

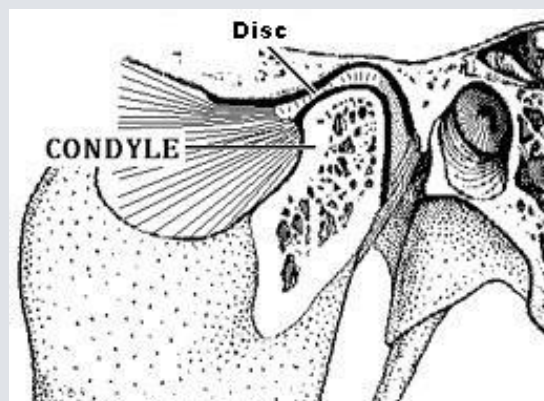
# Temporomandibular Joint (TMJ)

TMJ stands for temporomandibular joint. This is your jaw joint. Everyone has two of them. If your TMJ is not moving correctly or causes pain, then you have TMD or temporomandibular dysfunction. TMD most often involves increased muscle tension in the jaw and neck area, incorrect posture, and inflammation or disc dislocation within the joint. It is important to learn to relax and coordinate the muscles of the head, neck, and jaw to avoid compressing or overloading the TMJ.

Your TMD involves the following problems:

- Para functional oral habits such as: teeth clenching/grinding, gum/pencil/nail/lip/cheek biting, tongue thrusting, etc.
- Incorrect posture and body mechanics
- Tight TMJ ligaments
- Joint swelling /irritation
- Hypomobility - restricted jaw movement due to capsular, ligamentous and/ or muscle tightness
- Hypermobility- jaw opens too wide and /or jaw movements are uncoordinated
- Increased tension and /or loss of flexibility of jaw and neck muscles.
- Breathing from the upper chest
- Incorrect swallowing technique
- Disc Dislocation with or without reduction

## ANATOMY OF THE TMJ



## TMJ DO'S AND DON'TS

### TMJ DOs:

- Maintain balanced posture while sitting, standing and sleeping
- Keep cheekbones aligned over breastbone and ears over the shoulder joints
- Keep the tongue resting on the roof of the mouth like saying "N"
- Breathe through the nose and use the diaphragm
- Keep the tongue pointing to the roof of the mouth while yawning to prevent pain and excessive opening
- Eat soft foods (ex: soups, steamed veggies, pasta, tender fish/chicken)
- Do exercises frequently throughout the day to increase awareness to tension and faulty posture, modify poor habits and reeducate the musculoskeletal system of the body
- Do cope and manage stress



### TMJ DON'Ts:

- Don't clench teeth when resting, exerting effort and/ or concentrating
- Don't chew gum/pencils/nails/lips
- Don't carry head in a forward position
- Don't eat hard, chewy food (ex: bagels, pizza crust, ice cubes, raw veggies, steak, taffy, etc.)
- Don't sleep on your stomach
- Don't open mouth too wide (ex: eating apples, thick sandwiches, etc.)

## SHORT UPPER LIP EXERCISES

**Purpose:** To stretch the short upper lip.  
To enable it to cover the upper teeth without tension of the chin and chewing muscles.

1. **Stretching the skin of the central portion of the upper lip.** Place one finger on the nasal septum or center of nose and actively move upper lip to cover the upper teeth with mouth slightly open. Hold 10 seconds. Do 5 reps 5x/day.
2. **Mobility of the upper lip.** Place 2 fingers on the chin muscles, hold lower lip down to prevent hyperactivity of the chin muscles. Actively move upper lip to cover the upper teeth. Hold 10 seconds. Do 5 reps, 5x/day.
3. **Stretching the vestibular fibers of the upper lip.** Place the thumb under the upper lip until you feel the depression where the lip meets the gum line. Place the index finger on top of the thumb externally. Gently pull upper lip downwards. Hold for 10 seconds. Do 5 reps, 3x/day.  
Note: This is a painful stretch, apply gentle but firm pressure.
4. **Rubber tubing or cotton roll stretch.** Place a piece of surgical tubing (5 mm in diameter and 6cm in length) or a dental roll between the upper lip and upper front teeth. Try to move upper lip downward with mouth slightly open. Use for at least 20 to 30 min, 2x / day.
5. **Strengthening exercise.** Place thumb and index fingers in the corners of the lips resting on the teeth and exert a mild lateral force as you press the lips together. Hold for 10 seconds. Do 5 reps, 5x/day.

