

**AuSPEN**

Australasian Society of Parenteral  
and Enteral Nutrition

# Blended tube feeding in enteral feeding: Consensus Statement



[admin@auspen.org.au](mailto:admin@auspen.org.au)

1300 560 299 (within AUS) or +613 5975 5266 (outside AUS)

21, 33 Milgate Drive, Mornington, Vic, 3931

[www.auspen.org.au](http://www.auspen.org.au)

## Purpose

The purpose of this statement is to:

Provide support to dietitians and health professionals who treat patients (children and adults) with enteral blended tube feeds (BTF) by summarising the current research and expert clinical consensus.

## Disclaimer

Health professionals will hopefully find this consensus statement useful in their patient care, however, responsibility for clinical care lies with the health professionals. This consensus statement may not apply in all situations, and individual patient or site characteristics need to be considered.

This consensus statement should not be used as a substitute for a health professional's informed clinical judgment with respect to the appropriate manner to treat an individual patient, and no responsibility can be accepted by either the authors of the guidelines or AuSPEN for any lack of benefit or harm that occurs when following the guidelines.

## How was this consensus statement created?

A panel of experts including dietitians, nurses and gastroenterologists. A systematic review of the evidence on BTF was completed to begin the grading process.

**The evidence was graded using two guidelines:**

- The NHMRC Levels of Evidence (2009, [https://www.nhmrc.gov.au/sites/default/files/images/NHMRC%20Levels%20and%20Grades%20\(2009\).pdf](https://www.nhmrc.gov.au/sites/default/files/images/NHMRC%20Levels%20and%20Grades%20(2009).pdf))
- The ADA method of analysis (2003, [https://www.andeal.org/files/ADA%20Evidence%20Analysis%20Manual\\_ed3c%20Nov%202005.pdf](https://www.andeal.org/files/ADA%20Evidence%20Analysis%20Manual_ed3c%20Nov%202005.pdf))

This committee used the DELPHI process to come to a group consensus after all the evidence was graded. Voting was anonymous, collected and collated by the two co-chairs of the group which formulated the consensus statements.

## This consensus document was developed by the following members of the working group

- **Ms Claire Reilly**, Senior Paediatric Dietitian, Queensland Children's Hospital, Brisbane, Queensland, Australia (Co-chair)
- **Miss Nicole Ross**, Assistant Director Nutrition and Food Services (Children's Services), Gold Coast University Hospital, Gold Coast, Queensland, Australia (Co-chair)
- **Dr Usha Krishnan**, MBBS; FRACP, Paediatric Gastroenterologist, Sydney Children's Hospital, Randwick, Sydney, Conjoint Senior Lecturer, University Of New South Wales, New South Wales, Australia
- **Dr Jason Yap**, BHB MBChB FRACP Paediatric Gastroenterologist and Associate Professor of Paediatrics, The Royal Children's Hospital, Melbourne, Australia
- **Mrs Stacey Watene**, Paediatric Dietitian, Gold Coast University Hospital, Gold Coast, Queensland, Australia
- **Mrs Joen Mason**, Senior Paediatric Dietitian, Dietetic Clinical Coordinator, MidCentral District Health Board, Palmerston North, New Zealand
- **Mrs Rachel Lindeback**, Senior Paediatric Dietitian, St George Hospital, Sydney New South Wales, Australia
- **Mrs Rachael Martin**, Paediatric Dietitian, Royal Children's Hospital, Melbourne, Victoria, Australia
- **Ms Kelly Josh**, Senior Paediatric Dietitian, Perth Children's Hospital, Perth, Western Australia
- **Mrs Jenna Riley**, Clinical Dietitian (HEN co-ordinator), Peninsula Health, Victoria, Australia
- **Mrs Fiona Arrowsmith**, Paediatric Dietitian, The Children's Hospital, Westmead, New South Wales, Australia
- **Miss Rebecca Gurr**, Paediatric Dietitian, Christchurch Hospital, Christchurch, New Zealand
- **Mrs Karman Liu**, Paediatric Dietitian, Royal Children's Hospital, Melbourne, Victoria, Australia
- **Mrs Keryn Coster**, Paediatric Dietitian, Royal Children's Hospital, Melbourne, Victoria, Australia
- **Miss Shani Drake**, Clinical Adult Dietitian, Peter MacCallum Cancer Centre, Melbourne, Victoria, Australia
- **Miss Kelly-Anne Ince**, Clinical Nurse Consultant Paediatric Nurse Navigator (Paediatric Gastrostomy Clinic Nurse), Gold Coast University Hospital, Gold Coast, Queensland, Australia
- **Miss Louise Webley**, Adult Dietitian, Gold Coast University Hospital, Gold Coast, Queensland, Australia
- **Miss Neha Chandrasekar**, Medical Student, University of New South Wales, Australia

## Consensus Statements

**1.** The essential members of the multidisciplinary team for recommendation of BTF in children and adults should at the very minimum include a gastroenterologist or other physician involved in regular care of the patient, a dietitian and the patient or patients family/care givers.

