



**FRESENIUS
KABI**

caring for life

Timely Tube Feeding

Because life matters



For Healthcare
Professionals only



Energy for life



- Nutrition delivers energy and nutrients for life, especially elderly patients have a high risk for an insufficient energy and nutrient supply^{2,3}
- The risk increases in elderly patients with an acute or chronic illness^{2,3}
- As a consequence, they can lose body weight resulting in a further deterioration of their health status^{4,5}
- Not all conditions allow patients to meet their nutritional needs orally⁶

Tube Feeding: Why and when?



- If oral intake is not possible or sufficient, tube feeding can help to give patients energy and nutrients they need¹
- The guideline states EN shall start early to improve or maintain patient's condition and quality of life¹
- A close relation between malnutrition and poor outcome, e.g. increased rates of infections, pressure ulcers, length of hospital stay, duration of convalescence after acute illness and mortality is well-documented in older persons¹



ESPEN Guidelines on Clinical Nutrition and Hydration in Geriatrics¹



Aim: Evidence-based recommendations for the nutritional management of older patients with or at risk of malnutrition

- ▶ to meet nutritional requirements and thus to maintain or improve nutritional status



Intention: Maintenance or improvement of function, activity, capacity for rehabilitation and quality of life, support of independence and a reduction of morbidity and mortality¹

Which geriatric patients can benefit?



- Patients after stroke with severe problems to swallow food and fluids safely⁷
- Oncology patients e.g. due to treatment side effects like nausea or mucositis e.g. head and neck oncology⁸
- Undernourished geriatric patients⁴
- Patients with acute illness or exacerbation of a current condition resulting in aspiration pneumonia⁹
- Hospital admission, fluctuating NBM, GCS, polymorbid medical patients¹⁰



In general: Early tube feeding is indicated in patients with reasonable prognosis with a defined timeline and justification in order to meet nutritional requirements and maintain or improve nutritional status.

Early tube feeding matters!

The **ESPEN Guidelines on Clinical Nutrition and Hydration 2018** offer a clear and easy definition about the ...



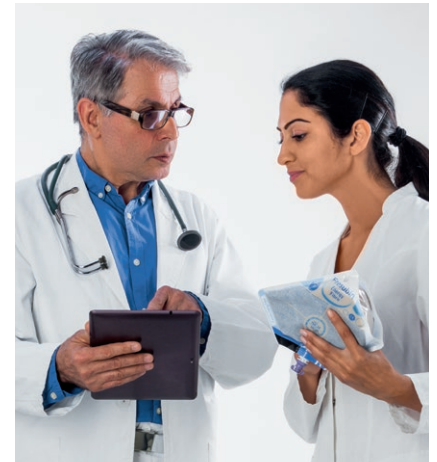
... when ...

- If oral intake is expected to be impossible for **more than 3 days** (Rec. 29)
OR oral intake is expected to be **less than 50%** of energy requirements for **more than 1 week** (Rec. 29)
- In older patients with malnutrition, EN shall start early; shall be **gradually increased during the first 3 days** in order to avoid refeeding syndrome (Rec. 39)



... and how ...

- Older patients who require EN presumably for **less than four weeks** should receive a nasogastric tube (NGT) (Rec. 33)
- Older patients expected to **require EN for more than 4 weeks** or who do not want or tolerate a nasogastric tube should receive a percutaneous gastrostomy (PEG) (Rec. 34)
- Tube-fed patients shall be encouraged **to maintain oral intake** as far as safely possible (Rec. 35)



... and what?

