

Angelica Ladd:

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Angelica Ladd:

Just giving everyone another 30 seconds, then we'll get started.

Angelica Ladd:

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Angelica Ladd:

Hi, and welcome to the Healthy Living Series. I'm Angelica Ladd, community relations specialist here at Dartmouth-Hitchcock Health. And this evening, we are joined by Auden McClure, MD, Richard Rothstein, MD and registered dietician, nutritionist Rima Itani Al-Nimr, MS, RDN, LD, who will discuss the link between food and your wellbeing. But first, we have a few housekeeping items to get out of the way, so we're just going to do that real quick.

Angelica Ladd:

So we've reserved some time for questions and answers at the end of our presentation this evening. So if you'd like to ask questions, please use the Q&A function. This is going to be a dense presentation. We have some great presenters, so we will reserve a little bit of extra time in case we need to go over 7:00 o'clock. So if you have those questions, we want to get those answered for you.

Angelica Ladd:

Tonight's event is being recorded and will be posted on our Healthy Living Series page at go.dh.org/hls, as well as YouTube, so you can watch this presentation again and share it with your friends and family, anyone who you think would enjoy this information. We also have closed captions available for tonight's presentation. Just click on the closed caption icon for live captioning. At the end of tonight's event, you will be sent a three-minute survey. It shouldn't take very long, and I would really be grateful if you could fill that out because it helps us with future programming. Finally, we have another Healthy Living Series event plan for March. If you'd like to learn about colorectal cancer screenings, then we have a comprehensive presentation coming up on March 22nd. You can register for that event by visiting go.dh.org/hls. So that event is March 22nd, as I said.

Angelica Ladd:

Now, I'm going to get to our introductions. Rich Rothstein is with us tonight. He is the chair of medicine at Dartmouth-Hitchcock and the Joseph M. Huber at the Geisel School of Medicine, where he is also the Senior Associate Dean for Clinical Affairs. He's active in his clinical practice in gastroenterology and endoscopy, and is engaged in research and teaching. In his spare time, he enjoys turning wooden bowls. Thanks for being here, Rich.

Richard Rothstein:

[inaudible 00:03:04].

Angelica Ladd:

Auden McClure is a trained chef and pediatrician who directs the adult and pediatric weight management programs at the DH Weight and Wellness Center, and leads the Dartmouth-Hitchcock Culinary Medicine Program. Thanks for being with us today, Auden.

Auden McClure:

Thanks.

Angelica Ladd:

And Rima Itani Al-Nimr, MS, RDN, LD is a registered and licensed dietician nutritionist and lecturer in the departments of Medical Education and Medicine at the Geisel School of Medicine at Dartmouth, where she leads the nutrition and medicine curriculum, teaching nutrition science to medical students. As a member of Dartmouth-Hitchcock's Department of Medicine, she works closely with the DHMC Culinary Medicine team in the areas of culinary medical education and research. Thanks for being with us, Rima. And with that, I will turn it over to Rich to start the presentation.

Richard Rothstein:

Thank you so much, and I want to welcome all of you to this evening's program. We have this built into basically three parts. I'll give a brief introduction, and then Rima will be talking to you about common nutrition, myths and truths. And then Auden is going to give some culinary commentary while she is also going to do a cooking demonstration tonight. And she'll tell us about what she's preparing, and it'll give us all a chance to learn about this culinary activity.

Richard Rothstein:

So yes, I'm the professor of the department of medicine and have hundreds of faculty that I work with, but what I am mainly is a practicing gastroenterologist. And while I'd enjoy being part of the later in the month talk on colorectal cancer screening because that's near and dear to GI people's hearts, I also know that you are what you eat. And we've been very busy over the last six years or so creating a weight and wellness center that is for clinical and research care here at Dartmouth and Dartmouth-Hitchcock. And you're going to hear a little bit about that because food is a medicine. Food is very important in health, and I'm delighted tonight to be part of this.

Richard Rothstein:

What we know is that two-thirds of Americans currently are overweight or obese, and the rates are rising also in adolescence and in children, as well as in adults. And we know that obesity-related diseases like diabetes and coronary artery disease and strokes and high blood pressure and certain cancers, as well as so many other conditions, some have estimated over 200 conditions related to obesity, all of that is on the rise, especially type two diabetes. We also know that one in every five deaths globally is attributed to suboptimal diet, too much, too little, wrong components, many things related to suboptimal eating, and that food and nutrition interventions can certainly play a role in the prevention, management and treatment and even reversing disease. So you can reverse diabetes or hypertension or high cholesterol or other kinds of things with appropriate diet.

Richard Rothstein:

What we also know is that healthcare teams should be spending time addressing the nutritional and culinary knowledge needs of our patients and their families. And in the past, they didn't do that as well

as they could. We also know that there's an ongoing problem of food inequity, and that we really need to deal with food deserts and inadequate opportunities for getting nutritious and reasonably cost foods.

Richard Rothstein:

We, here at Dartmouth, have been part of a national teaching kitchen collaborative because we believe that teaching kitchens can be and should be essential components of academic health systems and in the community. And these are resources then, where we can teach about culinary medicine, which is becoming an emerging discipline at medical schools and at hospitals and academic health centers, where we can teach about healthy eating, both to patients and their families, but also to the people who take care of patients and their families. We really need to spend time educating our learners, our medical school students, our residents, and each other.

Richard Rothstein:

We have a weight and wellness center here at Dartmouth and Dartmouth-Hitchcock. And it's a multidisciplinary team approach where you have medical providers, dietitians, behavioral psychologists, exercise specialists, health coaches, information people to put data together, community support activities, like this one, and a culinary medicine program, which is a specific thing at our institution, not found at most medical schools, where we really can teach our learners about culinary competency, knowledge-based and skill-based training, and you'll hear about that tonight. Because in our culinary program, we believe that food is medicine, or imagining food as a medicine. And here's some food, and you're going to see some really delightful food later tonight, but we have programs at the culinary medicine program of the weight and wellness center for many audiences. We teach our doctors and nurses and staff. We teach our students, who are learning from us, and we also are doing programs within the community, including the one tonight.

Richard Rothstein:

Now what's interesting to me, as I deal with many physicians, is that patients certainly believe that we have nutrition information, that we are the sources of that. Forbes Magazine, of course, says that nurses and health professionals top the list of the most trusted professions. And most people expect their clinicians to be able to provide recommendations about diet and nutrition. But it turns out that less than half of primary care doctors routinely discuss weight loss with their patients when it's indicated, when the person has obesity, or provide dietary counseling for people who want general nutritional counseling. And the reason for that is probably because many physicians lack the confidence to provide that counseling. They need registered dietitians and others around them to help with that because they never really learned it in medical school. And that's just coming about now as a change that we're making sure that we teach nutrition and culinary education.

Richard Rothstein:

And there are of course in our health system, and that's the topic for a whole other discussion, financial disincentives to spending time talking about nutrition when our fee for service based medical care really doesn't allow that or focus on preventive healthcare.

Richard Rothstein:

There's an interesting report that was put out a number of years ago that we ought to spend at least 25 hours of classroom nutrition education in medical school. But a survey done now about eight years ago showed that three-quarters of the medical school provided less than 25 hours, with a median of about

17, but a third offered even less than that. So real inadequacy of medical education and nutrition. And also clinical practice exposure, like tonight's demonstration of culinary competency, knowledge about what to buy and how to cook it, was absent in most of the programs.

Richard Rothstein:

What I'm happy to tell you is that Dartmouth Medical School students are receiving nutrition education from our lecturers in nutrition and in different parts of various courses that have to do with intake of food and health and disease. And all first year medical students now at Geisel are required to engage in culinary medicine and learn about culinary competencies. That, after you finish as a medical student, you go into what's called resident education. You train to be a doctor in your specialty. And here, in these specialties of internal medicine, family medicine, surgery, and anaesthesiology, at least in a paper written six years ago looking at 500 programs throughout the United States, only 26% of them offered formal education in nutrition. And three-quarters of them believed they were not meeting requirements for nutrition education.

Richard Rothstein:

And even in cardiology, the program you had before this one, where there's obvious-ish evidence for cardiovascular risk with diet, and that some diets can improve by reducing cardiovascular death rates, they all cause mortality, especially things like the Mediterranean and DASH diets, 56% of trainees in cardiology reported receiving no nutrition education in their training, and 90% of 600 cardiologists out there in practice reported receiving no or minimal nutrition education in their fellowship. And again, this is a bit older data of about 10 to 12 years ago, but note that there's a reason that your doctors haven't been talking to you about nutrition and diets, because they just don't know much about it.

