

CASE STUDY BOOKLET SUPPORTING NUTRISON PEPTISORB PLUS HEHP

Nutrison Peptisorb Plus HEHP is a Food for Special Medical Purposes for the dietary management of disease related malnutrition in patients with malabsorption and/or maldigestion and must be used under medical supervision.

Accurate at time of publication: March 2021.

This information is intended for healthcare professionals only.

NUTRICIA NUTRISON Peptisorb Plus HEHP

REAL WORLD EVIDENCE FOR NUTRISON PEPTISORB PLUS HEHP

Nutrison Peptisorb Plus HEHP is a new peptide-based tube feed for patients with gastrointestinal (GI) intolerance symptoms. This product has been studied in a variety of patients with complex conditions requiring a peptide-based tube feed.

Evidence for the efficacy of Nutrison Peptisorb Plus HEHP in everyday clinical practice has come from a multi-centre study in adult, tube fed patients recruited from inpatient and community services by their managing dietitian across eleven hospitals in the UK.¹ The study followed 15

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NUTRICIA Nutrison Peptisorb Plus HEHP

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community-based patients for 28 days and assessed their nutrient intake, GI tolerance and compliance with Nutrison Peptisorb Plus HEHP.

Results from 5 of these patients have been collated in a series of clinical Case Studies which are presented in this booklet. The Case Studies are intended to help educate healthcare professionals about the role of Nutrison Peptisorb Plus HEHP and offer practical guidance on its use in managing patients with GI intolerance symptoms.

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THE CHALLENGE OF GASTROINTESTINAL (GI) INTOLERANCE

For patients with GI disorders, ESPEN guidelines emphasise that nutritional support is vital^{2,3}

Tolerance to tube feeds containing whole proteins and fats is often poor in patients with GI disorders^{1,4}

Peptide-based feeds have been shown to improve tolerance in patients with GI disorders, when absorption and digestion of nutrients is impaired^{1,4}

HEAVY ON PROTEIN LIGHT ON THE GUT



A NEW PEPTIDE BASED TUBE-FEED FOR PATIENTS WITH GI INTOLERANCE

Nutrison Peptisorb Plus HEHP is a high-energy, high-protein, peptide-based, MCT-containing enteral tube feed designed to maintain gastrointestinal tolerance and improve compliance¹

Energy 150 kcal

20%

50%

Fat source MCT:LCT 60:40

Sodium 197 mg (8.6 mmol)

 Potassium
 340 mg (8.7 mmol)

 Osmolarity
 445 mOsmol/l

 pH
 Neutral (7.6)

 Presentation
 500 ml, 1000 ml OpTri Bottle

Peptide-based,

100% whey protei

Protein 7.5 g

Sugars 1.4 g

MCT 3 g

Fibre 0 g EPA + DHA 0 mg

Vitamin D 2 µg

Protein source

% Energy

from Protein

% Energy from

Carbohydrates

% Energy from Fat 30%

ACBS approval Yes

NUTRITIONAL VALUE PER 100ML

The table provides information on selected nutrients. Please refer to the product datacard on www.nutricia.co.uk for the full nutritional breakdown.



CLINICAL EVIDENCE

UK MULTI-CENTRE CLINICAL TRIAL

NUTRISON PEPTISORB PLUS HEHP **IS PROVEN TO IMPROVE GI TOLERANCE** AND INCREASE NUTRITIONAL INTAKE¹

A multi-centre study demonstrated that Nutrison Peptisorb Plus HEHP maintained gastrointestinal tolerance and significantly improved compliance, energy and protein intake in enterally tube-fed adults.¹

Fifteen community based, enterally tubefed adults requiring a peptide-based feed to meet nutritional requirements, recruited from inpatient and community services across eleven hospitals in the UK. Patients received Nutrison Peptisorb Plus HEHP daily for 28 days.1

100

80

60 -

40

40





Protein intake* (g/day)



