and we can just take this cardboard Mylar bag to the campsite and take it with us. Are there things we should know about Mylar and its advantages or disadvantages?

Lisa: That's a great thing to have, and if that's what fits your space and your particular circumstance, that's great. One thing that's critical to know about stored water is what all the national emergency authorities are saying now. When talking about National emergency authorities, we're talking about people like the American Red Cross and FEMA and Homeland Security and these types of people. All of them say that you need to change and replace water every six months and not every year as was previously the thought.

Rebecca: Great, and that might become very important when we start talking about these containers and what would be great for those two week supplies, but we could actually use these barrels for a longer period of time and so the rotation. About how much water is actually stored inside?

Leslie: That's probably a 15 or 30 gallon; these are about 5 gallons or so. Now in your 72 hour supply you're going to want to store containers smaller than this barrel and that's where a 2 liter pop bottle would be ideal because you can just pick it up and take it with you.

Rebecca: The portability is for the 72 hour kit. And then this again would need to be drained every 6 months and refilled again. Great! Now we just took a look at the basics that are recommended for food storage. But anyone who cooks knows that you actually need to have some other additional elements to make it very palatable and simple so we have some samples here of some of the other basics that are important for a good kitchen. So let's start here with what you've brought in terms of leavening products.

Leslie: It's really important to store leavening like yeast, baking soda, and baking powder and also bouillon and spices. All of these things are important for adding variety to the kinds of things that you can cook with the basics.

Rebecca: Also when you talk about basics. One thing that is kind of easy to spot on all of the goods that you brought today, are the date of purchase that you have added to your

stored items. Very important. Just the other day I pulled out some yeast and was making some bread and couldn't get it to rise and found out through the imprint that it was about five years old. Now what about the bouillon, why is this considered a basic?

Leslie: Bouillon is really wonderful to have in simple soups that you can make with beans and also in stews and other kinds of dishes. It just really expands what you can make.

Rebecca: Okay so these are the basics for baking. What about canned goods?

Leslie: Canned fruits, vegetables, and meats also add really important nutrition to basic food storage and of course they would expand again really greatly the kinds of things that you can fix with basic food storage.

Rebecca: All right, let's talk about the shelf-life of a typical item that's canned.

Leslie: I want to talk about the commercially canned food here. Canned food experts and the USDA all say that this food, commercially canned food, is safe to eat almost indefinitely as long as the can is not dented or bulging. They suggest that for optimum flavor, texture, and color, that canned foods be used within about 2 to 2 1/2 years, however the Canned Food Alliance which represents a number of canned food companies, says that the nutrition in commercially canned food will last well beyond 2 years.

Rebecca: What about the shelf-life, though, of some of the other mixes we might find in our pantry, or store in our pantry? How long does an average, like stuffing mix for example, would we expect that, obviously not indefinitely like a canned good?

Lisa: Well, you can store these ready-to-make things like muffin mixes and soup mixes and cake mixes and those kinds of things but it will have a shorter shelf-life like you said, usually about six months or so. So if you decide to build up a year supply of these ready-made or ready-to-make things, you have to know that you're going to have to get through those on a regular basis and constantly be using those. Plus, that's going to take up a lot more space because of all the packaging and a year's supply of those ready-made mixes are going to be a lot more expensive to store.

Rebecca: Good, you also brought up a point which is very surprising to me and I think we kind of need to go over it. One of the key sources of protein that I have always stored at my home is tuna and yet it's not maybe the optimal choice. Tell us about that.

Leslie: Tuna is actually good to have in food storage. The interesting thing is that it really doesn't have a shelf-life beyond two years. Tuna can develop some very strong flavor and texture alterations after that two years so that's important to keep in mind.

Rebecca: And comparing that for example to a can of ham, or chicken, how long does that last?

Leslie: Well, the guidelines that we mentioned previously for all canned foods really apply to those, they'll last 5 years or longer as long as the can isn't dented or bulging-- they're safe to eat.

Rebecca: Well you're speaking also of cans with dents and bulges. What are the optimal recommended containers to use for canning fruits and vegetables or for storing fruits or vegetables or meat?

Leslie: Well you would want to store commercially canned meat or of course if you're bottling it you'd need to be sure to pressure cook it. That's a really important thing to be aware. Let's talk about packaging. The packaging of your food can greatly affect the shelf-life of that food. Moisture, light, and air, all adversely affect food, so packaging that

is airtight and opaque is really the very best to get your food to last a long time. Having a lack of oxygen inside the container also will prolong the food. So you have a tin can as an option for dried food or you can get dried food or actually put it in these packages, these foil pouches and you put a little oxy pack in them which absorbs the oxygen, which causes the food to last longer.

Rebecca: Am I correct also that these Mylar bags or foil bags help to protect the items from light which is one of the items that destroy the vitamins?

Lisa: That's exactly right. You can get food in buckets and it is important to ask for heavy white buckets so that that very issue of light doesn't trouble the shelf-life of the food inside. These are also packed with an oxy pack or two inside to absorb the oxygen. It's really important to request lids that have either a gasket inside here or some sort of rubber that's been stamped inside so that the bucket is airtight and will cause the food to last for longer time.

Rebecca: We have an email from one of our viewers that I'd like to share with you and let's talk a little bit about it. This is Elizabeth from Plainview, New York. "Will you please talk about the differences between west coast storage and southern and east coast storage. High humidity levels can make a big difference." And I'll echo that, it's not just altitude we need to worry about, but the humidity differences. So Lisa let's talk about that.

Lisa: Well no matter if you live in a humid climate or a dry climate, food that is stored properly will store for a very, very long time. However in moist climates, more humid areas, you want to make very certain that your food is stored off the floor just a bit and slightly away from the walls so air can circulate and you don't have condensation or mold growth. That's very important. Also in moist climates, once the containers are opened, as well as in dry climates, you have about a year to get through that food. But as people that live in moist climates know, you've got to keep that food sealed in an airtight or moisture-proof container. So if the containers you're using aren't able to have an airtight lid put on them, you'll need to transfer them to a moisture-proof, airtight container. Now moist climates too, can use these foil packages which might be a great option. Where there's a lot of humidity sometimes the metal cans will rust a bit and that's a concern, so putting them in these foil pouches would help stop the rusting problem.

Rebecca: That's a great idea. Let's talk about rotation because I think that's one of the key elements. We talked about barriers, about what keeps us from wanting to get our food storage. Sometimes we feel like we don't know how to organize it or rotate it. Some quick tips on how we should do that?

Leslie: Rotating really comes in two parts. The first part is the physical organization of the food that you store. It's important to date every package you buy and then whether you stock food on shelves or on the floor, you add new packages of food to the bottom of the stack in the back and keep the older ones to the front so that you will use those packages. It's also important to consider how long it will take your family to get through a container. That will influence what size of container you buy the food in. Sometimes people, when they buy food in a bucket, of course, it will cost more because there's more food in the bucket, and they'll say, "I'm not going to open that bucket; it cost a lot of money and so I'm not going to use that food." So if you know that you're that kind of a person it would probably be better for you to buy food in a number 10 can so you're more willing to open it and experiment with the food and use it. The second part of rotating is

simply that we need to be eating the food that we're storing. It's really important to taste some of everything that you buy in bulk so you're sure you like it. It's also a great idea to serve food storage meals to your family. And let them vote on the meals they would like to eat. That way you can store the extra foods that are needed to get the basics to taste good in that recipe. If you have a pool of good-tasting recipes and you will eat food storage meals two days out of a week, you can have an entire year's supply of food storage rotated in just 3 and a half years.

Rebecca: That's wonderful advice, twice a week? In terms of storage as well, just quickly, spices – about how long would they last? We talked about wanting to have these in our meals, but how long would we expect spices to last?

Leslie: You know, I don't worry so much about spices. The bottom line for both of us is to keep it simple and so, we just go through our spices and if they're getting a little old, you need to add a little more, you throw it in, but we don't really keep track of dates for spices.

Rebecca: As long as you have it in the pantry, you'll be just fine. Speaking of the pantry because a lot of us live in many different types of homes, is there anything we should be keeping in mind as to where we should store the food? I'm lucky enough to live in a house with a basement, with a cellar. What do you advise Lisa in terms of what's the best spot to store food for the longest period of time?

Lisa: Well, there's all kinds of places you can store food whether you have lots of space or limited space. You'd be surprised how much food storage a typical hall closet can hold. I know people that have to put their food storage underneath their beds, even using their food as the bed base. Other people I know with limited space actually make these lovely bedside or chair-side tables using boxes of food as the base with a piece of material over it and then cover it with a piece of wood, glass or something. Even a bookshelf can hold an amazing amount of food. If you're lucky enough to have some garage shelves, some of those heavy duty things, they can hold a lot of weight and are a great option.

Rebecca: We have just another minute or so left in the show but before we go, because we want people to watch this and listen to this and think, I'm going to start right now doing this, what are some quick tips, to begin that food storage?

Lisa: Have a plan and I think there's a plan on your website. Start with a plan, in 20 minutes you can have it planned for and you'll know right where to spend your money and you won't waste it.

Rebecca: All right, any other quick tips Leslie?

Leslie: I think it's just really important to get going. As you're acquiring it, you can think in terms of just getting a week's supply and then build up to a month or two until you have a year's supply. So you set aside some money, make a commitment to be buying food storage every week.

Rebecca: Well we appreciate you bringing your expertise. You have brought so much to our community and we appreciate you sharing that with us here on *Living Essentials* and again, we'll have a lot of this information on our website as well. Thank you so much for watching us. Be sure to join us next time on *Living Essentials*.

For more information on this and other episodes of Living Essentials or to order a copy of the program, visit us online at byubroadcasting.org/livingessentials

There you'll find helpful hints and additional information that will enrich and simplify your everyday life.

Food Storage. We'll talk about how to incorporate your food storage into your favorite recipes and we'll show you some delicious meals that your family will actually eat. Stay tuned.

Rebecca: Welcome to Living Essentials. I'm Rebecca Cressman and today we're cooking with food storage. Joining me today is Lisa Harkness and Leslie Probert. They are authors and lecturers on emergency preparedness and food storage. Welcome. First of all Lisa, why should we learn to cook with our food storage?

Lisa: Well, we store a year's supply of food in the event of a natural or economic emergency and in those types of emergencies it would be a great comfort to already know how to use your food storage. It would help to relieve a lot of stress. So learning to cook with your food storage now is a really important part of being prepared. What about the health benefits Leslie?

Leslie: In addressing the health concerns of our day, these foods are at the top of the list of foods recommended for us to eat. These high-fiber foods will be upsetting to the digestive system if you suddenly begin to eat them, so it's important to start incorporating them into your diet now.

Rebecca: Now today we're going to take a look at a lot of recipes that are very tasty and good for our families. First of all, where did you come up with these recipes? I'm assuming that you've taste-tested all of them for us. Where did you come up with these recipes?

Leslie: We started by looking at our own recipes for soups and stews and casseroles and then with a little creativity and practice we learned to substitute stored foods for any fresh foods in the recipe. There are some emergencies when you would not be able to find fresh foods and if you're depending on cheese, sour cream, or ham hock to get your basic food storage to taste good you're in trouble.

Rebecca: Speaking of that, we had a show on cheese making and had a lot of people interested that were so excited, they went out and made the cheese. We're going to make some recipes today too to get people engaged and interested. But Lisa, how long should we store our food storage?

Lisa: Well that depends on the particular type of food, but there's one thing to keep in mind. Food storage will not last forever. It represents a financial investment when you have all this food stored, so you don't want to let it sit too long. You actually are going to have to get into it and use it, which is called rotating, using it and replenishing it.

Rebecca: All right, tell us about rotation.

Leslie: Well, we wanted to find a whole month's worth of bean recipes and good tasting, a month's worth of canned meat recipes and we were able to be successful with that. Once you have a pool of good-tasting recipes, if you will eat food storage meals two days out of the week you can have a whole year's supply rotated in just three and a half years.

Rebecca: That's a wonderful idea.

Leslie: That's well within, or close to the shelf-life of most foods and your food storage will be fresher and you'll know how to use what you've stored.

Rebecca: Some of us have learned that when we buy our food storage which if they're in cans or in bottles, it's really essential for us to date when we purchase them. What type of information is important Lisa in that dating?

Lisa: This is really important and it's real simple. All you need to do is keep a permanent marker in the same place where you store your food and then every time you bring home a new package of food or a can of food, just date it. That lets you know which foods you need to get through first and which foods you need to rotate through first.

Rebecca: Talking about serving food to our families, I'm not sure if I said to my family, "Kids, it's food storage night!" They'd be excited necessarily to join us for dinner on that one. How should we best introduce food storage, if we do it twice a week we understand we can now rotate throughout a whole year but how should we bring it in to our regular family planning and meals.

Leslie: Well actually, if you're eating rice, oatmeal, refried beans, burritos, macaroni, you're already eating food storage, so it's important to try some recipes, decide which ones you like. If you have a family, let it be a family decision. Decide how often you would have that recipe in a month and then you can plan to acquire the things needed in that recipe. Work for a whole months worth of recipes and then you multiply those by twelve to plan for a whole year. Planning this way you don't waste any food and you enjoy rotating what you've stored. Don't be surprised if some of your food storage recipes actually become your family favorites.

Rebecca: That's great to know. One of the things I always think about before I make dinner at home is how much time this dinner will take. What have you thought about in these recipes you're introducing us today, how complex are they?

Lisa: Not very complex at all, in fact most food storage recipes are really easy to assemble, there's no dicing, no chopping, no sautéing, you just assemble them together and the most recipes take anywhere from 20 to 45 minutes to cook which is really the same amount of time we plan on when we cook a normal type of meal.

Rebecca: Wonderful, well we've got some great things on the table today. We're going to introduce Mexicali bean casserole. . .

>>Mexicali Bean and Rice Salad.

Rebecca: All right, introduce it to us.

Leslie: So, we start with six cups of cooked and cooled rice and we're going to add one and three quarters cups each of pinto beans, kidney beans, and black beans.

Rebecca: Now these could be out of the canned beans that we store in the food storage, is that right? Or where else would we?

Leslie: You can store canned beans in your food storage. These are already soaked and cooked and so you would store 2 and a half times the dried amount of beans if you're storing canned beans.

Rebecca: If you're storing dried beans should you have reconstituted them the night before or added water to them?

Leslie: Yes. Dried beans need to be sorted. You're looking for rocks, you'll need to rinse them, and they need to be soaked in three times the water to soften them before they're cooked. So you can soak them overnight, in the morning you bring them to a boil, add a little oil to the pan to avoid having them foam and bubble over and then you'll lower the heat to let them simmer covered for about 1 to 1 and a half hours. You can do a quick soak with beans. Again, you would sort them, rinse them, and soak them in 3 times the water, you will bring the water to a boil for two minutes, let them stand for an hour to soften, and then cook them for an hour to an hour and a half. Once you get beans cooked,

you drain them. This reduces problems with gas. If you throw away the soaking and cooking liquid and then you can put them in the fridge so that they're all ready for a meal at night. Beans that are soaked quickly are not as soft and they will also produce the most gas.

Rebecca: All right, well we want to avoid that. Let's go back to our recipe though with this mexicali. We've introduced the beans and the rice and what would be next?

Leslie: Okay. We are going to add a can of corn.

Rebecca: All of this would be in your food storage?

Leslie: This is made with only stored food. We have a can of diced green chilies.

Rebecca: That would definitely be a part of my long-term food storage plans, green chilies.

Leslie: And here we will be adding a quarter of a cup of dried green pepper and I've already hydrated some green and red pepper here. That needs to be hydrated in twice the water for about 30 minutes and then you drain the water and add it to the salad. So that's all set to go, that's been hydrated and all ready to add.

Rebecca: Also on the green chilies, be careful as you purchase the cans because they do come in mild, medium, and depending on each of your children you may want to get the appropriate seasoning there, but already it's smelling terrific and it's taken us about a minute so far to put those together.

Leslie: Now I have a dressing here made with olive oil, cider vinegar, a little bit of cumin, and chili powder, and some garlic salt and hot pepper sauce. And I will just pour this over.

Rebecca: We'll have that recipe available for those too on our website. I smell that as you're mixing it together, it smells wonderful.

Leslie: Toss this all together.

Rebecca: It's a little sweet, that cider-vinegar really helps.

Leslie: So this makes a very colorful dish.

Rebecca: I also want to hold up these freeze-dried green peppers because they really show nicely. They're very lightweight, they're almost like paper when you pick them up, this small bowl we have here with the green pepper.

Leslie: Now you can serve this salad immediately, or you can chill it.

Rebecca: So by mixing all the ingredients together with a little bit of the cider-vinegar and cumin salad dressing, you've got your salad right there.

Leslie: Yes, all set to go.

Rebecca: And this serving size here is for a family maybe of eight?

Leslie: Yes, 6-8 people.

Rebecca: Wonderful. Oh this is wonderful. Thank you so much. This has a little hint of flavoring from the green chilies and great vinegar. All right, let's move on to our next recipe.

Rebecca: All right we're back, now we're going to take a look at how to make fettuccine carbonara, however you pronounce it. Let's go.

Lisa: This will be a family favorite; it's so quick and easy. You start with enough pasta, cooked pasta for about 4-6 people, and you make the sauce by

Rebecca: This is from food storage.

Lisa: That's right, just out of your food storage. Then, water, a cup of water, to which you add a half a cup of white sauce mix and you just kind of whisk that together.

Rebecca: Is there a recipe then for the white-sauce mix?

Lisa: There is, it's real easy. All it is is equal parts white flour, instant dry milk, and powdered butter. You add a little chicken bouillon, the granules, and a little salt, and this is a great thing to have on hand because it makes a great base for any white sauce or any creamy soup base. I even use it as a substitute for cream of mushroom or cream of chicken soup in casseroles.

Rebecca: Wonderful. We'll have that recipe on our web site as well, that's for the white sauce.

Lisa: That's right, so then you add a half a cup of parmesan cheese and you just whisk that around until it's smooth, get it to a boil and it'll thicken it up and you'll pour it over your pasta, toss it, and then once you've done that, you want to add about a half a bottle of bacon.

Rebecca: Do you store bacon bits in those small containers like that or do you have a larger container?

Lisa: No just like this. And in fact most recipes that we've found really only take about a half a bottle of this. This will store for three years, packaged this way, it's quite inexpensive, it's cheaper than most canned meats, and you can store it just like this and you can also store a bacon flavored TVP if you like that flavor. But if you don't, this is the real stuff.

Rebecca: That's what adds that strong flavor. Now this is out of food storage as well, parmesan cheese you store in there as well?

Lisa: That's right, so you'll just kind of put some on a plate like this and we'll let you try it Rebecca.

Rebecca: That looks great.

Lisa: It's not very much but this would only take about 10 minutes to prepare at most. It's just making the pasta, waiting a minute or two for the sauce to boil, and there you have it, it's done. Teenagers actually like to do this or make this after school, it's really easy.

Rebecca: Oh this is very, very good. The bacon adds a nice flavor. How long does pasta store?

Lisa: At least 8 years.

Rebecca: I know I've had to change mine from the original plastic containers into other Ziploc bags because the plastic wrapping just broke, so what do you store your pasta in?

Lisa: I just have a number of tin cans.

Rebecca: All right, well thank you for this and we'll move on to our next recipe.

Rebecca: All right, now we're going to look at a recipe that uses some of the alternative grains like barley. This is called beef barley stew.

Leslie: And we're going to begin with a can of roast-beef chunks. I used to think that this would be too expensive to put in food storage, until I discovered that a 12 ounce can of beef, chicken, or turkey chunks would make a fabulous recipe that feeds 4-6 people. On sale, one of these cans is about 2.50 dollars or less, so that's the cost really of a pound of good, quality hamburger.

Rebecca: Wonderful, and these store for a long time.

Leslie: Yes they do. And all except for tuna, you want to use tuna within two years, but all the other canned meats store very well.

Rebecca: Wonderful.

Leslie: So we'll add this to the recipe. Now you can substitute canned meats pound for pound for any part of the dried beans that you store. So, we're going to add to 7 cups of water some dried carrots, we've got some dried minced onions.

Rebecca: These look freeze-dried, are they?

Leslie: Nope they're all dried. And notice that you don't hydrate these ahead of time. That was some dried celery. We've got some dried green pepper. You put them in the recipe with the hydrating liquid and they'll hydrate and cook it the same time, so that saves a lot of time.

Rebecca: Now in front of the pot right now, we do have some cans here to show. Oh pardon me, right over here, we have mixed peppers, and this is a nice size can. This will last you six months of rotation, or four months depending on how much you like mixed peppers.

Leslie: Could last up to a year even, but when you're buying dried, particularly green peppers and celery, it's good to ask for that size, 2 1/2 can because it doesn't get too old by the time you use it. You use only about a tablespoon or two in any recipe.

Rebecca: And this is a 4 ounce can. Great, wonderful. So a lot of our kind of added taste vegetables, things that just add seasoning, we get the smaller can rather than the larger one.

Leslie: Yes, we find these add important flavor to food storage recipes. So I'm going to add some dried red and green peppers.

Rebecca: By the way, as you keep moving on with the recipe, where would I find these by the way?

Leslie: You can of course dry any of your dried vegetables if you have the inclination and the time. Or you can purchase them from a food-storage supplier place in your area or over the internet.

Rebecca: Wonderful. Thank you.

Leslie: So I'm going to add some beef bouillon here. And I will bring this all to a boil for, oh I've got some spices here, some basil, some green pepper and a bay leaf.

Rebecca: And what about barley, would that go in?

Leslie: I'll bring this to a boil, and then I will add the barley.

Rebecca: Now is the barley different from beans in that it does not need to be reconstituted?

Leslie: Does not need to be reconstituted. It cooks in about 45 minutes. It's a really great-grain to have.

Rebecca: Kind of like long-grain rice that needs a little bit longer cooking, but you don't have to reconstitute.

Leslie: The most common barley that you will find is pearled barley. It has the hull milled away and it tastes great in soups and stews. It's highly nutritious and adds some important variety to food storage mixes.

Rebecca: Now you've boiled it first, the vegetables and the meat?

Leslie: I'll just bring this to a boil, then I'll add the barley, then I'll cover this dish, so we'll just add this, and I'll cover this dish and simmer it for 45 minutes to get the barley to be tender.

Rebecca: And once the barley expands with the 7 cups of water you have in here, I'm imagining you have a pretty healthy serving. How many people can actually?

Leslie: This will serve 6-8 people. So you have a sample there.

Rebecca: This is really pretty, very colorful, the carrots reconstituted nicely, and it seems extraordinarily healthy. Tell us about why this would be a nice meal to be able to serve either in an emergency situation or at home?

Leslie: Well the variety of vegetables in that dish makes it very nutritious. Of course the barley is nutritious and meat makes it taste great.

Rebecca: I have to tell you this tastes so much better than what you would get in a canned prepared soup from the store. This is really something your kids will eat, it's very flavorful.

Leslie: Canned meats are a comfort food. Most of us really love meat and so we think it's important to store canned meats in food storage.

Rebecca: Wonderful example of the different type of grains that we can use in our recipes. Thank you.

Rebecca: This is another great way to incorporate lentils in our recipes. This is bean and lentil rice pilaf.

Lisa: That's right. This is really quick to make and it's got a little bit of a kick to it so it's a fun dish. You start with some water to which you add.

Rebecca: And how much water was that?

Lisa: It was about 2 and a quarter cup. You add a quarter cup of dried lentils, about 2 tablespoons of olive oil, 2 teaspoons of chicken bouillon and some minced onion.

Rebecca: And we talked in our last recipe how long barley stores. How long do lentils store?

Lisa: You can say about 8 years or so too, about the same.

Rebecca: Wonderful, so all of these items from your food storage mixed together in the water.

Lisa: That's right. So once you have this, then you're going to want to simmer it, boil it, and then simmer it for 15 minutes covered. After that's done then you want to add the rest of the ingredients which is a can of kidney beans, a can of corn.

Rebecca: These are the small cans.

Lisa: Yes, this is the regular 15 ounce size and then a cup of long-grain rice and then a cup of salsa.

Rebecca: And all of these are from food storage, I imagine if you wanted to use dehydrated corn you could use that as well.

Lisa: You could, you'd need to hydrate it beforehand.

Lisa: You stir this all together, bring it to a boil and then cover it and simmer it for another 20-25 minutes, and this is the finished product.

Rebecca: How much salsa did you add?

Lisa: 1 cup of salsa.

Lisa: So let's get some out here for you to taste.

Rebecca: Do you have any hints, for those of us who might not have had experience cooking lentils and rice together, is there some tips?

>>Well lentils, like split-peas and barley take about 45 minutes to cook. Both lentils and rice adapt really well to all types of seasonings and flavorings and they do really well in one-pot meals, kind of like this one that we've just done. They're really good for those.

Rebecca: This is really very flavorful. Just taking a bite of it is wonderful, sweet, and the salsa does add that nice kick. Have to make sure we keep salsa in our food storage.

Lisa: Exactly.

Rebecca: Is that homemade by the way or did you buy that?

Lisa: Nope, it's just bottled, just from the store.

Rebecca: Wonderful, thank you so much for that, let's go on to another one.

Rebecca: Let's talk about food storage and wheat.

Lisa: Well the main way that you're going to use your wheat is by grinding it into flour. And once it's in flour you can use it in the same normal ways that you're used to cooking with flour anyway like making bread, cookies, muffins, and pancakes. Now this loaf right here was made from 100 percent whole, hard, white wheat. And the advantage of a white wheat would be it produces a lighter-colored product. You can see it's lighter.

Rebecca: Well, it's risen very nicely too. I have a hard time getting my whole wheat bread stand up and be counted.

Lisa: This is the hard, white, wheat, so its flour that's been ground from the hard white wheat. And what you notice it does, like I said it makes a lighter colored product, but it also has a lighter taste and a lighter texture too.

Rebecca: And where can we find that type of wheat?

Lisa: Just about any food-storage supplier, some grocery stores even have it in bags. This recipe is awesome because it's really, really quick. Some people think that cooking or making bread takes too long. Well there are recipes out nowadays that actually the bread rises right in the pan, you just turn on the oven and you cook it, there's no punching down and waiting for it to rise the second time. This is a real fast, easy way to make bread.

Rebecca: On Sundays I'd like to have that recipe as well. This is looking very good and I'm surprised that it's all made out of 100 percent wheat.

Lisa: Yeah, these are cookies made with 100 percent whole wheat. In order to get wheat into your diet this is a great place to start. Cookies actually made with 100 percent whole wheat I've had some people say that they're much more flavorful, tasty, than cookies made with just white flour.

Rebecca: We'll go ahead and try that. Oh, these are wonderful. They have a nice, rich buttery taste as well.

Lisa: Yeah, these also have powdered eggs in them and you can't probably even taste the powdered eggs.

Rebecca: Do you use powdered butter in this recipe?

Lisa: No, shortening.

Rebecca: Shortening, which is easier to store, that's right in food storage. We have some emails that came in. We've got Kara who has written us and let's take a look at this. She says, "Please get the word out about soft white wheat. It's easy to use, perfect for food storage, and tastier than white flour. What needs to be taught is how and where to substitute it in regular recipes for white flour. I know my family has been going nuts over it and it's just a simple thing to incorporate in your everyday cooking."

Leslie: Well soft, white wheat is actually not a good option for long-term food storage. While soft white wheat is very delicious, people also love the flavor of hard white wheat and hard red wheat. Soft wheat has a shelf-life of about 8 years in comparison of 20 plus

years for hard red and hard white wheat. Soft wheat is usually used in biscuits, pastries, and quick breads because it doesn't really have enough gluten to make good, regular bread.

Rebecca: So if your family is hooked on it though you can have a mix of both soft white and the hard white in your food storage.

Leslie: Yes, I suppose you could.

Rebecca: As long as you're aware of the rotation of it. We also have another email from Marga, she's from Utah. "I have a lactose intolerance and am very interested in finding out adequate sources of complete protein and calcium including the nutrients necessary for calcium absorption that I can include in my basic food storage instead of powdered milk. Also there are people I know who are allergic to wheat and corn. In my experience, wheat is the grain usually focused on in food storage. What are some food storage recipes using grains other than wheat?" Lots of questions there, Leslie.

Leslie: Okay let me talk about the lactose intolerance first. There is a country-cream brand of powdered soy milk alternative that has been enriched with calcium and other important minerals, so that is a great substitute.

Rebecca: And you can use that in all your recipes then, the soy?

Leslie: You can, and you can store it like powdered milk. You could also store a good calcium supplement. When it comes to allergies to wheat, there are a variety of lesser-known grains that are available at food-storage supply places. So this gives you lots of other options besides storing wheat.

Rebecca: Can you give me one or two of those alternative grains?

Leslie: Yes, there's camoot, there's quinoa.

Rebecca: All right, quinoa, I've heard a little bit about that. We'll have more of this information on our website as well.

Rebecca: Let's talk about some of the alternative ways to cook. For example, if you don't have access to a stove, Lisa.

Lisa: Yeah, we're going to show you two ways today. One uses charcoal and one uses propane. They're both very good fuels to store because both of them store indefinitely. There's no rotating that you have to do. However, there are some safety precautions that you have to take into mind. Before you store any fuel at all, you're going to have to check with your insurance policy and your city or homeowners association or whatever that is to make sure you stick by all the guidelines and rules when it comes to storing fuel. Now the Kingsford charcoal company assures us that storing charcoal in a garage is safe, but they do recommend that you put it in a waterproof container so it's kept away from moisture. Propane however must never ever be stored inside. The propane canisters are actually designed to leak and it doesn't evaporate into the air, it pools onto the ground. So if it's stored in the garage and it pools onto the ground, just the switch of a car engine is enough to ignite that propane and you'd have a big problem.

Rebecca: Okay, so outside of the house.

Lisa: Outside always. You always use propane and store propane outside. Now there is in some locations, you can store those little 1 pound canisters and you have to check with your location, but it is okay in some to store two of those 1 pounds inside a garage.

Rebecca: Wonderful. We can check with our local city officials for that. We also have something interesting here and it's called an apple-box reflector oven.

Leslie: You can bake anything you would bake in a regular oven using the same time and the same temperature in this simple apple-box reflector oven.

Rebecca: It's an apple-box lid that you've covered with tinfoil.

Leslie: This is a simple apple-box. We've filled the holes for the handles of the box with cardboard and then every bit of the inside must be covered with foil. Anything that is flammable will ignite and for convenience sake we have covered the outside of the box as well.

Rebecca: I notice you also cut a window in which I think my kids would absolutely love when we bring this. You bring this to girls camp, but camping or whatever emergency situation, you cut a rectangle about 5 inches by 10 and but what is it that's heat-resistant that we could look for, it looks like plastic.

Leslie: This is a double layer of oven bag, like you cook a turkey or a chicken.

Rebecca: An oven bag that's see-through, wonderful.

Leslie: The foil is stuck with foil tape which you can get at a hardware store which is heat resistant so it will last for a very long time.

Rebecca: Different than duct tape, foil tape that is heat resistant.

Leslie: Now this oven uses charcoal to cook and so you will need to ignite the charcoal and to do that you need a charcoal chimney starter. The best ones have these holes at the side. They will draw air up inside efficiently to light the charcoal well and by having this, then you don't have to store charcoal lighter fluid which is highly flammable and dangerous.

Rebecca: So this is a cylinder that keeps all of the charcoal closer together so it heats more quickly. We use that with our Dutch oven cooking as well.

Leslie: Yes it's just great. There's a rack about here inside that holds the charcoal and so you can wad up 2 pieces of newspaper and put them in underneath and light those and then you let the charcoal heat until the top charcoal have a light spot on them just the size of a dime, that's all.

Rebecca: So they don't have to be completely grey.

Leslie: No, you'll spend the charcoal on the bottom quite a bit if you wait for the top ones to be completely white. So here in our oven we're going to pour this charcoal out once it's heated. Let me explain to you how this is set up. These are empty pop cans and they're filled with rocks so they won't tip over and the oven rack is made with an oblong cookie cooling rack. This allows you to cook with a variety of pan sizes in this oven.

This can handle the temperatures that are reached with an oven, so a rectangular cookie rack setting on four different set of pop cans for support.

So once the charcoal is heated, you pour it out.

Rebecca: And if you're out on the ground and you spread out another piece of tinfoil to be able to hold the charcoal, or?

Leslie: This is heavy-duty foil that is on the ground, to reflect the heat that is inside. You do need to operate this chimney charcoal-starter on foil as well or it will permanently blacken a driveway. I did have that happen. So once it's heated, you distribute this charcoal evenly in the oven. You can regulate the temperature of this oven because each charcoal is 35 degrees.

Rebecca: So 10 of them is 350 degrees?

Leslie: Yes.

Rebecca: We have just a couple of minutes but once you have your heated charcoal on your ground foil?

Leslie: You put this on, you'll put whatever you're going to bake in here, in the oven, and you'll put the box over and let it rest on a one inch rock. That allows enough oxygen inside for the charcoal.

Rebecca: Tip the box back just a teeny bit, a one inch drop. We have just one more minute, and you've got something else to show us.

Lisa: This is called a hay box; it's cooking with retentive heat. You can do it either in a cardboard box filled with paper shreds or even in a cooler that's lined with wool blankets. And we've got something in here. The method of cooking with it is very easy. You just get a pot of food boiling, good and boiling with the lid on and then you leave it in this cooler or in your box 4 times the normal amount of time that you would normally take to cook a dish, so if your pot of beans takes an hour. Actually you leave it in for four hours.

Rebecca: Insulate the heat of the pot that was boiling.

Lisa: That's right, and you can see here we've got some split-pea stew, and it's been cooking for about four hours or so. There is a really important safety concern when cooking this way. You need to make sure that you have enough insulation in your box or your cooler that can maintain safe cooking temperature throughout the entire cooking time.

Rebecca: All right we have just about 30 seconds to talk about the other box you have next to us.

Lisa: Well this is the same thing, so you can either do it this way, this is probably the least expensive way because it's just paper shreds and a box you can get a dumpster,. And then there's this way which is a cooler, everyone's got a cooler and some wool blankets, and you can just make a well for the blankets, put your food in, cover it up, and then you wait four times the amount of time you would normally wait.

Rebecca: And we're going to have more information on these alternative ways of cooking on our website. So thank you Lisa and Leslie for joining us today. And thank you for watching. Be sure to join us next time on Living Essentials.

>>For more information on this and other episodes of Living Essentials, or to order a copy of the program, visit us online at byubroadcasting.org/livingessentials. There you'll find helpful hints and additional information that will enrich and simplify your everyday life.

>>Next on Living Essentials, we're talking about dehydrating food and the creative uses of dried foods. We'll learn how easy it is to dry a variety of foods, and we'll see how to make convenient mixes that are inexpensive and easy to use. Plus we'll learn how to make cheese from powdered milk. For all these great ideas and handy tips, stay tuned.

Rebecca: Welcome to Living Essentials. I'm Rebecca Cressman, and today we're talking about dried foods. Joining me today is Peggy Layton. She's a lecturer and author of several books on food storage and home production. Welcome, and thank you so much for joining us today. First of all, let's talk about why we dry foods.

Peggy Layton: The reason that we dry food is to preserve the food by inhibiting the microbial growth and stopping the enzymes from discoloring the food.

Rebecca: Now why is it, then, oft times – now these look very beautiful, we've got great samples today – but very often when we see dried foods, we see them kind of colorless and bland. Why do we see that color go away?

Peggy: Well, when you peel, for example, an apple and it is exposed to the atmosphere, it has a chemical reaction called oxidation, and that starts to turn the food brown.

Rebecca: All right – now is there something we can do in the process to maintain these vibrant colors that you've maintained?

Peggy: Yes, there's three different products that you can use. One is called sodium bisulfate. The other one is called ascorbic acid, which is just vitamin C powder. You can take vitamin C tablets and crush them and put them in water, or you can buy the powdered vitamin C from any pharmacy or grocery store. But the one that I use is called **Fruit Fresh**, and you just mix it according to the directions, and I've got some already mixed up right here with the apples. It's a solution.

Rebecca: Now not only does it preserve the color, but it says here that it preserves the flavor as well. Do these items do that as well?

Peggy: Yes, they do.

Rebecca: Now I'm very fortunate. My children like vegetables and they'll eat them, but I'm sure in the process of drying vegetables, we'll want to make sure that we maintain that flavor. Do we actually when we're eating foods that have been dried, do we taste a change in flavor?

Peggy: Yes, there is a change if you do not blanch them, but the blanching process will inhibit again the oxidation. And so blanching is just dipping your vegetables into boiling water for one to three minutes. You can put them in a little strainer or something and just get them out quickly, and that stops the enzymatic action.

Rebecca: All right – now there's a lot of different ways that we can dry food. There's the old-fashioned way, using the sunshine out there. Also we have dehydration and freeze-dried. Let's talk about each of those.

Peggy: Okay – with the sun, it needs to be in direct contact with the sun during the entire day, and it also has to have a **relative humidity of under 20 percent**, so it has to be a low humidity area.

Rebecca: So some areas in the United States will definitely not have the right climate?

Peggy: Yeah, you would get mold and bacteria growing because it doesn't move the air, it holds the moisture.

Rebecca: Now it's very common for me to see fruit dryers, but what about freeze drying?

Peggy: I'm glad you asked.

Rebecca: You brought some great samples, and this really illustrates wonderfully the difference.

Peggy: Okay, this is one that I did at home. This is corn, and I did this in my home dehydrator, and this is dehydration. What it does is it absorbs the moisture, dries it out, and the food kind of collapses and looks smaller. Now with the freeze-dried, what it does is it freezes it and then it pulls the moisture out so that all of the kernels stay intact. You can see that that's really nice and pretty.

Rebecca: And we actually can eat it, we actually can taste it, so serve this as a little snack for kids as well.

Peggy: Yeah, you can use this for backpacking, camping. It's very lightweight, and that's the beauty of it, you just add water and it turns right back into whole corn.

Rebecca: You know, I imagine that the type of equipment you buy makes a big difference on the end result that you have. Let's talk about a good food dehydrator. What do we look for?

Peggy: All right, with a **food dehydrator**, there are several things that you need to look for. This one is a round one and it has stackable trays. You can see we've got some things in here.

Rebecca: So you can be drying food, different foods in the food dryer together?

Peggy: Yes, you can dry all different types of foods. Even though they take different times, you just check them and remove them when they're finished, and you can buy more trays and stack them.

Rebecca: Now is it governed by a thermostat, or how does it control the temperature?

Peggy: Yes, there's a temperature control over here, and it's very important that you get one that goes from just cool air all the way up to 160 degrees for the meat, because you have to do it at a high temperature for meat.

