# Mayo Clinic Q & A - Dr. Dawn Mussallem - Diet and nutrition ...

#### **SUMMARY KEYWORDS**

patients, cancer, cancer survivors, eating, diet, cancer patients, dawn, whole food plant, avoid, study, showed, breast cancer, alcohol, based diet, important, supplements, individuals, recurrence, sugar sweetened beverages, improve

### **SPEAKERS**

Dr. Halena Gazelka, Narrator, Dr. Dawn Mussallem

Narrator 00:01

Coming up on Mayo Clinic Q&A, cancer is such a teachable moment, and it's such an opportunity to work with cancer patients when it comes to nutrition, and I find that it can be so empowering and give them control over their disease. And it's really important because it can improve cancer outcomes, reduce the risk of secondary cancers, and improve quality of life during and after cancer.

Dr. Dawn Mussallem 00:21

For cancer survivors we want to recommend the same exact diet that we recommend for cancer prevention. I recommend a low fat diet that's a predominantly whole food plant based diet that is rich in a lot of vegetables, whole grains, colorful fruits. This is really the essential diet that's good for all health related diseases, not just cancer. So, that's the diet I recommend.

Narrator 00:21

Whether you're a patient battling cancer, or a cancer survivor, proper nutrition and diet is essential. It supports the immune system, helps improve treatment tolerances, reduces the risk of adverse treatment side-effects, and can even lead to faster recovery.

Dr. Dawn Mussallem 00:36

Welcome everyone to Mayo Clinic Q&A. I'm your host, Dr. Halena Gazelka. After cancer treatment, cancer survivors are eager to return to good health, and the right diet and nutrition can play a big role in improving long-term health so cancer survivors can enjoy the years ahead. So, what should cancer survivors know about diet and nutrition? Well, here to discuss this with us today is a specialist in just that topic, Dr. Dawn Mussallem, a Mayo Clinic internal medicine specialist. Welcome to the program, Dawn.

Thanks, Dr. Gazelka. I'm so happy to be here. Cancer is such a teachable moment. And it's such an opportunity to work with cancer patients when it comes to nutrition, and I find that it can be so empowering and give them control over their disease. And it's really important because it can improve cancer outcomes, reduce the risk of secondary cancers, and improve quality of life during and after cancer.

Dr. Halena Gazelka 01:53

That's wonderful. And Dawn, I understand that you have a personal interest in this topic.

- Dr. Dawn Mussallem 01:59
  I do, actually as of today, I am a 21-year stage-four cancer survivor.
- Dr. Halena Gazelka 02:05 Congratulations.
- Dr. Dawn Mussallem 02:06
  Thank you so much.
- Dr. Halena Gazelka 02:08

Well, you know that I also had breast cancer earlier this year and went through treatment for that. And so, I'm also very interested in this topic and the hope that we can bring to others.

Dr. Dawn Mussallem 02:20

It's so true, and I know for both of us as patients, you know, when we can take good care of our bodies we feel better. But as we're taking our part, as the medical team takes their part, to be able to be proactive in our fight against this cancer ever coming back. It's very important.

- Dr. Halena Gazelka 02:36
  Let's jump right in, Dawn. So, what kind of a diet do you recommend for cancer survivors?
- Dr. Dawn Mussallem 02:41

Great question. So, both the American Cancer Society and the American Institute for Cancer Research basically recommends that for cancer survivors we want to recommend the same exact diet that we recommend for cancer prevention. And it's thought that the same exact dietary factors that increase the

risk of cancer occurring are the same ones that can basically promote recurrence, or you know, not as good of outcomes after a cancer diagnosis. But you know, when it comes to what eating habit do I recommend, I recommend a low fat diet that's a predominantly whole food plant based diet that is rich in a lot of vegetables, whole grains, colorful fruits, pulses, things like beans, lentils, split peas, and seeds and nuts. This is really the essential diet that's good for all health related diseases, not just cancer. So, that's the diet I recommend. And it's going to be individual for each individual and family when it comes to making or creating a plant based diet that works for them. Some people may want to be 100%, plant based, or others may want to include certain things like poultry, or eggs or dairy or some seafood. So, you just want to meet patients where they are and work with them. But, you know, research has been super exciting in this area. And it's amazing because whenever I give a presentation, it's like each time I present, there's another study that supports the importance of eating healthy. And recently, you know, in regards to breast cancer, the Women's Health Initiative after their 19.6 year follow-up show that a low fat diet helped to reduce breast cancer mortality. And those are the sorts of studies we really want to focus on. And the other thing it showed was that it helped to reduce the risk of a more aggressive type of breast cancer. We see with prostate cancer, that saturated fat. When we reduce a saturated fat diet in a prostate cancer patient, there's a reduced risk of recurrence. And the Physicians Health Study investigated dietary patterns after a prostate cancer diagnosis, and it showed that men on a Western diet, that's like the standard American diet that's relatively, you know, lots of processed foods, higher fat, it showed that those men had an increased risk of prostate cancer related deaths and related deaths overall. So, we know that the healthy eating pattern really matters, not just for breast cancer, all cancers, and all diseases.

