



# Pressure Ulcers eCourse

## Module 5.5: Nutrition Guidelines

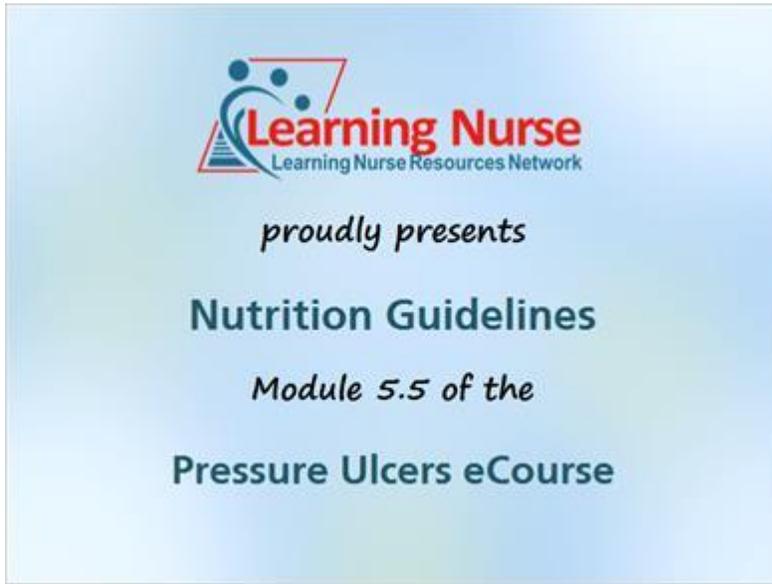
### Handout

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# Nutrition Guidelines

## 1. Nutrition

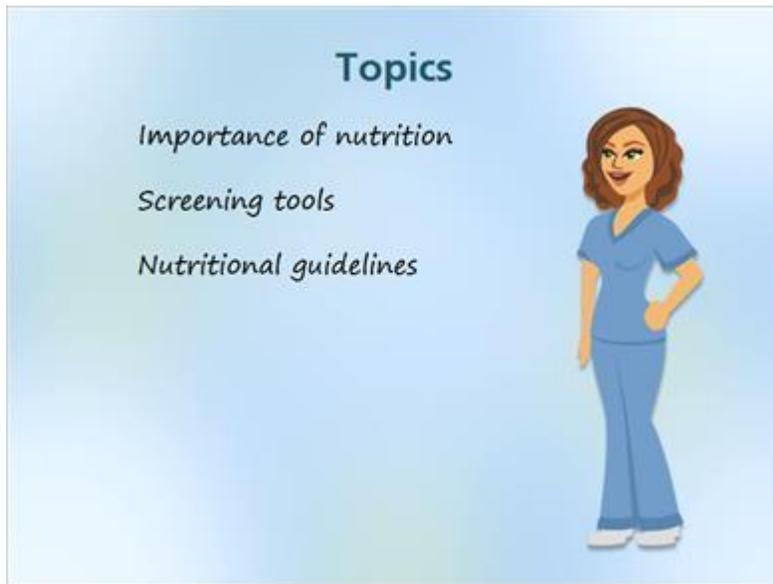
### 1.1 Section Title



## Narration

No narration, only music.

## 1.2 Topics



### Narration

**JILL:** Hi ... I'm Jill and with me is Mark. Welcome to Module 5.5 of this course.

**MARK:** Hi Jill. This is the module where we are going to talk about my favourite topic ... food! But we already discussed nutrition in a previous module. Why are we covering it again?

**JILL:** Good nutrition is important in the prevention AND treatment of pressure ulcers. In this module we are going to discuss how good nutrition facilitates the healing of pressure ulcers. Therefore, we will be looking at the importance of nutrition in healing; screening tools to assess the nutritional status of our patients and residents; and, some general nutritional guidelines that will promote healing of pressure ulcer wounds.

**MARK:** Ah, I see. Okay, let's do it!

## 1.3 Prevention

### Prevention Recommendations

- Under-nutrition is reversible*
- Assess nutritional status*
- Use validated tools to detect nutritional risk*
- Have nutritional screening policy*



### Narration

**JILL:** Under-nutrition is a reversible factor for pressure ulcer development. Therefore, early detection is critical. We should screen and assess the nutritional status of every individual at risk of pressure ulcers. This should be done in every healthcare setting.

Validated screening tools should be able to detect nutritional risk in all types of individuals, including those in whom weight and height cannot be easily measured.