Rebecca: I've done a lot of canning, but I've done very little freeze drying and dehydration – how do you actually prepare the food before you begin the drying process?

Peggy: Okay, we're going to start with some apples. You just take an apple and peel it and slice it, and I've got some that are already done here. And you want it to be about a fourth of an inch thick.

Rebecca: Now these have maintained their colors, so have you also –

Peggy: I soaked these in the Fruit Fresh, and I did it like this.

Rebecca: So cut up the apple, you can have it in a bowl with some of the freshener already inside that with liquid, and you pull it out.

Peggy: I dump the liquid out and then I'm going to put a few of these apple slices in a little baggie.

Rebecca: And you've just sliced them as we would be familiar seeing them in a can if we're canning them, correct, bite-size portions.

Peggy: And what I'm doing here is I'm making **apple candy**, and this is really good – kids love it. If you take a package of Jell-O and you just pour it into the baggie with the apple slices.

Rebecca: Another use for the Jell-O in our food storage. Okay, so we're combining the Jell-O and can it be any flavor, I'm assuming?

Peggy: Any flavor – strawberry's really nice, you can see the difference. I have strawberry here.

Rebecca: Yeah, this is what the strawberry turns out looking like, very tasty.

Peggy: And this one is the peach.

Rebecca: That looks very familiar, so whatever flavor you have adds that tint of color to your drying as well.

Peggy: And once the apples and the Jell-O are combined then you zip it shut.

Rebecca: Okay, so you zip the Ziploc bag shut.

Peggy: A little shake and dry, and then they're ready to go. You put them on the tray.

Rebecca: Do we have an empty tray on top? Now I noticed that there's some Saran Wrap – does the food go on top of the Saran Wrap?

Peggy: Only for the fruit rollups, and we're going to do those in a few minutes. I'll just put these to the side. Apple slices coated in Jello-O take between 12 to 25 hours, just depending, because with Jell-O, it's a little bit more sticky, and so they take a little longer.

Rebecca: Well, let's talk about – you said 12 to 25 hours. How would we know that it's done?

Peggy: What I do is I keep checking them, and if they have any kind of moisture on them at all, then they're not done.

Rebecca: Okay, moist to the touch?

Peggy: Okay, see this one's finished. It's pliable and it's dry, and so if it's not dry – say, it's dry on the bottom but not on the top – I turn it over. And so about every three or four hours you check them, and if they need to be turned over, then you turn them over.

Rebecca: Now what about **vegetables** – is it that same concept with cutting them into bite-size pieces and afterwards when you're trying to determine whether they're done? Are they soft to the touch, or have they become brittle?

Peggy: With vegetables, and I have some here – these are peas and these are carrots.

Rebecca: They're beautiful, you can't even tell.

Peggy: I did these at home with my dehydrator. They're brittle. Why don't you just try to smash them?

Rebecca: Yeah, this is actually hard to push.

Peggy: Yeah, try one of these.

Rebecca: All right, so they are very, very hard.

Peggy: They're very hard and brittle, and you could take a hammer and smash them.

Rebecca: So that's the consistency. You said something magical – fruit wraps, or fruit rollups--those are very common, children love them. Are these the sample that you've brought? How do we make those?

Peggy: Okay, now these – and all it is, is **applesauce with Jell-O** sprinkled on top.

Rebecca: You're using Jell-O again, wonderful.

Peggy: And I'm going to actually do that right now.

Rebecca: So you've got the Saran Wrap kind of spread out on your dryer.

Peggy: You just take applesauce.

Rebecca: Oh, I love that.

Peggy: You spread it on.

Rebecca: Now did you make this applesauce or is this store bought?

Peggy: This is store bought, but you can make it. It doesn't matter.

Rebecca: The end result will be the same whether you're buying--a little bit more pride, I guess, if you make your own applesauce--but this is something I'm imagining the kids enjoy helping out, spreading the applesauce on.

Peggy: Yes, and it's very delicious when it's finished.

Rebecca: And then you'd add Jell-O powder after that to get the flavor, and we're using peach.

Peggy: This one's strawberry.

Rebecca: Strawberry gives a nice color. Now about how long would it take for this to dry?

Peggy: It takes a little bit longer with the Jell-O because it's sticky, and so anywhere from 12 to 24 hours. I just keep checking it. There's no set rule – it depends on the thickness of the product, and again, the temperature.

Rebecca: Now we have a surprise for our listeners and our viewers here with Living Essentials. You actually **dry yogurt**, and I'm sure that might be a new concept for many of us. Let's talk about that – how did you do that, and what flavor is this?

Peggy: These are fruit rollups, and again, they're using this –

Rebecca: And they're yogurt rollups?

Peggy: You can use any yogurt, any kind of yogurt – this one is a red raspberry – and so we do the exact same thing. If you'll lift up the lid, we'll just do one with the Saran Wrap.

Rebecca: How long? Other than spreading it on, about how long would we expect the yogurt to take to dry?

Peggy: At least 12 hours and maybe a little longer than that depending again on the thickness of the spread and the temperature of your fruit dryer.

Rebecca: Do you mind if I taste it, is that okay?

Peggy: Sure, go ahead.

Rebecca: It's hard to be around all this great food.

Peggy: These are great for backpacking and camping and taking with you. You know, these make a great snack for college kids to take to school. And it's healthy!

Rebecca: And now do you store the dried yogurt in the refrigerator or in the pantry on the shelves?

Peggy: I store them in the pantry. This is a good way to **store dried products**.

Rebecca: This is very good – a little sweet but not too sweet, wonderful.

Peggy: First of all, you put the fruit in a Ziploc bag, and you do the same with the fruit rollups.

Rebecca: So after you've made the fruit rollup and you've finished, you've lifted your tray, and you've rolled that up, you take that out and you place it in a Ziploc bag?

Peggy: Yes, and then you zip it up.

Rebecca: You want to remove the air?

Peggy: Yeah, you want to make sure that there's no air.

Rebecca: Now do you date your bags? And about how long would it last?

Peggy: I've had fruit that's lasted years and years. I would say five years if you're careful with it. You get all the air out. Another tip is to store your Ziploc bags of dried food in glass jars. This prevents moisture from getting back into your dried foods. Just place the product in a glass jar and screw on a ring and lid. It's very easy.

Rebecca: Okay, and has this been sterilized, or is that not as important because we're using a Ziploc bag?

Peggy: It is sterilized, but it's not going to really matter. Then you just seal it really well.

Rebecca: Wonderful – all right, now also we've taken a look at yogurt and now you've also brought us something very tasty and spicy, and that's our chili. So let's take a look at how – and you actually have a combination of both **chili and rice** together so it's already a meal in a bag. How did we get the chili to this state?

Peggy: Okay, you take a can of chili, or chili that you've made at home. The one thing that you need to worry about is if you've got hamburger or some sort of meat in your chili.

Rebecca: Rather than beans.

Peggy: Right – if it's just beans, then it's fine, it will dry at 140 to 145 degrees, but if there's any kind of hamburger or meat in it, then it needs to be 160 degrees. And the meat always needs to be precooked.

Rebecca: Now most fruit dryers will come with a manual that will also identify those temperatures that are needed for meat and vegetables? You said it would take how long to actually dry this, once you spread it out on the Saran Wrap?

Peggy: This you don't have to put on Saran wrap. I don't know if you saw, there's a little mesh on the top tray in the food dryer. You can just spread it out on top of that. You could put it on Saran Wrap if you want – it just takes a little longer when there's plastic.

Rebecca: Well, this looks lovely as it is. It would be hard to say to the kids, "This is what we're having for dinner," so I'm imagining you're reconstituting it at some point. How do you reconstitute?

Peggy: Okay, one thing that I wanted to mention is that if you mix beans and rice together, it becomes a complete protein, and so this is a really good backpacking type food, because when you're up in the mountains, you're hungry and you need your protein.

Rebecca: Could you just add the boiling water right to the bag?

Peggy: You can put your boiling water right in here, and the rule of thumb is, for **one cup of product, you use two cups of hot water.**

Rebecca: Now speaking of taking things camping and outdoors, one of the things people love the most to take with them is jerky, and you've got some freeze-dried jerky, so let's take a look at that.

Peggy: Yes, I do. Okay, this is not freeze-dried; this is dehydrated in my dehydrator. And this is what it looks like when it's finished.

Rebecca: So you took a roast and sliced it, or took it through the food processor?

Peggy: I took a roast and I sliced it into thin strips and soak it in a **marinade**. There's two different ways to do that. You can buy a **pre-made jerky cure**.

Rebecca: And you've tried jerky seasonings and they're good?

Peggy: They're really good, but I prefer to make my own marinade, and so you can see that I've brought this marinade. I've got the beef in here soaking.

Rebecca: Now what kind of beef? Is this where we can actually save some money because we don't have to buy the top cut?

Peggy: This is just a roast, any type of roast.

Rebecca: Rump roast or whatever? Now they're marinating. How do you go from the marinating stage to the curing stage? Is that back to the food dryer? And I can bring it over.

Peggy: Yes, if you'd like to bring that over, that would be great. Now the marinade that I use is one tablespoon of salt, one teaspoon of onion salt, one teaspoon of garlic salt, a half teaspoon of seasoned pepper, one-third cup of Worcestershire sauce, one-third cup of liquid smoke, one-third cup of A-1 Sauce, and three pounds of meat.

Rebecca: We'll have that recipe on our website if you didn't catch that, but it does sound good. Any time you say Worcestershire sauce, that's good stuff. Okay we have here an example of the fruit rollup, and let me hold that up because it's easier to see. And then right underneath that, you see the jerky, and you've laid that all out also on Saran Wrap. We could lift that up and show just nice strips of beef about four inches long and a half inch thick. And the fruit rollups are about six inches long, right around that.

Peggy: What I wanted to show you was just how to take and lay it out.

Rebecca: Now you're using a fork to keep it sanitary.

Peggy: But you can use your hands – it's fine.

Rebecca: And so how long did you marinate the beef for?

Peggy: Anywhere from 24 hours to three days. The longer you marinate it, the better it is.

Rebecca: More tender, okay. Does the cut of beef also play a part as to how tender the jerky is?

Peggy: Yes, it does.

Rebecca: And of course, if you've got hunters in the family, you can use this with game meat?

Peggy: Oh, we use deer a lot. We've made deer jerky and it's very, very tasty.

Rebecca: Okay, how long does it take to dry out the beef again?

Peggy: Beef takes anywhere from 8 hours to about 12 hours. It's a little faster because it's at a higher temperature of 160° and with the hot air, it dries it out faster.

Rebecca: And is this hot enough that it actually warms up the entire kitchen?

Peggy: No, no – but one thing I did want to mention about the airflow is that it circulates up through and takes the hot, moist air out away from the food, and that's why it dries faster.

Rebecca: Now what about the desiccants?

Peggy: I have some desiccants here, and what a desiccant is, is it's an oxygen absorber. These are little packets – one's a little smaller than the other.

Rebecca: We've seen them occasionally packed in things to keep them dry.

Peggy: You can buy these from any food supply place that sells dehydrated foods. You take them and place them in the jar with your dried food. This has to be done rather quickly because once they hit the atmosphere, it only takes ten minutes and then they're used up. And so you have to keep them sealed, have everything ready, and stick in the desiccant at the last minute.

Rebecca: And do you open it up? It just stays in its envelope?

Peggy: It just stays like that. You seal it in the jar, and then it absorbs all of the air that's inside that jar. Oxygen will ruin the food and so as long as it pulls the oxygen out, your food will stay fresh for a long time.

Rebecca: Great, thank you so much. One of the wonderful things, Peggy, about your

skills is that you've been able to take packaged mixes--something that we spend hundreds of dollars on every day--prepackaged meals, and you've been able to take your dried food training and actually create mixes for your family on your own and save yourself hundreds of dollars.

Peggy: Yes. It's really easy to make dried mixes. And one that I'm going to show you right now is Instant oatmeal.

Rebecca: Oatmeal--**instant oatmeal** that kids crave with lots of flavor. Show us how you would come up with your own mix.

Peggy: Okay, the first thing you do is you start out with the regular oatmeal. I have these already pre-measured, and we need to convert them to powdered oats. And how you get powdered oats is to take three-quarters of a cup of regular oats and you put them in the blender, and that powders them so it looks like this.

Rebecca: Just put it right on grind and it takes it right down? Okay, so we have powdered oats – by the way, we'll also have this information on the website for those who want to get the specific measurements. Okay, we've got powdered oats – what else is in the instant oatmeal?

Peggy: And then we add powdered milk, and then we've got a couple of fun little things here. This is apple bits, but they are flavored like peach, and you can also get them flavored in strawberry. So you add those to the instant oatmeal packets, and that's a secret ingredient.

Rebecca: This is Peggy's secret.

Peggy: Well, as I go through products, I sift out all the ingredients from these packages and I decide what's in them. There was a sweetener, but it wasn't sugar. And so I looked into it, and it was lemonade mix.

Rebecca: Lemonade mix, okay!

Peggy: So we've added lemonade mix, and that gives it that really sweet flavor. So you take all of these, put them together.

Rebecca: And you have cinnamon and brown sugar as examples as well.

Peggy: You mix them together –again just put them in Ziploc bags and stir them up this way.

Rebecca: So you just add the boiling water and you've got it.

Peggy: You take a half a cup of this instant oatmeal and you mix it with one cup of boiling water, and it makes oatmeal packet just like this.

Rebecca: Speaking of boiling water, another example you have for us is the **hot cocoa mix**, which is a favorite especially during the wintertime. How do we make our own mix of hot cocoa?

Peggy: Okay, you take six cups of powdered milk, and I have that already in here. I've dumped a lot of the ingredients in. There's six cups of powdered milk, three cups of powdered sugar, one cup of unsweetened cocoa powder, two cups of nondairy coffee creamer – that's what makes it so creamy.

Rebecca: Oh, the creamer, okay, and again, this is all on the website, so no worries there.

Peggy: And then the last ingredient, which is again the secret ingredient that makes it so good, is a package of large instant chocolate fudge pudding mix.

Rebecca: Okay, instant chocolate fudge pudding mix – look for the recipe on our website, because we don't want you to miss that secret ingredient, and that gives it that

richness. So we've got the creamer for the creamy and this pudding mix. So would you then just shake it up?

Peggy: Yes.

Rebecca: Now how long could you keep something like this?

Peggy: Oh, it'll last a long time.

Rebecca: Unless you have cocoa drinkers.

Peggy: So you just make the mix and store it, and you just take a third of a cup of mix and you put it in with a cup of boiling water, and you have your hot chocolate.

Rebecca: That is terrific.

Peggy: And it makes a packet like this.

Rebecca: Well, and again, as you hold this up, if they want to have individual servings, they just put it in a smaller Ziploc bag or smaller plastic bag. Let's move to the au gratin potatoes because this is one of our favorites. What do we have here that we're using to create our own mix of **au gratin potatoes**?

Peggy: All right, I've just taken a packaged mix like this, and I just wanted to show you that the only thing in here is a packet of cheese powder that makes the sauce, and then you've got your dried potatoes.

Rebecca: Which you've made on your own fruit dryer or vegetable dryer.

Peggy: See, here's the potatoes that I buy already dried, or you can dry them yourself.

Rebecca: So you have samples of everything that is in this recipe that is also on our website. You've got your cheese?

Peggy: This is dehydrated cheese powder that you can buy.

Rebecca: And this?

Peggy: And that one is powdered milk. This one is butter powder. Now butter powder is real butter just dehydrated. You can buy that from any food storage company that sells it. There's flour, and then the spices – this is onion powder and this is parsley.

Rebecca: Which most of us keep on our counter or in our spice rack. And then once it's mixed up –

Peggy: Okay, then you put the water with it, and we've got some water here. You pour four cups of water in a Ziploc bag and leave it, because this is a pre-made mix. All you'd have to do is add the water to it, and then you bake it at 350 degrees for 40 to 60 minutes.

Rebecca: This is beautiful. Now Peggy, one of the wonderful skills you have besides being the author of different books on preparing food, but you also **make cheese**. And I think people would be surprised that they can actually make cheese in their own home, especially from that dried powdered milk that some people have. And so let's talk a little bit about what the steps are to make cheese.

Peggy: The first thing you do is you reconstitute your powdered milk, and I tell people, because I teach classes on this all over. If their milk is almost to the point where it needs to be used up – you know, it only lasts five years – then they can use it for cheese. So the first thing is to reconstitute it and to make three gallons of milk.

Rebecca: So right now, we have it in a very large boiling pot large enough for three gallons of milk.

Peggy: Yes, and then you take what's called a bacteria starter. This is a mesophilic bacteria, and what it does is it acidifies the protein in the milk and helps it to make the curd. And it also gives it the really good flavor, like feta cheese or cheddar.

Rebecca: Oh, interesting, so can you buy a different flavor – what is this called again?

Peggy: This is mesophilic – there’s also thermophilic bacteria starters.

Rebecca: Wonderful – so where would we find an item like that?

Peggy: Okay, this can be purchased online from any dairy supply place that makes cheese. You could just go online and put in “cheese making supplies.”

Rebecca: Okay, now after we’ve reconstituted the milk and we’ve added this, where do we go next?

Peggy: Okay, you have to use a candy thermometer and get the milk up to 95 degrees. You heat it up on the stove but do not go past 95°. This is the most crucial thing, because if it goes past 95, it will kill the bacteria. The bacteria then sits in the pot for 40 minutes, to ripen – so time it – then you take a product called Rennet, and you can get this in as tablets in the grocery store.

Rebecca: Okay, so you’ve got one bottle of the bacteria from a dairy supply, and now this is little box of rennet tablets. Now what do the Rennet tablets do?

Peggy: Okay, this helps to coagulate the milk curdle it. And so it turns into curd.

Rebecca: Okay, so the curdle is what produces the curd. Now we actually have a pot here that has some of this milk in its curded state. It looks a lot like cottage cheese floating in a bowl. How long did it take to get it from this reconstituted state to the curd state?

Peggy: About 80 minutes.

Rebecca: About 80 minutes? Okay, a little over an hour to get it to that point. What’s the next step?

Peggy: Okay, now to get it to this point here, you have to cook it at 105 degrees. Okay, so we had it at 95°, now we let it sit until it curdles. Now the first thing I have to show you, we don’t have the curd here, but when you get it to the curd stage, you take your knife and you go through and cut it.

Rebecca: As if you’re slicing the milk?

Peggy: Yes, slices. Then you go the other direction and make little squares. And what that does is that it cuts the curd and allows a separation from the whey. And the whey is the watery substance. You can see in this container that the curds have separated from the whey.

Rebecca: As referred to in some of those nursery tales.

Peggy: And now it takes another 40 minutes, so you’ve got three 40-minute processes going on.

Rebecca: First, to heat up the milk; the second is to –

Peggy: Add the Rennet to coagulate the milk, and the third is to heat up the curd to 105° so that it cooks. After it has cooked, it turns into a rubbery curd.

Rebecca: It looks like cottage cheese to me.

Peggy: Yeah, it looks like cottage cheese, but it’s a little thicker and more rubbery. And so then you squeeze out all of the water.

Rebecca: And is that whey that we’re squeezing out?

Peggy: Yes, you’re squeezing out all the whey.

Rebecca: Okay, we only have a couple minutes left in the show, and this is really beautiful. I want you to quickly take us from this state to this beautiful feta cheese that we have in front and you’ve taken that and broken it up into small pieces. That’s when you add your spices.

Peggy: Yes, you just break it up, and it will be feta cheese and I have some that's all finished right here that I've added the spices to.

Rebecca: Oh, and what spice is that that you're adding?

Peggy: This is basil.

Rebecca: Oh, one of my favorites.

Peggy: Next dried tomatoes, and salt – salt is very important in this process. You can take your hands and just mix it.

Rebecca: And once we get it to that point where we've mixed it together, how do we get it to this finished product?

Peggy: Put it in the fridge in a Ziploc baggie, and it'll set up just perfect like that. You can use feta cheese on salads or on eggs or anything.

Rebecca: It looks absolutely beautiful. Now this is a salad cheese sample that you have brought today, and if we wanted to we could also press the cheese? And actually we do have a press that we can show.

Peggy: Okay, so what I do is I put the feta into a cheese cloth and then into the press. When it is hard, remove it and use.

Rebecca: Okay, so we're putting it in cheesecloth. This would actually be the final step. We want everyone to know that, though we've not had time to show everything, that all of Peggy's recipes and books are on our website at Living Essentials. Thank you for watching us, and be sure to join us next time on Living Essentials.

>>For more information on this and other episodes of Living Essentials, or to order a copy of the program, visit us online at byubroadcasting.org/livingessentials. There you'll find helpful hints and additional information that will enrich and simplify your everyday life.

>>*Next on Living Essentials, we're talking about the basics of gardening. Whether you're an experienced gardener or just getting started, we'll show you how to prepare the soil, select the seed, fertilize, and more. We'll discuss traditional gardens, container gardens, grow boxes, and raised beds – stay tuned.*

Rebecca: Welcome to Living Essentials. I'm Rebecca Cressman, and today we're talking about gardening. Joining me today is Larry Sagers. He's the regional horticulturalist for Utah State University Extension Service at Thanksgiving Point in Lehi, Utah – it's a big title. He's also a regular presence in local radio and newspapers – thank you so much for coming today.

Larry Sagers: Well, thank you for the invitation.

Rebecca: There's nothing more exciting than gardening when it comes to the summertime and taking advantage of our yards and the world around us. How do we get started?

Larry: Well, the first thing you've got to know is you've got to know a little bit about your climate, and you can't do a lot about your climate, but also about your soil, and you can do a lot about your soil. So we're going to start with soils today, and I'm actually going to show you a couple of samples here, good soil and bad soil. I dug these out of my garden this morning, and I want to talk a little bit about them, so people can understand their soil. Now this isn't very good soil.

Rebecca: This is the soil I have at my house.

Larry: This is the soil that a lot of people have. Far too much clay in it and very wet. This would not be right for gardening. This soil here is something that I've amended over a lot of years. I've put a lot of organic matter in there and I've mixed in some inorganic amendments. So this soil grows a pretty nice garden. This other soil is still pretty tough to grow a garden in.

Rebecca: Okay, and the clay soil, one thing I noticed as you picked it up in your hand, we ended up with what looked like Play-Doh. It held it's form, was not at all malleable and falling – well, malleable but it wasn't falling apart. But this soil that you're giving us still has plenty of movement in it as we're caressing it.

Larry: Two reasons for that – one is this is very wet. We've had a lot of rain just lately and so this is very wet, so when you get ready to start tilling your soil, one of the best tests that you can do is just dig down to the depth that your tiller's going to go, take a handful of that soil, and form it into a ball. Toss that gently in the air. It doesn't crumble, so this is too wet. You cannot till this soil until it dries out sufficiently. A lot of people want to get in there and work their soil too soon, and so they end up with big dirt clods and make bricks out of this. You could actually put that in the sun and bake it and probably build a house out of it, but that's not very good for gardening.

Rebecca: Well, other than too wet, how do I identify whether the soil we have is good or not good.

Larry: Well, you can do some soil testing, and I recommend that people have that soil testing done. Don't get a little home soil test kit because they're notoriously inaccurate. All of the land-grant universities have a soil test laboratory, many other universities have soil test laboratories and you can get soil tests done, or there are private soil testing laboratories, but the little home soil test kits really are not accurate.

Rebecca: Are there actually different types of soil?

Larry: There are, and there are different components in the soil. A good soil is 25 percent air, 25 percent water, 45 percent mineral matter, and five percent organic matter. Now in the mineral matter, there are three different particles. There's sand, which is the coarse material, and if you feel your soil and it feels gritty, then it's got a lot of sand in it. There's the silt particles that feel quite slick, and then there's the clay particles. And that's where you can actually mold little figurines out of your soil or make bricks out of it, it's got a heavy clay content in it.

Rebecca: So a little clay good, a lot of clay...

Larry: Actually, the ideal soil is about one-third sand, one-third silt, and one-third clay. So a mixture of all three is ideal, but most of us have either too much sand or too much clay.

Rebecca: Now you mentioned organic material or organic matter. What are some types of organic matter? What is it?

Larry: Organic matter is anything that was once living, and so there's a lot of different kinds of organic matter that you can get. Grass clippings are an example of organic matter, but they're very short-lived because they're mostly water. So to improve our soils, we like to look for something with a woody base. A woody base would include forest by-products, mushroom castings, mushroom compost, earthworm castings, those kinds of things are all good. You could also use animal manures, but animal manures have one bad drawback and that is that they have weed seeds in them. So if you're going to use animal manures, you need to make sure that they have been hot composted so that the weed seeds are killed and you're not spreading weed seeds out on your garden and creating more problems for yourself.

Rebecca: That would probably answer a lot of sighs right now – “Ah, that's why we're getting weeds all the time.” Well, once we've either had our soil tested by a land-grant university or through a lab and we've taken a look at the soil that we have, how can we prep it and get ready for the garden? What do you recommend?

Larry: Most soils are going to benefit from the organic matter, and that's what you can see a lot of organic matter in this soil here. That's what makes it a lot darker and you can still see some organic matter particles.

Rebecca: You actually see a lot of variation – little teeny twigs, little rocks.

Larry: And so I've added organic matter, and you should start out with at least two inches of organic matter throughout the garden. If you put less than that, it's really not worth your time and effort, so put a couple of inches out there. If it has a high woody content, then you're going to put a little nitrogen fertilizer to help break that down so that the microorganisms don't rob the nitrogen from your plants. Till that in, and that will work wonders with your soil. However, organic matter is temporary, and so you need to plan on doing that every single year until your soil is as good as you want it to be.

Rebecca: Terrific, that's nice to know. Now you have brought some samples of fertilizer. How do we know when we need fertilizer and what type we should use?

Larry: Well, again, you can get that information from the soil test or you can get it from experienced gardeners who can look at plants and say, “Yeah, it needs a little more of this or a little more of that.” Now understanding fertilizer is very important. If you look at a fertilizer bag, on the front of it there are three different numbers. The first number by law is always nitrogen, the second number by law is always phosphorus, and the third number

by law is always potassium. Those are called the “macronutrients” or the major soil supplied nutrients, and you need to look at the location of the country that you live in because almost all soils will need some nitrogen, which is the first number. In the eastern United States, they need a lot more phosphorus and potassium because over the years the rainfall has leached a lot of those out. In the western United States, we typically need less of that in the drier areas of the western United States. And then if you go over the Sierra Nevada Mountains where there is more rainfall, you need to add those nutrients back in because the moisture has leached them out.

Rebecca: And again, after you get your soil tested, it will let you know whether you’re short on nitrogen, short on phosphorus, or potassium, terrific. Well, once we have determined whether our soil needs help – most of us do – and decided to get the help we need, we need to then focus on, besides soil prep--the water. How do we decide how much and how often we should water?

Larry: Some of our viewers are going to say, “What, water gardens?”

Rebecca: Yeah, that’s true, I lived in Vermont and it was taken care of.

Larry: You didn’t have to water there because the rain took care of that. In much of the country, we have sufficient rainfall that we don’t have to water gardens. In the arid parts of the country or in areas where you don’t get the water as consistently as you want it, you have to add some irrigation water. You can add that in three different ways. You can do the furrow irrigation, which is basically you take the water out of the ditch and let it run down the row. That’s the least efficient way of using water.

Rebecca: Because of evaporation?

Larry: Evaporation and you have to put so much on the top of the row to get it down to the end of the row that you put excess on part of the garden just to get enough down to the bottom of the row and things. More people are getting away from that to a sprinkler system in the home garden situation. Irrigation is still used a lot in agriculture. Sprinkler irrigation, and sprinklers are wonderful for growing gardens, but I thought I’d just mention a couple of things about drip irrigation because drip irrigation is a good way not only to conserve water, but drip irrigation puts the water right by your plants and so you don’t water all that space in between. Therefore, you don’t get as many weeds.

Rebecca: Well, and you’ve brought some samples of this. This looks like what I have in my backyard right now.

Larry: Right, and basically this represents the connection to your water supply. This is a valve. For any pressure on drip irrigation, they operate on very low pressures, and so this is a pressure reducer. You buy this device; you put it on as a pressure reducer. You would also put on a filter, and a filter is a screen that will take the sediment out of there, so you are going to go ahead and put that filter on.

Rebecca: Now these parts, for example, would be at a sprinkler supply.

Larry: Sprinkler supply store, anybody who sells drip irrigation components.

Rebecca: We actually had our water pressure measured so we would know how much of a reducer we would need.

Larry: You need to know exactly what size reducer you need, and then you’re going to connect this onto the supply tube. And if you take your supply tube right here, you would just go ahead and connect that on right there. This supply tube then runs across the top of your garden, and delivers the water. Then you’re going to run down these hoses. Now these hoses, if you feel those coming down in here, you’ll feel a little area

right there that's got a little inclusion in the plastic. Now that's the emitter, that's what lets the water out. And the reason why you have to do this instead of just poking holes in a plastic tube is that this is pressure compensating, and if your garden slopes a little bit, this makes it so the same amount of water comes out of every single hole, and you get the precise amount of water delivered where you want to put to your plant.

Rebecca: And so this black tubing – and they're spaced about every ten inches or so.

Larry: You can buy them; they go anywhere from three inches up to two feet or three feet or even more if you want them. To slip that in, you simply poke the hole in there, slip this supply tube in here, and poke a similar hole in here and slip it in there. This runs 50 or 100 feet down your row, whatever you want. When you get done in the fall, you roll the tubing back up, bring it in and till your garden. Put in some more organic matter and restart everything the following spring. The nice thing about drip irrigation, you really can't make a mistake because they even make a little plug that's called a goof plug, so if you make a mistake, you plug that in and poke another hole, and you're on your way again.

Rebecca: A lot of us aren't lucky enough to have a garden the size that you have, which is a 50-square yard garden, something like that.

Larry: It's 50-by-50 foot.

Rebecca: Size of a football field almost – no, just kidding – but we do have space limitations. What do you recommend when we have different spaces that we're trying to garden in?

Larry: Look at some things that will help you to increase the productivity, because a lot of people think, "I've got to have a big garden" – no, what you have to have is a productive garden. So look at those things that will better your soil, look at grow beds, raised beds, those kinds of things, and then also some container gardens work very, very well as a way for people who don't have a lot of space. Maybe you live in a condominium or apartment or you live on such rotten soil that nothing's going to grow there.

Rebecca: Well, I'm imagining since soil is so important that the container would be important as well, and you've brought a container here today that you're growing some items in. How do we know what is a good container to be gardening in?

Larry: You need to have sufficient volume of your soil, and I'd recommend for most people that you have something that has at least three to five gallons of material in it. If you don't have that much, you'll find that the root system dries out so quickly that you would have to water that multiple times per day, and that's not convenient for most of us to have to water that three or four times a day. So get a big enough pot, and if you don't have fancy pots, get some old recycled nursery pots or get some five-gallon buckets, but you've got to poke holes in them with a drill and then you've got to have good drainage in there. Now when you garden in containers, it's very important that you look at what you put inside this container. In these containers, this is all artificial soil. Now probably you remember, you went to Primary, Sunday School, or kindergarten, and you got soil in a paper cup and usually you put bean seeds in there and planted those. You took that home thinking, "These beans are going to be the most gigantic beans that I have ever seen." Four days later, this soil is brick hard. Nothing could possibly grow in there. Now we use a lot of what are called artificial soil mixes. They don't have soil in them;

they're mixtures of different components, and if you look at this little bottle that I have. .

Rebecca: I didn't know that we actually had artificial soil. Where would we purchase something like this?

Larry: Any nursery will have this kind of stuff, this is just a little ball out of a pot.

Rebecca: Now this looks very similar to what I see when I buy a plant at the store. It'll often come with something like this when I need to transplant it.

Larry: Artificial soil mix, and it has perlite as the white material. It usually has vermiculite as well. Most of them are peat based so it'll have compost and other materials, but no soil. And the two things that that does is number one, it doesn't ever harden so that the plant can't grow properly in that pot, and it also drains well. Another bonus is that these are naturally free from insects, diseases, and weeds, and that really solves a lot of problems, particularly for people that have been gardening on a site for a long time and have a lot of diseases built up in their soil.

Rebecca: So artificial soil – now I love that, that's a great idea-- would be one of the advantages of actually using a container. And now you have lettuce here and broccoli that you're growing, and you've chosen to grow those in a container – why?

Larry: This is just an easy way to grow it, and if somebody had a patio here, they'll plant the lettuce first, they can harvest this leaf lettuce multiple times. And then as the head of broccoli gets larger, it will form up on top here and then you can have a nice head of broccoli, and at that point you can come back in and plant a few radishes or something depending on how hot it is, and what crop goes back in here--you could even take this broccoli out if it's fast enough--take it out, and then replace it with a pepper or some other warm season crop for the summertime.

Rebecca: Terrific, a great example of how it would be to make a great use of space but it'll look pretty with the big plant planted in the middle and the small lettuce down below. What other advantages do container gardens have for us?

Larry: Again, space limitations and very good productivity. You are putting in a lot of plants in a very small area, so compared to a similar area in your garden, it may take four times as much space, but by quickly changing this out and things – you can double or even triple crop that container in one single season.

Rebecca: Now, do you always recommend that individuals who are going to grow vegetables, maybe for the first time, do you recommend that they use vegetable starts where they go to a wholesaler and actually buy a baby start, or are you encouraging individuals to get started with seeds?

Larry: You could start these either way. Now transplants give you some advantage and there are some plants that transplant very easily: tomatoes, peppers, and eggplants, and then all of the cold crops – that's the cabbage, the cauliflower, the brussel sprouts, broccoli, things like that. If you've got those in pots, you can just pop them out of a pot and you can see that they've got a nice root system. You can set that down in your garden and there's almost no transplant shock. The same is true of your tomatoes. The tomatoes, you can just slip that (tomato plant) out of the container and you can see that it has a nice, well-formed root system. You can set it in the soil, and it'll start growing with hardly even a transplant shock.

Rebecca: Now these are each at about five inches or six inches high – this is a good, healthy...

Larry: Good, healthy transplant. What you look for, you look at the root system – plenty of nice white roots; you look at the size – on a tomato, you want about a six-inch transplant, and you want this (the stalk) about the size of a pencil. A lot of people want to buy these long, stretched out transplants, and they do not transplant near as well as a nice, stocky transplant with a dark green color.

Rebecca: Now different plants are better suited for transplanting at different times of the year.

Larry: Yes, the cool season crops can go in earlier, and so you could already be putting your broccoli, cabbage, and all of those things in right now –

Rebecca: Early spring.

Larry: They go out in the early spring. Tomatoes and things that are tender, you have to wait until the soil warms up or use some sort of protective device over the top of them.

Rebecca: Terrific, and you have in your hand another example.

Larry: A cantaloupe transplant and these do not transplant well. If I were to pull this out of the pot, it would probably fall apart and we'd make a mess all over the set, but more importantly in your garden, you need to be very careful. You'd set that down and very carefully tear the pot away and put it in the soil very carefully because these don't transplant well. And they shouldn't be too big – this is about ideal, with a couple of true leaves. If these have started to vine all over, they are way too big and you'd just as well plant them from seed. And of course, some things we never bother with growing a transplant because they just come so easily from seed. We don't transplant beets and carrots and things like that because we can plant the seeds and they'll grow quickly anyway.

Rebecca: Now our website is going to be a good help to us in the show as we introduce so much information today, but as we've looked at these plants that can be transplanted, you actually divide them in four different areas: hardy, semi-hardy, tender, and very tender, and we can look on the website for some of those. But can you give us, just for a moment, an example of a plant that would fall into those categories?

Larry: Okay, the very hardy plants are the ones that you can plant as early as you can get that soil worked, so going back again to soil, if that soil is dry enough and not sticking together, you can get out there and work it and you can go ahead and plant seeds – peas, onions, things like that-- they can go in very early in the season, as well as our two perennial vegetables, the asparagus and the rhubarb. Okay. The semi-hardys can go in about two weeks after the hardy vegetables go in. The tender vegetable--and a good bio-fix is about when your apple trees are in full bloom because hopefully once your apple trees are in full bloom, you won't get a serious frost—goes in after that. Now that'll vary from region to region, and of course even year to year. But that's usually a pretty good bio-fix. The very tender vegetables will need to wait until the soil warms up. If you're going to put out melons and things, that soil temperature needs to be about 70 degrees in most instances, because if you put them out and it's too cold, they sit there and pout and they just will not grow.

Rebecca: We've had some pouting vegetables at our house. Let's talk about seeds, and you've brought some samples. How do we make sure that we're actually buying good seeds even the ones we see at the grocery stores and all around?

Larry: There's two definitions of good seed. Now the seed industry is fairly highly regulated. In other words, if you were going to sell seed legally in this country, you have

to make sure that it meets certain germination percentages. So if I buy a package of seed from a reputable dealer, it's going to meet a certain germination percentage. That's one definition, and from that definition, you almost always buy good seeds. But the other definition of good seeds is: will it produce a good crop in my area? And the country is so vast and there are so many differences in climates, that a seed variety that I would buy here would not perform well in Florida or in Vermont or southern California, or possibly up in Seattle because the temperatures are very, very different and the rainfall and other factors as well as the soils are very, very different. I'd recommend that you get a hold of your local land-grant university or extension service – typically there's an extension office in every county in the nation – you can get a hold of them, and almost all of them will have a recommended variety list for your area. So you can find out what vegetables are not only going to grow well for you but also the recommended planting times for your county or for your region.

Rebecca: Now there are some specific seeds we can talk about – let's begin with broccoli.

Larry: Broccoli, for example, and one of the varieties I like is Premium Crop hybrid broccoli – that's a great broccoli--if I'm going to grow it here, then I would grow it as an early spring crop, or I'd plant it in the summer and harvest it in the fall. If I were going to grow it in a warm southern area, I would grow it as a winter crop. And if I were going to grow it in a high mountain valley or somewhere or the northern part of the United States, I would grow it as a summer crop.

Rebecca: So what we can actually see is that if there's a certain vegetable that we really want to grow, we just need to be creative as to when we're planting it – spring, summer, or late summer.

Larry: Exactly right, and broccoli is a great example of that because we don't want it to mature in the heat of the summer. We want to have it before the heat of the summer comes or else have it mature in the fall.

Rebecca: Now you have brought a wonderful specimen of a tomato. It is already producing fruit right now. How come this is so productive?

