

Announcer: [00:00:00] Welcome to the Perioperative Nutrition podcast, sharing knowledge with clinicians to ensure all patients are ready for surgery. This six episode series is sponsored by Abbott Nutrition, and here's your host Dr. Paul Wischmeyer of the Duke Clinical Research Institute.

Dr. Paul Wischmeyer: [00:00:15] My name is Paul Wischmeyer and I am the Director of the Perioperative Therapeutic area here at Duke Clinical Research Institute, the DCRI, and I also am a professor of anaesthesiology and surgery, and the director of the nutrition service here at Duke.

Dr. Paul Wischmeyer: [00:00:31] It is my great pleasure to be joined by Dr. Tom Varghese, and Tom I'm going to let you introduce yourself.

Dr. Tom Varghese: [00:00:35] Hello everybody, my name is Tom Varghese. I'm a thoracic surgeon, I have the section of thoracic surgery here at the University of Utah. I'm also co-director of the thoracic oncology program at the Huntsman Cancer Institute. Pertinent to this conversation I'm also the medical director of the American College of Surgeons Strong for Surgery program, which is a quality program of the ACS.

Dr. Paul Wischmeyer: [00:00:59] It's really great to have you Tom. I think the topic we really want to get at today is the role of oral nutrition supplements and, ultimately, the role of diagnosing and treating malnutrition in our surgical patients. You had some really amazing experience in starting Strong for Surgery, and as a part of that pathway that you worked on I know nutrition and addressing malnutrition in patients was really key. It would be great to hear a little bit about that pathway and your viewpoint on the role of malnutrition and oral nutrition supplements to treat it in surgery.

Dr. Tom Varghese: [00:01:34] Absolutely Paul. This all started with a journey that started in 2012 in Washington State. The realization that we've had a lot of focus and attention over the decades on optimizing surgical techniques and delivering safer anesthesia, and all these amazing quality improvement efforts that started after a patient walks into a hospital, but the reality is that the surgical journey or a patient towards a safe surgical intervention typically starts from the first time that the patient steps into a surgeon's clinic. That's that first interaction where traditionally the conversations have been around talking about the risks and benefits of surgical intervention, and classically the patient would sign an informed consent, and then disappear, and then reemerge on the day of surgery when there's a flurry of activity that's centered on the patient.

Dr. Tom Varghese: [00:02:33] Once we started talking to a lot of people there's this unique opportunity where if we can optimize a patient's health before they step into a hospital, really starting engaging them from that first time that they walk into a surgeon's office that we can really truly improve outcomes. These ideas are not new, Paul, there's been plenty of evidence in the literature where optimizing a patient's health including optimizing their nutritional status really can give you

better outcomes around the time of surgery as well as better long-term outcomes, and functional recovery as well.

Dr. Tom Varghese: [00:03:15] The story of Strong for Surgery really came about in terms of engaging those patients from the first time that they walk into the surgeon's office, really delivering a platform where we can help optimize the patient health well ahead of the surgical intervention. Then, it's part of the continuum that they walk into the hospital, add on all the other quality improvement efforts, and continue that journey towards the best possible surgical outcomes in every single patient, each and every single time.

Dr. Paul Wishmeyer: [00:03:41] Yeah, I think that's really an innovative and great way to do it. I think, specifically, taking it back to nutrition, there's many of us that feel that malnutrition maybe is one of the true silent epidemics facing our patients today with, we know, as many as two out of every three G.I. surgery patients being malnourished when they present to us. I know that was a particular target of the Strong for Surgery program. What was the pathway that you used to identify and treat those patients?

Dr. Tom Varghese: [00:04:09] When we got together, we got our content stakeholders together we ended up ... the goal was trying to find areas where you can optimize patient health before surgery, and then we scanned the literature. There were four areas that emerged. One of them was nutrition, optimizing nutritional status, the other three areas were blood sugar control, smoking cessation, and medication optimization. The reason why these four areas were targeted was that there was so much overwhelming information in the literature, there really wasn't a debate that this is what we should target. It wasn't one of these oh, there's an experimental phase or anything like that that was overwhelming the literature. As you correctly pointed out, it's fascinating, probably, and also little bit sad that there's this silent epidemic of malnutrition. As you know well, some people have estimated, that not just surgical patients, that a little bit more than half of all hospitalized patients are malnourished at the time of their admission to the hospital.

