Doctors do not universally agree on the optimal caloric needs of critically ill patients in intensive care.

More may not be better for the critically ill

Critically ill adults may do as well or better on fewer calories.

A large international study has found that critically ill patients may benefit from receiving fewer than their standard caloric requirements. The study involved 894 patients in seven hospitals in Saudi Arabia and Canada.

Critically ill, often unconscious patients hospitalized in intensive care units are commonly fed via a nasogastric tube. Nutrition is a crucial part of their care, but doctors do not universally agree about how much they need. Some studies show that patients do better on standard caloric and protein requirements, while other research indicates that critically ill patients may benefit from a reduced regimen of calories.

Researchers randomly allocated patients to a doctor-prescribed-underfed group (called permissive underfeeding) or a standard-feeding group, which determined whether they received 40 to 60% or 70 to 100% of their estimated standard caloric requirements. The underfed group received additional protein so that both groups had similar protein intake.

After 90 days, the team found that the mortality rates for the groups were similar: 27.2% in the underfed group and 28.9% in the standard-feeding group.

"One important difference was that patients in the permissive-underfeeding group had lower glucose levels and required less insulin, which is consistent with other studies," says Yaseen Arabi, chairman of the intensive care department at King Saud bin Abdulaziz University for Health Sciences in Riyadh, Saudi Arabia. Another finding was that dialysis, needed often in critically ill patients, was needed less frequently in the permissive-underfeeding group, he says.

This supports the idea that higher caloric intake and higher blood sugar levels found in critically ill patients may be connected to kidney injury, Arabi and colleagues noted.

"Our study opens the door to examine ways to optimize nutritional support during critical illness and provides evidence that, for these patients, more is not better when it comes to calories," Arabi says. For his next study, Arabi will study the optimal caloric needs for patients in the first few days of critical care.

Arabi, Y., Aldawood A., Haddad S., Al-Dorzi H., Tamim H., *et al.* Permissive underfeeding or standard enteral feeding in critically ill adults. *The New England Journal of Medicine*. dx.doi.org/10.1056/nejmoa1502826 (2016).