



**Ontario Health**  
Cancer Care Ontario

# Symptom Management Algorithm

## Trismus

### In Adults with Cancer

## Screening and Performing Clinical Assessment

### Trismus Assessment Acronym: OPQRSTUV (Adapted from Fraser Health<sup>1</sup>)

<b>Onset</b>	<ul style="list-style-type: none"> <li>• When did the symptom begin? How long have you had it?</li> </ul>
<b>Provoking/ Palliating</b>	<ul style="list-style-type: none"> <li>• What makes it better or worse? What do you think may be causing the symptom? What are the aggravating or alleviating factors e.g. medications, active treatment, dietary changes, posture, nail biting, ice cubes, bruxism (unconsciously grinding or clenching teeth), playing musical instrument, chewing gum/cheek etc.</li> </ul>
<b>Quality</b>	<ul style="list-style-type: none"> <li>• Do you have:             <ul style="list-style-type: none"> <li>○ Limited opening</li> <li>○ Clicking</li> <li>○ Jaw locking open or closed</li> <li>○ Facial pain</li> <li>○ Jaw ache</li> <li>○ Difficulty opening or closing</li> <li>○ Frequent headaches or migraines</li> <li>○ Cheekbone pain</li> <li>○ Sinus-like pain</li> <li>○ Teeth/bite problems</li> <li>○ Bite not fitting right</li> <li>○ Numbness/tingling of the face</li> <li>○ Neck or shoulder pain or stiffness</li> <li>○ Back pain</li> <li>○ Pressure or pulling behind the eye</li> <li>○ Ringing/buzzing/blockage/water sensation and/or pain in the ear</li> </ul> </li> </ul>
<b>Region/ Radiation</b>	<ul style="list-style-type: none"> <li>• Do you have any other related or associated symptoms? Do you have any problems yawning? Do you hear any noises from your jaw? Do you clench your teeth?</li> </ul>
<b>Severity</b>	<ul style="list-style-type: none"> <li>• 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?</li> </ul>
<b>Treatment</b>	<ul style="list-style-type: none"> <li>• If associated pain in mouth: Are you using any pain medications? What type – topical, local, oral, or injection? Are you practicing any exercises? Do you use any devices to improve pain and stiffness? Are they effective? Are there any other treatments that you are using to help with pain? Alteration in diet texture?</li> </ul>
<b>Understanding/ Impact on you</b>	<ul style="list-style-type: none"> <li>• How much has your facial pain or limitation to open your mouth interfered with or limited your social, leisure, and family activities? How much has your facial pain or limitation to open your mouth interfered with or limited your ability to work?</li> </ul>
<b>Values</b>	<ul style="list-style-type: none"> <li>• What is an acceptable level of severity for this symptom (0 – 10 scale)? What does this symptom mean to you? How has it affected you and your family and/or caregiver?</li> </ul>

### 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 5 and 6)
- Significant risk factors for the development of oral complications include the type of cancer, type of cancer treatments, cumulative doses of chemotherapy or radiation treatment (current or prior), method of delivery, and duration of treatment
- Predisposing medical, dental, and lifestyle factors such as uncontrolled diabetes, pre-existing autoimmune conditions, polypharmacy, tobacco use, and alcohol use may increase severity of oral complications,
- 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; this includes 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 an oncology team is strongly recommended