Dr. Tom Varghese: [00:05:12] In healthcare, unfortunately, traditionally we've always been reactive. We wait for the complication to emerge or we wait for a problem to present itself, and then everybody's trying to react to that, let's now try to go about correcting it. Early identification of risk factors, early identification of people potentially at risk is actually a better strategy even if it's something where you can't really do truly something about to 100% totally prevent, just alerting teams and bringing content experts on board right away it really helps patients through their journey. I think that that's where we landed upon nutrition as well.

Dr. Tom Varghese: [00:05:57] You hit it, I don't know if it's just because it's not a sexy topic or it just hasn't gotten enough attention, but for whatever reason nutritional status is something that it's consistently seen across the different surgical specialties, across different health conditions that if you're malnourished and you don't do

something about it your patient is being set up for a bad outcome. That's consistent each and every single time.

Dr. Paul Wishmeyer: [00:06:25] One of the ways we've put it is that no malnourished patient should ever have elective surgery without having a malnutrition evaluation and treatment when needed.

Dr. Tom Varghese: [00:06:35] Treatment when needed, exactly. The unfortunate aspect, the other reason why Strong for Surgery really came to attention was unless you set up a system where you're actively looking for it you're not going to know. You can pretend that the problem doesn't exist, but then all of a sudden you're going to have a patient, in the post operative period, who's running into complications or at increased incidence of death.

Dr. Tom Varghese: [00:06:59] You need to build those surveillance systems ahead of time, you have to constantly ask yourself is this patient optimized? Is this patient malnourished? Then, once you find that out you have to have a system in place where you do something about it. That's probably the simplest explanation of the Strong for Surgery program as well as other quality improvement programs that work in the pre-operative space, is building that surveillance system, and then doing something with the information that you find out.

Dr. Paul Wishmeyer: [00:07:27] What were the questions you would ask the patients?

Dr. Tom Varghese: [00:07:30] The simple things, there are really three areas in the nutrition checklist. The simplest of the three areas was measuring albumin levels. Now, we all know that a simple blood test like albumin is not the most comprehensive assessment, that was more about risk stratification because albumin levels were easy to get at all sorts of hospitals across the country, and it was a routine lab value that was being collected. In the literature what it says is that if the albumin level is below three your chance of having morbidity or mortality significantly goes up, and so that's the first thing is just risk quantification.

Dr. Tom Varghese: [00:08:08] The second thing is really surveillance for malnutrition. It's using standardized questions where you ask for things such as had the patient had unintentional weight loss? Have they had difficulty eating? Are they low body mass index, like less than 19? If any of these questions were yes then it's really getting nutrition specialists and dietitians involved right after that first interaction in the clinic, that is getting them involved early ahead of the surgical intervention.

Dr. Tom Varghese: [00:08:42] Then, the third area we targeted were immunonutrition supplements, and when we looked at the literature, the literature had really shown that those patients undergoing G.I. surgeries were, typically, involving a bowel resection and anastomosis, those patients were particularly at risk for developing surgical soft tissue infections. There was overwhelming literature

showing that immunonutrition supplements started before surgery in the 5 to 7 days ahead of the surgical intervention really helped deliver better outcomes.

Dr. Tom Varghese: [00:09:14] Now, the honest truth though is that this is only a first step in the nutrition space. We just targeted these three areas just because that's where the evidence was, but there's a lot of evidence that continues to emerge, and we know that we're not going to be staying static. That is that the next iterations of the Strong for Surgery nutrition checklist is really going to keep adding in the best evidence. As you well know, Paul, all the evidence of increasing protein content for even the adequately nourished patient ahead of surgery may be a good idea. There's going to be continuing studies that emerge, which we believe is going to influence that. Even though Strong for Surgery checklists right now are the three points that I talked about you can imagine in the years ahead that this will continue to evolve as the science evolves as well.

Dr. Paul Wishmeyer: [00:10:10] Here at Duke we've begun a process called the POET Clinic, the Perioperative Enhancement Team Clinic where we are using a checklist very similar to Strong for Surgery, you guys really helped inspire the questions we ask. Have you lost more than 10 pounds in the last three months? Have you taken in less than half of what you need in the last five days or half of what you usually eat? Then, albumin as well. Just like you did, we learned from you, if they had those things we're starting them on high protein oral nutritional supplements three weeks to a month before surgery especially these large abdominal surgeries.