Baseline After 28 days of Nutrison Peptisorb Plus HEHP

Nutrison Peptisorb Plus HEHP maintained gastrointestinal tolerance¹

- The incidence and intensity of diarrhoea reduced significantly (p = 0.023)
- 86% of dietitians felt patients tolerated and/or exceeded tolerance expectations

(NUTRICIA **Nutrison Peptisorb Plus HEHP**

Compliance (%)

99

p=0.038)

UK MULTI-CENTRE AUDIT

NUTRISON PEPTISORB PLUS HEHP **MEETS PATIENTS' NUTRITIONAL NEEDS**

In a multi-centre audit across acute and ICU settings involving 18 patients (n=10 Covid-19 positive and n=8 Covid-19 negative) using Nutrison Peptisorb Plus HEHP:⁵



89% of dietitians perceived the protein content to be beneficial for their patients



Across all patients, the percentage of energy and protein requirements met increased compared to baseline (from 73% to 86% for both)



In Covid-19 positive patients, the percentage of energy and protein requirements met increased compared to baseline (from 88% to 97% for both)



70% of dietitians reported Nutrison Peptisorb HEHP helped their Covid-19 positive patients better meet their nutrient requirements

(NUTRICIA **Nutrison Peptisorb Plus HEHP**

CASE STUDY SUMMARY

Case Study	Sex	Age	Primary Condition	Baseline Regimen	Rationale for Nutrison Peptisorb Plus HEHP	Nutrison Peptisorb Plus regimen
1	М	60	Acute pancreatitis	Nutrison Peptisorb (1760ml) at 80ml/hr over ~24 hours	Meet nutritional requirements with a high energy, high protein peptide-based feed as the patient was unable to tolerate a high rate of feeding on a 1kcal/ml feed.	Nutrison Peptisorb Plus (1320ml) at 55ml/hr ov hours
2	F	26	Gastroparesis	Nutrison Protein Plus (1000ml) at 55ml/hr over 24 hours	Improve the patient's symptoms, compliance and tolerance	Nutrison Peptisorb Plus (1000ml) at 75ml/hr ov hours
3	Μ	20	Cerebral palsy	Blended diet (600ml), 4 x 150ml Vital® 1.5kcal (400ml) at 66ml/hr over 6 hours, Calogen (90ml) 3 x 30ml	Maintain or gain weight, maintain tolerance	Blended diet (600ml) 4 Nutrison Peptisorb Plus (400ml) 66ml/hr over Calogen (90ml) 3 x 30r
4	F	36	Gastroparesis	Nutrison Peptisorb (500ml) at 44ml/hr over ~11 hours, Fortisip Compact Protein 125ml	A more concentrated peptide-based high-energy, high-protein enteral tube feed was indicated to negate the need to take the extra oral sip feed.	Nutrison Peptisorb Plus (500ml) at 44ml/hr ove ~11 hours
5	Μ	68	Pancreatitis	Nutrison Concentrated (500ml) at 50ml/hr over 10 hours Fortisip Extra (200ml) 3 x per week	Increase nutritional intake through enteral tube feeding by using a high energy, high protein peptide-based feed.	Increased from 500ml/ 10 hours to 1000ml at 1 hr over 10 hours over the period

All products mentioned are Foods for Special Medical Purposes and must be used under medical supervision

HEHP	Tolerance as expected/better	Compliance as expected/better
HEHP er 24	Yes	Yes
HEHP er 13	Yes	Yes
x 150ml, HEHP 6 hours, hl	Yes	Yes
HEHP r	Yes	Yes
nr over DOml/ e study	Yes	Yes



CASE STUDY 1

A 60-YEAR-OLD MALE WITH SEVERE **ACUTE PANCREATITIS**

Provided by: Mary Phillips, Specialist Dietitian (Hepato-Pancreatico-Biliary Surgery) Team Lead, ICU, NST and HPB Dietetics

Royal Surrey County Hospital NHS Foundation Trust, Guildford

BACKGROUND

This 60-year-old male presented with abdominal pain, a fever, and was diagnosed with acute pancreatitis. He had three short admissions for symptom management before having a Hot AXIOS[™] Stent inserted to drain a pancreatic pseudocyst. His normal weight was 80kg, BMI 24.7kg/m² and at the point of referral, he weighed 75kg (6% weight loss in 6 weeks). He was referred to the Dietitian by his managing consultant due to poor oral intake on his third admission.

