Ontario Health
Cancer Care Ontario

Symptom Management Algorithm

Dysgeusia

In Adults with Cancer

Screening and Performing Clinical Assessment

Adapted Mucositis Assessment Acronym: OPQRSTUV (Adapted from Fraser Health[1])	
Onset	• When did the symptoms begin? How often do they occur? How long do they last? Did it begin during or after chemotherapy or head and neck radiotherapy?
Provoking/ Palliating	• What makes it better? What makes it worse? What do you think may be causing the symptom? What are the aggravating or alleviating factors, e.g. medications, active treatment (chemotherapy or head and neck radiotherapy), dietary changes?
Quality	• What type of taste changes are you experiencing, e.g. sweetness, sourness, saltiness, etc.?
Region/Radiation	• Do you have any other related or associated symptoms?
Severity	• What is the intensity of this symptom (on a scale of 0 to 10 with 0 being none and 10 being worst possible)? Right Now? At Best? At Worst? On Average?
Treatment	• Have you modified your diet? Are you eating small, room temperature meals? Are you drinking plenty of fluids? Are you brushing your teeth before eating? Tongue brushing? If yes to any, has this had any impact?
Understanding/ Impact on you	• Have any of the dietary modifications you tried improved your taste changes? Do your taste changes keep you from eating as much as you would like?
Values	• What is an acceptable level of severity for this symptom (0 to 10 scale)? What does this symptom mean to you? How has it affected you and your family and/or caregiver?

Consideration for All Patients
• Good oral care is important to prevent and decrease oral complications, to maintain normal function of the oral tissues, to maintain comfort, and to reduce the risk of local and systemic infection. See Basic Oral Care Table (pages 4 and 5)
• Significant risk factors for the development of oral complications include the type of cancer, type of cancer treatments, cumulative doses of chemotherapy or radiotherapy (current or prior), method of delivery, and duration of treatment
• Predisposing medical, dental, and lifestyle factors may increase severity of oral complications, such as uncontrolled diabetes, pre-existing autoimmune conditions, polypharmacy, tobacco use, and alcohol use
• Oral complications can significantly affect the patient's morbidity, ability to tolerate treatment, and overall quality of life
• Rigorous assessment, diagnosis, and early intervention are important in preventing and decreasing oral complications, such as the assessment of nutritional status, and adequacy of oral intake
• A large variety of medications may cause oral complications. Consultation with the prescriber, dental provider, and/or pharmacist is strongly recommended • Some pharmaceuticals may be unaffordable, and alternatives should be offered where possible
• If odontogenic or periodontal infection infections suspected, consultation with a oncology team is strongly recommended

Prevention

Non-Pharmacological
• Exclusion of the tip of the tongue during radiation therapy
Pharmacological
• Zinc gluconate is not recommended for the prevention of dysgeusia in head and neck cancer patients
• Amifostine is not recommended solely for the prevention of dysgeusia in head and neck cancer patients

Grading Dysgeusia (Adapted from the CTCAE Version 5.0[2])

Grade 1	Grade 2
• Altered taste but no change in diet	• Altered taste with change in diet (e.g. oral supplements), noxious or unpleasant taste, and/or loss of taste

Managing Dysgeusia

Non-Pharmacological (Nutrition)*

- Nutritional and educational counseling is recommended
- To prevent compromised food intake, patients may need encouragement and support to try foods again that may have resulted in food aversions secondary to taste changes
- Best practice clinical guidelines for patients with head and neck cancer recommend:
  - Energy and protein: 25-30 kcal per kg per day, and 1.0-1.5 g protein per kg per day, respectively
  - Use of a validated nutritional assessment tool
  - Dietetic consults weekly, then as needed
- Screening and referral for distress. Assessment should be repeated at adequate intervals to judge the requirement for nutritional intervention and to monitor its effects (e.g. every 2 weeks, every month, every 6 months, etc. as appropriate)
- As taste changes are unique to each person and can vary over time, an individualized approach needs to be taken to identify tolerable foods. Ongoing follow up is recommended
- Try xylitol containing: lozenges, gum, and popsicles
- Consult the International Dysphagia Diet Standardization Initiative (IDDSI) framework for the standardized terminology and definitions for texture-modified foods and liquids[3]

If food tastes metallic:

- Eat cold or room temperature foods
- Patients can eliminate foods that do not taste good
- Stew or marinate meat, chicken, or fish in marinades, juices, sauces, or dressings
- Add wine, beer or mayonnaise to soups and sauce. Consult physician regarding alcohol use first
- Drink non-acidic orange juice or lemonade. AVOID these if mouth or throat is dry or sore
- AVOID diet products containing aspartame, NutraSweet or Equal
- Eat fresh/frozen vegetables, fruit, and legumes instead of canned; eat homemade soup not canned
- Buy beverages stored in a glass bottle instead of a can
- Eat with plastic utensils or chopsticks instead of stainless steel utensils
- Use glass or ceramic cookware instead of metal pots and pans