## LINGUAL OR TONGUE EXERCISES

**Purpose:** To improve flexibility, strength and coordination of the tongue muscles.  
To relax masticatory or chewing muscles.  
To improve nasal breathing.

1. **Increase awareness of the structures of the mouth (proprioception).** Rub the tip of the tongue on the rugae (ridgelike surface of the hard palate or roof of the mouth) and on the soft palate then compare to the tissues of the teeth, gum and cheeks.
2. **Elevation and retraction of the tongue.** Rub the tip of the tongue on the hard palate forward and backward while the mouth is half open. Do 10 reps, 5x/day.
3. **Coordination exercises.** (a) Rub the tip of the tongue from the rugae to the back of the hard palate in a triangular pattern. (b) Rub tip of tongue from the rugae in a circular pattern. Avoid teeth contact. Do 10 reps 5x/day.
4. **Strengthening exercise.** (a) Make a “cluck” sound by quickly moving the tongue on the rugae allowing the lower jaw to drop. Make the sound loud and crisp. Do 10 reps, 5x/day. (b) Stick the tongue out with the mouth open then push the tip against the index finger with gentle resistance. Hold for 10 seconds. Then place the index finger on the side of the tongue and resist gently. Hold 10 seconds. Repeat on the other side. Do 5 reps, 5x/day. (c) Imitate the sound of a motorcycle by vocalizing an “RRRRR” sound. Keep the tip of the tongue on the rugae. While vibrating with mouth open. Do 5 reps, 5x/day.
5. **Vowel pronunciation.**  
Say “A E I O U,” allowing your jaw to open actively as you say each letter. Practice in front of a mirror to ensure you are opening your mouth.

## TEMPOROMANDIBULAR JOINT EXERCISES

### 1. Mandibular Rest Position (tongue in the N position)

Purpose: To take the pressure off the TMJs and chewing muscles. To promote nasal and diaphragmatic breathing. This is the normal resting position of the lower jaw.

Exercise: Place the front top third of the tongue on the roof of the mouth. Keep back and front teeth slightly apart.

Result: Facial and chewing muscles should feel relaxed (i.e., no muscular effort to maintain the tongue in the N position).



### 2. Mouth Opening with the Tongue Guide

Purpose: To train your muscles to open with correct mechanics and alignment. To take pressure off your TMJs and relax your jaw muscles.

Exercise: Place the tip of the tongue on the rugae (ridge like surface of the roof of the mouth.). Open mouth through the pain free range of motion. Do not allow the jaw to drift to the left or right. If necessary, use index finger to guide mandible.

Result: Your jaw muscles may feel slight stretch and will feel more relaxed.



Repeat \_\_\_\_\_ times.

Do \_\_\_\_\_ times per day.

### 3. Mouth opening with tip of tongue on the upper /opposite rear molar.

Purpose: To try to recapture displaced TMJ disc by actively using tongue guide.

Exercise: Place the tip of the tongue on your \_\_\_\_\_ upper rear molars or between rear molars and cheeks. Lower your mandible; open your mouth only as far as you can while maintaining the tip of your tongue in contact with your rear molars. Open your mouth through the pain free motion. You might hear or feel a recapturing click or not.

Repeat \_\_\_\_\_ times.  
Do \_\_\_\_\_ times per day.



### 4. Mouth opening without guidance.

Purpose: To increase range of motion of TMJ opening

Exercise a: Place the tip of the tongue on rugae, open mouth one finger wide, release tongue and continue opening to 40 mm. Hold for 10 seconds.

Exercise b: Open your mouth (without keeping the tip of the tongue on the roof of the mouth). Open mouth \_\_\_\_\_ fingers. Initially, use index finger to guide mandible. As you learn this movement, eliminate the use of the index finger for guidance.

Repeat \_\_\_\_\_ times.

Do \_\_\_\_\_ times per day.



### 5. Jaw side-gliding.

Exercise: Open your mouth. Place one finger or a cotton roll between your upper and lower teeth. Move or glide lower jaw by 10 mm, gently to the left then right equally. Hold for 5-10 seconds. Move through pain and noise free range of motion.

Repeat \_\_\_\_\_ times.

