

NUTRISON DIASON ENERGY HP

SPECIFICALLY DESIGNED TO MEET THE NUTRITIONAL NEEDS OF PATIENTS WITH DIABETES AND/OR HYPERGLYCEAMIA

Clinically proven to improve plasma glucose profile versus a standard high energy tube feed¹

Reference:

1. Lansink M, Hofman Z, Genovese S, et al. Improved glucose profile in patients with type 2 diabetes with a new, high-protein, diabetes-specific tube feed during 4 hours of continuous feeding. JPEN. 2017;41(6):968-75.

n Energy H

Nutrison Advanced Diason Energy HP is a Food for Special Medical Purposes specifically designed to meet the nutritional needs of patients with diabetes and/or hyperglyceamia and must be used under medical supervision



HYPERGLYCAEMIA CAN LEAD TO INCREASED HOSPITAL MORBIDITY AND MORTALITY

Hyperglycaemia is present in **32%** of patients in community hospitals.¹ Hyperglycaemia can lead to:

- Prolonged hospital stay²⁻⁵
- Higher associated health care costs⁴
- Increased mortality in surgical patients³

Which patients might benefit?



References: 1. Cook CB, Kongable GL, Potter DJ, et al. Inpatient glucose control: a glycaemic survey of 126 US hospitals. J. Hosp Med 2009;4(9):E7-14. 2. Krinsley JS. Association between hyperglycemia and increased hospital mortality in a heterogeneous population of critically ill patients. Mayo Clin Proc. 2003;78(12):1471-8. 3. Noordzij PG, Boersma E, Schreiner F, et al. Increased preoperative glucose levels are associated with perioperative mortality in patients undergoing noncardiac, nonvascular surgery. Eur J Endocrinol 2017;156:137-42. 4. Estrada CA, Young Jam Nifong LW, et al. Outcomes and perioperative hyperglycemia in patients with or without diabetes mellitus undergoing coronary artery bypass grafting. Ann Thorac Surg 2003;75(5);1392-9. 5. Kwon S, Thompson R, Dellinger P, et al. Importance of perioperative glycemic control in general surgery: a report from the Surgical Care and Outcomes Assessment Program. Ann Surg; 2013;257(1):8-14. 6. Ojo Q, Weldon SM, Thompson T, et al. The Effect of Diabetes-Specific Enteral Nutrition Formula on Cardiometabolic Parameters in Patients with Type 2 Diabetes: A Systematic Review and Meta–Analysis of Randomised Controlled Trials. Nutrints. 2019;11(8):E1905. 7. Vaisman N, Lansink M, Rouws CH, et al. Tube feeding with a diabetes-specific feed for 12 weeks improves glycaemic control in type 2 diabetes patients. Clin Nutr. 2009;549-55. 8. Elia M, Ceriello A, Laube H, et al. Enteral Nutritional Support and Use of Diabetes-Specific Formulas for Patients With Diabetes. Diabetes Care. 2005;28(9):2267-79. 9. Pohl M, Mayr P, Mertl-Roetzer M, et al. Glycaemic control in type II diabetes -specific enteral formula improves glycemic variability in patients with type 2 diabetes. Diabetes Technol Ther. 2010;12(6):419-25. 11, Yin-Yi H, Sheng-Ru L, Jamie SP, et al. The clinical and economic impact of the use of diabetes-specific enteral formula in hyperglycemic, mechanically ventilated, critically ill patients. A prospective, open-label, blind-randomized, multicenter study. Crit Care.







STUDY: CLINICAL AND ECONOMIC BENEFITS OF THE USE OF GLYCEMIA TARGETED TUBE FEEDING FORMULATIONS AMONG PATIENTS WITH DIABETES IN US HOSPITALS¹

Objective: To compare the clinical outcomes and costs for diabetic patients tube fed Glycemia Targeted Specialized Nutrition (GTSN) versus Standard Nutrition (STDN) formulas during acute care hospitalizations

Method: Retrospective analysis covering 10 years of clinical and cost data (2000-2009). This represented 8.8 million discharges

Results: GTSN Tube Fed patients with Diabetes had nearly a one day shorter Length of Stay (LOS) versus the STDN.

Conclusions: The use of Glycemia Targeted Specialized Nutrition (GTSN) for tube feeding of hospitalized patients with diabetes is associated with reductions in average length of stay and average overall hospital costs, in comparison to standard nutrition.