Dr. Tom Varghese: [00:10:42] You hit it right on the head. Now, of course, we're all talking about elective surgery right now. We're also currently working on what to do with patients who may need urgent operations where you don't have the luxury of time. Are there still things that we can potentially do? Let's say you only have a week before surgery, is there something we could do in the week before surgery? Or, let's say, you only have a few days, maybe there's something we can do in the few days. These are the other areas that we're exploring right now, but the framework still remains. We have to build a system where we ask those critical questions, we do the surveillance system really to find out who those patients are at risk. The other key important thing, you've got to do something with the information.

Dr. Tom Varghese: [00:11:23] Unfortunately, there's a lot of database projects out there across the country where people participate in robust database or quality improvement projects, but if they receive the information and they don't do anything with the information I'm not quite sure if we're really doing anything better than not knowing. It's really finding out the information, and then doing something with the information you get back as well.

Dr. Paul Wishmeyer: [00:11:45] It's really, I think, come time. We have so much evidence for immunonutrition improving outcomes. Even recently there was a paper in one of the really high impact nutrition journals showing that just even point two grams more of some high-protein oral nutrition subject supplements for a few

days after colorectal surgery reduce length of stay for four days, and so even a few days after surgery, even if you can't get to them before surgery, increasing protein intake with these oral nutritional supplements can improve outcome. I think what this really says is what you said, it's time to act, we have the data.

Dr. Tom Varghese: [00:12:18] That's the type of thing that we also have to capitalize on because the other reality, the sobering reality we had when we started Strong For Surgery, as you and I both know and others who are probably listening in on this podcast, there's unfortunately a sobering fact. That is, it takes about 15 to 17 years before findings from randomized clinical trials become incorporated into systematic practice. That's way too long, that delay in enacting evidence that works is costing patients and costing lives. It's just something that we have to do something about.

Dr. Tom Varghese: [00:12:57] The study that you just cited, we have to set up a system where that's a great finding, and then if it's reproducible now we have to translate that into clinical practice. That's really where we're really trying to set these platforms of about not only initiating evidence that works now, but also initiating a platform whereby when future findings are determined we can have a mechanism set in place where we can translate directly into clinical practice, that's what we need to do. The clinic that you talked about is a cutting edge type of thing. Sadly, that's not the norm across the United States. The variation and the variability across this nation and across the world is mind-boggling.

Dr. Tom Varghese: [00:13:46] We're here in the 21st century, we have all the best evidence at our fingertips, on our smart phones, you can hear about a randomized clinical trial that's being conducted in Malaysia that's finding a positive finding and you can find out about that seamlessly in real time almost if it gets published in either traditional journals or on social media. Yet, we don't have platforms in place that can then translate that into active steps to help our patients. That implementation barrier is something that we also have to work on in the years ahead as well.

Dr. Paul Wishmeyer: [00:14:22] Yeah, I think that's so true. I think we're really in a place where we need to start taking these bold steps to take this evidence forward. We know that less than 1 in 4 medical schools in the US teach meaningful clinical nutrition to our young physicians, and so I think we need to learn to rely on our dietitians, and then also rely on the protocols that the American College of Surgeons and others are putting out. We just published guidelines from the Perioperative Quality Institute and American Study For Enhanced Recovery to try to spell out some simple pathways we can follow, but I think the college really coming forward with efforts around this is going to be a big step forward as you guys continue to develop that material.

Dr. Tom Varghese: [00:15:04] That's what we're hoping for. I think that the important thing with the support of the American College of Surgeons, the other great thing that the ACS has done before is they're also knowledgeable about the fact that they alone by themselves are not going to be the ones that are going to change this.

We really need to extend out and have active partnerships with other folks, and so this is where the anesthesiology societies, the nutrition societies, the patients' advocate societies, this is really where doing this in a multidisciplinary collaborative effort is really going to make the change for the better. We need to reach out, we need to collaborate more, we need to learn from each other.

Dr. Tom Varghese: [00:15:50] You hear the buzz word about learning communities being thrown out. A learning community is not just individual members, or individual people, it's also individual groups, or organizations, or nations. We really need to collaborate and band together because the status quo is not cutting it. Having a patient who's already malnourished and then starving them with an NPO past midnight, and then subjecting them to a huge surgical stress, and then waiting days later to feed them, we're just setting that patient up for a complication or mortality right from the get go.

