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Mini Review

Jaw Exercises and Awareness as a Minimally Invasive and Adjunctive Modality to Relieve Help Relieve the Stress on the TMJ and Tension Headaches due to Bruxism

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Abstract

Dr. Dana G. Colson, in reference to her book, Your Mouth: The Gateway To a Healthier You, explores the dental origins of headaches, the importance of patient education and the prescription of minimally invasive techniques in order to relieve muscular stress and tension headaches caused by bruxism. A yoga-based approach including jaw exercises allows for an integration with dental practices to ensure overall wellness.

Keywords: *Jaw Exercises; Stress; TMJ; Headaches; Bruxism*

Introduction

Lips together, teeth apart, tongue in place. This simple, seven word mantra can improve your patient's life. A Yoga based approach may assist you in treating patients with bruxism in a non-invasive manner.

In North America today it's considered "normal" to experience headaches. It's estimated that about 5 to 6 percent of the population suffer from bruxism excessively, yet most will suffer bouts of bruxism at some point in their lives. Research shows that it is equally prevalent in both sexes, but more common in younger people. The majority of people experience tension headaches that can be felt around the eyes and ears. Doctors are working to understand the cause rather than just to treat the symptoms. Indeed, medical resources are increasingly devoted to trying to understand the underlying conditions that give rise to headaches.

The message that needs to be delivered to thousands of headache sufferers is that having headaches is not normal. It is advisable to ask patients if they experience headaches, and diagnose if they are related to jaw position, or bruxism. A misalignment, muscle tension or stress can set bruxism into motion, especially during sleep. This gnashing sets off a constant spasm of muscles in the jaw, which can lead to severe tension headaches.

Look for signs that a headache may have a dental origin. Two of the most common dental causes of tension headaches are bruxism, and jaw misalignment. Broken, chipped or fractured teeth and receding gums are often signs of bruxism. Over time it becomes a lifelong habit–often one patients are unaware of. Another visual sign of bruxism is a scalloped tongue.

When patients experience bruxism, the tongue steps into brace the jaws, an action that eventually creates pinch marks around the edges (Figure 1). This provides important information in regards to patient's habits. There are many ways to reduce or eliminate this pain without drugs or surgery. Less invasive treatments include stress reduction, jaw exercises and trigger-point therapy.

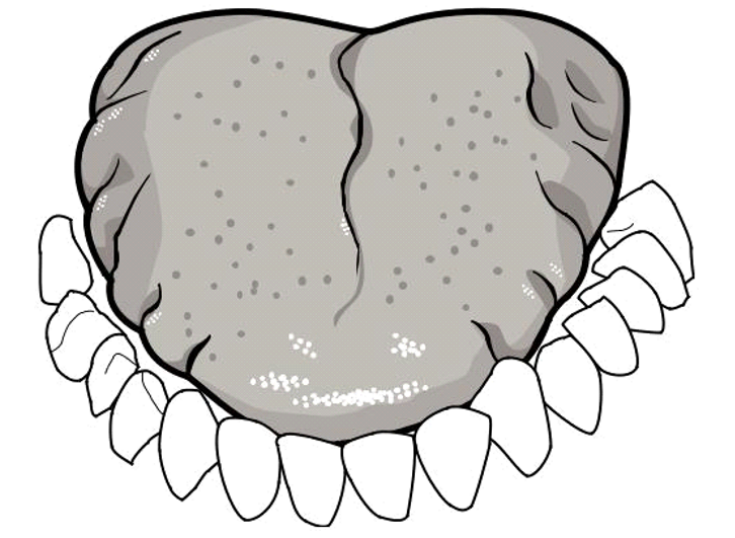

Figure 1: *Scalloped tongue.*

The jaws help with balance. An adult human head typically weighs between eight and twelve pounds, yet it is balanced with only seven vertebrae in the neck. Balance is maintained by the mandible and its muscles, which counterweight the rest of the skull. When the jaws are sitting properly, they rest comfortably, as do the head and shoulders. But if the mandible is out of place, it can throw the jaw muscles out of balance, putting a strain on the neck and head. If the head is tilted as little as eight degrees forward, 35 to 40 pounds of pull is required by the posterior neck muscles to maintain the head in an optimal posture. This kind of strain on neck muscles can cause pain to radiate to other parts of the body, resulting in neck strain and headaches.