Reference: 1. Hamdy O, Ernst FR, Baumer D, et al. Differences in resource utilization between patients with diabetes receiving glycemia-targeted specialized nutrition vs standard nutrition formulas in U.S. hospitals. JPEN. 2014;38(2):86S-91S.



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WHICH PATIENTS MIGHT BENEFIT FROM A HIGH PROTEIN, ENERGY-DENSE DIABETIC-SPECIFIC TUBE FEED BASED ON DIAGNOSIS?

Besides diabetic and hyperglycaemic patients with increased protein needs or whom have a fluid restriction, other patient groups who might benefit from this product include:

		ICU	Insulin resistance has been observed in up to 80% of critically ill patients ¹ . Stress- and newly diagnosed hyperglycaemic patients have a higher rate of mortality compared to previously diagnosed diabetes and non-diabetic patients ² .
		Neurology	Approximately 30% of all stroke patients have diabetes ³ . In non-diabetic ischemic stroke patients, persistent hyperglycaemia is observed in approximately 33% ⁴ . Hyperglycaemia and diabetes are associated with poorer outcomes, including higher mortality, poorer neurological and functional outcomes, longer LOS, higher readmission rates and stroke recurrence ^{3,4} .
	F	General hospital wards	In approximately 38% of in-hospital patients hyperglycemia is present, including patients with a known history of diabetes (26%) and without a history of diabetes pre-admission (12%). Newly diagnosed hyperglycaemic patients have higher in-hospital mortality rate and worse functional outcome than patients with a prior history of diabetes and patient with normoglyceamia ⁵ .
	渎	Oncology	Approximately 8-18% of cancer patients have diabetes ⁶ . During chemotherapy hyperglycaemia occurs in approximately 10-30% of patients ⁷ . Hyperglycaemia can accelerates the progression of tumor through enhancing the proliferation, migration, and invasion of tumor cells ⁸ .
		Frailty	The prevalence of diabetes increases with the presence of frailty ⁹ ; 18.8% in individuals without frailty, 24.5% in individuals with pre-frailty, and 32.4% in individuals with frailty ¹⁰ .

References: 1. Saberi F, Heyland D, Lam M, Rapson D, Jeejeebhoy K. Prevalence, incidence, and clinical resolution of insulin resistance in critically ill patients: an observational study. JPEN J Parenter Enteral Nutr. 2008;32(3):227-35. 2. Godinjak A, Iglica A, Burekovic A, et al. Hyperglycemia in Critically Ill Patients: Management and Prognosis. Med Arh. 2015;69(3):157-60. 3. Lau L, Lew J, Borschmann K, et al. Prevalence of diabetes and its effects on stroke outcomes: A meta-analysis and literature review. J Diabetes Investig. 2019;10: 780-92. 4. Mi D, Wang P, Yang B, et al. Correlation of hyperglycemia with mortality after acute ischemic stroke. Ther Adv Neurol Disord. 2018;11:1 – 5. 5. Umpierrez GE, Isaacs SD, Bazargan N, et al. Hyperglycemia: An Independent Marker of In-Hospital Mortality in Patients with Undiagnosed Diabetes. J Clin Endocrinol Metab. 2002;87(3)978:82. 6. Habib SL, Rojna M. Diabetes and Risk of Cancer. ISRN Oncology. 2013; 7. Hwangbo Y, Lee EK. Acute Hyperglycemia Associated with Anti-Cancer Medication. Endocrinol Metab. 2017;32:23-9. 8. Li W, Zhang X, Sang H, et al. Effects of hyperglycemia on the progression of tumor diseases. J. Exp. Clin. 2019;38:327. 9. Cobo A, Vázquez LA, Revirego J, et al. Impact of frailty in older patients with diabetes mellitus: An overview. Endocrinol Nutr. 2016;63(6):291-303. 10. Walston J, McBurnie M, Newman A, et al. Frailty and activation of the inflammation and coagulation systems with and without clinical comorbidities: results from the cardiovascular health study