Dr. Tom Varghese: [00:16:33] What I just described to you is the traditional surgical paradigm. The traditional paradigm was well, let's just take this patient to surgery and we'll deal with any problems that happen afterwards. We starve them, and then oh, let's wait for "return of bowel function," so we continue to starve them after surgery. Then, we're all shocked that they have a bad complication. That doesn't make any sense, and so we got to do things to change that.

Dr. Tom Varghese: [00:17:01] The fact that you and I are still having this debate right now in the 21st century is amazing. You and I both know this and people who are listening in know this, we're talking about literature that's almost 40 years old now, about the perils of being malnourished around the time of surgery, but unfortunately we're still talking about it right now as well.

Dr. Tom Varghese: [00:17:27] The hope, of course, is that as we start doing these type of things our hope is that 10 years from now that we'll look back longingly at these days and say, "Can you imagine that this is the conversation we were having? That really we need to act on nutrition ahead of surgery," that it's almost in shock in terms of having those type of conversations at that time. That's our hope, that we change this, that we got to act.

Dr. Tom Varghese: [00:17:57] I agree with you Paul, I think there's so much information out there inaction is not the answer anymore, we have to do something to improve our patient's nutritional status each and every single time.

Dr. Paul Wishmeyer: [00:18:06] I think that was perfectly said. When I've presented this extensive data, that you said very rightfully, goes back 30 years, we have some meta-analyses 4000, 5000, 6000 patients for immunonutrition and the support of that. We have thousands of patients for high protein oral nutrition supplements, improving outcomes, and I have people say to me, "Isn't it malpractice not to treat this, you know, when we know that every dollar we spend on oral nutrition supplement saves \$52 in hospital costs?" I say, "Yeah, it probably is malpractice," but we have to get people on board with that, and now we have to act.

Dr. Tom Varghese: [00:18:41] Now, we have to act. Now, unfortunately sometimes in healthcare we have barriers, and sometimes the barriers are well, if we give a nutritional supplement we're not going to "get reimbursed." I've heard that, you've probably heard the same thing, that preoperative nutrition counseling in a patient who's not diabetic, oftentimes, is not reimbursed, and that becomes part of the problem. I think that nobody should ever say that the only time you should do things in healthcare is if you get reimbursed for it, but the reality also that is you can't have systems hemorrhaging money or losing money also. We understand all the different aspects or the different viewpoints that are involved, but I think it goes back to, hopefully, part of this awareness in education is not only to the public, but to insurance companies as well.

Dr. Tom Varghese: [00:19:37] I think it would be wise for an insurance company really to pay attention to this, that is is that there are modifiable steps or there are actions you can take ahead of a surgical intervention that can improve your outcomes. If we talk about, let's say, a surgical technique or an anesthesia technique, if you and I talk about a surgical technique where we say, "This surgical technique, if you employee that, will cut down your mortality by a significant fold or cut down your complication rates by about 10%," let's give that as a hypothetical number, you can imagine the outcry or if you didn't employee that surgical technique or anesthesia technique like tomorrow. It would be amazing, but yet we're talking about the same type of interventions here in the nutrition space as well.

Dr. Tom Varghese: [00:20:34] Part of the change effort is also changing culture, changing mindsets. I agree with you, I think my gut instinct is I do think that there is probably an element of ignorance, maybe people aren't aware of how robust and solid this literature is, and so the way to help that is by educating them. There's probably also elements of, "Well, I've been doing it the same way every time for the last 20 years, why should I change now," and then part of that is trying to overcome that. Part of it is also we need to engage patients, and that's I think where a lot of our future efforts are probably going to go to. Patients are very well-informed nowadays, more so than in years past, and they're asking the right questions. They're asking, "Hey, is there something I can do to get myself in better shape before surgery," that's a very common question people ask each and every single time.

Dr. Tom Varghese: [00:21:33] Part of it is that's the way we've built our lives. We don't embark on things in our normal day-to-day life lives without preparing for it. You don't go to the grocery store without making a list of things that you're going to need. You don't just show up at the grocery store and wing it, that doesn't work. You don't go travel somewhere without asking your friends, or looking on websites like Travelocity and everything before you show up there. Yet, patients are somehow expected to just show up on the day of surgery and not do anything ahead of time. I think patients are probably going to be pushing back the most in terms of the status quo is not adequate and we have to do something for the better.

