

Fairview Health System Nutrition Services Adult Wound Care Policy

	Calories	Protein	Fluid	Multivitamin & Mineral	Vit C	Vit. A	Zinc
<p>Prevention in at-risk patients</p> <p>Total Braden score <math>\geq 16</math> OR Nutrition Braden <math>\leq 3</math></p>	$\geq 25$ kcal/kg	$\geq 1.2$ g/kg	$\geq 30$ ml/kg or 1 ml/kcal	<p>Multivitamin/mineral daily</p> <ul style="list-style-type: none"> <li>• Dialysis: Renal multivitamin daily</li> <li>• Liver Failure: No MTE if total Bili <math>&gt;10</math> mg/dL</li> <li>• Parenteral: Standard MVI + Trace Elements</li> </ul>	NONE	NONE	NONE
Stage 1 Ulcers	$\geq 25$ kcal/kg	1.2 –1.5 g/kg	$\geq 30$ ml/kg or 1 ml/kcal	<p>Multivitamin/mineral daily</p> <ul style="list-style-type: none"> <li>• Dialysis: Renal multivitamin daily</li> <li>• Liver Failure: No MTE if total Bili <math>&gt;10</math>mg/dL</li> <li>• Parenteral: MVI + Trace Elements</li> </ul>	NONE	<p>If suspect deficiency, malnutrition and/or on chronic steroids, supplement up to 25,000 IU enteral daily X 10 days.</p> <ul style="list-style-type: none"> <li>• Dialysis: NONE</li> <li>• Liver Failure: NONE</li> <li>• FAT Malabsorption: H<sub>2</sub>O soluble ADEK daily</li> <li>• Parenteral: NONE</li> </ul>	NONE
Stage 2 Ulcers	25-35 kcal/kg	1.2-1.5 g/kg	$\geq 30$ ml/kg or 1 ml/kcal Standing orders	<p>Multivitamin/mineral daily</p> <ul style="list-style-type: none"> <li>• Dialysis: Renal multivitamin daily</li> <li>• Liver Failure: No MTE if total Bili <math>&gt;10</math>mg/dL</li> <li>• Parenteral: MVI + Trace Elements</li> </ul>	<p>If inadequate intake and/or suspect deficiency, 500 mg enteral Vit C daily X 10 days</p> <ul style="list-style-type: none"> <li>• Dialysis: NONE</li> <li>• Liver Failure: 500 mg daily X 10 days</li> <li>• Parenteral: 500 mg daily X 10 days</li> </ul>	<p>If suspect deficiency, malnutrition and/or on chronic steroids, supplement up to 25,000 IU enteral daily X 10 days.</p> <ul style="list-style-type: none"> <li>• Dialysis: NONE</li> <li>• Liver Failure: NONE</li> <li>• FAT Malabsorption: H<sub>2</sub>O soluble ADEK daily</li> <li>• Parenteral: NONE</li> </ul>	<p>50 mg p.o elemental (220 mg Zn Sulfate daily) X 10 days with deficiency or inadequate intake (not to exceed suppl. X 6 wks)</p> <ul style="list-style-type: none"> <li>• Dialysis: (same)</li> <li>• Liver Failure: (same)</li> <li>• Parenteral: Additional 5mg daily X 10 days</li> </ul>
Stage 3 Ulcers	$\geq 30$ kcal/kg	$\geq 1.5$ g/kg	$\geq 30$ ml/kg or 1 ml/kcal	<p>Multivitamin/mineral daily</p> <ul style="list-style-type: none"> <li>• Dialysis: Renal multivitamin daily</li> <li>• Liver Failure: No MTE if total Bili <math>&gt;10</math>mg/dL</li> <li>• Parenteral: MVI + Trace Elements</li> </ul>	<p>If inadequate intake and/or suspect deficiency, 500 mg enteral Vit C daily X 10 days</p> <ul style="list-style-type: none"> <li>• Dialysis: NONE</li> <li>• Liver Failure: 500 mg daily X 10 days</li> <li>• Parenteral: 500 mg daily X 10 days</li> </ul>	<p>If suspect deficiency, malnutrition and/or on chronic steroids, supplement up to 25,000 IU enteral daily X 10 days.</p> <ul style="list-style-type: none"> <li>• Dialysis: NONE</li> <li>• Liver Failure: NONE</li> <li>• FAT Malabsorption: H<sub>2</sub>O soluble ADEK daily</li> <li>• Parenteral: NONE</li> </ul>	<p>50 mg p.o elemental (220 mg Zn Sulfate daily) X 10 days with deficiency or inadequate intake (not to exceed suppl. X 6 wks)</p> <ul style="list-style-type: none"> <li>• Dialysis: (same)</li> <li>• Liver Failure: (same)</li> <li>• Parenteral: Additional 5mg daily X 10 days</li> </ul>
Stage 4 Ulcers	$\geq 30$ kcal/kg	$\geq 1.5$ -2.0 g/kg (may exceed depending on size, number and wound drainage)	$\geq 30$ ml/kg or 1 ml/kcal	<p>Multivitamin/mineral daily</p> <ul style="list-style-type: none"> <li>• Dialysis: Renal multivitamin daily</li> <li>• Liver Failure: No MTE if total Bili <math>&gt;10</math>mg/dL</li> <li>• Parenteral: MVI + Trace Elements</li> </ul>	<p>If inadequate intake and/or suspect deficiency, 500 mg enteral Vit C daily X 10 days</p> <ul style="list-style-type: none"> <li>• Dialysis: NONE</li> <li>• Liver Failure: 500 mg daily X 10 days</li> <li>• Parenteral: 500 mg daily X 10 days</li> </ul>	<p>If suspect deficiency, malnutrition and/or on chronic steroids, supplement up to 25,000 IU enteral daily X 10 days.</p> <ul style="list-style-type: none"> <li>• Dialysis: NONE</li> <li>• Liver Failure: NONE</li> <li>• FAT Malabsorption: H<sub>2</sub>O soluble ADEK daily</li> <li>• Parenteral: NONE</li> </ul>	<p>50 mg p.o elemental (220 mg Zn Sulfate daily) X 10 days with deficiency or inadequate intake (not to exceed suppl. X 6 wks)</p> <ul style="list-style-type: none"> <li>• Dialysis: (same)</li> <li>• Liver Failure: (same)</li> <li>• Parenteral: Additional 5mg daily X 10 days</li> </ul>

