

# NUTRITION CARE FOR PRESSURE INJURIES: GUIDELINES TO OPTIMIZE OUTCOMES

**Featuring ::** Mary Litchford, PhD, RDN, LDN and Joyce Pittman, PhD, ANP-BC, FNP-BC, CWOCN, FAAN

## TRANSCRIPT

**Maura:** It's Wednesday, August 5, 2020, at the time of this recording, and Covid-19 seems to be under control somewhat in many parts of the world. But here in the United States, it's still very much a part of our daily lives. Take last week, for example. Here at Abbott Nutrition Health Institute, we hosted a webinar on nutrition care for pressure injuries—and, you know, we expected solid attendance. But here in the middle of this pandemic, pressure injuries have become an increasingly important topic, so actually thousands of healthcare professionals tuned for the webinar discussion.

**Maura:** So, we're looking at today's podcast episode as an opportunity to carry the conversation one step further. We'll discuss the 2019 care guidelines and how to apply them generally. But we'll also spend some time looking at nutrition and pressure injuries through the lens of Covid-19. Because we know it's needed, and we're really glad you're listening.

**Maura:** I'm Maura Bowen, and I'm here today with Dr Mary Litchford, who is President of Case Software & Books. From 2017-2019, she was the President of the National Pressure Injury Advisory Panel. Also with me today is Dr Joy Pittman, Associate Professor of the University of South Alabama College of Nursing in Mobile, Alabama. Dr Pittman is the current Vice President of the National Pressure Injury Advisory Panel.

**Maura:** Doctors, thanks for joining me here.

**Dr Pittman:** Thank you for having us.

**Dr Litchford:** Thank you for having us.

**Maura:** First, a quick note: Because we're still in the middle of a pandemic, and we're conducting this interview outside the studio setting, the recording quality today may be a little bit different from what you're used to hearing.

**Maura:** Alright. Let's get started with some introductions. Dr Litchford, Dr Pittman, would you mind taking a moment to tell us a bit about yourselves, your backgrounds, and how you've come to focus your careers on pressure injuries and wound healing? Dr Litchford, would you like to go first?

**Dr Litchford:** Sure. I am a registered dietitian nutritionist and I worked in public health and in acute care and then post-acute care. I was a college professor for many years and taught dietetics. And I'm now a business owner of Case Software & Books. The focus of my work is on speaking and writing continuing education materials and professional resource books. It's giving me an opportunity to work nationally and internationally, and really understand how nutrition care is provided not only in the United States but worldwide.

**Dr Litchford:** Now, pressure injuries and nutrition were not part of any of my educational training. When I taught

at the university it was not part of the curriculum. Now in my first job, when I worked in public health and in-home care, we saw a lot of wounds but there weren't any guidelines until 1994. NHCPR, which is now HRQ, published the first treatment guideline. I was asked to speak on the nutrition component of wound care and for the treatment of “pressure ulcers,” [which] was the term used in 1994. Well, that really sparked a 25-year journey that led me to my work with NPIAP [National Pressure Injury Advisory Panel], to volunteer to be one of the NPIAP representatives on the international guidelines’ governance group. That’s the group that oversaw the production of the 2019 clinical practice guideline.

**Dr Litchford:** And then, on a personal note, my mother developed a pressure injury in the hospital in 1999. The staff was not familiar with that HCPR treatment guideline. The problem ended up being a stage III pressure injury. It was a sacral injury. It was related to both nutrition and pressure. When I challenged the medical team about it, they said, “Well, you know your mother is old and she's very sick. We wouldn't expect this wound to heal.” And I said, “You know, there are a lot of things you can do with pressure redistribution and with nutrition. She's had a 10% weight loss in 30 days.” And the nurse said to me, “But your mother still overweight, so that weight-loss is good.” That was a real red flag to me to say I need to invest more of my time as a volunteer to see if I can change people’s attitude about the role of nutrition and wound healing. It took on a whole different perspective when it was a family member and I had a different role in the process.

**Dr Pittman:** Thank you. My name is Joyce Pittman, or “Joy.” And it's a pleasure to be talking with you and taking part in this. I've been a nurse, an RN, since 1979—a long time—and have always actually had an interest in wounds. I worked for a surgeon for a while in critical care and acute care most of my career. And when I became a certified Wound, Ostomy, Continence (WOC) Nurse, that passion in wounds was just ignited. And because of that I’ve also been continuing my education first as an NP—nurse practitioner—and then I went on to get my PhD and conduct research in the area wound/ostomy/continence conditions.

