# Symptom Management Guidelines: ORAL MUCOSITIS



## Definition

**Oral Mucositis (Stomatitis):** An acute inflammation and/or ulceration of the oral or oropharyngeal mucosal membranes. It can cause pain/discomfort, interfere with eating, swallowing and speech and may lead to infection.

## Focused Health Assessment

### PHYSICAL ASSESSMENT

**Oral Assessment**

- Equipment required to facilitate assessment:
  - Adequate light source
  - Tongue depressor, non-sterile gloves, clean gauze
- Assess lips, tongue, oral mucosa for:
  - Bleeding
  - Color – note degree of pallor or erythema, presence of white patches, or discolored lesions / ulcers
  - Moisture
  - Accumulation of debris or coating, discoloration of teeth, bad odor
  - Integrity – note any presence of cracks, fissures, ulcers, blisters
  - Perception - swallowing, changes in voice tone, taste changes

**Hydration Status**

- Assess mucous membranes, skin turgor, capillary refill, amount and character of urine

**Weight**

- Take current weight and compare to pre-treatment or last recorded weight

**Vital Signs**

- Include as clinically indicated

**Functional Status**

- Activity level/ECOG or PPS

### SYMPTOM ASSESSMENT

***Consider contributing factors**

**Normal**

- Refer to pretreatment nursing assessment or dental evaluation

**Onset**

- When did symptoms begin?

**Provoking / Palliating**

- What makes it worse? Better?

**Quality (in last 24 hours)**

- Do you have a dry mouth (xerostomia)? (e.g. decrease in amount or consistency of saliva)
- Do you have any redness, blisters, ulcers, cracks, white patchy areas? If so, are they isolated, generalized, clustered, patchy?

**Region / Radiation**

- Where are your symptoms? (e.g. on lips, tongue, mouth)

**Severity / Other Symptoms**

- How bothersome is this symptom to you? (0-10 scale, with 0 not at all – 10 being worst imaginable)
- Have you been experiencing any other symptoms:
  - Fever – possible infection
  - Difficulty breathing – possible respiratory distress, airway obstruction
  - Prolonged or spontaneous bleeding from oral mucosa? Location? – possible thrombocytopenia
  - Dehydration - dry mouth, excessive thirst, weakness, dizziness, dark urine
  - Oropharyngeal pain

**Treatment**

- Have you tried any oral rinses? If so, what type? Effective?
- Using any pain medications? If so, what type (e.g. topical, systemic)? Effective?
- Any other medications or treatments?

**Understanding / Impact on You**

- Functional Alterations
  - Ability to eat or drink - Weight loss?
  - Taste changes (dysgeusia)
  - Difficulty with speech
  - Ability to wear dentures
  - Interfering with other normal daily activity (ADLs)

**Value**

- What is your comfort goal or acceptable level for this symptom (0 – 10 scale)?

| ORAL MUCOSITIS GRADING SCALE<br>Adapted NCI CTCAE (Version 4.03) | | | | |
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| GRADE 1<br>(Mild) | GRADE 2<br>(Moderate) | GRADE 3<br>(Severe) | GRADE 4<br>(Life - threatening) | GRADE 5 |
| Asymptomatic or mild symptoms; intervention not indicated | Moderate pain; not interfering with oral intake; modified diet indicated | Severe pain; interfering with oral intake | Life-threatening consequences; urgent intervention indicated | Death |

***Step-Up Approach to Symptom Management:**
**Interventions Should Be Based On Current Grade Level and Include Lower Level Grade Interventions As Appropriate**

