

# PRE-OPERATIVE & PREHABILITATION NUTRITION

## Featuring:

**Chelsia Gillis, PhD, RD**

## TRANSCRIPT

**Maura Bowen:** Hello, listeners. Welcome to the Abbott Nutrition Health Institute Podcast Series on oncology and nutrition. If you tuned in for our first episode, you had the pleasure of hearing Dr. Anthony Sung discuss exercise and nutrition for oncology patients. And if you didn't have the chance to hear Dr. Sung's interview, I really encourage you to do so, because he shared some powerful insights and it's a discussion well worth listening to. So simply visit [ANHI.org](http://ANHI.org), click Resources, Podcasts and Videos, and Oncology and Nutrition Podcast Series, where we have published all three episodes.

I'm Maura Bowen podcasting for Abbott Nutrition Health Institute, and I'm here today with Dr. Chelsia Gillis, a registered dietitian and the nutrition lead for the peri-operative program at McGill University Health Center in Montreal, Quebec, Canada. Dr. Gillis will discuss surgical prehabilitation in oncology patients.

She'll also review what's new in terms of concepts for evidence for prehabilitation, especially for frail patients, and she'll explain risk-stratified and targeted prehabilitation care. Dr. Gillis, thanks for joining us today.

**Dr. Gillis:** Thanks for having me.

**Maura Bowen:** So first, I should note, and I've said this for 43 episodes now, that since we are still in the middle of a pandemic, Dr. Gillis and I are both dialing in from the comfort of our offices, rather than recording together in the studio. Today's recording quality may sound a little different from what you're used to hearing, but you know, recording from home means I can drink my own coffee. And let's face it, that's pretty nice. Secondly, Dr. Gillis, hello. It's great to talk to you again.

**Dr. Gillis:** Thank you for having me. I'm really excited to be here.

**Maura Bowen:** If it's fine, I'd like to take a moment to give you a chance to tell our listeners about yourself, so your name, your current role, and your background.

**Dr. Gillis:** Hi, I'm Chelsia. I'm a post-doctoral researcher and the nutrition lead with the perioperative program at the Montreal General Hospital. And a lot of our work focuses on helping patients to prepare well

for surgery. We provide them exercise, nutrition, and psychological care so that these stronger patients can recover well after surgery. And we call that “prehab:” prehabilitation, prehab.

**Maura Bowen:** Great. Thank you for that. There's a solid body of research related to enhanced recovery after surgery or ERAS. If you look at this topic through the oncology lens, what additional research in your mind could be useful to help show the benefits of preoperative and prehabilitation nutrition?

**Dr. Gillis:** Well, a few things come to mind. RIOT, which stands for return to intended oncological treatment. That would be interesting and a useful metric to investigate. When ERAS is successful, it gets patients out of hospital sooner, and prehab helps patients feel fitter after surgery sooner. These ERAS prehab patients, they should be candidates for their intended oncological therapy earlier. And this might have survival implications because the patient is able to get their needed treatment earlier. Additionally, whether oncological treatment was completed as intended would be another important one to investigate. Fitter patients with adequate fat-free mass, that would be muscle tissue, they should be able to tolerate their prescribed dose of chemo better. These patients should be able to complete their treatment as intended, and that also has survival implications as well. Cost effectiveness data, that would be also helpful to show the benefits of preop, nutrition, and prehab.

**Maura Bowen:** And it can sometimes be tricky to help patients understand the importance of nutrition before and after surgery and to motivate them to follow nutrition recommendations. So with that in mind, what strategies do you think can help with this challenge?

**Dr. Gillis:** For the most part, I find that patients are on-board with the importance of nutrition. Many patients believe food is medicine, and I actually have a published qualitative paper with that exact title. The challenge I find is really more with correcting nutrition misconceptions. And I can think of four things that have helped us in our practice.

One, we build trust with the patient.

Two, you need to explain why, and not in vague terms. Patients want to understand the physiology, but in simplified terms, of course. So here's an example. Surgery is a stress that makes your heart and lungs work hard, and this stress is actually similar to exercising really hard. Imagine a time you exercised very vigorously and how hard your heart and lungs were working in that moment. That experience is similar to surgery. If your body is used to this stress, this heart and lung working hard stress before surgery, your body is more likely to have a good surgery experience. And by wording it like that, by explaining the physiology, now the patient, hopefully understands why we're asking them to exercise and they might be more motivated to do that.

**Dr. Gillis:** Three, think about what is the gist of what you're trying to say. What is your take home message? You can just say that.