**Dr Pittman:** I remember conducting pressure injury prevalence surveys back in the 2000s before regulatory changes, and the hospital leadership saying, “Oh, we don't have a problem with pressure injuries, but you go ahead and do what you want.” But you know what, regulatory reimbursement changed, and suddenly leadership became more interested in those prevention efforts. Since that time, pressure injury prevention has been a focus of my research, and my current research focus is on unavoidable pressure injuries and sustainable prevention strategies. Prior to last year I supported a team of 10 WOC nurses and the pressure prevention initiative in a large level-one trauma academic setting. It was also a magnet hospital. But then recently I moved to Alabama and I'm currently Associate Professor at the University of South Alabama, collaborating with the University Hospital here on their pressure injury conventional efforts.

**Maura:** Wonderful. Thank you both for sharing your backgrounds. I mentioned in the introduction, we’re recording today’s episode following your 30 July Abbott Nutrition Health Institute webinar, called “Nutrition Care for Pressure Injuries: Guidelines to Optimize Outcomes.” I also mentioned we’d like to use this podcast episode to discuss this topic through the lens of the Covid-19 outbreak. But before we do that, I’m guessing our listeners would appreciate some context. Is it fine if we take a few moments to summarize your webinar presentation?

**Dr Litchford:** Well certainly. Our webinar that we conducted last week focused on both the science behind nutrition and pressure injuries as well as implementing the guidelines in your clinical practice. The nutrition chapter is my favorite chapter in the clinical practice guidelines and there are some changes. Dietitians need to be sure that these changes are implemented in your protocols. Back in 2014, we had 29 nutrition recommendations, and now there are just 10. And why is there a big change? Well, part of it is that we have raised the bar in terms of the level of the research that is required to become a recommendation; we’ve added what are called “good practice statements,” which are based on expert opinion, and sometimes a small amount of research but not really a large body of research. And some of those were recommendations in the past. Others have been merged together. And then we also have implementation considerations that are in the document. So, it provides you with a different approach to clinical practice guidelines that are as consistent to what is done in other international guidelines.

**Dr Pittman:** Yeah, I thought our webinar went well, personally. And Mary had a very impassioned portion that really talked about the science of nutrition and skin and sarcopenia and malnutrition. I urge you to listen to the webinar if you have a chance. In my portion, I talked about the CPG—or the Clinical Practice Guideline—methodology and the rigor, and why we can trust it. Some of the changes that we did in this revision is we added associate organizations to have a part and a voice. We also included patients and caregivers—consumers—to get us an idea of what's important to them. I think that added a whole new aspect of the guidelines. And then, as Mary said, we talked about the changes in the guidelines, especially in the nutrition chapter, specific changes and recommendations regarding screening, assessments, and care. Then I went on to talk about and some of the resources in the guidelines that go into detail about the implementation of change and how do I identify practice changes and help to sustain them.

**Maura:** Excellent. Thank you both for that. Let's start easy. Can you tell us: What is a pressure injury?

**Dr Litchford:** The National Pressure Injury Advisory Panel refined its definition of a pressure injury in 2016 and there are four basic components:

- Localized damage to skin, typically over a bony prominence or under a device
- It can be present on intact skin or an open ulcer and may be painful
- It's due to intense or sustained pressure and the tolerance of skin is related to microclimate nutrition which was added in this revision—nutrition had not been mentioned previously
- Profusion, poly-morbidities, and condition of skin

**Maura:** When might you normally see a pressure injury? For instance, who is most at risk?

**Dr Litchford:** Well if you look at it from a nutrition standpoint, certainly anyone who is undernourished or malnourished, or has dehydration will be at higher risk for pressure injuries as well as low BMI—low body mass index. Typically, they have an inadequate food and fluid intake. They have an inability to feed themselves, so they're dependent on others for care. They usually have a lot of risk factors, so poly-morbidities. Individuals that are malnourished often have acute injuries or they've had major surgery and have stress-related hypoglycemia, and that poor glycemic control contributes to poor wound-healing.