Increase nutrition support gradually during the first 3 days

- **Energy:** With 30 kcal/kg/BW/day (Rec. 1)
- **Protein:** At least 1 g/kg/BW/day (Rec. 2)
- For EN, **fibre-containing** products should be used* (Rec. 3)

A good nutritional status in combination with physical activity can



Preserve muscle mass and maintain/improve functional status¹¹



Improve wound healing¹²



Enhance quality of life through improving nutritional status, e.g. better progress in rehabilitation and recovery (possibly resulting in early hospital discharge), better ability to carry out activities of daily living¹³

*unless contraindicated, **BW:** Body weight, **EN:** Enteral nutrition

Find out how early tube feeding can support patients



Tube feeding due to aspiration pneumonia



Clinical summary

Presentation/clinical history

Mrs C, 70 years, housewife, current weight 55.4 kg (BMI: 21.1 kg/m²)

- Symptoms before admission: Confusion, lethargy, shortness of breath
- Diagnosis: Chest infection and exacerbation of COPD and possible aspiration pneumonia, commenced I.V. antibiotics
- Nutritional screening and poor oral intake indicates high nutritional risk

Enteral nutritional support should commence early to minimise malnutrition risk¹⁴

Mrs C received a tube feeding intervention. Within three days she was able to meet her full nutritional requirements.



Outcome

At discharge, 2 weeks after start of enteral tube feeding:

- Increased weight, stable at 56.8 kg with BMI in healthy range

Short-term nasogastric tube feeding with Fresubin Energy Fibre aided Mrs C to meet her nutritional requirements. With a good nutritional status, she was discharged independently on a texture modified diet after recovery from aspiration pneumonia.

Motivate your patients to engage in physical activity



Weight loss is often accompanied by a considerable loss of muscle mass and strength



Find out about the Fresenius Kabi physical activity program for mobile and immobile patients



Different needs – different products

Patients are as different as their requirements. This is also true from a nutritional point of view. In order to meet the various needs of patients, Fresenius has developed a broad range of enteral nutrition tube feeding products.

For patients with or at risk of disease-related malnutrition:

with a normal metabolism

Fresubin Original
Fresubin Original Fibre



- 1.0kcal/ml
- Starter tube feed to build up a nutrition regimen
- High-quality protein
- Fibre-free/with fibre

Fresubin Energy
Fresubin Energy Fibre



- 1.5kcal/ml
- In particular for patients with increased energy needs and/or fluid restrictions
- Long-term tube feed
- Fibre-free/with fibre

with fat malabsorption

Fresubin HP Energy
Fresubin HP Energy Fibre



- 1.5kcal/ml
- Optimal GI tolerance due to high MCT
- In particular for catabolic patients with increased energy and protein needs and/or fluid restrictions
- High protein content (20 energy% = 7.5g/100 ml)
- Low viscosity for easy application
- Fibre-free/with fibre

with low volume tolerance

Fresubin 2 kcal HP
Fresubin 2 kcal HP Fibre



- 2.0kcal/ml
- Low-volume solution
- In particular for patients with increased energy and protein needs and/or fluid restrictions
- Highest protein content (10g/100 ml) among standard tube feeds
- Fibre-free/with fibre

with cow's milk protein allergy

Fresubin Soya Fibre



- 1.0kcal/ml
- Milk-free solution
- Suitable for patients with lactose intolerance and those with galactosemia
- With fibre



Complete nutrition in only one bag per day

with increased protein and reduced energy requirement

Fresubin 1000 Complete



- 1.0 kcal/ml
- High in protein (5.5 g/100 ml)
- Contains vitamins, minerals and trace elements in 1000 kcal to meet demand
- Low in lactose, gluten-free
- With fibre

Normo-caloric tube feed high in protein for complete nutrition in 1000 kcal/day

Fresubin 1200 Complete



- 1.2 kcal/ml
- High in protein (6.0 g/100 ml)
- Contains vitamins, minerals and trace elements in 1200 kcal to meet demand
- Low in lactose, gluten-free
- With fibre

High-caloric tube feed high in protein for complete nutrition in 1200 kcal/day

with normal energy requirement

Fresubin 1500 Complete



- 1.0 kcal/ml
- Contains vitamins, minerals and trace elements in 1500 kcal to meet demand
- Low in lactose, gluten-free
- With fibre