Richard Rothstein:

So teaching kitchens though are a way that we could educate our healthcare teams. They should serve as classrooms and learning laboratories for nutrition education. It's a place where nutrition facts and knowledge are, and it's a repository of shopping and cooking skills. You should look at it as a trustworthy source of information for personalized guidance on exercise, mindfulness, behavioral optimization of your health. And it's staffed by medical professionals and chefs and registered dietitians and exercise trainers and mindfulness teachers and health coaches. That would be the best way to create a learning environment around healthy eating.

Richard Rothstein:

Lastly, I'll just say that Hippocrates, a famous physician from long ago said, at least it was said that he said it, "Let food be thy medicine and medicine be thy food." It's actually a misquote. He didn't say that. That came about in 1926, about 100 years ago. People said, "Oh, Hippocrates said that." Actually, what he said was, "I will apply dietetic measures for the benefit of the sick, according to my ability and judgment, and I will keep them from harm and injustice." That was the original that he said.

Richard Rothstein:

Well, I'm here to tell you that this is important. We need to apply dietetic measures for our patients to keep them healthy. And we need to increase the ability and judgment of our clinicians, and that's what we're working on. Rima and Auden and I, and many others are working to help bring that knowledge to our clinicians. And with that, I'm going to turn the program over now to Rima, who will tell you about myths and truths about food and nutrition.

Rima Itani Al-Nimr:

Thank you so much, Dr. Rothstein. It's a pleasure for me to be here tonight. I am going to share my screen. And incidentally, today is National Registered Dietician Day. So show a dietician some love today because it's a myth that dieticians are the food police. Rather, we want you to love and honor and enjoy your food, the food that is special to your culture, that is special to your identity, and know that we are trying to show you that eating well is the ultimate form of self-care. So that's what I'm going to attempt to try to get across today. But in order to do that, we really have to debunk some of the myriad of the arbitrary food myths and rules that are out there floating around all over the place. So let's get started with debunking some myths.

Rima Itani Al-Nimr:

So there's so many trends out there, right? We've all heard of the keto diet. We've all been exposed to some detox scheme on the internet. We've all heard of intermittent fasting. Every single person I think on the planet has heard of intermittent fasting right now, because I personally get asked about it maybe five times a week. So I know that it's very much all over the place. People ask me about juicing, raw foods versus cooked foods, a high protein diet, paleo, gluten free, low carb. It is so overwhelming, but it doesn't have to be overwhelming, right? Healthy eating should not be a trend. It should be simple and it should be fun, and I'm going to try to attempt to translate that out for you today.

Rima Itani Al-Nimr:

So very overwhelming, right? There's so much information out there. A lot of it is conflicting. Don't eat at a certain time, eat at a certain time. Don't eat this, eat that. The problem with nutrition myths is that they are very confusing. They can be detrimental to your health if they are promoting the wrong information. They can also lead to social isolation and can be socially challenging. Think about someone who wants to follow a very specific type of diet that eliminates many, many foods. And then they get invited to a party, and they feel uncomfortable going to that party or social gathering because they don't know what to eat. Following diets like this can lead to disordered eating. There's very clear evidence that following very strict and arbitrary diet rules is directly linked with disordered eating, which is in and of itself a risk factor for health. Myths can decrease quality of life and can be financially costly. They can add to the issue of food inequity and food insecurity, and they can add to the issue of food shaming that is really all over the internet and social media.

Rima Itani Al-Nimr:

So let's debunk some myths, but first, let's figure out how to weed out scientific information that on the surface looks to be scientific. But really, when we dig down, may not be very sound. So first rule, if it sounds too good to be true, it probably is, okay? So there's no magic food or magic diet that cures everything. But what we do know is that eating patterns over time can manipulate risks, and that's what's really important to think about.

Rima Itani Al-Nimr:

Where did this information come from? Here, we look at the domains, is it a .org or a .edu website or a .gov website? Or is it just a .com and can we verify the source? Are there testimonials? So true scientific information does not interject personal opinion. If there's testimonials, that's a warning sign. Is the source pushing a highly restrictive food plan? If someone tells you to eliminate large swathes of food from your eating pattern, that's a warning sign. Run the other way. Do not go there. Are these foods difficult to find? Are they pushing expensive supplements? What does the source stand to gain?

Rima Itani Al-Nimr:

So let's debunk some of the most common myths out there, and let's learn to choose foods that really improve our health over time. The first myth that we hear really a lot about, a little less now, but clinging from the nineties and the eighties is that fat is not a good nutrient for you. Fat leads to weight gain. The fact of the matter is that fat is an essential nutrient. So choosing the right types of fat can actually improve heart health. They can help us control blood sugar, help regulate our nervous system activity, body temperature, metabolism, help decrease inflammation, and help us stay full. So when we're thinking about fat, we should more often than not choose fats that come from plants that are liquid at room temperature. Let me explain that a little bit further.

Rima Itani Al-Nimr:

So thinking of things like olive oil and canola oil, which are clearly liquid at room temperature, but also fat exists in a semi solid form, like in avocado, for example. Think of what happens when avocado gets really, really mushy when it's very warm. So it turns into a semi-liquid. Nuts and seed, if you put a bunch of walnuts on towel paper, and then come back in two hours, you'll see a film of oil on that towel paper. That's a liquid fat, even though the nut is a solid. Fish has solid fat in it, but actually, that fat is the highly anti-inflammatory fat that helps our heart. And then when we are cooking these foods, or all foods, we should aim to a low to medium heat sauté, versus a deep fried type cooking situation, which actually changes the structure of the fat in the food.

Rima Itani Al-Nimr:

When we are thinking about which fats to avoid, they are the trans fats, so the partially hydrogenated. You're looking for that word, or hydrogenated oils and fats. You're looking for that word or that phrase on the ingredient label. Those are directly linked with an increased risk of heart disease. We should also focus more on plant fats and less on certain animal fats, particularly fats from red meat. So think about that marbling of the meat around the steak. That's the type of fat that over time, and with high amounts, may lead to increased risk of things like heart disease. And then processed meats as well, so thinking about the strips of fat and bacon, for example. Those are what we call saturated fats. So when we are choosing fats, do not avoid fat. Low fat is not the answer, but thinking about the proper plant-based fats that we should focus on most of all.

Rima Itani Al-Nimr:

This is a very popular myth. Myth number two, carbohydrates. They just haunt everybody. It's a scary word, but it shouldn't be, okay? Carbohydrates are bad for you, and carbohydrates can lead to weight gain. The fact of the matter is people who choose consistently to eat more quality carbohydrates tend to have lower rates of obesity. Do you want to know why? You know I'm going to mention fiber. Everybody who knows me knows that fiber is my jam, right? Okay. So fiber is a carbohydrate. Fiber is a type of complex, very long chain carbohydrate, and people who eat more fiber have overall better health outcomes. Fiber's essential part of a healthy eating pattern. It is intricately involved in regulating our metabolism, our heart health, our gut health. It helps us keep full. It regulates blood sugar. It actually can lower independently serum LDL cholesterol. That's what we call the bad cholesterol that floats around and causes arterial plaques to form over time. So fiber is absolutely essential, and because it's a carbohydrate, we can't sift it out. So carbohydrates are not bad for us. We just have to choose the right type, right?

Rima Itani Al-Nimr:

Our goal for everybody is about 30 grams of fiber a day. So what does that look like when we translate it to food? Dr. McClure is going to show you very soon, but really what it looks like is that three-quarters of your plate should be filled with plant food. That is whole grains, fruits, vegetables, nuts, seeds, and plant proteins. And that's how we get enough fiber throughout the day. And when we eat that way, day in and day out, our risk of disease goes down because fiber reduces risk of disease.

Rima Itani Al-Nimr:

So next myth, we hear a lot about calories. Calories can be confusing things to think about because we tend to think about food in terms of food and not in terms of numbers that are arbitrary, but we also hear a lot about whatever. A calorie is a calorie is a calorie, and that's actually not really true, because different foods are processed slightly differently in our bodies. For example, sugar contains the same amount of calories as another more complex carbohydrate, but sugar has metabolic effects that are different from more complex carbohydrates. So independent of body weight, independent of disease state, when we just separate everything out ... I need to pause here and say when I say sugar, I do mean added sugar that is added during processing. I don't mean sugar that's found naturally in fruits, vegetables, grains, or yogurt.

