

2014 Oncology Nutrition Symposium
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**Head and Neck Cancers: The pros and
cons of prophylactic feeding tubes**

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Arguments For and Against Placement of Prophylactic Feeding Tubes in Head and Neck Cancer Patients Receiving Chemoradiation

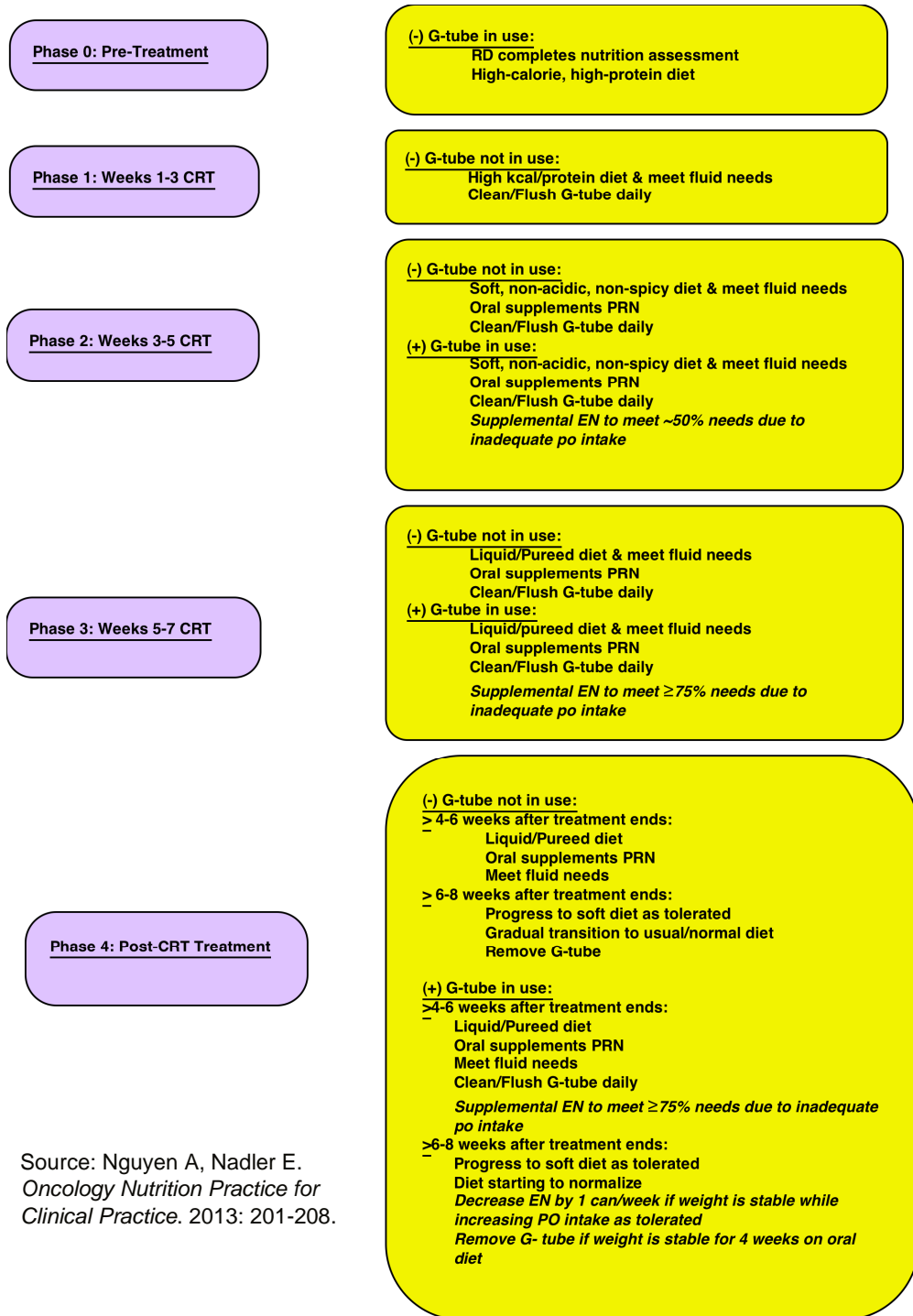
For	Against
<p>Decreased weight loss</p> <p>Decreased hospital admissions</p> <p>Decreased treatment interruptions</p> <p>Maintain hydration</p>	<p>More types as well as more effective symptom management therapies have evolved (see Symptom Management Regimen).</p> <p>Patients regain swallow function quicker</p> <p>Avoid an invasive procedure with potential complications.</p> <p>Poorer QoL associated with PEG placement</p> <p>No consensus on whether prophylactic vs reactive PEG placement preferable</p>