Finally, each facility should establish and implement a nutritional screening policy. This policy should include the recommended frequency of screening. We must also document the results of the screening and communicate them from one setting to another as patients move across continuum of care.

**MARK:** So the message here is that it very important that we know and monitor the nutritional status of each patient, regardless of whether they are at risk, or already have a pressure ulcer.

**JILL:** Uh-hm.

## 1.4 Working Together

### Working Together

*Communication is key*

*Care team, patient and family / caregivers*

*Recommendations:*

- *tracking and referral systems*
- *documentation*
- *plan of care*
- *refusals*



### Narration

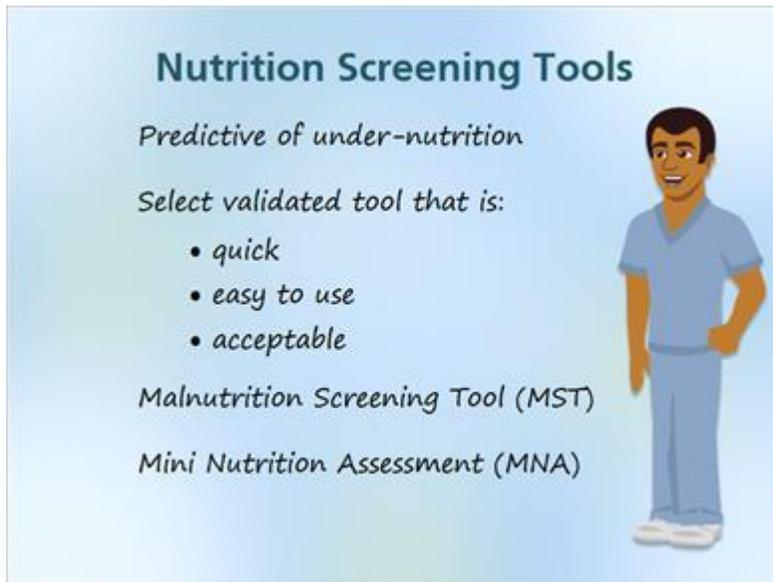
**JILL:** Communication is important from one healthcare setting to another when action is required. It is essential that there is good and ongoing communication with the care team, the patient or resident, and their families.

**MARK:** Any suggestions on how to improve our communications?

**JILL:** Here are a few recommendations. Facilities should implement tracking and referral systems so that the nutritional data on patients don't get lost. It is important to clearly document any problems, concerns and recommendations. This should be done in the patient's progress notes. We should be making aggressive recommendations that are individualized to each patient's needs. We must implement the plan of care consistently. And finally, we need to document refusal of treatment, and what we did to counsel the patient on the risks versus the benefits.

**MARK:** Those are really good suggestions.

## 1.5 Screening Tools



### Narration

**JILL:** As mentioned earlier, validated nutritional screening tools can be predictive of under-nutrition. The tools that we use for nutritional screening should be quick, easy to use, and acceptable to both the patient and the nurse.

**MARK:** Can you give me some names of nutritional screening tools?

**JILL:** Sure Mark. Two commonly used nutritional screen tools are the Malnutrition Screening Tool and the Mini Nutrition Assessment. In addition, the Braden risk assessment tool that we discussed previously has a sub-scale on nutrition that can be used as well.

**MARK:** And as with the other validated tools we have mentioned, we will NOT go into any detailed explanation of these. Find out which nutritional screening scale your facility uses, and become knowledgeable and competent in its use.

**JILL:** Yes, good point.

## 1.6 Very poor Nutrition

### Very Poor Nutritional Status

*Nutrition sub-scale of Braden*

*Very poor nutrition score indicated by:*

- *never eats or completes meal*
- *2 servings or less of protein*
- *poor fluid intake*
- *eats 1/3 of any food offered*
- *NPO or IV/clear liquids for more than 5 days*

### Narration

**JILL:** The Nutrition Sub-Scale of the Braden can be used to assess the nutritional status of patients. Over the next few slides, we are going to take a look at the factors responsible for different levels of nutritional status. For example, a patient with a very low nutrition score is characterized by the factors shown here.

**MARK:** So we know that a person will have a very poor nutrition score if he or she: never eats or completes a meal; has 2 serving or less of protein; has poor fluid intake; only eats a third of any food offered; and has nothing by mouth, IV or clear fluids for more than 5 days.

