

HOSPITAL PHYSICIAN®

CRITICAL CARE MEDICINE BOARD REVIEW MANUAL

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Nutritional Support in the Intensive Care Unit

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Table of Contents

Introduction	2
Choosing the Mode of Delivery	2
Patient Assessment	3
Enteral Nutrition	4
Parenteral Nutrition	9
References	11
Suggested Readings	11

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INTRODUCTION

Providing nutrition to critically ill patients is a complex process that must take into account the patient's nutritional and metabolic status, current illness, gastrointestinal status, and mental status. A dysfunctional gut, multisystem organ dysfunction, or reduced mental status makes feeding difficult and increases the risk for complications. A sedated patient cannot be fed orally and will require alternative methods for delivery of calories. However, critically ill patients who are not fed rapidly demonstrate muscle and fat wasting with significant loss of strength. Inadequate feeding may result in the development of metabolic abnormalities or liver and kidney dysfunction. The calories infused in glucose solutions are incapable of meeting the significant metabolic demands of critically ill patients. The ICU clinician must carefully weigh the risks and benefits of either enteral or parenteral feeding and arrive at a reasonable strategy for supplying energy to the ICU patient.

Nutritional supplementation has been used in critically ill patients for more than 35 years. Despite this, there are still several different methodologies that are widely prescribed. Whereas most clinicians initiate nutritional support 3 or 4 days after admission to the intensive care unit, others begin alimentary support immediately, and still others feel nutritional support

can be delayed for up to a week.

This article reviews current practices regarding enteral and parenteral feeding, including indications and contraindications, patient assessment, nutrient formulations, and feeding modalities.

CANDIDATES FOR NUTRITIONAL SUPPORT IN THE ICU

All patients who are likely to be unable to take food orally for 3 to 5 days after admission to the ICU should be considered for either enteral or parenteral feeding. The increased metabolic demands of critically ill patients, particularly trauma patients, burn patients, and those with neurologic injury, place an inordinate strain on the patient's nutritional reserves.

CHOOSING THE MODE OF DELIVERY

ADVANTAGES OF ENTERAL FEEDING

The benefits of enteral nutrition over parenteral nutrition are important to consider when making a decision regarding a patient's nutritional support. The use of the gastrointestinal tract helps maintain its integrity. Enteral feeding stimulates blood flow to the gut, which increases the production of trophic factors such as IgA. It blunts the hypermetabolic response to injury and may minimize the risk of sepsis by preventing bacterial