**2.** There are many considerations when determining patient suitability for use of BTF, however given lack of high-quality evidence, caution and clinical judgement should be applied for people who:

- Require continuous feeds - home-made BTF are non-sterile, and thus have short hang times to avoid risks of contamination and food borne illness. Thus, they are unable to be used as a continuous feed. In addition, many BTF are too viscous to pass through a feeding pump.
- Have a jejunostomy – See relevant position statement for further detail.
- Are on a fluid restriction – BTF are often provided in larger fluid volumes than commercial formulas.
- Have certain medical conditions e.g. metabolic disorders or multiple food allergies – This is due to difficulty in providing a diet that is adequate in the context of multiple food/nutrient exclusions.
- Have a high risk of infection – Non-commercial BTF ( homemade BTF) are non-sterile, and thus expose children to a higher microbial load than HACCP approved commercial formulas.

**3.** BTF may provide some benefits to the patient, including improved feeding tolerance and patient and caregiver quality of life and satisfaction.

**4.** The potential disadvantages of BTF may include:

- Impaired growth in children and malnutrition in adults if BTF is not monitored by an experienced dietitian.
- Gastrostomy tube blockages due to increased viscosity of BTF.
- The associated time burden, as BTF's require additional preparation time to commercial formulas.
- The requirement of a high-powered blender.
- The potential for infection risk due to contamination.

**5.** It is recommended the following dietitian monitoring timeframes for patients using BTF

Paediatric and adult patients:  
Initiation of BTF: 1-3 monthly  
Stable on BTF: 6 monthly

**6.** It is recommended to consider the following when recommending, preparing and administering BTF's:

**i. BTF's can be considered for patients who:**

- Are over 12 months of age.
- Have motivated caregivers who are aware of risks associated with BTF and are willing to work with the dietitian to ensure adequacy of BTF.
- Have a mature and healed stoma site.
- Have a low infection risk – Most BTF are non-sterile (unless commercially prepared and HACCP approved), and thus pose an increased risk of food borne illness.

**ii. Caution and clinical judgement should be used in implementing BTF for patients who:**

- Are medically unstable.
- Have a small feeding tube (<14fr).
- Have poor growth.

**iii. The following points are in line with current literature for the safe preparation and administration of BTF.**

- Parents/carers/patients need the ability to follow a BTF recipe and regular dietitian reviews to ensure macronutrient, micronutrient, and caloric adequacy.
- Parents/ carers/patients need the ability to follow appropriate food preparation and food handling.
- Administration of BTF to infants <6 months is discouraged in line with general recommendations on starting solids.
- Adding cow's milk to the BTF is discouraged for in infants <6 months, in line with general recommendations by Australian Guide to Healthy Eating and The NZ guide to healthy eating.
- Parents/carers need to have the appropriate equipment, storage space, kitchen, fridge and freezer to safely prepare BTF.
- Parents/carers need to consider the risk of food allergy with BTF – e.g., introducing foods in BTF that may cause an allergenic reaction.
- Viscosity – need to consider the adjusting of the nutritional profile of commercial BTF if they require the addition of water to thin out.
- BTF must be prepared using safe food handling techniques and stored in a refrigerator immediately after preparation. Discard any unused BTF after 24hrs.
- The hang time of BTF at room temperature should be <2hrs.
- Administration of BTF as a bolus feed via a syringe as a push method should be possible, with caution taken on the viscosity of the BTF.
- Administration of BTF is recommended via a bolus feed, it is not well suited to a feeding pump due to risk of bacterial growth and potential tube clogs.
- Sanitise all mechanical equipment (e.g., blenders) used in preparing BTF after each use appropriately.

**7.** The following information should be given to parents/patients prior to and after the commencement of BTF.

- Food safety information for preparing BTF
- A list of recommended equipment required for BTF
- Information on the variety of commercial BTF available
- Information on the risks involved with BTF (e.g., tube blockages)
- If available, support group information available for patients and families e.g.:
  - Oley Foundation - <https://oley.org/>
  - Feeding Tube Awareness Foundation <http://www.feedingtubeawareness.org/Blenderized-Diet.html>
- A copy of an intended use statement for parents/carers to sign if they wish to use BTF as an inpatient in their local hospital (if available)
- The Australian Guide to Healthy Eating (to be discussed with patient/parent and Dietitian) as a base of recipes: <https://www.eatforhealth.gov.au/eating-well/healthy-eating-throughout-all-life/healthy-eating-infants-children-and-teenagers>
- The New Zealand Food and Nutrition Guidelines <https://www.health.govt.nz/our-work/eating-and-activity-guidelines/current-food-and-nutrition-guidelines>

**8.** Consensus opinion is that BTF can be used as a sole source of nutrition provided the patient is able to maintain nutritional status (and growth in children) and the recipes used meet all nutritional requirements and the patient is regularly monitored by a dietitian.

**9.** Consensus opinion is that non-sterile BTF should not be administered into the jejunum due to microbial concerns, absorption capacity and limitations with jejunal feeding.

## Acknowledgements

Ms Julia Fox for her help, support, and guidance in the completion of this document.

**AuSPEN**

Australasian Society of Parenteral  
and Enteral Nutrition

[admin@auspen.org.au](mailto:admin@auspen.org.au)

1300 560 299 (within AUS) or +613 5975 5266 (outside AUS)

21, 33 Milgate Drive, Mornington, Vic, 3931

[www.auspen.org.au](http://www.auspen.org.au)