**Grade 1**

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| GENERAL RECOMMENDATIONS FOR<br>prevention, support, teaching & follow-up care as required | |
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| **Patient Care and Assessment- Including Dental Care** | • New patient baseline assessment<br>• Nurses to screen for oral complications. Once detected, assess at each patient visit<br>• Provide verbal and written information on maintaining oral hygiene at onset of treatment<br>• Maintaining oral health throughout the treatment phase is necessary to:<br>- help ensure adequate hydration and nutrition<br>- reduce the incidence, severity and duration of oral mucositis<br>- prevent or minimize the effects of oral complications<br>• A dental exam and any interventions should be performed by a dentist (or oral oncology specialist) as early as possible before starting radiation or chemotherapy<br>• Smoking cessation resources |
| **Oral Hygiene** | **Flossing:**<br>• Floss at least once daily<br>• Do not floss if:<br>– Causes pain or bleeding gums which does not stop after 2 minutes<br>– Platelet count below 50, 000 $mm^3$ or unless otherwise advised by physician<br>– Not a routine practice prior to treatment, do not initiate flossing unless recommended by a dentist<br>**NOTE:** Patients with certain head and neck cancers may not be able to floss<br>**Brushing:**<br>• Use small, extra soft nylon bristled manual tooth brush<br>– To soften bristles, rinse toothbrush under warm water for 30 seconds<br>• Use non-abrasive, fluoride toothpaste with a neutral taste- flavoring agents may irritate gums<br>• Brush two to four times daily<br>– Brush all tooth surfaces using a short circular motion or horizontal strokes<br>– Brush tongue back to front<br>• Brushing should be done within 30 minutes of eating and for at least 2 minutes<br>• Rinse toothbrush well with hot water after each use; allow to air dry<br>• Replace toothbrush when bristles are no longer standing up straight<br>**Oral Rinses:**<br>• Oral rinses help keep mouth moist and clean by removing debris<br>• Frequency and Use:<br>– After brushing, rinse mouth a minimum of four times daily |

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| | – Use 1 tablespoon (15 ml) of oral rinse, swish in oral cavity for 30 seconds, then spit out<br>– Prepare mouth rinse solution daily to avoid risk of contamination<br>• Recommended Bland Oral Rinses**:**<br>– **Recipe #1**: Normal saline (NS) - ½ teaspoon (2.5 ml) of salt in 8 oz (240 ml) of water<br>– **Recipe #2**: NS/sodium bicarbonate mixture – ¼ teaspoon (1.25 ml) of salt and ¼ teaspoon (1.25 ml) baking soda in 8 oz (240 ml) of water<br>– **Recipe #3**: Sodium bicarbonate – ¼ to ½ teaspoon (1.25-2.5 ml) baking soda in 8 oz (240 ml) of water<br>– Multi-agent rinses – " Magic Mouthwash" (may include a topical analgesic, a steroid, an antifungal agent, an antibacterial agent and/ or a mucosal coating agent) may be prescribed to help palliate pain; however, limited evidence to suggest superior over bland rinses<br>• Not Recommended:<br>– commercial mouthwashes which contain alcohol<br>– chlorhexidine<br>– povidone iodine<br>– hydrogen peroxide<br>– sucralfate<br>– club soda<br>– lemon glycerin swabs<br>**Lip Care:**<br>• Use water-soluble, lanolin or oil-based lubricants to protect the lips and keep moist<br>• Apply after oral care, at bedtime or as often as required<br>• Water based lubricants may be used during oxygen therapy and can be applied inside the mouth<br>**NOTE**: Oil based lubricants (e.g. petroleum jelly) generally not recommended due to increased risk of aspiration and occlusive nature may increase growth of pathogens.<br>**Do not** use inside mouth or if patient on oxygen therapy.<br>**Dentures:**<br>• Remove dentures, plates, and/or prostheses before oral hygiene performed<br>• Brush and rinse dentures after every meal and at bedtime<br>• Soak dentures in oral rinse solution, rinse before placing in mouth<br>• Do not wear tight or loose fitting dentures<br>• Allow long periods without wearing dentures, at least 8 hours daily (e.g. overnight)<br>• If mouth sensitive, wear only during mealtime |
| **Radiation Therapy** | **Benzydamine Hydrochloride** 0.15% (Tantum®) is an anti- inflammatory mouth rinse that is recommended for use to prevent and/or relieve the pain and inflammation associated with oral mucositis in patients who are receiving moderate doses of radiation therapy for head and neck cancer.<br>**Amifostine** is a cytoprotectant agent that may help to reduce the incidence and severity of chronic or acute xerostomia in patients who are receiving radiation therapy for head and neck cancer.<br>**Not Recommended:**<br>• Chlorhexidine<br>• Sucralfate<br>• antimicrobial lozenges |
| **Head & Neck Cancers** | • Brushing may not be appropriate in the area of tumor involvement<br>• Patients should be assessed for the use of daily Fluoride tray<br>• Consult with a dentist |
| **Cryotherapy** | • May decrease the incidence and severity of oral mucositis<br>• Patients should be instructed to hold ice chips in mouth five minutes prior, during, and for 30 minutes after the bolus infusion of fluorouracil (5FU)<br>**NOT** used for:<br>• Infusional fluorouracil<br>• Regimens which include **Oxaliplatin** due to potential exacerbation of cold-induced pharyngolaryngeal dysthesias |
| **Hematopoietic Stem Cell Transplantation (HSCT)** | **Recommended for prevention/reduced severity of Oral Mucositis:**<br>• Palifermin (keratinocyte growth factor-1) for patients with hematological malignancies receiving high dose chemotherapy with or without radiation therapy followed by HSCT |