## Assess Severity (Adapted from the Gothenburg Trismus Questionnaire<sup>2</sup>)

	Mild	Moderate	Severe
<b>During the last week have you had:</b> <small>(1=Not at all, 2=Mild, 3=Moderate, 4=Severe, 5=Very severe)</small>			
• Fatigue/stiffness in your face and jaw	1-2	3	4-5
• Aches or pains in your face or jaw	1-2	3	4-5
• Pain moving your jaw (opening mouth/chewing)	1-2	3	4-5
• Problems when opening your mouth wide or taking a bite	1-2	3	4-5
• Pain or soreness in your jaw muscles	1-2	3	4-5
• Problem yawning	1-2	3	4-5
• Noises from your jaw	1-2	3	4-5
<b>Due to your jaw problems, to what extent are you limited or incapable to:</b> <small>(1=Not at all, 2=Mild, 3=Moderate, 4=Severe, 5=Very severe)</small>			
• Eat solid food	1-2	3	4-5
• Put food in mouth	1-2	3	4-5
• Eat soft food	1-2	3	4-5
• Bite off	1-2	3	4-5
<b>Do you usually:</b> <small>(1=Not at all, 2=Seldom, 3=Sometimes, 4=Often, 5=Very often)</small>			
• Clench your teeth	1-2	3	4-5
• Press your tongue	1-2	3	4-5
<b>How much facial pain do you have right now?</b> <small>(1=None, 2=Very mild, 3=Mild, 4=Moderate, 5=Severe, 6=Very severe, 7=Unbearable)</small>	1-3	4	5-7
<b>How strong was the worst pain you had during the last month?</b> <small>(1=None, 2=Very mild, 3=Mild, 4=Moderate, 5=Severe, 6=Very severe, 7=Unbearable)</small>	1-3	4	5-7
<b>On average, how strong has your pain been during the last month?</b> <small>(1=None, 2=Very mild, 3=Mild, 4=Moderate, 5=Severe, 6=Very severe, 7=Unbearable)</small>	1-3	4	5-7
<b>How much has your facial pain interfered with your social, leisure, and family activities during the last month?</b> <small>(1=Not at all, 2=A little, 3=Moderately, 4=Quite a bit, 5=Very much)</small>	1-2	3	4-5
<b>How much has your facial pain affected your ability to work (including both gainful employment and household duties) during the last month?</b> <small>(1=Not at all, 2=A little, 3=Moderately, 4=Quite a bit, 5=Very much)</small>	1-2	3	4-5
<b>How limited are you in your ability to open your mouth right now?</b> <small>(1=Not at all, 2=A little, 3=Moderately, 4=Quite a bit, 5=Very much)</small>	1-2	3	4-5
<b>How much has your limitation to open your mouth interfered with your social, leisure, and family activities during the last month?</b> <small>(1=Not at all, 2=A little, 3=Moderately, 4=Quite a bit, 5=Very much)</small>	1-2	3	4-5
<b>How much has your limitation to open your mouth changed your ability to work (including both gainful employment and household duties) during the last month?</b> <small>(1=Not at all, 2=A little, 3=Moderately, 4=Quite a bit, 5=Very much)</small>	1-2	3	4-5
<b>Additional Criteria</b>	>30mm opening or three fingers width, can bite into food	15-30mm opening or two fingers width, cut up solid food	<15mm opening or one finger width, no solid food, oral hygiene significantly impaired, swallowing impaired

### Risk Factors

- Invasion of tumour
- Location of tumour, e.g. mediolateral, jaw resection, buccal resection
- Radiation/Radiation field
- Surgical side effects
- Osteoradionecrosis
- History of TMJD
- History of grinding and clenching
- Central nervous system disorders
- Infection
- Jaw fracture

### Signs and Symptoms

- Difficulty brushing teeth
- Restricted movement of lips, tongue and jaw may make speech difficult
- Difficulty chewing
- Unable to eat solid foods, or limited in the variety of foods
- Stiffness, pain, discomfort and clicking jaw sounds when speaking or eating
- Ear pain
- Difficulty in speech and swallowing
- Jaw pain
- Pain on moving jaw

## Consultations

- Exercises must be cleared by a oncology physician team
- If a patient has had a jaw resection and reconstruction, consultation with the surgical team is essential prior to commencing jaw opening exercises
- Patients with a history of bone necrosis (ORN or MRONJ) of the mandible should be consulted with the surgical team prior to commencement of any jaw opening exercises

## Patient Goals and Risk

- Determine the realistic goals for the patient depending on treatment and ability
- Patients with a history of pathologic jaw fracture should be advised on the risk of displacement with jaw opening exercises

## Prevention

### The Rocabado Exercises—6 Repetitions, 6 Times a Day

#### Exercise 1

- Place tongue on the roof of the mouth
- Position the tip just behind your teeth and take six deep breaths

#### Exercise 2

- Keep tongue on the roof of the mouth
- Open and close the mouth six times

#### Exercise 3

- Keep tongue on the roof of the mouth
- Place two fingers on the chin to open your mouth against gentle resistance
- Place your fingers on both sides of your jaw and open six times

#### Exercise 4

- Place hands behind the neck
- Bend the chin down as if nodding

#### Exercise 5

- Move chin down and back as if making a double chin

#### Exercise 6

- Correct the posture by lifting the ribs and chest upward while squeezing the shoulder blades together