Larry: It's called a greenhouse, okay, so these are greenhouse grown, but this tomato – now this is not a tomato that we plan to plant out in the soil--this is a containerized tomato, and if you look on there, there's already a dozen tomatoes or so on the vine. We'll have to get a taller stake to keep this growing and do some pruning to keep this as a large, tall tomato in a container. Now there are a couple things different about growing these vegetables in containers, and one is fertilization. We talked about this artificial soil. It has no nutrients, so unlike your garden soil, where you may never fertilize your tomatoes, you have to fertilize these on a regular basis. So you get some good soluble liquid plant food or you can use one of the slow-release products and fertilize this, but you have to provide the nutrients for these tomatoes when they grow in containers.

Rebecca: Now the purpose of the stake is just to provide some support to the branches as the tomatoes are produced or to create elevation as a space for gardening?

Larry: Yes, it's vertical gardening, and this is an indeterminate type of tomato, meaning that it will continue to grow vertically as long as we prune off the bottom branches and don't let it spread out.

Rebecca: Now did you grow that from seed?

Larry: This one came from seed, yes.

Rebecca: All right, well, let's talk about planting the seeds because this is an area that is crucial.

Larry: Planting seed is very important, and again, you've got to buy varieties that are going to be right for your area. So if you're going to look at the seed, first off you need to look at what size seed you have. If you go in and buy this package of seed and you look at it – beets are an easy-to-grow plant – and you take that and you pour that out into your hand there and say, “Okay, well, the seeds may be an 1/8” or 3/16” in diameter.” The rule is that you plant them about three times the diameter, so I can easily plant these in a small furrow and they'll grow very nicely. If I were doing the same thing with carrots, I may just lay them down the row and actually just press them into the soil with my finger, and particularly if you have a very heavy clay soil, it's a good idea not to put soil over the top of them but just sprinkle a little bit of peat moss or vermiculite down the row. That way, you don't get crusting over, because if that crusts over with a small seed, that little seed just doesn't have the energy to break through the crust and emerge out into the sunlight, and it has to do that if it's going to grow and survive.

Rebecca: Great tip on that – now in terms of storing our seeds, can we use them year after year if we store them in a certain way, or what do you recommend?

Larry: I don't recommend people buy vast quantities of seed. But a lot of people like to store seed and there's several reasons for that. Maybe I bought this packet of seed and I only wanted to grow half of it this year, so I may want to store it away. Or you may want to have some seed for a future supply and there are a couple of different ways that you can do that. With your ordinary garden seeds, what you need to make sure is that the temperature and the humidity are less than 100%. So if I have a place that I can store these at 50 degrees and the humidity is 30 percent, then I'm okay. If I'm down in the South and the humidity is 98 percent and the temperature is 90 percent, that's well over 100 and these seeds will not last very well. What you need to do is get an airtight container, either a plastic one or a jar then put your seeds in there. What I like to do is you save one of these little silica gel packages, like you get out of your pairs of shoes or your VCR or whatever, dry that out, and put it inside with your seeds. Then you put the lid on. And that will keep not only the moisture and the humidity right in there, but it will also keep out insects and rodents, because rodents love seeds, obviously. Put that in an area where it's as cool and dark as possible. If you want to do long-term storage, you would put that in a refrigerator. If you wanted really long-term storage, you'd put that in a deep freeze.

Rebecca: Interesting – now we have just a couple minutes left in the show, and you brought up the idea of pests in the garden. What do we do if we are facing a pest that we all see in our gardens--and that's weeds. What do you recommend in terms of taming weeds as we're trying to grow a productive garden?

Larry: First off, weeds are not born four feet high. You need to get those weeds when they're very, very tiny. Get you a good, sharp hoe and go in there but be careful you don't introduce weeds – you know, as we mentioned, animal manures bring a lot of weeds into our garden, irrigation water can bring in weeds. If we haul in soil or do any one of a number of things we can introduce weeds into our garden and we don't want that to happen. Look at the mulches as one solution – the organic mulches will control the annual weeds very nicely. Black plastic will even help you control some of those really nasty deep-rooted perennial weeds. And on some weeds you may have to even use some

herbicides. But if you're going to use any herbicide, you need to be sure that you read and follow all of the label directions so that you do not use them incorrectly.

Rebecca: Terrific, and another pest that we need to address before we wrap up the show are bugs. What do you recommend? Do you recommend pesticides?

Larry: I recommend that you're out in the garden looking every single day, because for the most part, insect infestations grow gradually. If you're out there looking at your garden, you maybe can turn a leaf over and crush an insect that if you leave it for a couple of months, could inundate your whole garden. So watch your garden. If you get pests, typically you can wash them off. If they're a little bit more difficult, use some soapy water. Insecticidal soap materials work very, very well, and so for most home gardeners, they're probably not going to need to spray for very many insects. A few--like the cabbage and things--you can actually buy what's called floating row cover, put it over the top as if they were in a little tent and then the insects can't get in there, but you don't have to bother to spray.

Rebecca: Terrific – thank you so much for your time. That's more inspiration for me to catch the morning glory before it gets out of control. We appreciate you watching and want to remind you again that so much of this information will be on our website. We've had some great tips from you, Larry. Thank you so much for helping us, and be sure to join us next time on Living Essentials.

>>For more information on this and other episodes of Living Essentials, or to order a copy of the program, visit us online at byubroadcasting.org/livingessentials. There you'll find helpful hints and additional information that will enrich and simplify your everyday life.

Rebecca Cressman: Welcome to Living Essentials. I'm Rebecca Cressman, and today we're talking about disease prevention. With us today are Dr. Steve L. Aldana – he's a professor of physical education at BYU; we also have Dr. Larry Tucker, also another professor of physical education at BYU. Thank you, both of you, for joining us today. We want to first start out, though, talking in basics about disease. Dr. Aldana, what is disease?

Dr. Steve Aldana: Traditionally we think about disease as infections, like tuberculosis or measles or mumps, and back in the early 1900s, those were the diseases that kill people. But today we now have chronic diseases, diseases that last a big portion of our lifetime and ultimately end in our death, such as cancer, diabetes, and cardiovascular disease.

Rebecca Cressman: But we also, Dr. Tucker, want to talk specifically about the leading killer diseases, and we have heart disease, cancer, stroke, lower respiratory – those are the top four diseases. Tell us a bit about those – heart disease, first of all.

Dr. Larry Tucker: Well, heart disease is the number one killer, and it has been since about the beginning of 1900. It's primarily caused by atherosclerosis, or hardening of the arteries, that supply the heart with blood. These arteries become filled with plaque, and an individual has a heart attack later in life. And it's something that can be prevented through a healthy lifestyle. We've made progress for the last 30 years and have fewer deaths now from heart disease than we've had ever before, but we've mainly made that progress because of medical science. We've seen a 30 percent drop in about three decades, but that's primarily because doctors do a better job of surgery and repairing broken hearts.

Rebecca Cressman: And so what you're saying is that the physicians and the research is there, but the lifestyles aren't changing?

Dr. Larry Tucker: Well, we still have a lot of problems with sedentary living and obesity. The main risk factors for heart disease are smoking, and we still have 50 million Americans who smoke, so that's a major problem. High cholesterol, which affects a large percentage of our population.

Rebecca Cressman: In fact, let's talk a little bit about cholesterol, because I recently had my first cholesterol checked and there were LDLs and HDLs. Is there something we can do to prevent ourselves from getting cholesterol levels that are unsafe for ourselves?

Dr. Steve Aldana: Well, that's a good point – most of us are not aware of our cholesterol levels, so our first move is to have it tested by a doctor, or you know, a blood test. And then once we find out if we have high cholesterol, we need to change our diet typically. Many people need to lose weight. As we reduce our body fat, our cholesterol level tends to improve, our HDL levels, the good cholesterol tends to increase, and LDL levels, the bad guys, tend to go down, and that makes us at less risk for heart disease. Physical activity is also very important – as we are physically active, our heart, it's a muscle and it becomes stronger, and it's much less vulnerable to heart attack. So we can affect it, it's just that it takes some effort.

Rebecca Cressman: And that is the number one killer, heart disease. The number two is cancer, and let's talk about first how prevalent cancer is.

Dr. Steve Aldana: Cancer kills about one in every four adults, and we haven't made great strides against cancer. It's been about 25 percent of all deaths for many years. Medical science is much better at treating it, but it still occurs at about the same rate.

Rebecca Cressman: What about prevention, Dr. Aldana, when it comes to cancer? Most of us, since it's one out of four adults that will contract cancer, or develop cancer throughout a lifetime, how do we actively try to prevent it, and is it

preventable?

Dr. Steve Aldana: You take these common killers – heart disease, cancer, diabetes. That’s almost 50 to 60 percent of all deaths in the U.S. If we talk about prevention, it’s the same prescription to solve the three major problems. It’s eating better. It’s eating a diet that’s based on foods that are a little closer to their natural form, like fruits and vegetables, whole grains and cereals, healthy fats, not too much saturated fat or the new trans-fats that you hear about. Exercise on a regular basis, and smoking’s always there. If you do those three things, we just now address all three diseases in a major way and not just the big ones, or one of the three. It’s the common denominator of care.

Rebecca Cressman: Interesting, along that line – I hadn’t really thought about it preventing you from all diseases by just adopting the healthy lifestyle that you’ve mentioned. Let’s talk also now about stroke. Dr. Tucker, how do we prevent stroke, or how prevalent is, what exactly is, because I think there might be some of us who are listening or watching this and thinking, “Well, isn’t stroke the same thing as heart disease?” And so let’s talk a bit about what is a stroke.

Dr. Larry Tucker: A stroke is very similar to heart disease, only it affects the brain instead of the heart. About seven percent of all deaths are caused by stroke, and just like the heart, it is supplied by blood, that those vessels become occluded from atherosclerosis, and the blood supply to the brain is reduced or hemorrhage occurs, and the brain cells die. And this occurs fairly readily in old age, and it can be reduced if we do the things that Steve was talking about. We need to eat better throughout our lives, exercise helps, and probably the most important thing for preventing stroke is to reduce blood pressure. Our blood pressure tends to get elevated as we get older, and if we ignore it, we’re much more likely to have a stroke. And yet many lifestyle factors can help control our blood pressure, and medication also helps for those that can’t seem to control their blood pressure through a lifestyle change.

Rebecca Cressman: So specifically, we can prevent high blood pressure, Dr. Aldana?

Dr. Steve Aldana: You start with lifestyle first – eat right, exercise on a regular basis, don’t smoke – and if by chance your health risks don’t come down, it’s certainly time to add on a medication to that and work with your physician to do that. But most people bypass the first three steps and go straight to the medication, so the impact is not as good as it could be. It would be much better – and we’re not talking just about one disease, we’re talking about a whole array of diseases, all impacted by lifestyle. And medication’s only going to affect one risk factor for perhaps one of those. So if you change everything along the way, or get closer to where we ought to be, the benefit is much bigger. And then if we have to have medication, we have to have medication. I mean, that’s the way it is, and that’s a great way to go.

Rebecca Cressman: I also want to take up some time to also talk about lower respiratory disease, because it is the number four killer. So let’s talk about what it is, what’s included in that definition of lower respiratory disease.

Dr. Steve Aldana: It used to be called chronic obstructive pulmonary disease. We’re talking about diseases of the lungs. The primary problem is emphysema, chronic bronchitis, and asthma. Those are the three specific diseases that account for most of the deaths. The first two, the emphysema and chronic bronchitis, are primarily problems associated with smoking.

Rebecca Cressman: So when we go into prevention –

Dr. Steve Aldana: We need to get people to quit smoking. In fact, the surgeon general back in 1965 or thereabouts indicated that smoking is the number one preventable cause of disease and death in America, and it still is. Someday that may

change – I think obesity is moving up quickly and may overtake the problem with smoking, but for right now smoking is the number one cause of preventable disease. And we can prevent that, we can have people quit smoking, which thousands do every year, and better yet, it's to never start.

Rebecca Cressman: Well, along that line, just a few minutes ago, Dr. Aldana, you brought up diabetes. Let's talk a little bit about how prevalent diabetes is and how preventable as a disease it is. First of all, how do we get diabetes?

Dr. Steve Aldana: Nationally, six percent of the adult population is diabetic, so six out of a hundred people is diabetic. The reason we have diabetes as a problem now is because the obesity issue is becoming more and more prevalent. We now have what used to be called adult diabetes in children, and you've probably heard about that. So as we become a more and more obese nation, diabetes is the next runner, it's right behind it. That's what's coming. The best data we have that came out a couple of months ago in the United States suggests that if you were born in the year 2003, you have a 30 percent chance of being diabetic in your life. If you're Hispanic, half of the children born in 2003 will be diabetic. They will die of heart disease, they will die of other problems, they have other diseases associated with it. That's how prevalent this problem is, and we're just at the very beginning of it right now. This is the biggest issue facing the health crisis right now in the United States.

Rebecca Cressman: Why is there such a strong correlation between obesity and diabetes? What is the connection between those two?

Dr. Steve Aldana: If you're diabetic, it means there's glucose, sugar, in your blood that needs to get into cells. In order to get into cells, it has to have insulin. Now you may be producing insulin, but the cells won't take it up. The receptors that usually work are either blocked or they don't work appropriately, so when we're obese, for some reason, and we're not quite sure, this glucose uptake system doesn't work efficiently like it used to. Either we don't have enough insulin or we don't recognize the insulin – we're insulin-resistant – and we end up having high blood glucose and we become diabetic. It just goes hand-in-hand with diabetes, with obesity.

Rebecca Cressman: It's wonderful when you're talking about lifestyle changes preventing these very serious diseases that are inevitably along the path for us if we don't prevent them. We talked a little bit just now about diabetes, but about obesity, it's not about body image, it's about life and longevity. Basics in terms of how we can avoid obesity, because it is a very prevalent problem for us, especially in the United States of America – how can we avoid it?

Dr. Steve Aldana: If you're obese, you're going to subtract approximately 11 years from your lifespan. Now that doesn't mean once you become obese, this happens; it happens as you gain weight. So even people who are overweight are at risk – not as much, but once they become obese, they're definitely at risk. And on average, it's 11 years off a person's lifespan by being obese. And this is the American lifestyle – it's high fat, it's high sugar, it's low fruits and vegetables, it's low physical activity. That's what's contributing to this problem, and we have a very, very unhealthy food environment that surrounds us to where we can almost not withstand the temptation and the desire to eat unhealthy foods because it's cheap and it's so readily available. And it surrounds us at every turn.

Rebecca Cressman: Speaking about that, because it is important for us to have a long, healthy life ahead of us, and we want to make those lifestyle changes, often we're wondering what are the resources we have out there. And there are a lot of weight programs that are available in the communities, but there are some that some workplaces provide – they're called wellness programs – and Dr. Tucker, tell us a little bit about how efficient or effective are wellness programs in helping individuals, or what's the goal of a wellness program that an employer provides?

Dr. Larry Tucker: Well, these programs are wonderful. They're relatively new and they're becoming more common. They're a win-win situation for the employer and the employee. The company wins because as they teach individuals about healthy living and as they screen and motivate, technically health care costs are reduced and so they can save on their insurance. And that's good because companies are spending tremendous amounts of money on company insurance for their employees. The employee wins because they have greater resources. They have someone that is providing education, helping them to understand the problem. Oftentimes there are health counselors that they can meet with the review their blood pressure and to talk about how to control it. So the employee is in a good environment where people are promoting health, and the company is benefiting from that person living more healthfully.

Rebecca Cressman: I'm fortunate enough to work at Brigham Young University, which has a wellness program, and occasionally I'll get a little flyer in the mailbox indicating, "Hey, there's a wellness clinic – we want you to join along." If someone's at another, working for another employer, which most of our viewers and listeners are doing, how would they find out about the wellness program and get themselves involved?

Dr. Larry Tucker: They probably want to contact their employer and ask about what type of program is available, and then if there isn't one available, to encourage the company to develop such. More and more companies are finding the benefits, and so they are hiring individuals that have health promotion, disease prevention type degrees to start a wellness program and to implement some of these programs to help reduce obesity and to control blood pressure and to screen and control cholesterol, to encourage exercise. Those are the major risk factors, and these types of wellness programs are usually designed to help people to overcome those problems.

Rebecca Cressman: There are a lot of other diseases – we've hit some of the major four areas of disease that are the most deadly for Americans – but there are other diseases out there, and of course, any parent who's out there, very familiar with immunizations and the role they play in protecting us against disease. Tell us a little bit about immunizations and how effective are they.

Dr. Steve Aldana: In the 1900s, 30 percent of the population died from infections, way more than we have in chronic diseases now. Now it's only two percent, and the reason that that number's so low is because people have been immunized. And the immunization program has probably had a larger impact on public health than anything we know of in recent, in medical history. Well, immunizations are important. The reason that we're not dying from immunizations, dying from these diseases is because we're getting immunized. So if you really care about your children, follow your pediatrician's or your physician's suggestions, get the immunizations when you need them, where you need them, and we'll continue to keep these other diseases at bay. If we don't, some of those will start to creep back in again.

Rebecca Cressman: Speaking of creeping back in, as we always roll into the wintertime, we start hearing more about the onset of the influenza virus that is rolling through different regions of the world or United States, along that line. Is that the best way for us to protect ourselves, or is it the only way to protect ourselves from influenza, the vaccine that is offered right now through physicians?

Dr. Larry Tucker: It's an excellent way. Influenza is a top ten killer, and so it is a significant problem. It typically kills the very young and the very old, so they especially need to be vaccinated. But for the rest of us, it's nice not to get the flu. The serious flu, we're talking a week or two off of work, very low quality of life, and it's a serious disease, and we can prevent it by vaccination. It also helps to stay at

home when you are sick so you don't infect other people, and one of the best things is to wash our hands frequently. Even though a lot of these problems are airborne, when we touch our face and our hands, we tend to pick up the germs and we're at greater risk. So keeping our hands clean, you know, multiple times a day, is a good idea, too.

Rebecca Cressman: You mentioned toxins and some of them being airborne – let's talk a little bit about that. How are the toxins, or pardon me, how are the toxins that are in the air or in the environment, what role do they actually play in contributing to disease?

Dr. Larry Tucker: Well, obviously infectious agents such as those that are passed along from the cold and the flu, those are easily inhaled, and they set up in our bodies and multiply, and we typically get a cold or a flu. We have other types of infectious agents, especially now in sexually transmitted diseases. It's a major problem within our society, and some people because of their lifestyles pick up these diseases, they don't get them treated properly. Sometimes they use their own antibiotics that they've been saving and they don't kill the germ totally, and the germ becomes resistant to antibiotics. And we have some diseases now out there that are scary because they invade the body, they're treated by a physician with antibiotics, and it doesn't kill the germ. And some of these actually can cause death.

Rebecca Cressman: Dr. Aldana, what is the biggest contributor to an individual contracting a disease? Is it their lifestyle, is it genetics, is it the infection itself?

Dr. Steve Aldana: We've been studying this for a long, long time. It's not an easy question to answer, but it's leaning towards the vast majority of chronic diseases – heart disease, cardiovascular disease, diabetes, and some of the other ones are creeping in, like Alzheimer's and some other things – the vast majority are lifestyle-related. Now that doesn't preclude genetics, and there's a particularly nasty group of genes that if you have, if you've inherited them, there's a good chance you might have a problem. But these are less than five percent of the cases.

Rebecca Cressman: So genetics plays –

Dr. Steve Aldana: Genetics is a piece, it's a piece of the pie, we can't ignore it, it's there, but the majority is lifestyle-related. Now there are some other genes that we have that are not quite so aggressive. In fact, most of us have some of these of some form, but if we have a healthy environment, if we're eating right and we're putting fruits and vegetables, whole grains, and all the good that's in there in the system, and we're exercising, that gene really can't manifest itself in that environment. It's tough to survive if you're one of those genes in a healthy person, because you can never really fully develop into a cancer. It gets killed off before it comes that far. So just because you have the gene doesn't mean that you're destined to get it – it takes an environment. Now okay, five percent of these are the nasty kind. Right now, current science the best it can to treat those. But the rest of it, all 80, 90 percent of all the disease that's out there, with chronic diseases, is due to the way we live our lives.

Rebecca Cressman: You talked about healthy food, and I'm obviously listening to the information that we're sharing and I'm also thinking about how it applies to me, a mother who's a cancer survivor and realizing that genetically I am predisposed and having to get the mammograms annually to prevent that. But you mentioned food and nutrition – Dr. Tucker, what role does nutrition actually play in helping to prevent these serious diseases?

Dr. Larry Tucker: Well, we've all heard we are what we eat, and obviously over a period of many years and decades, what we become is a function of what we've taken into our bodies. Our cells function optimally when we consume lots of fresh fruits and vegetables and relatively few processed foods. Eating meat sparingly is a good idea. Research shows very clearly that people who eat more of a vegetarian

type diet live many years longer and suffer from much less heart disease and cancer. And so I think it's best if we eat fruits and vegetable and whole grains, less junk food, less fast food, and these things provide the vitamins and the minerals, the antioxidants.

Rebecca Cressman: Let's talk about those, those antioxidants and the vitamins, because there's – the supplements are out there, they're for sale. Are they readily a part of that healthy lifestyle plan that we should be adopting as we're trying to create a body that's metabolizing in a much more healthy way?

Dr. Larry Tucker: My first recommendation would be to do it through the food that you eat – in other words, eat the natural foods that have those vital nutrients and the antioxidants. I think that's optimal, and I don't think anybody would argue with that. We are able to better study and identify, isolate, small molecules that are within the foods that can help us. There's quite a bit of research now concerning vitamin *E* as an antioxidant, and I personally take vitamin *E* because I think the research now is well enough established. It tends to reduce the risk of inflammation within the arteries and within the body, to reduce risk, but it's dangerous to just rely on supplements and go ahead and eat a lot of fast foods and become obese and be sedentary – that isn't what we're trying to promote. What we want people to do is eat right, and then perhaps as research develops, some supplements might be advantageous. A one-a-day type vitamin, I don't think there's any harm in that and it probably is a good safety net.

Rebecca Cressman: Dr. Aldana, as we look at diet and exercise, on the scale of importance, is one of them much more important for you to master than the other?

Dr. Steve Aldana: No, they're both critical, but I have to admit that diet is more important in the prevention of chronic disease to a certain degree than exercise. But one without the other, it's not of benefit to you. You have to realize that they're both doing separate kinds of things. I would say diet is certainly a little bit more important, but if you're not going to do both – I mean, "I eat well and I exercise, but I smoke three packs a day" – it's best to try to kind of do across the board good kinds of things because they all impact the body in different ways. This idea of antioxidants, you take an apple – we know of about 500 really good phytochemicals that are in there. There's another 10,000 we don't know about. We know they're there, but we haven't even identified them yet. To think we can take that and put it in a pill form and say, "Here, we've isolated the things that we think are important; this will make you healthy," I think is misguided. There's probably no research to say that's a bad thing if you take them, but eat the apple. It's in there, and someday we'll know all that's in there, but at this point in time, it's important to have the whole thing.

Rebecca Cressman: Well, I also want to talk a little bit, follow up on what you said in terms of we really don't know exactly why some things benefit us – we know some others – but there is some hard numbers, there is some research about what a healthy lifestyle, eating well, will do for us to prevent disease. And Dr. Aldana, share with us some of that, because we've talked about the numbers that are frightening when it comes to obesity, when it comes to heart disease, but if we make a positive change, if we say, "You know what, it is now going to be important for me – I'm going to make sure that my diet is healthy, I'm going to make sure that exercise becomes a regular part of my life," what benefits do we know are out there for us?

Dr. Steve Aldana: Well, other than the disease part of life, where we actually improve quality of life, we have actually some numbers that look at, well, how many years can you extend your life. with physical activity, it's about – now this is just one major study I'm quoting, there are a variety of others – but in general, a year and a half for a person who's a vegetarian, two and a half years for a person who exercises, two and a half additional years for a person who eats nuts on a regular

basis. Nuts, you know, the nuts we've been told to avoid for so long, now they're coming back and saying this is a good thing. About six to seven years for a person who's diabetic, about 11 years for a person who's a smoker or someone who's overweight, and the list goes on. There is some data that suggests around ten to possibly 20 years of extended life by making lifestyle change, and it's not ten years of unhealthy living; it's ten years of high-quality, functioning, able-to-do-things living.

Rebecca Cressman: What if someone goes back and decides, "You know what, I'm going to eat a little bit less meat and I'm going to exercise more regularly," that one combination – is there some numbers behind that that says what that impact might have on our life?

Dr. Steve Aldana: We wish it were that simple, like you could add two parts of this and one part of that – it doesn't work quite that way. But we know in general, when we take large groups of people and they make changes like that – maybe eating less red meat and exercise on a regular basis – will make a significant impact down the road. It's not going to affect them today or next week or maybe even six weeks from now; we're talking a few years down the road is where these changes really come to pass.

Rebecca Cressman: One thing you mentioned early on also that I want to follow up on was that many of us want to make that positive change, but there are a lot of obstacles out there for us, and you mentioned the availability of fast food that's out there. Let's talk about those obstacles, because it's something you've identified in your research, in your studies. You know what we're facing day to day and why it's so hard – why is it so hard for us to go ahead and get back to the basics of eating healthy?

Dr. Steve Aldana: In the old days, we were mostly an agrarian society and we ate foods as they were grown and they were produced naturally. Today we live in a highly capitalistic marketing world where we highly process and market foods to such an extent that what we're eating now, in some cases, you're hard-pressed to even find out what the food really is, what did it really come from, or how does this thing get processed to this point. In essence, we're surrounded by what some would call a toxic food environment – we've got candy machines, we've got soda machines, we're surrounded by fast food. It's almost as if it's this wall-to-wall processed foods that are very far from their original form, and the pressure to not eat those is nonexistent. And there's no reason why people, very few reasons why people should be eating differently just because it's here, it's cheap, it's available, it's in our schools, it's at work, it's everywhere we go. It permeates all of our society, and that's what we've become. And now we've got this disease burden that is a result of this culture and this environment that we've created.

Rebecca Cressman: We've had a wonderful half hour to kind of discuss all of this. Before we go, I do want to follow up with Dr. Tucker and talk about the role of education in disease prevention, because that information is key for us.

Dr. Larry Tucker: Education is the foundation. We don't see many changes taking place unless an individual understands what it is that is making them at high risk and what they can do about it. People need to know how serious the problem is, they need to know that they're vulnerable and susceptible, they need to know ways to prevent and control – all that is important. Unfortunately, education alone doesn't change people. Just knowing that that ice cream is probably not the best thing to have because you're already overweight, many people still find that the taste and the pleasure of consuming it now is more important to them than the benefits that they're going to see five or ten years down the road. So education is critical, we need it in our schools, we need it in those wellness programs in the companies, but changing the environment – I think a lot of the responsibility falls on the

government. We need to make sure that we don't allow advertising to get out of control, where we mislead people. I think we need to make sure that parents practice these principles so their children can have good role models. We frequently see a close connection between what the parents and what the children eat, and it's difficult for children to avoid unhealthy foods if that's what the parents are serving. And so we need to make sure the parents are supportive of healthy lifestyles. I know in my own family, when we go out and play and we play a basketball game together, Mom and Dad do it, the kids do it, we're all being active. When we sit down and we have good food, we're all eating it together instead of teaching one principle and doing another.

Rebecca Cressman: All right, that's all the time we have for today, but it's something that we certainly espouse here on Living Essentials, is to try to take those steps to make a better life for ourselves and for our family members. Thank you, Dr. Aldana and Dr. Tucker, for your time today. It's been wonderful. We'll have more information on healthy lifestyles on our website as well, so please go to that website. Thank you for watching. Be sure to join us next time on Living Essentials. Good-bye.

Rebecca Cressman: Welcome to *Living Essentials*. I'm Rebecca Cressman and today we're talking about nutrition. With us today are Dr. Laura Beth Brown. She is an associate professor of nutrition, dietetics and food science at BYU. Thank you so much for coming today. We also have Dr. Alison Campbell. She is an assistant professor of nutrition, dietetics, and food science at BYU. Thank you so much for joining with us. Now when we talk about nutrition Dr. Brown, what do we really mean?

Dr. Laura Beth Brown: Nutrition is really about the nutrients and foods and what happens when we get them or don't get them in our bodies.

Rebecca Cressman: Well are there some reasons, some concrete reasons why people eat the type of food they do?

Dr. Laura Beth Brown: Yes there are some reasons, a variety of them. One is for health, although actually that's not the main reason that people choose to eat. We sometimes think that health is really what drives us to make the choices but it isn't for most people.

Rebecca Cressman: Is it related more to the second which would be taste?

Dr. Laura Beth Brown: Yes.

Rebecca Cressman: Okay. Tell us about that Dr. Campbell.

Dr. Alison Campbell: Really when it comes to taste, taste is probably the primary reason that people choose the foods that they do. It's great, food tastes good and it's supposed to taste good and that's one of the reasons that people choose their foods. There's a common misconception that healthy food doesn't taste good, but that's really not the case. There's a large variety of foods that are delicious and can easily fit into a healthy eating pattern.

Rebecca Cressman: What about cost? Is that one of the influences of why we make the choices that we do?

Dr. Alison Campbell: Oh definitely. People are always looking for value for their money. And another misconception is that again healthy eating is expensive. But again, that's not always the case. It can be but it doesn't have to be.

Rebecca Cressman: And Dr. Brown what role does convenience play in whether we're choosing the right kind of foods.

Dr. Laura Beth Brown: Convenience is a very highly important factor in our society today. People think that they don't have enough time to do things. Their schedules are pressured; they've got lots of obligations and demands. And because there are many convenience foods available, we kind of default to using those foods. Now convenience foods can be healthy depending on what you choose. But a lot of people are choosing vended foods, fast food restaurants. Not all of those choices are really stellar. There are some, in all of those locations.

Rebecca Cressman: Are there actually foods that we've categorized maybe as good, bad, and best, Dr. Brown?

Dr. Laura Beth Brown: There really is no such thing as a good food and a bad food, but now let me qualify that. There are certainly foods that are higher in nutritional value and low in nutritional value. And there's room in most diets for some of those low nutritional value foods from time to time, we call them empty calorie foods. We don't have to avoid those. The problem comes if people make up their whole diet or a large part of their diet from sort of lower nutrient density foods. That comes into a problem, so there can be kind of a better and a worse diet nutritionally, not talking morally, I'm talking nutritionally, but there really aren't good and bad foods although there clearly are differences in nutrient value of foods.

Rebecca Cressman: Well over the past few decades we've all become familiar with some type of food pyramid that is functioning as a guide. What are your thoughts about that food pyramid being valuable for those of us who are trying to make food choices on a day to day basis?

Dr. Laura Beth Brown: The food pyramid that is most widely used in the United States is really a very decent guide. There are other alternatives to that that various groups have proposed because they're interested in a particular subgroup of the population or they're looking at particular nutrition research and so they may tweak what we have seen as the food guide pyramid to emphasize other foods. One thing that all of the food guides have in common is that they emphasize lots of fruits and vegetables and whole-grains. And so whatever pyramid somebody chooses to use, if you remember that they all emphasize those foods, you're going to be okay.

Rebecca Cressman: Now we brought some samples today, you've helped us with this, because not only do they talk about fruits and vegetables in the food guides but the food pyramid always talks about servings, the number of servings. And you have illustrated wonderfully Dr. Brown the difference between what a true serving size looks like. Can you identify that? What we have?

Dr. Laura Beth Brown: Sure, the most common pyramid that we're using gives a range of servings recommended depending on your calorie need each day. And people see that range of servings, 6-11 grains and think there's no way I can possibly eat that, or they think that for many of the other numbers of servings. The problem is they haven't learned what counts as a serving. And so for example on this plate we have a half cup of pasta which counts as a serving. A half a cup of vegetables which counts as a serving, three ounces of meat which is a serving, an apple that will look very small to a lot of people, which counts as a serving of fruit, or $\frac{3}{4}$ of a cup of juice that counts as a serving.

Rebecca Cressman: So we have five actually that we're seeing right here.

Dr. Laura Beth Brown: Right, and so this counts as servings according to the food guide pyramid. The problem is a lot of us think we need more. Now we can eat more than this. We don't have to eat these exact serving sizes. Nobody is telling us that, but if you eat a cup of pasta and a cup of vegetables and 6 ounces of meat, and almost 12 ounces of juice and an apple that's twice the size of this one, you have twice the number of servings, twice the number of calories, twice the nutrients too. But it's not just fast-food restaurants or restaurants that are over sizing, we're over sizing at home.

Rebecca Cressman: Well, Dr. Campbell has an idea that she has brought with her, that both of you have brought that will help us remember okay what would be the best, if we're serving at home, what is the typical serving size we should be looking at? And it's a tennis ball and a deck of cards.

Dr. Alison Campbell: It is. One of the ways you can remember what is a recommended or an established portion size is to compare it to something that you use at home, or that you have available at home. So one is a tennis ball. A tennis ball is about the size of a piece of fruit that's considered one serving. So when you go to the grocery store, many fruits are much larger than this. This is the more typical size.

Rebecca Cressman: They're also less expensive, the small apples.

Dr. Alison Campbell: They are, yes. So when you're seeing this, that's two servings, so that's great if you're trying to increase the number of fruits and vegetables that you're consuming. Thanks.

Rebecca Cressman: You also have a deck of cards, how does that relate?

Dr. Alison Campbell: A deck of cards is the size of a meat portion that's three ounces. So a deck of cards, a small computer mouse, all of these things are approximately the size of a three ounce portion of meat. Also your hand. If you close your fist tightly, this is also, well depending on how large your hand is of course, about one cup or maybe a little bit more. So this would be two portions of grain or two portions of cooked vegetables, so those things can help you remember.

Rebecca Cressman: Now there are four principles Dr. Campbell that we're going to go over with now that help us apply the recommendations of the food pyramid. Number one is balance.

Dr. Alison Campbell: Yes, these four principles are all reflected in the food guide pyramid. But the first principle of balance means choosing different foods from the different food groups. Each food guide divides foods according to their nutrient value, so that each food group contains foods of similar nutrient composition. So by choosing a variety of foods from the different food groups, so choosing some fruits, some grains, some meat, some dairy products, you can get the variety of nutrients that you need.

Rebecca Cressman: Speaking of variety that's number two. Let's go into that as one of the guiding principles.

Dr. Laura Beth Brown: Don't eat the same thing day in, day out.

Rebecca Cressman: Don't eat the noodles over and over again.

Dr. Laura Beth Brown: No, because although there are similarities in all the foods in the grain group, or all of the foods in the vegetable or fruit group, there are some little differences. For example, carrots are a good source of vitamin A but not vitamin C. Oranges are a good source of Vitamin C but not vitamin A, and so vary your fruits, have strawberries or oranges or apples or bananas or grapes or pomegranates and vary your cereals or vary your pastas so you have different foods within each group on a regular basis. That way the nutrients tend to balance out. We tend to cover all the bases if we vary our food choices.

Rebecca Cressman: We just had a conversation at home where my eight-year-old, they're always looking for the different colors, because I said, we're always looking for green and red and yellow, and he said, "Mom, I'm wondering if vitamin A and B and C if they all have different colors and they're the ones that get the colors to the vegetables." We won't go into the science because I'm sure you're going to disprove that for us, but the variety you can tell also by the color of the items you have.

Dr. Laura Beth Brown: Yes, and in fact if you don't even want to go to a pyramid just look at the color on your plate. Now that has to be color that's naturally there, it can't be the colors from made up fruit drinks and things like that.

Rebecca Cressman: Okay moderation, tell us about that. That's another good principle to have.

Dr. Alison Campbell: Well, moderation by its definition means avoiding excess or avoiding extremes. Two ways you can apply this in your eating patterns is one with moderation of some of the extras, so things like the butter, the extra fat, the oils, or some of those things, the extra sweets, the sugars, so some of those extra foods. The second principle for moderation is just moderation in the total amount of food that you consume. Many people make excellent choices of foods but they eat too much. This principle of moderation really is reflected in the idea that more is not always better.

Rebecca Cressman: So I want two pieces of pie, I'm okay, ten pieces okay in the same day not okay?

Dr. Alison Campbell: Well, even two might be a little bit too much, but it's okay to include the pie occasionally. That's one of those extras that tastes great and is okay to include occasionally but to be used in moderation.

Rebecca Cressman: Wonderful, I was surprised to find simplicity as one of the guiding principles. Explain to us how that works.

Dr. Laura Beth Brown: Some food products that we can buy in the grocery store have been manipulated quite far from their original state and so basic potatoes can be quite nutritious but they can be processed and formulated into some other potato products which are okay occasionally but don't really substitute for the potatoes. So, something that's closer to it's kind of its original state. This doesn't mean we have to

be purists, it doesn't mean we can't enjoy gourmet cooking and fine eating, but probably we don't need to only have our onions deep fried into a very high calorie product in batter.

Rebecca Cressman: Oh, that is so good.

Dr. Laura Beth Brown: That is an occasional food, that's an occasional food.

Rebecca Cressman: In following what you're saying, instant potatoes versus a baked potato, a baked potato would be closer to the original state.

Dr. Laura Beth Brown: Right, and instant and not terribly far, instant are not very far but we can get into some other potato snack products that end up being pretty far from where we started with a potato. And that can be applied to a lot of different foods.

Rebecca Cressman: Great, it also brings us to processed foods because we're talking a little bit about the potato chips etc. as we get further and further away from that. What about processed foods? Should we avoid them all?

Dr. Alison Campbell: Not at all. Really processing has a lot of beneficial effects on foods and just because it's processed doesn't mean you need to avoid it. For example, when we take wheat and mill it into flour, that's an example of processing food, or when you take fruits or vegetables and they're canned or frozen or dried, that's also processing but even in that processing they retain a significant amount of some important nutrients, the vitamins and things that they provide for us. So it's okay to include those kinds of things. But again, as Sister Brown was mentioning, you need to make sure that they're not highly manipulated so using things like cereal and milk instead of candy coated breakfast bars, using fruits instead of when you take it and you turn a fruit into a pie, you've added a lot of things that really dilute the nutritional value of that food.

Rebecca Cressman: Well, and to just take a moment of your time because a lot of us have children and we send them out the door in the morning, after having consumed a bowl of cereal. If we're trying to make a choice on a cereal product, you mention cereal over a cereal bar, is there some items we should be looking at for that cereal choice, that would be healthier but still good tasting for the kids.

Dr. Laura Beth Brown: Probably the unsweetened products have some small advantages over the others but in fact breakfast cereals are really quite a decent choice. They're not a bad way to start the day and perhaps have some advantages over the old-fashioned breakfast where you had a large portion of meat and some heavy cream on your oatmeal and so the breakfast cereal is not a bad start to the day.