Initially, he was managed with oral nutritional supplements and pancreatic enzyme replacement therapy, but he continued to struggle to consume an adequate diet and lost more weight. Nutritional requirements were calculated on the initiation of feed using at the time 25-30kcal/kg (1807-2169kcal) and 0.2g Nitrogen/kg (14.5g Nitrogen, 90g protein). These were subsequently increased to 2350kcal, 90g protein as he became more active. Consequently, a nasojejunal (NJ) feeding tube was inserted. A NJ tube was selected due to delayed gastric emptying secondary to acute pancreatitis and the presence of the Hot AXIOS™ Stent forming a channel from his pancreatic pseudocyst into his stomach.

Feed commenced with Nutrison Peptisorb, a peptide-based feed which contains 1kcal/ml and 4g of protein per 100ml. The enteral feed was slowly increased to 1760ml (80ml/ hr x 24 hours; 1760kcal, 70.4g protein). The patient was only able to manage clear fluids and yoghurt orally and was unable to tolerate a higher rate of feed.

RATIONALE AND USE OF NUTRISON PEPTISORB PLUS HEHP

Pancreatic exocrine insufficiency (PEI) is common in acute pancreatitis, and difficult to detect due to the complexity of disease and prescription of medications that impact digestive function. Pancreatic pseudocysts cause structural damage to the pancreas, and Hot Axios[™] Stents divert pancreatic secretions into the stomach where pancreatic enzymes may be denatured by stomach acid. Due to the difficulty in detecting malabsorption, the severe impact of pancreatitis on nutritional status and the high incidence of PEI in patients with acute pancreatitis, peptide-based feeds are recommended as first-line treatment in the UK. In this case, the patient was unable to tolerate a high rate of feeding on a 1kcal/ml feed and was therefore not

able to meet his energy and protein requirements. A high energy, high nitrogen peptide-based feed was therefore indicated. Nutrison Peptisorb Plus HEHP was prescribed and tolerated at a rate of 55mls/hr x 24 hours (1320mls; 1980kcal, 99g protein).

RESULTS

The patient tolerated Nutrison Peptisorb Plus HEHP well and went home with his NJ feed. Attempts were made to increase the rate to allow a break period, but this was poorly tolerated, so the feed continued to run over 24 hours. Over the next 2 weeks, he slowly increased his oral intake initially with liquids, before introducing a fork mashable diet with pancreatic enzymes.

On day 18, his feed was reduced to an overnight feed (50mls/hr x 12 hours overnight, 600mls, 900kcal, 45g protein). His oral intake continued to improve, and his NJ tube was removed after 35 days of feeding. At this point, he was managing >2000kcal, 100g protein orally and had formed stool with no overt evidence of malabsorption. He was taking pancreatic enzymes (Nutrizym[®] 22, 3-4 capsules with meals and 2 with snacks). At the end of feeding his weight was 71.6kg; BMI 22.1kg/m², and he demonstrated significant functional improvement, being able to exercise and walk several miles. His blood sugar levels remained below 9mmol/l throughout.

Two months later, he underwent a laparoscopic cholecystectomy and has remained well since, slowly regaining his pre-morbid weight.

SUMMARY

This patient presented with malnutrition and delayed gastric emptying secondary to severe acute gallstone pancreatitis. He was unable to tolerate sufficient feed to meet his protein requirements with a 1kcal/ml feed. The provision of a high energy, high protein peptidebased feed allowed him to return home and maintain his nutritional status. Clinically, he made significant improvements and was able to recommence oral intake and wean off enteral feeding.