Rima Itani Al-Nimr:

So that's a very important distinction because Americans eat a lot of added sugar every day. The average intake for most Americans is about 22 teaspoons per day. So when we translate that over the course of a lifetime, that's really about 10,000 pounds of added sugar. And that has directly been linked to conditions such as diabetes, metabolic syndrome, Alzheimer's disease, periodontal disease, and other factors as well.

Rima Itani Al-Nimr:

What does 20 teaspoons look like? So if you think about a bottle of soda, a 20-ounce bottle of soda, that has about 15 to 20 teaspoons of sugar in it. So if someone's consuming two or three of those a day, that's well over what is recommended, which is about six teaspoons a day for women, and nine teaspoons a day for men. Oh, and by the way, the food label does not mention teaspoons. It mentions grams. So a teaspoon is four grams. That's how you would know. So six teaspoons per day for women, nine teaspoons per day for men. That's our cutoff for added sugar.

Rima Itani Al-Nimr:

So sugar is really sneaky, especially because it hides under different names. So when we're looking at the food label, you're going to see a lot of different forms of sugar. To help guide us, we should probably buy less of the foods that have a lot of added sugar. And when I say a lot, I mean more than 10 grams of added sugar per serving. You can see that on the food label, under total sugars. And then there's an extra little line saying 10 grams of added sugar or less. So more than 10 grams is probably a food that's high in sugar. But to double check that, what I recommend is to look at the ingredient list. If you see any of these words in the first three ingredients, that's probably a higher sugar food. So maybe either look for an alternative or just buy a little bit less of it. Keep it for a special occasion, and focus on foods that may not have as much added sugar.

Rima Itani Al-Nimr:

So this is another myth we get a lot, okay? What should I eat for diabetes? What should I eat for heart disease? What should I eat for so many different things? The thing is eating a whole foods diet, a whole

foods meal plan, focusing on fresh whole foods whenever possible, and Dr. McClure is going to show us what she can do, that magic that she can do with fresh whole foods, that's actually key to reducing risk for many, many different conditions and managing many, many different conditions.

Rima Itani Al-Nimr:

Here's a very important note. All cultures around the globe have their own version of a whole foods eating pattern, okay? So thinking about cultures that fit with you, with your identity, it's not just one culture. We can't impose our culture rules on other people's cultures because food is so much more than nutrients, right? Food is a social vehicle. Food connects people. Food is magic because it brings joy and people show love through food, right? Cooking is not just a skill, but actually, is a connection. It's a connection with our planet. It's a connection with each other. So we're not just talking nutrients here. We really want to make sure that every culture gets to keep their own foods, their own special whole foods that fit.

Rima Itani Al-Nimr:

And that's what's beautiful about a whole foods eating pattern. It's not restrictive. In fact, it is flexible, and adding more nutrition is the key, and whole foods contain more nutrition. And when I say whole, I don't mean just a raw carrot. I mean a collection of many different types of foods, fruits, vegetables, not seeds, fish, lean proteins like poultry, sometimes eggs, some dairy products, lots of different whole grains, a big variety of foods. That's what I mean by whole foods.

Rima Itani Al-Nimr:

Gluten free is another confusing myth. A lot of people wonder if gluten-free foods are healthier. There are some persons that definitely need to avoid gluten for health reasons, but in the market, when we just go to the supermarket, if we look at the labels of many gluten-free foods, first of all, they're much more expensive. They're sometimes higher in sugar. They may be heavily processed, and they might be lower in fiber and nutrients. So unless medically indicated, it is more important to choose higher quality, high fiber, less processed carbohydrates, such as quinoa, farro, whole grain oats, spelt, all the beautiful grains out there than it is to really just focus on gluten free. Because if you think about it, cane sugar is gluten free, right? But it doesn't necessarily mean that it's healthier than a whole grain that has gluten in it such as farro.

Rima Itani Al-Nimr:

So this is another big one. I mentioned intermittent fasting. I do get asked about it about five times a week. There's some very interesting research about it, but we don't have any long term data on intermittent fasting. And I think the biggest question that we get asked is eating at night can lead to weight gain and everybody should eat breakfast, right? Those are two things we hear all the time. Whereas actually, studies are showing that a pattern, a consistent pattern that works for you and for your own hunger cues, not anyone else's, just your own, is better than very strictly timing a meal or a snack. So that rule that everybody has to have breakfast when they first wake up, that's an arbitrary rule. You really have to think about your own internal hunger cues and your own internal fullness cues and how you feel in the morning, versus forcing yourself to have breakfast and not enjoying it.

Rima Itani Al-Nimr:

And same thing, food at night. That food that's eaten at night is processed the same way by our bodies. Our metabolism doesn't care. It just works. It just works to process it. So what really matters is listening

to the hunger cues, listening to your own body, and food choices over time, portions and physical activity over time. That's what matters the most.

Rima Itani Al-Nimr:

So I'm going to end with this very important point. I think this is a really tough one to let go of, okay? Healthy has a certain look. Why is this so tough to let go of, okay? Our society is so focused on outside appearance, okay? We have a visual based on such huge input from social media, magazines, television, movie screens about a certain look of how healthy should look, right? But the truth of the matter is health is really measured on the inside, right? And it's measured in terms of metabolic health and mental health. And it is not measured in terms of appearance at all. It is not measured in terms of an outside certain look, okay?

Rima Itani Al-Nimr:

The biggest factor pertaining to health is what we call cardiometabolic fitness. And that is basically what your metabolism is doing on the inside of your body. And that comes from sustainable habits over time, such as physical activity every day, and yes, walking counts. Don't ever let anyone tell you otherwise. Walking is a fantastic physical activity. Avoiding smoking and excessive alcohol. That is an absolute given for cardiometabolic health. Varied eating, which I just discussed, rich in plants and fiber, and here's the thing. We talked about calories a little earlier. It's pretty confusing again, when we think about calories, but low calorie is not always better, okay?

Rima Itani Al-Nimr:

So I'm going to end with this. More nutrition is our goal, not low calories, and this does something magical to our metabolism, when we combine fiber, lean protein, good quality fats, whole grains, something magical happens in our metabolism. It clicks. And what we see over time is translated into what health should look like. So I'm going to end with this beautiful quote from Ralph Waldo Emerson, and I'm going to give the floor over to Dr. McClure, who's going to show us some delicious skills.

Auden McClure:

Okay. So thanks Rima. That's wonderful, and I'm going to follow that up and talk a little bit about how do we translate all those amazing nutrition recommendations into practical daily skills to keep us healthy, and Angelica already introduced me. I do work in the Weight and Wellness Center and the Pediatric Lipid Weight Program. And I trained as a chef before I went to medical school. So this is like Rich's bowl turning, cooking is my passion. So comes together in this program. Next slide there, Rima, if you don't mind.

Auden McClure:

Okay. So what should we eat? So Rima covered a lot of this already. So evidence really supports a diet that includes a variety of fruits and vegetables, so really more, the better, whole grains, so those quality carbs, healthy oils and fats, again, picking those monos and polys, the olive oil, the avocado, the olives, a lot of the things I've got here, healthy proteins, a little bit less red meat, avoiding the processed meats, chicken and fish, and then a lot of plant-based proteins. So adding more plants to our diet and then limiting the refined sugars and sweet drinks. Got a little timing there so-

Rima Itani Al-Nimr:

Amazing, yeah.

Auden McClure:

It's all right. I can go with the flow. So go back one more there. So translating the science, okay. So all of that, as Rich and Rima said already, is reducing multiple chronic diseases, making us healthy on the inside. So whole foods are really the building blocks for healthy systems. So our focus should be on diet quality, as we've talked about, and really finding those sustainable eating patterns for you. So there's no one plan. There's no one diet. We all have different cultures. We love different foods, and it's trying everything out, figuring out a lot of good skills and recipes, and then fitting that into the plan that works for you, along with mindfulness, along with exercise. So it's a lifestyle, not a diet.

Auden McClure:

So how do we translate nutrition and lifestyle recommendations into sustainable daily habits? And that's really through daily cooking. We call it culinary medicine, but it's really figuring out cooking at home, eating from home, improving how we eat when we're out and about, and basic cooking skills. And this is just a little picture of our kitchen when we cook over at the co-op. And that's the website in the middle there for our teaching kitchen collaborative and one of our classes with our healthy kitchens aprons there. Okay. Next one.