Rebecca Cressman: Oh good, so the vitamin-fortified can kind of take care of some of that guilt that goes with that. I also want to talk about; we talked a little bit about natural state. I rely an awful lot on frozen vegetables. It's a basic in every one of our dinners. I have a neighbor down the street, she was surprised to find that my freezer was full of vegetables and she said she never serves them, she focuses on fruit. On frozen vegetables, is that close enough to the natural state?

Dr. Laura Beth Brown: Absolutely.

Dr. Alison Campbell: Definitely. One of the advantages of using things that are frozen or canned or preserved in some way is that it extends the shelf-life or it extends the season that those things are available and having them in your freezer frozen, it's a great way of having them convenient. You're more likely to use them and they stay fresh, well not fresh, they stay good until you're ready to use them. Instead perhaps staying in the refrigerator and going bad.

Dr. Laura Beth Brown: For comparison, frozen vegetables are really usually frozen within hours of harvest whereas the fresh vegetables we get in the grocery store depending on what we're choosing might have traveled from far across the country for several days, under good conditions, been in the store for several days, in our

home for several days. So by the time we eat fresh, frozen, canned, they're really fairly similar in nutrient value. Now, grown in our garden taste the best. They're the freshest, they taste the best.

Rebecca Cressman: And some I would not even recognize it as compared to something you found in the store because the garden grown has so much more taste to it. In fact, one of my sons, when we first started harvesting tomatoes said, "I don't like this as much as the ones we used to have," because he was so used to the others, of course now he appreciates that. We know now, we've gone over a little bit as to the type of choices we should be looking for, considering, why it is we're making the choices, but you have five recommended steps that individuals should take in order to make good choices with nutrition. You said number one, you'll say or explain with us now, is making a decision to have nutrition be important to us, is that right?

Dr. Alison Campbell: The first step in making a change is to decide that it is a priority and then to make some commitment to that. The commitment doesn't have to be time, it doesn't have to be extra money but it's more a commitment of attention, deciding this is something that is important to you and then that you're going to do something about that.

Rebecca Cressman: And Dr. Brown, you said a second step we should take or a consideration we should have is to actually have the courage to compare what we're eating now with what the food guide recommends. Is that right?

Dr. Laura Beth Brown: Yes, you have to evaluate what you're doing now to have a basis for knowing where you need this change. And so you can do that by counting up your servings, keep a record for a couple of days, because often we graze through the day and we don't know what we get because it's sort of mindless eating so write down if necessary what you're eating, count it up, measure it, if necessary, don't spend your life measuring foods, that's not what we want people to do, but count it up and compare it with a food guide and see how well you do, where do you fall short, and you'll recognize, oh I didn't get anything from this group or from that group so I may be missing the nutrients that are contributed by that particular group.

Rebecca Cressman: Now many of us have good intentions in deciding, I want to make this change and I'm going to try to change everything. But you actually have a recommendation to start small is that right?

Dr. Alison Campbell: That's really a key to success, is take one thing, start there, by making this one change at a time, get comfortable with it, and then from that point move on.

Rebecca Cressman: Whether that be portion size, whether that be moderation.

Dr. Alison Campbell: Yeah, so by making that one choice you really do become comfortable with it, it becomes part of your life, and then you're not trying to change everything all at once, you can get overwhelmed.

Rebecca Cressman: Alright, there's also simplicity which is a guiding principle you communicate with individuals. Explain to me a little bit about that too.

Dr. Laura Beth Brown: So if you're going to make a change, don't try to make it very elaborate. You're focusing on a small change, but choose something you can do within the framework of your capabilities, within your finances, your time constraints, within the number in your family, with taste preferences or whatever.

Rebecca Cressman: Those would be the barriers then preventing you?

Dr. Laura Beth Brown: Right. But look for convenience that you can do at home. There are lots of shortcuts. Frozen vegetables is a shortcut, you don't have to peel something and cut it up, it's already done for you. So look for something that will fit within your lifestyle and your capabilities.

Rebecca Cressman: Okay we also have number five, looking at the benefits and deciding whether a change is worth it.

Dr. Alison Campbell: Anytime you're trying to make a change, there are benefits or you probably wouldn't be trying to make it, in the case of nutrition probably some health benefits. But then there's going to be some barriers, you're old habits, maybe it's that extra attention that it takes, and so you have to weigh and see if it's really worth it and if you're ready to make that change now, or if you need to focus on some other part of your life before you're ready to make this change.

Rebecca Cressman: And how would that help in your motivation if you're deciding whether or not this is really worth that change.

Dr. Alison Campbell: Well, once you've evaluated the value of the change, if you're really committed to it and decided that it really is something important, you're more likely to be successful rather than just to have a half-hearted attempt at change.

Rebecca Cressman: Great, thank you so much. Dr. Brown if someone wants to make a change in their nutrition where should they go to start?

Dr. Laura Beth Brown: Well, following the steps we just talked about, they need to make a choice, what's going to be important for their health, and I'll talk about fruits and vegetables because as Americans we tend not to be doing very well at eating fruits and vegetables and so it's looking at what fruits or vegetables you might include in your diet. If you've got kids that'll maybe go to the store with you and each select one as an adventure to try it out. Maybe it's planting a new product and being willing to try it. Now everybody's not going to like everything they try and so you can rule that out and then try something else. So it's beginning somewhere and kind of seeing where it leads.

Rebecca Cressman: It's interesting because I can think of apples as being one of the most common fruits that American children consume, a lot of apples, but interestingly enough the presentation of how you serve that to your children can change whether they'll eat it or not. If we have one of those slicers, and I'm telling you if I want kids to eat apples, that's the thing to do. It takes two minutes to crank them out and the entire neighborhood is over trying to eat the strings of apples, but there is some motivation for some parents out there who might be feeling like they're having a hard time. It might just be the presentation of that.

Dr. Laura Beth Brown: An example is another important feature. If you want your kids to eat something, then you eat it. Kids grow up eating what is eaten in their family and so if parents are usually eating a lot of vegetables then the kids grow up eating a lot of vegetables. Maybe they'll go through a phase when they won't, but they'll probably come back to it because that's sort of what we do, we eat what the traditional foods that are around us, what we are familiar with, and so start anywhere, parents start.

Rebecca Cressman: You know nutrition is kind of an interesting area because a lot of us feel guilty when we talk about it because we realize we're making a lot of quick decisions that might not be in the long run the healthiest for ourselves and our families. What do we do if we're feeling a little bit like, "I'm failing in this area or backsliding. I made that initial goal, I'm backsliding," how do you address that?

Dr. Laura Beth Brown: That's okay. We never in any aspect of our life, we never make a decision and we go forever without ever any mistakes. There'll be two steps forward and one step back. Don't give up. If it's important to you, if it's worthwhile, keep with it. We're never failures. We have to eat every day, we make some decisions that are more nutritious and some that are less nutritious but we need to be easy on ourselves. We don't need to feel guilty about nutrition.

Rebecca Cressman: Thank you for that, I feel better already. I want to talk to you also about myths and maybe some misconceptions about nutrition.

Dr. Alison Campbell: Well one misconception is that our bodies naturally know what we need and therefore when we're craving a food, there's something in that food that our bodies need. When we're craving food it's because we like it, because it tastes good, because it's associated with something pleasant for us. We really don't crave foods for the nutrient value. So just because you want a food, it's not because it's something that your body needs. You do need to look at it and apply some of the principles that we've talked about in the past and make sure you're getting the best nutritional choices.

Rebecca Cressman: Dr. Brown you were smiling when we introduced the topic. Your thoughts too on myths and misconceptions.

Dr. Laura Beth Brown: Well another one that's current right now is the idea that we have to eat foods raw and eating raw foods is better for us. There are a couple of problems with that, one is that some foods are actually safer, food safety wise because they've been cooked, so any kind of bacterial contamination may be eliminated. So that's one consideration. Another consideration is a misconception that cooking destroys the nutrients in foods. Now if you cook for a long time at a very high temperature, you will have a decrease in nutrients, but for the kind of cooking that I hope most people are doing now, cooking for a fairly short time, but until it's done, that preserves, that maintains nutrients really quite well, and so the nutrients are still in the foods that we cook. Another misconception is that if we cook the foods we're going to destroy the enzymes. Well in fact, we inactivate enzymes by cooking food, but if we don't cook foods and we eat them raw we inactivate the enzymes when we eat the food because of the stomach acidity. Our bodies make the enzymes we need to digest and absorb foods. It's a wonderful, it's a marvelous plan, so we don't have to worry about enzymes in the foods we eat because our bodies make them.

Rebecca Cressman: That's wonderful. You did mention there is a movement towards crude eating, raw meat, raw vegetables, but there's also some talk about whether or not we should eat vegetables prior to fruit prior to meat, what do you think about that?

Dr. Alison Campbell: It really doesn't matter. Once you eat it, it all gets mixed together in your body anyway, and there's no scientific basis between separating these types of foods throughout the day. There's no need to be that particular about what you eat.

Dr. Laura Beth Brown: Back to enzymes, the enzymes for digesting different nutrients don't compete with each other. So if you're producing the enzymes for digesting protein that doesn't compete with the enzymes with digesting carbohydrate or fat. And so, this body really is a marvelous creation and we don't have to worry about ordering our things or layering them in our stomachs.

Rebecca Cressman: When you talk about marvelous creation, we have just time for a final thought from you Dr. Brown on the importance of nutrition.

Dr. Laura Beth Brown: Well, I'm very grateful for a loving Heavenly Father that has told us that "all things that come of the earth are for the benefit and use of man, for food and for raiment, to please the eye, and to gladden the heart, to strengthen the body and to enliven the soul." You know, food is about enjoying part of this mortal experience and not being too obsessive or worried about it. I'm hungry, I want to eat and enjoy a variety of good foods.

Rebecca Cressman: Another final word from you Dr. Campbell?

Dr. Alison Campbell: Again, just following up on what Dr. Brown has said, that the foods that we eat are meant to be enjoyed, they're a part of the life that we have and that we should enjoy them and make wise choices but again, not worry too much and make it an obsession where it starts to become a negative aspect in our lives. Our food is meant to be enjoyed.

Rebecca Cressman: And it's something also when we think about modeling, any obsession or concern that we have is always transmitted to the people closest to us, and we want to have that courage to set a good example for children and also to model enjoyment which I can at least say that I successfully model enjoyment of food everyday.

Dr. Alison Campbell: That's good.

Rebecca Cressman: Thank you so much for your time here today it's been lovely to get to know both of you, and your information has been very helpful so thank you for joining us today. And thank you for watching. We hope that you'll join us next time also on *Living Essentials*. Goodbye.

>>Next on *Living Essentials* we're talking about how we learn. Each of us has a particular style or way that we learn and studies have shown that by knowing what our style is, we can actually increase our ability to learn. But sometimes learning disabilities can complicate that process for us. To find out more, stay tuned.

Rebecca Cressman: Welcome to *Living Essentials*. I'm Rebecca Cressman and today we're talking about how we learn. Joining me today is **Dr. Maryann Prater** and **Dr. Gordon Gibb**. Thank you. Both are professors of Counseling psychology and Special Education at BYU. What a pleasure to have you here today. First of all, Dr. Prater, why is it important for us to understand how we learn.

Dr. Prater: It is very helpful for individuals to know how they learn so they can reach their potential. We all have different styles in which we learn best and in order to reach out potential, we need to know what those styles are.

Rebecca: What's the process then of finding out how we learn, Dr. Prater?

Dr. Prater: Well, there are many ways, but one of them is just by trial and error. We often can self-assess: how do we best learn, how would we prefer to receive information? For example, if you were to ask me directions to my home, you might ask me just to verbally tell you those directions and you would be fine and you would remember that information. Or, you might prefer that I write them down so that you have a visual cue rather than just the auditory. Or, you might want you to tell you while you write them down so that you also have a tactile or writing experience while you're hearing those directions.

Rebecca: Jean Diderickson, a teacher at North Lake Elementary School uses music to teach her students how to read, spell, count, and just about everything else. Let's take a look:

Package: **2nd Grade Class:** (singing) Everybody knows--what comes from the store with the Cheerios and the candy and the bubble gum--but did you know, that all the pop cans in the world are just like everything--they come from out of the rock.

Jean Diderickson: I use a lot of music in my teaching and sometimes I'll take existing songs and change words so that it will fit the subject that I'm teaching. If it's Language Arts, I'll do something with words and if it's with math, I'll do something with numbers.

Class: The number one, cha-cha-cha, number one the whole day long.

Jean Diderickson: A song is just so immediate. They just become engaged in it so quickly. It seems like you never waste any time when you're using music in your classroom because they just are completely engaged.

Class: 44, 46, 48, 50, 52, 54, 56, 58 . . .

Jean Diderickson: I have found that music really organizes your thoughts for you. It's a natural vehicle to organize things in your mind and I think that's why it's so easy to recall things in a song.

Class: There was word, the word was bound, and this is how you spell bound, b-o-u-n-d, b-o-u-n-d, b-o-u-n-d, and this is how you spell bound.

Jean Diderickson: When I start teaching a song, I usually notice little children that maybe have never, ever opened their mouths and sung a note. And I will just start singing and pretty soon, I'll look them directly in the eye and sing and they'll start singing with me and that usually gets them going and excited about singing. And some of

my very best singers have been little children that have never sung a note. They find out they have a voice.

Class: (singing)

Jean Diderickson: I think it makes kids feel really good inside and gives them confidence. I've seen a lot of children come out of their shell when they're singing and that's maybe one thing that really touches them and helps them to come alive and want to learn.

Class: (singing)

Rebecca: Now as a mother of three children, I don't think I've ever really thought about the songs that my children come home singing from school as actually being a teaching aide. Rather than just learning the songs, they're actually helping them. What were your thoughts about that teacher's use of music to help children learn?

Dr. Prater: I thought it was a great strategy to use in the classroom. You often think back to one of the first things you learned as a child, and it's the alphabet song. Knowing the order of the letters within the alphabet, we learn a tune, and it really helps us recall information.

Rebecca: Any thoughts along that line too?

Dr. Gibb: I notice in the classroom, music seems to be very motivating to the students and motivation is an important part of learning. Music also has the ability to give us another peg in our memory to hang things on when that tune is in our mind, and we associate that with new learning. So, I think she's got a successful program going because the kids are motivated and they have that additional help with memorizing the things they're learning.

Rebecca: It reminds me also of the generation I'm from of School House Rock and how I learned "Conjunction Function" and "I'm only a bill on capitol hill," those kinds of things. Auditory that actually helps you learn. Let's talk about learning styles in general. What are the types, Dr. Prater?

Dr. Prater: Well, you mentioned earlier, the three general areas are: visual, auditory, and tactile or kinesthetic. Tactile is actually touch and kinesthetic is movement, so any education that can incorporate all of those or as many of those elements, will be more effective.

Rebecca: How do we know what kind of learning style we actually have?

Dr. Prater: One way is your self-assessment. You can determine how you best learn by your experience. There are some instruments that are available that you can actually take some questionnaires and surveys that will help give you an idea of what kind of learner you are.

Rebecca: One thing I think is very interesting, Dr. Prater, as you say, a good way to learn what our learning style is, or to find out what it is, is to actually learn a new skill and then measure it and find the different areas. Tell me first about demonstration, that first area.

Dr. Prater: Right. Put it in context. If you were at work or at home and you wanted to actually learn a new computer skill like a new piece of software that you're learning, many of us can relate to that, how would you want to learn that particular skill? The first one might be through demonstration. If you would prefer for somebody to actually model, or demonstrate it for you, you might attend a class or a workshop where someone

actually does it or shows you how to do it in that way. That would be one mode of learning style.

Rebecca: Okay, how about diagramming?

Dr. Prater: Diagramming. Manuals often come with diagrams. Diagrams may include a list of steps, but the picture prompts along with it, in terms of what to look for, even in terms of putting together a new toy or a bookcase that comes non-assembled.

Rebecca: I shudder when you say ‘putting together a new toy.’

Dr. Prater: But we often rely on those kinds of diagrams or visual cues for us.

Rebecca: Okay and the third is a list of steps.

Dr. Prater: A list of steps would be similar to the diagram but it would more verbal, without pictures, it would be a list of steps to go through in order to accomplish or learn the new task.

Rebecca: Okay, and the number four would be verbal instructions and talking.

Dr. Prater: Right, some people prefer rather than to read the instruction manual to have somebody talk through the steps and the sequence and how to do it for them.

Rebecca: All right, and the fifth one is trying it out.

Dr. Prater: Right, some people just like to be on their own and to try it out and see if they can discover how to put the thing together without any instructions.

Rebecca: What about the formal tests. I have taken a number of tests over the years. What about those formal tests that we take to understand our learning styles. How reliable are they?

Dr. Prater: In actuality, they’re fun to take and they can provide you some guidance and direction, and some ideas on what kind of a learner you are, but they’re not very scientifically based, so you have to keep that in mind as you take them.

Rebecca: You can actually visit us online for a complete questionnaire to better determine your learning style or that of your children. Very interesting, Dr. Prater, do we have just one style?

Dr. Prater: No, in reality we all have a combination. Very few people are actually only auditory, or only visual learners. Most people have a combination and learn best through that combination. So, effective instruction is often done through what we call multi-sensory education.

Rebecca: What about the whole right-brain, left-brain classifying ourselves?

Dr. Prater: Yes, we hear a lot about that and there’s a lot of literature that describes ways to improve or to teach toward the left brain or the right brain. We know that the brain has two hemispheres, a left hemisphere and a right hemisphere, and that each hemisphere is responsible for, primarily responsible for a particular area of learning. Language, logical, analytic skills are usually assigned to the left side of the brain. The right side of the brain is more creative, artistic, innovative, so individuals sometimes classify themselves as a right-brained person or a left-brained person, but in reality we are whole-brained, not half-brained and we use both sides of the brain simultaneously.

Rebecca: What about cultures? I’m wondering whether coming from a different part of the world, or different region actually affects the way we learn.

Dr. Prater: It absolutely does. In the traditional European-American tradition of culture, we are raised to be very competitive and independent. Oftentimes adolescents and young adults, a goal for them is to become independent, to be on their own, not to rely on family or friends for their needs. But other parts of the world and other cultures

that we're seeing more in the United States than we have in the past such as Polynesians and Hispanics often are more collective in nature, in that they learn together. They enjoy working together towards a common goal, and are not competitive necessarily. And in some circles it's even shameful to be identified or to be singled out as the best. So, in some of our schools you'll find teachers adapting the kind of instruction that's being provided to these different cultures by engaging in things like cooperative learning activities.

Rebecca: It's been decades since I studied psychology for a general education class and one of the first things that we studied was Maslow's Hierarchy of Needs--the things that need to be satisfied to be a functioning person. Dr. Prater, would those needs, those basic elements in our life, actually affect how we learn?

Dr. Prater: They really do. Abraham Maslow created this theory of the hierarchy of needs and it looks kind of like a pyramid where the base is physiological needs. And physiological needs are the primary need of all individuals. Those would be things like food and water and shelter, and if those needs are not met, we can't move up the pyramid, or the hierarchy. The second level is safety, so once people have their physiological needs met, then the next need is safety. We all have to feel safe. The next step would be social acceptance. Individuals need to feel a part of a group; they need to feel accepted within that group. The next level is self-esteem. We all need to feel we're of value and of worth. And the final step on this pyramid or hierarchy is self-actualization. And when all of those other four needs have been met, then we are at a self-actualization mode where we're feeling good about ourselves and we're in a position to be able to learn better.

Rebecca: I'm going to go personal just for a moment. I have two of my three children who struggle with learning disabilities, something that I was surprised to encounter as I educated my children. Dr. Gibb, what are the two categories of learning disabilities.

Dr. Gibb: Rebecca, we can look at learning problems in two general categories. One would be what we call specific learning disabilities and those are manifested by difficulties in certain areas like reading or math or organizational skills, that sort of thing. That's mostly what we'll see in schools, but we also have a category called general learning disabilities where impairments in the ability to think and process information make it difficult in every aspect of a person's life.

Rebecca: Now there are specific learning disabilities, one in particular the actor Tom Cruise has made a little bit more popular. He's talked about his struggles with dyslexia. Tell us a little bit about that, that's one of our categories, one of our types of disabilities.

Dr. Gibb: Dyslexia is a specific area of reading disability. It is most often manifested in reading wherein individuals have difficulty recognizing and processing words. It does not depend on intelligence, nor is it intelligence-based, but people with dyslexia seem to have difficulty with the brain processes that are used for recognizing and processing letters and groups of letters. And when there's difficulty with letters and words, reading is very difficult and so dyslexia or difficulties with reading is one disability that can have a lot of impact on learning.

Rebecca: Another one is that I'd like for you to elaborate on is ADD and ADHD.

Dr. Gibb: ADD, attention deficit disorder, is called in the medical community--attention deficit-hyperactivity disorder. And this is another area that makes it difficult for learning in school and even interacting with individuals. Generally, there are three areas of ADD that we can look at: one is called inattentive. These are individuals that will

struggle with being able to focus on what they're doing. It could be something they're thinking, or something they're saying, or something they're trying to accomplish. They may start an activity and within minutes they're doing something else and they can't really tell you how they got there. So the ability to focus, characterized by this inattentiveness is one disability. Second is hyperactivity. People who are engaged in so much muscle movement, who, it's difficult for them to sit still, difficult for them to be engaged in one activity. Or the third area, we call combined and that's simply a little of both.

Rebecca: Would that be ADHD then?

Dr. Gibb: That's the hyperactivity part of it. It might be where there's attention problems and hyperactivity.

Rebecca: What about the treatment options for ADD/ADHD?

Dr. Gibb: You know, ADD and ADHD are different in each individual but we have a lot of learning and a lot of science that helps us in this area. We generally look at three areas: 1) One is behavior change or behavior management activities. These are interventions that help us determine what are the behaviors, what are the things going on behaviorally that are most impeding the success of the individual and we try to change those behaviors and help them recognize the signs, teach new behaviors.

2) Another area is learning strategies. For those that are inattentive and it's difficult to learn, we teach them ways to concentrate on the right kinds of information, to gather the right kinds of information, and to use strategies that will help learning be successful for them.

3) In some cases, the third area used is medication therapy. That also has research and a history behind it. Most often professionals will determine what is going to be most useful for the student and it will be a combination of some options.

Rebecca: My youngest son struggles with a communication disorder. Tell our audience a little bit about what those are.

Dr. Gibb: You can imagine in school--it is so language-based--all the learning that goes on in school, and any difficulty we would have processing language whether spoken, written, or mathematical can cause difficulties in school. Generally, when we look at communication disorders, we're looking at speech and then we're looking at the broader concept of language. Speech disorders are a little more obvious. Those would be problems a student might have in articulating the sounds in language, or in speaking fluently or at a correct rate. So fluency disorders or being able to articulate the correct sounds, we call speech. Language disorders are a little broader. This talks about how we use language to communicate with each other. Generally speaking we use Receptive language in which we listen to other people and make sense of what they're communicating to us, and we use Expressive language and that's our use of language to express our thoughts and our ideas. There can be difficulties in either of those areas or both, and in that case, of course, learning and interacting with others becomes difficult.

Rebecca: Another area that I'd like to look at is emotional and behavioral disabilities that would affect the way a child learns, or an adult.

Dr. Gibb: And the way they interact with others. You know we all have days when things don't go well. We might be in a bad temper or that sort of thing, but when we look at emotional behavior disorders, we're looking at characteristics that are obvious and last over a period of time. It's not just a bad hair day, it's something that's a chronic situation.

When we look at emotional behavior disorders, we look at several things. First of all, an individual may have difficulty forming relationships with peers or with parents or teachers. Or they may have difficulty expressing emotions in a normal and acceptable way. For example, if you have children that are playing with a new pet, most children want to cuddle and play. You may have a child who is aggressive or abusive toward the animal which we wouldn't consider to be a normal reaction in that case. Some of these individuals with emotional behavior disorders have a pervasive mood of unhappiness or depression. They just have that long-term sort of depressive effect and that can be a situation of emotional concerns that need to be addressed. Under the law, any student or any child that's been diagnosed with schizophrenia also comes under this classification of emotional/behavioral disorders. Because of the import of getting along well with others and reacting and acting in appropriate ways, these can have a definite impact on students learning.

Rebecca: Now these are all specific learning disabilities but there are also general categories--one of which is mental retardation.

Dr. Gibb: Yes, mental retardation would come under the category of a general learning disability, sub-average intellectual functioning--the ability to process information in the brain--to the point where it makes it difficult to learn in any aspect in life. Usually individuals with mental retardation also have deficits in what we call adaptive behaviors or the way they interact with their environment and with other individuals. The ability to get along with individuals, to greet people appropriately, to make decisions, to regulate their own schedules, that sort of thing are a part of mental retardation.

Rebecca: Another that has received much more attention in the last few years on magazine covers is autism. Tell us about that.

Dr. Gibb: We know more about autism and there's been research about it and that's why we're seeming to recognize it more often. Autism is typified by individuals who have difficulties in communication skills and in social interactions. The word autism comes from the word "auto" which means "self." And early researchers noted that these individuals seemed to be real focused on themselves, didn't interact with others, didn't communicate with others. Individuals with autism will need help in those two areas: being able to communicate both verbally and non-verbally, in both areas that we talked about, expressively and receptively and also in their behavior that leads to social interaction, how to interact with other people. They may even experience unusual sensory experiences, things like sound and touch will feel different to them. And sometimes people with autism have the stereotypical or repetitive behaviors that are sometimes associated with that condition.

Rebecca: Rocking back and forth. . .

Dr. Gibb: The rocking, the hand slapping and that sort of thing.

Rebecca: For many of us who have children who struggle with either specific learning disabilities or maybe one of the general mental retardation or autism, what as a parent or family member, what can we do for help?

Dr. Gibb: Well, it's important to know that for all of these disabilities the indications can be tested and interventions can be implemented that will help. We have a lot of research and a lot of practice behind these things. It's important to know that each person is an individual, so generalizations don't always fit the bill for us. But we know, for instance, in autism that students or children will respond better if they have some

structure and that structure is dependable to them. They don't like a lot of change or surprises. Working on verbal skills is very important. Kids will sometimes respond well to visual prompts when we talk about the different learning styles. Kids with autism sometimes do better if their daily schedule is in pictures rather than being told to them, so they know what to do first, second, and third, and things like that. We also need to be sure that the language demands are not too great for any assignment or any communication with these students. It needs to be simplified a little.

Rebecca: He said the words assumptions, not assuming that an individual has one spectrum or another of a certain struggle, but Dr. Prater, what does that mean to you? How important is it to not make assumptions?

Dr. Prater: He mentioned, Rebecca, we hear a lot about autism and attention deficit disorder and learning disabilities, dyslexia in the popular media and sometimes people like to self-diagnose their child or their neighbor's child or themselves. We just need to be very careful that if a child or a person is exhibiting some of these behaviors that we don't make that assumption that they have that disability, that only a professional really can diagnose that, and that professional should be sought out for that diagnosis if it's appropriate.

Rebecca: Another area that you recommend for families is to explore different possibilities.

Dr. Gibb: Absolutely. In that regard, if you're having trouble learning or your child is having trouble learning, one of the things that you can do is actually acquire or go after an evaluation for the child. That's available in the school, and you would simply as a parent go to the school and ask for the child to be evaluated. Another thing you might explore however is maybe it's not a disability, maybe you just need to look at what your learning preferences are and the opportunities that are available for you to learn in that way.

Rebecca: That makes sense. How about the institutions out there for us to go to for help?

Dr. Gibb: The school is the biggest for children in particular because there are mechanisms in place to assist children. And I really would encourage parents to do that, either seek out evaluations if they believe their child has a disability, or a potential disability or to talk to the teacher about learning preferences. What style is the teacher actually teaching in and does it accommodate the child's needs.

Rebecca: Also, the fourth idea you have for families is educational opportunities that lie outside the traditional school.

Dr. Gibb: Right, there are lots of opportunities, particularly with our information age. We have the technology that's available through the internet, if appropriate resources are used. We have universities that offer continuing education courses, workshops and summer programs through school districts. There are just so many opportunities for people that they should really take advantage of those opportunities.

Rebecca: It's interesting because another thing, Dr. Gibb, you mentioned earlier is that learning disabilities may not have a correlation with a child or adult's intelligence and they have the same desires and concerns. Just the other night I was talking to my son and he was talking about he so much wanted to ride his bike as fast as everybody else and how it was so discouraging for him. But a word of advice before we go, we're wrapping up our show right now. For parents that are dealing with children who have those struggles, because they want so much to be successful, what would your advice be?

Dr. Gibb: The real emphasis needs to be not on learning disabilities but learning differently. When we find out how we process information and how we learn information the best then that becomes the thing that we concentrate on for learning. We need to know that there is always improvement, there's lots of research and practice out there, but it's important for us to know that each individual will have different strengths and different things that need to be improved and learning "how we learn best" is the important focus.

Rebecca: Another thought from you as we go?

Dr. Prater: Well, with regard to your particular question, I think it's really important to promote individuals comparing themselves with themselves rather than with other people and that even though there may be difficulty writing in comparison to their peers. Look at the growth that's been made by that particular child--I think we really need to emphasize that.

Rebecca: Thank you so much for your time here. It's been wonderful to have your expertise with us here on *Living Essentials*. And thank you for watching. Be sure to join us next time on *Living Essentials*.

For more information on this and other episodes of Living Essentials or to order a copy of the program, visit us online at byubroadcasting.org/livingessentials. There you'll find helpful hints and additional information that will enrich and simplify your everyday life.

Rebecca Cressman: Welcome to *Living Essentials*. I'm Rebecca Cressman, and today we're all about fitness. Joining us today are Larry Tucker, a professor of physical education and health promotion at BYU, and Keith Barney. He's an instructor of therapeutic recreation also at BYU, and he was a Paralympian in the 2002 Winter Games. Thank you so much for joining us today on Living Essentials. Larry, why is fitness and exercise so important?

Larry Tucker: You know, there are hundreds of reasons. We typically categorize them into three areas. One is the physical health benefits. Another is the emotional health benefits. And of course, the social benefits are also very important. Regarding the physical, which most people focus on, we know that those who exercise have far less death compared to those that are sedentary. In other words, the mortality rate among people who exercise is far lower, and most people would like to prevent premature death and live as long as they can. Being physically fit will help you to do that.

Rebecca Cressman: Let's talk a little bit as well about individuals with disabilities. Tell me a little bit about the importance and the benefits that someone who's physically disabled gets from exercise as well.

Keith Barney: Well, the funny thing is when a person has a physical disability, sometimes they give themselves, like, an excuse, like a hall pass – "This doesn't apply to me" – and they think that they don't need to exercise. Well, the truth is, once you have some impairment in some of your body systems, you actually need exercise more, not less. And so if you want to live a healthy, active lifestyle, exercise is essential to making that come true.

Rebecca Cressman: All right, we talked a little bit now on the physical benefits, but you also mentioned, Larry, emotional. What are the emotional benefits to having a regular exercise program?

Larry Tucker: It's very important to exercise to maintain good health in the mind and the emotions. People who exercise typically have less depression. In fact, some people use exercise to help people overcome depression and anxiety. Most of us realize that when we exercise, we're less anxious, we can relax better, cope with stress better. We've conducted many studies in this area and shown that people who exercise have better self-esteem. We've done that with children and we've done it with adults, both men and women, and we've never done a study yet that hasn't shown that people who exercise feel better about themselves. They have better body images. They like their body more. They typically can control stress better. We did a study with 7,000 adults, and both groups – the non-exercisers and the exercisers – had stress. They both had problems and challenges in their lives, which you would expect. But the people who exercised regularly were able to cope with those stresses better. They were able to feel that they could handle them, that they were able to keep going and work through their problems, and they actually perceived that they had less stress or problems with stress in their lives.

Rebecca Cressman: That's a surprise benefit, because as you mentioned, I think a lot of us just focus on the physical benefit and not necessarily how emotionally it helps us feel better about who we are psychologically. What about the social benefit, Keith?

Keith Barney: Well, the social benefit is funny because they've studied and they've said, "Do you exercise because you want to be social, or are you social and that makes you go want to have exercise with your friends?" They've really established a connection between the two. But they don't know which comes first. They don't know if one causes the other or if it's the reverse. And either way, it doesn't really matter. The point is that exercise and social contact really go hand in hand in helping people deal with stress and just life in general. And just to taper in on what

Larry said, there's a lot of depression in the disability community, too, and so it can help there, too.

Rebecca Cressman: Help address those emotional struggles that they're having right now. I know that when you look around neighborhoods, it seems that those who are in a routine socially, exercising with friends, they seem to have an easier time making that commitment to exercise regularly as well.

Larry Tucker: There's kind of an accountability that goes with that when you tell somebody you'll be there.

Rebecca Cressman: And yet every community, almost every community in America, has a gym somewhere nearby, but there are other ways to actually get exercise, and let's talk a little bit about that.

Larry Tucker: Well, you don't need a gym to get fit. Most people enjoy walking. Walking is one of the most common and easiest activities to generate fitness. People go for walks. Typically 30 minutes or more will generate a significant increase in fitness. It doesn't take any expensive equipment. It's easy, we all know how to do it, and it results in tremendous benefits to the heart and to the cardiovascular system as well as we were talking about before, the emotional wellbeing. And a lot of people enjoy the social aspects of it. You go out for a walk, you're not only walking but you're able to visit with someone. My wife and I have spent 20-plus years running together, walking together. It's a time for us to visit. We can't always find time to interact with one another, but when we go out for walks or jogs, it's a great time to get to know each other better and to talk about the day's events.

Rebecca Cressman: Obviously as an Olympian, you needed to have special training that you did for the events in Salt Lake City. But on a day to day basis when you're not training to be a Paralympic skier, what do you do to keep yourself fit?

Keith Barney: Well, my favorite activity, rather than jogging – although I've done a little of that with a specialized wheelchair – I really enjoy cycling more now and I've cycled a long time with my wife. In fact, she's joined me on some community rides, where you go and join a big group of people. And those are really quite enjoyable, and I use cycling as my base way of keeping my cardiovascular system healthy. And I'm from Idaho, and I spent a lot of time outdoors, and cycling is an outdoor thing. I don't like to be in a gym really. Larry mentioned you don't have to be in a gym – the only thing I like to be in a gym for is to kind of play basketball, something that you need to be indoors for. So my general exercise plan would always focus on outdoor activity.

Rebecca Cressman: What are the three kinds – my understanding is there are three kinds of exercise that benefit us. What are those three kinds, Keith?

Keith Barney: Well, we kind of think of it as being strength and then stretching exercises and then endurance type exercises. And the strength exercises are the kind of ones everybody thinks of when they think exercise, kind of like lift weights and go to the gym, those kind of things. But really, you know – that's important, but it's not the only kind. The reason it's important for a person who might be using a wheelchair, let's say, is that your arms typically in life don't do that much, and so they're not that strong. Once you start relying on them to do more of the work that your legs or lower extremities were doing, they have to be stronger. And they're going to be required to do a heavier burden and they need to be prepared for that. If you're not prepared for that, that can lead to injury.

Rebecca Cressman: It might be hard to imagine, but years ago I was a fitness instructor, and we talked very little about strength training. Back then, it was all aerobic, but we've really learned from research that strength training is an essential part of an exercise program. Tell us what we can do for strength training.

Keith Barney: That's a good point. Besides walking or jogging or something of that nature, the endurance type exercise, strength training is extremely important. When

we lift weights, we stress our muscles, and those muscles become stronger. They become more toned, so we tend to look better. The ligaments and joints tend to get a little stronger. And the bones actually become more dense, so osteoporosis is less of a problem among people who lift weights. Lifting weights helps us to function in day to day life. Most of us don't realize, but carrying groceries and picking up children and mowing the lawn, walking up stairs, getting out of chairs, those things all require some degree of strength. As we get older, we tend to lose that strength, and as a result, those day to day activities get more and more difficult. And then as they get difficult, we tend to avoid them, and when we avoid them, we get less fit. And it's a downward cycle, so lifting weights is very valuable to increase quality of life and to be able to play harder, work harder, and function well.

Rebecca Cressman: Is that something we should be doing every day?

Keith Barney: Typically not. If it's done in a mild sense, it can be done every day, but most people have three days a week is a good program – Mondays, Wednesdays, and Fridays, or Tuesdays, Thursdays, and Saturdays. What a lot of people don't realize is that lifting weights increases what we call fat-free mass, or muscle mass, and that increases our metabolism. One of the few things we can do to increase metabolism is to lift weights, which helps our muscle mass, which tends to deteriorate over time. We lose muscle mass as we get older unless we lift weights. As we keep our muscle mass up, our metabolism is higher, and then we can burn calories when we're sleeping and burn more calories, be less fat.

Rebecca Cressman: I like that idea, burning calories while I'm sleeping. That sounds really good. Let's talk also about stretching. Keith, how essential is that in our exercise?

Keith Barney: Stretching is important, and you know, if you can imagine my typical day with a full-time job and teenage kids, I'm a pretty busy person, and I spend usually 16 hours seated in this position. So if you can imagine at the end of the day, I want to stretch, but the point is if I don't, my legs are going to lose their range of motion. And if I lose range of motion, pretty quick I have to sleep in sort of a side fetal position and I never, ever change from this. And that's not healthy, that's not good for anything from digestion to your bones, your ligaments, et cetera, it's not good for you. Simple things like getting dressed and moving yourself in and out of a car, et cetera, they require flexibility. And you have to stretch to maintain your flexibility.

Rebecca Cressman: Is there anything else you would like to add on stretching that you've found?

Larry Tucker: We see children, and they are extremely flexible, so we're born fairly flexible but very quickly we lose that flexibility. And most of us realize as we reach middle age and beyond, flexibility is a problem. It is valuable to be able to stretch, because as we get older, things like bending over and picking something up off the floor or combing our hair, that requires flexibility. If we don't do it, we're likely to pull muscles and we won't be able to have the same quality of life if we can't go through a full range of motion.

Rebecca Cressman: Wouldn't it be nice if we were as limber as our children, or as we were when we were children? Let's also talk about endurance. That's another point that Keith brought up, but what about endurance? How important is that in an exercise regime?

Larry Tucker: It's probably the single most important component of fitness, because even though being strong is important and it helps quality of life, we can't live without a strong heart, and that's what endurance training does. So the walking, the jogging, the cycling, the cross-country skiing, those types of things strengthen the heart because they stress the heart and the heart adapts and it gets stronger and helps us to function better. It gives us more energy. People who do

endurance training have more energy. They're able to utilize oxygen better, they're able to go for longer periods of time without fatigue, and there are many different activities that count for endurance training.

Rebecca Cressman: Give me just one or two ideas of what would endurance training be, what type of activity.

