



## PATIENT & CAREGIVER EDUCATION

# Preventing Trismus

This information will help you prevent trismus (lockjaw) during and after your surgery or radiation therapy. Trismus is when you're not able to open your mouth as wide as usual.

## The Structure of Your Jaw

Your jaw is made up of a pair of bones that form the framework of your mouth and teeth (see Figure 1).

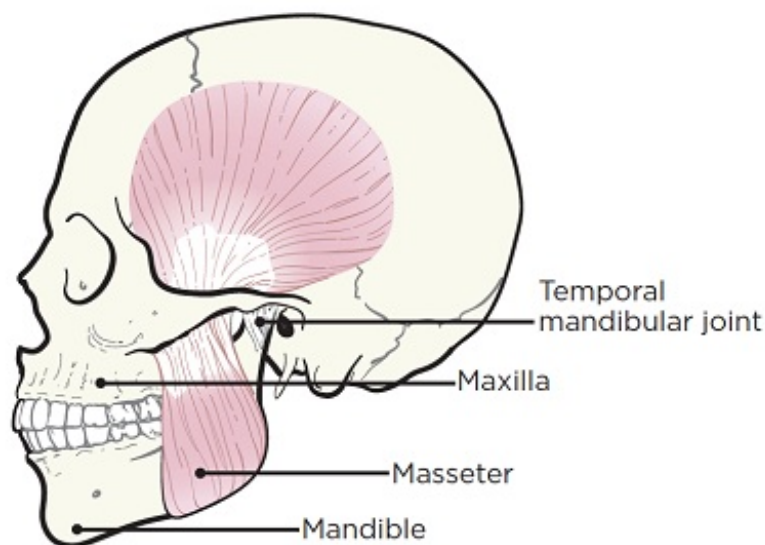


Figure 1. The bones and muscles of your jaw

- Your **maxilla** is your upper jaw bone.
- Your **mandible** is your lower jaw bone.
- Your **temporomandibular joint (TMJ)** is where your mandible connects to your skull.

- Your **masseter muscle** is the muscle that connects your mandible to your skull.

Many muscles and nerves around your jaw work together to open and close your mouth. Most people are able to open their mouth 35 to 55 millimeters (1.4 to 2.2 inches), which is about the width of 3 fingers (see Figure 2).



Figure 2. Normal width of an open mouth

## About Trismus

Trismus can happen anytime during, right after, or even years after your treatment. It can happen:

- If you have a tumor that involves the bones, muscles, and nerves that open your mouth.
- After surgery to your head and neck.
- After radiation therapy to your head and neck.

You may develop fibrosis (scarring) as the tissues begin to heal from surgery. Fibrosis can also build up years after radiation therapy.

When you can't open your mouth well, it's hard for your doctor to examine the area. You may also have problems:

- Cleaning your mouth and teeth (oral hygiene). This can lead to bad breath, cavities, and infections.

- Chewing and swallowing. This can make it hard for you to eat and drink.
- Talking.
- Kissing.
- Having a breathing tube placed, such as if you ever need general anesthesia (medication to make you sleep during a surgery or procedure).
- Having routine dental treatment.

Once trismus develops, it's very hard to treat. That's why it's important to prevent trismus and treat it as early as possible.

## **How to Prevent Trismus**

There are 4 main ways to help prevent trismus. Even if you don't have any symptoms, you should do the following to prevent problems:

- Massage your jaw muscles.
- Exercise your jaw muscles.
- Keep good posture.
- Keep good oral hygiene.

Follow the instructions in the sections below. Remember to breathe normally and don't hold your breath. If you feel pain, numbness, or tingling, stop right away and call your doctor's office.

If you have had surgery, check with your doctor or nurse before following the instructions in these sections.

### **Massage your jaw muscles**

Place your index (pointer) and middle finger on your cheek bone. Run your fingers down over your masseter muscle, which ends at your bottom jaw (see Figure 3). As you move your fingers, find areas that feel tender or tight. Massage these areas with your fingers in a circular motion for 30 seconds. Do this 2 to 3 times a day.



