Welcome to Yale Cancer Center Answers with your hosts Drs. Anees Chagpar, Susan Higgins, and Steven Gore. Dr. Chagpar is an Associate Professor of Surgical Oncology and Director of the Breast Center at Smilow Cancer Hospital. Dr. Higgins is Professor of Therapeutic Radiology and of Obstetrics Gynecology and Reproductive Sciences and Dr. Gore is Director of Hematological Malignancies at Smilow and an expert on myelodysplastic syndromes. Yale Cancer Center answers features weekly conversations about the research, diagnosis and treatment of cancer and if you would like to join the conversation, you can e-mail your questions and comments to canceranswers@yale.edu or you can leave a voicemail message at 888-234-4YCC. This week it is a conversation about nutrition and excise for cancer patients with Heidi Larson and Courtney McGowan. Heidi and Courtney are both certified specialists in oncology nutrition and here is Dr. Anees Chagpar.

Chagpar Courtney, we will start with you. Tell us a little bit more about what exactly a certified specialist in oncology nutrition is.

Courtney As a registered dietician, we have our degrees in nutrition and then sit for an exam to become registered dieticians, and then in addition to that, you can seek further specialty certifications in oncology and you need extensive practice hours to do that. You sit for an exam and that allows you the credentials to practice as a specialist in oncology nutrition and so it really means that you have the knowledge and the background to counsel patient's specific to the things they might be experiencing as they go through treatment.

Chagpar Heidi, when we think about nutrition, a lot of people think nutrition is nutrition is nutrition. Eat healthy and all will be well with the world. Are there special considerations for people who have cancer?

Heidi There are several considerations that we take into account and it really depends on the cancer diagnosis and what type of treatment they are going to get, whether a patient will be undergoing surgery, if they are going to receive radiation and the location of the radiation, or if they are going to be undergoing chemotherapy. So we do try and take all of those things into consideration when we counsel the patient and sometimes while they are going through this acute treatment, your goals might change depending on what side effects you are experiencing.

Chagpar Courtney, let's pick up there. Talk a little bit about the kinds of things patients ask you about, what are the goals that people are setting, and presumably these goals change over time?

Courtney They do. Your overall goal as a dietician is to help these patients prevent malnutrition, help them eat well through their treatment, and as Heidi mentioned, their goals do change and what they are able to do changes as they go through treatment. It is very dependent on the area of disease being treated. Patients who have disease of the head and neck may experience taste changes, may experience

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difficulty chewing or swallowing and so as you are sitting down and you are talking with them, you are trying to help them navigate these side effects from treatment, and you are taking into account not only what their food preferences are, but many of the foods that they used to enjoy that they may not be able to tolerate anymore. For example, a patient who was a meat and potatoes guy, if he is experiencing dry mouth or difficulty chewing and swallowing, lack of saliva, a big hearty steak may be a hard thing for him to sit down and eat and so making suggestions along the lines of chopped chicken salad where you've got the mayonnaise in there, it is nice and finely chopped, that may be something that is more appealing to the patient. In some cases, for those head and neck cancer patients, it gets to the point where they are not able to eat much of anything at all and that is where we consider the need for feeding tubes and nutrition through that vehicle.

Chagpar I guess the other question that people ask is, did I eat something that caused my cancer? Are there things that people should be avoiding that are carcinogenic or foods that you say, steer clear of that or is there less of a tie between what you eat and getting cancer because presumably that is a question that many people might ask?

Heidi I agree. I think a lot of people look to their history and behaviors that might have influenced their cancer diagnosis, but I think anybody who works in an oncology field never wants to place blame and shame on a person and when it comes down to it, when it comes to nutrition, you can never say definitively 100% that something you are caused your cancer.

## Chagpar Right.

Heidi Or, that you did not eat caused your cancer, but looking at all of the literature that is available out there, we do know that certain lifestyle behaviors can reduce your risk. Of course, it is never a guarantee, but we do know that some healthy behaviors can make a difference and what we know now are some of the most important things you can do. Number one is exercise and number two, maintain a healthy weight and there is more and more evidence emerging that obesity can play a huge role, so if anybody can do anything to reduce their risk, I would recommend going out there and trying to get some exercise and trying to come up with a plan for weight loss.

Chagpar I will tell you now that we have started a brand new year, a lot of people are thinking about making resolutions, I am going to lose weight, I am going to get healthy, I am going to exercise, I am going to eat right, but that is a little bit easier said than done. Courtney, what suggestions do you have as a nutritionist from a practical standpoint? People have made all of these resolutions with the best of intentions. What steps do you recommend to help them lose weight, maintain an ideal body weight, eat healthy, get exercise, etc.?