Source: Locher JL. *Journal of Parenteral and Enteral Nutrition* 2011; 35(3);365-374.

**Baylor Charles A. Sammons Cancer Center at Dallas
Regimen for Prophylactic Feeding Tubes**

- RD consult for all head and neck cancer patients prior treatment initiation.
- Weekly RD follow-up in conjunction with multidisciplinary team *during* treatment course and *after* treatment ends until the feeding tube is removed.
- Standing orders for enteral nutrition, fluids, and glutamine supplementation with home health set up by RD within the first few weeks of treatment start. Example:
 - A 1.5kcal/ml, low fiber tube feeding formula 1 can 6 x day (i.e. 7am, 10am, 12 noon, 3pm, 5pm, 8pm).
 - 2 fl oz water flush before and after each tube feeding (for a total of 24 fl oz water per day).
 - Unflavored glutamine packet 1 packet 2 x day – to start during first week of CRT and continued for 6 weeks post CRT for a total of approximately 13 weeks.
 - (32 fl oz) water infusion via gravity bags daily.
 - Ongoing research regarding the optimal method of delivery: bolus vs. gravity vs. pump.
- Effective nutritional counseling on enteral nutrition including hands on demonstration, and written education material.
- SLP involvement before, during and after treatment.
- Dental evaluation prior treatment initiation.
- Dental evaluation prior treatment initiation.

Baylor Charles A. Sammons Cancer Center at Dallas – Four Nutritional Phases of CRT



Source: Nguyen A, Nadler E. *Oncology Nutrition Practice for Clinical Practice*. 2013: 201-208.

Evidenced Based Reviews of Enteral Nutrition with HNC

The Academy of Nutrition and Dietetics' Evidenced Based Nutrition Practice Guidelines assessed the benefit of enteral nutrition on treatment related side effects in head and neck cancer treatment. The question evaluated was:

What evidence suggests a relationship between enteral nutrition to improve nutrition intake (protein and kcals) and the reduction of side effects associated with outpatient radiation therapy for head and neck cancer?

Conclusion: Two positive quality RCTs found that head and neck cancer patients receiving radiation therapy may benefit from EN. Energy and protein goals for patients in the RCTs were 40 kcals/kg and 1.0 - 1.5 g/kg body weight, respectively. The researchers found that oral nutrition alone may not be adequate to maintain nutritional status during radiation therapy, and that EN may be required to meet nutrition goals. Outpatient EN resulted in improvement or maintenance of weight status and increased mean calorie and protein intake when compared with controls. The researchers concluded that maintenance of nutritional status by EN during radiation therapy may improve tolerance of therapy to promote better outcomes. Further research is needed to determine the role of EN in improving nutritional intake in head and neck cancer patients.

Grade: II

The Clinical Oncology Society of Australia's (COSA) evidence based practice guidelines for nutritional management of adult patients with head and neck cancer evaluated the following two questions on the use of gastrostomy tubes. The full reports is available on a wiki platform:

http://wiki.cancer.org.au/australia/COSA:Head_and_neck_cancer_nutrition_guidelines/

Q15. Which patients should be identified for prophylactic enteral feeding?