DIASON ENERGY HP DESIGNED WITH YOUR DIABETIC PATIENTS IN MIND





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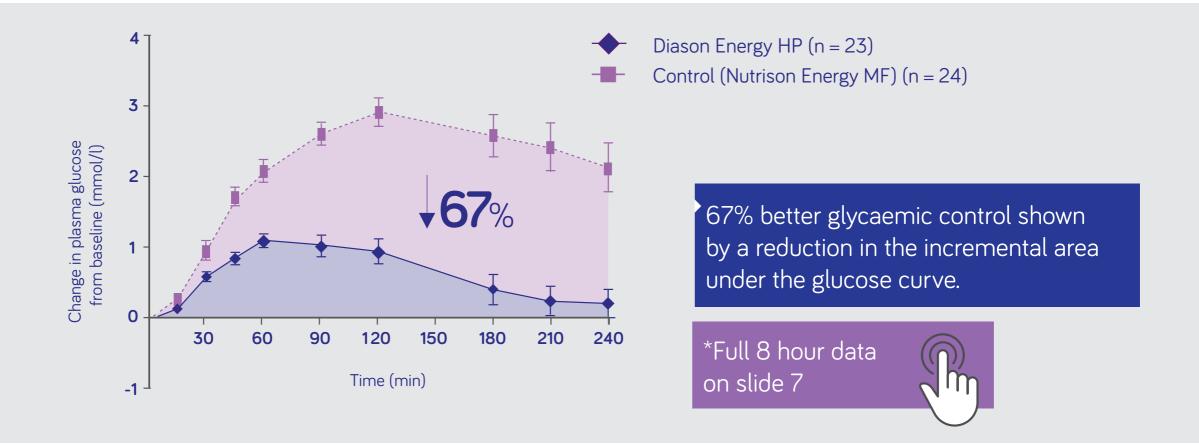
Nutrison advanced Diason Energy HP

5 kcal/ml Vanilla flavou

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CLINICALLY PROVEN TO IMPROVE PLASMA GLUCOSE PROFILE VERSUS A STANDARD HIGH ENERGY TUBE FEED¹

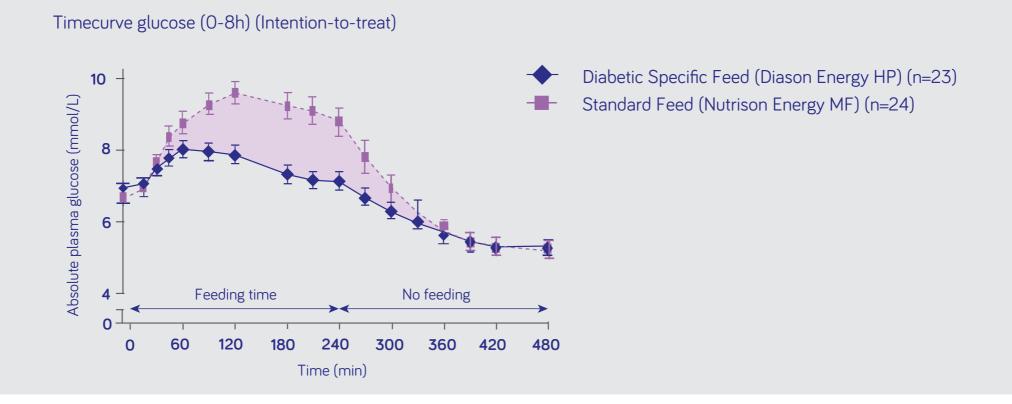
Administration of Diason Energy HP during 4h continuous feeding resulted in an improved glucose profile (i.e. lower glucose levels) and insulin profile compared to the standard tube feed in type 2 diabetes patients.



Reference: **1.** Lansink M, Hofman Z, Genovese S, et al. Improved glucose profile in patients with type 2 diabetes with a new, high-protein, diabetes-specific tube feed during 4 hours of continuous feeding. JPEN. 2017;41(6):968-75.



RANDOMIZED CONTROLLED, DOUBLE-BLIND, CROSSOVER STUDY: 8-HOUR DATA



This figures shows the glucose concentrations over time in the 8-hour period.

The glucose concentration was lower at 45, 60, 90, 120, 180, 210, 240 (P < .001 all), and 270 (P = .007) minutes after the start of feeding with Nutrison Diason Energy HP compared with Nutrison Energy MF.

Reference: 1. Lansink M, Hofman Z, Genovese S, et al. Improved glucose profile in patients with type 2 diabetes with a new, high-protein, diabetes-specific tube feed during 4 hours of continuous feeding. JPEN. 2017;41(6):968-75.







