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# Antibiotic Resistance

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# Improving Clinical Outcomes With Early Enteral Nutrition

An overview of the benefits of early enteral nutrition, clinical evidence and recommendations, reasons for delayed enteral feeding in critically ill patients and optimal solutions.

Early enteral nutrition is proven to improve clinical outcomes and reduce acute care costs. Nutrition clinicians support the belief that enteral nutrition is preferable to parenteral nutrition (Seres et al. 2013). The hazards of parenteral nutrition are well-established and include immune compromise, increased infections, increased complications and increased mortality (Marek et al. 2001).

Clinical guidelines recommend providing enteral nutrition within 24 to 48 hours of ICU admission. However, studies show that nearly 40% of critically ill patients receive no nutritional support during their ICU stay. Furthermore, approximately 60% of patients who stay in the ICU for at least three days remain unfed for 48 hours or more (Doig et al. 2009).

Despite clinical evidence and recommendation, the optimal time for nutrition support remains unresolved. There are several reasons why early enteral feeding is delayed in critically ill patients. Feeding intolerance is frequent in ICU patients. Nearly 60% of ICU patients exhibit at least one GI symptom for at least one day (Reintam et al. 2009; Reintam et al. 2012). There is also the problem of intolerance to enteral nutrition, which occurs in approximately 40 to 60% of mechanically ventilated patients (Reignier et al. 2013).

Many critically ill patients develop gastroparesis, which reduces their tolerance for gastric feeding. Also, critically ill patients often have diminished or absent bowel movements. There are fears that early enteral feeding would result in aspiration and worsen clinical outcomes for these

patients. There is also the perception that critically ill patients can tolerate five to seven days of starvation without any detrimental effects (Marek et al. 2001).

## Improving Outcomes and Reducing Costs with Early Enteral Nutrition

The benefits of early enteral feeding cannot be overlooked. A meta-analysis of clinical trials shows significant benefits of early vs delayed enteral nutrition. Early enteral nutrition reduces mortality, pneumonia, length of stay in hospital and risk of infection (Marek et al. 2001). In addition, in non-critically ill hospitalised patients for an acute medical condition, early enteral nutrition significantly reduces infectious complications (Doig et al. 2013).

Early enteral nutrition also reduces healthcare resource consumption and total costs. Studies show a reduction of \$14,462 per patient in total acute care costs. Under European distribution, early enteral nutrition saves EUR 5,325 per patient (Doig et al. 2013).

## Jejunal Tube to Manage Intolerance to Gastric Feeding

There is sufficient clinical evidence to show the importance of enteral nutrition in critical care. Numerous studies favour its use over parenteral nutrition. However, intolerance to gastric feeding remains a challenge.

Jejunal feeding might be more appropriate in patients prone to pulmonary aspiration of gastric contents or with duodenal or gastric outlet obstruction (Baskin et al. 1994). A

jejunal feeding tube is recommended for patients who show intolerance to gastric feeding or cannot receive gastric enteral access due to altered autonomy, duodenal obstruction, gastric or duodenal fistula or gastro-oesophageal reflux disease (Itkin et al. 2011). A clinical study with a dual lumen jejunal feeding tube in the ICU showed 100% successful placement and 100% successful gastric decompression. In addition, 89% of patients reached 90% of their caloric goals within 72 hours with the jejunal feeding tube (Baskin et al. 1994).

One such dual-lumen jejunal feeding tube is the Compat StayPut®. It has a dual-port "tube-in-a-tube" design that allows for both jejunal feeding and gastric drainage. This means that only one nasal feeding tube need be inserted to deliver early enteral nutrition and help manage GI symptoms in critically ill patients.

### Key Points

- Early enteral nutrition improves clinical outcomes and reduces acute care costs.
- Clinical guidelines recommend providing enteral nutrition within 24 to 48 hours of ICU admission.
- A jejunal feeding tube is recommended for patients who show intolerance to gastric feeding.
- Compat StayPut® dual-lumen jejunal feeding tube with integrated gastric drainage may facilitate early enteral nutrition in the ICU.

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### References

For full references, please email [editorial@icu-management.org](mailto:editorial@icu-management.org) or visit <https://iii.hm/1h4u>

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