



Nutrition in the Patient with Lung Cancer Side Effects from Therapy

[Lorren] Welcome back and thank you so much for joining us for the Caring Ambassadors Program video series Learn from the Experts. We are excited to welcome back Rhone Levin, a clinical oncology dietitian at the Florida Cancer Specialist and Research Institute in Fort Myers, Florida.

As our featured author in this video, Nutrition in the Patient with Lung Cancer, Rhone will discuss side effects from lung cancer therapy. I'm Lorren Sandt, the Executive Director of the Caring Ambassadors Program. I'm joined today by Cindy Langhorne-Hatfield, our Lung Cancer Program Director, and a panel of people living with lung cancer.

We hope this video will provide helpful insights and information for patients and caregivers dealing with lung cancer. If you're interested in learning more about the Caring Ambassadors Program and our mission to help patients with lung cancer, watch the video series and share this information with anyone who might find it helpful. Together we can make a difference in the lives of those affected by lung cancer.

Welcome back, Rhone.

[Rhone] Hello to all and thank you so much for having me today. My name is Rhone Levin, and I'm a registered dietitian nutritionist and I'm board certified in oncology nutrition. Today I'm going to discuss my chapter in the Lung Cancer Choices book we're going to talk about nutrition in the patient who is undergoing treatment for lung cancer, as well as survivorship. So how do we address that So I'd like to talk a little bit now about some of the common side effects that people experience with a lung cancer diagnosis. Lack of appetite or feeling full very

quickly; the terminology we use for that in the medical world is lack of appetite called anorexia and that is seen in about half of patients at the time of lung cancer diagnosis and it does affect people throughout cancer therapy.

Another thing that we will see is feeling full very quickly and the term that we use for that is early satiety and what that means is that you're just full very quickly and you or you feel satisfied when you've eaten even a very small amount So it basically prevents you from eating your full meal and so a lot of times people will tell me that they're eating half of what they would normally eat or smaller portions than they would normally eat. This situation is unusual as all of our lives we are hungry all of our lives, all of our lives we can't wait to eat again. What's next? What's for lunch? What's for dinner? So how do you address that when people are missing their natural appetite? First I like to have people just evaluate and address with their medical team any medical issues that are going on that could be a barrier to their eating and just for example, constipation; when people are not moving their bowels, they also aren't as hungry; so is that something that we can address as well as treatment side effects like nausea or pain issues and sometimes even using pain medications for example can complicate things so, we want to make sure that medical issues are resolved. and then the kind of the next and most important thing that I like that you can do at home is to literally put yourself on a schedule for frequent small portion intake and so I have people literally people and I on the clock to have a schedule you know set a set of patterns other day perhaps that means breakfast lunch and dinner and a couple of snacks I often will tell people six small meals a day or three meals and two snacks Then really importantly is we're not asking ourselves the normal questions. We're not asking ourselves are you hungry, we're not saying to our loved ones what do you feel like eating, or what sounds good to you because oftentimes people just have absolutely zero interest in the food and so that almost feels like a negative or you might get kind of a knee-jerk the answer of I don't want anything or no I you know I'm not hungry. So, instead, we're going to flip that, and we're going to change the question to be what can you tolerate right now? And so and you can use that for yourself, or you could use that for a loved one and so what that does is it really kind of opens up a variety of foods that people may feel are possibly tolerable. Another thing that we can do is plan for the best times of day, and you'll see those kind of change the pattern change throughout the treatment cycle. But kind of pay attention to what time of day you have you know even a light appetite or maybe there's a time of day that you notice that you're able to tolerate larger portions For many people this is morning time and so