Four, recognize that the gist might mean something different to someone else, because we all filter information through our own lens. What I do is I say the gist of my message and then I ask patients to repeat it back in their own words. And that way I can make sure that we're on the same page.

**Maura Bowen:** That makes perfect sense. And let's face it, a similar challenge exists within the healthcare community too, right? Not every healthcare professional understands the imperative role nutrition can play in oncology. So when you think of this obstacle, what education do you think would be helpful for these healthcare professionals?

**Dr. Gillis:** Yeah. So for healthcare professionals, I think you need to do three things.

One, again, explain why from a physiological point of view in a way that will make sense to the person you are talking to. So for instance, if you're talking to a nurse, explain the why but using outcomes that nurses care about.

Two, I think it's best to have both quantitative and qualitative evidence, if you do have that, to support your point. And here's an example. With enhanced recovery after surgery [ERAS] and carb loading, here's the meta-analysis that shows you that it's safe, that's your quantitative evidence, and then here are quotes from patients explaining that they feel better when they carb load. You get better buy-in that way if you can present both the quantitative and qualitative evidence in addition to explaining the physiology and the first point.

And then three, talk about the exceptions. Don't pretend it works well every time. There are always exceptions and those are the ones that really stick out to the healthcare professional. And a common example is ERAS and early feeding. It's safe for patients to eat hours after their operation, but some patients throw up. So talk about this and explain why a patient might not tolerate early feeding. It could have been excessive fluid administration. It could have been excessive bowel manipulation. That sort of thing. Talk about the exceptions as well.

**Maura Bowen:** Do you think there is a relationship between patient nutrition and mobilization?

**Dr. Gillis:** 100%. When you're talking with healthcare professionals, you're trying to educate them, I think you should do those three things, discuss the physiology, the evidence, and the exceptions. I'm going to do that right now. Here is the physiology. Malnutrition incites adaptive mechanisms for the purpose of conserving nutrient reserves, and this includes reducing metabolic grade, diminishing physical performance to conserve

those limited reserves. That's the physiology. And what's the evidence? We've actually measured malnutrition and function before surgery.

**Dr. Gillis:** Function progressively drops with each level of nutrition status. So from well-nourished to moderately malnourished, from moderately- to severely malnourished, function progressively drops. And this includes strength and walking capacity. To give you some numbers, in our work, the average well-nourished patient walked 471 meters in six minutes. The moderately-malnourished patient walked 417 meters in six minutes. And a severely malnourished patient walked the 311 meters. So there's this progressive drop in function with each drop in malnutrition status.

And then finally, the exceptions. There are some patients who are diagnosed with malnutrition, i.e., they have reduced food intake and they've lost weight, but their functions are normal. One explanation for this is that it takes time for these reductive adaptations associated with malnutrition to occur. So a patient with, let's say new malnutrition, they might still have sufficient reserve to compensate, and they can function relatively well.

**Maura Bowen:** The COVID-19 pandemic adds some additional complexity too, obviously. Are there any points you think we need to pay extra attention to in pre-surgery and patient nutrition during this pandemic? And are there any current developments that you can share with us?

**Dr. Gillis:** There are some complexities to consider. So for instance, some patients are afraid to get groceries, afraid to walk outside, afraid to come to the hospital for their measurements. And if we can't get our measurements, it's hard for us to track their progress. We've adopted. We use online platforms like Zoom. We have exercise dates with the patient where we can actually watch them exercise. We provide nutrition counseling by phone or teleconferencing. We've incorporated measures of progress that we can implement remotely.

We have an app now that tracks diet, and we also can actually view their functional progress. We can get them to do the same similar measurements that we would do in hospital, such as the 30 second sit to stand, and we just watch them do it. We count how many times they can get up out of their chair in 30 seconds, and that gives us an idea of their functional progress. We can just watch them remotely from their home and from our office.

**Maura Bowen:** Technology has been the game changer in this pandemic. And I wanted to ask you too, what is the relationship in your mind between a hospital having an ERAS program and perioperative nutrition? Is not having ERAS, per se, a barrier to adopting perioperative nutrition?

**Dr. Gillis:** Having an ERAS program definitely improved nutrition practices because nutrition is a huge component of ERAS. When you implement ERAS practices, you implement new nutrition practices. But many of those nutrition practices, they can be implemented without the entire ERAS practice. They can. They can definitely. So for instance, preop screening and optimization, which is basically prehab, that can and should be implemented at your site even if you don't have ERAS.

Patients will benefit from nutrition optimization independent of ERAS. And you know what? Probably even more so.

