

NUTRISON PROTEIN INTENSE



INTENSIVE CARE SPECIALIST

INTRODUCING NUTRISON PROTEIN INTENSE

The first and only whole protein tube feed with a high protein level that fully meets International Critical Care Guidelines¹⁻⁵



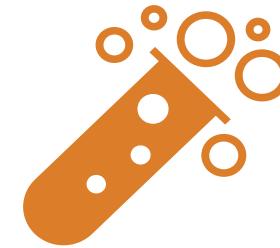
Whole Protein

Formulated to meet the latest international nutritional guidelines for critically ill patients with elevated protein needs¹⁻⁴



Unique P4 Protein Blend

Contains the unique P4 protein blend which is aligned with the latest international nutritional recommendations on protein quality⁶, amino acid requirements⁷ and has proven supportive tolerance benefits⁸⁻¹³



Scientifically Proven

Scientifically proven to meet protein targets in ICU without over feeding calories¹⁴

FORMULATED FOR FIRST LINE USE TO MEET THE NUTRITIONAL NEEDS OF CRITICAL CARE PATIENTS

NUTRISON PROTEIN INTENSE

Nutritional overview



| | | |
|----------------|---------------|---|
| Volume: | 1000 ml | |
| Energy: | 1260 kcal | Moderate energy to prevent overfeeding calories |
| Protein: | 100 g (En32%) | Higher protein to energy ratio in line with International Critical Care Guidelines ¹⁻⁵ |
| Carbohydrates: | 104 g (En33%) | Low total energy percentage of carbohydrates contribution to prevent overfeeding glucose ⁵ |
| Fat: | 49 g (En35%) | Meets general international recommendations for fat intake ^{6,7} |
| Fish Oils: | 500 mg | Levels as recommended for general health to prevent deficiency ⁶ and deemed suitable for routine use in critically ill patients ¹⁻⁵ |
| Fibre: | Fibre Free | In line with critical care recommendations ¹³ |
| Osmolality: | 340 mOsmol/kg | Low osmolality to support gastrointestinal tolerance ⁸ |
| Osmolarity: | 275 mOsmol/l | Low osmolarity to support gastrointestinal tolerance |

NUTRITIONAL INTERVENTION IN THE ICU SETTING CAN HAVE A MAJOR IMPACT ON SURVIVAL AND RECOVERY

Do you agree with the statements below or do you have any questions relating to the statements?



