

**Supplemental Table. COMPARISON OF NUTRITION RECOMMENDATIONS IN 2014<sup>3</sup> AND 2019<sup>1</sup> CLINICAL PRACTICE GUIDELINES**

| 2014 Recommendations by Chapter  | SoE | SoR | 2019 Recommendations and GPSs by Chapter   | SoE | SoR |
|--|-----|-----|--|-----|-----|
| <i>Nutrition and Pressure Injury Prevention and Treatment</i>  |     |     | <i>Nutrition in Pressure Injury Prevention &amp; Treatment</i>   |     |     |
| <b>Nutrition Screening</b><br>Refer individuals screened to be at risk of malnutrition and individuals with an existing pressure ulcer to a registered dietitian or an interprofessional nutrition team for a comprehensive nutrition assessment.                              | C   | 👍   | <b>4.1: Conduct nutritional screening for individuals at risk for pressure injury</b>  | B1  | ↑↑  |
| <b>Nutrition Screening</b><br>2. Use a valid and reliable nutrition screening tool to determine nutritional risk.  | C   | 👍   | Concept included in Implementation Considerations under Recommendation 4.1   |     |     |
| <b>Nutrition Assessment</b><br>Assess the weight status of each individual to determine weight history and identify significant weight loss (□ 5% in 30 days or □ 10% in 180 days)   | C   | 👍   | <b>4.2: Conduct a comprehensive nutrition assessment for adults at risk of a pressure injury who are screened to be at risk of malnutrition and for all adults with a pressure injury.</b> | B2  | ↑↑  |
| <b>Nutrition Assessment</b><br>2. Assess the individual's ability to eat independently.  | C   | 👍👍  | Concept included in Implementation Considerations under Recommendation 4.2   |     |     |
| <b>Nutrition Assessment</b><br>3. Assess the adequacy of total nutrient intake (i.e., food, fluid, oral supplements and enteral/parenteral feeds).   | C   | 👍👍  | Concept included in Implementation Considerations under Recommendation 4.2   |     |     |
| <b>Care Planning</b><br>1. Develop an individualized nutrition care plan for individuals with or at risk of a pressure ulcer.  | C   | 👍   | <b>4.3: Develop and implement an individualized nutrition care plan for individuals with, or at risk of, a pressure injury who are malnourished or who are at risk of malnutrition</b>     | B2  | ↑↑  |
| <b>Care Planning</b><br>2. Follow relevant and evidence-based guidelines on nutrition and hydration for individuals who exhibit nutritional risk and who are at risk of pressure ulcers or have an existing pressure ulcer.  | C   | 👍   | Concept included in Implementation Considerations under Recommendation 4.3   |     |     |
| <b>Energy Intake</b><br>1. Provide individualized energy intake based on underlying medical condition and level of activity.   | B   | 👍   | <b>4.4: Optimize energy intake for individuals at risk of pressure injuries who are malnourished or at risk of malnutrition.</b>   | B2  | ↑   |
| <b>Energy Intake</b><br>2. Provide 30 to 35 kcalories/kg body weight for adults at risk of a pressure ulcer who are assessed as being at risk of malnutrition.   | C   | 👍   | N/A  |     |     |
| <b>Energy Intake</b><br>3. Provide 30 to 35 kcalories/kg body weight for adults with a pressure ulcer who are assessed as being at risk of malnutrition.   | B   | 👍👍  | <b>4.6: Provide 30 to 35 kcalories/kg body weight/day for adults with a pressure injury who are malnourished or at risk of malnutrition</b>  | B1  | ↑   |
| <b>Energy Intake</b><br>Adjust energy intake based on weight change or level of obesity. Adults who are underweight or who have had significant unintended weight loss may need additional energy intake.  | C   | 👍👍  | Concept included in Implementation Considerations under Recommendation 4.5   |     |     |
| <b>Energy Intake</b><br>5. Revise and modify/liberalize dietary restrictions when limitations result in decreased food and fluid intake. These adjustments should be made in consultation with a medical professional and managed by a registered dietitian whenever possible. | C   | 👍   | Concept included in Implementation Considerations under Recommendation 4.5   |     |     |