instead of planning a light breakfast like you might normally eat perhaps we're going to add more food to that time of the day when people are able to tolerate it. Sometimes people find that they have thirst even when they don't have hunger. And so, what I find is a lot of people or many people will tell me that they're drinking a lot of water. So what we want to do is instead of using or filling ourselves with the liquids at the meal time what we want to do is we want to kind of position those in between the meals and perhaps even use liquids that have nutritional content or nutritional value. And so, I'll have people kind of if they're drinking a lot of water. I'll ask them to switch half of that, so maybe alternate a glass of water followed by the next time a glass of juice or some other beverage that has some nutritional or calorie value. We also look at the nutrient density we call this of the food and the beverages that we're eating and drinking and so you're uplifting the value of the food and it doesn't have to be a lot. Just for example, a teaspoon of fat at each meal adds 50 calories; so imagine at breakfast, lunch, and dinner, if you can add two teaspoons of fat, either olive oil or other cooking fats perhaps even butter if that's appropriate for you. So adding two teaspoons per meal would add 300 calories throughout the day. Another thing we can do is use protein powders. Obviously immediately think of protein drinks or smoothies but I actually recommend unflavored protein powders and there are several that are called medical grade which means they're not grainy. So they may not be the ones you buy at the grocery store but something that you get online perhaps if you if you look for like unflavored protein powders .so you can order it directly but these you can add to other things so smoothies but you can also add them to soup or you could add them to oatmeal and things like that. We also want to just kind of continue the conversation that we're not eating because of hunger but we're using terminology like you know supporting our strength, supporting our energy, and I often will ask people when they're in and haven't experiencing unintentional weight loss or if they're you know they feel like they're doing okay but I'll ask them about their energy level and it's sort of like that's really a great way of kind of demonstrating the value of the food because on the days that people are eating more they notice that their energy and their strength was much better. And then lastly if possible engaging in some light activity which is a natural way of kind of stimulating appetite the next thing.

Next, I wanted to talk about was that there are changes in taste and a smell that can occur, about 70% of patients will experience an alteration in their sense of smell or sense of taste during chemotherapy. If food odor is bothersome there's a couple of things. You can do cold dishes do not have odor or have very limited

odors so sometimes using cold plate type foods will help people to tolerate their eating. Sometimes people will cover food and beverages and an example might be like using a cup that has a lid and a straw, so you don't see the food you don't smell the food you don't even really taste the food. Using convenience items that could be prepared very quickly maybe frozen meals or packaged items or prepared foods from the grocery store as well as being very careful to vent cooking odors so that means opening windows, or using a fan sometimes people will have the patient avoid the kitchen during meal preparation. Avoiding like crock pots where the house is smelling like the food throughout the day as well as avoiding fast food in closed spaces so that means like picking up fast food on your way home where then the person is exposed in the car, and then by the time they get home they can't eat the food at all. Regarding taste changes there are a couple things that that we can address if food is very bitter you can try adding flavorful sauces you can try marinating things, adding sweetness, you can try using cold plates again to reduce that a sense of flavor also choosing bland foods. If the food is too salty you can prepare foods in a way that is unsalted, and so I always like to use the example of foods that should be salty that are prepared without salt then it's almost like your natural taste alteration is actually correcting the flavor. One of the things you can do change, add sweetness, for example, if it is a food, using a sauce, syrup, or honey. Some people find that it's just a psychological thing that they don't want to put metal in their mouth so using bamboo utensils or plastic utensils to get away from that that uh that scenario. There is a natural fruit, *Synsepalum dulcificum*. The kind of popular name is miracle fruit and this is a berry that comes from a small shrub native to Ghana and Africa and it contains a unique glycoprotein called miraculin and it binds to the case receptors that alter the food in such a way that it can help to mask some of these undesirable flavors. The effects of the berry has been shown especially to help with that metallic flavor. You can find this right on the internet; they have little candies as well as chews that are made with this this product. And then another very common thing that happens that people will tell me that they have a cardboard taste or no flavor or no sense of taste; sometimes people will describe it as sawdust, and in this situation, the gold sauces, including a lot of seasonings and herbs, trying Citrus as well as *Synsepalum dulcificum*

There are another natural product you can use which is actually a tea called *Gymnema sylvestra*, this is a natural tea that you can buy on the internet and what it does is that things are too sweet it actually helps block the sweet flavor and so professional wine tasters actually use this tea to help deaden their taste

buds to sweet flavors and it lasts for about 20 minutes. It does not alter the other perception of other primary flavors so it's kind of useful. But other things you can do is dilute things that seem sweet. So, dilute juices with water, you can do protein shakes with milk, and you can add things over ice, for example will take away that sweetness.