**Dr Pittman:** We really also need to think the primary cause is immobility. It's those people who have increased mechanical load. But again, in addition to that, it's that susceptibility intolerance of the individual. And that's where the nutrition piece comes into it. But think about immobility. If we can get these people moving and out of bed, the risk as much less.

**Maura:** What have you noticed about pressure injury prevalence in the Covid-19 environment? Are Covid-19 patients more susceptible? Or are they less susceptible?

**Dr Pittman:** They are much more susceptible. Pressure injuries have always been a patient safety issue, and actually since 2015, we have continued to go up in the atmosphere when other nurse are going down. And, now since our new Covid-19 patients, many of them are in critical care in areas, they have all those critical care risk factors. But in addition to that, we know that Covid-19 affects more than just the lungs. It affects other organs. So not only do they have all those other risk factors of being critically ill, but they also have that problem of potential multiple organ failure. They're also in strict isolation, which may influence the time the nurse can be at the bedside. These patients also can experience some of the skin manifestations of Covid, which can complicate an accurate skin assessment that is done by the provider and the nurse. It complicates whether prevention strategies should be an increased.

**Maura:** As you explained in your webinar, nutrition can play an important role in addressing these types of wounds, and helping patients to recover, not just during the Covid-19 pandemic, but generally. Can you say more about that?

**Dr Litchford:** You know, I think the key we have to look at with our patients with Covid-19 is that many of them are malnourished when they're admitted. Malnutrition puts you at risk for pressure injuries. And so, it's very important to use malnutrition screening tools and follow the criteria for malnutrition diagnosis. And that is discussed in the clinical practice guideline. But I think these patients are going to be at higher risk if they have been sick for a window of time at home. They often have had fatigue, they haven't had much of an appetite, they've lost their sense of taste and smell, and so their food intake is much lower. It might benefit them to start on a nutrition intervention program from the time that they are admitted even they don't end up in ICU unit to really focus on being sure they're getting enough protein and getting enough nutrients. Our colleagues in other parts of the world have shared and have published data that they found a high percentage of the patients that were admitted to the hospital were malnourished much higher than what they had seen historically in their communities. And so, in order to address those issues, they would start with nutrition initially. Now, nutrition will not overcome the inflammatory stress that can occur with cytokine storm that you will see in those that are in the ICU unit, but it does help support the body during that window of time. Sometimes in ICU, it's hard to be sure that they receive adequate nutrition and often the intake is low. So, when they get out of the ICU and they are either recovering at home or in a post-acute care setting the role of nutrition is still very important to help them recover from the consequences of being so acutely ill.

**Dr Pittman:** Mary, don't you think that similar to many of our critical care patients—and I'm thinking of that population specifically—just like you mentioned, prior to even being admitted, [they've] been malnourished because their appetite is so low in intake? And so I always look at it as they're already in the pit. They're in a hole. And they're coming in at a deficit. If we don't start our nutrition and strategies immediately, they're just sinking deeper and deeper into this pit.

**Dr Litchford:** Well, and think about the social distancing that we've had in place for months, and the isolation. A lot of these individuals that live alone have had to order their groceries online or have them delivered. That may be different than what they've done in the past. We see diets really deteriorate because if people are used to eating with families or are used to eating out and suddenly they can't do that, and they're afraid for people to come and bring food to them for fear of catching a virus, then that just adds to this poor appetite. And I think this social distancing gives people an opportunity to be more depressed. They tend to be more sedentary, and so they're declining but they're not even aware of the change. If the families don't have the opportunity to visit them, they don't realize how much their loved ones are declining while they're socially isolating. I think you make a very good point about being in a pit when they come into the hospital.

**Maura:** Now let me ask you: In 2019, the European Pressure Ulcer Advisory Panel, the National Pressure Injury Advisory Panel, and the Pan Pacific Pressure Injury Alliance, all came together to release new clinical practice guidelines to help prevent and address pressure ulcers and injuries. Can you tell us—at a high level—what these guidelines include?