Auden McClure:

So this is really what our plate looks like when we look at the evidence as opposed to our plate, which I'm going to show you. And it's really half our plate is fruits and vegetables, as Rima said. If we do plant-based proteins, about three-quarters of our plate becomes plants. We know that our carbs are fine. We just want to keep them in their place and make them higher quality carbs. So more whole grains, less processed carbs, packaged carbs, refined sugars, and then healthy proteins, as we already talked about. And again, not being afraid of those healthy oils that are in there too, drinking water and not sweet drinks.

Auden McClure:

So next slide, and this is what it looks like when we translate it into real food in lots of different recipes coming from different parts of the globe. It can be as simple as a plate with cheese and cut up vegetables. Not everybody likes all their food touching, especially when we're cooking with kids. Sometimes, they want everything separate. And then there's [inaudible 00:36:37] there, where everything's cooked together, or a black bean taco or a salmon burger. So lots of ideas of how we can make that plate into real food that's delicious, plant forward and healthy for us. Next slide.

Auden McClure:

Okay. So we're going into the kitchen. So today's demo is fish tacos with rainbow slaw. So I'm going to do this one fairly quickly. I did a lot of cutting and chopping ahead of time so we have enough time for questions. And this is a great recipe. So we talk about all of our recipes as being recipe inspired and technique driven. So we're going to learn a couple techniques. We're going to make a slaw, we're going to make a rainbow slaw, and we to make a salsa to go on our taco. And then we're going to sear some fish, and we're going to make a yogurt sauce, and then we're going to put it all together and plate it so it looks beautiful and we can enjoy it and take a moment to appreciate it.

Auden McClure:

So we're going to start by making this slaw. And again, I cut up a fair amount of things ahead of time. I've got cabbage, and I'll demo a few things. Cabbage is great because you can get a huge cabbage. It's cheap, so if we think about adapting recipes to our budget, to our taste, to what we like, our kids like, any of these recipes, you can think about what's in season, what's in sale, what you have in your fridge, the carrots that are going rubbery. You just use them up and put them into a soup or salad or a stew.

Auden McClure:

So this is savoy cabbage, and this is red cabbage. I had a little bit of both. And so if you're using a Savoy cabbage, you can just cut a chunk off and then we're just going to cut across so that you have that almost like a semi circle. So curly. So again, we're using our claw and all of our classes, keeping our fingers out of the way. We've got a good grip on that knife. So we're just doing a gentle rocking motion when we chop. So that's a little bit more cabbage to put in there. If you're doing a red cabbage, same thing, you can see the semi circles there. So we're just going to add a little bit of red cabbage in there. If it gets tippy, just go the other way. So we've got a little bit of red there.

Auden McClure:

Going to do a touch of an onion too. So again, if you cut off a piece of an onion, you've got those semicircles. Go backwards on this one, just [inaudible 00:39:02] feel more stable. So same concept. We're making a slaw out of all of these lovely vegetables. For the carrots, I cut them by hand, but you could certainly use a grater, so just a regular old box grater. You could use a mandolin. So mandolins are great. They're about on Amazon, less than \$10. I'll show that with the cucumber. So I'm going to cut that in half. These, you want to be pretty careful with. They can be sharp and they have gloves that you can get that have a little bit of metal woven in them so you can watch your fingers. Those little spiralizers are great, and a great way to have kids help out. So that's sort of a quick, easy way to get a [inaudible 00:39:48] in there. Or you can do it all by hand and practice your knife skills.

Auden McClure:

So we're going to throw all those in there. There's some red peppers, there's some carrots, red onion, and having a scraper is handy for getting all the little extras out of there. So those are our vegetables, and then we're going to make a quick vinaigrette. So one of the nice things about making a vinaigrette at home is you know what's going in there. So like Rima said, a lot of packaged foods or bottled foods, you have to watch the labels. This way, if I make a vinaigrette, I tend to make enough for a week, so that it's in the fridge and it's pretty simple. We're going to put in some kind of an acid. We're going to put in a lemon or a lime or a grapefruit, or you could put in some white wine vinegar or red wine vinegar. And then we're going to add a little bit of something to bind it together, either some mustard or honey. I'm going to use a little bit of honey because the lime is tart. So we'll put that in there, off to the side. I'm going to add a touch of honey.

Auden McClure:

And the key, the reason I'm doing the vinaigrette right upfront, before I cook the fish is it does allow all that cabbage to wilt and get a little bit more tender. Okay. So we're going to put that in, and then we're grab our olive oil, and I have a bowl that has a little rubber on the bottom. If not, you could put a damp towel, and we're going to whisk, and this is fun too for [inaudible 00:41:26] with kids. Somebody can whisk, somebody can drizzle olive oil. [inaudible 00:41:31] just enough olive oil so that it all kind of comes together. It's called, the technique is emulsification. So if you stop and everything's separating,

you don't have quite enough olive in there yet. And reason to make it come all together like that, it's going to coat your salad or coat your vinaigrette.

Auden McClure:

And you can see I'm putting a fair amount of oil. Everyone's sort of, but this is olive oil. [inaudible 00:41:58] Rima that it is a heart healthy oil and helps with satiety, make us feel more full. So if we ate just a pile of raw vegetables, we may be hungry a little bit later. But if we've got all of this nice oil in here, we're going to pair these vegetables with some protein. So I'm putting a little salt and pepper in there, and I'm going to put a little bit of cilantro that I chopped. And then we're just going to add that. That's going to be a lot of slaw. We're going to be eating slaw for a while. So I'm going to add that in there. I'm going to save a little bit because I'm going to do a little bit of a salsa later too. Now, I'm just going to toss that, and let it sit while we're cooking our fish.

Auden McClure:

So you can see how beautiful all those colors are, which is why we call it a rainbow slaw. But if you were cooking on more of a budget, or it was a busy weeknight, or you don't love cutting and chopping, and that's not particularly happy and mindful, you can buy a bag of already cut slaw, put on a quick dressing. Pick one that doesn't have a lot of added sugars, and you've got a quick slaw and you cook your fish and it's a quick easy meal for a weeknight, but still has a lot of those vegetables in there.

Auden McClure:

Okay. So then leave that there. We've got that going. The next thing we're going to do is make a quick salsa. So again, in this recipe, once we have our taco, our fish and our slaw, you could put a lot of individual toppings on there. You could put a little bit of corn, especially if it's in the summer, you have extra grilled corn. Canned beans are just fine. You want to pick the low sodium ones, give them a rinse, but don't feel like you have to go and cook your own beans. So it is fine. Olives, and we've got a little bit of cherry tomatoes, which are not quite in season, but a nice bright color to this.

Auden McClure:

So again, if you have people who just don't want all this stuff mixed together, it's a nice way to put everything out like this. People can pick and choose, and add what they want to their taco. But if you like that blend of flavors, the salsa is a nice way to get away from a lot of extra sauces. So it's bright and has a lot of flavor. You could do grilled chicken with the salsa, you could put a little bit of fruit in there, maybe some apple or berries in the summer. And we're going to add a little bit more of vinaigrette to that. [crosstalk 00:44:25]-

Rima Itani Al-Nimr:

That's a great way to use up veggies or fruits that are about to go bad too, because food waste is the worst, isn't it? Nobody likes it, and it's so bad for the environment.

Auden McClure:

And again, I just made up what went in there. You could certainly put some avocado in there. I could chop up the rest of these peppers and cucumbers, but that's a really pretty then topping for your fish. So we're going to put the aside, and now we're going to get our fish going. So I'm using tilapia, which is just a white fish. It cooks pretty quickly, so it's nice for busy weeknights. And I'll probably just do one piece

here. So I'm going to do a little bit of salt and pepper, and this comes as a whole filet and I just cut it in half. And I'm going to get my pan going, and you could use a cast iron or a non-stick. If you're using a stainless pan, you want to get it good and hot and put a little bit of oil in there.

Auden McClure:

And I'm going to just show two ways that you could season this. You could season it either with a little, this is chipotle powder, so that's a smoky, chili powder. And in our classes, not everyone likes that level of spice. So we also could do that just with a little bit of cilantro, salt and pepper on there. And that always looks really pretty. You could use parsley or oregano. You could use dried herbs, so not feeling like you have to go out and purchase a lot of fresh herbs. If you do have extra cilantro, you can always throw it in a blender, put in a little bit of oil and then freeze it in little ice cubes. So you're really not wasting anything, but dried is perfectly good.

