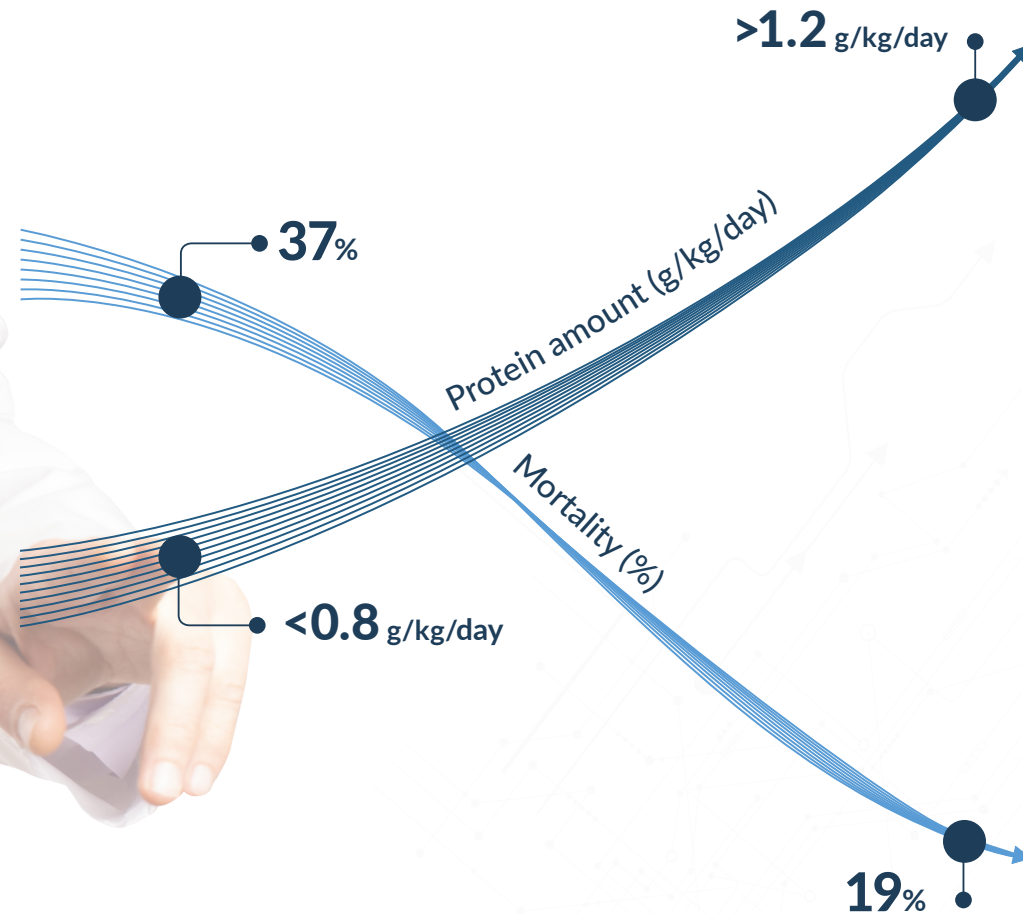


IMPROVE OUTCOMES

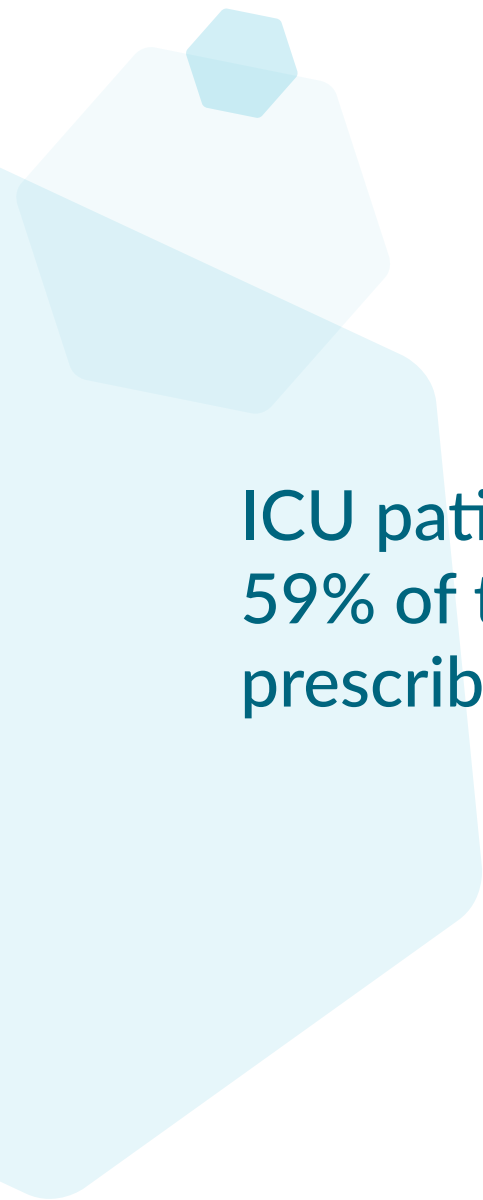


Meeting protein goals higher than 1.2 g/kg/day reduces mortality¹. Try Peptamen[®] AF, an optimal high protein based formula that can help meet requirements and improve outcomes.



How does early and adequate feeding fit
within your protocols in the ICU?





ICU patients receive only
59% of the nutrition
prescribed to them²



**Improve patient
outcomes by
giving 80%
of prescribed
nutrition**





In general, what % of prescribed nutrition
is actually received by ICU patients ?





Energy alone is not sufficient for optimal nutrition

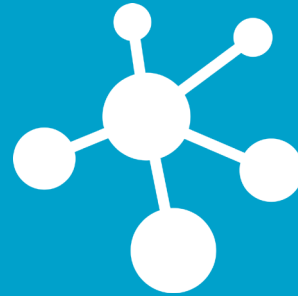
Protein play an important role in improving patient outcomes