Recommendation: Prophylactic enteral feeding should be considered to improve nutritional status, cost and patient outcomes for patients who have T4 or hypopharyngeal tumors undergoing concurrent chemoradiotherapy.

Other patient groups should be considered by the multidisciplinary team on an individual basis dependent on other clinical factors such as tumor site, staging, effect of multi-modality treatment, radiotherapy treatment fields and dose, type of surgical procedure, nutritional status and dysphagia.

Grade: C

Q16. What are the complications from gastrostomy tube placement and is there a preferred method of placement?

Recommendation: Procedure and associated choice of feeding tube should consider gastrostomy complications vary according to the tube type, insertion method and skill/expertise of those undertaking the procedure, as well as variations in the definitions of major and minor complications. Overall, there is a low procedure mortality rate (mean approx. 1%).

Grade C

The Queensland Allied Health, also in Australia, reviewed the evidence for prophylactic gastrostomy tube placement in head and neck cancer patients undergoing radiotherapy or chemoradiation and reported no convincing evidence to support the use of the practice.

The full summary of results is available at:

http://www.health.qld.gov.au/cairns_hinterland/docs/cc_prophylactic_peg.pdf

Head and Neck Cancer Multidisciplinary Team Considerations for Assessing Placement of Feeding Tube

Physician -

- Site of cancer, stage and node involvement
- Impact of prior surgery and/or treatments
- Type of radiation therapy, field and dose
- Adjuvant/concurrent chemotherapy
- Pre-existing comorbidities

Nurse Practitioner –

- Extent of symptoms and whether they can be adequately managed in order to maintain oral intake

Radiation nursing –

- Monitor weight, symptoms and fluid status

Dietitian –

- Changes in nutritional status: changes in weight, biochemical and anthropometric measures, and ability to meet nutritional needs

Speech Language Pathologist -

- Advise on ability and safety of eating and risk of aspiration

Nurse Navigation/Social Work –

- Assess barriers to care
- Financial issues
- Medical insurance issues

Patient -

- Impact of feeding tube on QoL
- Performance status
- Social support
- Compliance and ability to meet expectations

Other considerations -

- Patient's need to adhere to medication regimens (AIDS, post-transplant, dialysis)
- Length of time anticipate symptoms persisting
- Length of time anticipate reliance on enteral nutrition

Determinants for Placement of Prophylactic Feeding Tube

SELECTION CRITERIA FOR GASTROSTOMY PLACEMENT	REFERENCES
NUTRITIONAL FACTORS	
Unintentional weight loss: 5% in 1 month	[52 ^a]
Unintentional weight loss: >10% weight in 3–6/12 months	[3,4,28,52 ^a ,62–64]
Body mass index <25 kg/m ²	[29]
BMI <20 kg/m ²	[3,52 ^a ,63,65]
Preoperative weight loss >4.5 kg	[28]
Preexisting aspiration or subjective dysphagia before or after treatment	[35,52 ^a ,66,67]
Heavy alcohol intake exceeding 16% of daily baseline requirements for energy or 2 oz per day	[4,36]
Poor performance status	[1,63,68,69]
Weight loss risk associated with nasopharynx, base of tongue, oropharynx	[34,62]
Anorexia, mouth sores, dehydration, pain or any other symptoms that interfere with the ability to eat	[35,52 ^a]
PATIENT FACTORS	
Age greater than 70 years old	[26,70]
Single male or female	[2,70]
Patients who require enteral feeding for ≥4–6 weeks	[6–9]
Smoking >20 per day	[68]
Disease-free posttreatment patients with late side effects impacting on their oral intake and increasing the risk of malnutrition, thus requiring supportive nutrition	^a
Palliative patients who require supportive nutrition for symptom control	^a
Limited social support and motivation impacting on compliance	^a
TNM STAGING	
Stage: T3/4	[2,26–32,68,71–73]
Nodes: bilateral involvement	[70]
Primary site:	
Oral cavity	[27,71,74]
Oropharynx	[27,28,31,71,74]
Hypopharynx	[2,26–28,70,71]
Nasopharynx	[62]
Advanced larynx	[26]
Tongue base	[62]
Unknown primary	^a
Moderately to poorly differentiated histology	[36]
RADIOTHERAPY/CHEMORADIATION	
Expectation of grade 3/4 mucositis	[75]
Adjuvant chemotherapy	[70]
Neoadjuvant chemotherapy	[19 ^{aa}]
Chemoradiation	[2,34,71,72]
Intensity Modulated Radiotherapy (IMRT)	[19 ^{aa}]
Systemic Therapies (eg targeted therapies)	[19 ^{aa}]
Accelerated/hyperfractionation radiotherapy	[75]
Preoperative radiotherapy	[27,31]
Postoperative radiotherapy	[31]
Increased radiotherapy dose to pharyngeal constrictors	[30]
Treatment field length >82 mm for 'boost' phase	[33]
Conventional radiotherapy dose >60 Gy	[63]
Palliative radiotherapy with radical dose	^a