Reaching the protein target without overfeeding is essential



Using whole protein is preferred over the use of hydrolyzed protein

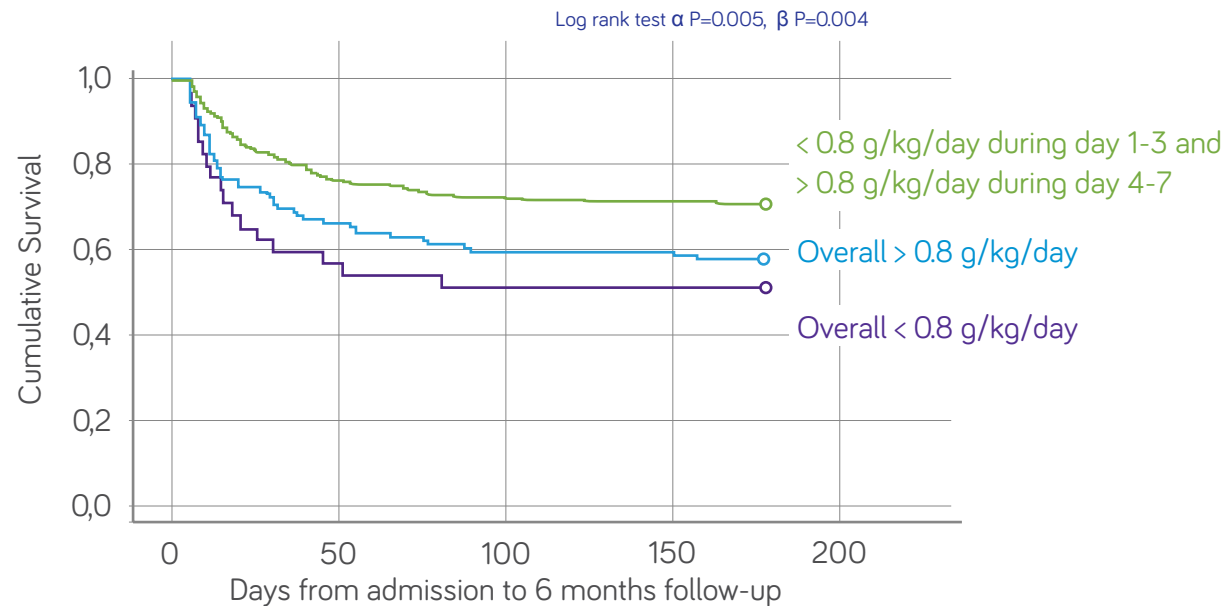


Tolerance issues should be minimized

On All

PROTEIN IS THE MOST IMPORTANT MACRONUTRIENT FOR MAINTAINING LEAN BODY MASS AND HAS BEEN SHOWN TO IMPACT MORTALITY^{1,2}

Low protein intake is associated with high 6 months, ICU and hospital mortality³



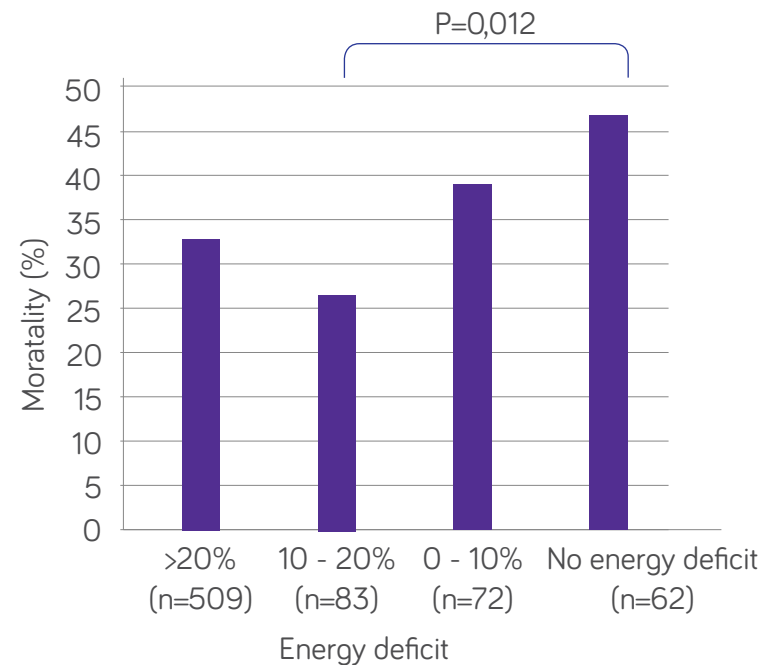
INTERNATIONAL CRITICAL CARE GUIDELINES AND RECOMMENDATIONS FOR PROTEIN TARGETS¹⁻⁴

| Guidelines | Protein Target |
|---|--------------------|
| SCCM/ ASPEN Guidelines for the Provision and Assessment of Nutrition Support Therapy in the Adult Critically Ill Patient 2016 ¹ | 1.2-2.0 g/kg BW/d |
| ESPEN guideline on clinical nutrition in the intensive care unit 2018 ² | 1.3 g/kg BW/d |
| Nutrition therapy for critically ill patients across the Asia-Pacific and Middle East regions 2018 ³ | 1.2-2.2 g/kg BW/ d |
| Summary Points and Consensus Recommendations from the International Protein Summit 2017 ⁴ | > 1.2 g/kg BW/d |

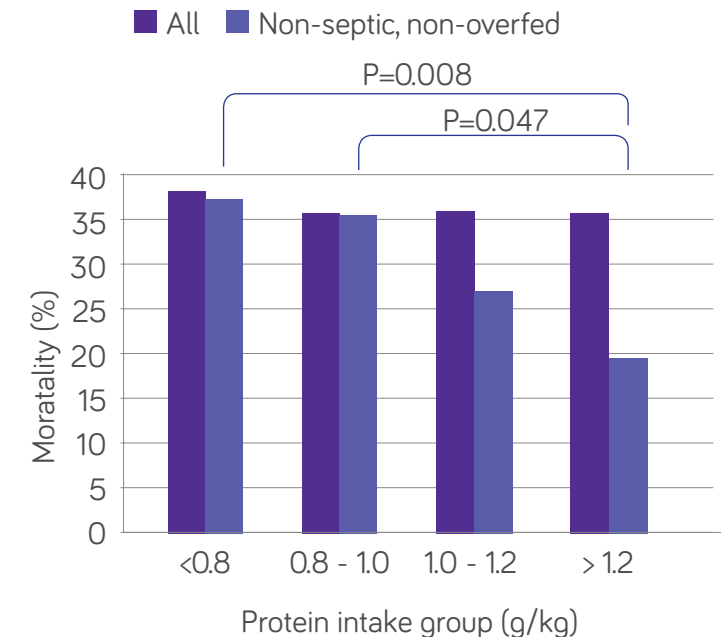
THE PROVISION OF PROTEIN IS MORE CLOSELY LINKED TO POSITIVE OUTCOMES THAN PROVISION OF TOTAL ENERGY¹

- Current consensus is to provide adequate protein intake as a primary goal².
- In non-septic critically ill patients, early high protein intake was associated with lower mortality. However early energy overfeeding was associated with higher mortality³.
- In patients who are not septic and not overfed, a higher protein intake (>1.2g/kg) is associated with statistically significant lower hospital mortality³.