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| | • Oral cryotherapy to prevent oral mucositis in patients receiving high dose melphalan<br>**Not Recommended:**<br>• Pentoxifylline/Granulocyte-Macrophage Colony Stimulating Factor (GM- CSF) mouthwashes |
| **Dietary Management** | **Promote:**<br>• Daily fluid intake of 8-12 cups (2-3 litres), unless contraindicated, to help keep oral mucosa moist (e.g. water, sugar-free popsicles, non-acidic juices, ice cubes, sports drinks, broth)<br>• Well-balanced diet that is high in protein, vitamins B and C<br>• The use of soft, moist, bland foods as symptoms develop<br>– Add sauces, gravy, salad dressings, butter/margarine, broth or another liquid to help moisten and thin foods<br>**Avoid:**<br>• Dry or coarse foods (e.g. toast, crackers, chips)<br>• Spicy or hot temperature foods<br>• Highly acidic fluids and foods (e.g. lemon glycerin swabs, vitamin C lozenges)<br>• Fluid or foods high in sugar (e.g. pop, some fruit juices)<br>• Caffeine, alcohol, tobacco |
| **Patient Education and Follow-Up** | • Prior to the commencement of cancer therapy, review oral care and hygiene recommendations with patient/ family<br>• Demonstrate/assess understanding of how to perform daily oral assessment at home<br>• Provide verbal and written information on maintaining oral hygiene at onset of treatment<br>• Provide contact information and reinforce with patient/ family when to seek immediate medical attention if the following emergent conditions develop;<br>- Temperature greater than or equal to 38° C, presence of white patches, redness, foul odour – possible infection<br>- Difficulty breathing– respiratory distress<br>- Bleeding lasting longer than 2 minutes– possible thrombocytopenia<br>- Unable to eat or drink fluids for more than 24 hours– risk for dehydration<br>- Difficulty swallowing– reflective of severity of symptoms<br>- Uncontrolled pain- reflective of deteriorating patient status and severity of symptoms<br>• Instruct patient/family to call back if mucositis worsening, not improving or other complications develop |

**GRADE 2 – GRADE 3**

**OR**

**Not able to tolerate adequate daily fluid intake and/or presence of white patches in oral mucosa**

***URGENT:***

***Requires medical attention within 24 hours***

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| **Patient Care and Assessment** | Collaborate with physician if patient:<br>• On active chemotherapy treatment and concern re: treatment delay or reduction required. ***See Chemotherapy Protocols for specific instructions***<br>• Requires new or change in prescription<br>• Requires further evaluation and assessment in an ambulatory setting<br>• Lab and diagnostic testing that may be needed:<br>- Culture of oral mucosa<br>- Complete blood count, electrolyte profile, blood cultures |
| **Oral Hygiene** | **Flossing:**<br>• Discontinue flossing if:<br>- Causes pain<br>- Bleeding gums which do not stop after 2 minutes<br>- Low platelet count (below 50, 000 $mm^3$)<br>**Brushing:**<br>• Brushing more gently with toothbrush if: |