Normo-caloric tube feed for complete nutrition in 1500 kcal/day

with increased protein and medium energy requirement

Fresubin 1800 Complete



- 1.2 kcal/ml
- High in protein (6.0 g/100 ml)
- Contains vitamins, minerals and trace elements in 1800 kcal to meet demand
- Low in lactose, gluten-free
- With fibre

High-caloric tube feed high in protein for complete nutrition in 1800 kcal/day

with increased energy requirement and limited fluid tolerance

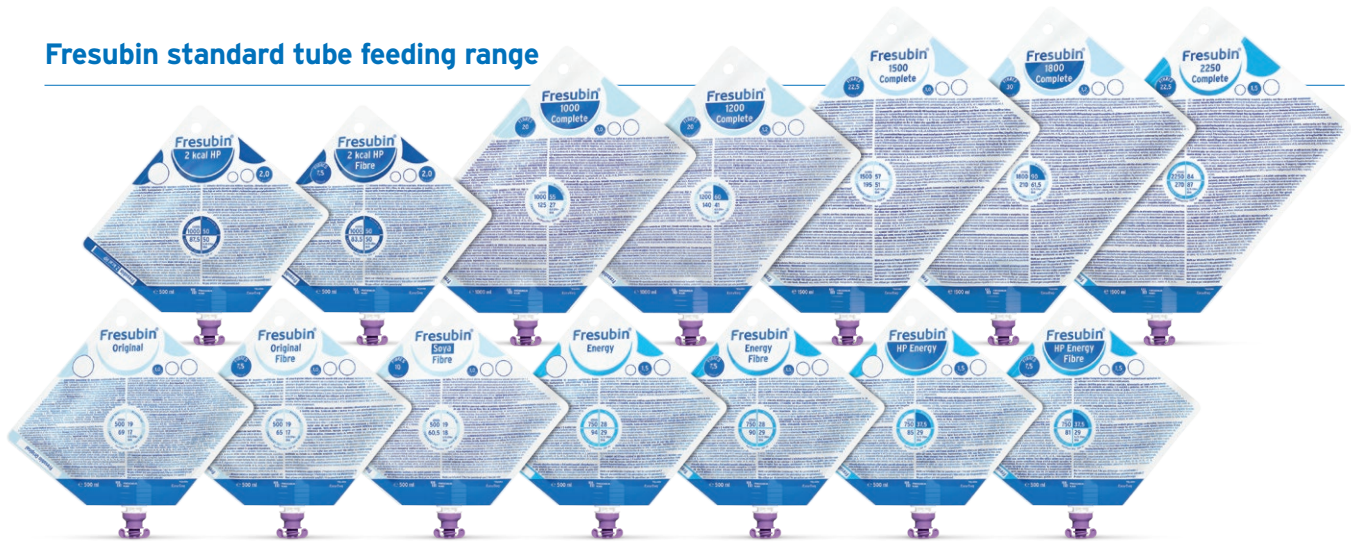
Fresubin 2250 Complete



- 1.5 kcal/ml
- Contains vitamins, minerals and trace elements in 2250 kcal to meet demand
- Low in lactose, gluten-free
- With fibre

High-caloric tube feed for complete nutrition in 2250 kcal/day

Fresubin standard tube feeding range



The Fresubin standard tube feeding range at a glance



Fish oil

- Delivers long-chain fatty acids EPA and DHA in recommended daily intake amounts¹⁵
- To provide a balanced lipid profile¹⁵



High-quality protein blend

- Provides a high proportion of essential amino acids and also leucine with high digestibility and bioavailability¹⁶
- Non-dairy alternatives with soy protein - for patients with intolerances, allergies or dietary preferences



Fibre blend

- Fibre-enriched versions for all conditions in which fibre is normally tolerated
- Contains a combination of soluble/insoluble and fermentable/non-fermentable components

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