



Evaluation & Management of the Nutritional Needs of a Critically Ill Patient

Description of the Activity	Surgical intensivists must recognize the importance of nutrition in critically ill patients and understand, implement, and manage individualized nutritional strategies for each patient.
Functions	<ul style="list-style-type: none">❖ Resuscitation<ul style="list-style-type: none">➤ Evaluate the premorbid nutritional status of critically ill patients.➤ Consider patients' goals of care when initiating nutritional support.➤ Pick a suitable route of nutrition for critically ill patients.➤ Develop an evidence-based nutritional strategy tailored to premorbid and morbid diagnoses, including calculation of nutrition needs.➤ Recognize the risks and contraindications associated with each route of nutrition and how to address them.➤ Tailor the use of supplemental micronutrients, vitamins, and minerals to each nutritional support plan.➤ Recognize patients who may not be safe for oral (PO) intake.❖ Ongoing Management<ul style="list-style-type: none">➤ Recognize that nutritional support is a dynamic process that requires ongoing reassessment.➤ Identify and respond to the effects of nutrition on ventilator weaning and wound healing.➤ Collaborate and communicate with other medical providers, nutritionists, and pharmacists regarding the nutritional needs of critically ill patients with competing issues.➤ Recognize what laboratory values are important to follow in critically ill patients, and identify their limitations.➤ Identify the interplay of fluid and electrolyte management with nutrition.➤ Manage patients with gastrointestinal losses and chronic diarrhea.❖ Transition Of Care<ul style="list-style-type: none">➤ Recognize when patients are achieving endpoints of nutritional resuscitation.➤ Recognize the need for long-term feeding access or when nutritional support can be weaned.➤ Perform ongoing monitoring and reassessment of nutritional status.➤ In the event that disease has become acutely life-limiting and there are no additional disease-directed treatments, identify the end-of-life stage of care, and lead the team in helping patients/caregivers in this stage prioritize comfort and symptom-directed therapy as indicated.



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Scope

- ❖ In scope
 - Critically ill patients with obesity
 - Critically ill patients at risk for malnutrition
 - Selection of nutritional support and mode of administration
 - Enteral
 - Parenteral
 - Assessment of adequacy of nutritional support
 - Critically ill patients with electrolyte, vitamin and fluid abnormalities
 - Critically ill patients with comorbidities impacting nutritional support (e.g. renal dysfunction, hepatic dysfunction)



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1 <u>Limited Participation</u> Demonstrates limited critical care knowledge and skills <u>Framework:</u> What a learner directly out of residency should know Performs ICU procedures on straightforward patients but requires supervision/direction for more complex patients/procedures Requires continuous direct supervision by the attending for patient management	<ul style="list-style-type: none">• Completes an initial nutritional assessment of a critically ill patient but without evaluating baseline nutritional status• Recognizes that a critically ill patient requires nutritional support but requires active assistance to choose the correct route, type, and supplements• Demonstrates limited ability to incorporate the current diagnosis into a nutritional support plan (eg, ECF, short gut, recent surgery, malnutrition)• Displays limited understanding of evidence-based guidelines when developing a nutritional support plan for a patient• Develops a nutrition plan but without considering patient/caregiver preferences or goals of care	<ul style="list-style-type: none">• Requires active assistance to interpret nutritional data• Requires active assistance to incorporate fluid and electrolyte balance into a nutritional support plan• Requires active assistance to recognize that a nutritional strategy is inadequate or patient status has changed and make the necessary modifications	<ul style="list-style-type: none">• Requires active assistance to develop strategies for ongoing management and reassessment of chronic nutritional support• Requires ongoing assistance to recognize long-term complications of parenteral nutrition (including central access)• Needs active assistance to develop a strategy for chronic nutritional support (eg, conversion of NGT to surgical gastrostomy tube)• With active assistance, initiates a goals-of-care conversation with a patient/caregiver(s) about long-term nutritional support• Requires active assistance to recognize the resources involved in long-term nutritional support
2 <u>Direct Supervision</u> Initiates straightforward management for many critical illnesses but requires active direction for further management and complex critical illnesses	<ul style="list-style-type: none">• Recognizes the need for and initiates nutritional support in a critically ill patient but for a more complex patient requires assistance to choose the correct route, type, and supplements• Completes an initial nutritional assessment of a critically ill patient but needs some	<ul style="list-style-type: none">• Requires some assistance to interpret nutritional data• Requires occasional assistance to incorporate fluid and electrolyte balance into a nutritional support plan• Requires intermittent assistance to recognize that a nutritional strategy is	<ul style="list-style-type: none">• Requires intermittent assistance to develop strategies for ongoing management and reassessment of chronic nutritional support in a straightforward patient• Requires intermittent assistance to recognize long-term complications of



