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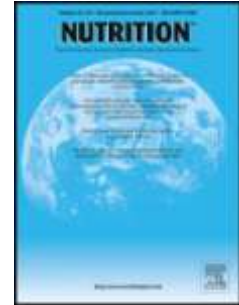
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Should we calculate or measure energy expenditure? Practical aspects in the ICU

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Highlights

This review focuses on why we should use indirect calorimetry in clinical practice of critical care medicine. We documents the benefits of using indirect calorimetry and disadvantages of using predictive equation for energy expenditure for critically ill patients from many recent studies in this area with interesting outcomes.

Abstract

Indirect calorimetry is currently a gold standard of resting energy expenditure (REE) assessment in critically ill patients. Many predictive equations of energy expenditure have been proved to imprecisely predict REE and lead to under- or overfeeding. The benefits of indirect calorimetry-guided nutrition therapy over calculation-based strategy have been demonstrated in randomized controlled trials. In order to minimize energy debt in ICU , we support early enteral feeding. REE should be measured as soon as patient's conditions allow and the target of delivered calorie should be around 0.7-1.0 of measured REE to avoid overfeeding. The supplemental parenteral nutrition should be prescribed to close the caloric gap if the goal is not reached by enteral nutrition alone.

Keywords: energy expenditure, indirect calorimetry, critical care, enteral nutrition, parenteral nutrition, energy balance

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