Dr. Paul Wishmeyer: [00:22:10] We call it the teachable moment where both patients and physicians when faced with this huge obstacle for the patient it's a lot like training for a marathon where the patient's training for the marathon of their life and you wouldn't train for a marathon starving yourself the night before or not preparing with the right nutrition and preparation the weeks before. Yet, that's what we think maybe they should do right now in our practice, but no one would ever do that, like you said, I think you've said it perfectly, so I think that really hits it on the head.

Dr. Paul Wishmeyer: [00:22:38] To summarize, what I think I'm hearing is, I think everything you're saying and I think we both have always felt that malnutrition is truly an epidemic for our patients both in the surgical world and the hospitalized world, and that we have overwhelming data now that oral nutrition supplements and nutrition screening and nutrition intervention can change this outcome, and trains, prepares people for these big surgical interventions can make a big difference in their outcome. Now, it's time for all of us to act and to find ways to put this in place. I think you've been a leader in that, and I think as we begin to close, I think, that's a key message that you've shown it really can be done it done. I think that's an inspiration to us all.

Dr. Tom Varghese: [00:23:21] Strong for Surgery, for the listeners, it started in Washington state with six brave pilot sites in 2012. We started spreading through Washington State and the Pacific Northwest, in 2015 transitioned over to the American College of Surgeons. At the end of this year, at the end of 2018 we're on target to be active in 230 sites across the nation. It would be remiss of me not to say that those are the real heroes, the people who take the chances to make sure it sounded like a strange idea probably at the time that we launched it, but now people are realizing yes, there are things we can do to really help the patient optimize their health each and every single time.

Dr. Tom Varghese: [00:24:06] Part of the learning community is we learn from every single new site that gets enrolled, there's phenomenal collaborations going on, we're always looking for new partners. Part of the way is people ask me do you make any money on this, and the honest answer is no. It's free of cost to enroll in this, the only thing that the American College of Surgeons asks is that ... the agreement is we just want to learn from you about how well you did or if there were any barriers towards the implementation. The reason for that is every single site success stories or implementation barriers stories that helps the entire community to learn as a whole, and that's really what it is all about. Also, Strong for Surgery was designed in such a way that it can seamlessly flow into any other quality improvement program like an enhanced recovery after surgical program, or really be able to by modified.

Dr. Tom Varghese: [00:25:01] What we're also looking for is new ideas. As we said, the checklist right now, that was the first version. I don't imagine that checklist being, the nutrition checklist for example, being that same exact version 10 years from now. I anticipate it to be modified because we're going to be embracing the new evidence, and doing that, and really engaging the people that are already

involved as well. The true heroes, Paul, are the people doing the work, those on the front line, engaging with patients, helping patients get activated or engaged in their own health. People who do the hard work each and every day, those are the true heroes in this, and we're just grateful to learn from each and every single one of them.

Dr. Paul Wishmeyer: [00:25:47] Tom, I think this has been great. I think you really have conveyed this message that we have the evidence, we have the knowledge, we know we have the right oral nutrition products for patients now available to us. These are not expensive products. We have the carb loads, we have the immunonutrition, we have the high-protein nutrition supplements, they've all been studied, and we have some pathways that are forming that people can take advantage of, and some guidelines have been published, and more guidelines to come.

Dr. Paul Wishmeyer: [00:26:14] I think this has been great, Tom, that you've really expressed the future and how we hope we see a future where this is a time we look back on as gosh, how could we not have been addressing such obvious needs in our patients? This has been great. I hope the listeners out there can take home that this is something that they can change in their practice, and begin to change tomorrow, and hopefully we can really make 10 years from now look a lot different than the we treat malnutrition and address nutrition in our patients today in surgery.

Dr. Tom Varghese: [00:26:44] Amen, Paul, amen.

Dr. Paul Wishmeyer: [00:26:46] Thanks for listening everybody and hope you can take some of this back to your patients very soon. Thanks.

Announcer: [00:26:52] Thank you for listening to the DCRI's Perioperative Nutrition podcast sponsored by Abbott Nutrition. More episodes are available on SoundCloud and DCRI.org.