

Blenderized Tube Feeding (Blenderized Enteral Formula) for Adult Patients with Head and Neck Cancer

Overview: Head and Neck Cancer

- Head and neck cancers account for 4% of all cancers in the U.S., equating to about 71,110 new cases in 2024, with estimates of 16,110 deaths expected to result from the diagnosis.¹ In 2021, globally, there were 792,280 new head and neck cancer cases and 424,066 deaths. Predictions for 2030 further suggest that the incidence of head and neck cancer will continue to rise.²
- 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.
- This cancer and the treatment modalities have a significant nutritional impact, causing difficulty in maintaining nutritional status and sometimes requiring enteral nutrition or tube feeding. One study reported that about 14% had a feeding tube after treatment, and up to 30% will have a feeding tube during treatment.³
- The prevalence of malnutrition in patients with head and neck cancer varies across studies, and a wide range (20–80%) of frequencies have been reported. The large variation may be due not only to heterogeneity in tumor location, tumor stage, and treatment but also to the use of different nutritional assessment methods.⁴⁻⁸



Nutrition Screening and Assessment

All patients with cancer should undergo:

- Routine malnutrition risk screenings using a valid tool after diagnosis and throughout treatment
- A comprehensive nutrition assessment for those at risk by a trained nutrition professional, such as a registered dietitian nutritionist (RDN)⁹

Nutritional Goals^{10,11}

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

Recommended Nutrient Supply ¹⁰	Energy (kcal/kg/day)	Protein (g/kg/day)
Patients with Head and Neck Cancer	at least 30	1.2–1.5

Nutrition Interventions and Support: When and How to Implement?¹²

- Provide nutrition counseling and oral nutrition supplements
- Consider EN if oral intake <60% of estimated energy needs for 7+ days
- Place a proactive feeding tube if oral intake is expected to be <60–75% of goal and moderate/severe malnutrition is present
- Insert a gastrostomy tube when enteral nutrition is expected for more than 4 weeks
- With refractory nausea/vomiting, place a postpyloric short-term J-tube and initiate EN
- Consider a blenderized tube feeding (BTF) formula for this population with generally normal GI function

What is a Blenderized Tube Feeding (BTF) Formula?

A blenderized tube feeding (BTF) formula is defined as food and liquid pureed enough to be given via an enteral access device (EAD).¹³ Two types of BTF are in common usage: formula prepared in a home or hospital blender (Prepared BTF) and formula manufactured with food ingredients or pureed foods (Commercial BTF).¹³

Benefits of EN Support with BTF in Patients with Head and Neck Cancer¹⁴

Outcomes	Evidence
Improved Weight Gain	BTF was found to be safe and effective in promoting weight gain in adult participants.
Nausea/Vomiting	Reductions in vomiting and nausea in patients changing from commercial enteral formula to BTF.
Bowel Regularity	Diarrhea and constipation both improved with a commercially prepared BTF formula.
Increased Oral Intake	For most patients, oral intake increased over a 6-week period.
Reflux	No reflux with BTF as compared to commercial enteral formula.
Gas/Bloating	Gas/bloating decreased from 50% to 19% with BTF.

Key Takeaways

- Patients with head and neck cancer should have a nutrition professional screen, assess, and monitor them during their cancer treatment and enteral nutrition program.
- Patients with head and neck cancer often need enteral nutrition support, both during and after treatment.
- BTF can be home blended, baby food based, commercially prepared, or a combination of these.
- BTF has been shown to minimize GI symptoms usually associated with tube feeding, provide adequate nutrients, and can improve quality of life.

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