Auden McClure:

So we're going to put just enough oil to coat the bottom of the pan there, and that's olive oil. It's a high heat olive oil, but I'm not going to get it too, too hot because like Rima said, you don't want your oil [inaudible 00:46:27]. They denature a little bit, and if they get hot and smoky, then we get pan-fried oxidants, which aren't so good for us. And the way to tell if your oil is hot enough, is it really just starts to shimmer. So we're going to wait for that to shimmer a little bit there, keep our fish off to the side.

Auden McClure:

And while that's heating up, I'm going to grab the last part of our taco, and this is just a little bit of 2%, plain Greek yogurt. So yogurt's a great way to pick slightly healthier sauces if you like that creamy flavor. It's got protein, it's got a little bit of saturated fat, which gives us, again, that sense of fullness. But in this whole big meal, it's a small amount, and it's a nice substitute for a mayonnaise or a sour cream. And you can, again, either you could put chipotle in here, or you could put a little bit of cilantro, salt and pepper.

Rima Itani Al-Nimr:

And it's fermented.

Auden McClure:

And that's just a really easy, easy sauce that has a little bit of flavor. What'd you say, Rima?

Rima Itani Al-Nimr:

And I was just saying it's a fermented food, which is good for the gut.

Auden McClure:

Yes.

Rima Itani Al-Nimr:

Fermented dairy is the best type of dairy to choose because it has live and active cultures in it, which are associated with gut health, especially when we get them from foods not supplements. So a wide variety of foods to help with gut health. Can we also use-

Richard Rothstein:

Also, there-

Rima Itani Al-Nimr:

... frozen fish here? Oh, sorry. Go ahead.

Auden McClure:

Oh. So we've got the pan. The oil is just starting to shimmer. So I put the side down that I put the spices on and added a little more salt and pepper to the other side. I think this one is [inaudible 00:48:08]. So I'm going to just season the other side a little. And the key is to keep your pan pretty hot in the beginning so that all of the proteins and the fish there denature. We get that brown coating and then it doesn't stick. So you really want to resist that temptation to mess with it and turn it over. And just leave it there till you can see the edges just starting to brown. And then we're going to flip it over and turn the heat down and just let it cook slowly until it's done.

Auden McClure:

If you have a thicker piece of fish, you're really going to have to turn it once or twice and cook it slowly, or have your oven hot and ready to go, and you just flip it and throw it right in the oven. And then you can do other things and it finishes cooking, and then the heat is coming from both sides. So then, if I think it's [inaudible 00:48:57], you're going to take a little piece here. I'm just going to flip that right over. So that was the chipotle one, and this one. So you can see, now I'm going to turn that heat down so that the oil doesn't smoke too much, and we're just going to let it simmer. This one's going to go a little more quickly, so we may use that when we put our taco together. And then at the same time, we're going to take a little bit of oil, just a touch so the pan doesn't stick, and get that pan going, and grab a tortilla.

Auden McClure:

So these are actually tortillas, and Rima may have a suggestion on tortillas, but these are a wheat and corn mix. So you could get whole white corn tortillas. They tend to crumble a little bit more. This has some wheat mixed in, and it gives it a nice flavor, and it makes it easier to roll them up. You could put these in the oven, just with a little tin foil over them, even in a stack to heat them up, or a quick one round in the toaster oven. Or if you've just got everything going here, it's easy to heat them up right there on a cast iron pan.

Auden McClure:

So we've got all that going at the same time, and I think we're good there. So the idea being that this is a mix and match meal. You could pick your fish, you could do a cod, you could do a haddock, you could do a hake. You could pick what veggies you want in your slaw or in your salsa, and you could keep it super, super simple. Do a little tilapia on a tortilla with just a plain old slaw and you're doing great. So I know I made it a little more complicated here, but it's fun to show all the options. Rima, you were saying something else about nutrition on this.

Rima Itani Al-Nimr:

No. I think Dr. Rothstein-

Richard Rothstein:

I was just going to say for those who have problems with lactose, the fermented yogurt or aged cheeses are often better tolerated because the bacteria already break down a lot of the milk sugars. So those are somewhat better tolerated for people with lactose intolerance, which is a very common condition.

Auden McClure:

I think that may be why those saturated fats may not be quite as much of a heart healthy risk because of the fermentation process. So all those fermented foods, kimchi, all of that is actually one of those-

Richard Rothstein:

Good for your microbiome.

Auden McClure:

... what we call super, super foods that help our gut. I'm going to put that there, and the key is not to have too much oil so that those aren't greasy. And then we're going to just take a little bit of this fish, and I'm going to turn this off, and let it just finish cooking in the pan. So again, this serves probably four to six here so [inaudible 00:52:02] just a few little pieces there, right? So that it fits the edge there. And then the key is just to put a few little slivers on your taco [inaudible 00:52:29] got a nice, crispy edge, which is good but a little hard to cut through there.

Auden McClure:

Okay. So we've got some fish and now, I'm going to throw on a little bit of slaw. And see, that has definitely wilted a little bit as we've let it sit there. Even the next day, this would be great. If I were making this for the week, I might cut up the cabbage and the carrot and leave the peppers and the cucumber out, and maybe add them a little bit later. Cabbage, cut up even, will last the whole week, so it's a great thing for leftovers. Or if you're thinking about planning ahead or prepping ahead for the week. Can also sauté it up as a side, or make it part of a soup. And then we're going to put a little bit of salsa in there.

Auden McClure:

This is a really colorful ... This is probably 90% plant based. Rima was saying we're aiming for three-quarters, but we've got that. And then we're going to put a little bit of yogurt sauce, and maybe a little bit of cilantro again on top, and there we go. With a little planning and prepping ahead, that was probably about 15 minutes to dinner. So something you can do quickly, but it does take a little bit of planning and you may pick and choose among all your ingredients. But we think about here, we've got a whole grain with this tortilla, so we've got the corn and the wheat, and then we've got our protein with our fish, we've got some protein in our yogurt, and then we've got all those wonderful plants. And again, in that salsa, you could even add a little bit of fruit and you've got a whole plate that's a little bit more delicious looking maybe than our USDA. Rima, any other comments on our nutrition here?

Rima Itani Al-Nimr:

Well, that alone, if you have a couple of tacos, can get you close to about 10 grams of fiber for your dinner. So if you think about our 30 grams of fiber per day, right, if we're getting 10 grams at every meal, that's a really good goal. And so that's a good goal towards long-term health. Auden, we had a couple of questions about your salt. There's a pink salt that someone noted-

Auden McClure:

Oh. I just.

Rima Itani Al-Nimr:

... in the audience.

Richard Rothstein:

The Himalayan salt?

Auden McClure:

It's Himalayan. Not that that's really [inaudible 00:55:03], but that's what I happened to have, so I just put it there. And I tend to put my salt out so that if I contaminate it, I'm not mixing, but it's a pink Himalayan salt. And then this is just a pepper mix with red, green and black pepper.

Richard Rothstein:

And you also have dressed-

Auden McClure:

But it's nice if you have the bigger chunks, then you get that burst of salt flavor and that burst of pepper. So I tend to use the bigger, hand grated.

Richard Rothstein:

There was also a question, Auden, about high heat oils. Olive oil is not typically thought of as something that can take high heat, although you didn't use high heat, you probably used low to medium.

Auden McClure:

Yeah.

Richard Rothstein:

Can you just talk about that and maybe grape seed oil or other kinds of oils that can take a higher heat if one does that?

Auden McClure:

Yeah. So canola oil goes, and I've got some here, a little higher heat. So you could cook this if you wanted something that was like a stir fry, a really higher heat, quick cooking, you could do a canola oil, which has a higher smoke point. So it burns at a higher temperature. You could do, when we're in the kitchen, we often will mix olive oil and canola oil. So we still get that nice olive oil flavor, which is what I was going for here, and this is a little bit more of a medium heat. I tend to cook with olive oil for eggs, or pretty much anything and save butter, or those kind of things for the few times I really care and want that particular flavor. But again, there are some nice resources on the web where you can just Google the smoke point of different oils.

Auden McClure:

But if you have olive oil and canola oil, and I'd say get just as much as you think you're going to use. This is a lot, but we tend to go through it because we cook a lot at home. You really want to keep it in a dark container or in a cupboard so it doesn't oxidize. I tend to refill this pretty quickly because it's not dark. Otherwise, it starts to get that rancid flavor and isn't as healthy for us. So pick your oils, and then make sure you go through them, but don't be afraid of them.