Determinants for Placement of Prophylactic Feeding Tube, cont.

SURGERY	
Floor of mouth	[36]
Hemiglossectomy/total glossectomy	[36]
Tonsillar carcinoma en bloc resection	[36]
Partial/total pharyngectomy or pharyngolaryngectomy	[36]
Reconstruction with pectoralis major myocutaneous flap	[36]
Involvement of tongue base/pharynx	[31]
Development of fistulae requiring management for prolonged period	[67]
Mandibulectomy with bone graft and reconstruction	[31,32,71]
Transoral laser surgery to selected sites	[76]
Combined modality treatment	[28,32,34]
SCREENING AND ASSESSMENT FOR CHOICE OF GASTROSTOMY PLACEMENT	
Risk of seeding – postcricoid, cervical oesophagus, T3/T4 hypopharynx	[41,42]
Inability to pass an endoscope (partial or complete trismus, occlusion by tumour obstruction and/or stenosis)	[77,78]
Procedure-related risk with surgical, radiological, endoscopic placement method	
Expert clinician's availability for different method of placement	[39,40 ^a]
BMI <18.5 kg/m ²	[38 ^a]

Adapted from [12], and including additional references [1–4,6–9,19^{aa},26–36,38^{aa},40^a,41,42,52^a,62–78].

^aBased on authors' opinion.

Source: Talwar B. Current Opinion in Supportive and Palliative Care 2012;6(1):41-53.

Symptom Management Regimen for Head and Neck Cancer Patients
Developed by
Roberts Proton and Radiation Therapy at the University of Pennsylvania

Odynophagia/Mucositis

1. Magic Mouthwash (Benadryl, Maalox & Carafate – no Lidocaine): 15 mL (1 teaspoon) PO QID swish and swallow. Dispense 750 mL
2. Lidocaine Gel (apply with a Q-tip prn to affected area). Dispense 1 bottle in clinic

Pain management

1. Oxycodone (no Tylenol): 5 mg q 4-6 hrs prn pain
 2. Consider long-acting narcotic (oxycotin) depending on dose/frequency of prn narcotic use
 3. End of Week 2 start gabapentin: 600 mg PO QHS
 - a. patients <65 years with good renal function titrate up to 2700 mg/day
 - 600 mg QHS x 2 days
 - 300 mg q 8 hrs x 2 days
 - 600 mg q 8 hrs x 2 days
 - 900 mg q 8 hrs until narcotic pain medications are weaned off first
 - b. patients >65 years
 - 2 300 mg tabs PO QHS x 2 days
 - Then 1 300 mg PO BID x 2 days
 - 2 300 mg PO BID x 2 days
 - 3 300 mg PO BID until narcotic pain medications are weaned off first
- *Maximum dose/day for patients >65 is 1800 mg

Thrush

If symptomatic: Diflucan 200 mg on Day 1, 100 mg PO days 2-14. If contraindicated Nystatin 1 teaspoon 4 x day
If asymptomatic: Nystatin suspension 5 mL QID x 2 weeks (brush and soak dentures)