**JILL:** Yes, that is correct.

## 1.7 Inadequate Nutrition

**Inadequate Nutritional Status**

*Probably inadequate nutrition\* indicated by:*

- *eats 1/2 of any food offered*
- *3 servings of meat or dairy daily*
- *occasional intake of supplement or tube feeding or liquid diet*

\* As measured by the Braden Risk Assessment Nutrition Sub-Scale

### Narration

**JILL:** An individual will have probably inadequate nutrition if he or she: eats half or less of any food offered; has 3 servings of protein in the form of meat or dairy daily; and has an occasional intake of supplement or tube feeding or liquid diet.

## 1.8 Adequate Nutrition

### Adequate Nutritional Status

Adequate nutrition\* indicated by:

- eats > 50% of most meals
- 4 servings of protein daily
- occasionally refuses meal but takes a supplement
- tube feeding or TPN meets needs

\* As measured by the Braden Risk Assessment Nutrition Sub-Scale

### Narration

**MARK:** A patient or resident will have adequate nutrition if he or she: eats more than half of most meals; has 4 servings of protein daily; only occasionally refuses a meal, but takes a supplement; or has tube feeding or TPN that meets their nutritional needs.

## 1.9 Excellent Nutrition



**Excellent Nutritional Status**

Excellent nutrition\* indicated by:

- eats most meals
- never refuses a meal
- eats 4 or more servings of protein
- does not require supplements

\* As measured by the Braden Risk Assessment Nutrition Sub-Scale

### Narration

**JILL:** Lastly, an individual will have excellent nutritional status if he or she: eats most meals; never refuses a meal; eats 4 or more servings of meat and dairy daily; and does not require supplements.

**MARK:** These are simple enough to use. They give us some valuable data on the nutritional status of our patients and residents.

## 1.10 Supplements

**Nutritional Supplements**

High protein oral nutritional supplements or tube feeding:

- in addition to usual diet
- to at-risk individuals
- who have chronic diseases
- or surgical intervention



### Narration

**MARK:** Speaking of supplements, when should they be given?

**JILL:** High protein oral nutritional supplements and tube feedings should be offered in addition to the usual diet to individuals with nutritional and pressure ulcer risk because of acute or chronic diseases, or following a surgical intervention.

**MARK:** Okay, that makes sense.

## 1.11 Supplements 2



### Narration

**JILL:** Mark, when do you think is the best time to provide the nutritional supplements?

**MARK:** I would think at meal time.

**JILL:** Actually, the best time to administer oral nutritional supplements is **IN BETWEEN** the regular meals.

**MARK:** Why is that?

**JILL:** Consuming supplements between meals results in better absorption of nutrients and does not interfere with meal intake. Nutritional supplements include products that consist of such things as calories, protein, fat, vitamins, minerals and amino acids.

**MARK:** Hmmm, that sounds reasonable.

## 1.12 Nutrition Treatment



### Narration

**JILL:** As part of the nutrition treatment plan, we should screen and assess each individual with a pressure ulcer. This should be done at admission, every time the patient's condition changes, or when the pressure ulcer wound is not healing.

We should refer all individuals with a pressure ulcer to a Registered Dietitian for early assessment and intervention of any nutritional problems.

**MARK:** So whenever possible, we should get help from a Dietitian when it comes to the nutritional status of patients with pressure ulcers.

**JILL:** Yes, that is generally a good idea.

## 1.13 Risk Factors



### Narration

**JILL:** Let's now look at some of the risk factors associated with poor nutrition. Mark, why don't you do these?

**MARK:** Okay. We must know the individual's weight history. This means we may have to weigh them weekly. Recent weight loss, particularly in the elderly, is a key factor in mortality risk. For example, a 10% unintended weight decline in 6 months is a strong predictor of mortality. Also, we should not assume that obese individuals are getting adequate nutrition. They may not be consuming a balanced diet and may be malnourished.

**JILL:** In addition to that, there is indirect evidence that suggests that weight loss, the inability to eat independently, poor intake, and increased chewing and swallowing problems are all associated with delayed pressure ulcer healing.

## 1.14 Lab Tests

**Lab Tests**

*No specific test*

*Only one aspect to evaluate*

*Do not delay intervention*



### Narration

**MARK:** Why don't we do a lab test to see whether a patient is properly nourished?

**JILL:** Because there isn't any specific test for nutrition. We can do lab test for many factors related to nutrition, but there is no one lab test to assess nutritional status.

Also, it is important to point out that any lab data are only one aspect we need to consider. Other factors such as weight loss, ability to eat independently, and chewing or swallowing difficulties also need to be considered.