Hospital mortality for cumulative deficit over the first 4 days of ICU stay for non-septic patients (n=726; P=0,053). Reference is the measured resting energy expenditure of the patient.



Hospital mortality for all patients per protein intake group and for all non-septic and non-overfed patients per protein intake group.



*Adapted from reference 3

NUTRITIONAL INTERVENTION IN THE ICU SETTING CAN HAVE A MAJOR IMPACT ON SURVIVAL AND RECOVERY

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KEY INTERNATIONAL GUIDELINES RECOMMEND TO START FEEDING WITH WHOLE PROTEIN ENTERAL FEEDS¹⁻⁴

Guidelines

SCCM/ ASPEN Guidelines for the Provision and Assessment of Nutrition Support Therapy in the Adult Critically Ill Patient 2016¹

ESPEN Guideline on Enteral Nutrition: Intensive Care 2006^{2*}

The Canadian Critical Care Nutrition Guidelines in 2013: An Update on Current Recommendations and Implementation Strategies³

Nutrition therapy for critically ill patients across the **Asia-Pacific and Middle East regions** 2018⁴

Protein Nature

“Based on expert consensus, we suggest using a standard **polymeric formula** when initiating EN in the ICU setting.”

“**Whole protein** formulae are appropriate in most patients because no clinical advantage of peptide based formulae could be shown.”

“When initiating enteral feeds, the use of **whole protein formulas** (polymeric) should be considered.”

“Standardized high-protein **polymeric formulas**, comprising whole proteins as opposed to peptides are the preferred choice for most patients receiving nutrition therapy in the ICU.”

*2018 ESPEN guidelines don't present a recommendation for protein nature, which means no change for the recommendation from 2006

THERE IS NO BENEFIT TO USING A HYDROLYSED ENTERAL FEED OVER A WHOLE PROTEIN FORMULA ACCORDING TO RESEARCH

The Canadian Critical Care Nutrition Guidelines in 2013, updated in 2015 conducted a meta-analysis which concluded the following:

Invited Review

The Canadian Critical Care Nutrition Guidelines in 2013: An Update on Current Recommendations and Implementation Strategies



Nutrition in Clinical Practice
Volume 29 Number 1
February 2014 29-43
© 2013 American Society
for Parenteral and Enteral Nutrition
DOI: 10.1177/0885433613510948
ncp.sagepub.com
hosted at

Canadian Clinical Practice Guidelines

www.criticalcarenutrition.com

Conclusions:

- 1) No difference in mortality, infections, or length of stay between patients receiving a peptide based vs. a standard formula.
- 2) No difference in diarrhea between the groups receiving peptides vs. standard formula.
- 3) No difference in energy or protein intake patients receiving a peptide based vs. a standard formula.

Level 1 study: if all of the following are fulfilled: concealed randomization, blinded outcome adjudication and an intention to treat analysis.

Level 2 study: If any one of the above characteristics are unfulfilled.

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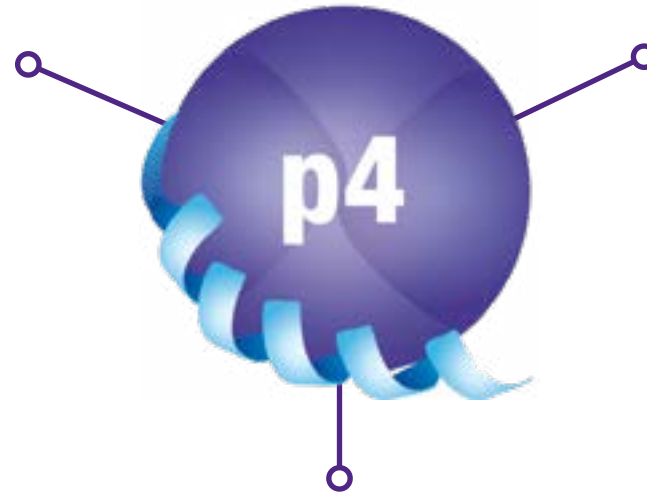
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On All

P4 IS A UNIQUE WHOLE PROTEIN BLEND CONTAINING A MIXTURE OF BOTH ANIMAL & VEGETABLE PROTEINS

Proven Tolerance Benefits¹⁻⁷

P4 is a very well tolerated whole protein blend developed to optimize protein intake.



