Blenderized Tube Feeding for Patients with Head and Neck Cancer: Fact Sheet

Overview: Head and Neck Cancer

- Head and neck cancer includes malignant tumors in or around the throat, larynx, nose, sinuses, and mouth.
- This patient population often needs surgery, chemotherapy, and/or radiation therapy.
- Cancer and the treatment modalities have significant nutritional impact causing difficulty to maintain nutritional status and sometimes requires tube feeding.

Nutritional Goals^{1,2}

- · Maximize nutrition intake (oral and tube)
- Prevent/limit weight loss and preserve lean body mass
- Minimize treatment delays and help improve treatment outcomes
- Weight maintenance during transition from enteral nutrition (EN)
- Increased physical activity

Recommended Nutrient Supply for Patients with Cancer²

Energy	Protein
(kcal/kg/day)	(g/kg/day)
25-30	1.0-1.5

Caloric requirements may increase to 35-40 kcal/kg during and right after chemoradiation therapy.³

Nutrition Interventions and Support: When and How to Implement?²

- Provide nutrition counseling and oral nutrition supplements
- Consider EN if oral intake <60% of estimated energy needs for 10+ days
- Place prophylactic or reactive feeding tube and initiate EN
- Insert PEG when enteral is expected more than 3-4 weeks

Bolus⁴

- 1st Feeding: 120-237mL
- Increase similar volumes every 3-4 hours as tolerated, up to the goal volume.

Continuous

- Start at full strength, begin at 25-30 mL/hr.
- Advance as tolerated in increments of 20-30 mL/hr every 4-8 hours until the goal volume is achieved.

What is Blenderized Tube Feeding (BTF) Formula?

ASPEN Definition: Homemade BTFs are made from whole foods and usually prepared using a meal plan or recipe. There are also commercially available blenderized feeding formulas.⁴





Potential Benefits of EN Support with Blenderized Tube Feeding Formula (BTF)

	Improved Weight Gain	BTF was found to be safe and effective in promoting weight gain in adult participants. ⁵
	Nausea/Vomiting	Emerging body of evidence suggests that BTF can be tolerated, with less nausea/vomiting than studied formulas. ⁶
	Bowel Regularity	Research suggests that BTF may help regulate normal bowel function. ^{6,7}
111/	Increased Oral Intake	Advantages of BTF include improved oral intake. ⁶
	Reflux	Increased viscosity of BTF may aid with reflux.8

Key Takeaways

- Patients with head and neck cancer often need enteral nutrition support.
- · Patients may require tube feeding during and after treatment.
- BTF has been shown to minimize GI symptoms usually associated with tube feeding, provide adequate nutrients, and may improve quality of life.
- BTF can be home blended, baby food based, or commercially prepared.

Healthcare providers, especially dietitians, need to educate themselves on BTF and its benefits and consider use of BTF for any enterally fed patient.9

References

- ¹ American Dietetic Association Oncology Toolkit. Medical Nutrition Therapy Summary Page for Oncology Nutrition: Head and Neck Cancer. 2010.
- ² Muscaritoli M, Arends J, Bachmann P, et al. ESPEN practical guideline: Clinical nutrition in cancer. Clin Nutr. 2021;40: 2898-2913.
- ³ Talwar B, Donnelly R, Skelly R, et al. Nutritional management in head and neck cancer: United Kingdom National Multidisciplinary Guidelines. J Laryngol Otol. 2016;130(S2):S32-S40.
- ⁴ Malone, A., Carney, L., Carrera, A., Mays, A. ASPEN Enteral Nutrition Handbook, 2nd edition. ASPEN, Silver Spring, MD. 2019.
- ⁵ Hurt RT, Epp LM, Duellman WM, et al. Blenderized tube feedings for adult patients on home enteral nutrition: a pilot study. J Altern Complement Med. 2019 Apr;25(4):413-
- ⁶ Spurlock A, Johnson T, Pritchett A, Pierce L, Hussey J, Johnson K, et al. Blenderized food tube feeding in patients with head and neck cancer. Nutr Clin Pract. 2021. https://doi.org/10.1002/ncp.10760
- ⁷ Schmidt SB, Kulig W, Winter R, et al. The effect of a natural food based tube feeding in minimizing diarrhea in critically ill neurological patients. Clin Nutr. 2019 Feb;38(1):332-340.
- 8 Hron B, Fishman E, Lurie M, et al. Health outcomes and quality of life indices of children receiving blenderized feeds via enteral tube. J Pediatr. 2019 Aug;211:139-145.e1.
- ⁹ Bennett K, Hjelmgren B, Piazza J. Blenderized tube feeding: health outcomes and review of homemade and commercially prepared products. Nutr Clin Pract. 2020;35(3):417-431.