Dr. Halena Gazelka 05:00

It sounded when you were describing the diet, like you were talking about the old shopping around the edge of the grocery store thing, where you kind of avoid a lot of the processed things in the middle.

Dr. Dawn Mussallem 05:10

That is really true. You know, shopping the perimeter is what we hear, staying out of the aisles keeps you away from those processed foods. And if you think about the things in the perimeter, it's more of the whole foods. Now, you can always peek into the perimeter when you may want to pick up a can of beans or a bag of beans or something like that. And, you know, often I have patients say, but if I do a plant based diet, it's going to be expensive. And I say no, it's actually quite the contrary. Think about how expensive meat is versus how expensive a can of beans are. So, eating a plant based diet can actually be very affordable and cost-effective. And remember, you're going to be replacing those unhealthy foods with more healthy foods. So, you're not going to be buying those unhealthy foods anymore.

Dr. Halena Gazelka 05:51

Dawn, you mentioned fat specifically in prostate cancer, and are there other specific foods that individuals who want to prevent cancer recurrence should avoid?

Dr. Dawn Mussallem 06:02

That's a great, great question. Again, you know that low fat diet is just an overlying theme with all cancers. But when we really focus in on certain foods, this is something I always get really excited talking to my cancer patients about or really anyone. It's that red meat and processed meat is the number one thing in

the low fat diet that I really want my patients to try to limit and/or avoid. And processed meats are actually a class 1 carcinogen. That's right. I mean, it's in the same class as cigarettes. So, I kind of joke when I say that, you know, bacon is like me telling you that you can smoke a cigarette, and I'm not going to tell my patients they can smoke a cigarette. So, when it comes to carcinogens, I don't know that it really is appropriate as a physician for me to counsel my patients towards moderation. So, I really want my patients to avoid processed meat, and when it comes to red meat to limit it as much as possible. There is evolving and emerging evidence that suggests that red meat may also be a carcinogen. So, we want to limit red meat as much as possible. And if someone's used to eating four to six ounces of red meat in a serving, maybe instead they should consider something more like two up to four ounces, just a tiny little bit. You know, and when we design our plate, try to think of two thirds of that plate or even more being vegetables, whole grains, maybe some beans, and then maybe that 1/3 of the plate more like a condiment. It's just a little itty bitty piece of meat. That's what I recommend. Other things that we want patients to avoid are going to be highly processed foods, fast foods, refined grains, sugar sweetened beverages, and alcohol. And, you know, this is something that is really surprising, but up to 60% of calories consumed in American households, comes from highly processed foods and beverages. So, that's something you really want to take a stance on. And there are studies suggesting that these highly processed foods do increase the risk of some cancers, and of course, we know chronic diseases. So, we want to limit those highly processed foods. And when it comes to sugar sweetened beverages, there was a recent observational breast cancer study that showed that breast cancer patients who had five or more sugar sweetened soda beverages a week had an 85% increased risk of breast cancer specific deaths. Isn't that amazing? But then, here's another study that was recently published. This was a large scale study that showed that women with a history of stage 1 to 3 breast cancer who consumed high fruit juice consumption had a poor prognosis. So, even things like fruit juice, and this was specific to things like apple juice and grape juice, not quite as much as with things like orange juice. But when it comes to juices, vou're really stripping away some of the most vital benefits of fruit, and that's the fiber. So, eat the whole fruit, exactly. Don't waste your money on the juice, buy the whole fruit.

Dr. Halena Gazelka 09:02

Dawn, let's get back to what you said about alcohol. Why avoid alcohol?