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| | - brushing causes discomfort<br>- some bleeding occurs but stops within 2 minutes<br>• **Do not** use a toothbrush if:<br>- Brushing is too painful even with pain medication<br>- Bleeding in oral mucosa does not stop after 2 minutes<br>• If **unable to brush**, clean teeth with clean, moist gauze or foam swab accompanied with vigorous rinsing using recommended oral rinse solution<br>• If there has been an oral infection, use a new toothbrush after infection has resolved<br>**Oral rinses:**<br>• **Increase use** of mouth rinses to:<br>– Every 1-2 hours while awake<br>– Every 4 hours overnight (if awake)<br>– Increase frequency as needed for symptom severity increases<br>**Lip care:**<br>• Continue to apply water based lubricant to protect and moisten lips<br>**Dentures:**<br>• Keep dentures out of mouth as much as possible until symptoms resolve |
| **Dietary Management** | • Change food texture, consistency, and temperature according to individual tolerance (e.g. puree diet)<br>• If only liquids are tolerated, choose high calorie, high protein supplement fluids<br>• May require oral supplementation or IV hydration if unable to maintain adequate fluid intake |
| **Management of Oral Complications – *See Appendix A*** | **Oral pain:**<br>• For pain from moderate to severe oral mucositis, systemic analgesics are indicated<br>• A topical anesthetic or analgesic may be prescribed in addition to systemic analgesia<br>**Local infection:**<br>• Review recent lab reports, culture any suspect areas, check temperature<br>• Review prescribed medications with patient<br>**Minor bleeding with trauma (stops after 2 minutes):**<br>• Assess complete blood count, particularly platelet function, and hemoglobin<br>• Rinse mouth with ice water and apply pressure to control bleeding- suggest using frozen tea bag/wet gauze<br>**Dry mouth (xerostomia):**<br>• Use sugarless gum or candy to help stimulate saliva<br>• Keep bottle of water present at all times, encourage frequent sips |

**GRADE 4**

**OR**

**Presence of the following: Temperature greater than or equal to 38°C, uncontrolled pain, blisters or cracks in oral mucosa**

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## EMERGENT:

**Requires IMMEDIATE medical attention**

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| **Patient Assessment and Care** | • Admission to hospital, notify physician of assessment, facilitate arrangements as necessary<br>• If on active treatment, patient may require chemotherapy treatment dosage reduction, delay or discontinuation. ***See Chemotherapy Protocols for specific instructions***<br>• Prophylactic intubation may be required if patient at risk for aspiration or is in severe respiratory distress<br>• Nursing Support:<br>– Frequent oral assessments by nurse – three times daily and as clinically indicated<br>– Monitor vital signs as clinically indicated<br>– Accurate monitoring of intake and output, include daily weight<br>– Pain and symptom assessment and management as appropriate |
| **Oral Hygiene** | • Frequent mouth care using oral rinse and foam swab every 1-2 hours (or as tolerated)<br>• Apply water based lubricant to lips every 1-2 hours |

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| | • No brushing, flossing or dentures until symptoms resolve |

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| **Dietary Management** | • NPO as needed<br>• IV hydration, enteral or parenteral nutrition (TPN) as prescribed until patient stable and symptoms begin to resolve |
| **Management of Oral Complications – *See Appendix A*** | **Oral pain:**<br>• Systemic analgesics at regular intervals around the clock<br>• For severe pain, patient controlled analgesia (PCA) with morphine or other strong opioid may be indicated<br>**Infection:**<br>• Culture any suspect areas<br>• Review lab values including complete blood count, electrolyte profile, blood cultures<br>• Administer topical and/or IV anti-infective medications as prescribed (e.g. antibiotics, antifungals, antiviral agents)<br>• Assess temperature every 4 hours and as clinically indicated<br>**Persistent or spontaneous bleeding:**<br>• Assess complete blood count, particularly platelets and hemoglobin<br>• Rinse mouth with ice water and apply pressure (e.g. with frozen tea bag or wet gauze) to control bleeding. Do not remove any clots<br>• If persistent bleeding, topical thrombin, aminocaproic acid, and/or platelet transfusion may be ordered |