High Quality

A combination of 4 different protein sources with an amino acid pattern that complies with the WHO/FAO/UNU guidelines.⁸

Fully matches Nutritional Guidelines and Recommendations

P4 is a whole protein blend used as part of Nutrison Protein Intense to fully match current international nutritional guidelines for critically ill patients⁹⁻¹²

NUTRISON PROTEIN INTENSE



**THE FIRST AND ONLY
WHOLE PROTEIN
TUBE FEED WITH A
HIGH PROTEIN LEVEL
THAT FULLY MEETS
INTERNATIONAL
CRITICAL CARE
GUIDELINES¹⁻⁵**

WHAT IS NUTRISON PROTEIN INTENSE?

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Whole Protein

Formulated to meet the latest international nutritional guidelines for critically ill patients with elevated protein needs¹⁻⁴



Unique P4 Protein Blend

Contains the unique P4 protein blend which is aligned with the latest international nutritional recommendations on protein quality⁶, amino acid requirements⁷ and has proven supportive tolerance benefits⁸⁻¹³



Scientifically Proven

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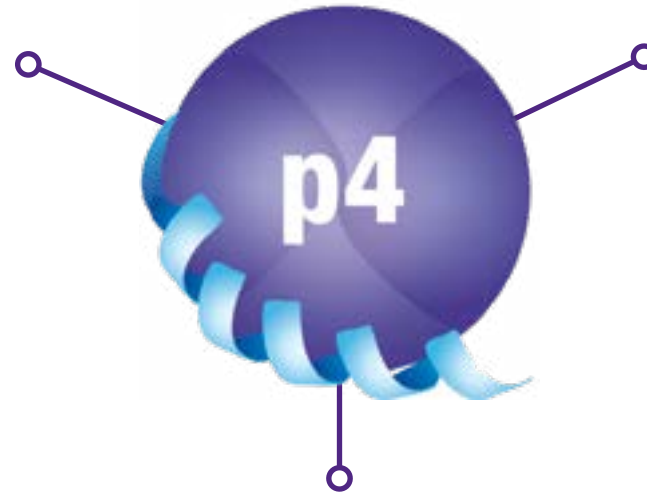
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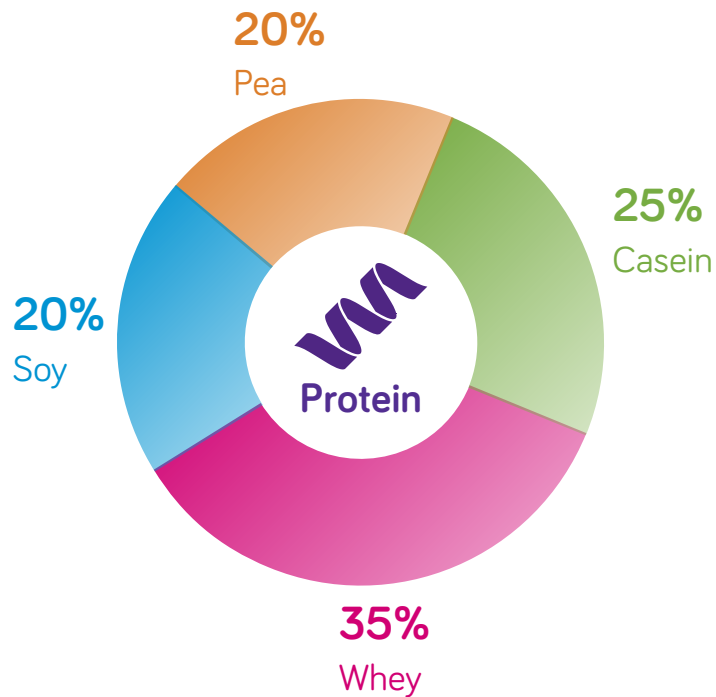
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P4 A WHOLE PROTEIN THAT MEETS RECOMMENDATIONS ON AMINO ACID REQUIREMENTS¹ AND PROTEIN QUALITY² WITH SUPPORTIVE TOLERANCE BENEFITS³⁻⁸

P4 contains both dairy proteins (casein and whey) and vegetable proteins (soy and pea)

P4 blend is proven to have a faster gastric emptying compared to coagulating casein dominant tube feeds.³

[Play video](#)



Casein:

Useful for splanic and whole body protein synthesis.⁹

Whey:

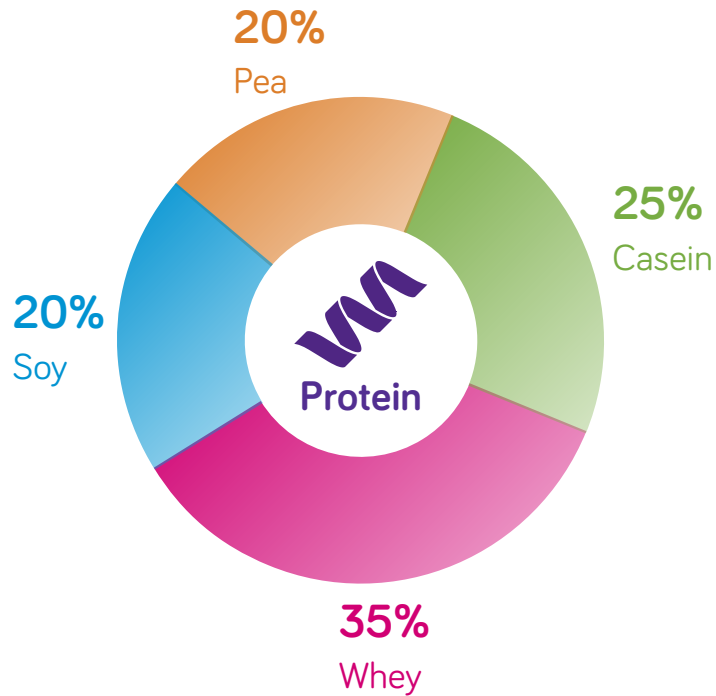
Whey is a high biological value protein providing a good balance of essential amino acids and is a fast digesting protein.^{10,11}

Pea & Soy:

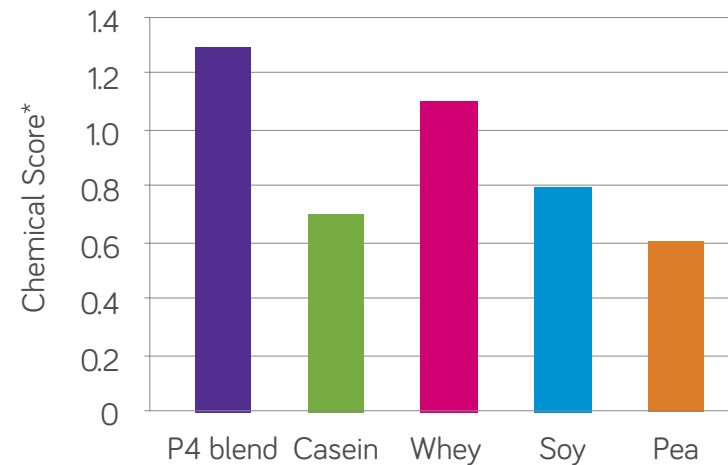
Pea and soy proteins are higher in some essential and non essential amino acids than dairy proteins casein and whey. Both are considered fast digesting proteins.¹²

P4, AN INTACT PROTEIN MEETS RECOMMENDATIONS ON QUALITY FROM THE INTERNATIONAL PROTEIN SUMMIT (2017)¹ AND AMINO ACID REQUIREMENTS FROM WHO²

P4 contains both animal proteins (casein and whey) and vegetable proteins (soy and pea)



P4 has a higher chemical score than whey protein which is considered a high quality protein^{1,2}



The chemical score indicates good overall amino acid mix and hence the quality of a protein. Higher scores are indicative of closely referencing the WHO standards. P4, a blend of high quality proteins has a higher chemical score than individual protein sources.

*The essential aa chemical score was calculated using the following formula: AA score= amount of aa per test Protein (mg/g) / amount of aa per protein in WHO/FAO 2007 reference pattern (g/100g) for adults

NUTRISON PROTEIN INTENSE USES P4, A UNIQUE WHOLE PROTEIN BLEND THAT FULLY MEETS THE RECOMMENDATIONS FROM THE INTERNATIONAL PROTEIN SUMMIT (2017)¹

The International Protein Summit 2017 offered expert consensus opinion on the provision of protein in the intensive care unit (ICU) to assist in closing the gaps between what is happening in clinical practice and what is recommended through guidelines by nutrition societies

“OPTIMAL DIETARY PROTEIN SHOULD CONTAIN A COMPLETE PROFILE OF AMINO ACIDS INCLUDING ALL ESSENTIAL AMINO ACIDS [AND HENCE ALSO NON ESSENTIAL AMINO ACIDS]”

“IF AN ENTERAL PROTEIN PRODUCT OR MODULE IS REQUIRED TO SUPPLEMENT STANDARD EN FEEDINGS TO ACHIEVE DAILY PROTEIN GOALS, A SOURCE OF HIGH QUALITY PROTEIN (SOY, WHEY, CASEIN) SHOULD BE USED”

