



## Questions and Answers about Nutrition

### What is the relationship between sugar and bladder cancer?

**Dr. Hamilton-Reeves:** Eugene actually led a study that my team helped him with where we were looking at carbohydrate restriction in patients that had prediabetes, so they were at higher risk for developing diabetes or they had diabetes. The reason that we did that work is there is some suggestion that patients with diabetes are at higher risk of bladder cancer incidence.

The prevailing thought right now in the scientific community is that it may not be the sugar, but it may be the insulin that follows. When we eat things that contain sugar in them, any carbohydrate, then insulin will go up. That is our body's way of telling us that we have nutrition and we can grow, and so when we have cancer, sometimes there's extra insulin receptors that are on the tissues that are cancerous. They become more sensitive to high insulin levels and consuming sugars.

So, that's one of the reasons that we were looking at, just again, not avoiding sugar, not avoid all carbohydrates, but trying to keep insulin levels in normal ranges so that we're not leading to more building materials for the cancer to grow and progress.

### I drink three to four cups of green tea with one packet of Stevia per day. Is Stevia safe to use if you're supposed to stay away from sugar?

**Dr. Hamilton-Reeves:** Okay. Yeah, so Stevia is not as well-researched as some of the other artificial sweeteners. When we talk generally, a lot of times we group artificial sweeteners together, but they're actually very different compounds. I wouldn't say that there's anything to suggest that it's dangerous to have Stevia, and the green tea sounds excellent. There's some suggestion that excessive green tea consumption can be hard on the liver, but that doesn't sound excessive. But when you go for your annual physicals, just check out those liver enzymes, see if they're doing okay. And it sounds like a great habit, a way to stay hydrated, and yeah, like a good idea.

## Am I going to have to follow an interstitial cystitis diet for the rest of my life?

**Dr. Hamilton-Reeves:** There are some bothersome foods that are known to be bothersome for interstitial cystitis, so things like coffee, artificial sweeteners, spicy hot peppers, that type of thing. My answer to that is results will vary. It's very individualized. It is usually something that will resolve over time, and when we work with people to help figure out what their triggers are, because it can vary from person to person, a lot of times what we'll do is a food elimination diet and really dial in more on those bothersome foods to make sure that you avoid those, and that way, you don't have those symptoms.

**Dr. Lee:** A brief overview of interstitial cystitis: Usually, interstitial cystitis is really bladder pain syndrome, essentially when people have pain that is attributed to their bladders, and it's really a diagnosis of exclusion. It's not an infection, you've looked in there, there's no tumor or cancer, and it's really thought to be an inflammatory condition. There's a lot of different treatments, oral, intravesical treatments, so inside of the bladder treatments. It's a lot of times a separate entity, but it really, as Jill said, a lot of it is based on diet and what you are eating. That is what I would say about that.

## Is there a big difference in outcomes of robotic versus open surgery? How does fitness and nutrition before surgery play into surgery outcomes?

**Dr. Lee:** The short answer is depends on who you ask. It depends on if you're a robotic surgeon or an open surgeon. I say that jokingly. There have actually been several randomized, controlled trials now comparing between robotic and open radical cystectomies. The bottom line is that there really is no major differences in complication rates and there's really no major differences in the two types. But the bottom line is that really in terms of blood loss, there is a difference, but that's really about it. Most of the randomized trials have shown that there is no difference.

So, yes, from a nutritional standpoint, obviously we want everybody to be nutritionally maximized. I would say from the standpoint of robotic versus open, I'm not sure it really makes a difference. I will say that the morbidly obese patient is difficult no matter what. Some would argue that it's a little bit easier to do a robotic cystectomy on someone who's morbidly obese, but I don't really think that that's within the realm of the comfort level of the surgeon.

## Is there a vitamin or supplement that I should focus on taking, in particular Oncovite or fish oil?

**Dr. Hamilton-Reeves:** This patient knew about Dr. Lamm's work. He had studied a higher dose multivitamin that had some B vitamins, C vitamin, a little bit of extra folic acid, zinc, and essentially, in a trial I think he had published in the 90s, he found lower recurrence rates in patients that had been treated with BCG. So, the vitamin supplementation is still available.

I will say from the nutrition lens, the use of multivitamins for preventing cancer really hasn't panned out in larger studies in other cancer types, and I'm not saying that this is a bad idea by any means, I'm speaking more generally that we really think about the patterns of foods and the different components of foods working together to prevent cancer rather than really dosing somebody up with high dose vitamins.