Achieving protein and energy goals together reduces mortality¹





**OPTIMIZE
PROTEIN
DELIVERY**



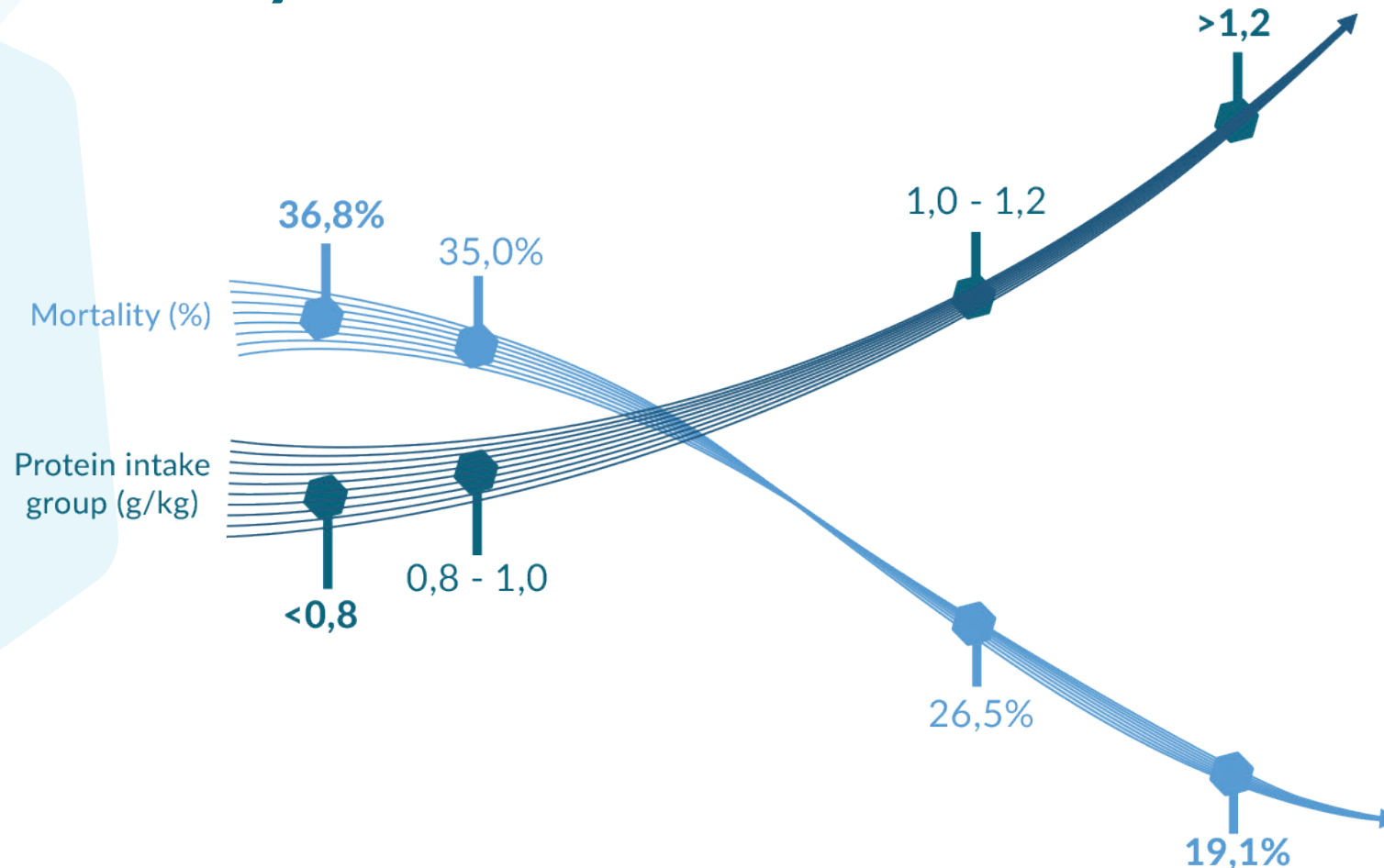
**PROVIDE
THE RIGHT
AMOUNT OF
PROTEIN**



**PROVIDE
EASY TO
ABSORB
PROTEIN**

OPTIMIZE PROTEIN DELIVERY

A protein intake higher than 1.2 g/kg/day is associated with lower mortality¹



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





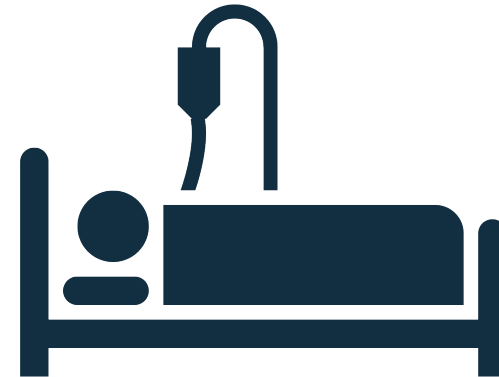
PROVIDE THE RIGHT AMOUNT OF PROTEIN

- High protein intake is associated with low mortality³
- ICU patients need higher amounts of protein³



0.8 g/kg per day

Healthy person's protein needs



1.5 g/kg per day

ICU patient's protein needs



Evidence supports higher protein intakes in the ICU

Evidence	Population	Suggested protein target
ASPEN/SCCM Critical Care Guidelines 2016 ⁴	BMI < 30	1.2-2.0 g/kg/day May be higher in burn/trauma
	BMI 30 – 40	≥ 2.0 g/kg IBW/day
	BMI ≥ 40	Up to 2.5 g/kg IBW/day
	CRTT*, hemodialysis	Up to 2.5 g/kg/day
ASPEN Obesity Guidelines 2013 ⁵	Hospitalized adults with obesity	2-2.5 g/kg IBW/day
Hoffer and Bistran 2012 ³	Most critically ill patients	2-2.5 g/kg/day
Dickerson et al. 2015 ⁶	Trauma patients > 60 years	1.5-2.0 g/kg/day
PROT-AGE† Position Paper 2014 ⁷	> 65 years with severe illness, injury or marked malnutrition	Up to 2.0 g/kg/day