If food tastes bitter or strong:

- Drink herbal teas, or coffee-like beverages such as Ovaltine® in place of regular tea and coffee
- Eat cold or room temperature foods
- Eat mild tasting foods

If food tastes too salty:

- Eat low-salt or sodium-reduced products
- Add sugar to help mask the salty or acidic flavour

If food tastes too sweet:

- Dilute your drinks, such as juices or nutritional supplements
- Add a pinch of salt to decrease the sweetness of foods

If food tastes bland:

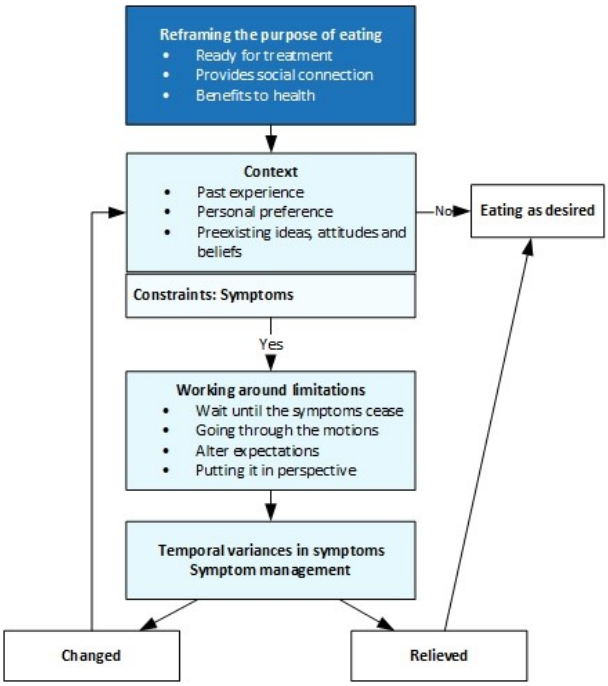
- Add bacon, garlic, onion, or herbs to vegetables
- Add spices, seasoning, sauces and marinades to meat, fish and casseroles
- Tart foods may enhance flavours. AVOID these if your mouth is sore or dry. Rinse with a bland mouth rinse after eating tart food
- Enhance your taste buds by having alternating bite of different tasting foods within a meal
- Try some stronger flavoured foods

If strong food odors affect taste:

- Use a kitchen fan when cooking
- Use an outdoor barbecue grill
- Use a microwave
- Use covered pans
- Sit by an open window
- Ask family and friends to help with meal preparation
- Choose prepared foods (e.g. potato or pasta salad)
- Eat cold or room temperature foods, as they have fewer aromas than hot food

Figure 1 – Eating as Treatment (Britton, 2015[4])

Figure 2 – Understand the Patient's Belief's About Eating (Adapted from Bernhardson, 2012[5])



*Recommendations based on patient experience and clinical expertise

Flossing

Basic	• Patients who have not flossed routinely before cancer treatment should not begin flossing at this time • Patients with mouth cancers, trismus, dysphagia, and/or dysgeusia may not be able to floss; use of interproximal brushes can replace flossing • Floss at least once daily • Waxed floss may be easier to use and minimize trauma to the gums
Intensified	• Continue with basic plan until discomfort becomes too great
End of Life	• Discontinue flossing if patient chooses

Discontinue flossing if:
- Gums bleed for longer than two minutes

Restart flossing if:
- Platelet count is >20x10^9 cells/L, or as instructed by cancer care team

Brushing

Basic	• Use a small, ultra-soft-headed, rounded-end, bristle toothbrush (an ultrasonic toothbrush, may be acceptable) • Rinse toothbrush in hot water to soften the brush before using • Use a prescription strength fluoride toothpaste. Spit out the foam but do not rinse mouth • Use a fluoridated toothpaste and re-mineralizing toothpaste containing calcium and phosphate • Brush tongue gently from back to front, using a sweeping motion • Rinse brush after use in hot water and allow to air dry • Change toothbrush when bristles are not standing up straight • Brush within 30 minutes after eating and before bed. Ensure the gingival portion of the tooth and periodontal sulcus (where the tooth and gums meet) are included • Consider topical anesthetics (e.g. viscous lidocaine 2% or viscous xylocaine 2%, 2-5 mL) before brushing and eating to minimize pain • With continuous pain, a regularly prescribed oral analgesic allows for more thorough tooth brushing
Intensified	• Encourage patient to continue brushing through treatment phase even when it causes discomfort • If bleeding occurs, encourage gentler brushing • Use a non-flavoured, non-alcoholic chlorhexidine gluconate (CHX) 0.12% rinse to aid in plaque control, 2 times a day after meals • If unable to continue brushing with a toothbrush, use a moist gauze or foam swab • Discontinue use of toothpaste if it is too astringent and dip toothbrush in bland rinse • If there has been an oral infection, use a new toothbrush after infection has resolved • If unable to tolerate brushing, seek assistance from nursing or dental staff
End of Life	• Continue with basic and intensified mouth care plan, if possible • Instead of moist gauze may use a foam brush soaked in CHX