**Dr. Hamilton-Reeves:** I think that our patient population has changed since then, so I think that the amount of people that come with micronutrient deficiencies to us are probably fewer than back then, and so as far as the effectiveness for today, I think focusing on eating a healthy diet first would be the first recommendation and then if you feel like you might be a little bit low in B vitamins. Thinking about bone health, I think that's really important after cystectomy, so we talk about that in the videos, so making sure that you're getting enough vitamin D, that's one of those components.

I think that is really important as well as B12, which will be absorbed just a little bit less efficiently after a cystectomy. I think that is also a really important one if you're thinking about specific vitamins and minerals.

**A patient being seen in Boston said that they don't think that bladder cancer nutrition is involved in the treatment at all. For years, they've been guessing at what to eat for non-muscle invasive bladder cancer, being seen in Boston, not once in six years has nutrition been discussed. Why not?**

**Dr. Hamilton-Reeves:** I think this question actually reveals a chasm that we see in cancer care. For some reason, because of the way that medical oncologists are trained, there seems to be a tighter relationship with the nutrition services with medical oncologists and also with surgical oncologists. But urologists have a slightly different training path, and so for some reason, in some academic centers ... We're running a multi-site trial right now, so I'm getting a little bit more insight into how different academic centers communicate. The urology program and the nutrition programs haven't necessarily found each other.

So what I would suggest, a lot of times in health care, being your own advocate, or if you're a caregiver for your patient, also being an advocate and asking to see nutrition services is a great way to start that dialogue. Likely, your physician will honor that. There is likely a nutrition program there and people that have expertise in nutrition and cancer, but it's matter of asking for it because apparently the system isn't set up for automating that kind of referral.

We're actually working on a paper, we had two that just published this year and we have one more right now that we're working on, to again, just advocate for patients that this should be automated and therefore the onus wouldn't be on you to ask. But right now, know that you can ask and that that service is probably there for you.

**Is there a correlation between eating raw broccoli each day as opposed to no broccoli and reducing the bladder cancer recurrence in non-muscle invasive with high grade?**

**Dr. Hamilton-Reeves:** Yeah, so there is some evidence. There are some data that suggest that broccoli can be helpful as far as reducing the recurrence of bladder cancer. There's a large study that's underway right now actually evaluating this. Just to go a little bit into why broccoli, so it wouldn't be just broccoli. It would be other cruciferous vegetables, so things like cabbage and Brussels sprouts. They contain a compound, isothiocyanates, and those compounds are really great detoxifiers. If you think about the bladder being a container for urine, urine often has the things that our kidney clears out as being oh, we don't need this in our body.

**Dr. Hamilton-Reeves:** So, if you think about consuming vegetables that help with the detoxification process, it does make sense that broccoli would be helpful. But just so you know, you don't have to eat that particular vegetable every day. There are other cruciferous vegetables that you can eat, and we talk about some of those vegetables in the videos that Dr. Lee and Dr. Geana and I made, and Dr. Gibbs. Then also, there's some links on the BCAN website where we talk about some recipes that have cruciferous vegetables, so yeah.

**My physician said drinking decaffeinated drinks is not great since it's then in the category of being processed. What are your thoughts? Also, there was a recent Mayo Clinic study that was published in JAMA Oncology saying that coffee, more than one cup a day, increased survival. What are your thoughts, and would this apply in bladder cancer?**

**Dr. Hamilton-Reeves:** All right. The decaf question first. There are different ways to process decaf coffee. I am not a specific connoisseur on this, but I will say that the more natural methods and extraction methods likely would not increase risk, or at least in my purview of processed foods and their concerns for cancer, I wouldn't have concerns.

Then the question about coffee and survival, so what's interesting is coffee can help with getting sugar out of the bloodstream. We were talking earlier about insulin and sugar. I mean, that might be one relationship. It's an association, but I don't have any data to say that coffee or the components within coffee that would actually decrease the risk of bladder cancer, but I wouldn't be concerned about drinking coffee and it increasing the risk, let's put it that way.

**I was just diagnosed with bladder cancer, they already operated on me. It was a superficial tumor, one centimeter, and a low malignancy. I want to know what I should and should not eat, in general terms. Above all, I have doubts about what not to eat or drink coffee, tea, hot peppers, oil, lemon, lime, a bunch of things that are in there.**

**Dr. Hamilton-Reeves:** I think what's really tricky about this is that I don't know the patient, as far as what your foods are that you normally consume. I would say eat foods that taste good right now, and focus on vegetables. Watch some of the videos that we put out through BCAN that talk about some healthy recipes for just increasing your health, because I think the most important thing when you have a new cancer diagnosis is taking the opportunity to think about what changes you can make in your life right now to be healthier.