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**Supplemental Table. COMPARISON OF NUTRITION RECOMMENDATIONS IN 2014<sup>3</sup> AND 2019<sup>1</sup> CLINICAL PRACTICE GUIDELINES, CONTINUED**

| 2014 Recommendations by Chapter   | SoE      | SoR | 2019 Recommendations and GPSs by Chapter   | SoE        | SoR |
|---|----------|-----|--|------------|-----|
| <b>Energy Intake</b><br>6. Offer fortified foods and/or high calorie, high protein oral nutritional supplements between meals if nutritional requirements cannot be achieved by dietary intake.   | <b>B</b> | 👍👍  | <b>4.9: Offer high calorie, high protein nutritional supplements in addition to the usual diet for adults with a pressure injury who are malnourished or at risk for malnutrition, if nutritional requirements cannot be achieved by normal dietary intake. Concept included in Implementation Considerations under Recommendation 4.7</b> | <b>B1</b>  | ↑↑  |
| <b>Energy Intake</b><br>7. Consider enteral or parenteral nutritional support when oral intake is inadequate. This must be consistent with the individual's goals.  | <b>C</b> | 👍   | <b>4.11: Discuss the benefits and harms of enteral or parenteral feeding to support overall health in light of preferences and goals of care with individuals at risk of pressure injury who cannot meet their nutritional requirements through oral intake despite nutritional interventions.</b>   | <b>GPS</b> |     |
|   |          |     | <b>4.12: Discuss the benefits and harms of enteral or parenteral feeding to support pressure injury treatment in light of preferences and goals of care for individuals with pressure injury who cannot meet their nutritional requirements through oral intake despite nutritional interventions.</b>                                     | <b>B1</b>  | ↑   |
| <b>Protein Intake</b><br>1. Provide adequate protein for positive nitrogen balance for adults assessed to be at risk of a pressure ulcer.   | <b>C</b> | 👍   | <b>4.5: Adjust protein intake for individuals at risk of pressure injuries who are malnourished or at risk of malnutrition.</b>  | <b>GPS</b> |     |
| <b>Protein Intake</b><br>2. Offer 1.25 to 1.5 grams protein/kg body weight daily for adults at risk of a pressure ulcer who are assessed to be at risk of malnutrition when compatible with goals of care, and reassess as condition changes                                    | <b>C</b> | 👍   | N/A; rationale discussed under Recommendation 4.4  |            |     |
| <b>Protein Intake</b><br>Provide adequate protein for positive nitrogen balance for adults with a pressure ulcer.   | <b>B</b> | 👍   | Concept included in Implementation Considerations under Recommendation 4.5   |            |     |
| <b>Protein Intake</b><br>4. Offer 1.25 to 1.5 grams protein/kg body weight daily for adults with an existing pressure ulcer who are assessed to be at risk of malnutrition when compatible with goals of care, and reassess as condition changes.                               | <b>B</b> | 👍   | <b>4.7: Provide 1.25 to 1.5 g/kg body weight/day for adults with a pressure ulcer/injury who are malnourished or at risk of malnutrition.</b>  | <b>B1</b>  | ↑↑  |
| <b>Protein Intake</b><br>5. Offer high calorie, high protein nutritional supplements in addition to the usual diet to adults with nutritional risk and pressure ulcer risk, if nutritional requirements cannot be achieved by dietary intake.                                   | <b>A</b> | 👍   | <b>4.8: Offer high calorie, high protein fortified foods and/or nutritional supplements in addition to the usual diet for adults who are at risk of developing a pressure injury and who are also malnourished or at risk of malnutrition, if nutritional requirements cannot be achieved by normal dietary intake</b>                     | <b>C</b>   | ↑   |
| <b>Protein Intake</b><br>6. Assess renal function to ensure that high levels of protein are appropriate for the individual.   | <b>C</b> | 👍👍  | Concept included in Implementation Considerations under Recommendation 4.5   |            |     |
| <b>Protein Intake</b><br>7. Supplement with high protein, arginine, and micronutrients for adults with a pressure ulcer Category/Stage III or IV or multiple pressure ulcers when nutritional requirements cannot be met with traditional high calorie and protein supplements. | <b>B</b> | 👍   | <b>4.10: Provide high-calorie, high-protein, arginine, zinc, and antioxidant oral nutritional supplements or enteral formula for adults with a Category/Stage 2 or greater pressure injury who are malnourished or at risk for malnutrition.</b>   | <b>B1</b>  | ↑   |

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**Supplemental Table. COMPARISON OF NUTRITION RECOMMENDATIONS IN 2014<sup>3</sup> AND 2019<sup>1</sup> CLINICAL PRACTICE GUIDELINES, CONTINUED**