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<p>Framework:</p> <p>Demonstrates a sufficient fund of knowledge for basic critical care and some knowledge of complex critical illness</p> <p>Performs ICU procedures on straightforward patients but may require supervision/direction for more complex patients/procedures</p> <p>The attending gives active help throughout to direct the clinical course.</p>	<p>prompting to include baseline nutritional status</p> <ul style="list-style-type: none">• Incorporates the current diagnosis(es) into a nutritional support plan (eg, ECF, short gut, recent surgery, malnutrition) with supervision• Requires prompting to apply evidence-based guidelines when developing a nutritional support plan for a more complex patient• With prompting, implements a nutrition plan taking into account patient/caregiver preferences and goals of care	<p>inadequate or patient status has changed and make the necessary modifications</p>	<p>parenteral nutrition, including central access</p> <ul style="list-style-type: none">• Needs some assistance to develop a strategy for chronic nutritional support (eg, conversion of NGT to surgical gastrostomy tube)• With some assistance, initiates a goals-of-care conversation with a patient/caregiver(s) regarding long-term nutritional support• Requires some assistance to recognize the resources involved in long-term nutritional support
<p>3</p> <p>Indirect Supervision</p> <p>Manages most critical illnesses but may require guidance for more complex patients or atypical presentations</p> <p>Framework:</p> <p>Demonstrates a sufficient fund of knowledge for basic and most complex critical care</p> <p>Independently performs most ICU procedures and</p>	<ul style="list-style-type: none">• Chooses the correct route, type, and supplements for a straightforward patient and requires intermittent assistance for a more complex patient• Completes initial nutritional assessment of a critically ill patient and includes baseline nutritional status• Incorporates current diagnosis(es) into a nutritional support plan (eg, ECF, short gut, recent surgery, malnutrition) with minimal input	<ul style="list-style-type: none">• Requires occasional assistance to interpret nutritional data in a complex patient• Requires intermittent assistance to incorporate fluid and electrolyte balance into a nutritional support plan and modify the supplement type or route of administration in a complex patient• Recognizes that a nutritional strategy is inadequate or patient status has changed and makes the necessary modifications for a straightforward patient	<ul style="list-style-type: none">• Requires minimal assistance to develop strategies for ongoing management and reassessment of chronic nutritional support in a complex patient• Requires minimal assistance to recognize long-term complications of parenteral nutrition, including central access• Needs intermittent assistance to develop a strategy for chronic nutritional support (eg, conversion of NGT to surgical gastrostomy tube) in a complex patient



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<p>supervises procedures on straightforward patients</p> <p>The learner can manage a critically ill patient in straightforward circumstances but may require input to manage the most complicated ICU patients.</p>	<ul style="list-style-type: none">• Applies evidence-based guidelines when developing a nutritional support plan for a more complicated patient• With minimal assistance, implements a nutrition plan, taking into account patient/caregiver preferences and goals of care		<ul style="list-style-type: none">• Requires minimal assistance to initiate a goals-of-care conversation with a patient/caregiver(s) surrounding long-term nutritional support• Requires minimal assistance to recognize the resources involved in long-term nutritional support
<p>4</p> <p><u>Practice Ready</u></p> <p>Independently manages complex critical illnesses and leads a critical care team</p> <p><u>Framework:</u></p> <p>Demonstrates an attending-level fund of knowledge</p> <p>Independently performs and supervises procedures</p> <p>The attending is available at the request of the learner but is not routinely needed for common or complex critical illness.</p>	<ul style="list-style-type: none">• Independently develops and implements a nutritional support plan using consultative services as indicated• Incorporates baseline nutritional status into a nutritional support plan and adjusts the plan accordingly• Recognizes implications of the current diagnosis(es) on the nutritional support plan (eg, ECF, short gut, recent surgery, malnutrition) and independently develops and implements a comprehensive plan• Critically appraises and applies evidence-based guidelines when developing a nutritional support plan for a critically ill patient while reconciling uncertainties or conflicting data• Independently engages with a patient/caregiver(s) to formulate an appropriate nutrition plan that aligns with goals of care	<ul style="list-style-type: none">• Orders and interprets objective data as it relates to nutritional status and adjusts the nutritional support plan accordingly• Modifies the nutritional support plan (eg, changes in route of administration or supplement type) for a patient with complex needs (eg, hepatic failure, enteroatmospheric fistula) or when status and needs change• Leads and contributes to a multidisciplinary team to optimize patient nutritional status	<ul style="list-style-type: none">• Independently develops a chronic nutritional support monitoring plan and adjusts nutritional support accordingly for a complex patient (eg, ECF, hepatic dysfunction)• Anticipates and addresses complications of long-term nutritional support and access• Independently engages with a complex patient and their caregiver(s) to develop a chronic nutritional support plan that aligns with goals of care• Coordinates care and navigates barriers to care for a patient with long-term nutritional support needs