**Dr Litchford:** Well, the guideline—the nutrition chapter—focuses on evidence-based recommendations and practice statements that look at both etiology prevention and treatment. And when you look at the guideline, it goes through the screening process as well as nutrition assessment, looking at prevention strategies and looking at treatment strategies. And there are some changes, but we are using a higher level of research, and we have a methodologist that reviews all the literature. Based on inclusion criteria, she determines which are the studies we will look at. There are hundreds and hundreds of studies that are reviewed by teams of experts and there's a small working group specific to nutrition. I was on the small working group for individuals with obesity and each of the small working groups made their recommendations either to have a full chapter such as the nutrition, or for the special populations, individuals with obesity being one of those, that was put into a separate chapter under special populations as well as address a little bit in the nutrition chapter. And so, we look at a team of experts. We have some evidence summaries that are developed where we look at the results of studies, and look at methodology very, very closely. Research has to meet a very high bar to be included in this guideline, and so I feel very confident that you can trust that.

**Dr Litchford:** The governing board, which is called the Triple G—a Guideline Governance Group—consists of four representatives from each of the three major players: the NPIAP, the European Pressure Ulcer Advisory Panel, and the Pan Pacific Pressure Injury Alliance. Then we had our associate group as well that provided support for us.

**Dr Pittman:** Well, I think from the nurse standpoint one of the things that stood out to me was the focus on nutritional screening. We know the registered dietitian is the expert, but the nutritional screening can be done by anyone, and it should be done as soon as possible in the patient's trajectory. What impressed me in the guideline was talking about when is a screening done, who is going to do it, and is it sustainable. I know in my situation, we ran into trouble with the screening because it would be lost if somebody was admitted to OR, and the screening was perhaps not done in that pre-assessment area, then they would have their surgery go to critical care and then a nurse wouldn't do it because she thought it had already been done.

**Dr Litchford:** Well I think you make a very good point and that the dietitians have been talking about the screening for years. But the guideline really brings it to the forefront with the rest of the medical team. With the electronic medical record, that information can be entered in very easily. The system can populate the cells in the electronic medical record; it can calculate the scores. And as long as you use a validated tool—and there are some tools that have been validated for pressure injuries, both in the United States as well as in other countries—if that information is used on as a validated score and that will really help direct practice. Bringing in the dietitian to do that comprehensive assessment if the clinical setting is such that the dietitian doesn't assess everyone.

**Dr Pittman:** I totally agree. The problem is the process surrounding whatever recommendations you're going to implement. And again, I stress to think about the process surrounding it. You might have a good, validated and reliable screening tool, but if it's not always done and if it doesn't elicit the alerts for the triggers to the dietary department then it's kind of worthless. So, think about the process, making sure that things are working the way they should be, and communication. I think communication on the team was stressed in the guideline and it's very important.

**Maura:** Also, in your ANHI webinar, you focused on muscle, lean mass, and malnutrition. Why are these particularly important factors when addressing pressure injuries?

**Dr Litchford:** One of the things that we see in the COVID-19 population as well as in adults is a loss of muscle mass with aging and the literature shows us that after age 40 you will lose an average of about 8% of muscle mass every decade. That's not a very rapid loss but think about how sedentary many of our jobs are. We sit in front of computers. And, especially working remotely, people are working in a setting where they're really not getting as much physical activity as they were before because they're not walking to the subway station, they're not walking to the bus stop or from the parking lot, and they're not walking around the facility. And so, they're more sedentary. And so, we may see later numbers at a younger age of muscle loss, but after age 70, the rate doubles to about 15%, so you start losing muscle mass very quickly. Now what do we see about adults as they age? Well, they tend to eat less protein as they age, and that's one of the factors. But exercise is also a factor. And so, they develop what is called sarcopenia. This is age-related muscle loss. But it's more than just loss of lean mass. It's loss of the quality of the mass. What happens when you lose muscle mass is that you can replace it with fat. And so fat infiltrates inside the muscles and that affects the muscle performance, so that you're not as physically strong—it's more difficult to open containers, it's more difficult to do a variety of things. And that's going to increase your risk for malnutrition when you start losing lean muscle mass. Now our social distance has certainly promoted a lot of sedentary lifestyle, because the gym is closed, people can't get out and exercise like they did. But again, it's related to decreased protein in the diet with aging, a decrease in vitamin D status, and an increase in inflammation. The presence of inflammation, whether it's due to chronic disease or due to acute disease or injury or surgery, redirects the body to use lean mass for energy. And so, any inflammatory stress cycle, the body has to mobilize nutrients in order to make the immune cells, make the cytokines that are involved in this immune response. Already losing muscle mass just with aging and with inflammation, you're losing it even faster. You only have a certain amount of

lean mass to lose, so you want to be sure you can preserve that as much as possible. As you lose more muscle mass, you increase your risk for pressure injuries, and you decrease the rate of wound healing because the body is more concerned about utilizing and optimizing the body tissues. But often wound healing ends up not happening as quickly as you would expect it to if the person had more muscle mass or the inflammation was under control.