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Courtney I think one of the most important things to do is to set realistic goals. As much as it might be desired to lose 15 pounds in a week, what is recommended as healthy safe weight loss is a pound or 2 a week, and so setting a realistic goal like that, you do not set yourself up for failure. Incremental weight loss is helpful. Also, keeping food records is a great way to track what you are eating to hold yourself more accountable. Nobody needs to look at them, they can just be between you and the piece of paper or there are a lots of apps now for phones that will automatically log calories, you can log your weight in there as well to set a calorie limit and have your calories accumulate over the course of the day and it just gives you a very real sense of how much you are actually consuming and that can be a real eye opener for people. I think it is common to underestimate how much you are actually consuming in a day and along those same lines, a pedometer is a great way to track steps and to have a true estimate assuming it is a reliable pedometer, but it will give you a good sense of exactly how active you are. A lot of people overestimate how much they are exercising, and so to have their eyes opened to that can be helpful.

Heidi I tend to overestimate my exercise and underestimate my food intake. I think that has something to do with why I am the size that I am.

Courtney You are not alone.

Chagpar Heidi, let's say we are going to set a realistic goal for weight loss, a lot of people wonder how do we actually achieve that. Is it calorie restriction, fat restriction, should we be eating high protein, should we do a grape fruit diet or an Atkin's diet? What about cleansing things? What works? Give us a tip on how we can actually lose weight and do it in a healthy way.

Heidi This is a never ending debate among nutritionists as what is the best way to lose weight and not only dieticians have opinions about this, but anybody you meet on the street has an opinion about this, but we really try and focus on the long term and try and get people to avoid a fat diet that will only bring a temporary change and research really shows that the best changes happen in small increments, and also the goal should be measurable. So instead of saying, I would like to lose weight or I want to exercise more, you should quantify that. Instead of saying, I would like to exercise more, I am going to the gym, you say, I am going to walk up 20 flights of stairs a day or there is a lot of evidence that people do not eat enough fruits and vegetables, a measurable goal would be, I am going to eat 7 fruits and vegetables a day and then you come up with a specific plan and you can hold yourself accountable when you get to the end of the day and see what you have done right and pat yourself on the back or readjust based on what you have done wrong. We have found that those small incremental goals produce more long lasting weight maintenance.

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Chagpar So you set yourself some small incremental goals so you kind of know what you are going to achieve. I still think people might be stuck where it comes to what exactly should they be doing. Recently the guidelines changed. Can you give us a sense of, is it that we are only supposed to eat so much sugar or is it the carbs or is it the protein or is it fat? People keep telling us to read the labels and I read the labels and I do not know what to make of them.

Courtney It can be confusing as labels can be overwhelming to look at, but in general what is recommended is to follow a diet that is wholesome. Follow a diet that is rich in fruits and vegetables, whole grains, as opposed to refined white grains. Choosing primarily a plant based diet has been found to reduce cancer risk and getting your protein from nuts and beans and certainly that can include animal sources of meat, but to primarily focus on the plant based food sources and of course portion control is always important. We set a goal of say the 7 servings of fruits and vegetables like Heidi mentioned and if you think about that it sounds like a lot, but if you incorporate those over the course of the day not just with meals, but make your snacks fruit and vegetable based as well, you are not only helping to get those nutrients from your fruits and vegetables, but you are cutting down on calories when you end up replacing whatever you got out of the office vending machine with carrots and celery that you brought from home.

Chagpar When we talk about these goals, can you tell us a little bit more about what is a reasonable goal in terms of steps? Courtney, you mentioned having a pedometer and a lot of people say 10,000 steps a day. I always wondered where did that number 10,000 steps a day come from, was it pulled out of the air because truthfully when some of us, and I'm not pointing any fingers or anything, but some of us get home at the end of what we consider to be a busy day and we look at the pedometer and we are nowhere even remotely close to 10,000 steps a day and so I started thinking what is up with 10,000 steps a day? Could we make it like 2000 steps?

Courtney That 10,000 steps a day equates to 30 minutes of exercise every single day, which is the amount of exercise that they found produces some type of benefit for people. It is a challenge to get 10,000 steps in a day, because I have done it myself, and some of the ways that I have been able to incorporate more steps into a day is walking through the hospital while I am working or take the stairs or if it is nice weather, take a step outside. So if you start early, before you get to the end of your day, you can get closer to your goal.

Chagpar We are going to take a short break for a medical minute and then we will catch up more about food and nutrition and exercise with my guests Heidi Larson and Courtney McGowan.

