

# Intermittent bolus versus continuous feeding in children receiving an enteral formula with food derived ingredients:

## *A multicentre retrospective study<sup>1</sup>*



The inclusion of familiar food ingredients in enteral feeding improves the QoL and general well-being of patients and their caregivers, creating a sense of togetherness with their family members.<sup>2</sup>

The administration of feed through an enteral feeding tube as a series of smaller volume feeds given at regular intervals, referred to as bolus feeding, may help improve the patient's tolerance to feed and achieve their nutritional goals.

## Introduction

Clinical manifestations of **enteral feeding intolerance**, such as abdominal distension, bloating, and nausea, are some of the complications that can occur in patients. The frequency of diarrhoea in enteral fed patients ranges from 29% to 72%.<sup>3-4</sup>



**Continuous feeding**  
is associated with<sup>5,6</sup>:

- ➔ ENERGY EFFICIENCY
- ➔ DUODENAL MOTOR FUNCTION
- ➔ OPTIMAL NUTRIENT ABSORPTION
- ➔ SPLANCHNIC OXYGENATION



**Intermittent bolus feeding**  
supports<sup>5,6</sup>:

- ➔ MORE PHYSIOLOGICAL RELEASE PATTERN OF GASTROINTESTINAL TRACT HORMONES
- ➔ GASTROINTESTINAL TRACT DEVELOPMENT
- ➔ PROTEIN ACCRETION

Intermittent bolus feeding provides increased flexibility for parents or carers and is better suited for children who are mobile and want less time connected to a feeding pump.

## A Retrospective, Multi-Centre Trial



43 children from 1 to 17 years old



Enteral feeding accounted for at least 80% of their total energy requirements



At least **1 month trial**  
on new enteral formula  
**Compleat<sup>®</sup> Paediatric bolus**



# Results

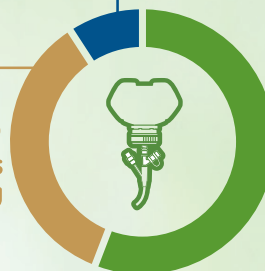
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## Feeding mode



**81%**  
on a  
gastrostomy  
feeding tube

**35%**  
on continuous  
feeding



**9%**  
on combined  
feeding

**56%**  
on intermittent  
bolus feeding

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## Gastrointestinal symptoms

**Reported improvement** in gastrointestinal symptoms after switching to an enteral formula with food ingredients in relation to mode of feeding.

GASTROINTESTINAL SYMPTOM	INTERMITTENT BOLUS	CONTINUOUS	COMBINATION
Vomiting	7 (85.71%)	3 (100%)	2 (100%)
Retching	11 (72.73%)	7 (100%)	2 (100%)
Abdominal pain	3 (66.67%)	2 (100%)	1 (100%)
Loose stool	6 (83.33%)	5 (100%)	0 (0%)
Constipation	8 (75%)	4 (75%)	1 (0%)

- ✓ Both intermittent and continuous feeding help improving gastrointestinal symptoms when switching to food-derived enteral formula.
- ✓ Children who were fed with intermittent bolus reported the greatest increase in weight
- ✓ Intermittent bolus feeding could be considered as suitable enteral feeding option to achieve patients' nutritional goals

# Conclusion

**This retrospective study demonstrates that an enteral formula with food-derived ingredients is well tolerated whether delivered continuously or as a bolus feed and supports achieving patients' nutritional goals.**



## References:

1. Graeme O'Connor, Zoltan Hartfiel-Capriles, Sharan Saduera. Intermittent bolus versus continuous feeding in children receiving an enteral formula with food derived ingredients: A national multicentre retrospective study. Clinical Nutrition ESPEN 54. (2023) 175-179; 2. Phillips G. Patient and carer experience of blended diet via gastrostomy: a qualitative study. J Hum Nutr Diet. 2019;32(3):391-9; 3. Lordani CR, Eckert RG, Tozetto AG, Lordani TV, Duarte PA. The knowledge of intensive care professionals about diarrhea. Rev Bras Ter Intensiva 2014;26(3): 299e304; 4. Yagmurdu H, Leblebici F. Enteral nutrition preference in critical care: fibre- enriched or fibre-free? Asia Pac J Clin Nutr 2016;25(4):740e6; 5. El-KadiSW,SuryawanA,GazzaneoMC,SrivastavaN,OrellanaRA,NguyenHV, et al. Anabolic signaling and protein deposition are enhanced by intermittent compared with continuous feeding in skeletal muscle of neonates. Am J Physiol Endocrinol Metabol 2012;302(6):E674e86. 6. Krom H, de Winter JP, Kindermann A. Development, prevention, and treat- ment of feeding tube dependency. Eur J Pediatr 2017;176(6):683e8.