Larry Tucker: Well, besides the walking and the jogging, which we all know about, inline skating is a good one. Skiing, particularly cross-country skiing, is an excellent one, using equipment such as the new elliptical machines, that type of thing, anything that's rhythmical for long periods of time, typically 30 minutes or more – although if you're not used to 30 minutes, you definitely wouldn't want to push yourself, but 30 minutes.

Rebecca Cressman: You're smiling here.

Larry Tucker: That seems like a long time for some people, I know.

Rebecca Cressman: Especially inline skating on some of the roughly paved roads around my house, it really feels like a lot of endurance. I've been doing that lately. What do you do for endurance training, Keith?

Keith Barney: I do mostly cycling, and when I got involved with the ski team, that was our activity that we did all summer long to keep the heart in fit shape. And they taught us how to use all these indicators that Larry's talking about with having a heart rate monitor on, and we have a computer graphic machine that displays while we ride a bike in the laboratory, that displays our watts and our average heart rate, and it displays how far we've gone, how fast we've gone, our averages, and you can compare those cross workouts time to time. That's all pretty scientific, but I just ride my bike out in the country, and I happen to live where I have good access to two good trails. And that really draws people out – see, our hand cycles that we ride are wider than a regular bike, and if you're on a regular road, you feel a little intimidated by how close the cars come to you. But I live where I can go out to the Lehi Trail along the Jordan River, or I can go to the Provo River Trail, and either one's easy driving distance from my house. Or I can ride there if I wish, and that really brings me a sense of security that I don't get on the roads, like I can really ride safely and I can talk to somebody and we can be close together and not so much on guard, and that's important.

Rebecca Cressman: And I think that's really important to understand, is that program works wonderfully for you, and I think individuals out there might be thinking there's a book, there's a program, maybe there's a one-size-fits-all – “I need to do this program.” What do we do to actually find out about what's best for us to create our own type of exercise regime that matches our lifestyle?

Larry Tucker: I don't think there is a one-size-fits-all program. I think we need to take into account our age – obviously younger people are going to progress more aggressively and perhaps be able to do more. It's extremely important for us to start very mildly, especially if we haven't been exercising, and to progress slowly. The important thing is, we're going to do it for the rest of our lives, and so therefore there's no hurry. We don't need to get there tomorrow. If it takes five, ten, or 20 years to get out of shape, it's going to take more than five, ten, or 20 days to get back into shape, and most of us get a little bit hurried. And that is not a good idea. Individualizing involves things like doing things that you enjoy. I enjoy jogging, so I jog. I have a son that enjoys skiing, he does more cross-country skiing. My wife likes to run on the treadmill, and so that's an important part of individualizing a program.

Rebecca Cressman: Thinking again about individuals with disabilities or unique challenges, what are some of the things that we should be thinking about in terms of setting up our own exercise regime and in terms of our own body's abilities?

Keith Barney: Well, when we talk about people with a disability, it could be a lot of

different things, and so it's hard for us to sit here and say, "Well, this one thing would be really great, like cycling," and you can't really do that. But the person should think about what they enjoy, what activities they've seen people doing that they might want to get involved with. Now there's two problems. One is they should go to their doctor, make sure that the thing that they're going to pick is going to match well with their system. You know, there are some people who can't regulate their body heat very well because their spinal cord injury's high. That needs to be taken into account if you're out cycling on a hot day. The second thing is that not everybody has access to equipment – not just like a gym or a spa that has equipment you can use from a wheelchair; that's a concern, too – but equipment like a hand cycle or a racing wheelchair or some of these other things. They cost almost 2,000 dollars each, and if you're not sure you really want to do that, you're not probably going to be able to spend the money on that and feel good about it. So we have places in the community where you can try them and you can go and see if it's really going to be that activity for you, if it's going to draw you into a lifetime pattern. And you can try it, make sure that before you spend the money, and then you'll be sold when you get it.

Rebecca Cressman: Speaking of lifetime patterns, not too long ago my father came to my house at 70 and tried to ride a bike. Well, it had been 50 years since he'd been on one. Let's talk a little bit about age and what we should be factoring in in terms of age and planning an exercise program.

Larry Tucker: Well, age is a major factor. Typically people that are older can't do as much, and so instead of starting with 30 minutes or 40 minutes, five or ten minutes might be a good starting point. Also we can never bypass that important visiting the physician first. There's a tendency as we get older, especially into old age, to possibly have problems that will be exacerbated by vigorous exercise, so see a physician, make sure that all systems are ready to go, and then take it slowly.

Rebecca Cressman: I think one of the points I've also heard, or I'm getting from you as well, is no matter what age we are, what condition we are, we all can reach a certain limit. We need to be aware of that. What kind of warning signs should we be looking for when it comes to being able to recognize "I've hit a limit"? I certainly don't want to be jogging around the track and passing out or extreme lightheadedness. What should we be looking at when we realize we've overdone it today?

Larry Tucker: That's a good point. I think perhaps the most important factor is how we feel the next day. If we're extremely sore, if we wish we hadn't done it, then we probably have done too much. So we shouldn't be sore. An exercise program shouldn't be painful. No sweat, you know, is not necessarily the byword. We need to exercise and feel good about it, and the next day we should also feel good about it, so we don't want to be sore and have pains and that type of thing. If we are sore, we probably should slow down a little bit and progress a little more slowly. I think that's a good rule of thumb.

Rebecca Cressman: Does feeling sore kind of contribute to that feeling of being burned out, or how do we actually avoid that feeling of "I'm not sure I can stay committed to this"? You guys have been committed to this for a few decades. How do we avoid becoming burned out from exercise, either of you?

Keith Barney: Well, I think you have to be matched up with the activity, but again, I kind of split my personality into the competitive self versus the recreational self, and so when I was smiling when Larry was talking about that, because the person who's got their mind on a Paralympic medal or something, they don't use all those indicators that Larry said. If you hurt the next day, that's a good thing, that's the way they think. They do want to go right till they pass out. It's just a different mindset, and I keep having to get back out of that now that I'm sort of leaving that

aspect of life behind. In terms of burnout, it has to be something that you can do a lot and not become bored with. Like in the winter, if you're training on a treadmill and you're staring at a blank wall, that's going to burn out pretty quick. But if you make time to watch a Jazz game, maybe what you can do is exercise for one half of the Jazz game that you would be watching on TV, anyway. So it becomes entertaining, it becomes part of a routine. I do things to keep it alive, and when I train in the indoors in the winter, I make sure I have things to entertain my brain that are going on, not just thinking, "I've got to get through this next 35, 40 minutes."

Rebecca Cressman: Great, that's a wonderful point. The National Association for Sports and Physical Education has produced a list, and it's called "The 99 Tips for Family Fitness Fun." And you can get all the 99 on our website, but we're going to talk with Larry and Keith about just a few of them today, and so let's talk about that. Now first of all, what you can do, one of the tips the website has is to schedule a regular time. Let's talk about that.

Larry Tucker: That is very important. We have found that – well, we all know we have very busy schedules, far too much to do and not enough time to do it, and so it's very common for people to simply say, "I can't do it, I don't have time," or to just never get around to it. Scheduling a time makes it a high priority, and if you don't – I know if I don't schedule a time, then it just seems to get passed over and it's one of those things where, "Well, I'll do it tomorrow." And we have too many of those days and we don't become fit, so scheduling a time – we've found that people who schedule morning times or afternoon times tend to be a little more successful because when you schedule it at the end of the day, there's usually other things that come into your life that prevent you from getting to your exercise, and fatigue becomes a problem. I know at the end of the day, I'm not as lively as I am in the morning, and you're able to say, "Well, I'm too tired today; I'll have to do this, I'll do it tomorrow." And so we like to see people schedule it first thing, get it done, and that way they can have the energy they need and results from working out on a regular basis.

Rebecca Cressman: You made a point, a good point, about fatigue playing in there. Keith, how do we overcome those type of barriers, like sleep or fatigue or feeling too busy? How do we overcome those barriers in order to set ourselves up on a regular schedule?

Keith Barney: Well, I agree with Larry that setting a schedule is important, but it has to match who you are, and I can't exercise in the morning. I know that's bucking the trend, but I just can't do it. I find myself just so lethargic, so I always schedule my activities in the afternoon or evening, whichever I get the opportunity for. What I find is that in the people I know who have physical disabilities, you don't have such a strict, strict routine because many of those people are not necessarily employed full-time. So they have even more flexibility and freedom to schedule that when they're at their optimum sense of feeling good and energy during the day. And I know that's a little different from the average person, but I think what I'm trying to say is that if you match the activity and your attitude and the opportunity, it'll be something that you feel good and look forward to rather than think, "Oh, this is kind of a drudgery."

Rebecca Cressman: Another of the tips on the website that is neat is alternating. It's tip number two, and it says that we need to take turns selecting an activity. I love this. I understand your family does something like this every week. Tell us about that.

Larry Tucker: We do. We've done this for probably 20 years now. I have five kids, and each week we rotate – the parents get to pick, too – and one week we might do what my daughter wants, which would be go out and play soccer together or

kickball, and another week we might go play basketball because that's what my son picks. Or we might go bowling. We go out and sled in the snow or build a snowman, but typically – in fact, I think all the time we do something that's physical, something where we get out. And we don't necessarily break a sweat, but we have fun together. And it's helped us as a family. We get to know each other better, we enjoy each other, as well as keeping our fitness up. We do things that are good for our bodies and that are fun and games. We typically don't go for 20-mile runs, but we might go for a bike ride that lasts a while, and it's just a great thing to build family unity and at the same time get fit, kill two birds with one stone.

Rebecca Cressman: I have to admit I'm happy that I'm beyond when we've gone on the bike rides, having to pull the bike trailer with the two little ones in it. That was endurance training, and that was a tough one for me. I do have some ideas that came from the website that let's talk about, other possible activities for families to share together – cross-country skiing around town, in the woods.

Keith Barney: That one's near and dear to my heart, because that's the sport that I competed in the Paralympics in, but I didn't start with the idea that I'd ever be a racer on skis. I started cross-country skiing with the idea I wanted to go ice fishing on Strawberry Reservoir with my boy, and I got connected with the U.S. Ski Team just to get some equipment. And then they said, "Well, why don't you race?" I'm like, "I just go fishing." So it turned into something more.

Rebecca Cressman: Are you a better skier than fisher?

Keith Barney: I think I'm pretty good at both.

Rebecca Cressman: But it's something you shared with your son.

Keith Barney: Yes, and although he didn't use skis to go out on the lake – he used, just packed boots kind of thing – but he had to drag the sled and the equipment, and it's an outdoor activity. I think if you notice on the list, not all those things are aerobic activities. Some of them are just like camping, and so it's outdoor and it's active and it's moving about and it's a wide range of activity. And to me, that's important.

Rebecca Cressman: Let's go through that list as well: canoeing or rafting for an entire afternoon, visiting outdoor education centers, wonderful, taking a nature hike, you talked about camping there – a lot of I guess strength and stretching and endurance in a nature hike. So there are a lot of skills, or a lot of exercise, involved in a campsite. You're collecting wood.

Keith Barney: That's true. One thing I wanted to add is that not even – there are other benefits to being outdoors and being active besides just the physical exercise part, because even people who use a powered wheelchair, it's electrically driven, can get out there at Mirror Lake and at some place like Jordanelle, where they have the nature trail, and at Silver Lake, and they can go out with their family and go on those boardwalks and trails that go around those lakes. They can benefit from the social and emotional aspects even if they don't feel like they have enough physical strength to push or to exercise in that fashion. They can still gain benefit from the other two forms.

Rebecca Cressman: We've talked about some ideas. Going back to the website for tips for families, one of the – the third tip was that we're looking into today is adapting the activities, adapting the activities for your family. Can we talk a little bit about how we should be adapting the activities?

Keith Barney: When we talk about people with disabilities, adapting means to make sure that that person can enjoy the activity even if it has to be altered a little bit. It might be something really simple, like if you can't grip a bowling ball with your hand, your fingers, they make a bowling ball with a snap handle that pulls out, and when you throw the ball, it snaps back in. If you don't know that, then you're at a loss as to how to participate in recreation. So you need to be educated about those kind of

things, where you can find that equipment, and then try it and then maybe get your own. But the point is that you need to adapt the activity so that the person can enjoy it, and the very first thing I tried that required adapting was archery. And archery was great, because all the buddies that I was pals with in high school, I could shoot directly against them, guy against guy, you know, and see if I could beat them. And being in a wheelchair didn't matter at all really once I made the simple adaptation.

Rebecca Cressman: I would think that your arm strength would be improved over your counterparts because you have really built up your biceps and your triceps.

Keith Barney: And early on it was just a really fun way to participate in an integrated way. Sometimes people play wheelchair basketball, we're all separate from the general public, and sports that bring us together with the public are actually I think much better in terms of those social and emotional benefits.

Rebecca Cressman: One of the tips on the website, Keith and Larry, talked about limiting the amount of time we spend watching television and playing video games. What are your thoughts that way? Let's go with you, Larry.

Larry Tucker: That happens to be an area that I've conducted about a dozen studies, and we realized that television takes up an enormous amount of time among Americans, and now computer games and video games and things of that nature. Most children spend more time watching television than they spend in the classroom each year, so that gives you a perspective. That's an amazing amount of time. That time could be used with just a little bit of physical activity or interaction among family members. Our research shows that people that watch a lot of television – let's say more than two hours a day – have higher rates of obesity, and this includes children as well as moms and dads. They tend to be less physically fit. They tend to spend less time with their physical activity, and so right there perhaps people that don't exercise could find time watching a little less television or playing fewer video games and spending that time perhaps playing or exercising. We've also found that people who watch a lot of TV have higher blood pressure, higher cholesterol levels. It just, it's an indicator of sedentary living, and so most of us need to control that and parents need to pay attention to how much TV their kids are watching, and of course, they need to pay attention to how much they're watching because sometimes that modeling is taking place and they're all watching too much. But it's an activity that is passive – not to say there aren't a lot of valuable things on television – but we just need to control it and we can use that time doing other things that perhaps we didn't know we have time to do.

Rebecca Cressman: Well, that's a wonderful place to wrap things up, and it's been so wonderful to get to know each of you and to also get your thoughts and ideas on how we can get our own exercise programs going and the benefits not only to us physically but emotionally and socially. Thank you for your time today. And thank you for watching us. We'll hope you'll join us again next time on *Living Essentials*.

Rebecca Cressman: Welcome to *Living Essentials*. I'm Rebecca Cressman and today we're talking about dealing with depression and to help us better understand the topic, we're joined by Dr. Marlene Williams. She's a psychologist at the Brigham Young University Counseling Center. We also have Dr. Randy Hardman, he's a psychologist at the Center for Change. And we also have a chance to get to know Howard Coons. He's a university student here to talk about his personal experience with depression. We want you all to know that we appreciate you joining us today. Howard let's start with your story. Tell us a little bit about your experiences please.

Howard Coons: Okay. I remember probably about 4 or 5 years ago talking to my Bishop because I was discouraged about a lot of different things going on in my life. And he kept suggesting that I go to the BYU counseling center because he says they have really excellent facilities there. And I resisted the idea rather strongly because I didn't want to think that I needed to go see some sort of mental health person. I figured I had some challenges you know, but I wasn't that badly off. But, I was sleeping in a lot, I was missing a lot of class, I was missing work, I was discouraged, I wasn't enjoying life. And even after I got a better job, I still wasn't happy doing what I was doing, and I just had a lot of pressures and issues that I wasn't able to deal well with. And so I finally decided to listen to his suggestion and went to go see a counselor but it's really been a long and involved process for me to be able to understand what I'm going through and how best to deal with it. It hasn't come easy.

Rebecca Cressman: Dr. Hardman, is that common for individuals like Howard to go through an experience some of the same thoughts and feelings that Howard expresses?

Dr. Randy Hardman: Yes, what Howard expressed I've heard often. Other things you hear a lot are that life's gotten too hard, or everything's too much effort, or I feel dark or unhappy and hopeless. I feel alone, isolated and I can't stand the pain anymore, spiritually dead, things like that.

Rebecca Cressman: Howard at what point, it sounds like you were kind of resisting, am I really depressed or now, what pushed you to the point where you actually recognized, "I'm suffering with depression?"

Howard Coons: Well he mentioned a bunch of symptoms I was feeling, you know pretty much the whole list, but what finally convinced me, and this was after a couple, three years, was I went to a fireside put on by the relief society at church for the sisters. And they had a couple of speakers speak on depression. And the lady that was giving the presentation said "Now depression is a mental illness" and she said there's a list of symptoms associated with depression, "If you have four or five of the things on this list well then you probably need to go see some sort of a counselor." So she started going through the list and I said, "Well I've felt that, and that, and that, uh huh, okay," I went through all nine things, I had felt every single one of those things to a varying degree of intensity and I thought, "Oh, maybe I really am depressed." And I just didn't realize it or didn't want to admit it.

Rebecca Cressman: Well we've provided a similar list that Howard shared with us on our website and it should be noted however that these are just guidelines and more accurate diagnosis should come from a mental health professional. So Dr. Hardman, how common is it to have someone suffer from depression?

Dr. Randy Hardman: Depression is a very common experience in our society. Statistics suggest that one out of four Americans will suffer a major depressive episode in their lifetime. And all of us know someone close, a family member, a friend, who's depressed or how has suffered with depression. And depression doesn't care about age or economics; it can impact children, adolescents, adults.

Rebecca Cressman: Dr. Williams give us a basic definition, what is depression?

Dr. Marlene Williams: Well depression is a whole body illness. It isn't just a bad mood or a sad day, it impacts a lot of other functions of the body like eating, sleeping, energy levels, concentration, makes it hard to perform daily activities, so it's much more pervasive than just a sad day.

Rebecca Cressman: What are the different types of depression?

Dr. Marlene Williams: Well clinically trained people look at it as two different categories of depression. We have uni-polar depression and bipolar depression. Uni-polar depression includes a major depressive episode and it has a less severe version of that called dyslimia but that lasts a long time, and then we have bipolar depression which includes rather dramatic mood swings from an elated mood where a person feels very up, very inflated self-esteem, lots of energy, racing thoughts and so on, and then they will drop back down into the depressive episode, and then there's a more mild version of that called cyclothymia. We also know that depressions can vary in that some are very biologically produced and mostly a result of chemical changes in the brain whereas other depressions are more psychologically induced and created by psychological problems and emotional stresses and that they may require just psychotherapy to change where the biological ones require more medication. And then some depressions are a combination of both factors.

Rebecca Cressman: Dr. Hardman, my understanding is that you actually have kind of broken down the symptoms of depression into five different areas. Can you elaborate?

Dr. Randy Hardman: We talk about depression as a whole body experience, so it impacts us emotionally, people that are depressed feel despairing, sad, guilty, hopeless, it also affects them at a physical level, sleep and appetite disturbance, they're not hungry or they want to eat all the time, they don't sleep well, physically tired, fatigue, cognitive mental, hard time focusing and concentrating on things, memory loss. Spiritual, they feel very disconnected from spiritual things, feel like they've lost that, oftentimes feel worthless, unworthy and then motivational, they've lost the desire to do what they've normally done, everything is an effort, they don't care, things they've enjoyed in the past they don't want to do anymore, they avoid situations, they avoid people if they withdraw.

Rebecca Cressman: Go ahead Howard.

Howard Coons: I was just going to say what he just mentioned, I guess I pretty much thought those behaviors were normal. That's kind of an indicator of how long I've been struggling with my particular form, or brand of depression, as you will, is that I just pretty much thought this is how people were and I always envied people who didn't seem to struggle as much with feeling withdrawn or not really wanting to do much.

Rebecca Cressman: It's interesting that you shared that, because as you're listing some of these areas, I'm thinking back, there are times in our lives when we all feel some of these, and the difference between when it's actually a depressive state and when it's just life with ups and downs, what is the determining factor that kind of helps us see what's the average up and down and what is the depression.

Dr. Marlene Williams: I think the key there is to look at three aspects of it: the frequency of the symptoms, how often are they feeling these symptoms, and how many all at once. The intensity, that is a key – is the intensity high, is it big, is it just, you know, they want to die intensity, or it's just everything is painful versus "I'm discouraged"? And then the other issue is duration, how long it's gone on. Significant depression typically has gone on a long time, so weeks and months and sometimes even years.

Rebecca Cressman: We'll provide this information, this criteria, on the website because I keep thinking back to your experience, seeing that list up on the wall and saying, "That's me," and part of that diagnosis. And thinking along that line, are

some people more prone to depression than others, Dr. Hardman?

Dr. Randy Hardman: I believe the answer to that is yes, and research has proven it to be true as well. People that tend to have a predisposition to depression are those who have a family connection, a genetic hereditary connection where depression has crept past through generations. And the research has proven that. Also people are predisposed to depression who had a lot of difficult traumatic childhood experiences – abuse, neglect. It predisposes them as they get older to react to stressors with depression. And the other areas, the environment that people grow up in, what they learn to, how they learn to cope. If they grow up in a positive environment where there's affirmation and nurturing, that's a blessing. If they grow up in a situation where there's a lot of criticism, perfectionism, that can set them up to experience a lot of depression.

Rebecca Cressman: You've mentioned that genetics play a role in predisposing individuals to maybe suffer depression. What are the biological bases of depression?

Dr. Randy Hardman: The brain runs on electrochemical energy, and that energy is generated by what we call neurotransmitters in the brain. When those chemicals aren't working correctly, then the brain isn't able to process and work and do the job that it was meant to do. So some people are just born with a vulnerability in the same way people are born with a vulnerability to diabetes. We also find that chronic negative thinking can create problems in the way people process information as well as extreme stress. If you think about your car, you may have a very good car and you may be a very good driver. But if you leave the lights in that car on in the car all night long, the battery's going to run out. And the same thing happens to our brain under stress: too much strain and stress makes the brain run out.

Howard Coons: I'm just sitting here thinking about comparing my own life to the statements that Dr. Williams and Dr. Hardman have been making, and I just keep checking these things off of my list – stress, lots of things going on in my life, lots of problems. You know, boy, those lights have been on for a long time.

Rebecca Cressman: Howard obviously is a boy and I'm a girl, and is there some gender differences in how depression affects us, Dr. Williams?

Dr. Marlene Williams: Oh, very much so. Even though we find that depression occurs in all ages, in all cultures, all ethnic groups, it really is much more of a woman's illness. We find that women experience depression twice as often as men, and there's several major theories that research points to that can account for that. I think the first one is what we call cognitive rumination. Men are more socialized when they have a problem or they're distressed, they go out and fix it. They want to do something to change it. But women are more likely to process it in their heads, and so they go over and over and over with that problem, and that keeps them in that state of feeling bad or feeling worried or experiencing unpleasant thoughts and feelings for a longer period of time as they ruminate about the problems and leaves them more vulnerable to depression. The other theory is what psychologists call the self in-relation, and what that means is, if you ask a man who are you, he's more likely to define his identity in terms of tasks and things that he performs – "I'm a fisherman," "I'm a lawyer," "I'm a mechanic" – and so his sense of his wellbeing is tied up in performance. With a woman, however, if you ask that same question, she's more likely to say, "I'm a friend," "I'm a mother," "I'm a wife," and define herself in terms of a relationship. Well, what that does to her is then leave her more vulnerable to what's called evaluative feedback from important other people. So if there are significant people in her life that are continually giving her negative feedback about herself, that's going to impact her self-esteem and leave her more vulnerable to depression.

Rebecca Cressman: Let's take that and go to Dr. Hardman. What are the first steps that lead us to diagnosis and treatment for depression, male or female?

Dr. Randy Hardman: Male or female is the willingness to recognize within themselves that they're depressed, to admit that they are depressed – that is often the most difficult thing, because the family or friends know they're depressed before the person does, but they often can't see it. And then once they acknowledge they're depressed, to be willing to do something about it. Depression is the most predominant illness, psychiatric illness, but it's also the most treatable, and so to get good information and to find out what they can do to help themselves with the depression.

Rebecca Cressman: Does that affect your thoughts, hearing that it's the most treatable, or how does that affect you?

Howard Coons: It is very encouraging to think of depression as treatable. Some of the thoughts that I had is that Dr. Williams mentioned that although women are more likely to suffer from depression than men, I think men are more reluctant to seek outside help because they are very task-oriented – “I need to help myself out of this.” And so that's something that I struggled with. I didn't want to admit that I needed anybody else's help to get myself out of this problem, and even after meeting with a counselor for years, two or three years, he finally got so frustrated with me he suggested I go see someone else. And it wasn't until I started seeing another counselor and that I'd gone to this other meeting that I told you about that I started to realize, “Oh, maybe I am depressed.” And then that opened the door to start challenging some of the things that were aggravating my depression.

Rebecca Cressman: Go ahead.

Dr. Marlene Williams: I've got to think one of the most tragic studies that I have read in a long time came out of England, where they looked at suicide rates with postpartum depression. And they were having many people, many of the women commit suicide when they experienced the postpartum depression because they didn't understand what was happening to themselves and they felt the stigma of seeking out mental health care, and so they resorted to suicide. Postpartum depression is highly treatable and responds very well to treatment, but these women just didn't realize that there was help available and didn't understand what was happening to them.

Rebecca Cressman: I think one of the saddest components of depression is that connection of depression and suicide. Let's talk a little bit about that, Dr. Hardman.

Dr. Randy Hardman: It is the tragedy of depression because oftentimes talking about wanting to die is an indirect expression of how badly they feel, how bad the pain is. They want to escape the pain. So in one sense, it's a way to talk about how badly it feels, but they probably don't really want to die – they just feel bad. When it starts to become in the irrational thinking of depression, when it starts to become the solution to the pain, that's when they're at risk for suicide, when they begin to look at it as this will solve it, start to come up with a plan to solve it in that way. And in the United States, it is the third leading cause of death for young people between the ages of 15 and 24.

Rebecca Cressman: That's a heartbreaking statistic. Hard for someone to ask you about, maybe hard for you to share is that in the years that you've struggled with depression, was the thought of suicide ever an out for you that you thought about?

Howard Coons: Absolutely. I thought about it several times, but there were a number of things that actually kept me from formulating a plan or actually doing something about it. Something that you mentioned kind of touched a chord – if people think that there's something, when people feel bad, they generally feel like “It's something I've done has made me feel this way.” And therefore, “If there's something wrong with me, I can end the pain, I can end the problem, by getting rid of myself.” And so a lot of times, when my life just seemed unbearably difficult, sometimes I would think, “You know, maybe I should just go take my van up the

canyon and drive really fast, and if I have a big accident or die, no problem. That'd be better that way." But then I've been taught, part of my faith has taught me that we're going to be the same people when we die and move on to the next life as we were here. And I thought, "Well, if I'm going to be just as messed up on the other side as I am on this side, well, then, I don't want to go, because I'd rather try and fix it if I can." And I just wasn't having any success. I do have one humorous story. I was meeting with a bunch of friends of mine and I was just expressing how frustrated and upset and angry I was with my life, and nothing anyone said or did was able to help it, so I just ran out of my house and I jumped in my van – I mean, my van was falling apart, I had all these bills, couldn't make tuition, I wasn't satisfied with my job, and a whole host of other issues – and my friend ran outside to try and rescue me and save me, and so she grabbed the door handle on my van and it fell off. The door handle fell off my van, and she said, "Oh, I'm so sorry." And I just sat there and I laughed because that seemed to be the perfect analogy of how my life was going – no matter what I did or anyone else did to help me, the handle would fall off. Something would go wrong and I just couldn't seem to get over my problems or fix them in any way. Seeing a counselor, I was doing everything I could think of, and just nothing was working.

Rebecca Cressman: I appreciate you sharing that on the lighter side of that deep, intense time in your life. There are myths and there are misconceptions and there are fears that individuals broach when they start thinking about, "Do I have depression?" Let's talk about those barriers to getting help.

Dr. Marlene Williams: Well, I think one of the real powerful ones is that someone is to blame, so we must either blame the parents, we must blame the schools, we have to blame someone. But I think most likely people are likely to blame themselves. And we have a myth sometimes that says sin is responsible for depression, and if a person would just repent, the depression would go away. But we read that that's what Job's friends told him – "Just repent and your depression will go away and this will all clear up." I can listen to Job, I can listen to Nephi, and I can pick out symptoms of this serious clinical depression. So we have scriptural evidence that suffering and sorrow and deep depression isn't necessarily a consequence of being a bad person. We also read Isaiah's account where he describes Christ as a man of sorrows, acquainted with sin – I'm sorry, acquainted with grief and yet without sin, that's where I got the word. So here we have a sinless person who still experiences sorrow and grief. And I think that's a myth and a stigma that keeps people from getting help. They feel like, "If I feel bad, it must be because I am bad." I think another myth that keeps people from getting help is the ideas you mentioned: you start to believe, "I should just pull myself up by my bootstraps." Well, you can't pull yourself up by your bootstraps if you don't have any boots. And so the person sometimes needs some outside help to get unstuck from the cognitive restriction and thinking restriction that comes as a result of the depression, so getting outside help so they can think beyond the hopelessness of the depression. I think another myth is that people become afraid of medication, and they worry about relying on a pill to change their mood or they worry about, "Will I become addicted to this medication?" First of all, antidepressants are not addictive and they don't function in the brain in the same way that addictive drugs do, and so you can't become addicted to an antidepressant medication. Also, as we mentioned, there often is a very strong biological component, and just like you can't tell your battery to repent and get moving, you've got to jumpstart that battery to get it up and running, and that's what antidepressant medication does for many people, is jumpstart the brain and get it back doing what it was created to do and get it back doing what it was meant to do and function in a normal, healthy way.

Rebecca Cressman: I love how you gave some scriptural reference to emotions that people feel. A family member of mine was struggling with depression, and he had such a fantastic family physician who gave him a little pamphlet and it said, it played into the emotions that people feel and quoted the number of times where it said, "Jesus wept," and said, you know, these emotions are real and authentic and God-given as well.

Dr. Marlene Williams: And I wanted to say another myth – another myth is that it is weakness, or a character flaw to have this, or "I'm failing." And so they end up adding to their own depression by being very self-condemning, very self-critical.

Rebecca Cressman: Feeling depressed about being depressed.

>>Exactly. And so part of what we want to encourage them to do is to recognize it for what it is and to have some compassion for this very human experience.

Rebecca Cressman: Where do we begin? Where does an individual begin to get treatment? Where should they look, Dr. Williams?

Dr. Marlene Williams: Well, I think it is important to go to someone who has the training to understand exactly what is happening. What I think the real diagnosis and teasing apart what is happening to this person should come from someone who is licensed and trained to do that. So a family physician can make an initial impression, but going to a mental health provider such as a licensed psychologist, licensed clinical social worker, someone who is licensed by the state and trained to make that kind of a diagnosis, because depending on the diagnosis, the treatment will be different. You wouldn't take your car to your bishop, even though he might provide you with some wonderful support and spiritual insights into your life, but he couldn't fix your car. You take it to a mechanic. And although these people can be a wonderful support, the diagnosis and the treatment, it's very critical that that comes from someone who is trained to do that.

Rebecca Cressman: Let's go into the treatment, Dr. Hardman.

Dr. Randy Hardman: Yes. I'm in agreement with Dr. Williams, that sometimes the support and encouragement and help from family is crucial, but we also need to evaluate medical causes. Depression can be caused by coronary issues or thyroid problems. Also a physician, a family physician, a medical doctor, can evaluate that but can also look into possibilities of medicine, medication, antidepressant medication, a psychiatrist as well, and then therapists are going to help people learn to cope in different ways with those very real stressors in their life and also in how they think about things.

Howard Coons: I just had several thoughts run through my head while the two of you were talking among them. I had an unfortunate experience with a doctor who seemed a little too ready to prescribe medication. I mentioned that I was seeing a counselor and he said, "Well, can I prescribe something for you?" And I thought, "Whoa, hold on! I'm not sure I even want to be seeing a counselor, much less taking pills to try and help my problem. I want to know exactly what's wrong with me, or I want to know exactly what's going on, and then try and work on it. And if taking medication ends up being part of that, then we'll cross that bridge when we come to it, but I want to find out what's going on with me." And this meeting that I told you about was very helpful because of what the presenter said, that oftentimes combating a depression is not just finding one solution to the problem; it's often using a network of solutions. Exercise – some therapists won't even see a patient unless they're on some sort of exercise program because exercise generates happy chemicals and that helps combat sad chemicals. Emotional support – meeting with the counselor to challenge your rational thinking is something that I'm working on. And medication – you know, like you mentioned before, Dr. Williams, sometimes it's a jumpstart, sometimes you need a little medication to help your brain stabilize or balance out, and then once these other tactics start working better, then it's a

possibility to leave medication. But again, the solution is different for everybody, and that's why there needs to be a network of different solutions all working together. And one of my problems is I'm just lazy and discouraged all the time, so I have a hard time putting together all the pieces in my life. Maybe that's one reason why I keep struggling.

Dr. Randy Hardman: But I think this is wonderful, that the people that you worked with educated you about your depression. I think that's very important, to work with clinical people, physicians, psychologists, counselors, and so on who will make you a participant in your own treatment and educate you and explain to you what your choices are. And I think that's very important.

Rebecca Cressman: Well, I think what I'm getting also from what you're sharing and what the doctors have shared today is that holistic approach of counseling and support, medication, treatment, all of that together. I want to talk about that you mentioned support. What should families – we know that family and friends aren't trained medical therapists, but what can they do to support their family and friends through depression?

Dr. Marlene Williams: I think the most important thing is to not ignore it or minimize it, to not question it, to affirm the reality that their loved one is suffering, that this is real for them, to offer to listen, to encourage them to talk about it, to try to help them engage help, and also to help engage them in activity, to be involved in things, and their family members who are depressed aren't always the most cooperative, and so you have to remember that and to not make yourself responsible to fix it for them but to be willing to show up and love them and to recognize that the problem is depression, not their loved one.

Rebecca Cressman: That's a wonderful place to wrap this up. It's been just inspiring to meet and talk with all of you, and I appreciate your time and your generosity. We want to thank you also for watching. We hope you'll join us next time as well on *Living Essentials*. Thanks.

Rebecca Cressman: Hi, I'm Rebecca Cressman and this is *Living Essentials* with helpful ideas to enrich and simplify our everyday lives. Today we're talking about social and emotional strength, our ability to relate in a healthy way with others and to cope emotionally with life. No one is immune from challenges and when problems arise our interactions with others and our own emotional makeup can really be put to the test.

Dr. Marlene Williams: We are created in the image of God who has a body, parts and passions, and like him we're capable of experiencing many emotions. They're given to us for a very good reason in that we can understand a full range of experiences in our lives. If we only experienced the good things, we would miss the important lessons and information or the alert system that negative emotions sometimes provide and we would miss a lot of important emotions about how to direct and balance and guide our lives.

Joseph Grenny: The research is pretty clear that while we're all given certain gifts, we've got talents and abilities, capacities that we're given, what enables us to use all of those to leverage them in life and to produce results is social and emotional ability. So it isn't just do you have a natural gift for playing the piano its can you discipline yourself to sit down and play it over and over until you actually develop that capacity. It isn't just can you communicate well, it's what about when there are tremendous emotional forces that are fighting against your desire to communicate well and that could damage a relationship; so social/emotional strength really is the enabling capacity for every other gift that we have.

Rebecca Cressman: Jack and Joanna Rushton had always enjoyed a healthy relationship from the time they were newlyweds through raising six active children, their friendship and love for each other only deepened. But a near-fatal accident in 1989 would put all of this to the test.

Joanna Rushton: I just had this criteria that I wanted to marry a man that didn't wear glasses and had a lot of hair and loved to dance. Well my second year at BYU I met Jack and he readily convinced me that the hair and the glasses didn't matter because we really enjoyed dancing on those BYU dance floors.

Jack Rushton: Joanna and I have always been best friends really, I think from the very moment that we met that we just loved being with one another.

Joanna Rushton: At the time Jack got hurt, life was just really wonderful, almost at times it seemed just too good to be true.

Rebecca Cressman: On August 1, 1989 the Rushtons went on a family outing to the beach. Jack was body-surfing with one of his sons when tragedy struck.

Jack Rushton: The wave came and we both caught it just perfectly and I was having the best ride of the day and I thought I would ride it all the way into shore. As the water got more shallow I hit my forehead on a submerged rock or a sandbar and the second that I hit I knew that I was paralyzed. I tried to swim but I couldn't move my arms or legs and all I could see was green swirling seawater all around me and I blacked out.

Joanna Rushton: I ran as fast as I could and saw him lying in the sand, and thought he must have had a heart attack or something. I couldn't even imagine. And I could see how blue his lips were and really knew in my heart that it was really very serious and thought that he might die. I can just remember being so weak, I fell to my knees and while I was on my knees the words came into my mind, "Heavenly Father let him live, I don't care how, just let him live." Of course I had no idea what the implications of those words meant.

Jack Rushton: In a split-second our life had totally changed.

Rebecca Cressman: A team of life-guards and paramedics were able to revive Jack and he was rushed by ambulance to a nearby hospital. It was here that he and

Joanna learned that Jack had broken his neck and he was paralyzed from the neck down.

Jack Rushton: The neurosurgeon then tried to tell me what the prognosis was which was at the time, "You'll never move your body again. You'll never breathe again, you'll never eat again, you'll never speak again, and you'll never leave an institution again. End of story." And when somebody tells you that, you just can't take it in.

Rebecca Cressman: Over the next six months, Jack went through an intense rehabilitation process and despite the grim prognosis, Jack surprised everyone with the progress he made.

Jack Rushton: When I spoke, it sounded like Donald Duck. But the first words that I could get out were these, "My name is Jack, I broke my back." And that was it.

Joanna Rushton: So we knew he still had a sense of humor.

Rebecca Cressman: On January 31, 1990 Jack came home to a hero's welcome. During his time in the hospital, friends had remodeled their home, adding on several rooms and modifying it to meet Jack's needs. Back home again, Jack and Joanna began to learn how to deal with their new life together. With help from their children and friends, Joanna was able to gain the skills she would need to take care of Jack's physical needs, but the emotional impact the accident was having on Jack and on his relationships with his wife and children proved more difficult to deal with.

Jack Rushton: I think in the beginning of this kind of an injury, you go through a honeymoon period where you think maybe there's going to be a way out of it and then as the days go by you realize there's no way out, I mean this is it. As long as you are alive, this is it. You're paralyzed from the neck down, you're on life support, and I never felt sorry for myself, and I didn't go around saying, why me or why did this have to happen. I was not bitter against God or against anybody. But the fact of the matter was that I was just hurting. I was just devastated. It seemed like I had lost just about everything. And so I did go through a period of depression and it was difficult for me to reach out to Joanna. It was difficult for me to reach out to the children. I just kind of built a wall around myself, and it was a difficult period I know for Joanna.