“SUPPLEMENTATION WITH AN INCOMPLETE PROTEIN SOURCE [IE THE LIMITING AMINO ACID] COULD LEAD TO LESS THAN OPTIMAL SKELETAL MUSCLE MASS AND FUNCTION”

NUTRISON PROTEIN INTENSE IS SCIENTIFICALLY PROVEN TO MEET TARGETS WITHOUT OVER FEEDING CALORIES¹

Study outline



Objective

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



Design

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



Intervention

A very high intact-protein enteral formula (10 g protein / 100 ml) or a standard high intact-protein enteral formula (6 g protein / 100 ml)



Population

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



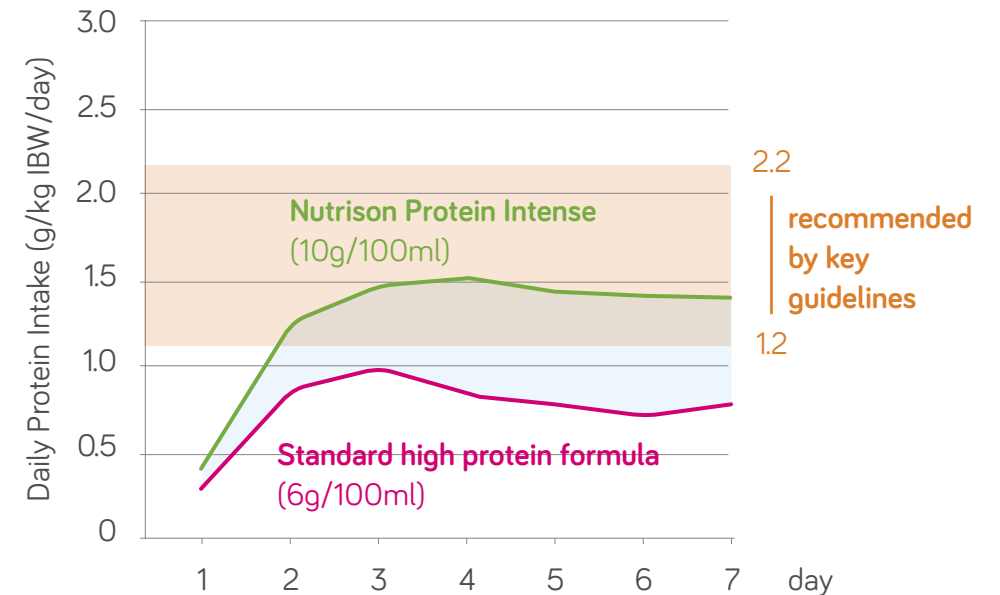
TRIAL RESULTS

A very high intact-protein enteral formula is suitable as first-line nutritional treatment for critically ill patients as it offers a solution for adequate protein provision according to nutritional guidelines without overfeeding risk¹

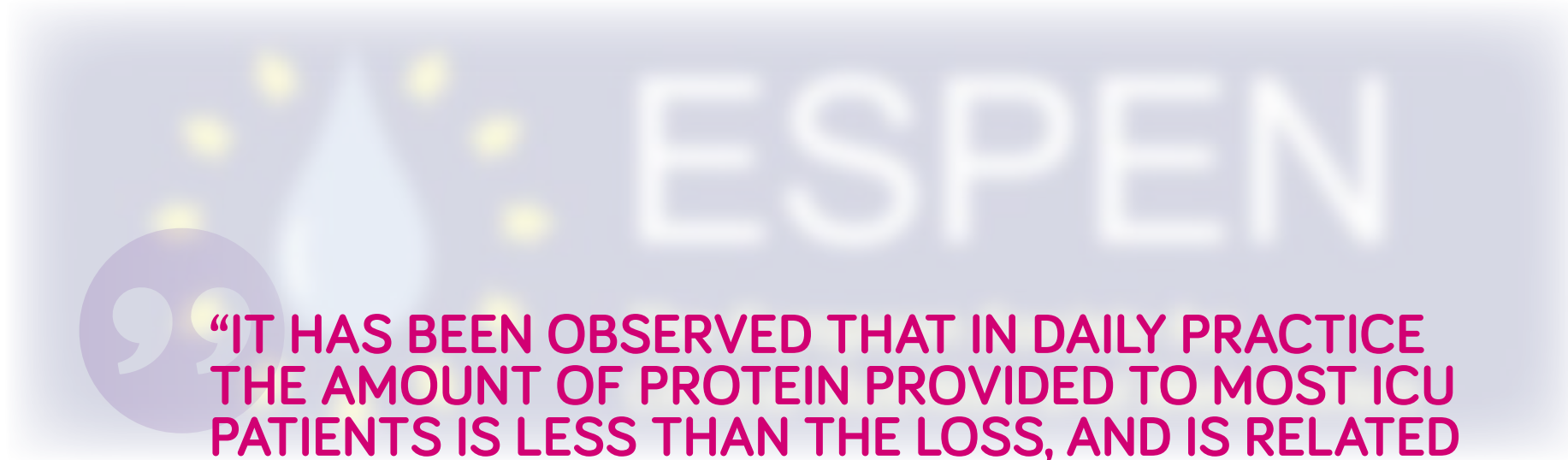
This first trial comparing a very high protein (10g/100ml) with standard high protein enteral formula (6g/100ml) based on whole proteins showed:

Meeting full protein requirements according to international guidelines and recommendations is feasible with this new polymeric high protein enteral feed:

- Higher protein intake (day 5: LS mean 1.5 vs 0.8 g/kg IBW with $p < 0.001$)
- Protein intake within recommended protein intake range of 1.2 – 2.0 g/kg BW per day
- More subjects reached protein targets of 1.5 g/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.



ESPEN GUIDELINES 2018:



“IT HAS BEEN OBSERVED THAT IN DAILY PRACTICE THE AMOUNT OF PROTEIN PROVIDED TO MOST ICU PATIENTS IS LESS THAN THE LOSS, AND IS RELATED TO TECHNICAL DIFFICULTIES AND COMMERCIAL PRODUCT COMPOSITION NOT ADEQUATELY ENRICHED WITH PROTEINS IN COMPARISON TO THE CALORIE CONTENT”

THE LINK BETWEEN ICU AND THE PATIENTS RECOVERY JOURNEY: ARE WE CREATING SURVIVORS OR VICTIMS?



Play video

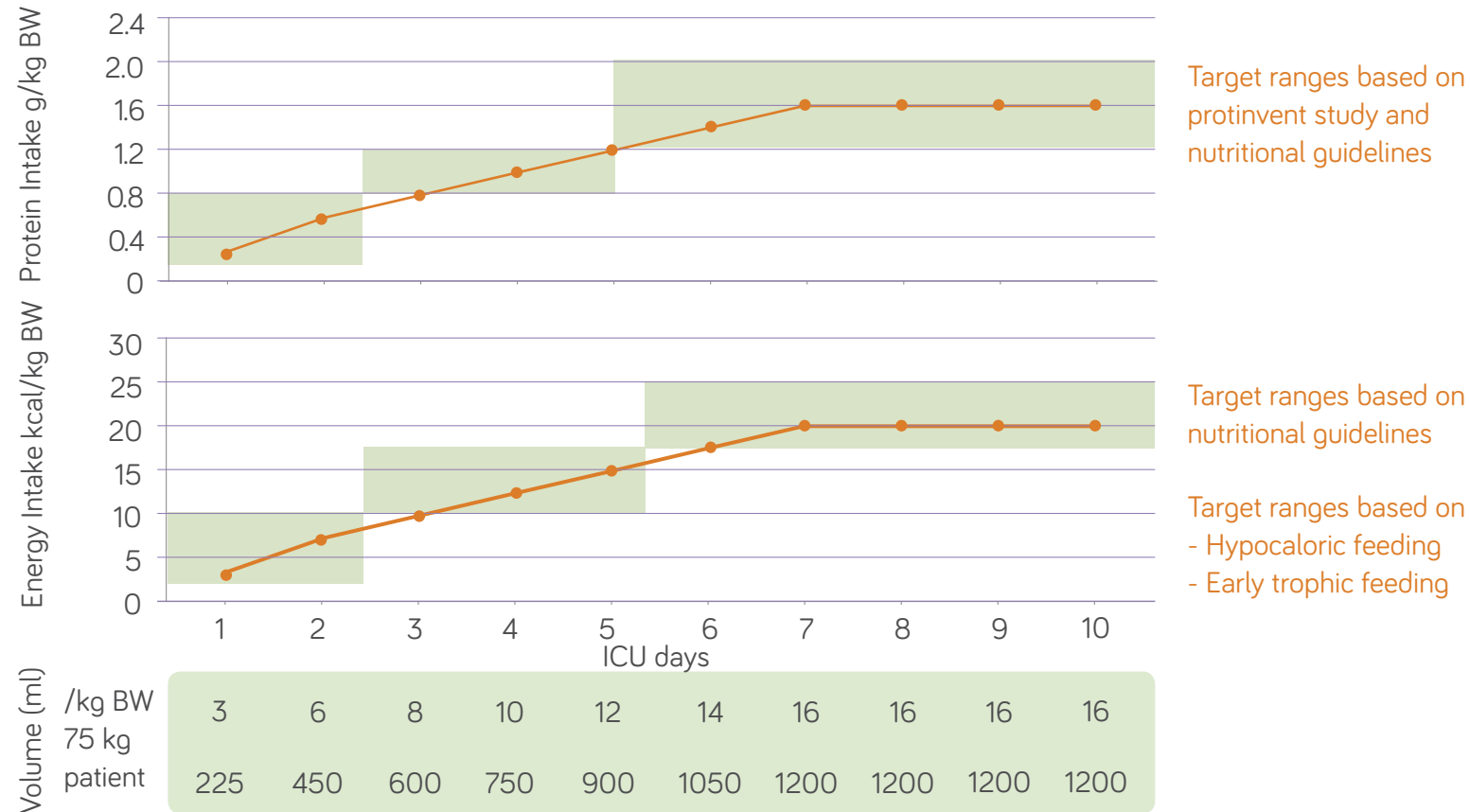
Evidence shows that there is a continuous improvement in overall hospital survival but over 40% of mortality at 12 month follow up occurs post ICU discharge¹