| RESOURCES & REFERRALS | |
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| **Possible Referrals** | • Oncology Nutrition Services<br>• Home Health Nursing<br>• Physician, Dentist, Oral Oncology Specialist<br>• Pain and Symptom Management/Palliative Care (PSMPC)<br>• Patient Support Centre<br>• Telephone Care for follow–up |
| **Healthcare Professional Guidelines** | • BC Cancer Oral/Dental Care cancer management guidelines:<br>• http://www.bccancer.bc.ca/health-professionals/clinical-resources/cancer-management-guidelines/supportive-care/oral-dental-care<br>• Cancer Care Ontario Oral Care Guidelines https://www.cancercareontario.ca/en/symptom-management/3156<br>• Multinational Association of Supportive Care in Cancer Mucositis Guidelines https://www.mascc.org/mucositis-guidelines<br>• National Cancer Institute Oral Complications of Chemotherapy and Head/Neck Radiation https://www.cancer.gov/about-cancer/treatment/side-effects/mouth-throat/oral-complications-hp-pdq |
| **Patient Education** | • Nutrition Handouts: http://www.bccancer.bc.ca/health-professionals/clinical-resources/nutrition/nutrition-handouts<br>• Chewing and Swallowing:<br>- Easy to Chew Recipes<br>- Blenderized Foods<br>- Food Ideas to Try With a Sore Mouth<br>- Coping with Dry Mouth<br>• Decreased Appetite:<br>- Food Ideas to Help With Poor Appetite<br>- Alternatives to Nutritional Supplements<br>- Flavoring Suggestions for Supplements<br>- High Energy High Protein Menu and Recipes<br>- High Calorie High Protein Smoothie<br>- Healthy Eating Using High Energy High Protein Foods<br>• Taste Changes:<br>- Coping with Taste Changes<br>- Food Ideas to Cope with Taste and Smell Changes<br>• Nutrition Guide to Tube Feeding at Home http://www.bccancer.bc.ca/health-professionals/clinical-resources/nutrition/nutrition-handouts#Tube--feeding--resources<br>• TPN Patient Brochure<br>• http://www.bccancer.bc.ca/health-professionals/clinical-resources/nutrition/nutrition-handouts#Tube--feeding--resources<br>• Resources about managing anxiety, progressive muscle relaxation, positive thinking, etc. In Patient Handouts section: http://www.bccancer.bc.ca/health-info/coping-with-cancer/emotional-support/managing-stress |
| **Bibliography List** | • http://www.bccancer.bc.ca/health-professionals/clinical-resources/nursing/symptom-management |

| Contributing Factors | |
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| **Cancer Related** | Cancers of the head and neck |
| **Cancer Treatment Related** | **Radiation Therapy:**<br>• Radiation to head and neck, or salivary glands<br>• Total body irradiation |

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| | • Severity of mucositis related to type of radiation, dose per day, cumulative dose and extent of tissue irradiated<br>**Chemotherapy:**<br>• Most chemotherapeutic agents have the potential to cause or contribute to oral mucositis.<br>For individual drug risk factor, see ***BC Cancer Drug Manual***<br>• Continuous or high dose chemotherapy infusions increase risk of severe oral mucositis<br>**Chemoradiotherapy:**<br>• Combined chemotherapy and radiation therapy increases risk of developing severe oral mucositis<br>**Hematopoietic Stem Cell Transplantation (HSCT)** |
| **Other** | • Medications causing xerostomia may predispose to oral mucositis:<br>  • Anticholinergics (e.g. atropine, transdermal scopolamine)<br>  • Antipsychotics (e.g. chlorpromazine, pro chlorpromazine, risperidone)<br>  • Antihistamines (e.g. diphenhydramine, chlorpheniramine)<br>  • Anticonvulsants (e.g. phenytoin)<br>  • Gabapentin, pregabalin<br>  • Opioids<br>  • Smooth muscle relaxants (e.g. baclofen)<br>  • Steroids (e.g. prednisone, dexamethasone) – may predispose to oropharyngeal candidiasis<br>  • Tricyclic antidepressants (e.g. amitriptyline, imipramine)<br>• Periodontal disease:<br>  • pre-existing dental infections<br>  • gum disease<br>  • tooth decay<br>  • salivary abnormalities<br>• Indwelling central venous catheter - may become colonized with bacteria that enter the blood during dental procedures<br>• Immunosuppression<br>• Age: - young children or older adults more susceptible<br>• Females<br>• Poor oral hygiene<br>• Poor fitting dentures<br>• Poor baseline nutritional status<br>• Dehydration<br>• Alcohol or tobacco use<br>• Oxygen therapy |