Joanna Rushton: I got to the point where I just refused to treat him as a quadriplegic. To me, he was my husband, and I expected certain things from my husband. And when I started making these demands and they weren't getting met, I became very frustrated and I told him that he conversed more with the people that came to help me dress him than he did with me.

Rebecca Cressman: The Rushtons are a good example of what can happen to even the strongest relationships when challenges arise. Emotional trauma can keep us from communicating with the ones we love the most. But to be able to really communicate with others is key to social and emotional strength. Now in principle we all know this, but in practice it's not that easy, especially when it matters the most.

Diane Prince: There's four levels of communication. There's the chitchat level, there's the gossip level, there's the idea exchange level, and there's the feelings level. Now all of us should be using all of these levels every day, and let me just explain. But the level that we want to be at in our family relationships a good part of the time is at the feelings level, where you share a part of yourself. You're sharing what's inside of you. If you can get to a feelings level, you will learn much more about your family members.

Joseph Grenny: What it comes down to is the capacity to hold what we came to call crucial conversations. There are a handful of emotionally risky conversations that all of us face, and they have more of an influence on shaping relationships and the strength of families, the strength of marriages, than any other conversation we face. So it isn't just the communication is at the core, it's that there are a handful of

conversations that matter the most. The irony is that when it matters most we tend to do our worst.

Dr. Marlene Williams: One of the easy avenues for people to resort to is to try to find who to blame. And they may start blaming each other, trying to figure out whose fault it is – “It’s your fault”; “No, it’s your fault”; “Well, if you would have”; “But if you did” – rather than seeking to find ways to solve the problem. When a family’s confronted with this kind of challenge, or a relationship is confronted with this kind of a challenge, it’s much more effective to spend that energy seeking to find solutions to the problem rather than focusing on who are we going to blame.

Joseph Grenny: Let’s say there’s stress in a marriage. Oftentimes when you dig down, you’ll find there are a couple of key concerns that that couple are not talking about particularly well or are not talking about at all that are keeping that marriage from achieving its true potential from uniting them in a way that they possible could. It could be that in their intimate relationship, that they have unmet needs or concerns or hurt feelings. And instead of being able to candidly and directly discuss these, they act them out. In fact, these are the two alternatives – you either talk it out or you act it out. So if you aren’t talking about your needs and concerns in the relationship, it does get acted out. It influences your behavior, so you’ll make a sarcastic comment or you’ll give somebody the cold shoulder or the silent treatment for a few days on end. And we’ve all been there, but those conversations, if we learn to manage them more effectively really unleash the true potential of that relationship. There are two things to look for. The first is, notice where you have chronic problems. Notice when there are recurring upsets that you have. And that’s a sign of a conversation you’re either not holding or not holding well. The second is when you feel strong emotions – so for example, if I have a teenager who is chronically late coming back from dates and we’ve agreed that curfew is 11:30, but she’s always at midnight or one o’clock and so on. The first time I have a conversation with her, I might say, “You said you were going to be here by 11:30, you were here at 12:30 – you broke the commitment.” The second time I have the conversation, I say, “You said you were going to be here by 11:30 and you were here by 12:30.” The third time, it’s, “I told you to be here by 11:30!” One of the things that we’ve found is that strong emotion is a sign that I’m holding the wrong conversation.

Dr. Marlene Williams: Often when we try to understand another person’s behavior and it may be confusing to us, it’s easy for us to use the most negative explanation for why they do what we do. And then we feel angry or upset with them because we’ve explained their behavior in negative terms. But I’ve found from my experience in therapy with working with couples and with families who are meeting challenges, that often the most charitable explanation is close to the truth. And when we can look at others in our relationships and in our family through charitable eyes, we usually can come up with a more accurate explanation to explain their behavior.

Diane Prince: Show them respect, to respect their ideas. When they share an idea with you, to listen and if you don’t agree with it, to still acknowledge their idea. And try to understand their point of view, to truly try to understand where they are coming from.

Joseph Grenny: The issue is never how honest you need to be with your teenager or with your spouse. You can be as honest as you need to be as long as they feel safe hearing what you have to say. What makes them feel safe? Two things. Number one, they believe that you really care about their interests, that you care about their goals – not the goals you have for them, but their goals. So if one of their goals is to be popular, or one of their goals is to have some freedom and independence, they need to know absolutely and unequivocally that you care about that goal and you want them to have that. As soon as you unintentionally send the message that you

don't, they'll get defensive and they'll shut down on you. The second they have to know to feel safe with you is that you fundamentally respect them. Even if they're screwing up in life, even if they're involved in some really bad habits, they need to know that you deeply love and respect them. If they feel those two things from you, you can talk about almost anything and they will not become defensive.

Dr. Marlene Williams: Being able to provide accurate empathy for another has been shown to be a very powerful factor in producing positive change. What I mean by accurate empathy is to really understand that person's internal experience from their own perspective. In many ways, this is related to charity, or that pure love – where rather than seeing through a glass, darkly, we attempt to understand what this person is really feeling, what's motivating the behavior, and look at it through their eyes, how they're experiencing that, and then be able to reflect that back to them so that they know that we understand them as they understand themselves.

Rebecca Cressman: Effectively communicating as a family has always been important to Jim and LaDawn Jacob. They are the parents of 11 children, and the need to do things that would foster positive social and emotional relationships has been paramount in their home.

Jim Jacob: Our objective in life was to help our children to grow and to become outstanding young people and to develop all their talents and abilities and skills that they possible could so that they might be contributors to society and to adjust socially, emotionally, to be strong as far as being able to work with people, to be able to work with each other, to be sharing and not selfish.

Rebecca Cressman: There are several things that the Jacobs have tried to do on a regular basis in their family that have fostered strong relationships between parents and children and between the siblings. One of these was simply eating meals together. By preparing the meals together, sitting down and eating them together, and then cleaning up together, Jim and LaDawn found that not only did the children learn responsibilities, they also found it a time for conversations and sharing. It's a practice that they continue to this day. They also try to work together as much as they can. Jim and LaDawn have always felt that not only is it important to teach their children to work, but to actually be there working alongside them.

LaDawn Jacob: Jim would always say, "Never go anywhere or do anything that you can be teaching, that you don't have a child by your side." And sometimes I think, "But I want peace and quiet. I don't want a child by my side." But he was so good in working with our children. There are family interactions that go on as we work together that seem to be conducive to pulling the family together and opening up the lines of communication in a way that perhaps other activities don't.

Rebecca Cressman: As you can imagine, with 13 very different individuals living under the same roof, it hasn't always been sunshine and roses. Learning to speak with kindness even when there's a disagreement has been a learning process.

LaDawn Jacob: One of the struggles that I had when my children were young is I would yell at them. And I would feel so guilty yelling at them – I was a patient, sweet person before I was married, and I couldn't figure out why I couldn't control my temper, and so I would put signs up all over, "Her voice was ever soft, gentle, and low – one excellent thing in a woman." I remember one time tearing it off and throwing it in the garbage because I wanted to yell in peace. I knew that the way I addressed our children would set the tone for our family and would teach them how they would relate to one another and to others. And I'm grateful that the Lord really blessed me after a period of years to learn how to speak with a soft voice to our children. With communication, there has to be a lot of forgiveness, a lot of understanding, and a lot of love. And then it all works out.

Rebecca Cressman: Sometimes the obstacles to our social and emotional strength can seem overwhelming, and there's a lot more to overcoming this obstacles than

just telling yourself to be happy. Often it takes making some deliberate changes in your life. For Dale and Karen Greenwell and their kids, it's a daily challenge. Karen and two of their three children have bipolar disorder – it's sometimes referred to as manic depression – and there are many ways that this illness manifests itself. It's usually characterized by cyclical and extreme mood swings from very happy to very depressed. It is a mental illness, very often genetic, that directly attacks a person's social and emotional wellbeing.

Karen Greenwell: There is a pain and a depth of helplessness and hopelessness that comes from depression. Unless you've been there and you've experienced it – you know, it's not just being discouraged. Pick yourself up, and if you just did this and this, it'd be better. When you're feeling all these emotions and then you can't make them stop, it's hard to feel spiritual. It's hard to feel close to Heavenly Father. It's hard to want to pray, it's hard to want to read your scriptures and do the right thing because you're just overwhelmed. For me, I have difficulty. I just fall back on, "Nope, I know I have a testimony. I just can't feel it right now. I know that I feel alone, but I'm really not."

Rebecca Cressman: The Greenwells have created an environment in their home to foster social and emotional strength despite their specific challenges. One important element is structure.

Karen Greenwell: It is an issue of, you know, well, if that happens again – bipolar disorder is cyclical, and so it's when it's going to happen again. And so we try to set up the structure and the safeguards when we're healthy. And it's just everyday stuff – again, it doesn't just have to do with bipolar disorder. It's how do we work together when we're all five very independent, very individual personalities in one home and we need to have some harmony.

Rebecca Cressman: Each day is set up so that everyone knows what to expect, what their jobs are, when they will have family prayer, when they will eat together, or when they will take their medications. They've also set up a system of rewards and consequences where the children can judge themselves. This has proven to be very effective.

Dale Greenwell: We don't have to be at all upset because they're agitating us – we can say, "Okay, this is the result of what you're doing," and then walk away from it.

Karen Greenwell: It's system-driven, which is really nice, because then we can, then I think we can sit back and be able to enjoy being their parents a little bit more.

Dale Greenwell: We can help that child to learn to express feelings when he doesn't want to express those feelings in an appropriate manner.

Karen Greenwell: "Don't ask me how I feel!"

Dale Greenwell: Or she wants to, you know, express her voice in her own ways and not do it appropriately, and so as parents we can help them to say, "No, how about if we do it this way?"

Daughter Greenwell: I try to compromise. I'm not going to say that I do the best, but I try to compromise. I'm working on some of my social skills, mirroring and listening. I'm working on my listening skills, so listening's more than just talking.

Dr. Marlene Williams: The first step in being able to cope with a serious mental illness is to recognize that it is a disease and that a person may not be able to change that by willpower, that they may not be able to change it by just having enough faith any more than they may be able to stop a heart attack even if they're a good and faithful person. So being able to recognize and understand and get an accurate diagnosis when a serious mental illness exists is important in learning to cope.

Karen Greenwell: We're not mental illness – we're people who have this struggle. But first we're people.

Dale Greenwell: For whatever reason, you know, we're here, this is our family, and these are the things that we're asked to go through. And everybody has struggles, everybody has situations, but fortunately we know that through those experiences that our Heavenly Father's there helping us and giving us the things that we need to make it through.

Jack Rushton: As I reflect back over the years, I truly believe that as far as medical science is concerned, that I was cured physically as much as I ever would be, but I was a long ways from being healed – the healing of the spirit, the healing of the soul. I knew what has got to change, to say to yourself, "I need to be happy" – you just can't do that. It goes way beyond positive mental attitude. Something else has got to take place. I felt a very strong impression that I needed to approach the Lord with intense fasting and prayer. In fact, the words from the New Testament came into my mind, that "this kind cometh not out, save by fasting and prayer." And I felt impressed to pray for a broken heart and a contrite spirit, that I might be open to anything that the Lord might see fit to reveal to me, whatever that might be. And during that period of time, a really wonderful thing took place. I didn't see angels or hear voices, but during that period of time, I was impressed that my life was not going to end anytime soon. And along with that impression came the impression that I needed to be much more productive than I had been and that I could be. And then my mind was just flooded with ideas on how I could be an effective husband and father in my condition.

Joanna Rushton: I will never forget the morning after this weekend of fasting, we had to go somewhere. And as we were driving in the van, which we usually seem to do the last little while in so much silence unless I would begin the conversation, all the sudden he said, "You'll never guess what." He said, "The Lord has given me a new heart." He said, "I am so happy. I feel such a spontaneity of joy and such a desire to live." And from that moment on, our life has never been the same.

Jack Rushton: It goes way beyond any positive mental attitude sort of thing, or any great courage on my part. The Lord literally has the power to heal us.

Rebecca Cressman: Jack and Joanna enjoy the time they spend together, which is most of the time. Though their life together is very different from what they thought it would be, they look forward at the hope of growing old together.

Jack Rushton: I see us as a team in so many things that we do, and we talk about everything. We're closer to one another now and our marriage is probably better than at any time.

Joanna Rushton: It's just doing things together, be it with ourselves or with another couple or with our family.

Jack Rushton: We do with our friends what you would do with your friends – except play golf and go swimming. In the beginning, I was a little self-conscious about going out in public. You know, you lived your whole life like everybody else, and then one day you find yourself in a wheelchair and on life support. Anyway, this one day Joanna convinced me to go to our daughter's school to a program she was in. And we went, and it was a delightful program. Afterwards as we were leaving the school, we were surrounded by a gang of five-year-olds. I think it was a kindergarten class on the loose. These kids wanted to know everything about my situation – "Hey, mister, what happened to you, and how does this work?" "Why were you at the beach, anyway?" And the questions just kept coming, and it was really a nice experience until a little boy got real close to me and looked up into my eyes, and he said, "Hey, mister, what happened to your face?" And I said, "My face? Give me a break, I thought it was the only part of me that was halfway working." And I tried to run over the little kid. One of the things that I learned early on, it came to me very strongly that the only things that really mattered at all in this life were the relationships that we had with our spouses, with our children, with your

grandchildren, with friends, and especially with the Lord. And all of the degrees and honors and material kinds of things, when you find yourself in this kind of a situation, all of a sudden don't mean anything. And life is reduced to its most basic, basic element of relationships and love and caring for one another. And nothing else matters at all.

[Rebecca Cressman](#): Life will always bring us challenges, but we'll be more able to effectively deal with them if we learn to develop healthy social and emotional skills. And when we do that, we'll be happier. Remember, what's important is that every day we do the small things, the essentials, that add up to a balanced and more fulfilling life. Thanks for watching. We'll see you next time on *Living Essentials*.

Rebecca Cressman: Welcome to Living Essentials. I'm Rebecca Cressman, and today we're talking about dealing with abuse. With us today are Dr. Mike Buxton, a marriage and family therapist at the Counseling and Career Center at BYU. And Pat Mills – she's a prevention education specialist at the Center for Women and Children in Crisis. Thank you very much, both of you, for coming and helping us talk about this very serious topic. It's something we need to explore. Off the top, Pat, how would you define abuse?

Pat Mills: I would define abuse as when one person intentionally or knowingly causes physical harm to another person or places them in fear of imminent danger, or you know, that they fear that they will be harmed in some way. Abuse is something that happens over a long period of time. It's not something that just is a one-time occurrence.

Rebecca Cressman: And now there are different severities of abuse. Talk to us a little bit about that.

Pat Mills: Think about abuse as happening on a continuum in which one represents a very minor incident of abuse, ten represents the most severe abuse we can think of. On that continuum, most people would agree what constitutes more moderate and severe levels of abuse. The further down you get to less severe abuse, the more people tend to disagree about what it constitutes. Spanking is a good example of that, in which some parents believe that any form of spanking or striking a child in that way would constitute abuse; other people would disagree with that.

Rebecca Cressman: Well, then, let's go right off and talk a little bit about, maybe defining some categories of abuse. You mentioned spanking – that would fall into physical abuse, depending on potentially where your spectrum is. Let's talk about physical abuse.

Pat Mills: Physical abuse can be anything, such as hitting, kicking, biting, slapping, grabbing, even like abandoning someone at an unfamiliar, unsafe place, using a weapon or an object, this type of thing.

Rebecca Cressman: Now we hear a lot about males or females being abused. Dr. Buxton, do we actually see a higher amount of women who are victims of abuse?

Dr. Mike Buxton: You know, there is some research that suggests that women in intimate adult relationships strike men about as often as men strike women. However, the effects of physical abuse are much often more severe towards women than they are towards men because men are physically stronger and often more dominant. The U.S. Justice Department has indicated that intimate partner violence accounts for about 21 percent of violent crimes against women, and about two percent when it comes to men. I believe that the statistics with men is a lot lower than what we think of, I agree. I think that both – any kind of victimization crime is underreported, anyway, but with men it's even more so. I think if we had any true statistics on that, we probably would see an indication that it is a lot higher, that men are actually on the receiving end of abuse.

Rebecca Cressman: Well, these statistics do help us kind of get a magnifying lens on really kind of what's out there. What type of data do we know in terms of finding out how prevalent physical abuse is?

Dr. Mike Buxton: Also again, the U.S. Justice Department has indicated that about 20 percent of the individuals in our society experience some form of abuse that goes on – about one in five families, so to speak – there's some form of abuse that goes on behind closed doors. Also the U.S. department has said that about every 12 to 17 seconds, somewhere in our nation, a woman is being beaten.

Rebecca Cressman: That's a very severe statistic, and speaking of severe, let's move from physical abuse and move to another area, which is sexual abuse. And tell us a little bit about what constitutes sexual abuse.

Dr. Mike Buxton: Sexual abuse is when one partner forces another partner into any

form of sexual activity, which means force isn't just a physical force, but there's no consent there, and where a person may understand what consent is, is very important when it comes to sexual abuse. A person who complies or compromises is not actually giving consent. If a person is forced into it through threats or blame or guilt or these types of things to be able to change their answer from no to yes, that's not what consent is about.

Rebecca Cressman: Now Dr. Buxton, are there certain types of relationships that have a higher incidence of sexual abuse?

Dr. Mike Buxton: Sexual abuse mainly occurs within familial relationships, meaning parent to child, stepparent to child, among stepsiblings or among siblings, among cousins, and you branch out from there, perhaps neighborhood friends. We're mostly talking about males, and we're talking in terms of sexual abuse, mostly males that the victim knows. In cases of rape, about two-thirds of victims know their assailant. In cases of childhood sexual abuse, it's much higher than that. As a clinician, I often see in my office people that were abused by an older brother or a cousin or somebody that they knew in the neighborhood more than even adults.

Rebecca Cressman: So it's not necessarily the stranger out there that we're trying to protect our children and individuals from. Let's move on to the third category so that we can understand this – we'll go back and talk a little bit more in depth about each of these and how it affects individuals – but the third category that I want to explore is psychological and emotional abuse.

Pat Mills: I think that psychological and emotional abuse is where most of your abuse is always going to start. Because again, abuse is something that happens over a long period of time, it's a pattern that's established. And emotional abuse can be a lot of different things – it can be calling names, putdowns; it can be putting down someone's beliefs, anything to make that person doubt themselves, or that lowers their self-esteem, this type of thing. People who are abused have a tendency to blame the survivor or the victim of abuse who's receiving it, that it's their fault that this all happening. And if you're being told that long enough and over a long period of time, you start to believe that.

Rebecca Cressman: Let's talk a little bit about the consequences of psychological and emotional abuse, Dr. Buxton, what kind of impact, because I think some people might think we don't see visual bruises. What effects, though, do they have?

Dr. Mike Buxton: They're so often plagued with some sense of self-doubt and lowered self-esteem, as Pat mentioned, and a sense of a loss of agency that they may not even recognize within themselves, where they've lost a certain power or ability to create boundaries for themselves or even achieve certain goals that they once had in their life. They may also carry a sense of mistrust about people. It's more difficult for people that have been abused to form adult relationships and have a sense of what's appropriate or what's right and wrong sometimes. They may misjudge situations that aren't abusive, and they may retreat and feel some self-doubt.

Rebecca Cressman: You know, we've looked at psychological and emotional abuse as a category, but Dr. Buxton, you've explained that there really is some correlation between psychological and emotional abuse also in the sexual abuse and in the physical abuse areas. Can you talk a little bit about that?

Dr. Mike Buxton: There is no sexual abuse or physical abuse without emotional and psychological harm. In fact, most people that have experienced abuse in the past are now, what they're healing from is more the emotional wounds and the psychological effects in terms of thinking and misperception.

Rebecca Cressman: All right, let's also talk about the category, the fourth, which is neglect.

Dr. Mike Buxton: And neglect is probably one that we don't focus on a lot, but neglect affects a very high percentage, or accounts for the highest percentage of abuse amongst children, is neglect. And neglect is simply – well, not simply - but it is when a person's basic needs aren't being met: food, clothing, shelter, safety issues, and stuff. There are many people, not just children but even elderly people, that are not given food, they're just being neglected, type thing.

Rebecca Cressman: How common – do we know how common it is to see neglect of the elderly?

Dr. Mike Buxton: You know, there is a really high percentage of neglect amongst elderly, people with disabilities. It takes in almost about 90 percent of the population, of that population, have experienced some form of abuse, whether it's neglect, emotional, physical, or even sexual abuse, because they're very vulnerable to this type of thing.

Rebecca Cressman: Speaking of vulnerable, is it possible that someone can be a victim of neglect or physical abuse or sexual abuse and not realize it?

Pat Mills: I believe that that's true. I think that they realize that there is something not right in the relationship, but when you put the term abuse, rape, sexual abuse out there, those are very scary terms and people don't want to think that that's actually what's happening to them, and so they may be in a period of denial. Also, the other thing, too, is if someone has been raised in a home where this is prevalent, say, as growing up, that they may construe this as just being a normal way that all families are, that everyone experiences these forms of physical violence, sexual abuse, these types of things. And yeah, they very well may not see that as not being okay.

Rebecca Cressman: Now you talked a little bit about the stigma of using a term like abuse or rape, but are there certain stigmas or concerns we should have over the term victim or perpetrator or survivor? Do they have meanings that people might not always expect?

Pat Mills: I think so. I think when we use the term victim, when we talk to somebody and we call them victims, I think that's a label and sometimes they can take that as a sign that they're helpless and hopeless and that they're not able to have control over – when we work with survivors at our center, we refer to them as survivors, because they have survived a great ordeal, and that's what we try to empower them with that term.

Rebecca Cressman: Versus victim – any thoughts along that way?

Pat Mills: Early on, I think it's important for a person to recognize their own victimization and even to use that term, because it's more of a legal term that addresses justice. For men especially, it can be very difficult for them to apply the term victim to themselves. It's something that has even more social stigma for men. But to recognize that as a part of your experience and that you were coerced and abused can be a very important starting point to going from there.

Rebecca Cressman: In your clinical research, in your experience, tell us a little bit about perpetrators and their ideology.

Dr. Mike Buxton: Well, each perpetrator may be a little different, but one of the things that you see with people that have been repetitive in their abuse is that they tend to have some personality and mental split going on inside in which part of them believes that what they've done is wrong and that they are sorry for what they've done perhaps, that they don't feel totally justified in what they've done. But another part of them also is in some kind of denial or minimizes the abuse, doesn't really see the effects of the abuse on the people that they're harming, and certainly doesn't want to get into trouble over it or to disrupt the status quo of the family, of the relationship. So most perpetrators will hide and will continue to try to do something about it on their own rather than going outside the system and make a change.

Rebecca Cressman: Getting the help that they need – Pat, is there some things we should keep in mind as we try to maybe approach or talk with someone that we suspect is a perpetrator?

Pat Mills: As far as with a perpetrator –

Rebecca Cressman: Or abuser, whatever term works best.

Pat Mills: I think that you know, especially when we're talking about people who are abusive, I think you have to take caution, to be able to go out and confront someone and say, "Hey, I think you're abusing," type of thing, you know, can be dangerous to the person doing that. I think it depends a lot on how well that they're known. I think, on the other hand, as far as the victim goes, or survivor, someone who's on the receiving end, that you can't, it's almost the same thing – you can't walk up to that person and say, "Hey, I think you're being abused," because they'll automatically go into a defense mechanism of denial, that it's not really happening, and minimizing. So I think that one of the important things is to talk to that person, make it a safe situation for them, voice what your concerns are, voice, "How can I help you, what is it I can do to help out?" But don't go in trying to take control and say, "Okay, I'm going to fix this situation for you," and you know, make this all better kind of thing, because we really don't have that power to do that. But what we can do is to talk to someone, validate their feelings. We can educate ourselves on abuse, how it happens, who does do this, what are the resources in our community that can help this person, and how those things are available so that you can approach that person and say, "Hey, when you're ready to seek help or when you're ready, here's some information."

Rebecca Cressman: Let's talk a little bit more about that information that's out there, or what resources we have, Dr. Buxton, for someone who would love to help someone, or feels like it's time to intervene. What resources are out there for us?

Dr. Mike Buxton: Well, as Pat mentioned, one of the first resources is obviously going to the person when you feel comfortable and somewhat confident in talking about, and perhaps the person may confide. When the abuse seems more severe and it seems as though an intervention needs to be made, a person can certainly call the police department, and they'll screen you over the phone about what you're seeing. A person can talk to a person from the division of child and family services, and they can talk to a therapist, they can talk – often people will talk to an ecclesiastical leader and begin to sort through their thinking and if it constitutes abuse. A person can also contact the police or child protection or a therapist and talk about it hypothetically without revealing specific names, just to get a sense of what's happening and what they should do.

Rebecca Cressman: Now Pat, you have a lot of experience dealing with individuals who are victims, who are survivors of abuse. And if someone is possibly in our audience who is a victim, and there's a very good chance of that, where can they go to for help?

Pat Mills: You know, a lot of the places that Dr. Buxton talked about are definitely good places, resources, to tap into. But also the domestic violence shelters that I work for, there's 16 of in the state and they all have 24-hour hotlines that a person can call and get information – whether it's a family member, whether it's a person who's actually receiving the abuse, they're able to call and find out what their options are, find out about resources. One of the things that we try to do when someone calls in is they do have the option of coming into the shelter, because when a woman gets ready to leave an abusive situation is one of the most dangerous times. And if they're not wanting to come into the shelter or leave their home, one of the things that we do try to talk to them about is the importance of coming up with a safety plan, that it's very important for them to have a plan put in place so that when they do decide to leave, that they're able to do it. Just simple things like

giving copies or the original documentation of their birth certificates of all their children, social security numbers, any legal documentation that they have, if there is a divorce going that has happened, or this type of thing – it's to make sure that they have the custody papers on them – if there's a protective order put in place, that they carry those types of things with them, that they may even just keep it in a bag with some clothing, extra set of keys to their car, some extra money, so if they have to make a quick getaway, or when they're ready to go, they can go.

Rebecca Cressman: It's important advice that you're giving right there. We also want our audience to know that you can find other contact information on where to go for help and advice about abuse on our website, on the Living Essentials link. I want to also talk a little bit about advice. When someone calls you, do you have a first line of advice that you give to someone when they call?

Pat Mills: I think probably the first thing that we do is when someone calls and they have indicated to us that they are in an abusive relationship, sometimes they're looking for validation, they're asking, "Is this abuse? Is this rape? Did this really happen to me?" And that's one of the things we do, do, is to indicate to them by what is said to us that yes, this is what it is. And we also indicate to them that it is never the victim's fault – I don't care what the situations are or what leads up to it, no one asks to be abused, no one asks to be sexually abused in any way, and that the responsibilities lie with the perpetrator. And so we try to emphasize this with them, and then after that, we listen, we assess, we help them with what it is they want. If they want to leave, we talk to them about that. If they want to stay in the situation, then we may also indicate some safety issues that they might want to take into consideration. Abuse happens in cycles. A lot of times, women will say before he went into this rage, they felt like they were walking on eggshells, there's a period of tension that's there. And abuse happens in cycles, and so people are, can kind of feel that it's starting to come, and so we try to indicate to women, when things are calm, is to put these plans in place; that once the rage hits, there's really nothing they can do to stop it. So we tell them, try to – when it happens – not to get themselves cornered into a room where there's no way to get out. If they can get into a kitchen where there's another door, or if they can lock themselves in a bedroom long enough where there's a telephone, this type of thing, to think these things through so that they can hopefully be able to escape or get help there as quickly as possible.

Rebecca Cressman: And speaking of escaping, Dr. Buxton, at what point does it appear that individuals who have to reach out decide to get out of that relationship?

Dr. Mike Buxton: That's very unique to each individual, but it's usually when enough of the system has broken down, enough of the support has broken down, whether the abuse has intensified, has become more severe, and enough is enough. It just comes to a point where they're really considering that it's not going to change, that nothing that they can do is going to make a difference. Especially when children are involved, people sometimes will tolerate abusiveness towards themselves more than they will towards children, and when children become involved, that's a point when people will often reach out for help.

Rebecca Cressman: You're nodding your head. Is that what you're finding as the breaking point as well, one of them?

Pat Mills: I do – a lot of times, women will stay in abusive relationships because they don't feel that the abuse is spilling over to the children. And that's one of the things that they don't understand, is if a child can hear it or see it, they are also being abused, and that is legal issues in our state also, that that is a form of abuse.

Rebecca Cressman: What should an individual do who suspects, for example, that a child is being sexually abused?

Pat Mills: If there's a child being abused in any way, or if the child is in a home

where there's abuse going on, it needs to be reported to law enforcement and the department of children and family services hands down, whether you're authorized, mandated to do it or not. I think there should be no question.

Rebecca Cressman: Now why – let's talk in general, too – why do women stay in abusive relationships?

Pat Mills: There's a lot of reasons why – I think fear is a big one, the fear of not only leaving what he would do to them, because again I've said that it was one of the most dangerous times, but also the fear of the unknown. I mean, you're looking at, just typically you see a woman with children living in a home, and yes, she's receiving abuse, but maybe the abuser has, you know, is a good provider. They have a home, they have all these things, where I'll see these women have to leave all that behind, they take their children, and they do go into a shelter and they have a 30-day stay at shelters in our state. Well, during that 30 days, they have to find a place to live. Some of them have never been able to work or not been allowed to, or have very low education, not a lot of training, and so now we're asking them to find a job that they can support themselves and their children on. And in our society, that's not possible for someone to do that without some form of assistance there. So a lot of times women will stay because of the socioeconomic reasons. Sometimes, too, they'll stay because when we talked a little bit about that abuse happens in a cycle, after the rage, there's usually what they call the honeymoon stage, where the abuser may show some form of remorse at that time. A lot of times, that's a lot of gift giving, they're very nice during this period of time, and a woman will see the glimpse of this person that they want him to be. And so they see hope there, and so they think that okay, maybe this is just an isolated incident, maybe he's changing, he does want to get help – a lot of times they will indicate, "I'll go get counseling," this kind of thing. And so they look at some hope there and thinking that it will get better for them.

Rebecca Cressman: You know, from the outside looking in, it can be hard to understand, because we hear about the abuse or the damage that's being done, but there's also cycled intimacy that is happening within that relationship and a cycle of dependence, and a person can feel very mixed inside about wanting to sever that relationship.

Pat Mills: That's a good point, because they love this person and so they're hoping that this person, maybe if they change enough, that they'll bring out this person that they've wanted to have.

Rebecca Cressman: I also want to bring out four points that you have identified, Dr. Buxton, that individuals should consider in abusive relationships. The first one that you identify is justice. Elaborate on that, if you can.

Dr. Mike Buxton: Justice is a sense that the system – meaning friends, family, and people that are involved therapeutically, legally – really can work for you. They're set up to help you, and it's important to begin to exercise some faith and some belief that there are people out there that really can help you and can bring things to a sense of justice. And when justice is applied in a good manner, it is actually a therapeutic experience for everybody, including the perpetrator.

Rebecca Cressman: All right, the second point is safety.

Dr. Mike Buxton: Safety is always one of the first considerations about how a person can not only become safe in their immediate environment but set up a plan of safety, and to begin to empower that person to be able to stand up and to do some things to protect themselves and others.

Rebecca Cressman: Another point you asked us to consider is treatment.

Dr. Mike Buxton: Treatment should come only after an established safety plan has been developed and only after people have a sense that they're going to be secure, especially if the family is going to try to work together to put the family back

together. The treatment often involves education, trying to understand one's role in the abusive cycle, and a sense of higher self-esteem and self-protection, and of healing wounds.

Rebecca Cressman: And number four you have as prevention.

Dr. Mike Buxton: Prevention is so critical, to learn to respond in a different way at the threat of abuse, because a person sometimes can do something in relationships to give a very strong and clear message that it will no longer be tolerated. That's very helpful for the person to develop their sense of self.

Rebecca Cressman: I've heard of individuals actually having a contract once they're involved a treatment, making a contract that certain behaviors won't be breached or they've agreed that they've broken this counseling contract as they try to establish a healthier relationship. You work also not only at the crisis center, but you also did workshops in the community and you teach about prevention. What do you identify, or what do you actually teach about prevention?

Pat Mills: I teach on different topics but all of them dealing with violence within relationships. And I'm the prevention education specialist, so I talk about rape and sexual assault, the components of that, the dynamics of domestic violence. I speak in the high schools, and the high schools are usually where I do presentations on healthy and unhealthy relationships. There's a 60 percent chance that most students that go through high school before they graduate will experience some form of a violent relationship, and with violence being so predominant in our society, that we've become desensitized to certain behaviors, and especially with our youth. And so they may take, say, the sign of jealousy or a boyfriend wanting to give them a cell phone so he can call them every five minutes, or someone who stalks them, you know, like they just happen to show up everywhere, or they pass by – they might take that, as a youth who is very inexperienced and hasn't had a lot of relationships, they take that as, "Oh, it's a sign of love, they must really care about me," instead of seeing it as a controlling point. So trying to educate, you know, people on what is healthy and what is unhealthy, what are some early on signs, because I see people at the far extreme, when it has gotten out of control and it's at a point of almost a life and death situation, whereas a lot of these signs are indicated early on in relationships, there's sort of some signs of control there.

Rebecca Cressman: Is that one of the keys, then, to preventing abuse, is to recognize indicators? Let's talk a little bit about how we can prevent ourselves from either becoming victims or entry into an abusive relationship.

Pat Mills: I think as far as prevention goes, education is really important. I think it's very important, and I'm talking from a perspective especially with women, is to teach our children respect for one another, you know, teach as far as boundaries go, empowering our daughters, making them feel good about who they are. I think that's a big point, because when someone feels empowered, when they feel like they're in control, it flows over into the choices of friends that they will hang around, relationships, this type of thing. I think it's very important, I think education is probably – if there is a prevention out there, I think educating people, increasing the awareness in our community as to how often this is happening, and a change in attitudes about the myths that surround these types of things and the victim blaming and stuff, is probably one of the – that's just my prejudice, I just think that that's important.

Rebecca Cressman: It's a good one to have – let's also talk about we're all so dynamic, so many interrelationships that are going on. Dr. Buxton, family and friends often want to help prevent abuse in a relationship. What do you recommend for family members and friends who want to help protect someone?

Dr. Mike Buxton: One thing is, as Pat has mentioned, to be a good listener, to hear a person out, to approach the subject, trying to help the person to not be defensive

about an intervention. Sometimes a stronger intervention might be regarded, too, in terms of not being neutral about abuse, telling the person that you believe that what they're going through does constitute abuse and reckless behavior, et cetera. When you know the perpetrator, when you know the family, the strength of your relationship can sometimes help the situation. But it's very important to be committed to the people and their welfare but being intolerant of abuse.

Rebecca Cressman: Well, we appreciate both of you for coming and sharing your insight today, and we remind our audience as well that we do have more information and resources on our website. We want to thank you also for taking time with us and watching us. We hope that you'll join us next time on Living Essentials. Thank you.

Rebecca Cressman: Welcome to Living Essentials. I'm Rebecca Cressman, and today we're talking about grief and loss. With us today are David and Kendra Burton, who are here to talk about their personal experience with grief and loss; Dennis Ashton, an agency director for LDS Family Services; we also have Dr. Gretchen Cornell, an associate professor in the college of nursing at BYU. Thanks, all of you, for joining us today. First off, though, we want to take a look at David and Kendra Burton. Their daughter Rachel passed away when she was nine from complications from hydrocephalus, which she had dealt with since birth. They say that their journey in dealing with that loss has been one of the toughest experiences of their lives. Let's take a look.

Kendra Burton: We found out in the fifth month of pregnancy that there were going to be problems – in fact, the doctors told us that we might want to make funeral arrangements before the twins were born. The day that the twins were born was so bittersweet because I had these two little girls – one was healthy, one was so sick. Rachel was such an incredible individual. She was such a struggler.

David Burton: We called paramedics to our home at least 30-plus times. When you're going through that, you don't know what to expect from one day to the next.

Kendra Burton: The day before she passed away, she wasn't feeling really well, but she let me hold her in my arms. After she left us, that very night I was just grateful for the time that she'd given me to hold her in my arms and love her one more time.

David Burton: I think when you're going through loss or grief, you tend to focus in on how you feel, you tend to withdraw, you aren't necessarily aware of the other people that also are grieving and suffering as much as you are. I remember one time I just finally said, "Rachel, I can't think about you as much. I have to let you go because if I don't, I won't be able to get over this. So I'm sorry, honey, but I just have to let you go a little bit." And I knew that she would understand.

Kendra Burton: For me, dealing with the loss of our daughter has to do with music and it has to do with art and sharing those things, things that have feelings from the heart.

David Burton: As many painful memories as there were associated with her life, I would never, ever want any of those memories erased, even the most difficult times.

Kendra Burton: She was a gift to us. Having lost Rachel, we've actually found her, too, because it's given me gratitude to this little soul who could not walk or talk or eat. She had to depend on us for everything, but she came to teach us everything, that pain is not the end; that suffering is not the end; that even though we experience loss, that we can grow and that we can learn and that we can become stronger. And I am absolutely grateful to her for her willingness to teach us that.

Rebecca Cressman: That's an incredibly emotional story, and we appreciate you sharing that with us, a beautiful daughter. You know, when your daughter died, she was nine years old, and often you talk about how that grieving process was actually something you experienced twice. Take us back a little bit to kind of help us understand why there were actually two grieving processes for you, Kendra.

Kendra Burton: Well, one thing I say is that we lost our daughter twice, and by that I mean that in the fifth month of pregnancy with the twins, I found out that one of the twins would be born with complications – they said she had hydrocephalus. And at that point in time, I believe that there was grief and loss because of what was expected, and we also had experts that told us that at that point, we should make some funeral plans for Rachel because they did not expect her to live past the birth. But she did survive that, and then what we encountered was that we went through all of the things that she was not able to do. She was not able to keep up with the normal healthy twin, and I remember when one would learn to walk, the other one

just wasn't able to do that. Rachel never could walk or talk or eat. She was fed through a feeding tube all nine years of her life, and so there was a loss even without a death. I also remember one time holding Rachel in my arms and walking past a painting that I had done and it was very textured, and she reached her hand out and she touched it. And to me, I thought about the fact that she would never be able to do that. And sitting at the piano, I put her on my lap, and she would take my hand and put it on the piano because she knew her hands wouldn't work. And so that loss was a real one even without a death.