Another distressing side effect that people can have is having a queasy or upset stomach or having nausea during treatment. About 70% of people may experience this at some point in their treatment. It helps a lot to keep track of when this is happening because the medical team can actually treat different timing of nausea with different medications. The good news is that we do have wonderful medications that are available to manage upset stomach and it's important to note that you don't have to wait until you feel like you're going to vomit to use an anti-nausea medication. Oftentimes, we'll use these just for upset stomachs and we use them in a preventative manner. And again back to that idea of kind of keeping track of your treatment side effects when do they occur, if you know that day four after chemotherapy is always going to be an icky day, that might be a day where you talk with your provider but maybe first thing in the morning, you use an anti-nausea medication just to make the whole day better. So we can use these medications a little bit prophylactically or get ahead of the nausea instead of waiting to see what time it occurs that day. Also another note about these medications you will often be prescribed more than one of them and the reason the doctors do that is because they work differently, so oftentimes people can layer these medications using one and then using the other kind across the day. Obviously your provider can direct you on this but this really helps give you excellent control of nausea and queasiness, if you do not like these medications, or if you don't take them for a reason and for example some of them can create a little bit of a sleepy feeling. It's really important to share that information back to your provider because they literally have a multitude of anti-nausea medications that they can prescribe. So it's really important to let them know how you're using it, when you're using it, and if there's a reason that you're avoiding using it. Again the same uh kind of strategies come up again and again. You are going to see that but one of the very first things I have people do is I ask them to schedule very small and frequent portions for meals and snacks. So again we're kind of watching the clock and we're eating lightly throughout the day. Believe it or not, your digestive tract is actually happier when it's not very full but also never empty, so small frequent portions across the daytime. We also recommend choosing easy-to-digest foods, and these foods tend to be bland,

lower in fats, starchy foods, clear liquids and oftentimes clear liquids that have sour or tart profiles, and this would be something like lemonade or cranberry juice, kind of sipping on those things. We also avoid gastric irritants. Gastric irritants by the way can include things that are spicy things that are greasy actually in the next slide or next two slides I'll be talking more about that. Another thing we can do is what we call trickling and again this goes along with the idea of kind of your stomach is never very full but it's also never empty. So what I tell people to do is to literally kind of almost like a choosing their liquids and again maybe using some that have nutritional value, and then foods that have liquids and that might include things like popsicles, it might include Jello, it might include soups. Choosing foods with little odor like we were talking about the cold plates again covering beverages with a straw and a lid. Plain things like pasta, baked potato, rice, cold cereal, and boiled meats; these things are better tolerated if you're having nausea. Limit exposure to cooking odors and then resting with your head elevated for 30 minutes after eating trying not to lay down flat.

Another kind of distressing side effect that can occur with different medications is having diarrhea. Diarrhea can occur from some treatments, including immunotherapy and so we found that to be especially true with checkpoint inhibitors. Diet recommendations include, once again we see the same kind of important strategy here which is scheduling yourself small frequent portion meals snacks and fluids across the daytime. Choosing foods that are easy to digest again bland, low-fat, starchy, clear liquids including soluble fibers. Soluble fibers are soft fibers that digest and create almost like a gel in your digestive tract.

In particular, rice actually used to be an old-fashioned remedy for diarrhea. Pectin and foods that contain pectin, so Jello for example, applesauce, these are things that are very appropriate. The gastric irritants so spicy food, greasy food, we're avoiding stimulants that might include caffeine, hot liquids also insoluble fibers. So these would be I like to call them sticks and twigs. But if you think of like whole grain bread, fibers that include like seeds or nuts; those are the kind of fibers that are very difficult to digest so in a situation where you're having diarrhea you don't have time to digest those fibers. As well, surprisingly carbonation can be irritating, and also something called sugar alcohols and sugar alcohols are found in products that are sugar-free so you always want to look for anything with sugar alcohol on the label. I also like people to educate themselves or their loved ones on their hydration goals. So basically, for an adult we usually recommend at least a minimum about eight cups of fluid a day now when I say fluid I don't mean just