One last point is that we should not delay intervention while we are waiting for lab tests.

**MARK:** In other words, if a patient is under-nourished, we need to act immediately.

**JILL:** Yes we should.

## 1.15 Energy

**Energy Requirements**

*30-35 calories/kg body weight*

*Adjust for weight loss/gain and obesity*

*Have RD calculate requirements*

A photograph of a hamburger and a side of french fries. The hamburger is on a sesame seed bun with lettuce, tomato, cheese, and a beef patty. The french fries are in a red paper tray.

### Narration

**JILL:** For the remainder of this presentation, we are going to take a look at some of the specific nutritional needs associated with treatment of pressure ulcers.

**MARK:** Hmmm, burger and fries. I'm getting hungry.

**JILL:** Hypermetabolism caused by trauma, infection, stress, or pressure ulcers results in higher caloric requirements. The NPUAP recommends providing 30 to 35 calories per kilogram of body weight for patients under stress with pressure ulcers. This formula should be adjusted in the event of weight loss, weight gain, or change in level of obesity.

We should get a Registered Dietitian to calculate individual caloric requirements.

## 1.16 Food vs Supplements

**Food vs Supplements**

*Caloric requirements met by:*

- *favorite food*
- *menu variety*
- *ethnic foods*
- *fortified foods*

*Least restrictive diets*



### Narration

**JILL:** Caloric requirements should first be met by a healthy diet with attention to the individual's food preferences, menu variety and ethnic choices. Fortified foods can be prepared or purchased. Examples are cookies, cereal or desserts fortified with calories, fat and protein.

**MARK:** Yum, pizza with tomato and mushroom toppings. Jill, are you saying that we should be serving pizza to our patients and residents?

**JILL:** Overly restricted diets may result in unappetizing, unpalatable food which is uneaten resulting in under-nutrition and delayed wound healing. The American Dietetic Association advocates individualized nutrition approaches that are the least restrictive possible. If that means feeding patients pizza, so be it!

**MARK:** I can relate to that. Although most institutional food has all the necessary ingredients for a healthy and balanced diet, it often isn't very appealing. So from now on, I'm going to advocate on behalf my patients that we serve them pizza more often! (chuckles).

## 1.17 Protein

**Protein Requirements**

*Improved healing*

*1.25-1.5 grams/kg body weight*

*Monitor healing and adjust*

*Assess renal function*



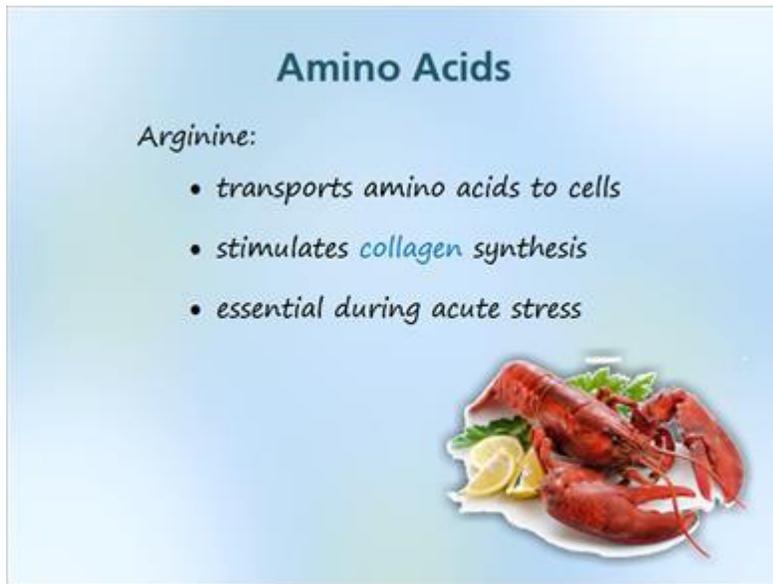
### Narration

**JILL:** On to proteins. Increased protein levels have been linked to improved healing rates. Protein is needed to build new tissue and decrease the net nitrogen losses. Protein is also lost in draining wounds.

**MARK:** How much protein do our patients need?

**JILL:** Between 1.25 and 1.5 grams per kilogram of body weight. However, clinical judgment is required to determine the appropriate levels of protein based on the overall nutritional status, co-morbidities and tolerance to the intervention. We also need to assess the renal function for individuals with chronic kidney disease to ensure appropriate tolerance of higher protein levels.

