

## HOME EXERCISE PROGRAM FOR COMMON TEMPOROMANDIBULAR DISORDERS

# Treating TMJ Hypermobility

Knowledge of temporomandibular joint motion is essential in the evaluation and treatment of TMD. The TMJ is a synovial (fluid-filled) joint. It is comprised of a biconcave disk sandwiched between the mandibular fossa of the skull's temporal bone and



the mandibular condyle of the jaw bone. The normal range of jaw opening is between 40 and 50 mm. The initial 25 mm of opening is primarily achieved by rotation which occurs in the bottom half of the joints between the mandibular condyle of the jaw bone and the underneath surface of the disk. The remaining 15 to 25 mm is gained primarily through the forward gliding (anterior translation) motion that occurs between the upper surface of the disk and the temporal bone of the skull.

Believed to be the most common mechanical disorder of the TMJ, *hypermobility* is characterized by early



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ARTICLE HIGHLIGHTS

- Explanation of TMJ anatomy and mechanics
- Treating TMD hypermobility
- Patient Exercises: Realigning the head, neck, and jaw through RTTPB

Temporomandibular joint rotation and translation control

Mandibular stabilization

"The most common cause of jaw pain is due to excessive motion in one or both TMJs." and/or excessive forward gliding of one or both TMJs. This excessive forward gliding results in laxity of the surrounding capsule and ligaments. The over-stretching of these structures allows for disk displacement/derangement to occur in one or both jaw joints. Ultimately, pain, functional loss, and possibly arthritic changes set in.

Patients who suffer with TMJ hypermobility will present in the clinic with the following signs and symptoms:

- Clicking, popping, or cracking when opening or closing the mouth.
- Pain in one or both TMJs and the surrounding chewing muscles.
- Ringing in the ears (tinnitis) or the sensation that the ears are "clogged."
- Sideways movement of the jaw during opening and/or closing of the mouth.
- Jaw getting stuck open or closed (open or closed locking).

According to Rocabado (1983):

"Hypermobile joints are treated by avoiding the excessive anterior translatory glides of the condyle, controlling rotation, stabilizing the joint and re-establishing normal head, neck and shoulder girdle posture."

It is these treatment components, prescribed by Rocabado, which the following exercises seek to address.



## □ Realigning the Head, Neck and Jaw through RTTPB:

#### **Objectives:**

- To promote total body relaxation.
- To decrease pressure with in the TMJs.
- To provide for good head, neck, and back posture.
- To decrease muscular tension in the jaw, neck, and shoulders.
- To use as the starting position for all other TMJ exercises.

#### Directions:

- **R**-Relax: Stop what you are doing. Allow the tension in your body to be released.
- T-Teeth apart: Say the word "Emma." Maintain your jaw in this slightly opened position.
- **T**-Tongue on the roof of your mouth, just behind your upper two front teeth. Hold your tongue in this "clucking" position.
- **P**-Posture: Imagine two strings. One string pulls straight up from the crown of your head to the ceiling; the second string pulls up and out from your breastbone.
- **B**-Breathing: Diaphragmatic (from your stomach). Place one hand on upper chest and the other hand on your stomach. When you breathe in (inhale), the hand on your stomach should rise more than the hand on your chest. (Imagine inflating a balloon in your abdomen as you inhale.)

## TMJ Rotation and Translation Control: Phase I

#### **Objectives:**

- To restore proper "tracking" to the TMJ.
- To decrease or eliminate clicking, cracking, popping, or excessive movement occurring in the TMJ.
- To limit TMJ mechanics to rotation through an *active-assisted* technique. (Active-assisted means using an external aid. In this case the index finger is used to assist the movement.)



#### **Directions:**

- 1. Keep the tip of your tongue on the roof of your mouth ("clucking" position) throughout the exercise.
- 2. Place one index finger on a TMJ (the one with the greatest amount of dysfunction or pain).
- 3. Place your other index finger on your chin.
- 4. Allow your jaw to drop down and back, towards your throat, with guidance from your index finger.
- 5. Monitor this partial jaw opening in a mirror to ensure a straight opening and closing.
- 6. Repeat this exercise five times, five times per day. When proficient advance to Phase II.



## **TMJ** Rotation and Translation Control: Phase II Objectives:

- To restore proper "tracking" to the TMJ.
- To decrease or eliminate clicking, cracking, popping, or excessive movement occurring in the TMJ.
- To limit TMJ mechanics to rotation through *active* exercise by the patient. (Active exercise means that the patient's own jaw muscles perform the movement.)