## Management

### Range of Motion Exercises

#### Warm-Up Exercises

- Take pain medication at least 30 minutes before starting your exercises
- Use a warm compress on the side of your face for 10 to 15 seconds each side
- Massage the sides of your face in circular motion starting from the area beside your ears down towards the lower jaw
- Gently open your mouth and hold for 10 seconds, repeat 5 times

#### Active Range of Motion Exercises for People on Therapy

- Do your warm up exercise first
- Open your mouth as wide as possible and hold position open for 30 seconds
- Use Therabite or Orastretch apparatus, if available
- Therapy Intensity: 5-5-30 (5 sets, 5 repetitions, 30 second hold)
- Do this exercise 5 times a day

#### Passive Range of Motion Exercises\*

- Do your warm up exercises first
- Do 1 set of active stretch exercise
- Do Tongue Depressor/Popsicle Stick Exercise
- Therapy Intensity: 5-5-30 (5sets, 5 repetitions, 30 second hold)

#### Therabite or Orastretch Exercise

- The patient needs instructions on how to set up and maintain the apparatus
- Insert the mouth piece between teeth and gently squeeze the lever
- Open jaw as comfortably as possible
- Hold for 30 seconds
- Slowly release. Repeat 5 times. Rest between stretches.
- Do this exercise 5 times a day
- There may be some discomfort and/or pain. If pain is excessive, stop and re-adjust the settings on the Therabite
- Every week use the fine adjustment knob to increase the lever by 1mm

#### Tongue Depressor/Popsicle Stick Exercise

- Open mouth gently as widely as comfortable
- Slide in a stack of tongue depressors
- DO NOT PRY OR FORCE THEM IN
- Place 1 inch of the length of the depressor into mouth for as long possible
- Hold for 30 seconds. Rest. Repeat 5 times.
- Do this exercise 5 times a day
- Aim for a gentle stretch, do not pull or pry
- When you no longer feel the stretch, add 1 more depressor to the stack
- Measure yourself weekly and write it down in your log

### Maintenance

- **Once patient has achieved your goal and functional mouth opening (approx. 35mm opening or >2 finger mouth opening)**
- Open your mouth as wide as possible and hold position open for 7 seconds
- Therapy Intensity: 7-7-7 (7sets, 7 repetition, 7 second hold)
- Repeat 7 times each day

### Follow-Up and Ongoing Monitoring

- If trismus remains unrelieved despite the approaches outlined above, request the assistance of specialists within the oncology consultation team, e.g. ear, nose and throat specialist, hospital dentist, speech language pathologists, etc.

\*For people with moderate to severe trismus who do not have functional mouth opening

## Basic Oral Care Tables

### Flossing

<b>Basic</b>	<ul style="list-style-type: none"> <li>Patients who have not flossed routinely before cancer treatment should not begin flossing at this time</li> <li>Patients with mouth cancers, trismus, dysphagia, and/or dysgeusia may not be able to floss; use of interproximal brushes can replace flossing</li> <li>Floss at least once daily</li> <li>Waxed floss may be easier to use and minimize trauma to the gums</li> </ul>
<b>Intensified</b>	<ul style="list-style-type: none"> <li>Continue with basic plan until discomfort becomes too great</li> </ul>
<b>End of Life</b>	<ul style="list-style-type: none"> <li>Discontinue flossing if patient chooses</li> </ul>

#### Discontinue flossing if:

- Gums bleed for longer than two minutes

#### Restart flossing if:

- Platelet count is  $>20 \times 10^9$  cells/L, or as instructed by cancer care team

### Brushing

<b>Basic</b>	<ul style="list-style-type: none"> <li>Use a small, ultra-soft-headed, rounded-end, bristle toothbrush (an ultrasonic toothbrush, may be acceptable)</li> <li>Rinse toothbrush in hot water to soften the brush before using</li> <li>Use a prescription strength fluoride toothpaste. Spit out the foam but do not rinse mouth</li> <li>Use a fluoridated toothpaste and re-mineralizing toothpaste containing calcium and phosphate</li> <li>Brush tongue gently from back to front, using a sweeping motion</li> <li>Rinse brush after use in hot water and allow to air dry</li> <li>Change toothbrush when bristles are not standing up straight</li> <li>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</li> <li>Consider topical anesthetics (e.g. viscous lidocaine 2% or viscous xylocaine 2%, 2-5 mL) before brushing and eating to minimize pain</li> <li>With continuous pain, a regularly prescribed oral analgesic allows for more thorough tooth brushing</li> </ul>
<b>Intensified</b>	<ul style="list-style-type: none"> <li>Encourage patient to continue brushing through treatment phase even when it causes discomfort</li> <li>If bleeding occurs, encourage gentler brushing</li> <li>Use a non-flavoured, non-alcoholic chlorhexidine gluconate (CHX) 0.12% rinse to aid in plaque control, 2 times a day after meals</li> <li>If unable to continue brushing with a toothbrush, use a moist gauze or foam swab</li> <li>Discontinue use of toothpaste if it is too astringent and dip toothbrush in bland rinse</li> <li>If there has been an oral infection, use a new toothbrush after infection has resolved</li> <li>If unable to tolerate brushing, seek assistance from nursing or dental staff</li> </ul>
<b>End of Life</b>	<ul style="list-style-type: none"> <li>Continue with basic and intensified mouth care plan, if possible</li> <li>Instead of moist gauze may use a foam brush soaked in CHX</li> </ul>

