



INTERNATIONAL GUIDELINES RECOMMEND CRITICALLY ILL ADULTS RECEIVE 1.2-2.0G/KG/DAY OF PROTEIN^{2,3}, WHICH IS MORE THAN WHAT MOST PATIENTS USUALLY RECEIVE (0.6G/KG/DAY)⁴

AIM & OBJECTIVES

To investigate protein and energy intake, gastrointestinal tolerance, and safety of this polymeric very high intact-protein enteral formula (VHPF) compared to standard high intact-protein formula (SHPF) in critically ill patients.

STUDY OUTLINE



Design

A randomised controlled, multi-country, multi-centre, double-blind and parallel-group study.



Population

44 adult overweight ICU patients expected to need enteral nutrition for at least 5 days.



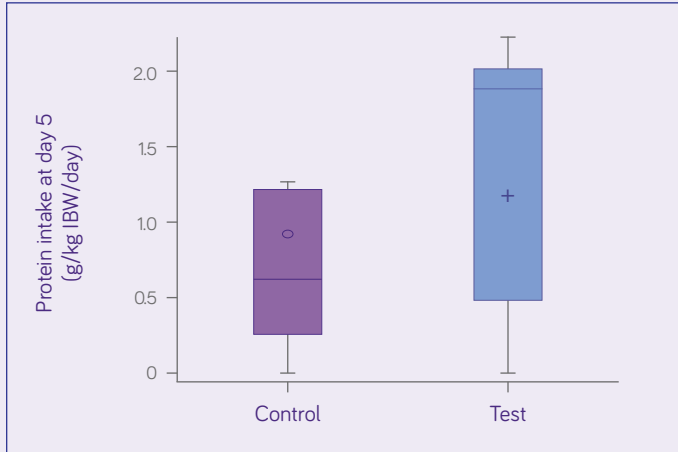
A very high intact-protein enteral formula (10g protein/100ml), **Nutrison Protein Intense** or a standard high intact-protein enteral formula (6g protein/100 ml), **Nutrison Protein Plus**.



Primary outcome

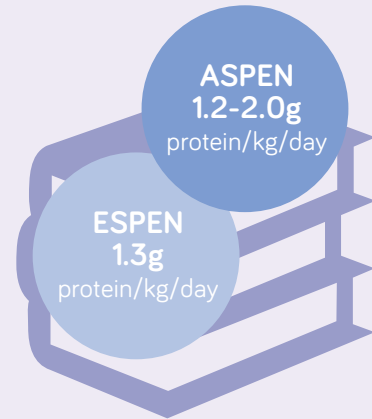
Protein intake (g protein/kg bodyweight at day 5).
Secondary outcomes
Energy intake, Plasma amino acids, GI tolerance, Safety.

RESULTS PROTEIN INTAKE AT DAY 5



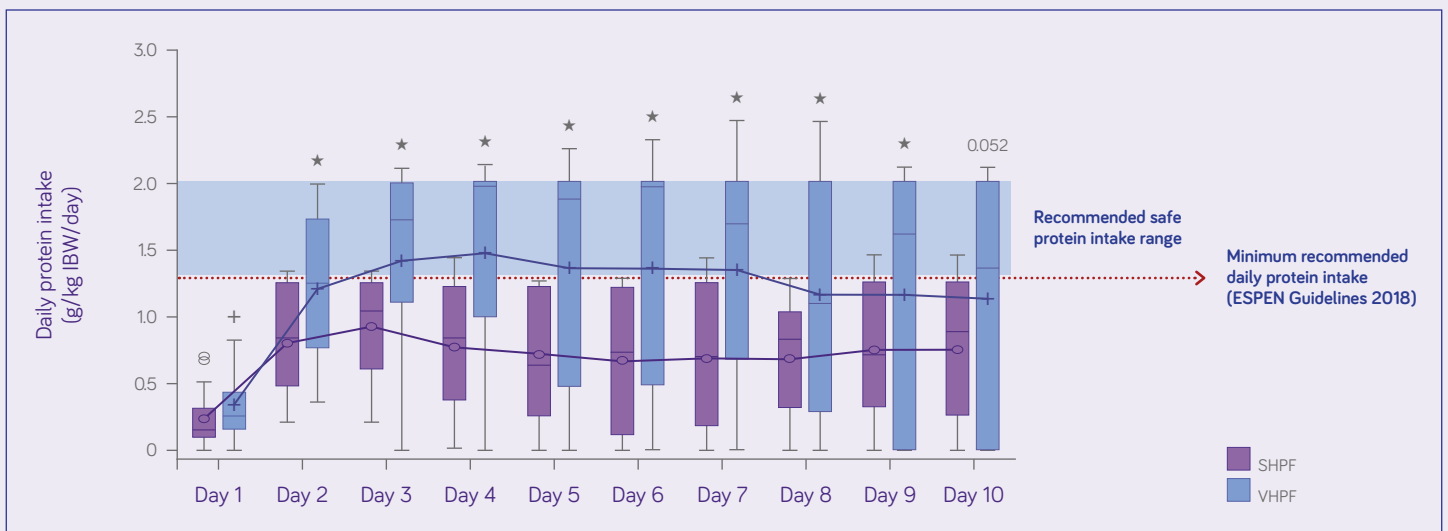
VHPF: Statistically significant higher protein intake at day 5.