**Maura:** You mentioned a moment ago the importance of protein, the importance of vitamin D. Can you speak a little bit more about the particular nutrients that seem to help pressure injury patients to heal?

**Dr Litchford:** Well I think that when you are looking at prevention of pressure injuries, in the clinical practice guideline we used to have very specific energy and protein recommendations. In the 2019 guideline, there are no specific recommendations of so many calories per kilo, so many grams of protein per kilo body weight. But it recommends that, based on your nutrition screening and your nutrition assessment, that you would customize their diet based on their need. What we've learned in pre-habilitation before surgery is that not everybody needs to be on an intense nutrition program before surgery. But for those who are malnourished, it'll make a big difference in surgical outcomes if people are healthier and have more protein stores as a result of better diet, as well as exercise, and some other things. But once you have a wound, each phase of wound healing has different nutrients. Now, energy and proteins are needed for every phase of wound healing. So that's a given. But when you first have that break in the skin, or that damage to the skin or underlying tissues, there is some blood clotting involved. So, vitamin K is going to be involved.

**Dr Litchford:** Now ascorbic acid is going to be very important in the hemostasis phases because you have an immune response, and in order to make neutrophils—your basic vacuum cleaners of the body that clean up debris—you've got to have ascorbic acid to make some. And so that it is very important. Now we don't recommend a specific ascorbic acid or vitamin C supplement the way we used to 20 years ago, because we found that really didn't make that much difference. As long as you're meeting the recommend dietary allowance ascorbic acid. Then, when you get into the inflammatory stage, ascorbic acid remains very important but then your B complex vitamins—riboflavin, niacin and thiamine—because they're involved in energy metabolism. Ascorbic acid is going to be involved in collagen synthesis as well.

**Dr Litchford:** When you get to the proliferation stage, that's when you have all of your nutrients involved. Ascorbic acid vitamin A with B complex, folic acid is going to be involved for DNA synthesis, and individuals that have high alcohol intake will have decreased the absorption of both B complex vitamins as well as folic acid. So be sure you get enough of that. And then our minerals—iron, zinc and copper—are very involved and wound healing. We used to give supplemental doses of Zinc. That is no longer recommended. Zinc, iron and copper all complete for receptor sites. Zinc is the strongest, copper is the weakest. So, what happens when you give a large dose of Zinc, the body will block the utilization of copper. So, you can develop a copper deficiency. Zinc supplement has been recommended to boost your immunity for a Covid-19 patient and for people reducing the risk to get coded 19. But really, I haven't seen any science to support that, and there is a risk of developing a copper deficiency. Skin loses elasticity with a copper deficiency. So, wounds will begin to heal and then they will be split open. And then in your last stage ascorbic acid and vitamin A in addition to your protein and energy are going to be very important for that wound healing.

**Maura:** Now, let's look again through the lens of Covid-19. Does the virus change how you care for patients with pressure injuries?

**Dr Litchford:** You know I don't know that it changes the nursing care, but from a nutrition standpoint we need to recognize that these individuals may be experiencing food and nutrition differently than they did before. Because we see a lot of olfactory and taste disorders with your abbreviated OTDs, and if you don't smell food and food doesn't taste good—or it has an altered taste, or it has an altered smell—then that's going to reduce your appetite. Plus, cytokine stress reduces appetite. That's part of the effect of the cytokine. We're seeing individuals that have GI

symptoms such as nausea, diarrhea and vomiting. We're seeing more dehydration and reduced appetite from that. Fatigue: people are simply too tired to eat. And if they're required to prepare their own foods or even just open their own packages, they're too tired to do that as well. Certainly, the presence of fever and coughing, aches and pains, confusion—all lead to loss of appetite and forgetting to eat. We still impaired medical management of chronic diseases, specifically diabetes with the chronic hypoglycemia, which came impair healing. We see weight loss, reduced physical activity.