Rima Itani Al-Nimr:

Don't be afraid of them. Keep them in a dark container. Keep the temperature low to room temperature.

Auden McClure:

Kind of cool.

Rima Itani Al-Nimr:

So don't store them near the stove, even though they're so convenient, but if you store them near the stove, they do oxidize faster. And then a little note on nuts and seeds. They do oxidize pretty quickly, and they're very expensive when we waste them, especially. It becomes more expensive, right? And so store them in the freezer. Nothing will happen to them in the freezer. And then just take them out one week's portion at a time, for example. A lot of food costs can be mitigated by proper planning and proper storage. We [crosstalk 00:57:54]-

Auden McClure:

And if you do find they're starting to go, you can always toss them in the oven and toast them up again. So that you're bringing them back to life a little bit, but using the freezer is great for all sorts of things. You can freeze beans, you can freeze corn, leftover herbs mixed with a little bit of oil. But that way, things don't go to waste and you can pull them out.

Auden McClure:

The other thing is just thinking about the order of how you use things in your fridge. So if you've got cabbage, it'll last a week, but if you've got a pepper, you might want to use that up faster. So taking stock and saying, "Hmm, what do I want to put in my slaw?" Well maybe, something that you know isn't going to last till the end of the week, or it could be a soup or stew.

Rima Itani Al-Nimr:

There's a lot of questions on oils that I'm going to try to address, because oils can be very confusing. So I'm really, really happy to see all these questions.

Auden McClure:

Yeah.

Rima Itani Al-Nimr:

So a lot of people have maybe read or heard that coconut oil is, because it's a plant oil, it's very healthy because we did say focus on plant oils whenever possible, right? Like avocado oil or grape seed oil, olive oil, canola oil, sesame seed oil. All of those are liquid at room temperature. Those are the ones we should be choosing most often. Things like coconut oil, I would equate coconut oil, while it is very

delicious and tastes different than butter, I would equate its chemical structure to butter. It is a solid fat at room temperature. It is very tasty, just like butter is. It is delicious. It has a place definitely in cooking, especially in high heat cooking because it tends to tolerate heat really well, but it is more of a saturated fat structure. And then over time, may not be the ideal to choose for everyday cooking all the time.

Rima Itani Al-Nimr:

So thinking about where you want the flavors, if you're cooking something tropical, go ahead and use that coconut oil. If you really want to have that coconut flavor, for example, in a baked good, go ahead and use that. But in terms of daily oil choices, picking a liquid oil at room temperature is probably the way to go for heart health.

Rima Itani Al-Nimr:

There's a question also about refined oils like canola and soybean perhaps maybe not being as good for us. That's really a myth also. It's not really something that's proven in terms of metabolically speaking when we intake these canola and soybean. These are a mix of monounsaturated and polyunsaturated fats in the oils, and that mix is actually heart healthy. It's what we're looking for when we think about heart health. So again, thinking about oils in terms of structure versus in terms of type, I would say, is more useful and helpful. And [crosstalk 01:00:55]-

Auden McClure:

Right, and picking day to day oils. The coconut oil's a perfect example of what's popular right now, that myth of is it better or is it not? So it's a perfect question, but using it when you like the flavor, just as a-

Rima Itani Al-Nimr:

Absolutely. Variety is good, and then having a standby. My standby is always olive oil. I think that's because I prefer the flavor. I'm also very reassured with the research, but that doesn't mean that the other oils don't have a big body of research around them. It just means that the research community focused on olive oil for the past 20 years. So really thinking about it as oils are the way to go. Find a standby that you are using for sautéing. Find another standby that you love the flavor of for vinaigrettes and salads, because that is not going to be cooked, so you're going to get that raw flavor. So that undertone, if you like that sesame seed oil or that avocado oil undertone, [crosstalk 01:01:58]-

Auden McClure:

Walnut oil.

Rima Itani Al-Nimr:

... those for the vinaigrettes. Cost is a factor, of course. Very exclusive olive oils or avocado oils or things like that, organic oils might be much more expensive. We don't need to go for something like that if we don't want to. A store brand oil is just as fine and just as good.

Auden McClure:

Yeah. And you might save a better oil for drizzling on your tomatoes-

Rima Itani Al-Nimr:

Exactly.

Auden McClure:

... where you're really going to see the flavor.

Rima Itani Al-Nimr:

Exactly. If you want to use a special occasion oil for the flavor on raw, uncooked, then go ahead and do that. Trying to hit all the questions. There's some really good ones. Go ahead.

Auden McClure:

The other thing with just any foods that you touched on Rima, is just we're not going to go wrong if we eat a whole variety of whole foods. So if we stick with one and it turns out ... Most nutrition evidence is epidemiological, and we're learning things all the time. So I think if we just stick with the basics and eat more plants and that balanced plate, then we don't go wrong. We're not stuck putting everything in the one basket.

Rima Itani Al-Nimr:

Exactly. The key is flexibility. Thank you for that. That's really, really important. And I think that's what we're trying to get across, is that the more flexible we are, the less likely we are to run into trouble when choosing foods and we become healthy or, and happier as a result.

Rima Itani Al-Nimr:

There's a couple of questions here that I'd like to address. Is kale hard to digest if it hasn't been wilted or cooked at all? I'm curious about when it's in a smoothie. That's a really good question. I adore kale. Kale can be prepared without wilting or cooking at all. You can just throw it into a smoothie and be done, or if you want it in a salad, I like to massage it, and I think Auden can tell us more about how to massage a kale, because it actually breaks down the structure of the cell walls a little bit. It's very tough and fibrous, and makes the salad more enjoyable to eat. So you can also bake it and make it into a chip if you like the crunchiness.

Auden McClure:

Yeah. Just be kale chips.

Rima Itani Al-Nimr:

Yeah.

Richard Rothstein:

But do realize, from the point of view of a gastroenterologist, most of what's in that vegetable will come through you and so [crosstalk 01:04:14]-

Auden McClure:

It's good. It's fiber.

Richard Rothstein:

Right. So there are [crosstalk 01:04:16] in it-

Rima Itani Al-Nimr:

All good.

Richard Rothstein:

... that you'll digest and some nutrients that'll come out it, but know that whether you whip it up in a smoothie, or you wilt it, or you eat it raw, it will come through your body and you will see it once again, but you will get the nutrition out of it. I think it's a wonderful vegetable. And yes, the typical Western and American diet doesn't have enough fiber in it. So I'm a big proponent of eating cruciferous vegetables. They will bother some people, meaning there are starches in some of our vegetables, broccoli, cauliflower, these cruciferous greens that we were just talking about, where you could get gassy from them if you ate too much of them and they can cause some maldigestion. You are getting nutrients out of it, but your gut flora, your gut bacteria are also having a party when you eat that food.

Auden McClure:

Though it gets better. You do get used to it.

Rima Itani Al-Nimr:

Yeah. You get-

Auden McClure:

If you stick with it.

Rima Itani Al-Nimr:

Well, you build up tolerance over time, and your gut bacteria adapt to them too.

Auden McClure:

Yeah. [crosstalk 01:05:16] microbiome.

Rima Itani Al-Nimr:

There's a very question here about inflammation. What is inflammation? What are some anti-inflammatory foods that counter inflammation? So that's a great question, and I want to take maybe a minute or 30 seconds to really define what inflammation is, because it's one of those words that float around up there in the cyberspace and nobody really knows how to define it, but we know how to define it. So let's define it.

Rima Itani Al-Nimr:

So inflammation is basically your body's response. It's a metabolic response to a stressor, okay? So the stressor, you can think about a stressor in many different ways. A stressor can be a pathogen, right? Such as a virus or a bacteria. A stressor can be a major traumatic event like surgery or a motor vehicle accident, or a stressor can be radioactivity from the sun, like a sunburn. Anytime there's a stressor, your body releases a host of responses to address that stressor.

Rima Itani Al-Nimr:

So when we think of a stressor, we think of something that acutely happens all of a sudden, right? You're just hanging out, and the body gets hit with something. But actually, there are different types of stressors too. There's also chronic stressors that are hitting the body at all times, right? The body is a very busy metabolic machine. There's always things that being synthesized, they're oxidized in the body. And over time, also chronic stress from the environment can affect our bodies and how they respond.