Figure 3. Massaging your jaw muscles

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Try not to clench your jaw when you're stressed or out of habit. This will help keep your jaw muscles relaxed.

### **Exercise your jaw muscles**

Use a mirror for these exercises to help you do them correctly. These movements should give you a good stretch, but not cause pain. Do these exercises 2 to 3 times a day.

## Active range of motion and stretching exercises

Sit or stand. Hold your head still while doing these exercises.

1. Open your mouth as wide as you can, until you can feel a good stretch but no pain (see Figure 4). Hold this stretch for \_\_\_\_\_ seconds.

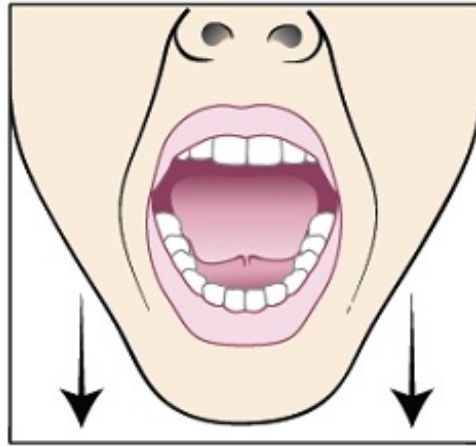


Figure 4. Mouth open wide

2. Move your jaw to the left (see Figure 5). Hold this stretch for 3 seconds.
3. Move your jaw to the right (see Figure 6). Hold this stretch for 3 seconds.

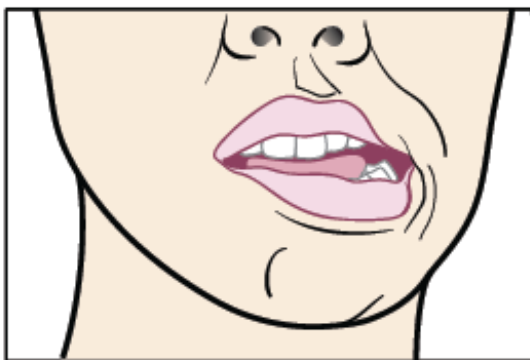


Figure 5. Jaw moved to the left

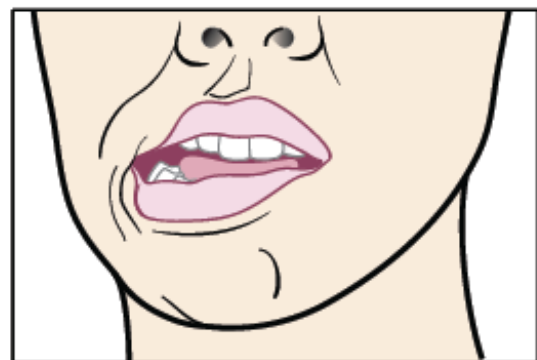


Figure 6. Jaw moved to the right

4. Move your lower jaw in a circle. Make 5 circles in each direction.

## Passive stretching exercise

1. Place 1 thumb on your top teeth in the middle of your jaw.
2. Place the index finger of your other hand on your bottom teeth in the middle of your jaw.
3. Open your mouth with your fingers (see Figure 7). Don't bite down or resist. Let your fingers do all of the work. Hold this stretch for \_\_\_\_ seconds.



Figure 7. Opening your mouth with your index finger and thumb

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## Keep good posture

Good posture means sitting and standing with your ears, shoulders, hips, knees, and ankles aligned (see Figure 8).

To keep good posture, you need to keep your neck and shoulders strong and flexible. The following exercises will help you do this. **Do these exercises 2 times every day.**

## Neck stretch

Sit or stand with your arms at your side. Hold each stretch for

30 seconds.

1. Bend your head forward (see Figure 9).
2. Bend your head backward (see Figure 10).



Figure 9. Head bent forward

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Figure 10. Head bent back

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Figure 8. Good posture

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3. Turn your head to the right (see Figure 11).