## 1.18 Amino Acids



### Narration

**JILL:** As an amino acid, arginine helps build proteins, but it also stimulates the secretion of growth hormone, helps remove ammonia from your body and has a role in healing wounds. If you're healthy, your body makes enough arginine to meet your metabolic needs. But if you're sick or under stress, you need to get extra amounts through food or supplements.

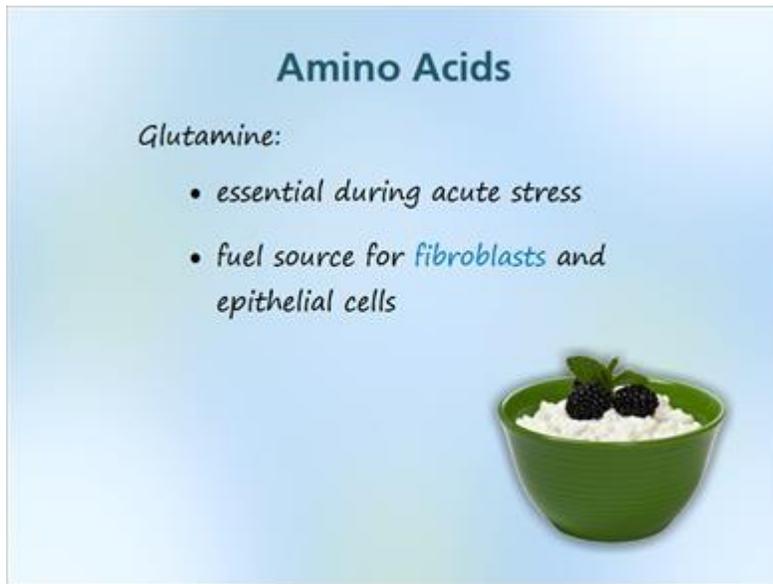
**MARK:** Jill, why is there a picture of a cooked lobster on this slide?

**JILL:** Lobsters and other seafood are high in arginine. The importance of arginine to patients with pressure ulcers is that it promotes the transport of amino acids into cells and stimulates collagen synthesis. Patients under acute stress of pressure ulcers need to add arginine through food or supplements.

**MARK:** I see. Jill, have I ever mentioned to you how much I love lobster and that I am getting rather hungry looking at all this food?

(Jill laughs)

## 1.19 Amino Acids 2



### Narration

**JILL:** Glutamine is the most abundant naturally occurring, nonessential amino acid in the human body. It is one of the few amino acids that can directly cross the blood–brain barrier. In the body, it is found circulating in the blood, as well as stored in the skeletal muscles. It becomes conditionally essential, that is requiring intake from food or supplements in states of illness or injury. In treatment of pressure ulcers, glutamine functions as a fuel source for fibroblasts and epithelial cells.

**MARK:** I gather that the bowl of cottage cheese signifies that dairy products are rich in glutamine.

**JILL:** Yes, that is correct. Protein from animal foods such as meat, fish, poultry, eggs and milk contain all of the essential amino acids.

## 1.20 Fluids



### Narration

**JILL:** Let's now turn our attention to adequate hydration. Fluids serve as the solvent for vitamins, minerals, glucose and other nutrients. They also transport nutrients and waste products throughout the body. Therefore, we must provide and encourage our patients to drink enough each day to maintain hydration. The fluids are required to replace water loss and meet hydration needs. It is really important to monitor our patients and residents for dehydration.

**MARK:** Is that a glass of beer? Beer, pizza, lobster ... man I am really getting hungry. Jill, why don't we take a break so that I can go get some food?

**JILL:** (laughs) We don't have that much left to do. Why don't we finish up first and then you can go and eat.

**MARK:** Ah, well okay. But let's hurry up.

## 1.21 Fluids 2



### Narration

**JILL:** Meanwhile, to take your mind off food, why don't you tell us under what conditions our patients and residents may need additional fluids?

**MARK:** Patients that require additional fluids include those who: are dehydrated; have elevated temperature; are vomiting; are sweating profusely; have diarrhea; or have heavily draining wounds. In addition, individuals eating high-protein diets also require additional liquids.

**JILL:** Great.

## 1.22 Balanced Diet



**Balanced Diet**

*Balanced diet includes vitamins and minerals*

*Offer vitamin/mineral supplements if:*

- food intake is inadequate*
- deficiency is confirmed*

*Evaluate appropriateness of multivitamins with minerals*

### Narration

**JILL:** Most nutrient needs can be met through a healthy, balanced diet that will include good sources or vitamins and minerals. However, individuals with pressure ulcers may not always consume a diet that meets their nutritional requirements.