#### Discontinue brushing if:

- Gums bleed for longer than two minutes

#### Restart brushing if:

- Platelet count is  $>20 \times 10^9$  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 trauma to the surgical area

## Rinsing

<b>Basic</b>	<ul style="list-style-type: none"> <li>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</li> <li>Use a bland rinse to increase oral clearance for oral hygiene maintenance and improved patient comfort.</li> <li>Following emesis, rinse with bland rinse immediately to neutralize the mouth</li> <li>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</li> </ul>
<b>Intensified</b>	<ul style="list-style-type: none"> <li>Rinse in place of brushing if patient is unable to brush</li> <li>Seek dental care where possible for removing plaque</li> <li>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</li> <li>If unable to clean using moist gauze, or foam swab, consider rinsing via syringe if platelet count <math>&gt;20 \times 10^9</math> cells/L</li> </ul>
<b>End of Life</b>	<ul style="list-style-type: none"> <li>Continue with basic and intensified mouth care plan</li> <li>Consider sialagogues in instances of dry mouth for pharmacotherapy relief (pilocarpine, and anethole trithione)</li> </ul>

### 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

### 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

<b>Basic</b>	<ul style="list-style-type: none"> <li>Moisturize the mouth with water, artificial saliva products, or other water soluble lubricants</li> <li>Apply lubricant after each cleaning, at bedtime, and as needed. Water-based lubricant needs to be applied more frequently</li> <li>Frequent rinsing as needed with basic mouth rinse</li> <li>Patients may suck on xylitol lozenges (up to 6 grams a day), xylitol containing popsicles, or xylitol containing gum</li> </ul>
<b>Intensified</b>	<ul style="list-style-type: none"> <li>Continue with basic mouth care plan with increased frequency and intensity</li> <li>Increase frequency of bland mouth rinse to every hour</li> </ul>
<b>End of Life</b>	<ul style="list-style-type: none"> <li>Continue with basic mouth care plan with increased frequency and intensity, as needed</li> <li>Use a steam vaporizer at night</li> <li>May use a cool mist humidifier at night, but use should be weighed against the risk for fungal infection</li> </ul>

### Avoid:

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

## Lip Care

<b>Basic</b>	<ul style="list-style-type: none"> <li>To keep lips moist and avoid chapping and cracking, use water soluble lubricants, lanolin (wax-based), or oil based lubricants (mineral oil, cocoa butter)</li> <li>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)</li> <li>Apply lubricant after each cleaning, at bedtime, and as needed. Water-based lubricants need to be applied more frequently</li> </ul>
<b>Intensified</b>	<ul style="list-style-type: none"> <li>Continue with basic mouth care plan with increased frequency and intensity</li> </ul>
<b>End of Life</b>	<ul style="list-style-type: none"> <li>Continue with basic mouth care plan with increased frequency and intensity, as needed</li> <li>May use a cool mist humidifier at night, but use should be weighed against the risk for fungal infection</li> </ul>

### Avoid:

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

## Miscellaneous

<b>Basic</b>	<ul style="list-style-type: none"> <li>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</li> </ul>
<b>Intensified</b>	<ul style="list-style-type: none"> <li>Continue with basic mouth care plan with increased frequency and intensity</li> </ul>
<b>End of Life</b>	<ul style="list-style-type: none"> <li>Continue with basic mouth care plan with increased frequency and intensity, as needed</li> </ul>

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## Disclaimer

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## Acknowledgements

A wide variety of health professionals were invited to participate in the development of this algorithm, as well as in the external review. Every effort was made to ensure as broad a professional and regional representation as possible.

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