Rima Itani Al-Nimr:

So to decrease inflammation, because inflammation damages cells if it's unchecked. It just does. It just causes cellular damage over time. Sometimes, this damage is minute and sometimes, it's widespread, which can cause cancer, heart disease, diabetes, and other things, or can contribute to. And the physicians here can explain that probably further than I can.

Rima Itani Al-Nimr:

But what we're thinking about when it comes to food, is that a plant-based diet, one that contains a lot of whole different foods from different plants, and some proteins and good quality fats and oils, nuts and seeds, they actually do contain anti-inflammatory molecules that counteract the effects of these stressors, this inflammation, over time and can protect cells and help decrease the damage to cells over time. So all of that goes back to decreasing inflammation over time. What we just discussed is really an anti-inflammatory eating pattern.

Auden McClure:

Yeah. And it doesn't need to be vegetarian or vegan. A plant-forward diet just means we're adding more plants, using meat more as a flavor, as a condiment, and then adjusting so that we're adding in and at least getting half our plate with fruits and vegetables.

Rima Itani Al-Nimr:

Yeah, absolutely. And there's another question about pros and cons of a plant-based diet. So when we say plant based, we really do mean not 100% plants. We do want to use plants most of the time, but also add the necessary protein and the necessary other foods that are necessary for our health and that we may love as part of our culture, as part of our identity-

Auden McClure:

The culture and tradition. Yeah.

Rima Itani Al-Nimr:

Part of our traditions. So it's not just a 100% plants. That's not what the research shows. The research does show consistently about three-quarters of food coming from plants, that's linked to a maximum level of health over time, of course, over many decades of time. A con of a plant-based diet, I would say if we think about it in terms of a restrictive diet, it becomes a con. So I don't like the word diet because it automatically, for me, gives a signal, a warning signal, that even though my title's dietician, so unfortunately, I have diet right in there in my title, but I prefer the term eating pattern. I prefer the term [crosstalk 01:09:18] foods-

Auden McClure:

Eating patterns. Yeah.

Rima Itani Al-Nimr:

... because a diet has negative connotations. And when something gets taken too far and we lose the flexibility, and we lose the joy in eating, that becomes a con. So I hope that answers that question.

Richard Rothstein:

I wanted to just address one question that was in there about what do you do about the practitioners who've been out in practice and getting them nutrition education? The question was that we're training our medical students now. How are we training people who are out in practice? Well, we do it a number of ways. We had an interesting program in front of our medical education series, where Auden and her colleagues prepared breakfast before the lecture. We had a lecture at 8:00 o'clock in the morning, we'd have breakfast available starting at about 7:30, but it was a demonstration kitchen in front of people. And they would actually get education credit if they stood there and listened to the education information that was coming forward [inaudible 01:10:14]. So that was one way of hitting everybody, learners at all levels, plus all the attendings and nurses and other people in the hospital who attended that education.

Richard Rothstein:

The other part is that there is this national movement now about teaching kitchens, and there are a lot of physicians who've been in practice who are now coming to those conferences to get exactly this kind of information, culinary information, and that's spreading. And then in the areas that have built teaching kitchens and have built programs around the teaching kitchens, they're now using them to educate folks. I'm very interested in creating an educational cafe at Dartmouth-Hitchcock. And one day, we hope to have that. We are dreaming that we'd be able to teach not only our learners in the building, but each other, and then the community. And the community would have a great place to come to eat as well. And you could watch things being prepared and you could watch things and learn about how what's being prepared is good for your health.

Auden McClure:

Well, good. And have some fun.

Rima Itani Al-Nimr:

Sounds awesome.

Angelica Ladd:

Well, what a great presentation everyone. I'm so sorry. Did we go through all the questions?

Rima Itani Al-Nimr:

There's a comment about dry cherries for inflammation.

Angelica Ladd:

Oh, [crosstalk 01:11:36], yeah.

Rima Itani Al-Nimr:

Yeah, cherries are very, very rich in what we call polyphenols, which are plant-based, non-nutritive substances that actually directly counteract inflammation. They act as antioxidants in the body. Dried cherries could still have a very concentrated amount of these polyphenols. Nothing really happens to them if you dry them. But if we dry them and add too much sugar, the problem becomes having too much added sugar. So thinking about the drying process and not adding too much sugar to it, but dried fruits are a wonderful way to get some energy and some concentrated antioxidants too, especially if you're drying them at home, or can find a manufacturer that doesn't add too much sugar. Canned [crosstalk 01:12:24]-

Richard Rothstein:

Would you say-

Auden McClure:

And they're a great way ... Oh, go ahead.

Richard Rothstein:

[crosstalk 01:12:27]-

Auden McClure:

They're great way to add ... Huh? Go ahead. Oh, I was just saying they're great to add, like you throw them on a salad or blueberries or fresh fruit or any of those, just adding that color. You're getting, as opposed to having to worry about the polyphenols, just getting that range of color means you're getting that range of nutrients. What were you-

Richard Rothstein:

That's what I was just going to say. In general, go for color because that's where the antioxidants are. So make these rainbow dishes and rainbow fruits on your cereal in the morning and your oatmeal and things like that. The more color in it, usually the better it is.

Rima Itani Al-Nimr:

Mm-hmm (affirmative). That's completely true. Eat the rainbow, as we say.

Auden McClure:

Yeah. Yeah. And dried fruit lasts a long time. So you're not going to ... If you buy, you invest in berries or raspberries, which can be expensive, and then they don't all get eaten, that is one nice thing in the winter about having the dried fruit. And it's easy to throw in there.

Rima Itani Al-Nimr:

Frozen. Frozen too.

Richard Rothstein:

And by the way, it's really good for digestive health and bowel movements, right? The more fiber you eat. In fact, this very interesting, a great study was just published for those of you who may need this advice. Kiwis, two a day, was better than six prunes a day in terms of helping, for a regular bowel. And

they were about equal in how well it worked to move things through the intestine, but they had a lot less gas and bloat and other side effects that kiwis don't.

Auden McClure:

Yeah.

Richard Rothstein:

So I highly recommend Kiwi fruits if that's [crosstalk 01:13:54]-

Auden McClure:

That would go over in clinic a lot better for some of our kids than prunes.

Richard Rothstein:

Yeah.

Rima Itani Al-Nimr:

Yeah.

Auden McClure:

It's a good study.

Rima Itani Al-Nimr:

And Vitamin C content is through the roof in kiwis too. We like that. There's a question about sodium and canned foods. Is rinsing things like beans and corn effective? Absolutely. Canned foods get a bad rep and I don't like that because they're very economical, they're very, very easy to find, and they last forever. So I'm all about canned beans, all, all, all about it. And I think just giving them a quick rinse under warm water to leech the sodium out is what we would recommend. Buying a low sodium brand also might-

Auden McClure:

Buying a low sodium, yeah.

Rima Itani Al-Nimr:

... help. Rinsing all canned vegetables will get rid of the sodium. So thank you for that question. There's a comment, and-

Auden McClure:

And with other vegetables too, if you're really worried about the sodium, the flash frozen is just fine. So we get that question a lot too. Flash frozen, it's frozen quickly at the peak of freshness and you're still getting all of those nutrients. You can keep them in the freezer, less waste, pull them out. If you're doing something that's a little more high heat where that moisture gets in the way, you can just pat them dry with a towel and roast them, sauté them. So they're a great option for when you have nothing else, you can pull them out.

Rima Itani Al-Nimr:

Absolutely. Every freezer should be stocked with a variety of frozen vegetables because they are so economical. They're frozen at the peak of freshness. Sometimes, they even have more nutrition. Think about us in the middle of February, right? If we're buying a tomato, it's not in season. But if we are using canned tomatoes or a frozen tomato sauce that we cooked in the summer and froze, we're getting really a lot of the lycopene, the precious, special antioxidant nutrient in tomatoes that makes them so beautiful and red. And we're getting that in as much or even more concentrated than in a fresh tomato that's out of season. So don't malign frozen veggies, frozen fruits without sugar, canned vegetables, they're all part of an important and very varied eating pattern.

Rima Itani Al-Nimr:

Good question here about apple cider vinegar. I do get asked a lot about apple cider vinegar. Does it help with weight loss and stomach bloat? It does not help with weight loss. It's very anecdotal, but there is some interesting data on glucose metabolism and apple cider vinegar. It's still very early and there's not a lot of large studies, but I would say stay tuned.