**MARK:** So do we then provide them with vitamin and mineral supplements?

**JILL:** Yes, but only after we determine that the food intake is inadequate to meet their nutritional needs for treatment, and the deficiency is confirmed through lab tests. We also need to evaluate and monitor the appropriateness of multivitamins with minerals.

**MARK:** In other words, we should not be giving our patients vitamins or minerals that they do not need or which may inadvertently have adverse outcomes.

**JILL:** Right.

## 1.23 Micronutrients

**Micronutrients**

*Vitamin C:*

- *90 mg per day in diet*
- *mega doses do not help healing*



### Narration

**JILL:** We are going to end up our presentation by looking at several key micronutrients. Daily requirements for Vitamin C are 90 mg. This requirement is easily met by eating fruit and foods high in ascorbic acid. Currently there is no evidence that mega doses of Vitamin C accelerate healing of pressure ulcers.

**MARK:** I gather that Vitamin C can be found in peppers.

**JILL:** Yes, that is correct.

## 1.24 Micronutrients 2

**Micronutrients**

Zinc:

- confirm deficiency
- 40 mg per day
- copper status and anemia
- monitor dose and length of time



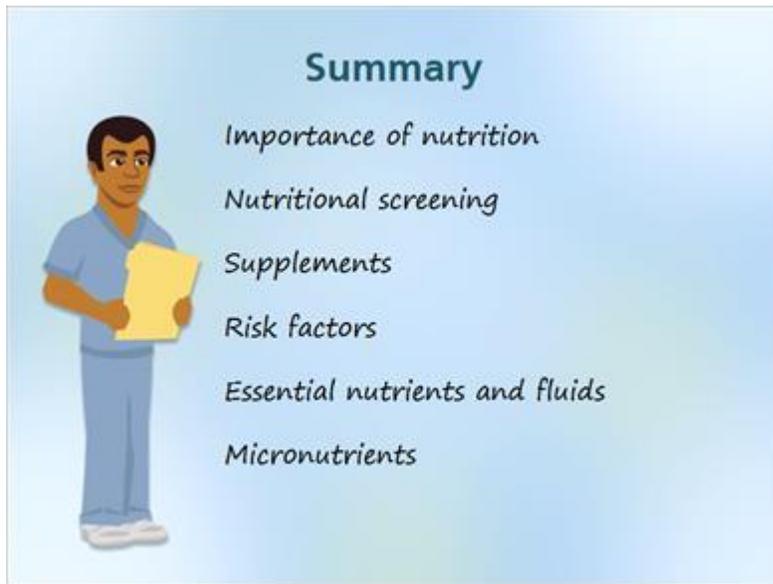
### Narration

**JILL:** There is no evidence currently to support the conclusion that high doses of zinc facilitate pressure ulcer healing unless there is a confirmed deficiency. The maximum limit for zinc is 40 mg per day. Higher doses of zinc may adversely affect copper status and possibly result in anemia. For this reason, it is important that we monitor the dose and length of time that we provide zinc.

**MARK:** I am guessing that the oysters are rich in zinc? Did I mention that I love oysters?

**JILL:** Yes, oysters are rich in zinc. And I am not surprised that you love oysters too! Is there any food that you don't like?

## 1.25 Summary



### Narration

**JILL:** That brings us to the end of this module on nutrition guidelines for pressure ulcer treatment. Mark, would you mind doing a summary of what we learned?

**MARK:** Sure Jill. We started out by discussing the importance of good nutrition, not only for the prevention of pressure ulcers, but also in their treatment. As part of developing and implementing a plan of care, we reviewed a few nutrition screening scales. We then examined when and how to administer nutritional supplements. Next, we outlined some factors that increase the risks of individuals not getting adequate nourishment. We then explored the essential components of nutrition such calories for energy, proteins, and amino acids. We also emphasized the importance of maintaining adequate hydration. We ended our presentation by looking at the roles of Vitamin C and zinc in pressure ulcer healing.

**JILL:** Thanks for doing that. I'm Jill along with Mark saying goodbye for now. We see you again shortly ... that is, after Mark has his burger, fries, lobster, pizza, oyster and beer lunch. (laughs)

**MARK:** Bye. (*From far off in the distance*).

## 1.26 The End



## Narration

No narration, only music.