Discontinue brushing if:
- Gums bleed for longer than two minutes

Restart brushing if:
- Platelet count is >20x10^9 cells/L, or as instructed by cancer care team

Bland rinse:
- 1 teaspoon salt, 1 teaspoon baking soda, 4 cups of water

Lidocaine alternative:
- Dyclonine 0.5 or 1% rinse (5 mL every 6 to 8 hours, swish and swallow) as needed for pain

Patients with head and neck cancers:
- Brushing may not be appropriate in the area of tumour involvement
- Consult with a dentist
- Patients should be assessed for the use of daily fluoride tray

Patients with dentures:
- Remove dentures, plates and prostheses before brushing
- Brush and rinse dentures after meals and at bedtime
- Remove from mouth nightly (at least 8 hours per 24 hours) and soak in bland rinse
- Leave dentures out as much as possible during radiation therapy
- Patients who have had head and neck surgery should not wear dentures post-surgery unless assessed by a dental specialist or head and neck surgeon, to prevent

Rinsing

Basic	• Rinse the oral cavity with a bland rinse vigorously, at least twice a day to maintain mouth moisture, remove the remaining debris and toothpaste, and reduce the accumulation of plaque and infection • Use a bland rinse to increase oral clearance for oral hygiene maintenance and improved patient comfort. • Following emesis, rinse with bland rinse immediately to neutralize the mouth • If allergic to lidocaine, dyclonine 0.5 or 1% rinse (5 mL every 6 to 8 hours, swish and swallow) may be used as needed for pain
Intensified	• Rinse in place of brushing if patient is unable to brush • Seek dental care where possible for removing plaque • In addition to rinsing twice a day, encourage rinsing every 1 to 2 hours while awake and every 4 hours through the night if awake, to minimize complications of decreased saliva • If unable to clean using moist gauze, or foam swab, consider rinsing via syringe if platelet count >20x10^9 cells/L
End of Life	• Continue with basic and intensified mouth care plan • Consider sialagogues in instances of dry mouth for pharmacotherapy relief (pilocarpine, and anethole trithione)

Patients with dentures:
- After removing dentures, rinse mouth thoroughly with rinse solution
- Brush and rinse dentures after meals and at bedtime
- Rinse with rinsing solution before placing in mouth
- Remove from mouth nightly (at least 8 hours per 24 hours) and soak in rinsing solution

Bland rinse:
- 1 teaspoon salt, 1 teaspoon baking soda, 4 cups of water

Avoid:
- Club soda due to the presence of carbonic acids
- Commercial mouthwashes with hydroalcoholic base or astringent properties

Moisturizing the Oral Cavity

Basic	• Moisturize the mouth with water, artificial saliva products, or other water soluble lubricants • Apply lubricant after each cleaning, at bedtime, and as needed. Water-based lubricant needs to be applied more frequently • Frequent rinsing as needed with basic mouth rinse • Patients may suck on xylitol lozenges (up to 6 grams a day), xylitol containing popsicles, or xylitol containing gum
Intensified	• Continue with basic mouth care plan with increased frequency and intensity • Increase frequency of bland mouth rinse to every hour
End of Life	• Continue with basic mouth care plan with increased frequency and intensity, as needed • Use a steam vaporizer at night • May use a cool mist humidifier at night, but use should be weighed against the risk for fungal infection

Avoid:
- Glycerin or lemon-glycerin swabs as they dry the mouth
- Acidic or minty mouth products, if they burn

Lip Care

Basic	• To keep lips moist and avoid chapping and cracking, use water soluble lubricants, lanolin (wax-based), or oil based lubricants (mineral oil, cocoa butter) • Water soluble lubricants should be used inside and outside the mouth, and may also be used with oxygen (e.g. products compounded with Glaxal base or Derma base) • Apply lubricant after each cleaning, at bedtime, and as needed. Water-based lubricants need to be applied more frequently
Intensified	• Continue with basic mouth care plan with increased frequency and intensity
End of Life	• Continue with basic mouth care plan with increased frequency and intensity, as needed • May use a cool mist humidifier at night, but use should be weighed against the risk for fungal infection

Avoid:
- Touching any lip lesions
- Oil based lubricants on the inside of the mouth
- Petroleum based products

Miscellaneous

Basic	• Dental evaluation and treatment as indicated prior to cancer therapy is desirable to reduce risk for local and systemic infections from odontogenic sources for hematologic, solid or head and neck cancers
Intensified	• Continue with basic mouth care plan with increased frequency and intensity
End of Life	• Continue with basic mouth care plan with increased frequency and intensity, as needed

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Disclaimer

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