Oral secretions

1. Glycopyrrolate (brand name Robinul): ½ -1 mg PO q 8 hrs (0.2-0.4 mg IV)
2. Alternatively scopolamine patch or lyoscyamine (Levsin) may be used

Oral care

Baking soda rinses: 1 teaspoon baking soda and 1 teaspoon salt mixed with 1 quart water

Xerostomia

1. Biotene Dry Mouth Gel
2. Numoisyn lozenges
3. Acupuncture

Skin care

1. Aquaphor - apply daily, do not apply 4 hours before treatment
2. Domeboro Soaks (aluminum acetate, astringent solution) – apply for 20 minutes then apply Aquaphor

Anorexia

1. Mouth rinses
2. Consider benefit of an appetite stimulant: dronabinol (Marinol) 5-10 mg TID plus HS, mirtazapine (Remeron) 15-30 mg/day

Assess fluid status

If dehydrated based on vitals and/or symptoms, IV fluids ordered

Source: E. McMnamin, MSN CRNP and E. Matchev, BSN RN

Symptom Management Regimen for Head and Neck Cancer Patients, cont.

Nutrition referrals – patients are assessed weekly and referred to Nutrition based on a nursing assessment screen in the EMR. If patients answer yes to any one of three questions (weight loss > 2 lbs. over past week, difficulty chewing or swallowing, and presence of a feeding tube) they are referred via the EMR.

Nutrition Screen

Has the patient lost > 2lbs over the past week (5-7 days)	No
Is the patient having difficulty chewing or swallowing?	No
Does the patient have a feeding tube (of any kind)?	No

Any question with YES answer requires a Consult to Oncology Nutrition

Nutrition Consult placed	No
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Speech Language Pathology – patients are referred prior to, during and post treatment.

Referral order sets for all three treatment stages (pre-, midpoint and post-treatment) are included in the EMR to prompt the physicians and nurse practitioners to refer to RDN and other therapies at appropriate time points.

Abramson Cancer Center’s Head and Neck Treatment Pathways Order Sets

Pre Treatment CONSULT ORDERS HEAD AND NECK	
<input type="checkbox"/> Amb Order: Refer to NURSE NAVIGATOR	Order details
<input type="checkbox"/> Amb Order: CONSULT TO head and neck surgery-OTORHINOLARYNGOLOGY CONSULT	Order details
<input type="checkbox"/> Amb Order: CONSULT TO SPEECH PATHOLOGY	Order details
<input type="checkbox"/> Amb Order: CONSULT DENTAL EVALUATION	Order details
<input type="checkbox"/> Amb Order: CONSULT TO RAD ONCOLOGY	Order details
<input type="checkbox"/> Amb Order: CONSULT TO ONCOLOGY NUTRITION	Order details
<input type="checkbox"/> Amb Order: CONSULT TO ONCOLOGY	Order details
<input type="checkbox"/> Amb Order: CONSULT TO AUDIOLOGY-cisplatin	Order details
<input type="checkbox"/> Amb Order: CONSULT TO GI ACCESS SURGERY CLINIC	Order details
<input type="checkbox"/> Amb Order: CONSULT TO INTERVENTIONAL RADIOLOGY ACCESS CLINIC	Order details
<input type="checkbox"/> Amb Order: CONSULT TO CARDIOLOGY	Order details
<input type="checkbox"/> Amb Order: SOCIAL WORK SERVICES	Order details
<input type="checkbox"/> Amb Order: CONSULT TO PSYCHIATRY	Order details
<input type="checkbox"/> Amb Order: CONSULT TO PT/OT (PHYSICAL & OCCUPATIONAL THERAPY)	Order details
<input type="checkbox"/> Amb Order: SMOKING CESSATION PROGRAM(DM)	Order details
<input type="checkbox"/> Amb Order: CONSULT TO PHYSIATRY	Order details

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