### Additional Recommendations & Guidelines:

1. Adjust estimated needs per IBW%, disease state (including kidney or liver failure), co-morbidities, critical illness (pending vent status), activity level, age, wound severity and response to healing.
2. To ensure adequate caloric intake, utilize calorie counts, oral supplements, snacks and/or nutrition support as indicated.
3. Monitor for symptoms of dehydration and need for fluid adjustments with higher protein provisions.
4. To ensure adequate protein intake, utilize calorie counts, oral supplements, snacks, protein modulars and/or nutrition support as indicated.
5. Monitor glycemic control. Blood glucose control should be tightly maintained as defined by the target blood glucose level set by your facility.
6. Consider Metabolic Cart/Indirect calorimetry or N<sub>2</sub>-Balance studies (as available) to better help determine nutrient needs.
7. Assess for potential micronutrient deficiencies *before* making supplement requests. See the Micronutrient Review table to help determine patients at risk for these deficiencies.
8. If patient demonstrates signs of fat malabsorption, consider water-soluble ADEK supplementation for Stage I-IV wounds.
9. Copper status should be monitored if long-term Zinc supplementation is employed.
10. For "unstageable" wounds, consult with physician or WOCN for further assessment. Unstageable wounds may be defined as pressure ulcers with eschar and/or necrotic tissue covering wound.

### Other Considerations:

- Clinical trials have remained inconclusive for advocating for the use of arginine, glutamine, *B*-hydroxy *B*-methylbutyrate (HMB), or anabolic steroids in wound healing. Until further clinical trials can substantiate the benefit of these constituents with regard to the healing of wounds in humans, no succinct recommendations can be made.