With patients in mind, Nutricia have formulated Diason Energy HP



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- No added fructose
 - Fructose can be associated with increased GI intolerance¹
- Low Glycemix Index



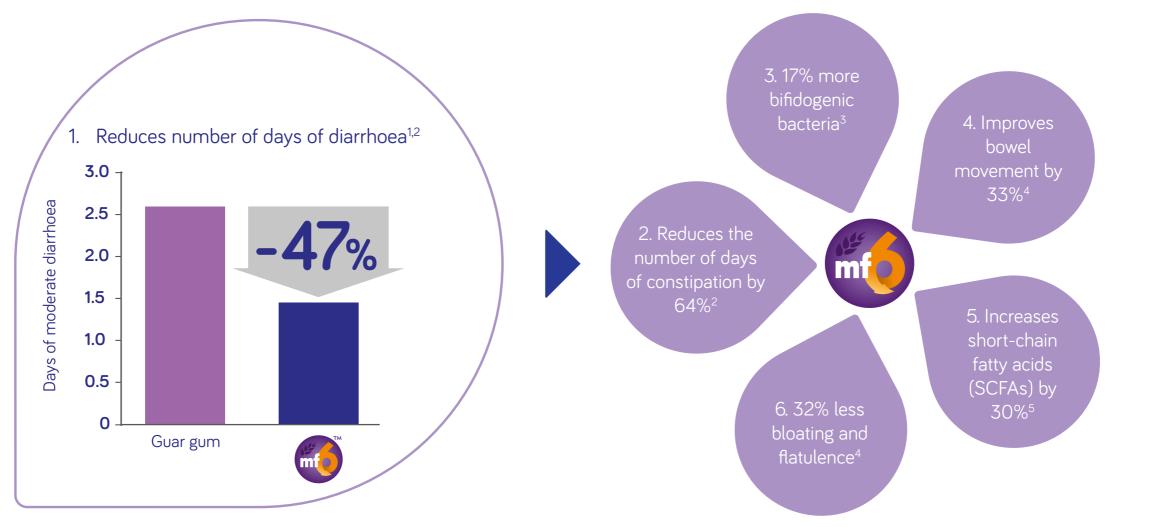


Reference: 1. Putkonen L, Yao CK, Gibson PR. Fructose malabsorption syndrome. Curr Opin Clin Nutr Metab Care. 2013;16(4):473-7.