Rebecca Cressman: Thank you for sharing that with us. There are lots of different types of loss. Whether you're grieving for the loss of a child or another element in your life, Dennis, tell us a little bit about the different types of loss that we as individuals might not be thinking of in terms of accepting and going through grieving processes for.

Dennis Ashton: Any time our assumptive world is assaulted, we experience loss. And Kendra just talked about all types of assumptions and hopes and dreams that she and David had for their future with their two daughters, and when that event began to unfold, suddenly those dreams and those aspirations were threatened and ultimately they ended far shorter than they had hoped for. The other thing I was struck with as she was speaking is that there are a lot of secondary losses that occur when someone is going through this type of painful experience, and those secondary losses have to do with the fact that she wasn't able to paint like her mother and couldn't do the many things that both mother and father dreamt and hoped that she would do. In fact, they came into life believing that some day this little girl would bury them, not the other way around.

Rebecca Cressman: Thank you for sharing that. Dr. Cornell, you've done lots of research and lots of practical experience in grieving – what is grief and why is it important for us to go through that stage?

Dr. Gretchen Cornell: Grief is the expression of our feelings about how a loss occurs, what that loss might be. Grieving takes place over a period of time, it's necessary, we must grieve. I think of Charlie Brown, who said, "Good grief!" a lot, and in that particular sense, grief is good. We must produce this depth of emotion so that we can work through it and go on.

Rebecca Cressman: We were fortunate enough to receive an e-mail from a family dealing with another type of loss and a grieving process, and I'd like to share it. This came in from Lynne: "Our grief involves our youngest son, age 19, going to prison. It was especially difficult because he was an Eagle Scout, a varsity athlete, an honor student, et cetera, who briefly went wrong. We know Father has a plan for each of us, and we've tried so hard to align our will to his and not complain nor question. There has been great solace in prayer, scriptures, church, and temple attendance, and doing our callings even when it's been so hard at times. I've had to not feel bad about taking time for myself to cry, read, feel, write, or just lay in bed sometimes when the grief has been so great. Over and over, we remind ourselves that the Lord has things under control. He knows the end from the beginning. Our faith in him and his plan of happiness keeps us going." Any thoughts along that line, Dennis, with that e-mail about that one family's grief?

Dennis Ashton: Absolutely – again, you see the shattered expectations, the hopes and dreams of the future that have suddenly been threatened in a very real way. You also see the anger beginning to come through as they begin to focus in this case upon the legal system that perhaps hasn't been fair in their judgment of their son. Their hopes and dreams of course were that a young man that's an Eagle Scout, a young man that is academically successful, an athlete, is not going to end up in jail, and so when that event evolved out that way, their assumptive world, again, has been shattered by that and has been challenged. And likely they'll experience

degrees of mourning and grief as they try to solve that issue. Another piece that is interesting in that account is the interplay with the spiritual aspect of what's happening and the potential for spiritual injury as they try to sort out who's responsible for this, why hasn't God intervened in some way on this. Perhaps the prayers that were offered when he was in the legal process – "Why weren't they answered in the way we hoped they would have been?" And as they work through all that, the potential for spiritual injury or for spiritual comfort are both a very real part of the grieving process.

Rebecca Cressman: We're going to talk to David in just a little bit, especially as he has also grieved with you, Kendra, for the loss of your child as well, but let's talk, before we go to David, let's talk a little bit about the differences between men and women and the grieving process.

Dr. Gretchen Cornell: Research has shown as well as anecdotal record of stories told by people that men and women grieve differently, that women tend to be more emotional, they already have a readymade support service from other women. Men tend to internalize their grief and are less expressive. This can cause conflict, then, between the man and the woman, the spouses, about how they grieve, and that maybe they don't understand each other.

Rebecca Cressman: Did you find a difference between your grieving process and Kendra's?

David Burton: I just remember that the evening of the funeral, I just wanted to be by myself. And so we were in our in-laws' home, my in-laws' home, and I went to the back bedroom and shut off the light and I was just there by myself. And I remember hearing in the other room Kendra and her sisters and extended family visiting and chatting, and it bothered me. And in retrospect, it wasn't wrong that they were doing that any more than it was wrong that I was dealing with it the way I was – it was just different. It was her way of dealing with it. She had a close family and extended family, and they often did things together and worked through things together, so it was just a different way of handling it.

Rebecca Cressman: Typically from our research on this topic, there are five stages of grief and loss, and let's talk a little bit about those because we're going to talk a little bit about the context that you reflect on in that personal moment. But the very first step is shock and disbelief, and Dennis, tell us a little bit about that.

Dennis Ashton: You bet – bad things really do happen to good people, and though we all I think intellectually believe that, on a real feeling level, we're deep inside hoping we're going to be the exception to the rule. And even though the scriptures are clear on the fact that it rains on the just and the unjust, somehow we think we're going to escape these kinds of very, very traumatic events. So when they do occur to us, it's real easy to begin to question, to feel guilty about our own actions, about what we did or didn't do, that may have contributed to the situation, our own worthiness before God – all that suddenly comes into a sharp focus.

Rebecca Cressman: Which brings us back to the e-mail where she says, "I tried not to feel bad for taking time for myself to cry, read, feel, or write." That's part of that natural process that we'll go through. The second stage, denial and isolation – Dr. Cornell?

Dr. Gretchen Cornell: Denial and isolation are also joined in with bargaining, and this is the point at which individuals might say, "Take me, don't take my daughter"; "I'll do anything I can if I can get him back"; "I'll be an entirely new person, I'll be good if this can change." And that's normal to feel that way. The denial that comes is actually an insulation for us, that we can't handle all of the impact, the emotional and spiritual impact, of a loss. And so for a time, we deny this and we think about that maybe it's not that bad.

Rebecca Cressman: Also the isolation.

Dr. Gretchen Cornell: Isolation is, as our guest here said today, that he wanted to be alone, and sometimes we just pull back because we have to regroup, we have to reinvent ourselves somewhat because of the loss and reintegrate. So that's normal – if it goes on for a long period of time, then the individual would need help.

Rebecca Cressman: And I imagine, too, in all of our lifetime, we're very rarely prepared with how we should really be dealing in a situation like that. And his expression of he went to his room because he really didn't know how to react or to deal in that situation, so being alone felt like the safest place.

Dr. Gretchen Cornell: I think that's for at least maybe more so for men because you're not used to expressing your feelings so openly and emotionally, and so in some sense, you feel like you're coming undone. For a woman, maybe that's not as unusual or not a foreign feeling to express things emotionally. But for me it was, and so rather than do that publicly, maybe I was withdrawing so I could experience that by myself.

Rebecca Cressman: Great, thank you for sharing that. Another stage that we need to take a look at is searching and yearning – Dennis?

Dennis Ashton: In searching and yearning, I'm reminded of Victor Frankel, who said that "man is not destroyed by suffering; he's destroyed by suffering without meaning." And all of us have something deep inside of us that must make sense out of what's going on in our lives, including tragic events in our lives, so we seek the whys of our particular situation. This is perhaps a good time to mention that those reaching out to couples like the couple we're talking to today, it's much better for them to focus on what they can do to help this couple rather than to try to suggest to them the whys of their problem and their particular situation. That's going to take time and that's going to take a lot of processing, and each of them doing it in a little different way. And so our focus is on what we can do to help, not why this tragedy has happened to another individual.

Rebecca Cressman: Wonderful, the next two stages – Dennis, let's stay with you for a minute – depression and anger, and then loneliness and resolution. So depression and anger.

Dennis Ashton: Depression and anger is oftentimes the result of anger turned inward, and when these kind of events occur to us, it's very common for someone again to look in retrospect at all the things they did or didn't do, the things that were lacking from the relationship that they wish could be different at this point in time, and there's a lot of that second-guessing that goes on. Sometimes that anger is pushed outward as well and our ability to even make judgments of others may be skewed a little bit at that time.

Rebecca Cressman: Wonderful, and the loneliness and resolution together as the last stage.

Dennis Ashton: See, you need combination, but I think the way that they fit together for me is that as we're trying to find resolution, we oftentimes feel lonely in that journey because others are wanting us to be better, they're wanting us to be fixed more quickly. And after you've noticed that when someone says, "How are you doing?" they really don't want an answer other than the answer, "I'm doing fine," you begin to grieve in the shadows, you begin to put your mask on. And so your yearning is complicated because you don't have the avenue of sharing things that you'd like to share. Feeling is healing, and when you're unable to do that feeling and healing because others feel you should be resolved at this point in time, it complicates the grieving. You should be looking more at assimilating the situation into your life and establishing a new normal that isn't the same as the old one, it's a new one.

Rebecca Cressman: Does everyone go through the grieving? Go ahead.

David Burton: I just wanted to comment that I think it's important to realize for couples that often they're experiencing the most difficult times of their lives together. And you're used to relying on your spouse to help you through those difficult times – more often than not, you're not going through those jointly at the same. But with the death of a child or a financial loss, major losses, you're experiencing those together, and so at the very point when you would hope that your spouse could help you through that and you're looking to them to help you through that, they aren't capable of doing that. They're inside themselves and struggling themselves. And so subconsciously you can project that frustration – subconsciously saying, "Why aren't you helping me through this?" – and not realizing their challenge. And so there's this third entity in the relationship – there's you and your spouse and then there's this other thing, whether it's a death or a bankruptcy, whatever it might be, and that's the factor. And if that weren't in the relationship, your relationship would be just fine. It was fine before that and it would be fine if it wasn't there. So you just have to realize that it's not your spouse that's the problem, it's this third entity, and once you get through it, that things will be fine again.

Rebecca Cressman: I appreciate you sharing that because that's a wonderful concept for us to understand as well. Dr. Cornell, does everyone go through the five stages of grief and loss? Is it something that everyone naturally follows through?

Dr. Gretchen Cornell: Not everyone goes through this, and individuals who do go through all the stages may do it in different order. It could be fluid, it could change, it could come and go, it could be put away and then taken back out at a later date, where an individual would be in the denial stage or the isolation stage. One of the things that happens is these are resurrected at special anniversaries, birthdays, holidays, and this is normal, this is expected.

Rebecca Cressman: Thank you for that. Kendra, you went through quite a bit of two very strong emotions beyond the grieving process, anger and guilt. Talk to us about that.

Kendra Burton: There was a time when I didn't even realize that what I was feeling was anger, and I remember that we had a home nurse and a counselor that came to visit me and I explained the things we were going through. We had what I felt like was an intensive care unit at home – we'd had one or two hours of training of the feeding tube, the oximeter, nebulizer, heart and breathing monitors, and so forth – and we were absolutely overwhelmed. We were trying to do the feeding tube and so forth at one point with both twins, and I just felt like I was just absolutely overwhelmed. And I explained this to them, and I said, "I just have all these feelings." And they said, "You're feeling anger" – I said, "I think I feel anger," and they said, "But you know what? That's okay, that's normal." And I was really surprised that that was normal, but it was the best thing that they could have said to me because that's what I needed to hear. The other thing that I remember is after she had passed away, the feelings of being relieved were also met by feelings of guilt. I didn't have to do the tube feeding six times a day anymore, we didn't have to change her diapers anymore, she wasn't there. And even though I was relieved from those things, then I felt guilty that I felt that way, too. And so it was dealing with all kinds of different feelings, but the key point is that that was normal and that was important to me to find out.

Rebecca Cressman: Wonderful, I appreciate you sharing that with us because it kind of points out about how a loss in a family will actually impact different areas of your life. And we're going to talk a little bit about that, because in your case and your family's case, this grieving process and the loss of your daughter, her health problems and her eventual death in the family, changed the whole structure of your home for nine years and your relationships and your emotions. Let's talk, Dennis,

about the different areas of our life, beginning with the physical condition, of different areas of our life that the grieving process can impact.

Dennis Ashton: A loss will actually affect us physically, emotionally; it'll affect the social aspect of our life, intellectually, and spiritually. And with the physical, there are a lot of physical symptoms that spin out of this type of trauma – it's just an overall body weakening, heart palpitations, dry mouth, a lack of sexual desire, headaches, just many, many complications to the physical being. There's pretty strong evidence these days that there's a very strong link between our emotional health and our physical health, and during that time, the last thing that someone wants to be told is it'd be a good time for them to go out and jog and to walk out in the countryside. But in reality, it's one of the most helpful things they could possibly do. A trip to the doctor to get a physical and then an exercise routine that fits their ability, especially in the out-of-doors and especially in bright sunlight, which in itself will sometimes increase serotonin levels in the brain, which helps them feel better.

Rebecca Cressman: All right, we have just a few minutes left to kind of go over some of the other areas of our life – intellectual?

Dr. Gretchen Cornell: Intellectually we're confused, we're tired, we have difficulty making decisions – judgment may not be the best when we're in grief – so that it's very important not to make major decisions for a while. Don't sell the house right away, don't change jobs, don't move, don't uproot the children.

Rebecca Cressman: Don't be surprised that you're not thinking as clearly.

Dr. Gretchen Cornell: And don't be surprised that you're not thinking as clearly.

Rebecca Cressman: Thank you so much. Let's also touch the others, the emotional area, which we've touched a bit.

Dennis Ashton: Emotion's probably the one that we're most aware of and the most sensitive to, and I think if there was a pearl in this whole aspect of grieving, to me it would be feeling is healing, and the necessity of tears and talk are very, very important. Now those that don't have as much opportunity or are hesitant to talk about their feelings, journaling can be helpful. Praying out loud to Father in Heaven can be a helpful component to that. So the emotions need to be legitimized in sharing them.

Rebecca Cressman: We also have other parts of our lives that are touched through that grieving process, the social.

Dr. Gretchen Cornell: Socially, individuals need to be with other people – we're not solitary beings. Support groups are very helpful to some, more helpful to women often than men, who don't like to talk about their feelings. On the internet, chat groups of people who've had the same experiences, Church leaders, other individuals, but we have to ask. It's not too often that people will come to us and offer if we don't let it be known we have these needs.

Rebecca Cressman: Thank you for that. Also, spiritual, because this dimension is so important for us to bring up. A serious loss in your family can really put a test on your spiritual strength and reservoirs.

Dennis Ashton: And I think part of the struggle with that is that we grew up believing – and properly so, to a large extent – that we're protected and blessed through obedience, through living the commandments, through living a righteous life. And when something goes very drastically wrong in our lives, it's easy to confuse that event with perhaps our own faults rather than the agency of others, trials of this life – there are many things that may have actually contributed to it – but all that becomes sort of confused at that point in time. The belief in a hereafter is very reassuring and very, very helpful, but usually that belief alone is not enough to curtail someone from grieving and experiencing mourning through loss. That's a separate piece. I've always been touched by the Savior's example when he came upon the scene of Lazarus, and of course, knowing exactly what was going on,

knowing what he could do to remedy that situation, but nonetheless, the scriptures read, two words, "Jesus wept." And maybe more important than even what he said was how those there viewed that, and the following verse simply says, "O how he loved him," referring to Lazarus. And for those who have been through these kinds of losses, to know what it feels like for someone to simply share a tear or to reach out and to say, "I'm sorry and I feel your pain," is so powerful, it's hard to even measure it and recount it when it's over, but it's very real.

David Burton: I think sometimes that we put expectations on members of the Church that if they grieve, they don't have enough faith. And I'd just like to express it this way, that if you knew that tomorrow you would not see your child for 30 or 40 years and you couldn't communicate with them, but you knew they were alive, you knew that they were there – that wasn't in question – but you couldn't talk to them, think of the devastation that would have. So it's not an issue of faith, it's an issue of losing their contact and being with them. I also wanted to say that one of the blessings that we do have in the gospel is that in addition to the resurrection, it's the knowledge that before we came here, that we knew the plan and we'd talked with our Heavenly Father about our weaknesses and how we needed to grow and what we needed to learn. And one of the gifts that was given to me through this experience was to help me understand that my daughter was not a victim of God and it wasn't an accident or mistake that she chose to be here, to teach us, and to go through what she went through to teach others and teach her mother and father. And God didn't withhold that information from her, he didn't surprise her, that she participated in those choices and it was that participation that makes for real accountability. And when we meet our Father in Heaven and we realize that we've participated in the choices of the trials that we would go through and the things that we would learn and how we needed to learn it, that we could accept his judgment and it'd be as much our judgment as his because we participated in those choices.

Rebecca Cressman: I appreciate you sharing that with us. We have just a few seconds left in the show, and I want to also go back to Dennis' comment about Victor Frankel's *Mourning with Meaning*, because that's exactly what happens as you put meaning to your daughter's life and to that grieving process. A final thought for us, Kendra, in terms of how finding meaning has helped you with your grieving in this case.

Kendra Burton: For our situation, it was going through the experience and then finding out how to help other people through the experience. For me, it was through art and through music and through being able to share and speak with people. There are different ways that others go through that, but that's how I think it's helped us, is that we've learned from her and we can help others.

Rebecca Cressman: We appreciate so much you sharing your story with us today. We will not forget the images we saw earlier of your daughter, and we appreciate so much your sharing that with us. Dennis and Gretchen, we appreciate your joining us today and giving us your expert advice. And we now thank you for watching. We hope you'll join us next time on Living Essentials. Good-bye.

Rebecca Cressman: Welcome to *Living Essentials*. I'm Rebecca Cressman and today we're talking about substance abuse. With us today are Dr. Gordon Lindsay the chair of the department of health science at BYU; Stephen Biddulph, he's an author and executive director of a residential treatment center; and Elder Merlin Baker, an author and mission coordinator with the LDS Addiction Recovery Program. Welcome to each of you. And we're going to get to our experts in just a moment, but first we want to take time to get to know Kristine Fales. Kristine and her family have been dealing with substance abuse ever since her 15 year old son approached her for help in overcoming his addiction to drugs and alcohol. And let's hear a little bit of that story. I understand that he says he began using drugs when he was just 12 years old.

Kristine Fales: That's what he tells us. We didn't know it at the time, but when he was 15 and asked for help he said that's when he started. But looking back we could see that at that point we couldn't communicate with him anymore, it was like a wall had been put between us. And so, when he actually told us he needed help and wanted help, we immediately rushed him into a program against the advice of a counselor and it was too much too soon and so we feel regretful we rushed into treatment.

Rebecca Cressman: We're going to talk a little bit more about that because it really is a story that each of us at some point might encounter ourselves or have a family or loved one go through a similar experience and we're going to talk a little bit more about that. In general though, let's understand the difference between Dr. Lindsay, between when substance use turns to substance abuse.

Dr. Gordon Lindsay: I think we would define substance abuse as when you're using drugs in a way that hurts you, your mind, your body, relationships, society. And that's going to be different for different drugs. Some drugs would have a legitimate therapeutic use, higher doses would be abusive. Some drugs from the get go are abusive such as tobacco and I think the most important thing for parents is that both issues are important. Don't split hairs, is my kid just using alcohol or abusing it, we should be concerned with both levels.

Rebecca Cressman: And Stephen you say there's actually a difference between substance abuse and addiction. And help us understand that difference.

Stephen Biddulph: It really is two different terms. One is dependency, the other is addiction. The difference in my mind is that dependency is when the individual who is abusing the drug becomes dependent upon the drug for emotional and behavioral normality. Addiction however is a deeper form of dependency. When an individual comes into addiction, they tend to lose all of their moral human decency and values.

Rebecca Cressman: There's been some national trends referring to drug use and its prevalent and Dr. Lindsay let's go and look maybe at the global picture in the United States of America per se. What are we seeing trend wise and what are some of the most common drugs that youth and young adults and adults are misusing.

Dr. Gordon Lindsay: We've had a good series of studies since 1970s that the government has done for both adolescents and for adults. I think the big picture is to say that our largest substance abuse problem are by far the legal drugs of alcohol and tobacco. Marijuana would be the most highly used illicit drug. It's not as bad as it's always been. 1979-80 is where we peaked out, things went down during the 80s, up during the 90s, but the last three years, we've had a downward trend. I think the two big statistics that come to mind would be the large number of adolescents who use alcohol, about 50 percent of high school seniors in the last 30 days. But in particular most of those use it to get drunk, and so that's a major concern. The greatest success story is the downward trend in tobacco over the last few decades. That's been a real public health success story.

Rebecca Cressman: Now you're nodding your head Stephen. You've seen some other trends with your work with teenagers and young children. Tell us a little bit about what you're seeing.

Stephen Biddulph: Well despite the moderate decline, during the 1990s in substance abuse, especially alcohol, what we find is that with teens it stayed fairly standard, fairly normal. Let's take ten 14 year olds, what we would find is that five out of the ten at the age of 14 would have already tried, experimented with alcohol. Three of those ten will be using regularly. When we get to 16, we find that seven of the ten will have used drugs or alcohol and that six of the ten will be using regularly. And at 18 we find that 8 out of the 10 have tried it. The percentage goes up just another point in terms of the number of kids that are using regularly. So what we see is that as the youngster grows in age, the propensity for use and abuse is there and another thing I'd just like to comment on is that statistically we know that if a teen uses alcohol or takes their first drink before they're 13-15, there's a 42 percent chance they'll have problems later on in life drinking.

Rebecca Cressman: And that's interesting because Kristine mentioned that her son talked about experimenting with substance abuse at the age 12. She talked about, and I want to talk a little bit about the signs. Because it's important for us to understand it's very prevalent, it's out there, we're experiencing this and as early as 12 and younger, she noticed he had closed off the family. What are some of the other signs Dr. Lindsay as we, as parents or family members start to try to identify are our children using drugs, what should we be looking for?

Dr. Gordon Lindsay: I think you'd look at some behavioral indicators. Are they dropping school performance, later hours, change in friends would be indicative maybe of some problems. Visual things, drug paraphernalia, reddened eyes, covering up smells, and lack of desire or a sensitivity to talk about drug issues with family, just a resistance to doing that I think would be another tell-tale sign.

Rebecca Cressman: And Stephen is there a particular demographic that's more prone to substance abuse versus others?

Stephen Biddulph: Well I think first I'd like to say that substance abuse or addiction as a disease has no bounds. Anybody's susceptible. But there are some risk factors that would indicate a predisposition. One is genetic predisposition. The inheritance of what we call the addictive gene. If parents know that in their family there has been addiction or serious substance abuse, it's very possible that that can be transmitted genetically to children, sometimes it skips a generation, sometimes it goes from generation to generation. Other risk factors involve chaotic home life. A dangerous, chaotic neighborhood that they live in. Cultural or religious or family traditions or attitudes that promote and support the use of drugs or even the abuse of drugs. I think in essence, from teenagers what we really see is when a child is trying to emerge out of childhood into the complex world of adulthood, anything that comes in psychologically, physically, traumatically, and in any way to block successful development, whether it's a learning disability whether it's a psychological disability, trauma, whatever it is, if that blocks them successfully from transitioning into life and being accepted and developing self-esteem, what you find is a higher propensity to get involved with drugs.

Rebecca Cressman: Thank you for sharing that. Kristine, as a mother of a child that has been struggling with his substance abuse addictions for quite a while, what is the hardest thing for you as a parent, as you've gone through the years that you have.

Kristine Fales: The hardest thing has been this really high level of anxiety. That you never know what's going to happen next. You never know if when you wake up in the morning if your kid will still be there. You never know if when he comes down for breakfast if there's going to be a big outburst, and so you're just always on edge.

And with the child on edge, the parents on edge, all the other siblings are on edge, you really don't know what to do and so you keep pretending things are normal. You keep having Christmas and you keep fixing meals and you keep taking kids to their piano lessons, but you're living a lie. You pretend that everything's okay and it's not okay.

Rebecca Cressman: And you have a large family that has had the ripple effect throughout the family along that line. 11 children, I think it's important for us to understand that your investment in your parenthood has been a lifeline endeavor for you. I appreciate you sharing your story. Let's talk a little bit Dr. Lindsay about maybe some myths for people to understand and misconceptions about substance abuse that might be out there. And maybe there are even some myths out there about recovery and the steps that are involved there as well.

Dr. Gordon Lindsay: One of the myths about recovery would be the idea that people need to voluntarily go in to get treatment for it to do any good. I talked to some counselors and they said they'd rather treat 100 individuals who are court-referred to drug treatment than 100 people who are self-referred because by the time you really turn yourself in, you've lost a lot of social support, maybe some brain damage, loss of employment situations and so forth and so one of the best things that's been working for us is something called drug court. Where we've combined the criminal justice system with some compassionate caring treatment and so I'd say that's one of the major myths is the idea that people have to want to go in. By using the stick of law enforcement, frequent testing, going to jail if you mess up and combining that with caring compassionate effective treatment, we're seeing some very good numbers there, and so that's one of the myths there.

Rebecca Cressman: Elder Baker, you've been patient in the first part of this conversation and you have ample experience now working with the LDS Recovery treatment program. And there are some other myths and misconceptions out there that you see. And debunk some of those for us as well.

Elder Merlin Baker: Well, one of the myths I see that relates to treatment, I think a lot of parents particularly believe that they can put their child, their adolescent into one treatment program maybe a 21 day residential program or an outpatient program and then at the end of that program, once that's completed, they think, well treatment's been completed, my son or my daughter's fixed, we can go home and continue on with our life as normal. And then when the son or daughter relapses maybe 10 days after that, they're very upset, they don't understand and treatment is an ongoing process. It can go on for months or decades. It can go through many treatment episodes and so it's more or less a lifetime process. And parents need to understand it's not that the treatment program failed, it's just that relapse and this disease is a continuing process. And that's one of the myths. Another thing I think people don't understand is what we call the problem of dual diagnosis. That there's a large percentage of alcoholics and drug addicts who have underlying psychological or psychiatric problems. I believe that some of the figures that I've seen is that about 37 percent of alcoholics and about 52 percent of drug addicts have either depression, anxiety, bi-polar problems, schizophrenia, or other types of mental or emotional problems, which underlie or overly their addiction. And that these problems have to be treated along with their addiction problems. And so when a family goes to a treatment counselor, they have to be aware that they have to treat both of these problems together or else they're not going to get successful treatment for their son or daughter or their spouse. So those are very critical aspects of this whole complex problem of treatment.

Rebecca Cressman: Thank you very much for that. Now there has been, we've talked about national trends, and there has been a marked rise also in our youth, with some nontraditional drugs. We are actually seeing advertising campaigns that

try to educate individuals that are watching media or listening to the radio and they're talking about the misuse of glue in the house or household cleaners, prescription drugs. Dr. Lindsay, talk to us a little bit about that, the prevalence in this phenomenon of nontraditional drugs, introducing children to addiction.

Dr. Gordon Lindsay: Glue inhalants - that would be one of the few drug categories where smaller children, young adolescents would have the highest rates of use. For prescription drug abuse I think that really starts in two ways. One would be individuals who are legitimately taking a drug for medical reasons and it just kind of evolves into, it grabs people, you have this addiction process. And then others would be using drugs, prescription drugs for recreational, getting high type purposes. Though surveys indicate there are about 4 million Americans that say that they in the past have used prescription drugs for non-medical purposes. So this is a growing issues in our culture sometimes, prescription drug abuse. It's partly I think we overuse it to some extent. A little bit our fault as patients, asking for it too readily. Doctor's it's easier to prescribe a drug maybe than do counseling, and then the pharmaceutical companies, they used not to be able to advertise prescription drugs on television and now they can, all those adds, "Ask your doctor for" and so prescription drugs are a blessing, they save marriages, help lives, but we need to be concerned about the overuse of those. That's a major trend also.

Rebecca Cressman: Well and as we talk about childhood, we talked a little bit about the nontraditional experimentation of children with some of the dangerous household inhalants and the glues, but the prescription drug from my understanding and some of the more recent research I saw, it is something that is very prevalent among housewives. Among those adult, in that adult factor, and it's something quite insidious as others maybe don't want to categorize it as substance abuse because it's something that was originally prescribed for a doctor.

Dr. Gordon Lindsay: I have my students attend drug court and they will look at the people coming through and a lot of them they will say, that looks like a stereotypic, my image of a drug user. And then there will be this middle-aged woman who looks like she walked out of Sunday school and you just have to think the story is she was prescribed some pain medications and it just innocently got out of hand and grabbed her in a very powerful way.

Rebecca Cressman: Thank you, let's also talk a little bit about, what are the barriers that prevent people from seeking help from their substance abuse problems?

Stephen Biddulph: I think there are several. The first that comes to mind is denial. I think both the abuser as well as family members, parents find themselves in denial. It's hard to own up that there's a problem this serious in the family or in their own personal lives. They mask, they joke about it, they do all types of things to avoid taking responsibility for doing something about recovery and recognizing the problem. There are others. Things like embarrassment. I think that's particularly true where you have a high value system in the family. Or in a religious organization. People are embarrassed. Also they're afraid of repercussions, social status, family status, trust, they just don't want to come forward and jeopardize and so they try and just make it through. A lot of this denial was involved in wishful thinking and magical thinking. It's so traditional with addiction. The hope that someday I'll quit. When I'm done having fun I'll quit. Or, something's going to happen in my life that eventually I will stop, or that eventually our son or our daughter will stop destroying themselves. And it just doesn't. The other things I'm thinking about are certainly lack of trust and hopelessness. So many of the kids that I deal with in adolescent treatment have absolutely no self-esteem. Second of all they have done so much damage in their own personal life and to their family that they just feel they have committed the unpardonable sin. And so there's a hopelessness. And sometimes parents and other siblings are also abusing drugs. And so there's just this sense of,

"Why should I try, it's hopeless?" Last comment. I've had many, many 15 year olds who have made up their mind that they are not going to be alive by 20 and they just accept it, they understand it, and they just base their life around, I've got 5 years to live, or less than 5 years to live. And those are barriers.

Rebecca Cressman: Kristine, I keep thinking about how you as a parent talking about constantly being in a state of anxiety and urgency and concern about your son's welfare as he struggled with addiction. But at one point, you also had to get to the point where you kind of released yourself from that day to day attempt to control what was happening. Talk to us a little bit about that, because that's so common for people to go through.

Kristine Fales: We worked as hard as we could with our son until he was 18 because at 18 he had the right to walk out of our door and he did. And so, we decided that we just had to keep the door open but say, we have a right to live our own life, we have a right to be happy, and so if you want to come back into our home, you will follow the rules now. And periodically he would come back and he'd say, I'll do whatever you ask, and you'd help connect him back. And he would come and stay for a while and when he was feeling better he started using again. And so after several years we finally had to say, you may never live with us again. You may come and visit, come for the holidays, come anytime you need a meal, I'll feed you. You may not live with us. That's hard.

Rebecca Cressman: I would imagine it's very hard. And I also want to maybe tap into your expertise as someone who your son went through a variety of different treatment programs. And you have found that there's actually some components that are essential. You feel like in your experience for a treatment program, and what are some of those essential elements that parents should be looking for when they are seeking out a treatment facility for their children?

Kristine Fales: Well you need a program that's going to help the whole family. Because it's not just the person that's addicted, the whole family has problems. And so just to say, we're going to treat the individual, that's ridiculous. All of us in the whole family, we all have problems, we all need help. And so you have to have a program that addresses everyone's needs. And the second one which is most important is the self-esteem issue. Because the program we chose to put our kid in, taught us a lot of things, it helped us, we learned to communicate better and share feelings and learned about the 12 steps, but it terribly damaged his self-esteem. It was a very invasive, abusive program that we were unaware of. And so I think when you're looking for a program, you ask a lot of questions and you talk to people who have used the program and get all your questions answered before you put your child in there.

Rebecca Cressman: Thank you for sharing that. I think it's a good time to come back to Elder Baker and talk to us a little bit about eh LDS Recovery Treatment Program because many might not be familiar with what it is. So, what is it, how does it work?

Elder Merlin Baker: Well the LDS 12 step program, which is under the direction of the LDS Family Services, has taken the alcoholics anonymous 12 steps and they have modified them to a certain extent. The alcoholics anonymous steps are based, two of the steps, the first step is that the alcoholic has to admit that he is not in control, that he is powerless over alcohol, and secondly he has to admit that there is a power higher than himself that he needs help. Well, in alcoholics anonymous, they do not designate who that higher power is. They let the individual describe or tell who that higher power is, it might be God, it might be nature, it might be anything. But in the LDS 12 steps we have designated the Savior and his Atonement as that higher power. And so in our 12 step program we tried to have the individual have a spiritual reawakening that he makes the higher power Jesus Christ, and when he

does that he turns his life over to Jesus Christ as this higher power and he comes to a recognition that all of the things that he's done in his life, all of the bad things that he's done, that he can be forgiven through the atonement of Jesus Christ, that he can rebuild his life through the atonement and that he can get his self-esteem back, and that there's a way back from where he has been. And we basically try to build a bridge back. Many of the people who come to our program have come from AA, they are perhaps never been affiliated too much with the church, they left the church at an early age, perhaps been disfellowshipped or excommunicated, they don't feel comfortable going to church, but they'll feel comfortable in coming to our program because it follows the 12 steps of AA with this modification. And so they feel comfortable when they come. All of our meetings are held in chapels. They open and close with prayer. Confidentiality is a key point of our meetings. Only first names are used. We don't know whether they're a member of the church or not, and so it's a place where they can come and share their feelings and share how they feel and can rebuild their lives and gain some confidence and self-esteem and come to know that they can be healed from their addiction through the power of Jesus Christ. It's a powerful program. I've been a missionary, my wife and I for two years, we love the program, the spirit of the Lord is in these meetings, it's powerful. It's a really powerful spiritual program and we're hopeful it can expand and go throughout many more places throughout the United States.

Rebecca Cressman: Thank you Elder Baker. We'll have more information on the LDS Recovery Treatment Program on our website today as well. I appreciate both of you sharing your emotions with us today. If we can maybe take a step back for a minute and look at a substance abuse. I want to talk a little bit specifically Dr. Lindsay with us. You believe that chemical dependency especially alcohol needs to be addressed more from a social perspective rather than an individual perspective, and let's back out just a little bit and talk a little bit about that. What do you mean in looking at chemical dependency from a social perspective rather than just that of an individual?

Dr. Gordon Lindsay: Not more than but in addition to. Again looking at the success story of tobacco, with a number of policies, with indoor clean air laws, with higher taxes, with restrictions on advertising on television, with anti-smoking media campaigns, quit lines, youth access, a lot of times for health problems we use a public health model where we together as a society, what should be the rules and regulations in solving a problem, and so that has a role to play for alcohol abuse in particular, and I think we're seeing more things coming from the Academy of Science, the National Institute of Health saying we've got to get serious about adolescent alcohol use as we have been about smoking. So the things we do together as communities and society, that's a very important part of the solution as well.

Rebecca Cressman: Thanks for clarifying that for us Dr. Lindsay. Now Stephen, you say from your experience as a professional, that the spiritual component that Elder Baker was talking about is actually something that is vital to the treatment of individuals.

Stephen Biddulph: What he says, it resonates deeply with me. And that is that as I work with kids and parents, you try to help them find some reason above abstinence to build happiness into their life. To stop using drugs has got to go beyond abstinence and it inevitably comes back to spirituality. It comes back to what they say is higher, more powerful than them, that can elevate them to not only to stop using drugs, because that just leaves drugs, it elevates them to success. Something definitive like a Savior, like a plan of salvation, like a plan of happiness just opens up a world in recovery.

Rebecca Cressman: Thank you so much for that. Speaking of that elevated thoughts, you have put your experience into music and writing that has actually turned into CD recordings and all, and that has helped you express your emotions and it has also helped to warn your children about that. Tell us a little bit about that.

Kristine Fales: Well, when I first had my son in his treatment program all I could do is cry. And to stop crying I thought, all these feelings I've got to write, and they started turning into songs. And I thought, well maybe if I sing these songs to my son, even though he won't listen to me, maybe the music will touch him. And my singing did not touch him, but over the years we finally got it recorded, and I never knew if he'd be alive to hear it. But he did, and he's alive today. And it touched him. I believe music can reach when words alone can't. And I've taken the music with my other kids and told them the stories about their brother and they've been touched and I think it's great to help them not get into it. And so, it helped me, it helped my husband, it helped all of our children, and most gratefully it helped my son who's addicted.

Rebecca Cressman: Thank you. Speaking of helping, for sharing your story and inspiration with us to help all of us have a better understanding of your experience and the challenges with substance abuse. Thank you Elder Baker and thank you Steve and thank you Dr. Lindsay for joining us today. We'll have a lot of information including some links to helping us find out more about the LDS Treatment program as well as the music and creations that you've produced. So thank you so much, and thank you for watching. Be sure to join us next time on *Living Essentials*.

Rebecca Cressman: Welcome to Living Essentials. I'm Rebecca Cressman, and today we're talking about interpersonal communication. With us today are Joseph Grenny – he's an author and president of a communication consulting firm. We also have Ron McMillan – he's an author and a communications facilitator. Thank you, both of you, for joining us. Now Joseph, why is communication so important?

Joseph Grenny: Oh, boy, well, if you look at the word communication, it has similar roots to the word community. Communication literally is the process through which we come together and create relationships, communities, and achieve and work together. So it's the glue of everything that we do.

Rebecca Cressman: Now before, you've mentioned that there are actually three elements of communication. Let's break those down.

Joseph Grenny: Yes, so the first is intrapersonal communication. This is the way I communicate with myself – my ability to get clear on my goals, to understand my feelings and emotions, and so on. The next is interpersonal communication. This is what you and I are doing right now if Ron weren't here. So interpersonal is a one-on-one conversation that you have with others. Now the dynamic shifts in the third. This is group communication, so when another person enters the conversation, you now have an audience. As anybody knows who's ever tried to get a group to agree on where to go to a restaurant, group communication has a different set of dynamics than interpersonal.

Rebecca Cressman: Speaking of the dynamics, now within those three areas, at any point we could have what you call, or have coined, a crucial communication, a crucial conversation. Let's talk about that.

Joseph Grenny: You know, research, we've found that there are a handful of communications we face that have a profound influence on the quality of our relationships, on our influence in organizations, on our careers, even our personal health. And these we came to call crucial conversations, you know, politically or emotionally sensitive conversations. And again, the important element here is that how we handle them affects many, many areas of our lives.

Rebecca Cressman: Now you talk about also three factors that kind of put a shadow on those conversations, or actually color those conversations, the first one being high stakes. Let's talk about that.

Ron McMillan: Most of our communication is routine, regular, conversational, casual, and we find that in some relationships, that might be 80 percent, 90 percent of the time. But then the conversation turns crucial when it becomes about high stakes, something that really matters, something that makes a difference.

Rebecca Cressman: For example?

Joseph Grenny: It could be talking with a teenager about a curfew rule. What's at stake here is our relationship going forward and the integrity of the rules of the home. It could be talking to boss about a raise. It could be confronting a coworker about poor performance. It could be that significant results are at stake and significant relationship matters are at stake, so that makes it high stakes.