water, eight cups of liquid a day. For each loose bowel movement, we want to add another cup of liquid so that means if you are having four liquid bowel movements a day, that means that we are having the eight cups of liquid plus an additional four cups of liquid a day to stay hydrated. I do ask people to keep track on a piece of scratch paper how many eight-ounce cups of liquid they're taking in, and again it doesn't mean just water; it means all liquids so soup might count into that. We kind of want to look at that big picture that you're looking across the daytime, so if our goal is like 12 cups of liquid, almost like, one cup an hour throughout the day is how you're going to absorb it best. Diarrhea can also make you lose electrolytes and especially sodium chloride, which is salt as well as potassium, so it is beneficial to include these in your diet. Some people will use electrolyte-bearing beverages or specialty preparations and you'll see those right at the grocery store or the pharmacy; they're called oral rehydration Salt Solutions which is why they have the nickname ORS products as well as recipes and you can find those on the internet, but uh really being thoughtful about including these things especially if the if you're having more than six loose bowel movements in a day or if it's long lasting. So if you're having multiple bowel movements a day for longer than a couple of days this is when we start looking at incorporating these beverages. The oral rehydration salt solutions are a step above the kind of like the sport drinks that are out there but those are also useful. So, I just like people to kind of be aware of these different products that are available. You can also include more electrolyte bearing foods that are salty so for example, soups, and crackers, and pretzels, and potassium sources which would include things like banana, maybe watered down Citrus as well as light use of tomato sauce or juice for potassium. So if you are experiencing longer-lasting loose bowel movements and this would be if you're having them longer than two weeks or so you can become slightly lactose intolerant. We call that secondary lactose intolerance and instead of doing away with dairy foods that contain the natural sugar called lactose is what we do is you would substitute lower lactose products. Right there at your grocery store you've got lactose reduced or lactose-free milk. Some grocery stores carry lactose-free ice cream as well as lactose-free cottage cheese. Another option is to use over-the-counter enzymes that break down the lactose; they're called lactase enzyme tablets they're right there in the grocery store pharmacy section in the gas section and those you can just carry in your purse and those I especially encourage that if you're eating out at a restaurant for example and you're not sure if there's going to be dairy in the in the food.

Another distressing side effect that can occur for about 40 percent of patients is having a sore mouth during treatment and the obvious things of course we avoid or recommend avoiding irritate you know things that are irritating that's kind of common sense. Obviously spicy food, acidic food, peppers, hot sauces strong seasonings, but also, strangely enough, carbonation can be bothersome. Alcohol is also considered an irritant. The main recommendation that we have is the use of pain medications during this time period and of course your provider will help you with that. And there are pain medications of course that are systemic but there is also pain medications that are topical, which might help to actually just numb the oral cavity. Sometimes you can just target it at certain areas if you have sore areas in your mouth. Other food recommendations are to include soft foods and so soft easy to chew foods, or moist foods, I encourage people to dip dry foods or to moisten gravies. Sometimes people will for example get at the grocery store or several different flavors of pre-made gravy so that you would have a chicken gravy, a beef gravy, you know whatever and then you can take them out you know a spoonful at a time to moisten appropriate foods, but also adding fats and this would include, nut creams, heavy cream, butters and gravies to help with chewing and swallowing. If it seems to happen on a routine basis during your treatment or if it is long lasting is to texturize or puree difficult-to-chew items and this might mean just finally chopping things, like meats or it may include adding, even pureeing, like in a blender, pull the meat out, you whip some of the gravy you puree it to a very soft texture and then you put it back into the soup or the stew, so you're getting the same nutrition and the same flavors but in a way that is just easier to tolerate.

Another thing we can do is use a wide straw called a smoothie straw, right there at your grocery store you'll find straws that are wider and thicker and they're for viscous liquids and that way, you can direct liquids to the kind of unaffected or non-affected areas in the mouth to reduce discomfort. This is also a time period where people find using oral nutritional supplements which would include protein shakes, which you can buy at the grocery store, but also homemade as an efficient way to kind of get in a good amount of nutrition and you know in the more comfortable manner and then also room temperatures may be less stimulating than hot or cold.

[Lorren] Thank you so much Rhone. Please tune in to our next session, where Rhone will discuss helpful resources for people living with lung cancer and beyond. Thank you