ADDRESSES THE SIX COMMON PROBLEMS WITH ENTERAL NUTRITION

Clinical studies have demonstrated the beneficial effects of MF6^{TM 1-9}



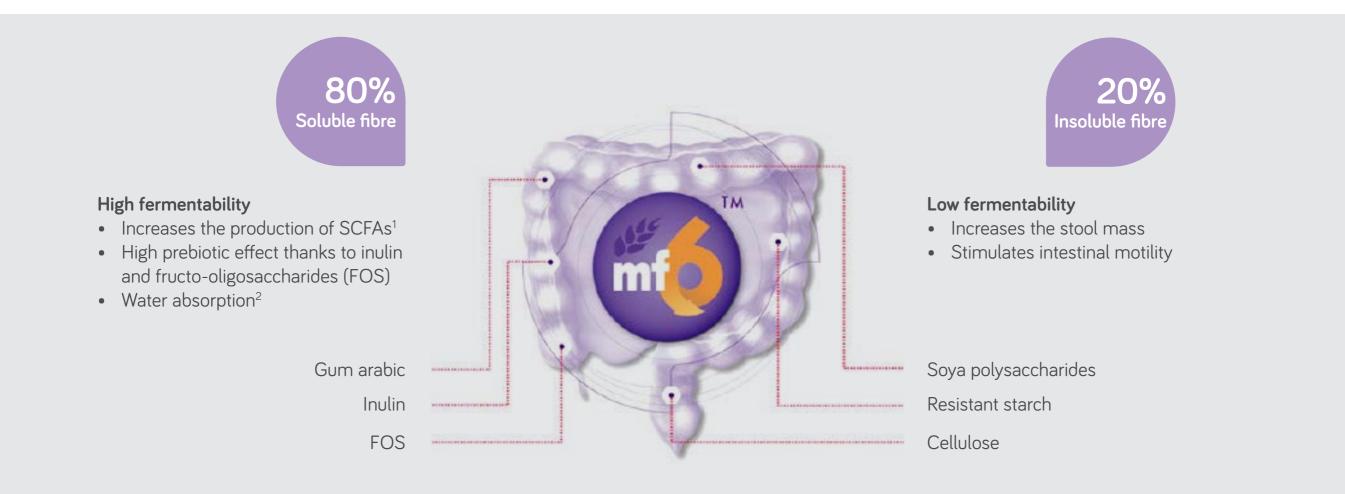
References: 1. Wierdsma N, Kruizinga H, Droop A, et al. . Comparison of two tube feeding formulas enriched with guar gum or mixeddietary fibres - English translation. Ned Tijdschr Diësten 2001;56(11):243-7. **2.** Trier E, Wells JCK, Thomas AG. Effects of a multifibre supplemented paediatric enteral feed on gastrointestinal function. J Paediatr Gastroenterol Nutr. 1999;28:595. **3.** Guimber D, Bourgois B, Beghin L, et al. Effect of multifibre mixture with prebiotic components on bifdobacteria and stool pH in tube-fed children. Br J Nutri. 2010;104:1514-22. **4.** Silk DB, Walters ER, Duncan HD, et al. The effect of polymeric enteral formula supplemented with a mixture of six fibres on normal human bowel function and colonic motility. Clin Nutr. 2001;20(1):49-58. **5.** Schneider SM, Girard-Pipau F, Anty R, et al. Effects of total enteral nutrition supplemented with a multi-fibre mix on faecal short-chain fatty acids and microbiota. Clin Nutr. 2006;25(1):82-90. **6.** Hofman Z, van Drunen JDE, Brinkman JG, Valerio PG. Tolerance and efficacy of a multi-fibre enriched tube-feed in paediatric burn patients. Clin Nutr 2001;20 (Suppl 3):63-4 (abstract). **7.** Daly A, Johnson T, McDonald A. Is fibre supplementation in paediatric sip feeds beneficial? J Hum Nutr Diet. 2004 Aug;17(4):365-70. **8.** Karakan T, Ergun M, Dogan I, et al. Comparison of early enteral nutrition in severe acute pancreatitis with prebiotic fiber supplementation versus standard enteral solution: A prospective randomized double-blind study. World Journal of Gastroenterology 2007;21:13(19): 2733-7. **9.** Yagmurdur H, Leblebici F. Enteral nutrition preference in critical care: fibre-enriched or fibre-free? Asia Pac J Clin Nutr 2016;25(4):740-6.



THE MF6[™] MIX IS DESIGNED TO REFLECT THE BALANCED COMBINATION OF FIBRES FOUND IN A HEALTHY DIET

The unique fibre blend (MF6[™]) consist of six different soluble, insoluble, fermentable and non-fermentable fibres.

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References: 1. Guimber D, Bourgois B, Beghin L, et al. Effect of multifibre mixture with prebiotic components on bifidobacteria and stool pH in tube-fed children. Br J Nutri. 2010;104:1514-22. **2.** Schneider SM, Girard-Pipau F, Anty R, et al. Effects of total enteral nutrition supplemented with a multi-fibre mix on faecal short-chain fatty acids and microbiota. Clin Nutr. 2006;25(1):82-90.



DIASON ENERGY HP FACILITATES A MORE FLEXIBLE FEEDING SCHEDULE

Higher caloric density

• Easier to reach energy requirements during metabolic stress or with a reduced volume of feed¹



- ✓ 1,500 kcal
- ✓ 77 g protein
- ✓ 15 g fibre

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✓ 500 mg EPA/DHA







Also available in 500ml bottle format

Reference: 1. Peake SL, Davies AR, Deane AM, et al. Use of a concentrated enteral nutrition solution to increase calorie delivery to critically ill patients: a randomized, double-blind, clinical trial. Am J Clin Nutr. 2014;100(2):616-25.