GUIDELINE RECOMMENDATIONS FOR PROTEIN DELIVERY



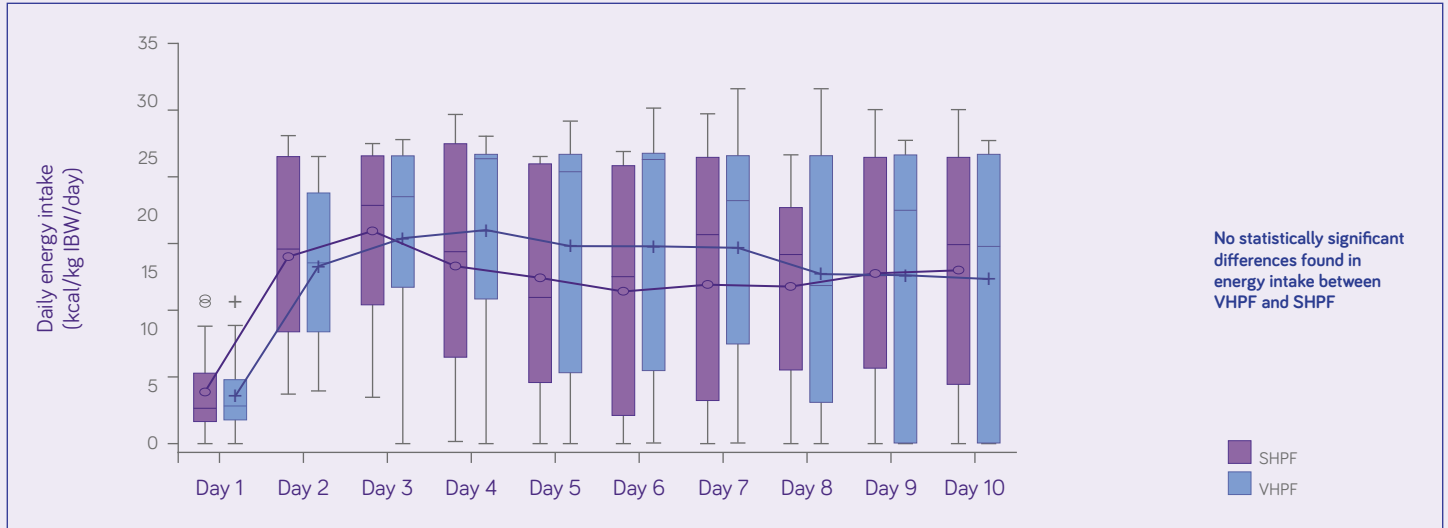
| | | SHPF (n = 22) | VHPF (n = 22) | P-value |
|------------------|-----------------------------|-------------------------------|------------------------------|---------|
| Protein g/kg ABW | Mean (SD) Median (Q1-Q3) | 0.68 (0.47) 0.6 (0.31-1.2) | 1.32 (0.80) 1.6 (0.4-2.0) | |
| | LS mean (95% CI) | 0.76 (0.49, 1.03) | 1.49 (1.21, 1.78) | <0.001 |
| Protein g/kg IBW | Mean (SD) Media (Q1-Q3) | 0.72 (0.47) 0.6 (0.3-1.2) | 1.37 (0.82) 1.9 (0.5-2.0) | |
| | LS mean (95% CI) | 0.80 (0.52, 1.07) | 1.54 (1.26, 1.83) | <0.001 |

VERY HIGH PROTEIN FEED: SIGNIFICANTLY HIGHER PROTEIN INTAKE DAY 1-10



SUMMARY RESULTS¹

ENERGY INTAKE DAY 1-10



Comparing a very high protein (10g/100ml) with standard high protein enteral formula (6g/100ml) based on whole proteins showed:

- Higher protein intake (day 5: LS mean 1.5 vs 0.8g/kg IBW with $p < 0.001$)
- Protein intake within recommended protein intake range of 1.2–2.0g/kg BW per day
- More subjects reached protein targets of 1.5g/kg IBW (day 5: 57% vs 0%, $p < 0.001$)
- No statistically significant differences found in energy intake between groups
- Increased protein provision with a very high protein feed is seen in increased plasma amino acid concentrations at day 5 and from baseline ($p=0.031$)
- No difference between the groups in serious adverse events and no difference in gastro-intestinal tolerance.

CONSIDERATIONS FOR CLINICAL PRACTICE

Nutrison Protein Intense met critical care guidelines for EN protein delivery. It is suitable for first line, routine use in ICU.

Nutrison Protein Intense enabled improved protein delivery closer to prescribed targets than a standard high protein feed (Nutrison Protein Plus).

Nutrison Protein Intense aided higher protein delivery without calorie separation, compared to a standard high protein enteral feed (Nutrison Protein Plus).

REFERENCES ¹ van Zanten, et al. Crit Care. 2018;22:156. ² Singer P, Blaser AR, Berger MM, et al. ESPEN guideline on clinical nutrition in the intensive care unit. Clinical Nutrition. 2019;38:48-79. ³ 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. ⁴ Ridley EJ, et al. Nutrition therapy in Australia and New Zealand intensive care units: An international comparison study. JPEN. 2018;42:1349-1357.