Do \_\_\_\_\_ times per day.



### 6. Jaw protrusion or forward motion

Exercise: Open your mouth, place one finger or cotton roll between upper and lower teeth. Glide or move lower jaw forward by 5-10 mm gently. Hold for 5-10 seconds. Relax to starting position. Move through noise and pain free range of motion.

Repeat \_\_\_\_\_ times.

Do \_\_\_\_\_ times per day.



### 7. Passive mandibular stretch

Exercise: Place your index finger on your lower front teeth and your thumb on your upper front teeth. Using your index finger, gently apply downward pressure so that your mouth is opened. When you notice a stretching sensation, hold this position for \_\_\_ seconds.

Repeat \_\_\_\_\_ times.

Do \_\_\_\_\_ times per day.





## 8. Unloading with tongue blades

Exercise: Carefully place \_\_\_ tongue blades diagonally on \_\_\_ side of the rear molars. Do not bite down on the sticks. Remember to relax by breathing from the belly. Allow your facial and jaw muscles to relax for \_\_\_ minutes.

Repeat \_\_\_\_\_ times.

Do \_\_\_\_\_ times per day.



## 9. TMJ muscle assessment and massage

Purpose: To check if your chewing muscles are relaxed or overworked from clenching or other oral habits.

- a. Masseter: Place thumb inside your cheeks and other fingers flat on the outer cheek. Glide fingers from the cheekbone to the lower part of the jawbone, which are the attachments of the masseter.
- b. Medial pterygoid: Place thumb on the top of the lower rear molars. Glide to the end of the gum and feel the muscle located on the tongue inside of the bone (mandible). Massage muscles or put pressure gently for 20 seconds.

Repeat as tolerated.

Do \_\_\_\_\_ times per day.





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## 10. Self TMJ Mobilization.

Purpose: To gently separate joint surfaces, to restore mobility and reduce pain.

Exercise: To move the left TMJ down, place your right thumb on your rear molars of the lower jaw. Turn your head to the side of your mobilizing hand (right). Gently place downward pressure on the molars with your thumb. Monitor the slight motion in the joint by placing the left index finger over the TMJ. Hold the minimal stretch for 10 seconds without producing pain.



Repeat as tolerated.

Do \_\_\_\_\_ times per day.

## MUSCLE RE-EDUCATION EXERCISES

**Purpose:** To strengthen the muscles that support the TMJs, the neck and the spine. To improve timing of muscle contraction to improve joint mechanics.

*Note: The correct amount of pressure is minimal because the TMJ is a small joint, and it can be injured if excessive force is used.*

### 1. Resist Closing



Exercise: Open your mouth so that your teeth are \_\_\_\_ apart. Place your thumb under your chin. Place a small amount of upward pressure onto your chin with your thumb. Resist the closing of your mouth by gently contracting the muscles that would open your mouth. Do not let your mandible move from the starting position. Hold this position for \_\_\_\_seconds.

Repeat \_\_\_\_\_ times.

Do \_\_\_\_\_ times per day.



## 2. Resist side gliding

Exercise: Open your mouth so that your teeth are \_\_\_\_ apart. Place your left index finger on the left side of your chin. Place a small amount of pressure on your chin with your index finger as if you were trying to move your mandible passively to the right. You will need to contract your jaw muscles to prevent movement of your mandible. Hold position for \_\_\_\_ seconds. Repeat this exercise in the opposite direction.

Repeat \_\_\_\_\_ times.

Do \_\_\_\_\_ times per day.



### 3. Resist side and backward motions

Exercise: Open your mouth so that your teeth are \_\_\_ apart. Place your right index finger on the front and side of your chin. Press toward your left ear with your index finger. You will need to contact your jaw muscles to resist the movement of your mandible. Hold this position for \_\_\_ seconds. Repeat using the left index finger and press to your right ear.

Repeat \_\_\_\_\_ times.

Do \_\_\_\_\_ times per day.



### 4. Resist protrusion

Exercise: Open your mouth so that your teeth are \_\_\_\_\_ apart. Place your index finger on the front part of your chin and exert a small amount of pressure toward your throat. Do not allow your mandible to be pushed backward by gently contracting your jaw muscles. Hold this position for \_\_\_\_\_ seconds.

Repeat \_\_\_\_\_ times.

Do \_\_\_\_\_ times per day.