| 2014 Recommendations by Chapter   | SoE | SoR | 2019 Recommendations and GPSs by Chapter  | SoE | SoR |
|---|-----|-----|---|-----|-----|
| <b>Hydration</b><br>1. Provide and encourage adequate daily fluid intake for hydration for an individual assessed to be at risk of or with a pressure ulcer. This must be consistent with the individual's comorbid conditions and goals. | C   | 👍👍  | <b>4.13: Provide and encourage adequate water intake for hydration for an individual with or at risk of a pressure injury, when compatible with goals of care and clinical condition.</b>   | GPS |     |
| <b>Hydration</b><br>Monitor individuals for signs and symptoms of dehydration including change in weight, skin turgor, urine output, elevated serum sodium, and/or calculated serum osmolality.   | C   | 👍   | Concept included in Implementation Considerations under GPS 4.13  |     |     |
| <b>Hydration</b><br>3. Provide additional fluid for individuals with dehydration, elevated temperature, vomiting, profuse sweating, diarrhea, or heavily exuding wounds.  | C   | 👍👍  | Concept included in Implementation Considerations under GPS 4.13  |     |     |
| <b>Vitamins and Minerals</b><br>Provide/encourage individuals assessed to be at risk of pressure ulcers to consume a balanced diet that includes good sources of vitamins and minerals.   | C   | 👍👍  | Concept included in Implementation Considerations under Recommendation 4.5  |     |     |
| <b>Vitamins and Minerals</b><br>2. Provide/encourage an individual assessed to be at risk of a pressure ulcer to take vitamin and mineral supplements when dietary intake is poor or deficiencies are confirmed or suspected.             | C   | 👍   | Concept included in Implementation Considerations under Recommendation 4.5  |     |     |
| <b>Vitamins and Minerals</b><br>3. Provide/encourage an individual with a pressure ulcer to consume a balanced diet that includes good sources of vitamins and minerals.  | B   | 👍👍  | Concept included in Implementation Considerations under Recommendation 4.5  |     |     |
| <b>Vitamins and Minerals</b><br>4. Provide/encourage an individual with a pressure ulcer to take vitamin and mineral supplements when dietary intake is poor or deficiencies are confirmed or suspected.                                  | B   | 👍   | Concept included in Implementation Considerations under Recommendation 4.5  |     |     |
| <b>Risk Factors and Risk Assessment</b>   |     |     | <b>Risk Factors and Risk Assessment</b>   |     |     |
| <b>Risk Factor Assessment</b><br>Consider the impact of the following factors on an individual's risk of pressure ulcer development:<br>• perfusion and oxygenation;<br>• poor nutritional status; and<br>• increased skin moisture.      | C   | 👍   | <b>Nutritional Indicators of Risk Factors for Pressure Injuries</b><br>1.10 Consider the impact of impaired nutritional status on the risk of pressure injuries<br>1.15 Consider the potential impact of laboratory blood test results on the risk of pressure injuries | C   | ↑   |
|   |     |     |   | C   | ↔   |

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| 2014 Recommendations by Chapter  | SoE | SoR | 2019 Recommendations and GPSs by Chapter  | SoE | SoR |
|--|-----|-----|---|-----|-----|
| <b>Assessment of Pressure Ulcers and Monitoring Healing</b>  |     |     | N/A   |     |     |
| Assessment of the Individual with a Pressure Ulcer Nutrition (part of comprehensive initial assessment)  | C   | 👍👍  |   |     |     |
| Assessment of the Individual with a Pressure Ulcer Reassess the individual, the pressure ulcer, and the plan of care if the ulcer does not show signs of healing as expected despite appropriate local wound care, pressure redistribution, and nutrition. | C   | 👍   |   |     |     |
| <b>Assessment and Treatment of Infection and Biofilms</b>  |     |     |   |     |     |
| Assessment of High-Risk Individuals with Pressure Ulcers   | B   | 👍   |   |     |     |
| 3. Have a high index of suspicion for local wound infection in individuals with: <ul style="list-style-type: none"> <li>• diabetes mellitus,</li> <li>• protein-calorie malnutrition</li> </ul>  |     |     |   |     |     |
| Treatment  | C   | 👍👍  | 13.7 Optimize potential for healing by: Evaluating the individual's nutritional status and addressing deficits                        |     | GPS |
| 1. Optimize the host response by: <ul style="list-style-type: none"> <li>• evaluating nutritional status and addressing deficits;</li> </ul>   |     |     |   |     |     |
| <b>Special Populations: Bariatric (Obese)</b>  |     |     | <b>Special Populations</b>  |     |     |
| Assessing the Bariatric Individual   | C   | 👍👍  | Individuals with obesity are addressed in Chapter on Special Populations. No nutrition recommendations or GPSs in this chapter.       |     |     |
| 3. Refer bariatric individuals to a registered dietitian or an interprofessional nutrition team for a comprehensive nutrition assessment and weight management plan.   |     |     |   |     |     |
| Pressure Ulcer Care  | C   | 👍👍  |   |     |     |
| 1. Provide adequate nutrition to support healing.  |     |     |   |     |     |
| <b>Special Populations: Critically Ill Individuals</b>   |     |     | <b>Special Populations</b>  |     |     |
| Nutrition Management   | C   | 👍   | Critically ill individuals are addressed in chapter on Special Populations. No nutrition recommendations or GPSs in this chapter.     |     |     |
| 1. Due to insufficient evidence to support or refute the use of specific additional nutrition interventions in critical care patients, specific additional nutrition interventions are not recommended for routine use in this population.                 |     |     |   |     |     |
| <b>Palliative Care</b>   |     |     | <b>Special Populations</b>  |     |     |
| Nutrition and Hydration  | C   | 👍👍  | Individuals in palliative care are addressed in chapter on Special Populations. No nutrition recommendations or GPSs in this chapter. |     |     |
| 1. Strive to maintain adequate nutrition and hydration compatible with the individual's condition and wishes. Adequate nutritional support is often not attainable when the individual is unable or refuses to eat, based on certain disease states.       |     |     |   |     |     |
| Nutrition and Hydration  | C   | 👍👍  |   |     |     |
| 2. Offer nutritional protein supplements when ulcer healing is the goal.   |     |     |   |     |     |
| <b>Special Populations: Pediatric Individuals</b>  |     |     | 2019 GPS Specific to Neonates and Children are in the Nutrition Chapter   |     |     |
| Pressure Ulcer Risk Assessment   | B   | 👍👍  | Pediatric individuals are addressed in chapter on Special Populations. Two nutrition GPSs in this chapter.                            |     |     |
| 1. Perform an age appropriate risk assessment that considers risk factors of specific concern for pediatric and neonate populations, including: <ul style="list-style-type: none"> <li>• nutritional indicators</li> </ul>                                 |     |     |   |     |     |