**Dr Litchford:** And so it's very important that we look at these patients in terms of risk assessment and interventions through the lens of the Covid 19, of how other symptoms of this disease, and the lingering effects of this disease, will impact how they are able to meet their nutrient needs, and we may need to do some things differently.

**Maura:** I know the new guidelines were really released not that long ago, but have there been any updates to the guidelines since they were released?

**Dr Pittman:** Since they were released in 2019, there's no formal update to the guideline. It will be updated every five years. However, the current search for literature is ongoing. We have a methodologist, Dr Emily Haesler, who has a very rigorous search for evidence. And again, that search for current evidence is ongoing as we speak.

**Maura:** Let's talk about best practices. Whether you're caring for patients with Covid-19 or patients with pressure injuries from other ailments, what advice can you offer practitioners as they implement the new pressure ulcer and injury guidelines?

**Dr Litchford:** When we talk about best practices, I think we have to look through the lens of Covid 19 and think about how our work settings have changed. There are dietitians that continue to work on site, but there are many dietitians that work remotely. And so, if you're using a remote approach, there's certainly some good practices that can be implemented. There's been some recommendations from the World Health Organization about really what works for telemedicine most effectively with chronic diseases. Now there are very few research articles about nutrition care services and the importance of the value of that, that is in the literature. So, an opportunity for dietitians to do some research and publish their findings. But for working with individuals that are going to be at risk for pressure injuries, or certainly with pressure injuries, if you work remotely, these are the guidelines that are provided from WHO:

- The patient clinical needs interventions have to be fairly straightforward.
- The medical records have got to be all accessed by the practitioner.
- You're not going to be able to do any type of the nutrition focused physical exam.
- All information can be shared remotely. You're certainly going to have to have a safe setting to do that, and to prescribe interventions.
- And the patients have got to have the capacity to consent and follow the recommendations or refuse recommendations.

**Dr Litchford:** So those are just some general guidelines about remote services. I think that the importance of screening is going to be very, very important.

**Dr Litchford:** The European Society for Clinical Nutrition and Metabolism is developing an app for primary care physician. It's called the RMap. It's something that physicians would complete on all patients. It includes the malnutrition universal screening tool, which is used in Europe. So, the physician would complete it using a mobile device, and then that would be scored. And if they're elderly or they have acute or chronic diseases, then they would do a sarcopenia, which is called a Sarc-S screening tool. Based on the scores, that would predict whether you would refer the person for nutrition assessment and those people would be of course at risk for pressure injuries.

**Maura:** Do you have any parting words for practitioners working in this current Covid-19 pandemic?

**Dr Pittman:** I just want to thank everybody—all the providers and nurses and dietitians—all that are involved in taking care of our complicated patients at this time. Thank you for your work keeping our patients safe.

**Dr Litchford:** Well I would certainly echo that. Remember that nutrition matters, exercise matters, and both of those components make a big difference and how healthy we are. During this pandemic, I think we have learned to value our health from a different perspective and perhaps have a different level of appreciation for those that are working on the front lines of a pandemic that most of us never even imagined we were facing our lifetimes.

**Maura:** Dr Litchford, Dr Pittman, you are both so great. Thank you so much. Excellent insights. We appreciate all you're doing to help build awareness for the important role nutrition has to play in managing patients with this virus.

**Maura:** Now, for our listeners, if you're hoping for more podcast episodes on nutrition and immunity, rest assured we're developing a series of additional episodes to help support you—in fact, we have a host of Covid-19 related episodes already on our website, and we'll create more each week until this virus begins to subside. You can find these recordings on [anhi.org](https://anhi.org) by clicking "RESOURCES" then "PODCASTS & VIDEOS." Don't miss an episode: Become an [anhi.org](https://anhi.org) member today by clicking "REGISTER" at the top of our homepage to receive regular nutrition science news updates from our team. Or, follow the Abbott Nutrition Health Institute on LinkedIn.

**Maura:** Finally, our website, [anhi.org](https://anhi.org), has a series of printable resources related to this topic—for instance, infographics on [nutrition and immunity](#), [dehydration](#), and [why maintaining muscle matters](#). You can find these resources on [anhi.org](https://anhi.org) by clicking "RESOURCES" and "PRINTABLE MATERIALS."

**Maura:** Thanks for listening. Stay healthy and safe.