4. Turn your head to the left (see Figure 12).



Figure 11. Head turned to the right

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Figure 12. Head turned to the left

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5. Bring your left ear to your left shoulder (see Figure 13).

6. Bring your right ear to your right shoulder (see Figure 14).



Figure 13. Head bent to the left

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Figure 14. Head bent to the right

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## Chin tuck

1. Sit or stand with your arms at your side.
2. While looking forward, tuck your chin.
3. Pull your head back to line up your ears with your shoulders (see Figure 15). Hold this position for 3 seconds.
4. Do this exercise slowly 10 times.



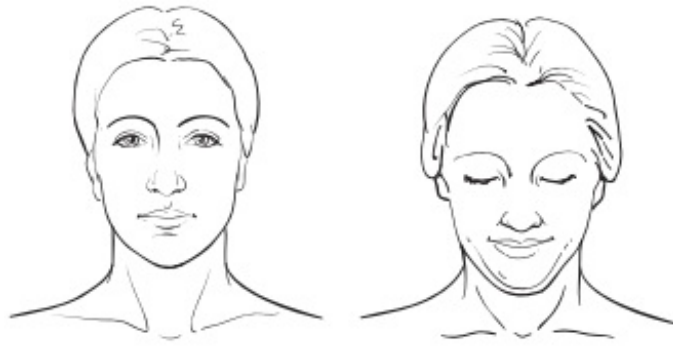


Figure 15. Chin tucked and head pulled back

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## Shoulder blade pinch

1. Sit or stand with your arms at your side. Tuck your chin as described in the chin tuck exercise above.
2. Pinch your shoulder blades together as tightly as possible (see Figure 16).
3. Hold this position for 3 seconds.
4. Do this exercise slowly 10 times.

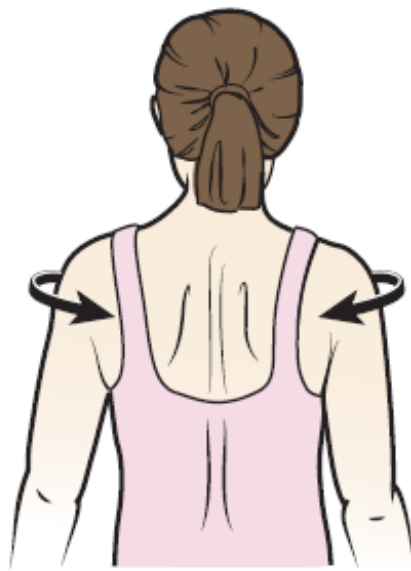


Figure 16. Shoulder blades pinched together

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## Keep good oral hygiene

- Brush your teeth and tongue when you wake up, after each meal, and at bedtime.
- If you have removable dentures or a dental prosthesis, take it out and clean it each time you clean your mouth. Don't sleep with it in your mouth.
- Floss your teeth once daily at bedtime.

## If You Develop Tightness When Opening Your Mouth

The earlier you start treatment for trismus, the easier it will be to help your jaw work better. If you notice any tightening in your jaw, call your doctor or nurse right away. They can refer you to a specialized healthcare provider, such as:

- Speech and swallowing specialists, physical therapists, or both. They can help you keep your ability to open your mouth and get back any ability you have lost. They use many techniques, such as exercise, stretching, and massage. They may also recommend special devices to help you open your mouth.
- Rehabilitation doctors. They will evaluate how well you can open your mouth. They may give you medication for pain or spasms (sudden intense cramping in your muscle), suggest other treatments, or recommend medical devices to help you.

Your doctor will talk with you about which referral(s) may be most helpful for you.

If you have any questions, contact a member of your healthcare team directly. If you're a patient at MSK and you need to reach a provider after 5:00 PM, during the weekend, or on a holiday, call 212-639-2000.

For more resources, visit [www.mskcc.org/pe](http://www.mskcc.org/pe) to search our virtual library.

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