#### **Directions:**

- 1. Keep the tip of your tongue on the roof of your mouth ("clucking" position).
- 2. Place both index fingers on your TMJs.
- 3. Allow your jaw to drop down and back (chin to the throat).
- 4. Monitor this partial jaw opening in a mirror to ensure a straight opening and closing.
- 5. Repeat this exercise five times, five times per day. When proficient, advance to Phase III.

## TMJ Rotation and Translation Control: Phase III

#### **Objectives:**

- To restore proper sequencing and timing of movement to the TMJ (rotation followed by forward glide) through an *active-assisted* technique.
- To restore proper "tracking" to the TMJ.
- To decrease or eliminate clicking, cracking, popping, or excessive movement occurring in the TMJ.

#### **Directions:**

- 1. Begin with tongue on the roof of your mouth ("clucking" position).
- 2. Place one index finger on the TMJ with the greatest amount of dysfunction or pain.
- 3. Place your other index finger on your chin.
- 4. Allow your jaw to drop down and back with guidance from your index finger (chin to throat).
- 5. Drop tongue from roof of mouth and complete opening (continue to direct chin toward throat). \*
- 6. Monitor this complete jaw opening in a mirror to ensure a straight opening and closing.
- 7. Repeat this exercise five times, five times per day. When proficient, advance to Phase IV.

\*Optional technique: Drop lower jaw to maximum opening, maintaining tongue in light contact with roof of mouth.



## TMJ Rotation and Translation Control: Phase IV

#### **Objectives:**

- To restore proper sequencing and timing of movement to the TMJ (rotation followed by forward glide) through *active* exercise.
- To restore proper "tracking" to the TMJ.
- To decrease or eliminate clicking, popping, cracking, or excessive movement occurring in the TMJ.

#### **Directions:**

- 1. Begin with your tongue on roof of your mouth ("clucking" position).
- 2. Place both index fingers on your TMJs.
- 3. Allow your jaw to drop down and back (toward your throat).
- 4. Drop your tongue from the roof of your mouth and complete opening (chin to throat).
- 5. Monitor this complete jaw opening in a mirror to ensure a straight opening.
- 6. Repeat this exercise five times, five times per day.

### **Introduction to Mandibular Stabilization Exercises**

Mandibular stabilization exercises are designed to balance the strength and function of the right and left TMJ muscles and to establish a normal jaw position at rest and during motion.

#### **Special Considerations:**

The following exercises require the application of light pressure to the jaw by way of your index finger. The intensity of this pressure should be a 2 on a scale of 1 to 10 (10=highest force). Remember, your jaw *should not move* during the application of pressure (monitor in front of a mirror). These mandibular stabilization exercises are designed as building blocks. Stage II mandibular stabilization builds on Stage I, and Stage III builds on Stage II. Consequently, **the earlier stages are continued as the advanced stages are added.** Stage III (two-knucklewidth opening) is a high level exercise performed by patients who no longer experience pain and can correctly perform Stages I and II (not all patients can be progressed to Stage III).





## □ Mandibular Stabilization: Stage I

#### **Directions:**

- 1. Maintain the RTTPB position throughout this exercise.
- 2. Use your index finger to apply the gentle pressures shown in photographs A through F.
- 3. Hold each directional pressure for two seconds.
- 4. Repeat each direction five times, five times per day.
- 5. When proficient, add Stage II.



A. Pressure: to the left. B. Pressure: up to ceiling. C. Pressure: to the right.



D. Pressure: diagonally back toward left ear.



D. Pressure: diagonally

back toward right ear.





F. Pressure: in toward throat.

## □ Mandibular Stabilization: Stage II

#### **Directions:**

- 1. Perform RTTPB.
- 2. Place the knuckle of your index finger between your top and bottom teeth.
- 3. *Remove your knuckle*, keeping teeth separated one knuckle-width apart.
- 4. Replace tongue on the roof of your mouth ("clucking" position).
- 5. Apply gentle pressure to the lower jaw as shown in the above photographs A through F, (Mandibular Stabilization: Phase I).
- 6. Maintain each pressure for two seconds.
- 7. When proficient, add stage III.



Jaw position: One knuckle-width apart.



Jaw position: Two knucklewidths apart.

## Mandibular Stabilization: Stage III

#### **Directions:**

- 1. Perform RTTPB.
- 2. Place the knuckles of your index and middle fingers between your top and bottom teeth.
- 3. Remove them, keeping teeth separated two knuckles-width apart.
- 4. Replace tongue on the roof of your mouth ("clucking" position) if possible.
- 5. Apply gentle pressure to your jaw as shown in the above photographs A through F, while maintaining the two knuckles-width opening.
- 6. Hold each pressure for two seconds.
- 7. Repeat five times, five times per day.

\* Alternative: If two knuckles cannot be inserted, open as wide as possible and perform in this jaw position



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