*CRRT = Continuous Renal Replacement Therapy PROT-AGE = "Protein needs with aging" study group



PROVIDE EASY TO ABSORB PROTEIN

ICU patients need high quality protein for:

- gastric emptying
- easy absorption⁸



Protein Quality Indicators⁹

1. Essential Amino Acid Content
mg of essential amino acids/g
protein

2. Net Protein Utilization (NPU)
% Nitrogen retained of Nitrogen
ingested

3. Biological Value (BV)
% Nitrogen retained of Nitrogen
absorbed

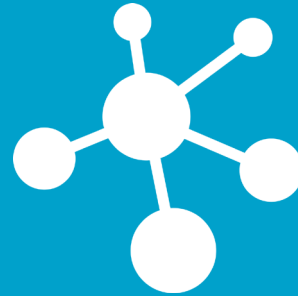
4. Protein Efficiency Ratio (PER)
Weight gain per g Nitrogen
consumed

**5. Protein Digestibility Corrected
Amino Acid Scores (PDCAAS)**
Digestibility corrected for
essential amino acid content





**OPTIMIZE
PROTEIN
DELIVERY**



**PROVIDE
THE RIGHT
AMOUNT OF
PROTEIN**



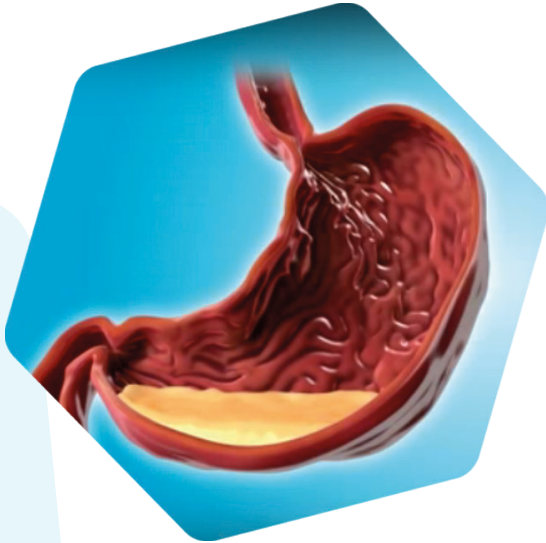
**PROVIDE
EASY TO
ABSORB
PROTEIN**

Peptamen® AF - reach your patient's protein and energy goals

- Allows you to meet BOTH energy AND protein guidelines recommendation of 25 kcal/kg AND 1.5 kcal/kg
- High protein formula: 25% of calories from protein (47 grams per 500 ml)
- High quality protein source: 100% hydrolyzed whey protein
- Contains MCTs to promote absorption



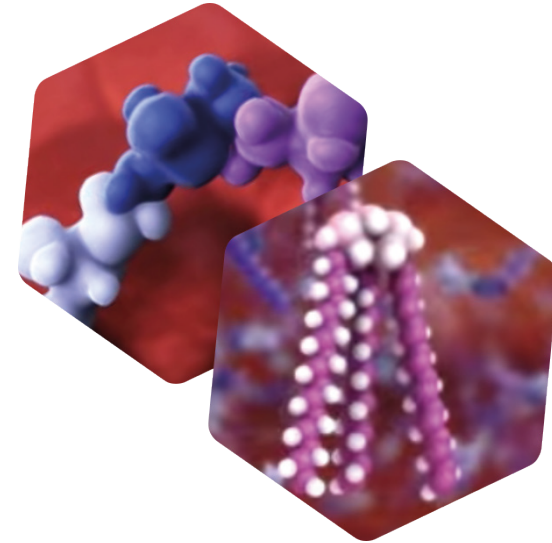
How Peptamen[®] AF works



In the stomach :

Hydrolyzed whey protein remains liquid which

- facilitates gastric emptying¹⁰
- promotes tolerance^{12,13}



In the intestine :