Dr. Dawn Mussallem 09:06

Oh, you know, alcohol is like the processed meat. It too is a carcinogen. So, when we look at alcohol, the best recommendation we can give to patients is for cancer prevention, or following a cancer diagnosis, just avoid it. There's really not a health benefit when it comes to alcohol consumption. There was once thought to be, and there may still be this subtle health benefit in unhealthy people. But our goal is to work with our patients to get them healthy. And we know that once you're healthy, that there's no added benefit of alcohol. So, we see that alcohol is associated with 6% of all cancer cases, and 4% of cancer deaths. So, alcohol should try to be avoided. It is a dose dependent risk. So, the more you drink, the more risk there is, and that's especially true when it comes to breast cancer. So, when patients are saying, well how much is reasonable because I'm going to have a little bit of alcohol, you know, socially. What is important is that we talk to our patients about what a standard drink size is. So, they're really shocked when I share that five ounces of wine equals one drink, 12 ounces of a regular beer, or a 1.5 ounces of an 80 proof liquor would be equivalent to one standard drink. So, the highest amount of alcohol a woman should consume would be no more than one standard drink a day. And for men, no more than two standard drinks a day. But again, any alcohol increases the risk of cancer and cancer recurrence.

Dr. Halena Gazelka 10:38

We're not always very good about thinking about portion sizes in the United States. So, portion sizes with alcohol matter.

Dr. Dawn Mussallem 10:48

They sure do. And you know, what's really a shame in the United States is this awareness really just isn't known. And we did a study in our community internal medicine, in our family medicine clinics to assess the knowledge of alcohol consumption on cancer risk, and over 50% of those individuals surveyed had no idea of the risk associated with alcohol and cancer. So, it's something that we want to make sure as healthcare providers we educate our patients on the importance of trying to limit, but especially avoid alcohol in the fight against cancer.

- Dr. Halena Gazelka 11:21
  Interesting. Dawn, we've now talked about multiple things that should be avoided, food groups, etc. Are there specific foods that can be eaten to help prevent cancer?
- Dr. Dawn Mussallem 11:34

Yes, yes, there possibly are. But what I always say is, it's best for cancer prevention to recommend a variety of whole healthy food choices with lots of vegetables and fruits, and high end fiber. So, it's kind of the overall pattern. And this was kind of really highlighted in a recent study that came out of the Nurse's Health Study, both the Nurse's Health Study One and Two that was recently published this year, that showed a diabetes risk reduction diet. So, what is a diabetes risk reduction diet? It's kind of one that includes a lot of healthy foods. And so, nine of these dietary components that were included in the study were things like cereal, fiber, and nuts, and coffee, and polyunsaturated fat rather than saturated fat, and whole fruits, like we pointed out earlier. But what they also looked at was having a lower glycemic index, less sugar sweetened beverages, less fruit juice, less trans fat, and less red meat. And what they showed is after 16 years of follow-up in these breast cancer survivors who ate the more healthy diabetes risk reduction like diet, that was if there was a 33%, overall improvement in survival, and a 17% improved breast cancer specific survival in those people that ate the more healthy diet. You know, I think that this basically just points out that vegetables and fruits are really, really great for us. And again, going back to avoiding the saturated fat, the red meat and the sugar sweetened beverages is important. And within the same group of individuals in this cohort in the Nurse's Health Study, they took a peek to see which vegetables and fruits may have been really rock stars. So, this kind of answers your question specifically, they showed that green leafy vegetables, two cups a day improve survival, as well as cruciferous vegetables improved overall survival. But one thing that was really kind of neat in this study, is it showed that simply having two servings of berries a week improved breast cancer specific survival by 25%.

- Dr. Halena Gazelka 13:28 Wow.
- D. D. .... M..... 12.20



I give that as homework to all my patients, I say have a half a cup to a cup of berries, not just twice a week, let's just do it every day. Because you know, they're rich and fiber, they're enjoyable. And this brings up another question, you know, when it comes to Oh, but berries are so expensive, and it's hard to find them because when they're fresh, a lot of times they just don't look as good. I always say buy them frozen, it's so much more convenient just to keep them in the freezer frozen, thaw out a half a cup or a cup each day and enjoy them. So, berries are something that are great for everyone.

# Dr. Halena Gazelka 13:56

Well, that's a great thought. When you talk about eating the green leafy vegetables and the berries, is it important that products be organic?