Rima Itani Al-Nimr:

As Auden said, nutrition science is constantly evolving. And the number one adage of all scientists is we don't know what we don't know, right? We still want to always discover more. And as the data changes, we change our recommendations. We adapt. And apple cider vinegar, if it's fermented the right way, can count as a fermented food. So going back to what we talked about with our probiotic foods and our prebiotics, which support the growth of healthy gut bacteria. [crosstalk 01:17:18]-

Auden McClure:

And I would say, because that science is changing, it is where a dietician can help, so if you really have questions about diet. It's not just because it's well dietician day, but it really does help to have someone who's weeded through all of that epidemiological evidence and science and can give us day to day recommendations.

Richard Rothstein:

There is, however, a myth out there about using vinegars for some digestive complaints. For example, some people with reflux or heartburn claim that it's good to use a little bit of that cider vinegar. Some people think that it's good for digestion. The truth of the matter is it's a very weak acid and your stomach makes a very potent acid. In fact, it makes about three cups of hydrochloric acid a day, unless you're on something that suppresses that acid output. So it's really an insignificant amount of added acid. I think the benefit of it is from either its fermented or nutrient pieces that are on the side of the acid. It's not the acid itself that's doing something there. It's similar to doing citric acid from lemons or limes. Again, it's a very weak acid compared to what your stomach already makes.

Richard Rothstein:

And by the way, you can live your entire life with not a molecule of acid being made in your stomach. You don't need acid for digestion. You may need it for optimal digestion, but you don't need it at all for living. We have removed stomachs from patients that don't need the stomach because of it having cancer or there's some other issue with their stomach. And you can live a long and bountiful life just having your swallowing tube hooked up to your intestine. You don't even need a stomach. Stomach is a

great capacitor, but you certainly don't need the acid in your stomach. People live with pernicious anemia, atrophic arthritis. These are names of things when there's no acid being produced in the stomach. Sometimes it affects B12 absorption. You need B12, but you can live from your digestive side, without any of that. You just have to keep [inaudible 01:19:27] of those nutrients.

Rima Itani Al-Nimr:

Sure.

Angelica Ladd:

[inaudible 01:19:32].

Rima Itani Al-Nimr:

There's couple questions about protein that I'd like to address. One is deli meats. One is on deli meats. What are thoughts on deli meats? And one is the best plant protein for an entrée. I'm going to address the best plant protein for an entrée first. It's all of them. Any plant protein is-

Auden McClure:

It's what you like.

Rima Itani Al-Nimr:

... going to be filling and full of fiber, full of nutrients. The more variety, the better. Remember here, we want flexibility. We want variety. We want something that's easy to obtain. We want something that's not very cost prohibitive. We want something that fits with your culture. So the more plant protein, the better. In fact, if we can replace two red meat meals with plant protein meals a week, we're really on our way to improving overall gut health and heart health.

Rima Itani Al-Nimr:

And then there's another question about the deli meats. So deli meats are very interesting because they're everywhere, right? Data shows that too much processed meat, and they're very specific about processed meat here, so not just fresh meat or frozen meat, but processed in a way that's added, in terms of nitrates, nitrates and lots of salt added to it to preserve the meat. Processed meat is independently linked with certain types of gastric cancers ... Sorry, not gastric cancers, but mostly colon cancers, and are also independently linked in the literature with heart disease. So limiting those is the way to go here. And again, not saying cut everything out, but I'm saying think about it as a condiment. Think about it as something that is infrequent, for [crosstalk 01:21:19]-

Auden McClure:

And not a day to day. Yeah.

Rima Itani Al-Nimr:

Yeah. Not day to day or twice or three times a day, which is how a lot of people eat these deli meats. So thinking about it as a less healthy option than say canned beans, for example. They're both processed, right? Because canned foods are processed. It's just the-

Auden McClure:

Minimally.

Rima Itani Al-Nimr:

... the different types of processing and the different types of protein.

Auden McClure:

Yeah. And Rima, coming back to plant proteins, this same dish we could easily have done with tofu. I often will do this with just sautéing. Instead, we're doing that salsa. You could sauté the black beans with the onions, the tomatoes, just do a warm bean mix, or with chickpeas. This would be great with some sautéed or roasted chickpeas. So I think what Rima was saying is just try them all and find one you like, because you're not going to stick with it if you don't fit it into your day to day routine. So get out there and try them all. Yeah.

Rima Itani Al-Nimr:

That's our number one rule.

Auden McClure:

Tempeh, tofu.

Rima Itani Al-Nimr:

You got to love it.

Auden McClure:

Yeah.

Rima Itani Al-Nimr:

You got to love it. You got to love your food. It's normal and healthy to love your food. It's very important.

Auden McClure:

And we all make the same things over and over again.

Rima Itani Al-Nimr:

Absolutely.

Auden McClure:

So getting those new ones in there, and making them stick is the key. Any other questions there, Rima?

Rima Itani Al-Nimr:

There's a question on zero calorie sodas as a better way to avoid sugar. That's a very good question.

Auden McClure:

Good question.

Rima Itani Al-Nimr:

The short answer is unfortunately not. There's data coming out that zero calorie sweetened beverages may be independently linked with things like diabetes and with an imbalance in the gut bacteria. We don't exactly know why. And some researchers in Boston have hypothesized that there's a feedback mechanism that goes to the brain from the tongue when we taste a sweet taste. It biofeedbacks back to our brain, which is what we call a glucose obligate. A glucose obligate means the brain can only use glucose for fuel. Can't use anything else, and so the brain gets all excited because it thinks it's getting a rush of glucose, but then nothing happens, right? And so the brain is like, "Wait a second. I got cheated here. I felt a sweet taste, but I'm not getting my glucose. Where's my glucose?" And so it sends back this hormonal or neuropeptide really message to the stomach and the gut saying, "Buddy, we need some more glucose here. So please eat more so I can get my glucose rush." That's really the hypothesis, but again, it's not proven.

Rima Itani Al-Nimr:

It's confusing to sift through the data, so again, I'm going to say stay tuned. But the short answer is that it's probably not the way to go. The better way to go would be adding sliced fruit to your water and drinking it throughout the day. Or maybe even a couple of dried cherries or dried cranberry to flavor your water or seltzer-

Auden McClure:

Unsweetened tea or an herbal tea. Yeah.

Rima Itani Al-Nimr:

... seltzer, an unsweetened tea, herbal tea.

Auden McClure:

Coffee. Coffee is fine.

Rima Itani Al-Nimr:

[crosstalk 01:24:28] people don't like water, there's many options that we can find that don't include the artificial sweeteners.

Richard Rothstein:

Yeah. Coffee's very good for you.

Auden McClure:

Yeah, as long as you don't put everything in there.

Rima Itani Al-Nimr:

Coffee.

Richard Rothstein:

No, black coffee. Right.

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Rima Itani Al-Nimr:

Coffee is the number one antioxidant [crosstalk 01:24:48].

Richard Rothstein:

Totally.

Auden McClure:

It's great.

Richard Rothstein:

Totally.

Auden McClure:

What about dark chocolate? In moderation?

Rima Itani Al-Nimr:

That gets my vote.

Richard Rothstein:

Yeah.

Auden McClure:

Uh-huh (affirmative).

Rima Itani Al-Nimr:

Okay.

Richard Rothstein:

So Auden, what time is dinner?

Rima Itani Al-Nimr:

Yeah.

Auden McClure:

It's served. Come on over. We're having fish tacos.

Richard Rothstein:

That's great. This has been a lot of fun.

Auden McClure:

This was great. Really fun.

Richard Rothstein:

It's great. Thank you for asking [crosstalk 01:25:15]-

Angelica Ladd:

Thank you so much for being here tonight.

Auden McClure:

Yeah. Thanks, Angelica.

Angelica Ladd:

I think this has been an amazing presentation. I want to thank everyone for attending, and please don't forget to fill out that survey at the end of tonight's presentation. And also follow us at go.d-h.org/hls to learn about our upcoming Healthy Living Series events. Again, this is recorded and we will have it on our website, on that website, within the next week or so. So if you want to share it, if you want to rewatch it and learn, maybe you missed something, you'll be welcome to do that. So thank you everyone for being here tonight, and-

Auden McClure:

Thanks.

Angelica Ladd:

... I hope you have a good healthy dinner.

Richard Rothstein:

Thank you.

Auden McClure:

Thanks so much.

Rima Itani Al-Nimr:

Thank you.

Auden McClure:

Thanks, everyone.

Richard Rothstein:

Bye now.

Auden McClure:

Great questions.