## Consequences

**Increased Risk for:**

- Oral complications : pain, infection (local and/or systemic), bleeding, xerostomia
- Risk for severe dehydration, cardiovascular compromise, malnutrition
- Airway obstruction/ respiratory distress
- Treatment risks: chemotherapy/radiation therapy dose delays, reductions or discontinuation
- Decreased quality of life (e.g. psychological distress, problems eating, drinking, swallowing)

## Appendix A: COMMON COMPLICATIONS ASSOCIATED WITH ORAL MUCOSITIS

| Type of Oral Complication | Key Assessment Questions | Key Interventions |
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| **Pain**<br>• Oral pain can be a barrier to oral hygiene recommendations<br>• Oral pain management is essential for palliation, to prevent further complications such as dehydration, malnutrition. | **Onset**<br>• When did it begin? How long does it last? How often does it occur?<br>**Provoking/Palliating**<br>• What makes it better? Worse?<br>**Quality**<br>• Describe pain (burning, stabbing)<br>**Region**<br>• Location of pain?<br>**Severity**<br>• How severe is your pain? (0 – 10 scale, 0 no pain and 10 being worst imaginable)<br>**Treatments**<br>• What medications or treatments have you tried for your pain? Effective?<br>**Understanding/Impact on You**<br>• Is your pain interfering with your ability to eat or drink fluids?<br>• Is your pain making it more difficult to breathe? | • See **Pain SMG** (WHO stepladder approach) http://www.bccancer.bc.ca/health-professionals/clinical-resources/nursing/symptom-management<br>• Ice chips, popsicles, or cold compresses may be helpful with mild oral pain<br>• Medications that may be prescribed for pain from oral mucositis:<br>**Topical Agents:**<br>May provide temporary relief in mild (Grade 1) mucositis<br>– Analgesics (e.g. morphine, benzydamine),<br>– Anesthetics (e.g., 2% viscous lidocaine, diphenhydramine solution)<br>– Coating agents (e.g. magnesium or aluminum hydroxide/milk of magnesia) or a mixture of agents<br>NOTE for local anesthetics:<br>1. Instruct patient to coat painful mucosal surfaces and then spit solution out- unless otherwise advised. Risk of impairing gag reflex if local anesthetic is swallowed, increasing risk of aspiration pneumonia or systemic uptake.<br>2. Use care with eating or oral hygiene measures when mouth is numb, to avoid trauma or accidental aspiration.<br>**Systemic Agents:**<br>– Opioid analgesics (e.g. morphine) for moderate to severe mucositis(Grade 2 – 4)<br>– Encourage patients to use prescribed analgesics prior to meals & around the clock intervals if pain is constant<br>– Sustained release oral doses or continuous intravenous infusions may be prescribed for severe oral mucositis<br>– Patient Controlled Analgesia (PCA) with morphine (or other strong opioid) is recommended for patients with severe pain<br>• Relaxation techniques may be helpful |
| **Infection**<br>**Bacterial**<br>• May have inflamed oral mucous membranes, oral pain, or ulcerations<br>**Viral** (e.g. Herpes Simplex Virus)<br>• May have small, raised vesicles filled with clear fluid on the lips or in mouth<br>**Fungal** – (e.g. Candida)<br>• May have inflamed mucous membranes, white "cottage | **Onset**<br>• When did symptoms begin?<br>**Provoking/Palliating**<br>• What makes it better? Worse?<br>**Quality**<br>• Describe oral cavity<br>**Region**<br>• Isolated areas? Patchy? Generalized?<br>**Severity**<br>• Do you have a temperature greater than or equal to 38° C?<br>• Do you have any pain?<br>**Treatments**<br>• What medications/treatments | • Alterations in oral mucosa or local infection increase risk for systemic infection (sepsis) especially for patients with neutropenia<br>– A culture (C&S) is indicated if there is a break in the oral mucosa (e.g. cracked tongue); or if there are any suspect areas (e.g. new ulcerations, lesions, blisters)<br>• Assessment of temperature every four hours<br>– Reinforce importance of contacting health care professional if temperature greater than or equal to 38° C<br>• Medications prescribed based on causative agent and in consideration of patient status<br>– Antibiotics, antivirals, antifungals can be administered topically, orally, or intravenously<br>• Prophylactic Treatment: topical or systemic antibiotics |