## Dr. Dawn Mussallem 14:06

Yeah, that's a great question. And you know, when it comes to that, if you put the words organic food into Google, do you want to know how many searches come up? 1.25 billion. This is such a popular topic with many opinions. And nearly half of all Americans report they do try to choose organic foods when possible. But at this time studies are still limited to show whether organic food is really better than other foods in terms of reducing cancer risk, the risk of cancer recurrence, or cancer progression. So, really, you know, bottom line is just to eat mostly plant foods to reduce your cancer risk. And when it comes to organic, it hasn't been proven to be better for you at this time.

## Dr. Halena Gazelka 14:49

Dawn, have quite a few patients who, you know, like to take nutritional supplements, and are convinced because they've read it that they're going to do certain things for them. Are there are nutritional supplements that every cancer survivor should take?

### Dr. Dawn Mussallem 15:04

You're right, I mean, this is a common thing we see especially among cancer survivors. And a recent survey reported that over 70% of cancer survivors take dietary supplements. But dietary supplements aren't recommended for cancer prevention or in the cancer survivorship setting. And so, nutritional guidelines are really what we want to stick to, we want cancer survivors to eat these really healthy diets where they get all the antioxidants, vitamins and minerals that they need. However, a lot of cancer patients still feel like it's just not enough. They're fearful. I mean, you and I know this firsthand as you're really scared when it comes to recurrence, so you just want to do your best. And so, there's a lot of false claims out there. And so, it's a good target for this \$32 billion industry for them to market towards cancer patients. But the problem is, is it's first do no harm. And there are multiple studies that show that some supplements can actually cause harm. And you know, when it comes to beta carotene, vitamin A and E, there's actually been an associated increased risk of some cancers, and beta carotene among smokers and those who have been exposed to asbestos, there's been an increased risk of cancer associated deaths. And we just saw that recent study that showed in individual's having fish oil, over one gram a day, that there was more atrial fibrillation. And fish oil is one of the more common supplements that patients consume. But, you know, this list can go on and on. Another one I see commonly in my practice is there's been a lot of laboratory studies showing that green tea has anti-cancer properties. So, the next thing you

know is, all of our cancer patients are taking green tea in the form of a pill, but that can be associated with liver toxicity. There's tons of drug interactions for certain supplements. An important one when it comes to breast cancer is turmeric. Because turmeric can actually interfere with Tamoxifen's ability to become an active metabolite, which can be really dangerous. And turmeric can have a lot of drug interactions with certain chemotherapies. And then a lot of the anti-inflammatory supplements that are out there, a lot of those have antiplatelet effects. So, when they're used in combination with other antiplatelet drugs, or in a cancer patient who's undergoing chemotherapy with low platelets, it can increase the risk of bleeding. You know, I know I'm kind of going on, but I'll tell you, there still are a few supplements that maybe we should pay attention to, though. And when it comes to vitamin deficiencies, and of course, there is a place for patients to take supplements, as guided by their health care provider. But vitamin D is a really hot topic amongst all different disease groups.

Dr. Halena Gazelka 17:35

Even in pain medicine, Vitamin D is a hot topic.

Dr. Dawn Mussallem 17:39

That's true, isn't it. And, you know, what we see with cancer patients is that there has been research showing that about 72% of all cancer patients are vitamin D deficient. So, it's probably a reasonable thing to go and ask your doctor to check your vitamin D level at least once, maybe even twice a year, you know, depending on where you live, maybe checking in the winter when you have less exposure to sun. And in the summer when you have more exposure to sun. Because if you do require vitamin D supplementation, the dosing may change throughout the year. But efforts to achieve higher circulating levels of vitamin D may contribute to reduced cancer mortality. So, that's important when we're talking to cancer survivors. And when it comes to colorectal cancer, there has been very meaningful results that have showed vitamin D supplementation may perhaps improve colorectal survival. And, you know, we're talking about whole food plant based nutrition. So, in folks who are really motivated to avoid all animal products, those are patients that I work very closely with about making sure that they have adequate B 12. So, if someone is on a whole food plant based diet with no animal products, they do need vitamin B 12 supplementation, and some individuals, and maybe more than we originally thought over the age of 60 to 65 may also need B 12 supplementation, even if they are consuming animal products. And we also want to make sure patients are getting enough calcium if they're on a whole food plant based diet. So, it's very easy to do on a whole food plant based diet. We just want to make sure that they're doing food journaling and calculating out the amount of calcium every once in a while to make sure that they're not calcium deficient, as well as getting things like EPA and DHA from omega 3 fatty acids and simple things like iodine that comes in the form of iodized salt. But if a patient is not doing iodized salt, making sure that they're getting adequate iodine.