Feature	Benefit		
High caloric density (1.5 Kcal/ml)	Easier to reach energy requirements during metabolic stress / or with a reduced volume of feed		
Protein including both animal and vegetable sources (60% casein, 40% soy protein)	Fully meeting the WHO recommendations for amino acid requirements in adult ¹		
High protein (21en%)	For patients with higher protein requirements during metabolic stress (e.g. infection, trauma, pressure injury and surgical recovery), wound healing and rehabilitation (protein anabolism)		
Fibre MF6™ (15g/L, 80% soluble and 20% insoluble fibres)	 The Diason range is the only diabetes specific range containing a blend of 6 fibre sources. Upper and lower GI benefits^{2,3} Reduced diarrhoea⁴ Reduced constipation⁵ Low levels of FOS at 4g/l 		
Carbohydrates (31en%)	No added Fructose • Contains isomaltulose for its low glycaemic and low insulinemic properties ^{6,7} for lower plasma glucose levels during feeding ⁸		
Fat (46en%) Blend of rapeseed, sunflower and fish oil. Contains fish oil, EPA + DHA (500mg/L)	Fats provide 46% of total energy, with a high amount (60%) from MUFAs and a low proportion of PUFAs. MUFAs can improve glucose control and metabolic risk factors ^{9,10} Contains fish oil for cardiovascular protective effects.		
Carotenoid mix (0.3mg/100ml)	Maintain or improves carotenoid status ¹¹ and reduces oxidative stress in long term enterally fed patients ¹²		
Low Glycaemic Index and blood glucose response	Lower glucose and insulin levels after continuous administration compared with a standard formula. ⁸		



THE DIASON RANGE

NUTRISON DIASON LOW ENERGY



Diabetes mellitus and hyperglycaemic patients who require less energy/ energy-restricted diet (e.g. bedridden, obese patients)

NUTRISON DIASON

Diabetes mellitus and

hyperglycaemic patients (e.g. stroke patients)



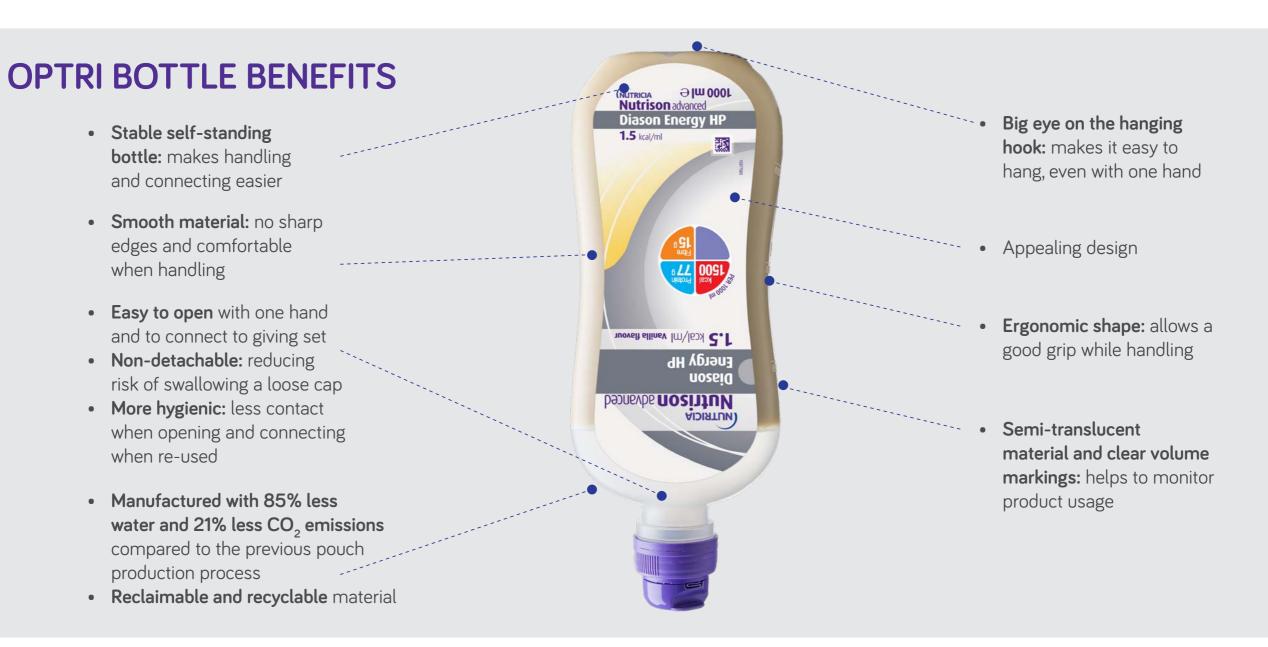
Diabetes mellitus and hyperglycaemic patients with increased protein needs and lower energy/nitrogen requirements (e.g. patients with wounds, burns, sarcopenia) and/or patients who are fluid restricted