CASE STUDY 2

A 26-YEAR-OLD FEMALE WITH GASTROPARESIS

Provided by: Lisa Green **Clinical Lead Dietitian, Community Home Enteral Nutrition Team** Calderdale & Huddersfield NHS Foundation Trust, Huddersfield

BACKGROUND

A 26-year-old female recruited in the community was diagnosed with gastroparesis in 2017 following an investigation into the cause of malnutrition and history of severe gastric acid reflux. Following diagnosis, she was initially fed enterally via a nasojejunal tube. Her nutritional status improved, and she had a permanent jejunal enteral feeding tube later in the same year. Enteral feed tolerance was an issue due to the large volumes required to meet her nutritional needs.

Prior to joining the trial, her weight had been stable for 6 months at around 58kg and her BMI was within the healthy range at 20.1 kg/m². Nutritional requirements at the time of recruitment were: Energy 1647 to 1947 kcal/day and 58g to 87g protein/day.

The patient was eating small amounts of food and taking drinks orally. Baseline prescribed enteral regimen comprised of Nutrison Protein Plus (1000ml), a whole protein enteral tube feed which contains 1.26kcal/ml and 6.3g of protein per 100ml, fed continuously at 55ml/h. Compliance with the baseline regime did not become apparent until the patient participated in the trial. The patient complained of bloating when the enteral feed was given and was known to miss out days of feeding because of this.

RATIONALE AND USE OF NUTRISON PEPTISORB PLUS HEHP

The patient was initially prescribed a build-up regimen of Nutrison Peptisorb Plus HEHP at 75ml/h starting at 500ml and increasing to 1000ml - providing 1500kcal/ day and 75g protein/day. The patient struggled to increase the feed rate and volume, but it became apparent that the patient consistently had ≤500ml of their baseline regimen - therefore HEHP provided a nutritional advantage.

The dietetic goal for this patient was to reduce symptoms of bloating and improve tolerance more generally. The aim was to increase overall nutrient intake, the rationale being she would be able to eat more food orally if feeling less bloated.



RESULTS

The body weight at endpoint was 60kg and the patient's BMI was 20.8 kg/m². The patient attributed this gain to better absorption and increased oral intake. Tolerance and compliance to the regimen was good (average compliance = 100% when adjusted vs prescription).



SUMMARY

The dietetic goal was achieved. The initial concern was that the patient may lose weight and feel less nourished. However, with Nutrison Peptisorb Plus **HEHP** the patient's symptoms improved. Generally, she felt better on Nutrison Peptisorb Plus HEHP and therefore was able to eat more food orally. This was a positive and helped improve the patient's well-being. The patient felt less hungry on Nutrison Peptisorb **Plus HEHP** and reported less nausea and significantly less bloating. Symptom improvement allowed for more food intake orally.

Through the patient completing her own case report form/symptom diary, it was noted that she consistently had less volume of the previously prescribed regimen and was therefore not meeting her nutritional requirements. The 500ml volume of HEHP was therefore more acceptable to the patient and more nutritious.

CASE STUDY 3

A 20-YEAR OLD MALE WITH CEREBRAL PALSY

Provided by: Michelle Barry Specialist Home Enteral Feed Dietitian, Great Western Hospital (case study from previous role at Gloucester Royal Hospital)

BACKGROUND

The patient was a 20-year-old male with cerebral palsy and epilepsy residing in a community care home for residents with learning disabilities. He was diagnosed at birth and had historically struggled with weight maintenance due to feed intolerance (vomiting and inadequate feeding) as well as a history of severe malnutrition. The patient was nil by mouth (NBM) due to having an unsafe swallow and since 2015 had a baseline enteral feeding regimen providing 1936kcal/day and 66.3g protein/day (compared to nutritional requirements 1905kcal/day and 52g protein/ day at the time of recruitment).

The patient's regimen comprised 600ml blended diet fed bolus (4 x 150ml) to better manage reflux/vomiting and 400ml of a 1.5kcal/ml, 6.75g/protein per 100ml peptidebased formula (Abbott Vital® 1.5kcal) due to an intolerance of polymeric formula. In 2016, 90ml of Calogen® (3 x 30ml) was introduced due to severe weight loss. Tolerance and compliance to the above was very good.