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Medical Minute The American Cancer Society estimates that there will be 75,000 new cases of melanoma in the US this year with over a 1000 of these

patients living in Connecticut. While melanoma accounts for only about 4% of skin cancer cases, it causes the most skin cancer deaths. Early detection is the key, and when detected early, melanoma is easily treated and highly curable. Clinical trials are currently underway at federally designated comprehensive cancer centers such as Yale Cancer Center and at Smilow Cancer Hospital at Yale-New Haven to test innovative new treatments for melanoma. The goal of the specialized programs of research excellence SPORE in skin cancer grant is to better understand the biology of the skin cancer with the focus on discovering targets that will lead to improve the diagnosis and treatment. This has been a medical minute brought to you as a public service by Yale Cancer Center and Smilow Cancer Hospital at Yale-New Haven. More information is available at yalecancercenter.org. You are listening to the WNPR, Connecticut's public media source for news and ideas.

Chagpar Welcome back to Yale Cancer Center Answers. This is Dr. Anees Chagpar, I am joined tonight by my guests who are registered dieticians, in fact they are oncology specialist dieticians, Heidi and Courtney, and we are talking about nutrition and exercise for cancer patients and for people who never want to become cancer patients. Courtney, before the break, we were talking a little bit about getting 10,000 steps, getting 30 minutes of exercise a day because that reduces risk and we have talked a little bit about how we can try to lose weight and eat healthy as we start the new year. For cancer patients, I would anticipate that some of those recommendations may be more difficult. Let's suppose you are going through chemotherapy or radiation and getting a bit tried, how do you still get that exercise in and how do you still remember to eat healthfully?

Courtney The goals that you have for cancer prevention are very different than what your goals are as you are actively getting treated for many of our cancer patient populations. Once you have a cancer diagnosis, you are undergoing treatment, there are many side effects that can make it very difficult for you to follow those previous guidelines of a diet rich in fruits and vegetables and whole grains which tends to be very high in fiber and as you go through treatments some of the common side effects, intermittent diarrhea is very common and with that for many patients, they better tolerate diets that are low in fiber and so you actually encourage them to avoid raw fruits and vegetables if they do cause worsening of the diarrhea. You encourage more refined white flours instead of the whole grains and so it is a shift in the conversation more toward foods that they can tolerate to help maintain their nutrition status as they are dealing with the side effects from treatment and so you kind of put that, how do I keep from getting cancer, on hold and you shift more toward, what I can tolerate to prevent malnutrition. In terms of fatigue, one of the things that they found can help combat fatigue is exercise, and so if you can motivate those patients to believe that and get off the couch and just go for a small walk, assuming of course that the physician says that it is safe for them to do that, that can actually help fatigue

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and so once they are near the end of their treatment is when you would readdress as they have started feeling better how can they then start to re-incorporate those healthy food patterns that we had encouraged prior to them getting the disease or the treatment in side effects.

Chagpar Heidi, I think this whole concept of fatigue and exercise is really quite interesting. I find that even for non-cancer patients one of the difficulties is the fatigue and the lack of motivation to get to the gym. Once you are at the gym, you have a blast, you are going hard, you are pumped, life is grand, and we have all had a million excuses, me included, I am too tired, I have had a busy day, it is too cold, you name it. How do you get over that? Because I think that when patients and people have fatigue, one of the hard parts is that first push to get out there and once you exercise you feel great, but how do you get over that first hurdle? I think that is a big issue for lot of patients.

Heidi I agree. There is a lot of evidence out there that people who exercise and are active are less prone to chemotherapy related fatigue. So it is really working individually with the patient to help them identify what motivates them, so a person who has never been to the gym before is not going to go sign up at the local gym, but perhaps you can help them recall a time in their life and activity in their life that they enjoyed, or even if you can get them to think about walking around the neighborhood because getting outside, getting fresh air, not only are you getting exercise but it can also affect your attitude and your feeling of well-being. In addition, I think there is a one or two-day period where people do feel very fatigued after treatment and I think it is okay to let people know during that one to two-day period it is okay to skip the work out but still try and maintain your day-to-day activities and especially take care of yourself and maintain good hydration during that time so that when you are feeling better you can get back out there and get your exercise done.

Chagpar Courtney, how do you mention hydration which brings up a whole other issue? People say that we should be drinking eight glasses of water a day, why is that and is that really true, do we really need eight glasses of water a day and as the corollary to that, is it any fluid? Can we have 8 glasses of Diet Coke instead?