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DIASON ENERGY HP COMES IN THE MULTI-AWARD WINNING OPTRI BOTTLE WHICH IS DESIGNED FOR BETTER USABILITY, SAFETY AND FOR A BETTER PLANET





WORLDSTAR WINNER 2020

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DESIGNED TO NUTRITIONALLY SUPPORT THE RECOVERY OF YOUR DIABETIC AND HYPERGLYCEAMIC PATIENTS

- Clinically proven to provide a significantly better plasma glucose profile compared to a standard high energy tube feed.¹
- Sormulated to better support GI tolerance
 - Contains the patented MF6[™] fibre blend for reduced diarrhea and constipation
- 1.2.3 Facilitates a more flexible feeding schedule





Reference: 1. Lansink M, Hofman Z, Genovese S, et al. Improved glucose profile in patients with type 2 diabetes with a new, high-protein, diabetes-specific tube feed during 4 hours of continuous feeding. JPEN. 2017;41(6):968-75.





NUTRISON DIASON ENERGY HP

SPECIFICALLY DESIGNED TO MEET THE NUTRITIONAL NEEDS OF PATIENTS WITH DIABETES AND/OR HYPERGLYCEAMIA

Nutritional overview

	Volume	1000 ml	
	Energy	1500 kcal	Higher caloric density, easier to reach energy requirements during metabolic stress/or with a reduced volume of feed
	Protein	77 g (21EN%)	High protein for those patients with higher protein requirements during metabolic stress
Formers Nutrison shared Basing Basing HP 1.5 hafter was have Compared by the statement Compared	Carbohydrates	117 g (31EN%)	Main carbohydrate sources are maltodextrin and isomaltulose. Isomaltulose has a very slow hydrolysis rate resulting in reduced glycaemic and insulinaemic response ^{1,2}
1 E minigt An Linguistic 100 mic - Share	Fat	77 g (35EN%)	High in MUFAs (60%), which can improve glucose control and metabolic risk factors ^{3,4}
	Fish Oils	500 mg	Levels as recommended for general health to prevent deficiency ⁵
	Fibre	15 g (2EN%)	MF6 fibre blend (80:20 soluble/insoluble fibres) for upper and lower GI benefits ⁶⁻⁸
	Osmolarity	395 mOsmol/L	Low osmolarity to support gastro-intestinal tolerance

Food for special medical purposes. For the dietary management of patients with Diabetes Mellitus and/or hyperglyceamia. Must be used under medical supervision.

References:

1. Kawai K, Yoshikawa H, Murayama Y, et al. Usefulness of palatinose as a caloric sweetener for diabetic patients. Horm Metab Res 1989;21(6):338-40. 2. Holub I, Gostner A, Theis S, et al. Novel findings on the metabolic effects of the low glycaemic carbohydrate isomaltulose (Palatinose). Br J Nutr. 2010;103(12): 1730-7. 3. Van Can JG, Ijzerman TH, van Loon LJ, et al. Reduced glycaemic and insulinaemic responses following isomaltulose ingestion: implications for postprandial substrate use. Br J Nutr. 2009;102(10): 1408-13. 4. Sanz-París A, Matía-Martín P, Martín-Palmero A, et al. Diabetes-specific formulas high in monounsaturated fatty acids and metabolic outcomes in patients with diabetes or hyperglycaemia. A systematic 5. International Society for the Study of Fatty Acids and Lipids. (ISSFAL) Report of the sub-committee on recommendations for intake of polyunsaturated fatty acids in healthy adults. June 2004. 6. Green CJ, Fibre in enteral nutrition. Clinical Nutrition. 2001;20(1):23-39. 7. Silk DB, Walters ER, Duncan HD, et al. The effect of polymeric enteral formula supplemented with a mixture of six fibres on normal human bowel function and colonic motility. Clin Nutr. 2001;20(1):49-58. 8. Wierdsma N, Kruizinga H, Droop A, et al. . Comparison of two tube feeding formulas enriched with guar gum or mixeddietary fibres - English translation. Ned Tijdschr Diësten 2001;56(11):243-7.





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