RATIONALE AND USE OF NUTRISON PEPTISORB PLUS HEHP

While the patient was on the trial the aim was to maintain or gain weight – it was previously agreed that his goal weight was between 40kg and 45kg (ideally closer to 45kg but it was recognised this might not be realistic to achieve due to a history of volume intolerances). The aim was also to maintain tolerance to his feeding plan. Alongside 400ml of Nutrison Peptisorb Plus HEHP (administered overnight at 66ml/hr for 6hrs) the patient continued to have the 600ml blended diet (4x 150ml bolus feeds) and 90ml of Calogen[®] (3x 30ml). This provided a total daily intake of 1936kcal/day and 69.3g protein/day.

RESULTS

Throughout his participation period, the patient had 400ml of Nutrison Peptisorb Plus HEHP prescribed and administered every night. There were no changes made to his overall feeding plan during the study. At the end of the study, the patient had achieved a weight gain of 1.8kg. This was the highest weight the patient had ever been, and his parents and care home staff felt he looked really healthy. Tolerance to the above-mentioned feeding plan was very good and compliance was excellent (average compliance = 100% vs prescription).

The blended diet and Calogen® prescriptions remained the same which, along with the Nutrison Peptisorb Plus HEHP, provided a daily total intake of 1936kcal/day and 69.3g protein/day.

	Requirement	Baseline Intake	Endpoint Intake
Energy	1905	1936	1936
	kcal/day	kcal/day	kcal/day
Protein	52g	66.3g	69.3g
	protein/day	protein/day	protein/day



The patient continued on Nutrison Peptisorb Plus HEHP after completing the 28-day trial-period.

SUMMARY

The patient's carers and parents reported that his vomiting and retching reduced while on this feed and his bowel regularity and consistency remained normal. The patient was fully compliant, generally well and tolerated Nutrison Peptisorb Plus HEHP well. The dietetic goal was achieved as at the end of the 28-day trial period the patient was at the highest and healthiest weight he had ever been, and his parents were very pleased.

CASE STUDY 4

A 36-YEAR OLD FEMALE WITH GASTROPARESIS

Provided by: Sarah Brook Specialist Community Dietitian, Community Home Enteral Feeding Team Calderdale & Huddersfield NHS Foundation Trust, Huddersfield

BACKGROUND

A 36-year-old community-dwelling female was diagnosed with gastroparesis in 2014 when she was significantly underweight. She had no other significant co-morbidities and received a peptide-based enteral top-up feed since 2015 via a MIC-jejunostomy to support the achievement of an ideal body mass index (BMI). Goals of enteral nutrition prior to the trial were to continue to meet nutritional requirements and maintain weight whilst minimising nausea.

Oral intake was limited (estimated to be around 1000kcals, 30g protein/day) due to nausea secondary to gastroparesis. The current enteral top-up feed, Nutrison Peptisorb, contained 1kcal/ml, which meant a total pump feed duration of over 11 hours delivered whilst at work and upon return home, plus one Fortisip Compact Protein taken orally as tolerated to meet nutritional requirements.

RATIONALE AND USE OF NUTRISON PEPTISORB PLUS HEHP

The current peptide-based enteral tube feed, Nutrison Peptisorb, was well tolerated due to it being partially hydrolysed. However, because it was less concentrated, this necessitated an additional whole protein sip feed, Fortisip Compact Protein. This was ultimately satiating and prevented more enjoyment of normal foods. Therefore, the use of a more concentrated peptide-based high-energy, high-protein enteral tube feed was indicated to negate the need to take the extra oral sip feed, continue to achieve high levels of enteral tube feed tolerance and reduce overall enteral feed requirement.

The dietetic goals throughout the 4-week trial of the highenergy, high-protein peptide-based enteral tube feed were to:

- 1. Continue to provide equivalent amounts of calories and protein via enteral feed to support the achievement of nutritional requirements as evidenced by weight stability
- 2. Achieve good tolerance of top-up enteral feed
- 3. Improve the quality of life by reducing total enteral feed burden

RESULTS

Over the 4-week trial period of Nutrison Peptisorb Plus HEHP, almost identical percentages of enteral calorie and protein provision were achieved compared to baseline (see table). Furthermore, nutritional requirements were met, evidenced by weight stability.