Courtney You want to maintain proper hydration of course and eight glasses of water a day are recommended. It depends on your patient population; if you are talking about the healthy well individual, then water is going to be a great choice because it does not have calories, so if you are talking about trying to manage weight, it is good for that, when you get into your diet beverages, many of them have caffeine and so for the healthier population, it is best to do water and I know sometimes that is hard for people to tolerate and they do make these great water bottles now where you can put your fruit in the middle so that it infuses the flavor of the fruit into the water which is a great way to

get some added vitamins as well, so that is a clever way to help you reach that goal. When you are talking about a cancer patient, it changes a little bit where you are having them get full quickly and having all these other side

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effects that are making adequate intake difficult and so for that population encouraging things that do have calories is preferred. Water is always good, but sometimes they find it more manageable to do popsicles and sometimes your nutrition supplements can also be of benefit, your liquid shakes and things like that where you are getting some calories and proteins along with your hydration and so again that conversation shifts depending on the type of person you are talking about.

Chagpar Heidi, let us talk a little bit about supplements. We are now getting ready to start the New Year, we want to be healthy, should we be taking supplements, should we be taking a vitamin, what about protein supplements and things that you can find at health food stores and at the gym, are those good for you? There is so much varying information out there, give us the straight goods on what we should be doing or not doing?

Heidi It is all very confusing and I think I would not necessarily call it information, more marketing than anything, but statistically I think 70% or more of cancer patients use some type of supplement and the type of supplements that they use can vary from just a whey protein to a highly complicated herbal mix to your day to day grocery store items that just have supplemented waters, so it can vary greatly. Our philosophy as dietitians is whole foods first and when you look at evidence it does point in the direction that you get the greatest benefit of nutrients from foods and every time they have tried to extract a specific supplement out of a food, for example, selenium and prostate cancer, the potential benefits they have seen have been negated when they take the supplement only, but I think people really do use supplements when they might not necessarily be safe, so we do ask people to let us know whenever they are using any type of herbal mixture or vitamin supplement because our biggest concern is that it could have some type of interaction with the chemotherapy and lessen or negate its effect. As far as whey protein supplements, again if somebody is eating well, that is maybe something that is not necessary but for a good amount of our population, say for somebody who is not swallowing well or for somebody who has taste changes, that might be a good option for them until they are feeling better.

Chagpar Are there certain supplements and vitamins that could actually promote cancer that people should be wary of or is this just, you can take it if you would like but talk to your doctor about whatever you are taking? Heidi Based on the literature I have seen, there have been some cases where body building supplements have been pulled off the shelves because they have been shown to cause prostate cancer in certain populations and as well, I know that folic acid,

if you are already diagnosed with cancer, in excessive amounts, could potentially be harmful, so I think people need to be a little bit cautious about what they are taking and where they are getting their information from.

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Courtney And part of the concern with supplements too is that they are not a regulated product and the FDA does not oversee what is in them and so what is on the label is not necessarily what is actually in the product that you are consuming and so that does warrant some concern and especially in the cancer population when you are talking about someone who might be neutropenic, if their counts are low, and they could be at increased risk for infection, the products are not regulated, they may contain mold, they may contain something that could cause an infection or cause harm to them and so that is the concern with supplements and with the guidelines of various colors of fruits and vegetables and whole grains as Heidi said before as dietitians we advocate food first.

Heidi What people advertise as natural, probably the most natural thing to do is shop in the produce aisle and get something that came from a tree or a plant or a bush or something.

Courtney Right and that is not to say that in our patients whom we talk about how they are eating poorly, a lot of them when they are restricted in the amount of fruits and vegetables they are able to tolerate, a multivitamin could be appropriate for patients like that but that is just your standard multivitamin without the bells and whistles.

Chagpar You are not the first nutritionist who has said eat the rainbow. Eat all of the different colors, why is that, what is up with the colors because on the other hand you also all say eat a plant based diet, well most plants are green, what if you just ate green, is green good enough or do you really need the rainbow?

Courtney The rainbow is beneficial, every color takes its nutrients from Mother Nature and so within each color you have different phytonutrients which have been found to provide different benefit and so the more colors you can eat the more diverse your phytonutrients and vitamins and minerals and a food that might be rich in vitamin C may be lacking in other nutrients, and so by getting the colors, you get a wider variety.

Heidi Larson and Courtney McGowan are Certified Specialists in Oncology and Nutrition. We invite you to share your questions and comments, you can send them to canceranswers@yale.edu or you can leave a voicemail message at 888-234-4YCC and as an additional resource, archived programs are available in both audio and written form at yalecancercenter.org. I am Bruce Barber hoping you will join us again next Sunday evening at 6:00 for another edition of Yale Cancer Center Answers here on WNPR, Connecticut's Public Media Source for news and ideas.