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| cheese like" patches on tongue, oral mucosa | are you taking? Effective?<br>**Understanding/Impact on You**<br>Is your pain interfering with your ability to chew / swallow / speak / breathe? | may be considered for patients with myelosuppression or who have poor oral hygiene. Dental treatments should be performed after the neutrophil count has reached a level of 1,000/mm3 or above. If a dental procedure is necessary and the neutrophil count is less than 1,000/mm3, the oncologist must be consulted concerning antibiotic coverage. Extensive invasive oral procedures should not be performed if the absolute neutrophil count will be <1,000/mm3 within 10-14 days of the oral procedure. Acyclovir can be used prophylactically to prevent recurrence and is recommended for myelosuppressed patients with HSV |
| **Bleeding** | **Onset**<br>• When did it begin? Does the bleeding stop within 2 minutes? How often do you have bleeding?<br>**Provoking/Palliating**<br>• What makes it better? Worse?<br>**Quality**<br>• How much bleeding? (Small, moderate, large volume?)<br>**Region**<br>• Location of bleeding?<br>**Severity**<br>• Do you have a fever? Pain?<br>**Treatments**<br>• What medications or treatments have you tried? Effective? | • Review most recent lab reports – collaborate with physician to repeat as necessary<br>– Assess platelet function & complete blood count<br>• Monitor vital signs as clinically indicated<br>**Occasional Bleeding**<br>– Rinse mouth with ice water (cryotherapy)<br>– Apply pressure to site with clean gauze dipped in ice water or a partially frozen tea bag<br>**Persistent or Severe Bleeding** - may indicate thrombocytopenia<br>• As above<br>• Do NOT remove any clots that form<br>• Collaborate with physician for topical thrombin or aminocaproic acid syrup (promotes clotting)<br>• Platelet transfusion may be considered If patient is at home and experiences bleeding in the gums or oral mucosa lasting longer than 2 minutes (with or without fever, pain), instruct them to seek IMMEDIATE medical attention |
| **Xerostomia**<br>• Abnormal dryness in the mouth characterized by a marked decrease and/or thickening of saliva. Xerostomia from cancer therapy may be acute or chronic in nature. | **Onset**<br>• When did it begin? How long does it last? How often does it occur?<br>**Provoking/Palliating**<br>• What makes your dry mouth better? Worse?<br>**Quality**<br>• Saliva thicker &/or decreased in amount?<br>**Severity**<br>• How severe is your dry mouth? (0 – 10 scale, 0 (not dry/ normal) to 10 being driest imaginable)<br>**Treatments**<br>• What medications/treatments have you tried for your dry mouth? Effective?<br><br>**Understanding/Impact on You**<br>• Is your dry mouth interfering with your ability to eat or drink fluids? Speak? Breathe? | • See **Xerostomia SMG**<br>• Follow basic oral assessment & hygiene recommendations for oral mucositis<br>• Follow dietary recommendations for oral mucositis<br>• **Recommendations for Moisture & Lubrication:**<br>***Humidity***<br>– Cool humidifier or bedside vaporizer may help to reduce oral dryness<br>***Water***<br>– Adequate fluid intake (8 -12 cups/2-3 litres daily)<br>– Water can be used as a saliva substitute. Keep water bottle nearby at all times<br>***Saliva Substitutes***<br>– Artificial saliva products provide temporary relief to facilitate speech, chewing, and swallowing<br>– Products available over the counter in spray, lozenge, gels, swab sticks<br>– Milk, butter, or vegetable oil may be helpful<br>***Saliva Stimulants***<br>– Chewing may help stimulate residual salivary flow<br>– Eat foods that require vigorous chewing (e.g. apples, carrots, celery)<br>– Chew sugar free gum or suck on hard candy<br>– Pilocarpine recommended for use in patients receiving radiation therapy to the head and neck<br>• Fluoride treatments may be prescribed for patients with xerostomia to prevent or minimize dental caries or secondary tooth demineralization |

**Date of Print:**
Revised: October 2019, October, 2014
Created: January, 2010

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