	Requirement	Baseline Intake of enteral feed top up (inc. sip feed)	Endpoint Intake of enteral tube feed
Energy	1868 kcal/day	800 kcal/day	750 kcal/day
Percentage of total requirement		43%	40%
Protein	67g/day	38g/day	37.5g/day
Percentage of total requirement		57%	56%



Additionally, tolerance and compliance to **Nutrison Peptisorb** Plus HEHP was rated as excellent by the patient and she was relieved to not have to take the additional compact sip feed, thus overall enteral feed burden was reduced, and quality of life was improved.

SUMMARY

In summary, following the 4-week trial on the new Nutrison Peptisorb Plus HEHP, all dietetic goals were achieved. Weight was maintained, enteral tube feed was tolerated as expected and the patient was able to avoid having to take an additional sip feed in addition to her enteral tube feed due to the increased concentration of the new peptide-based feed, which increased her quality of life.

CASE STUDY 5

A 68-YEAR-OLD MALE WITH A PARTIAL **GASTRECTOMY, PANCREATITIS AND CHRONIC OBSTRUCTIVE PULMONARY DISEASE**

Provided by: Lisa Green

Clinical Lead Dietitian, Community Home Enteral Nutrition Team Calderdale & Huddersfield NHS Foundation Trust, Huddersfield

BACKGROUND

A 68-year-old male recruited from the community. Patient established at home on enteral tube feeding via balloon gastrostomy tube for many years. A longstanding history of malnutrition and lack of motivation to improve his nutritional status. Enteral feeding options had been limited due to the patient not taking more than 500ml volume of any enteral tube feeds.

Recent swallow assessment advised that he was at risk of aspirating on oral diet and fluids and therefore an increase in enteral feed was indicated. The patient was still eating chocolate mousse to enable him to swallow prescribed pancreatic enzymes.

RATIONALE AND USE OF NUTRISON PEPTISORB PLUS HEHP

To increase nutrition through enteral feeding due to change in ability to swallow and to do this without the need for pancreatic enzyme replacement therapy. The dietetic goals for the patient while taking Nutrison Peptisorb Plus HEHP were to:

- 1. Increase weight
- 2. Improve nutritional status
- 3. Assess if Nutrison Peptisorb Plus HEHP was tolerated without the need for pancreatic enzymes

RESULTS

After 28 days of consuming Nutrison Peptisorb Plus **HEHP**, the patient met his dietetic goals. This patient was motivated to participate in the trial to take Nutrison **Peptisorb Plus HEHP**. Results from his report form/diary showed daily compliance with Nutrison Peptisorb Plus **HEHP** and he did not need to take pancreatic enzymes. This concludes that he was able to digest the enteral feed due to its composition. Additionally, he gained significant weight during the trial period.



Finally, his nutritional intake vastly improved as he had more energy.

SUMMARY

The results for this patient were fantastic. What stood out more than anything else was his newfound motivation and responsibility to improve his nutritional intake. He was at a particularly low point having been told to remain nil by mouth and was worried about controlling his symptoms such as pain if unable to swallow pancreatic enzymes. The patient actually took more volume than was initially suggested as he felt in control, more energetic and motivated. He was even able to wean off some of his pain relief which he had been dependent on for more than 20 years.



NUTRISON PEPTISORB PLUS HEHP



Peptide-based, 100% whey protein



Readily absorbed MCT 60% of fat



Significant increase in energy and protein intake¹

References

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We extend our sincere thanks to those who participated in the trial and made it possible to bring this product to market.

Nutricia Advanced Medical Nutrition, Whitehorse Business Park, Trowbridge, Wiltshire, BA14 OXQ. Nutricia Medical, Deansgrange Business Park, Deansgrange, Co. Dublin.



High protein tube feed



Significant reduction in diarrhoea severity¹

NUTRICIA Nutrison Peptisorb Plus HEHP