

*International guidelines recommend critically ill adults receive 1.2-2.0 g/kg/day of protein<sup>1,2</sup>, which is more than what most patients usually receive (0.6 g/kg/day)<sup>3</sup>*



## AIM & OBJECTIVES

*Establish feasibility of a trial* to evaluate whether feeding protein at recommended doses would improve outcomes

*"We hypothesised that delivery of different enteral formula (high protein or usual protein) would result in different amounts of protein delivered per group"*

Group 1 (Usual Care): intake as per 'usual practice'

Group 2 (Protein Intense): intake as per international guidelines

## METHODS



Prospective, randomised, blinded, parallel-group trial across six intensive care units (ICU) in Australia and New Zealand



Recruitment of critically ill, mechanically ventilated adults expected to receive enteral nutrition (EN) for  $\geq 2$  days



Participants were randomised to receive isocaloric, isovolumetric EN containing 63g or 100g protein/L for  $\leq 28$  days



Primary feasibility outcome measure was the mean daily protein delivery (g/kg ideal body weight (IBW)/day)

## FEASIBILITY TRIAL DEFINITIONS

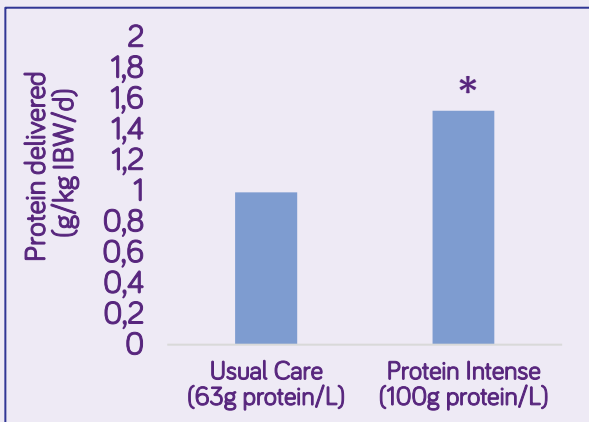
'Usual care' defined as  $<1.0$ g protein/kg/day

'Protein Intense' defined as 1.2-2.0g protein/kg/day

# 'TARGET PROTEIN' AT A GLANCE

Summary of Nutricia ANZ webinar (Nov 2020) presented by Dr Lee-anne Chapple:  
'Protein in ICU: Can we deliver what guidelines prescribe? Target Protein feasibility study findings'.  
Recording available at: [www.nutriciamedical.com.au/education/](http://www.nutriciamedical.com.au/education/)

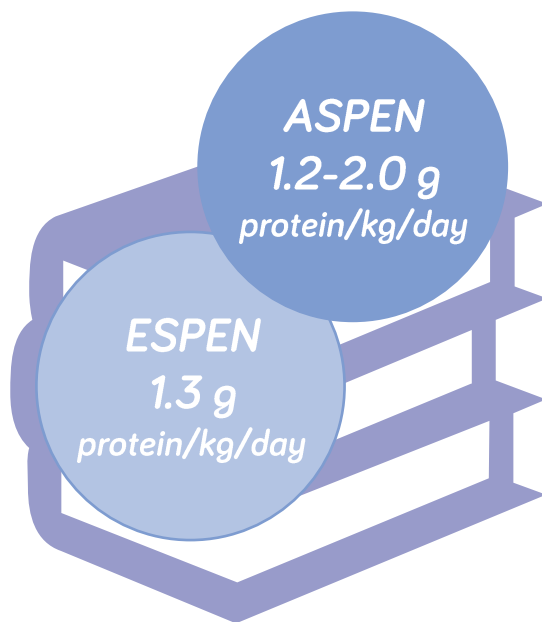
## RESULTS & DISCUSSION



**Figure 1.** Significant protein separation between Usual Care and Protein Intense groups,  $p < 0.001$  ( $n=116$ ).

“Providing a very high protein formula (100g/L) can achieve protein doses within international recommendations.”

## GUIDELINE RECOMMENDATIONS FOR PROTEIN DELIVERY



## WHAT IS USUAL CARE IN THE ICU?

In this study, ‘usual care’ **protein delivery** was reported as 0.99 g protein/kg IBW/day. The reported value is substantially higher than evidence from previous studies which suggest current practice is closer to **0.6-0.7 g/kg/day** in the ICU setting (approximately 55% of prescribed protein requirements when calculated at 1.3g/kg/day).<sup>3-6</sup>

## CONSIDERATIONS FOR CLINICAL PRACTICE

Nutrison Protein Intense met critical care guidelines for EN protein delivery

Nutrison Protein Intense improved protein delivery closer to prescribed targets than Nutrison Protein Plus

Nutrison Protein Intense aided higher protein delivery without calorie separation (compared to usual care)

**REFERENCES** 1. Kreymann KG, et al. ESPEN Guidelines on Enteral Nutrition: Intensive care. Clin Nutr. 2006; 25:210–223. 2. McClave SA, et al. Guidelines for the Provision and Assessment of Nutrition Support Therapy in the Adult Critically Ill Patient: Society of Critical Care Medicine (SCCM) and American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.). Journal of Parenteral and Enteral Nutrition. 2016; 40:159–211. 3. Ridley EJ, et al. Nutrition therapy in Australia and New Zealand intensive care units: An international comparison study. JPEN. 2018;42:1349–1357. 4. Alberda C, et al. The relationship between nutritional intake and clinical outcomes in critically ill patients: results of an international multicenter observational study. Intensive Care Med. 2009;35:1728–1737. 5. Heyland DK, et al. Protein Delivery in the Intensive Care Unit: Optimal or Suboptimal? Nutr Clin Pract. 2017;32:585–715. 6. Bellomo R, Cass A, Cole L, Finfer S, Gallagher M, Lee J, et al. Daily protein intake and patient outcomes in severe acute kidney injury: findings of the randomized evaluation of normal versus augmented level of replacement therapy (RENAL) trial. Blood purification. 2014;37(4):325–34.