We had mentioned physical activity and movement. I think it's not a bad time to start a walking program or start increasing what you do for activity, because that is another way to help make yourself stronger if you do have to face other treatments, and also just to get your body more resilient and able to fight.

Then yeah, thinking about those videos, getting some recipe ideas. Fruits and vegetables are going to be some of the best things that you can have, some healthy protein, some whole grains, and then ask if you can talk with a nutritionist at the place where you were diagnosed, because again, we're going to start just promoting those conversations. Hopefully, again, the culture of the profession will change, but you can definitely ask for that, and then they can get to know you and if you have any other health conditions that they need to personalize the diet for you.

**Dr. Lee:** I just want to chime in. We're talking, there's a lot of questions about specific vitamins or specific foods. The one thing that I want to reiterate to everybody out there is that if you're currently smoking still, instead of thinking about the one vitamin that you could take, quitting smoking is going to have more of an effect on your outcomes than any nutrition or supplement or anything like that. So, that is obviously of utmost important.

**Dr. Hamilton-Reeves:** Yeah, and likewise, some of the content that we made with BCAN already, rather than focusing on one vitamin or mineral, really thinking about what small changes can you make to get your diet higher in vegetables, higher in fruits, higher in whole grains. That's going to be much more effective for getting your body nice and strong.

### **For a healthy, physically active, non-muscle invasive bladder cancer survivor, would you recommend a Mediterranean or keto diet to prevent cancer recurrence?**

**Dr. Hamilton-Reeves:** Yeah, so this person is asking about dietary patterns, which is really awesome. There's evidence for both diets being good. I see the cue that you're physically active. A lot of people have a hard time following a true keto diet and keeping their activity and keeping their focus. I'm not saying that the keto diet is bad, but as far as sustained ability, if you check in with yourself and the foods that you like to eat, I would think a Mediterranean diet is probably an easier pattern to follow. The Mediterranean diet is also associated with a lot of really great health benefits for other chronic conditions, and so if I had to choose between the two, they're both fine but if I had to choose one, I think Mediterranean. There's not a lot of data yet on using a keto diet in bladder cancer to prevent recurrence, so I don't have data to guide me, I have more just gut instinct here.

### **What foods have high amounts of phosphorus, and is there a link between high phosphorus diets and bladder cancer?**

**Dr. Hamilton-Reeves:** That's a good question to stump me a little bit. Phosphorus is in so many things. When I work with patients that have chronic kidney disease, we often times have to use phosphate inhibitors because it's in so many places. Thinking meat products, dairy products are really high in phosphorus. Sodas, dark colas have high phosphates in them as well. I am not aware of a high phosphorus intake in bladder cancer increasing risk.

### **It was mentioned in the video drinking more water. Sparkling waters like Bubly, LaCroix, are they good, or should you just stick to plain water?**

**Dr. Hamilton-Reeves:** I really like the carbonated waters. If people have issues with gas, I mean, that's probably the only major side effect. If it's right after surgery and you're all puffed up, that's probably not the best time to have carbonated beverages or drink from a straw just because of the discomfort of the extra gas that you're introducing into your system. But other than that, I think they're delightful and a great alternative to soda. So, yeah, I'm glad that you're experimenting with them.

### **Is there one thing I can add to my diet to have the biggest impact on keeping my bladder cancer away? Similarly, is there one thing I should eliminate to have the biggest impact on preventing a recurrence from cancer?**

**Dr. Hamilton-Reeves:** Well, that's a stumper because it's like asking me the question without the context, so I don't know what you're eating, so I can't tell you what the most offensive thing might be and what the healthiest thing would be. If I had to choose, in thinking about bladder cancer, I would really focus on non-starchy vegetables. I think that's one thing, when we've worked with our participants in research studies that have cancer, they're like, "I don't really like vegetables," and then they find out that they do. Then they're so surprised that the amount of vegetables we're talking about is, one guy actually, he's kind of an exaggerator. He was like, "It's like a truckload of vegetables." I guess that would be the thing that I would add.

As far as the thing that you eliminate we suggest sugar and fat. The food industry is designed to make us crave sugar, fat, and salt. Our bodies are made to crave that, so that is nothing to take on as far as a shame or a guilt message. And yet, you're right, sugar and fat, because they're used to make us eat more, a lot of times people in the US do eat a lot of them and too much. So, you knew the answer. I knew you could do it, thank you.

Again, everybody's diet is so different because of their culture, their region, the time of year. There's just so many factors. And whether you live in an environment that has a lot of fresh foods or if you're in an environment where you have to get a lot of packaged things, so there's so many different nuances to try to understand, so many ingredients in this whole idea of understanding food and the impact on cancer.

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