“WE MUST TAKE RESPONSIBILITY FOR MORE THAN JUST THE OUTCOMES IN ICU BUT WHAT HAPPENS AFTER ICU ALSO”

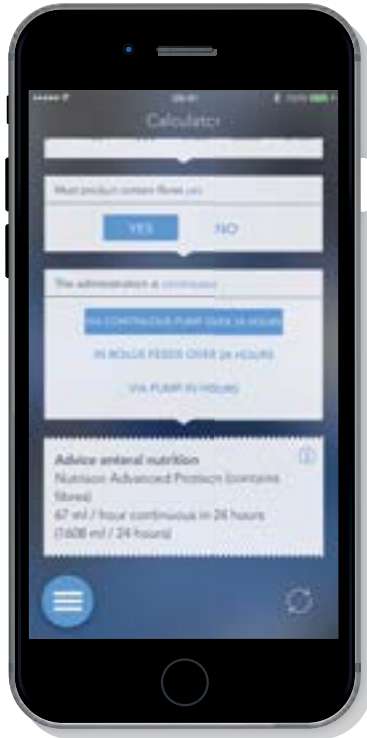
PAUL WISCHMEYER, ESPEN 2018

A SUGGESTED SIMPLE FEEDING REGIMEN BASED ON THE PROTINVENT-BASED PROTOCOL¹...

(Nutrison Protein Intense: 1.26 kcal/ml, 10 g protein/100 ml)



TO PROVIDE OPTIMAL NUTRITIONAL SUPPORT FOR YOUR PATIENTS DOWNLOAD THE NUTRICALCALCULATOR APP NOW



We have developed the NutriCalculator in collaboration with intensive care specialists.

The NutriCalculator calculates individual protein and energy requirements to provide HCPs with the optimal enteral feeding regimen.

It uses evidence based calculation tools to support the enteral feeding advice provided.

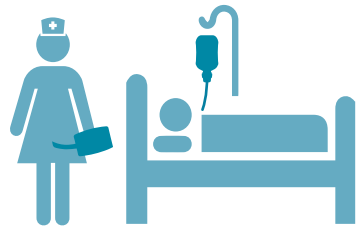


The NutriCalculator uses an algorithm that calculates the most suitable nutritional product.

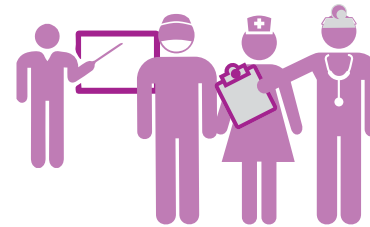
The information can be either emailed or printed.

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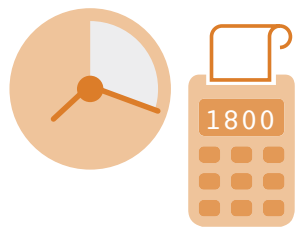
The key benefits for HCPs using the app:



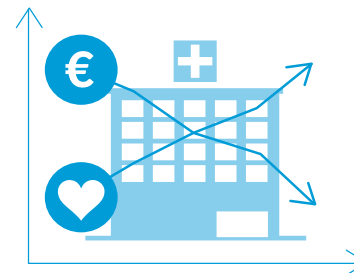
The NutriCalculator can improve clinical outcomes through optimal feeding.



It can be used as an educational tool to help drive nutritional management practice change in critical care.



It is simple and user friendly so less time is spent calculating feeding regimens.



The ultimate goal is to improve the survival of critically ill patients and to help reduce hospital costs.

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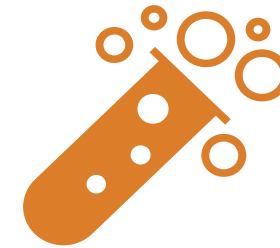
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