**Maura Bowen:** What about access to supplements for these patients? Is there opportunity to create a short-term reimbursement or coverage period for oral nutrition supplements pre- and post-op given the evidence for benefit?

**Dr. Gillis:** Yes, I think definitely. Because especially with our malnourished patients, it's difficult for many malnourished patients to eat sufficiently. So supplements come in handy. And post-op, it's the same thing. Some patients don't even have family to help out, or they lack the energy to shop and cook after surgery. So supplements are very helpful before and after surgery.

**Maura Bowen:** How do other members of the care team contribute to and get involved in nutrition for perioperative care?

**Dr. Gillis:** It's definitely a team effort. If you think about... Let's take early feeding after surgery, as an example. Mealtimes are not protected. Patients are scheduled for tests and then they miss a meal, or the physician comes to talk to them and moves their meal tray out of reach, but now the patient can't reach their food and it's also cold, or if someone comes to take blood right in the middle of mealtime and the patient has put off their food.

Other examples include the patient who has nausea. Usually nausea meds are prescribed PRN, so that means as needed. And now that your patient is very nauseous and they've informed the nurse that they're nauseous, the meds will come, but it's too late for the patient to eat well. And another example is with the IV. If the IV is in for too long and let's say the patient has gained three kilos of water weight, and that's very common after surgery, now that patient feels uncomfortable. They don't want to eat, or they might even develop an ileus and they can't eat.

It really, really is a team effort if we want our patients to eat well, where the nurses and the physicians, and even the people taking blood, all the technicians have to be on board so that we can make sure that the patient can optimize their food intake.

**Maura Bowen:** From your observations, does the rate of postoperative complications decrease in a well-nourished patient? For instance, does nutritional support increase the success of the operation?

**Dr. Gillis:** The story is a little bit complicated, but yes, malnutrition is a factor. There are several factors that can lead to postoperative complications and malnutrition is certainly one of them. Malnutrition does not just influence functional capacity in terms of physical function, but it also influences immune capacity. Malnutrition definitely can contribute to the development of complications in hospitals. And also, I want to point out that it depends on what we mean by success of the operation.

Because for our patient's point of view, success is usually about getting back to normal, and multimodal prehab with nutrition definitely helps patients feel normal earlier. If we look at success from all these different avenues from what's important clinically, what's important for our patients, nutrition and optimizing nutrition can actually improve outcomes from multiple angles.

**Maura Bowen:** So with all that in mind, what do you think is really the best way to get started? Are there any small steps practitioners can take to help apply prehabilitation nutrition protocols?

**Dr. Gillis:** Yeah. I think the first steps are really administrative-type things. Identify when and where patients are seen before surgery and by whom, and this can help you figure out the possibility of implementing a nutrition screen. And it will give you an idea of how much time you have to optimize nutrition before surgery. Then think about what resources you already have that you can mobilize. As an example, the dietitian who works on the surgery unit, she takes half an hour of her time during her usual workweek and she sees patients in a class before surgery.

We just mobilize the resources we already have, and she finds that this streamlines her care quite a bit, because she's already seen the patients before they've come into surgery, and she knows who is malnourished even before they come into hospital. And that's actually improved her workload. I think mobilizing the resources you have is an important part of that but start with those administrative type things.

**Maura Bowen:** Well, Dr. Gillis, thank you so much for joining us today. This was super interesting, and we appreciate you helping us to amplify the scientific research on preoperative and prehabilitation nutrition. And I hope you'll join us again.

**Dr. Gillis:** Oh my Gosh, yes. Thank you so much for having me.

**Maura Bowen:** Great. And now for our listeners, if you're hoping for more podcast episodes on nutrition and oncology, you've really come to the right place, because this episode is the second in our three-episode Nutrition and Oncology Series. In our first episode, as I mentioned earlier in the introduction, Dr. Anthony Sung joined us to discuss the importance of exercise and nutrition for people with cancer. And next, we'll close out this series with Dr. Martin Chasen, who will talk to us about multimodal interventions in cancer patients with and without cachexia.

You can find these recordings on ANHI.org by clicking Resources and then Podcasts and Videos. And we also have other oncology resources as well, including our Oncology and Nutrition infographic, along with an entire toolkit on perioperative nutrition. In fact, we actually have an entire knowledge hub on cancer, which you can find on ANHI.org by clicking Resources and Knowledge Hub. So with all of that said, thank you for listening.

We really hope this content was helpful and that you can use it to help your patients throughout their cancer journey. Thank you, everyone. Stay healthy and safe.