Branched chained amino acids:

- help promote new cell growth
- maintain lean body mass

MCTs:

- help minimize fat malabsorption^{13,14,15}
- promote easy absorption^{13,16}
- prevent complications¹⁷



What is important for your ICU patients

- Meeting protein goals are critical
- Peptamen[®] AF delivers high protein amounts and high quality protein source
- Delivering 80% of prescribed nutrition, clinical outcomes will improve²



**Try Peptamen[®] AF on
your next ICU patient**



References

1. Weijs et al. Early high protein intake is associated with low mortality and energy overfeeding with high mortality in non-septic mechanically ventilated critically ill patients. *Critical Care*. 2014;18:701.
2. Heyland DK. Critical care nutrition support research: lessons learned from recent trials. *Curr Opin Clin Nutr Metab Care*. 2013;16:176-181.
3. L. John Hoffer and Bruce R. Bistran. Energy deficit is clinically relevant for critically ill patients: no. *Intensive Care Med*. 2015;41:339-341.
4. McClave 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.); *JPEN J Parenter Enteral Nutr*. 2016 Feb;40(2):159-211. doi 10.1177/0148607115621863.
5. ASPEN Obesity: A.S.P.E.N. Clinical guidelines: nutrition support of hospitalized adult patients with obesity; *JPEN J Parenter Enteral Nutr*. 2013 Nov;37(6):714-44. doi: 10.1177/0148607113499374. Epub 2013 Aug 23.
6. Dickerson. Influence of Aging on Nitrogen Accretion During Critical Illness; *JPEN J Parenter Enteral Nutr*. 2015 Mar;39(3):282-290. doi: 10.1177/0148607113506939.
7. Evidence-based recommendations for optimal dietary protein intake in older people: a position paper from the PROT-AGE Study Group. *J Am Med Dir Assoc*. 2013 Aug 16;14(8):542-59. Epub 2013 Jul 16.
8. Fried MD, Khoshoo V, Secker DJ, Gilday DL, Ash JM, Pencharz PB. Decrease in gastric emptying time and episodes of regurgitation in children with spastic quadriplegia fed a whey-based formula. *J Pediatr*. 1992;120:569-72.
9. Reference Manual for US Whey and Lactose products. US Dairy Export Council June 2008. P. 14. http://usdec.files.cmsplus.com/PDFs/2008ReferenceManuals/Whey_Lactose_Reference_Manual_Complete2_Optimized.pdf. Accessed June 2012. FAO/WHO ad hoc Committee of Experts on Energy and Protein: Requirements and Recommended Intakes. <http://www.fao.org/docrep/010/ai407e/AI407E28.htm>. Accessed June 2012.
10. Khoshoo V, Brown S. Gastric emptying of two whey-based formulas of different energy density and its clinical implication in children with volume intolerance. *Eur J Clin Nutr*. 2002;56 :656-658.
11. Sonald P et al. Repletion of nutritional parameters in surgical patients receiving peptide versus amino acid elemental feedings. *Nutr Res*. 1994;14:3-12.
12. Borlase BC et al. Tolerance to enteral tube feeding diets in hypoalbuminemic critically ill, geriatric patients. *Surg Gynecol Obstet*. 1992;174:181-188.
13. Sucher K. Medium chain triglycerides: a review of their enteral use in clinical nutrition. *Nutr Clin Pract*. 1986;1(3):146-150.
14. Bach ac et al. Medium-chain triglycerides: an update. *Am J Clin Nutr*. 1982;36:950-962.
15. Wanten GJ, Naber ah. cellular and physiological effects of medium-chain triglycerides. *Mini Rev Med Chem*. 2004;4(8):847-857.
16. Rupp DC et al. Clinical use of medium chain triglycerides. *Drugs*. 1980;20:216-224.
17. Mizock BA, deMichele SJ. The acute respiratory distress syndrome: role of nutritional modulation of inflammation through dietary lipids. *Nutr Clin Pract*. 2004;19:563-574.



