

Trends and Challenges in Home Enteral Feeding Methods for Children with Gastrointestinal Disorders: an Expert Review on Bolus Feeding Delivery Methods*

HOME ENTERAL NUTRITION (HEN)

Increase in the number of patients candidates for long-term EN at home, known as Home Enteral Nutrition (HEN) therapy.

HEN is an easy-to-administer, quantifiable, and safe nutritional support.

Increase due to

Recent advances in percutaneous endoscopic gastrostomy techniques
Shift to more cost-effective community-based care
Preferred option for children and their families
The growing interest in mixed diets

ACCESS DEVICES FOR HEN

Nasogastric (NG) tubes

short-term enteral feeding option, effective and easy, they carry a risk of obstruction and aspiration.

Gastrostomy tubes (G-tubes)

long-term use, more flexibility in daily activity and pose a lower risk of aspiration than NG tubes.

Percutaneous endoscopic gastrostomy (PEG) or jejunostomy (PEJ)

more effective than NG tubes: reduced risk of tube dislocation, postoperative wound infection, and intervention failure.

- PEG is the preferred access approach for children requiring long-term feeding
- Better quality of life
- Improved anthropometric measures and nutritional status
- Satisfaction and improved quality of life in children and caregivers

FEEDING METHODS FOR HEN

Continuous

continuous delivery of a predefined amount of formula over a period of time, typically 24 hours, via a pump.

Intermittent

small amounts of feed are cyclically released, typically every few hours via an automatic portable pump or gravity.

However, **intermittent pump feeding** does not fully resemble normal feeding patterns and may present certain limitations for mobile, restless patients.

Bolus feeding

allows the administration of a given amount of food at specific intervals (usually 3–6 times per day) for short periods (each 4–10 minutes).

 **Growing trend**

BENEFITS OF BOLUS FEEDING

- ✓ Similar to physiological eating habits.
- ✓ Can be easily performed at home, promoting patient mobility and independence.
- ✓ Stimulates a physiological pattern of GI hormone release, GI development, and protein accumulation and positively impacts biological rhythms, body composition, and metabolic response.
- ✓ Ease of administration via syringe or pump.

The use of bolus feeding in HEN has attracted **growing interest quick and easy-to-use** enteral feeding method.

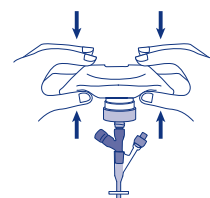
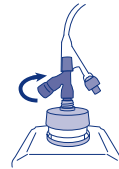
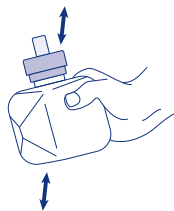
However, **there are several limitations for bolus delivery methods**, particularly for active children.

Risk of malnutrition

Technical and social challenges

Increase the risk of feed contamination

NEW CAP-BASED BOLUS FEEDING SYSTEM SIMPLINK™



Syringe Feeding pump

Simplink™

 Requires significant caregiver involvement and careful handling of equipment and formula.	Connects the enteral formula directly to the feeding tube without the need for a syringe or other adapted equipment. Eliminating the need to reuse equipment.
 Requires a level of dexterity and strength.	Connects the enteral formula directly to the feeding tube. Reducing preparation, feeding time and formula handling.
 Most common side effects is diarrhea.	Many GI symptoms, such as diarrhea and constipation , are better controlled .
 Higher risk of contamination.	Minimize the risk of contamination.
 Increased risk of malnutrition if feeds are rushed or skipped due to time constraints or caregiver discomfort.	Reduce overall time required to prepare and administer feed.
 Patients are less mobile.	Improve patient autonomy and mobility.

- Compatible with current nutritional devices via a secure ENFit® connection : Enable a secure connection and avoid the risk of spillage in restless or active patients.
- Reduce the stress of maintaining a regular feeding routine.
- Easy-to-use and user-friendly nutritional care systems can be extremely useful for these caregivers, giving them more time for rehabilitation and social and family activities with other relatives and siblings.
- Could become the method of choice for clinically stable patients who need to access EN in work and school contexts.
- From a metabolic point of view, the Simplink™ system may help for a better insulinemic and glycemic response comparable to that after an oral meal.
- Allow for uninterrupted activity/rehabilitation sessions.

SIMPLINK™