Rebecca Cressman: Now another factor that plays in is opposing views. Talk to us a little bit about how that plays into it and give us an example, Joseph.

Joseph Grenny: Now the second thing that makes these conversations crucial is that when I come into the conversation, I expect the other person to disagree with me. This is profound. So not only is this a high stakes matter for me, as Ron pointed out, but also I expect the other person to take an opposing view. That causes me to gear up and behave in ways that I otherwise would not, which has, again, a profound effect on the outcome.

Rebecca Cressman: Ron, give us an example of opposing views.

Ron McMillan: Boy, it could be a husband and wife – that happens.

Rebecca Cressman: Really, tell us about it.

Ron McMillan: Well, let me tell you about one I'm thinking of. It could be a wife going through the bills, notice the husband made a 65-dollar purchase. She sits down with him and says, "I thought we made an agreement that any time we buy something over 50 dollars, we'll consult each other and talk about it." He says, "I'm a big boy, I can make my own decisions." That's opposing opinions. We don't see it the same, and that sets up the conditions of a crucial conversation.

Rebecca Cressman: And that also sets us up to the third factor, which is strong emotions. Let's talk about that.

Ron McMillan: Yeah, strong emotions are a real important element. High stakes and opposing opinions often create this third. This is an emotional, this is a visceral issue. All of us in family settings have experienced when somebody pushes our buttons. So I might have a teenage son, for example, who when I'm trying to confront an issue with him, will roll his eyes in just a particular way that just gets my goat. Or when I'm talking with my spouse, for example, they'll do things or say things, this pouting and sulking and withdrawing, that triggers something in me that is an immediate kind of a reaction. Now again, the issue here is not just that I'm having an emotional response, but that that causes me to behave in ways that will profoundly affect that relationship far into the future.

Rebecca Cressman: Now are there some typical responses that a human being makes when they encounter a crucial conversation, Joseph or Ron, either way?

Joseph Grenny: Let me take this one.

Ron McMillan: No, I'll take this one. It's my turn. What we found is in these crucial conversations, when it matters the very most, that's when we tend to do our very worst. And it's primarily because of the strong emotions, as you pointed out. Literally, under conditions of strong emotion, the physiology of our brain changes. The upper reasoning and logic centers of our brain start shutting down, the body redirects blood flow to our strong muscle groups, preparing us for fight or flight. And that's a really handy mechanism if you're in the jungle facing a tiger, but if you're in a complex social interaction, it's the worst mode possible, and therefore, we often do our very worst when the stakes are most high and the emotions most strong. I think that's what makes crucial conversations particularly difficult to hold, is those strong emotions.

Rebecca Cressman: Give us some examples of the type of crucial conversations, those types of events, that come up in our life that push us away, or encourage us to avoid.

Joseph Grenny: It could be talking with a spouse about in-laws, that we don't agree on how to treat our in-laws. It could be talking with a boss about feedback – I don't think she's handling something right, and I want to talk to her about it. It could be talking with a coworker about a hygiene problem. Any of those issues, as soon as they become high stakes and opposing opinions, that emotion comes in, and that's when we often do our very worst, in these situations where it matters the very most.

Rebecca Cressman: What are some of our typical behaviors, Joseph? When we've got those crucial conversations that need to occur and these difficult events, what do we typically do, what kind of strategies do we typically take?

Joseph Grenny: Well, the two broad categories are silence and violence. By violence, we don't necessarily mean that I'm hitting somebody, but we can be verbally violent as well in ways that undermine the outcomes that we would really like. So for example, a couple of weeks ago, a woman was telling us that she's in a conversation with her boss, and in the middle of it, it gets crystal clear to her that he is lying to her. The conversation just turned crucial, and the problem is not just that this is a difficult conversation, but that her tendency is going to be to do one of two things: either say, "There is no way I can tell my boss that he just lied to me" –

that's one of the problems we have, by the way, in crucial conversations, is our assumption that you can't talk about things without a fight. So the likely response here is silence, is withdrawal, is to pull away and conclude this guy is just a cheat and I'll never trust him again. And what we do, then, is we act out rather than talk out our concerns. So I will forever treat him like a liar, I will forever not trust him and treat him as an untrustworthy person. It will influence my behavior toward him, which will then affect the relationship. The second category of response is violence, so I could just decide, "Heck with it – I am going to call this what it is, and I'm going to accuse him of lying right here and now." That will, of course, cause him to be defensive and will help him feel justified in undermining or attacking me in turn. So silence or violence tend to be the two categories of responses we use during these most important conversations.

Rebecca Cressman: What about the more subtle strategies, like passive aggression or sarcasm? Are they equally as apparent?

Ron McMillan: Well, the silence and violence comes directly out of the flight or fight reflex, and there's a range in each realm. It could be that I go to a masking behavior – that is, I share some of what's on my mind with you, but I hide some of what's on my mind as well. It could be that I don't feel safe telling you the whole truth, or that I'm manipulating you. I want you to choose what I want you to choose, so I'm not going to give you an argument against it. That would be a step into silence. More silent than that would be avoidance. Real silence is withdrawal – I just give you the total silent treatment, I emotionally disengage, and I will not have this conversation. I remember my son when he was 16, I wasn't handling a crucial conversation very well. I said, "What were you thinking? Didn't you consider the consequences?" And his response was, "Are we done yet, are we done yet?" No engagement at all, he had totally disengaged. So there's a range of silence – there's also a range of violence, right?

Joseph Grenny: Yeah, on the violent side, you start just by becoming controlling. One of the most common responses when we start to feel someone is threatening our interests is to start to overstate our point of view. So if our spouse is saying, "I think we ought to do this," we start saying, "No, that's absolutely wrong." Maybe we didn't even believe it was absolutely wrong a second ago, we just had some reservations, but now we start stating it even stronger. We can also start cutting people off, we can control the conversation with our voice or with our body. With children sometimes, we'll loom over them and we'll control the conversation by using our physicality. So moving in the violence direction is our beginning to use strategies to compel others to come around to our point of view.

Rebecca Cressman: Now aren't there, though, some conversations that are better left unsaid?

Ron McMillan: Yeah, there are. And they're not the ones that are high stakes. It could be that there's something that's an irritant, it's a little issue, there are bigger issues, and I just choose not to deal with this. It's not worth the emotional energy, and I don't think it'll negatively impact our relationship. But if it's high stakes, by avoiding it, I am damaging the relationship. If it's high stakes, the issue isn't, "Should I have it or not?"; the issue is, "How can I have it effectively?"

Joseph Grenny: A good example, the point that I think is critical for us to emphasize is that when it's a high stakes issue, you have only two options. You can either talk it out or you will act it out. It will affect the relationship, so if I believe that my spouse is emotionally distant and I say, "Boy, bringing it up will make me look like a nag," and so forth – well, the way you bring it up might do that, but the fact that you don't bring it up does not mean the issue goes away. It will affect your behavior, and it will affect that relationship.

Rebecca Cressman: Let's also go proactively, because you also in your book and in

the training that you provide through your facilitation business, is you advise four basic ways that we can face and handle those conversations well. So let's start looking at ways to fix the problems.

Joseph Grenny: Good idea – one of the first skills that we teach is that if you don't act on your feelings, they will act on you. So you can either be a victim of or an actor on your emotions, and one of the skills we've learned by studying about 20,000 people and how they handle crucial conversations is that the capacity to influence my own emotions is essential. So let me give you an example of this. We worked with a couple a while back that had a concern in their marriage. The husband was concerned because he felt that the wife was always nagging and criticizing him. The wife was concerned because she felt that the husband was always cold and distant. And so when we asked the husband, "All right, when she is nagging and criticizing, what do you do? How do you handle that?" And his answer was, "Well, I pull away. I'll go in the living room and read the newspaper." "Oh, really?" And so we asked then, "How is that working for you?" And he said, "Well, not particularly well." And we said, "How long have you been trying this?" He said, "About 18 years." So he's moving in the silence direction. We asked the wife, "What are you not getting that's important to you in this relationship?" And she said, "I want warmth, and I want approval, and I want communication. I want to know what's going on with him." And we said, "Well, what do you do when he's not?" And she said, "Well, I'll sometimes make a sarcastic comment, or I'll point out something he's not doing right." Now you see what's happening here, so both of them because of this emotional response are doing precisely the thing that undermines what they want most. When it matters most, they're doing their worst. What they learned over time is that these emotions that they feel "when she is nagging and criticizing me" or "he is becoming cold and withdrawing" is what is driving them in that direction. What they also learned was that those emotions don't come – and this is the important point – "Those emotions don't come from what the other person is doing to me; they come from the stories I'm telling myself about what they're doing to me. So it isn't the fact that she's nagging; it's the fact that the story I'm telling myself makes her out to be a villain for nagging and makes me out to be an innocent victim. I'm doing nothing to deserve this. I'm a good husband, I'm a good provider. That story is what causes me to feel justified in pulling away and being punishing. I make her out to be a villain by saying things like, 'She's unappreciative and she's attacking, she's harping,' and so forth. So when I do that, that causes me to react in these ways." Acting on your emotions means two things: number one, becoming conscious of the stories that we're telling ourselves that create our emotions; and number two, changing those stories. You change your stories and you will change your emotions.

Rebecca Cressman: Now you also have a second way that you advise – start with intent, not content. Define that.

Ron McMillan: A lot of people believe that the problem with communication is candor or honesty, that you can't be totally honest with your boss – you'd lose your job – and you certainly can't be totally honest with your spouse – you'd just hurt feelings. And so we're playing a game, "How truthful can I be?" and "When is a white lie okay?" We found in our research – which was a 12-year research project, we conducted over 20,000 interviews, processed over half a million surveys and questionnaires – as we studied the master communicators in North American business, we found these master communicators were 100 percent honest. Honesty is never the problem. The problem is safety. And we found these master communicators, they were 100 percent honest, but not in a way that insulted people. They were 100 percent honest and 100 percent respectful of the other person. Now often, you get defensive not because of the content of my message or how truthful or not I am; you get defensive because of what you perceive my intent to be. My

intent is to hurt you or harm you or take advantage or win. Then that creates defensiveness, and so when we said get clear about your intent first, focus on intent, and even communicate the intent – “This isn’t going very well, I am so sorry. I’m just trying to solve this problem in way that we don’t have to face it again in the future.” What would be an example of communicating my intention so that you see it’s respectful to you, it’s mutual purpose, and it starts creating a lot of safety so we can talk about difficult content.

Rebecca Cressman: Great crucial conversation for me to have throughout this process as well. Another point of advice you have is don’t start with feelings, start with facts.

Joseph Grenny: This one’s kind of counterintuitive to us. As we watched these crucial conversations, one piece of advice a lot of people had received is to start by sharing your feelings, and in fact, to use what some people call “I messages.” We found that this can be very destructive in a crucial conversation. Where there’s a safe place for the conversation to occur, you can disclose feelings at the beginning. But in crucial conversations, those need to wait a little while. The best place is to begin with the facts. So for example, this woman who has just concluded her boss has lied to her, how does she start, where does she begin? Well, she begins where Ron described it – she begins with intent, not content. So she opened the conversation by saying, “I’d like to raise a concern that I’ve got with you, boss, and I want you to know that it’s because I want us to have a really great relationship. I’d like for things to be free and open, I want to feel supportive and engaged in working for you, and there’s something that’s getting in the way of my feeling that way. I’d like to be able to discuss that. Would that be okay?” Well, boy, that was a great opener, and the boss said, “Well, yeah, what’s wrong? What’s bothering you?” Now start with facts, not feelings. She goes through the facts of the experience, what caused her to conclude he was lying. Here’s what she said – she said, “Three weeks ago, you promised to support me on a promotion, and two days ago, I asked you if you had during the committee meeting that was discussing this, and you reported that you had. I was really happy about that. Yesterday I went to lunch and heard three people who were in that committee meeting discussing the candidates, and my name was not one of them. I asked them if my name had been presented, and all three of them reported that it had not.” Now I have not accused him of being a liar; I’ve reported the facts. What I’ve done is laid out this, and so if I begin there, it tends to create less defensiveness. Getting clear on the facts is the homework you need to do before going in and having a crucial conversation, so don’t just share how you feel, share why you feel that way, what are the facts behind it.

Rebecca Cressman: And you bring up defensiveness, and that is the fourth step. When you see defensiveness, step out of the content and rebuild safety.

Ron McMillan: Yeah, you don’t water down the content, you don’t sugarcoat it so that it’ll be easier for the other person to receive; rather, you actually step out of the content and rebuild safety. One of the principles that we learned that I think is one of the most important in communication is make it safe. If we have a crucial conversation, how can I make it safe for you to have this conversation with me? One of the ways is, as Joseph was describing here, if I present the facts rather than an accusation – “You liar” – or rather than a statement of emotion – “You disappoint me, I’m so hurt” – but if we state our intent, then we stick to the facts, and then we ask for their opinion, the way we’re doing that starts creating more and more safety. They see I’m being respectful and that my purpose is similar to yours. Sometimes it gets unsafe because of misunderstanding – my intent is to be respectful, but you take it as disrespect. And so there are several skills you can use. One is a little skill called a contrast, and the idea is that communication’s like two sides of a coin. One side is what I want or what I mean or what I intend. We’re pretty good at doing

that, but we leave the other side unsaid, which is what I don't want or don't mean or don't intend. And so if you're perceiving my communication as disrespectful, I could use the contrast to clarify my intention – "I don't want you to think that I'm trying to win at your expense or that I'm pushing my resolution to the disadvantage of yours. Rather, what I want you to understand is I want the very best solution to this problem for you and for me. Can we talk about that?" That would be an example of using the contrasting skill to clarify a misunderstanding about my intention and making it more safe, to then now go back and talk about the content.

Rebecca Cressman: I also want to go now to another example, and this might kind of seem like a tough case, but throughout a situation, obviously as you go across the country and around the world, you get lots of tough situations thrown before you. But let's take an example – for example, you feel like your spouse is too sensitive, that when you begin to give constructive feedback or constructive criticism to them, they shut down and pull away, or they react so strongly that it makes you as a person who's trying to communicate with them shut down. In that situation, how can we break that down in just a few minutes?

Joseph Grenny: I'll first share with you how not to do it – how not to do it is to wait until they're becoming defensive and then raise the defensiveness issue. That's what we tend to do. So we tend to have the wrong conversation. We get into something, they get defensive, and then in an accusing, attacking way, we talk about, "You're always too sensitive." So the principle here is that anytime you're stuck, anytime there's a problem that you face over and over again, there's a crucial conversation you're either not having or not having well. So have that conversation. If you're with a person, who when you raise concerns, tends to shut down or become defensive, that is the crucial conversation. So find a safe time when you can discuss specifically that topic and use the skills that Ron and I have just described. Start with your intent, so "Sweetheart, I love it when we feel great with each other, I love it when we feel warm and affectionate with each other, and I notice there are times when we don't. I notice there are some times where we withdraw and pull apart and are cold with each other, and I'd like to minimize those. I bet you do, too. I'd like to share something that I see the two of us doing that I think is probably contributing to that – would that be okay if I did it?" So I start with my intent, and it's a very positive one that I'm trying to do that's constructive. The other skills then come in as well – share the facts before you get to the feelings; if the other person gets defensive when you're talking about defensiveness, set the issue aside for a moment and reassure them of your intentions and respect; when they feel safe, you will then – and this is so important – you will then be able to go back to the issue and absolutely candidly discuss it. You can talk about anything with somebody if they feel safe enough with you.

Rebecca Cressman: Speaking of talking about anything with individuals, in a work organization or a family organization, whenever you're communicating with people or dealing with people on a day-to-day basis, sometimes let's say we take an example where we have the same conversations – someone's feeling like, "You know what, I've already tried to address this problem with this person over and over again, and yet it's still occurring." So I'm feeling like I've got two choices: I can either be the nag, or I can just give it up. What's your advice there?

Ron McMillan: Well, that's a trap we often fall into, and it helps to know that there are different levels that you can have the crucial conversation on. The first level, which is one we've been talking about, is content – what is the problem that you want to solve? A second level and a deeper level is talking about the pattern – "Rather than talk about the problem we're having today, I'd like to talk about the pattern, this repeating pattern of it happening over and over again." That's actually a different level, it's a deeper level where you're looking at the way we interact with

each other and the patterns that are contributing to the problems. A deeper level yet is relationship. Rather than talk about the problem we're having today or the pattern of behavior, I want to talk about our relationship and whether or not we can continue working together, whether or not we can trust each other. That's the deepest level, and if you're having the same conversation over and over again, you're probably at the content level and need to go down to the pattern or the relationship level. We call that CPR, the CPR of relationships – content, pattern, or relationship. You need to pick the right level to have the crucial conversation at.

Joseph Grenny: And in all fairness, you begin at the lighter level as you begin those conversations, but as it starts to repeat, that's when you have to start going into what's at stake within the relationship.

Ron McMillan: Sometimes you just suddenly realize the relationship is the problem and that's where you start, even though you haven't had the content or pattern conversation.

Rebecca Cressman: What if someone who's working with you, or working for you, continually, or has missed a deadline, and it was a very important deadline, and now you're feeling like, "Okay, I don't know whether I want to give this person another important assignment because I have lost trust in that person's ability to follow through." And we're running out of time – what would be your advice succinctly there?

Joseph Grenny: This is the hardest thing to say, but it's absolutely true from our research, that you have to have the right conversation. So if the bottom line here is "I've lost confidence in this person," you can't sugarcoat around that. Now hopefully you'll come up with solutions in the conversation that will help rebuild that trust, but unless you are absolutely candid, you will act out rather than talk out that concern.

Rebecca Cressman: Now what about a teenager with lots of excuses, because before we go to the end of the show, a lot of us are raising teenagers right now? And there's an understanding of their own individual development in there, but is there a key piece of advice that you share for parents of teenagers who are still deflecting a lot of their own responsibility?

Joseph Grenny: We find that frequently what a teenager will do – it seems to be wired in – is let's say they're late for curfew. They're supposed to be home at 12:00, they come home at 12:30. What they want to talk about is the reason they were late tonight and why that should be an exception to the consequences. What you often need to do with a teenager is talk about the pattern – "This is the fourth time in two months that you've been late for curfew." And they say, "Well, we had this problem." "Actually, I don't want to talk about that problem; I want to talk about the pattern of whether or not I can count on you to keep your commitment." And that becomes the crucial conversation that's needed with a teenager in that situation.

Ron McMillan: It may have even escalated from pattern to "I don't trust you anymore because you make commitments and break them, and so this is a problem I'd like us to try to resolve together."

Rebecca Cressman: Now as we get to the end of our show, which is where we're at right now, and again, this is such a deep topic that we could talk for hours about and it'd be important for everyone to get more information on that. And we do want to let our viewers know that we will have more of this content on our website, where they can go to and check it out and get more information, but closing thoughts to inspire us to have those crucial conversations – Ron?

Ron McMillan: I'd say one of the most important things we learned is that you can talk to almost anyone about almost anything if you can just make it safe enough. And whether or not you know all the skills or all the principles, if you can just focus

on “What can I do to make it safe for this person, what can I do to reveal my intent is to help not hurt, what can I do to be respectful?” That’ll get you a long ways.

Rebecca Cressman: Thank you – and Joseph?

Joseph Grenny: In addition to that, I think one of the key takeaways is that these conversations, emotionally difficult conversations, affect every aspect of our life. Our physical health is affected by how well or how poorly we handle them, our influence in our organizations, the strength of our families and relationships. So if you improve your ability to handle these social/emotional challenges, you will affect every aspect of your life positively. It’s worth doing.

Rebecca Cressman: That’s a great motivation. And thank you so much for you sharing your time with us today, and again, encourage our viewers to take a look at our website so you can get more information about these crucial conversations. And thank you especially for watching us today. Be sure to join us next time in Living Essentials. Good-bye.

Rebecca Cressman: Welcome to Living Essentials. I'm Rebecca Cressman, and today we're talking about understanding mental illness. With us today are Dr. Kirk Dougher, a psychologist at the BYU Counseling Center. We also have Dr. Randy Hardman, a psychologist with the Center for Change – thank you. And Elder Alexander B. Morrison – he's the author of several books, including one on mental illness – thank you. And with us, too, is Jolene Meredith. She's dealt with mental illness for 48 years and is currently a member of the state board of substance abuse and mental health. Thank you so much for joining with us. First of all, I so appreciate you being with us here today, Jolene. Could you elaborate over your experience over 48 years dealing with mental illness?

Jolene Meredith: Our family has six traceable generations of mental illness. These include chemical depression; generalized anxiety disorders such as agoraphobia, obsessive compulsive, and panic disorder. And since we deal with this very personally every day, we lovingly call it "the bug."

Rebecca Cressman: "The bug," to describe all of it that everyone is dealing with. Well, Jolene, Dr. Dougher, can you help us define specifically "the bug," or the mental illness, so that everyone has a little bit more generally an idea of what does that name represent. What does it mean?

Dr. Kirk Dougher: Mental illness might be the case where people struggle with difficulties over the course of their lifespan. Some of them are based in trauma, some of them are based in some difficult behavioral patterns that they encounter, and invariably these are significant enough – not the normal day-to-day things that people experience – but significant enough to where it inhibits to a large degree their social, emotional, or occupational function.

Rebecca Cressman: Now Jolene mentioned agoraphobia, obsessive compulsive disorder – Randy, what are some of the most common types of mental illness?

Dr. Randy Hardman: We can probably make five main headings for the most common psychological disorders – number one, mood disorders, which would include major depression, bipolar disorder, manic episodes. Two would be anxiety disorders, obsessive compulsive disorder, panic disorder, generalized anxiety, agoraphobia, post-traumatic stress. Number three would be dementia, which would include Alzheimer's, vascular dementia, head traumas that induce these illnesses, Huntington's. Number four would be eating disorders, which would include anorexia and bulimia. And number five would be schizophrenia and psychotic disorders.

Rebecca Cressman: Now today we're going to go through each of those one by one, and let's start with Dr. Dougher. Let's have you explain mood disorders.

Dr. Kirk Dougher: As Dr. Hardman illustrated, under the broad categorization of mood disorders, there's also five general sub-categorizations. The first one is depression, where somebody might experienced a depressed mood most days nearly all the day. The second one would be mania, where they experience an expansive or elevated mood beyond sort of the normal excitation that people feel. Third one would be bipolar disorder, where they rhythmically fluctuate between depression and mania. And then there are two that are kind of milder versions of the others – hypomania is where somebody experiences an elevation in mood but somewhere between normal and mania, and then there's one called dysthymia, where they are depressed and feel down but somewhere between normal and major depression for an extended period of time and struggle with that to a large degree.

Rebecca Cressman: Now Jolene, my understanding is that you struggled with depression over a long period of time. Can you tell us a little bit about that?

Jolene Meredith: Depression feels like you're in a dark tunnel with no light. I remember feeling that my head didn't feel as if it were connected to my body. It's a miserable illness. Sufferers of very difficult and very severe depression seem to sink into a black pit of helplessness and despair. Depression's an interesting word – in

fact, that can even lead to suicide – depression’s such an interesting word, though, because we use it every day. People say, “I feel depressed,” or “I’m feeling down today.” But I have to say that chemical or clinical depression, it’s a much worse and more severe disorder.

Rebecca Cressman: You’re saying that it’s common for a lot of us to use, to kind of throw the word depression out. A lot of the research that I have done in my own personal studies seems to link depression and anxiety. You see depression/anxiety together, but let’s talk specifically about anxiety disorders, Randy.

Dr. Randy Hardman: Well, anxiety disorders manifest themselves differently based on the specific disorder. But in a general sense, anyone who’s experiencing anxiety disorders experiences excruciating levels or bouts of fear, panic, feelings of dread, anxiety, to the point where they feel overwhelmed by those feelings and those physical sensations and become frightened to have more of them. And so sometimes in their efforts to avoid the anxiety, they greatly limit and restrict their lives. It’s very painful, and oftentimes they’re intrusive, very negative thoughts that are a part of the anxiety. And the anxiety can kick in a depression. Many of my clients have said that just normal day-to-day life experiences because of the anxiety feel overwhelming, feel too hard.

Rebecca Cressman: You’re nodding your head a little bit there, Jolene. In terms of what he’s talking about, anxiety, is that something that you also experienced over the years?

Jolene Meredith: Yes – we’re talking about not the type of anxiety where you have butterflies in your stomach because you have to give a talk. This is a much more severe situation. You dread, you fear – social anxiety, you don’t even wish to go out in public. You’d rather not even communicate with anybody. It’s just relentless in its intensity. Gratefully in anxiety, there are medications that do help with this, but you have to sometimes just weather it out and do the best you can also.

Rebecca Cressman: It’s interesting because I’m sure there’s many of us who are watching this program thinking, “There’s no way that you could be struggling with anxiety or ever have because you’re on a television show,” which would cause anxiety in anyone, and yet it’s something we all experience. We’ve all had different touches of that in our life. You had expressed that your daughter struggles with a type of anxiety disorder – it’s called panic. Is it a panic attack? Can you tell us a little about that, or is that separate?

Elder Alexander B. Morrison: Our daughter Mary, our much beloved daughter Mary, has had panic attacks for half of her life. She had a wonderful childhood, very, very happy, and then when she was in her mid-teens, we moved to England on a Church assignment. She was thrown into a totally different educational system, absolutely foreign to any North American experience, and she had a lot of cultural and social adjustments as well. The stress of all of that was extremely hard on her. She’s a very, very bright girl and a very, very good student and did extremely well at school, but the stress of keeping up and thinking that she had to be the best and always striving to do more simply broke her. And by February of the last year that she was there, she was unable to go to school. She just simply couldn’t go in the door and had to take her final exams at home. She did extremely well, but that was the beginning of what has been a dreadful experience for now more than 15 years so that she could not even go through the door of an educational institution for several years and has not been able to finish her education. She had dreamed of a PhD at Cambridge in classics and would have done it except for this dreadful which has taken over so much of her life.

Rebecca Cressman: Which is part of the severity of those who struggle with mental illness is the feeling of not having control, the overwhelming feeling of not having control over yourself. There’s another area that I’d like to also look into, and this is

dementia. Can you tell us a bit about that as a category of mental illness?

Dr. Kirk Dougher: Dementia is one of those categories that's often manifested by how people struggle in their day-to-day life events. They have difficulty with memory, sometimes they'll have difficulty with analyzing situations or making conclusions. They'll also struggle with some of their language capacities, and these language struggles can be both with the ability to express or articulate and also with the difficulty of trying to understand others. The onset of dementia can be related to a number of different factors as well. Sometimes they're connected to traumas that people have gone through in their life, brain injuries and so forth, and other times it's connected to more syndromes or illness related struggles that initiated the downward spiral that we refer to as dementia.

Rebecca Cressman: The Center for Change where you work at, Dr. Hardman, treats young women, or women and men, with eating disorders. That's another category. Can you elaborate to help us understand a little bit more about that?

Dr. Randy Hardman: Eating disorder's a very painful illness. Anorexia is where someone will deny themselves food or starve themselves because of an excessive, intense fear of gaining weight, of becoming fat, even if they're significantly underweight. Bulimia is where they will eat a large amount of food or binge and then try to eliminate that, purge it, through vomiting over exercise, laxatives. And oftentimes there's a combination of those two together. Eating disorders are often misunderstood. They're not really about food; they're about an external attempt to avoid or control feelings, internal conflict, feelings of self-hatred. It's a battle within that manifests itself outwardly.

Rebecca Cressman: Interesting. There is one last category that we'll look at today of mental illness. It's schizophrenia and psychotic disorders. Can you elaborate, Dr. Dougher?

Dr. Kirk Dougher: Yeah, schizophrenia's a struggle and it's extremely debilitating for people and probably one of the most profound. And when we think of people with mental illness, this is often one of the things that we think about. People with schizophrenia have hallucinations, delusions, or other thoughts that seem not to be based in reality and often are disconfirmed by people in their environment. However, they tend to go about acting on them as though they were real. Psychotic illnesses are slightly different. Even though some of the symptoms might be the same, schizophrenia tends to be much more of a chronic disorder where some of the psychotic episodes that people might experience are much more acute and short-lasting. They're also often associated with other severe, intense kinds of struggles such as depression, where they might develop a psychotic episode as a result of being down in the depths of despair.

Rebecca Cressman: Now you've often expressed that mental illness can actually be defined as a continuum. What do you mean by that?

Dr. Kirk Dougher: Well, our society, we're really quick to want to categorize something into discrete categories either having something or not having something. Even this diagnostic and statistical manual that we use in mental health to describe and categorize some of the struggles that people have tends to be that way to some degree. However, in my experience with my clients, it's often much more helpful and much more accurate if we examine rather than having all or none, to what degree we struggle with mental illness. So for example, somebody might have mild or moderate or even severe depression rather than having depression or not having depression.

Rebecca Cressman: There are a lot of myths and misconceptions, especially in a religious culture, about mental illness per se. The very first is that sin is the cause of mental illness and struggles. Elder Morrison, help us explore that and debunk that.

Elder Alexander B. Morrison: Well, there is indeed much misinformation, much prejudice, much ignorance, much bigotry about mental illness in our society, and Latter-day Saints are just as guilty of that as the general society is. One of the most prominent of the misconceptions is the notion that mental illness is caused by sin and that God is punishing the sinner by having him suffer or her suffer. That's simply not true. There's no evidence that's true. Now having said that, sin certainly does cause a lot of mental distress, and the pain and remorse of repentance is absolutely a major issue for people who are trying to come back from where they were, to stop breaking God's commandments. But then the real reality is that for many, many people, for most people who are doing the best they can with the world, their aberrant thoughts, their actions, their behaviors are not in any way explicable by sin. They're simply a manifestation of a mental illness that needs to be treated. They don't need to be exercised; they need to be given therapy. And that's the difference between sin and mental illness.

Rebecca Cressman: Another misconception that is communicated over and over again is that if someone, especially maybe a member of The Church of Jesus Christ of Latter-day Saints that has developed a strong testimony and priesthood blessings, that individual feels that in order to be cured of the mental illness, all they need is to rely on that priesthood blessing. Elaborate a bit on what your interpretation is on that myth within the religious culture.

Elder Alexander B. Morrison: It certainly is a widespread myth, that if you just had enough faith and just had a priesthood blessing, you'd get over all this and get back to where you should be. I wish it were all that simple; it's not that simple. I'm a great advocate of priesthood blessings. I know that they do inestimable good. But the reality is that people who are mentally ill need to be treated, and the second reality is that ecclesiastical leaders, while they're great spiritual leaders, are not in the main equipped to treat mental illness. They need to advise the members of their congregation to get treatment.

Rebecca Cressman: Let's talk about treatment, because that's such a key part. You mentioned earlier that depression and the other disorders that you talked about where treatable and that that brought you hope, Jolene. Dr. Dougher, explain to us again about how treatment plays a role in mental illness. Is there a cure?

Dr. Kirk Dougher: Treatment's really important, and people, the struggles that people have are often very treatable. And even outside of medication, therapy is one of the best things that people can utilize to be able to overcome and deal with some of the struggles. Now when I say overcome, I mean that people can deal with the symptoms that either life circumstances or these behavioral patterns that I mentioned have produced to be able to largely be able to live a normal life, although they may experience some of those same symptoms, and ameliorate some of the difficulties that they have had. Now a curious tip of the word that I stay away from simply because life is a dynamic, ever-changing, and flowing event, and some of the things that we've struggled with in our past do from time to time resurface. And under those circumstances, therapy can be one of those really beneficial things because having learned to deal with it previously can afford us an opportunity to more expeditiously overcome it a second time, although it's usually on a much more reduced level when we encounter it, having developed the capacity to overcome it.

Rebecca Cressman: Let's talk about the forms of treatment, because there are multiple forms, Dr. Hardman.

Dr. Randy Hardman: Medication is a great aid in helping with the biochemistry of these mental illnesses, psychotherapy with licensed professionals who can help people with emotional, psychological, relational aspects of the disorders. It's important also to evaluate and to correct any medical contributions to the illnesses. And of course, the support of loving family, friends, church leaders is a great help.

The help of understanding about mental illness – Elder Morrison’s recent book is a wonderful aid to families. All of these in combination tend to increase the likelihood of a successful outcome.

Rebecca Cressman: You hit the word combination – why?

Dr. Randy Hardman: Because mental illnesses are not on one level, they’re on multiple levels. And you need to work within all of the ways that this person can change their ways of thinking, their ways of feeling, how they cope, what they do. It helps to have all of those aids.

Rebecca Cressman: I’m looking at our discussion today, and Elder Morrison has shared his concern as a father of a daughter who was struggling and is struggling with panic disorder. Jolene shares with us her story, her battles, and her life story dealing with this. How do families cope, you know, a loving husband – how best can families cope, Dr. Dougher, with our family members with mental illness? How best can we help them?

Dr. Kirk Dougher: Family members and friends that are our social support networks are extremely important in helping people to overcome these struggles. In fact, they’re one of the most important things that we can develop. To be able to have a resource to turn to; someone who is open and nonjudgmental, who is willing to listen and try and understand without feeling a need of trying to give advice or solve the problem; someone who’s really truly interested in helping the person and is willing to be with them through a number of different struggles can be a dramatic thing that helps turn the tide for people. It just is one of those components that as Dr. Hardman mentioned, the things that can aid people overcoming, our social support and friends and family are extremely important.

Rebecca Cressman: Can you look back in your life, Jolene, and actually kind of on an objective point of view look back at the support and the love from your family and how they helped you along your path?

Jolene Meredith: Yes, we talked about it very openly and very freely. I think one of the words that I like to use is don’t whisper about it. Talk about it openly. We talk about specific symptoms in our family and how are you doing with these symptoms on a daily basis. As far as friends are concerned, I really like to try and help educate them, and it enables them to be able to understand mental illness better.

Rebecca Cressman: We have a friend who’s been watching our television shows and who’s e-mailed us about her own experience with a family member of hers, and I’d like to read that and then let’s discuss a little bit, and we certainly always welcome e-mails from our listeners and viewers. She says:

“My husband truly suffers with bipolar disorder. While he has suffered for years, we have only recently come to understand its true magnitude in our lives. After the unexpected death of one of our newborn identical twin sons last year, he really went off the deep end. He has now made choices which have cost him everything that he once held so dear, and yet I know that if he were in his right mind, who he truly is, and not enveloped by this disease, our lives together would still be intact. I guess I have two questions, both painfully fresh. First, while the older children have some sense that Dad has been sick and that his being gone is not their fault, what are some strategies for helping them deal with his total change of character? Second” – and we’ll talk with you a little bit about this – “what do the prophets and scriptures teach us about the eternal implications of severe mental illness? My heart tells me that a loving Heavenly Father who knows who my husband really is will know the extent of his illness and that the atonement of Christ will be able to help him become whole once again, but are there some references that teach these principles?”

I'm sorry for my emotional response to that, but Dr. Dougher, let's go to this response. Let's take a look and let us know – her first question says, she talks about her children and communicating with them. What are some strategies we can use to talk with our family members to help them understand the depths of mental illness?

Dr. Kirk Dougher: As Jolene indicated, one of the biggest struggles that we have in our culture and society is a lack of education. We have – there seems to be this stigma around mental illness, and we don't talk about it and we don't grow very educated about it because nobody else is talking about it. One of the best things I can suggest is to be able to seek out reliable sources and find out information that allows us to understand the nature and the course of some of the struggles that people have. In this case, there is somewhat of a predictable pattern or course that someone might experience if it goes untreated. So for this family to be able to get reliable information and be able to notice some of the red flags that come up allows them to both set the boundaries that they need to set in interacting with their father, but also be prepared by seeing some of the struggles that he has, to be able to differentiate who their father really is from who their father is with this particular struggle.

Rebecca Cressman: Her second question has to do with, we talked about living in a religious culture and the myths and misconceptions that are there – if you could elaborate for us on what the teachings are, the religious teachings are, spiritual teachings, about mental illness.

Elder Alexander B. Morrison: Central to any understanding of mental illness and the terrible suffering that goes on with mentally ill people is the concept that there is a loving God who cares for all of his children, whose love is both absolute and eternal. And the atoning sacrifice of his Son, our Savior, permits us to return to God's presence if we are righteous. That is the central issue, and the prophets have told us over and over again that no blessing which we do not obtain in this world will be withheld from the righteous in the hereafter. Now we don't know many of the details of the afterlife – no question about that – but the principles are very clear. Nothing can separate us from the love of God. He, I think, weeps over the suffering of the mentally ill just as earthly parents weep.

Rebecca Cressman: Thank you, Elder Morrison. Dr. Hardman, at some point we talked about how important it is, family support, how to help prepare and educate our family so that they can better treat, but what happens to a family, a wife or children, when they reach that edge, when they feel like they've endured all they can, they've tapped into their resources. What do you recommend when they're feeling that point of exhaustion and feeling overwhelmed?

Dr. Randy Hardman: I encourage my clients and their families to show compassion towards themselves and their predicament, that this mental illness is not who they are, who their family member is – it is what they're experiencing, what they have. But the truth is that we need to recognize that there's a fatigue and a weariness that occurs with family members who are dealing with mental illness, especially if it's gone on a long time. And to help them, we need to help them recognize that there's only – they can do what they can do, and to accept the limits of their ability, to not blame themselves, to get as much help and support in the community as they can, to utilize all their resources, to sometimes take breaks away from the situation, certainly to pray for comfort and strength, and to remember that love is enough – you know, to do what we can do out of our love for that family member without judgment.

Rebecca Cressman: Now members of The Church of Jesus Christ of Latter-day Saints sing in their church meetings – we've all turned to here, all of us here have turned to the hymnbook – and there is a song that Jolene, you have wrote, you've

composed, and it's "Where Can I Turn for Peace?" Tell us about that experience writing that song and what it means to you.

Jolene Meredith: We determined this was a mental illness hymn. Emma Lou Thayne, who wrote the beautiful words to the hymn, was struggling with one of her daughters at the time this was written, and I was struggling myself personally with mental illness, and so we lovingly call it "the mental illness hymn."

Rebecca Cressman: Is there a favorite verse that you have?

Jolene Meredith: Yes, I would like to read the second verse: "Where when my aching grows, where when I languish, where in my need to know, where can I run? Where is the quiet hand to calm my anguish? Who, who can understand? He, only one."

Rebecca Cressman: That's beautiful, and that will also give each of us an opportunity when we see that song in the hymnbook to think about you and your courage and the hope that comes from relying on the sources of strength both here within our world and within our families and also outside of us with the Savior. Thank you, each of you, for coming and sharing your stories and your expertise, and as always, we thank you for watching us and we hope that you will join us next time as well on Living Essentials. Good-bye.