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|--|-----|-----|---|-----|-----|
| <b>Nutritional Management</b><br>1. Conduct an age appropriate nutritional assessment for neonates and children.   | C   | 👍👍  | <b>4.14: Conduct age appropriate nutritional screening and assessment for neonates and children at risk of pressure ulcers/injuries.</b>  | GPS |     |
| <b>Nutritional Management</b><br>1.1. Regularly reassess the nutritional requirements of critically ill neonates and children who have, or are at risk of, a pressure ulcer.   | C   | 👍👍  | Concept included in Implementation Considerations under GPS 4.14.   |     |     |
| <b>Nutritional Management</b><br>2. Develop an individualized nutrition care plan for neonates and children with, or at risk of, a pressure ulcer.   | C   | 👍   | Concept included in Implementation Considerations under GPS 4.14.   |     |     |
| <b>Nutritional Management</b><br>3. Ensure all neonates and children maintain adequate hydration.  | C   | 👍👍  | Concept included in Implementation Considerations under GPS 4.15.   |     |     |
| <b>Nutritional Management</b><br>4. When oral intake is inadequate, consider age appropriate nutritional supplements for neonates and children who are at risk of a pressure ulcer and are identified as being at risk of malnutrition.  | C   | 👍   | <b>4.15: For neonates and children with or at risk of pressure ulcer/injury who have inadequate oral intake, consider fortified foods, age appropriate nutritional supplements, or enteral or parenteral nutritional support.</b> | GPS |     |
| <b>Nutritional Management</b><br>5. When oral intake is inadequate, consider age appropriate nutritional supplements for neonates and children who have an existing pressure ulcer and are identified as being at risk of malnutrition.  | C   | 👍   | Concept included in Implementation Considerations under GPS 4.15.   |     |     |
| <b>Nutritional Management</b><br>6. When oral intake is inadequate, consider enteral or parenteral nutritional support in neonates and children who are at risk of a pressure ulcer or have an existing pressure ulcer and who are also identified as being at risk of malnutrition. | C   | 👍   | Concept included in Implementation Considerations under GPS 4.15.   |     |     |
| <b>Health Professional Education</b>   |     |     | <b>Health Professional Education</b>  |     |     |
| 5. Consider incorporating the following components into the pressure ulcer prevention and treatment educational/training program:<br>• nutrition (one of many components)  | C   | 👍👍  | Nutrition is mentioned as a component in pressure injury educational program content in a chapter on Health Professional Education. No nutrition recommendations or GPSs in this chapter.   |     |     |
| <b>Patient Consumers and Their Caregivers</b>  |     |     | <b>Quality of Life, Self-Care and Education</b>   |     |     |
| <b>Recommendations for Individuals With, or at High Risk of Pressure Ulcers</b><br>2.1. Seek information on how to prevent and treat pressure ulcers, including information on positioning in bed and chair, support surfaces, activity, and nutrition.                              | C   | 👍   | Nutrition is mentioned as a component in pressure injury educational program content in a chapter on Quality of Life, Self-Care and Education. No nutrition recommendations or GPSs in this chapter.                              |     |     |
| 2.6. Consider your overall health status and how prevention and treatment of pressure ulcers contribute to it (e.g. activity and mobility, nutrition, and other diseases or injuries that affect your overall wellbeing)   | C   | 👍   |   |     |     |

Abbreviations: GPS, good practice statement; N/A: not specifically addressed in guideline  
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