Dr. Halena Gazelka 19:24

Well, do your recommendations change, Dawn, if an individual is either underweight after completing cancer therapy or overweight?

Dr. Dawn Mussallem 19:35

That's a really good question. So, let's start with overweight because there's more and more evidence

that's suggesting that being overweight or obese raises the risk for recurrence and reduces the odds for survival for many cancers. And in fact, this year in the Journal of the American Medical Association, they did a meta-analysis on 203 studies with over 6 million participants. And they showed that obesity was associated with an increased risk of cancer specific mortality. This was especially true for patients with breast, colon, and uterine cancer. So, when it comes to obesity, I really, you know, and being overweight, we really want to work closely with patients to help them to achieve a more ideal weight. And a plant based diet is an excellent approach for patients to lose weight. With a whole food plant based diet, you're actually eating an abundance of food, because you're getting all these vegetables, fruits and whole grains that are rich in fiber, and they fill you up so much. So, patients don't feel like there's as much deprivation with a whole food plant based diet when it comes to weight loss. And this year in the Journal of the American College of Nutrition, they show that eating a low fat vegan or a whole food plant based diet with no animal products was actually more effective for weight loss than the Mediterranean diet. And for years past, the Mediterranean diet was always the one. So, now we're finally starting to see that these whole food plant based diets are really exciting when it comes to weight loss. So, if a patient has to gain weight, I usually do the total opposite thing of what I do if someone needs to lose weight. And so, for these patients, if they are underweight, and they have low protein stores, we're really worried about them losing muscle mass. It's very important in these patients that they work with a dietitian. We want people who are underweight to eat often because maybe they're not eating much because they feel nauseated or they just have lack of appetite. So, oftentimes it's easier for them to eat smaller portions more often throughout the day. I always encourage my patients to ask for help, you know their family members or caregivers, see if there's folks that can help them shop, help them cook, help them with these different food preparations, encouraging them to choose healthy, high calorie density foods. So, things like nut butters or avocado is a really good thing, making sure they pack a snack, you know, when they're going to their medical appointments, making sure that they're bringing food with them so they're not skipping meals, and trying to have a schedule. And planning ahead is really, really important when folks are trying to make sure that they don't lose any more weight, or if we're trying to help them gain weight in the setting of an underweight patient.

Dr. Halena Gazelka 22:10

Wow, that's a lot of practical advice. Any last words to share today, Dawn?

Dr. Dawn Mussallem 22:17

No, I don't think so. I'm just so excited to be able to share this with everyone. I will say as myself a personal cancer survivor, I get so excited when I make my meals and when I work with my patients, I get these beautiful messages and pictures of some of the meals they prepare. And it's really exciting to be able to feed the body in a way that matters in a way that we're nurturing our body in a very healing way that can help as studies are starting to suggest to reduce the risk of cancer recurrence, improve cancer outcomes, and improve overall control of many of the diseases that affect people in our country today. And most importantly, patients feel better while on this diet. And to me that's the most important outcome is to enjoy life to feel good.

Dr. Halena Gazelka 23:01

I think that what impressed me the most Dawn, everything you shared will be applicable whether you've had cancer or not. It's just a good way to live.

Dr. Dawn Mussallem 23:09

It's so true, isn't it? It's just live a healthy life. Enjoy what you do, be active, get good sleep and embrace good social connections with your loved ones and friends. That's the biggest message for overall healthy pattern of living.

Dr. Halena Gazelka 23:22

Well, that wraps it up beautifully. Thank you for being here, Dawn.

- Dr. Dawn Mussallem 23:25
  Thank you so much. I enjoyed this.
- Dr. Halena Gazelka 23:28

Our thanks to Dr. Dawn Mussallem for being here today to speak with us about diet and nutrition for individuals, in particular, who have had a cancer diagnosis. I hope that you learned something today. I know that I did. And we wish you a wonderful day.

Narrator 23:44

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