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Bolus technique

The first direct bolus feeding technique

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1 OUT OF 3 OF HOME ENTERAL NUTRITION PATIENTS USE BOLUS FEEDING[1]

The home enteral nutrition (HEN) patients present[1-4]

30% - 70%	**neurological** conditions (neurovascular or neurodegenerative);
10% - 50%	**oncological** diseases (mainly tumors of head & neck and esophagus, patients are significantly more active and lived at home);
10% - 15%	**gastrointestinal** disorders.

Recent clinical evidences suggest that bolus administration is becoming more widespread, especially in long-term home use settings and in particular patients, for the following advantages[5-8]:

- Reproduces daily routine
- Less psychological impact
- More satisfaction and acceptance of enteral nutrition
- More flexibility to use
- Feeding speed
- More mobility and freedom of action
- Better overall quality of life

ESPEN GUIDELINES ON HOME ENTERAL NUTRITION CONFIRM HEN'S ADEQUACY THROUGH BOLUS[9]

"**Combination methods** (for example, continuous administration during the night and with boluses during the day) **can help the patients to be more independent**, reaching their nutritional needs while satisfying personal lifestyle preferences."

"Bolus or intermittent continuous or continuous infusion through a pump may be used depending on clinical need, safety and level of precision required."

"**Bolus infusion procedure** requires the division of total feed volume into four to six feeds throughout the day. The infusion volume is typically between 200 and 400 mL of feed administered over a 15e60-minute period, depending on the patient's nutrient needs and tolerance."

"HEN administration methods must be chosen by a **multidisciplinary team**, considering the underlying disease, the type of probe, the tolerance to nutritional support and the patient's preferences."

"There is no evidence that bolus administration predisposes to diarrhea, intestinal swelling or pulmonary aspiration compared to continuous administration.[10]"

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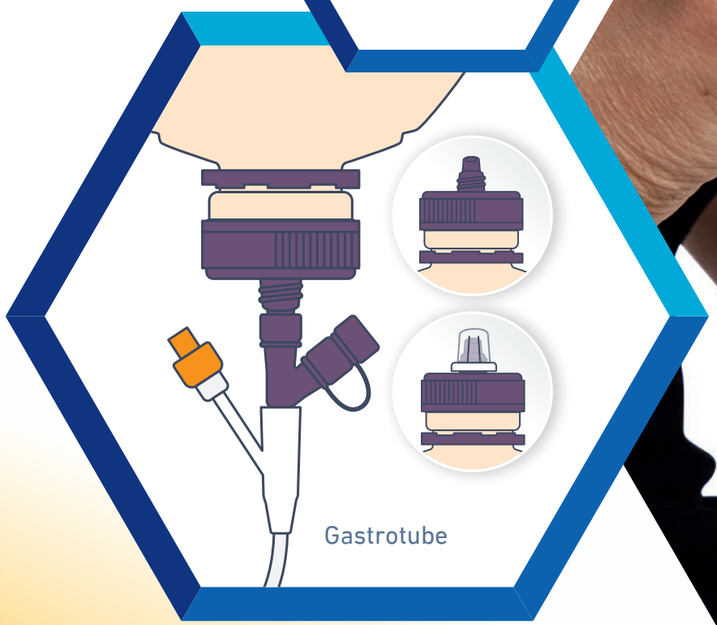
DESIGNED FOR PATIENTS AND CAREGIVERS



INNOVATIVE

Unique direct bolus feeding

EASY TO USE

Comfortable with Smartflex™ ergonomic design, simple to administer

PORTABILITY

Easier to use in any location, even outside the home.

CLEANLINESS

ENFit for safe conncetion with feeding tube

SAFETY

Reduced contamination risk vs syringe bolus feeding

QUALITY OF LIFE

More opportunities for involvement and social interaction

NUTRITIONAL QUALITY

Commercial formulas for bolus feeding offer more significant guarantees regarding nutritional quality compare to **homemade blenderized** often used and sometimes preferred by non-hospitalized patients (who wish to eat in a more «natural» and family-like way).[8-11]

HEN with commercial formulas provides a **higher content of protein, fat, fiber, carbohydrate and energy** compared to homemade preparations[12]

Homemade blends allow obtaining **less than 50% of the prescribed values of energy and macronutrients** (except fats).[12-13] In **commercial formulas protein, energy and fat contents** corresponded to what were needed.[12-13]

CLINICAL OUTCOMES

The nutritional quality of commercial formulas vs home blenderized feeds for bolus feeding led to better **outcomes** in maintaining **body weight** (BMI) and **fat free mass**, indicating that HEN was able to counteract the increased catabolism associated with the disease and treatments.[14-15]

MICROBIOLOGICAL SAFETY

Direct enteral feeding system, with commercial formulas ready to use through bolus, reduced contamination risk vs syringe bolus feeding, in line with adequate quality/safety standards.[12]

The lower microbiological quality of homogenized homemade blends or syringe system was related to the greater **risk of contamination associated with the more extensive handling** of food necessary for their preparation.[12]

PHARMACOECONOMIC SAVING

The reduced contamination risk of commercial formulas vs home blenderized feeds for bolus feeding is related to **lower infection rates and hospitalization costs**.[16-19]

The use of commercial formulas for HEN and bolus system as well as the specialized care by HEN team **reduced the incidence of infectious complications** such as pneumonia and urinary tract infections.[16-19]

In terms of economic saving a significant reduction in ordinary hospitalizations and length of stay is associated to HEN with commercial formulas.[16-19]

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