Just as yoga promotes the melting away of tension and pain through the mindful practice of proper poses, paying attention to proper jaw alignment and doing facial exercises and massage to encourage proper positioning can relieve headache pain and other problems. By understanding and effectively communicating to patients how the jaws work and their importance, we can focus on relaxing various muscles to relieve pain. Hot pads to increase circulation, cold packs or anti-inflammatory medication to decrease pain and swelling are often used in conjunction with exercise to achieve optimal results. Once aware of poor habits involving our mouth, jaws or neck, we can take the necessary steps to restore a proper balance.

We advise the encouragement of patients to become conscious of their mouth positioning. The ideal position is one in which the teeth are a few millimeters apart, the tongue rests lightly at the junction of the upper teeth and gum tissue and the lips rest lightly together. The head should also be held in an upright, balanced but relaxed position. Lips Together, Teeth Apart, Tongue in Place is what I teach to encourage them to have a heighten awareness of the ideal posture for the mouth at rest.

Just as we are taught to massage our neck and shoulders, we can massage the muscles in our face, neck and jaws to provide relaxation. Each of us can use a technique called a "facial scan" to become more aware of the tension we may hold in our jaws or face.

A facial scan is performed by closing our eyes and asking ourselves: Are my skin and muscles tense, or relaxed? Are my teeth touching together lightly or tightly? Are my jaws hanging loosely with my lips together and teeth apart? Where is my tongue sitting? Is it behind my front teeth with the tip lightly touching my palate at the junction of the teeth and gum tissue? Or is it sitting on the floor of my mouth? Are my cheeks pulled into the sides where my teeth connect? Or do I chew my cheeks as an unconscious habit?

We can also do certain exercises designed to relieve stress on our jaws, which can relieve headaches and other issues, such as bruxism. These exercises should be done in conjunction with deep breathing. Yoga shows that deep, conscious breathing from the diaphragm allows for greater elasticity and stamina. Deep breathing helps to maximize the results of the exercises because we achieve a deeper release, faster.

During the exercises, try to maintain the ideal mouth position: lips together, teeth apart, tongue in place. These exercises should be practiced on an ongoing basis to achieve their maximum effectiveness.

Intra-oral exercises

The following exercises are used to find and release sensitive or sore trigger points in the following facial muscles: temporalis, masseter, lateral pterygoid and medial pterygoid. By checking the muscles daily, we can prevent storing tension in these areas.

Up, out, down and back (temporalis and masseter muscles)

Place your right index finger inside the right side of your mouth above the upper molar and parallel to your upper teeth between the teeth and cheek and pull upward and outward. Now place your right thumb on the outside of the cheek. Using that thumb and the finger already inside your mouth, grip the muscle and stroke down and back toward the angle of the jaw. Continue stroking the muscle downward until it is no longer tender and any knots or nodules are massaged out so that the muscle is smooth. Repeat on the left side by placing your right thumb on the inside your mouth. Pull upward and outward. Using the index finger on the outside, grip the muscle and stroke down and back toward the angle of the jaw. Continue stroking the muscle downward until it is no longer tender and any knots or nodules are massaged out so that the muscle is smooth. If the muscles are very tight, they may not relax right away and repeated massage may be necessary.

Back and up (lateral pterygoid)

Place your index finger on the biting surface of the last upper molar and roll this finger back and up. This can often produce tenderness. Hold and gently press to release any tension. Once the muscle has no tension in it, you will feel how relaxed it can be. When repeated daily, this muscle will maintain a more relaxed tone. Repeat on the other side.

Down and back (medial pterygoid)

With your index finger, feel the junction of the gum tissue and the lower back molar next to your tongue. Now stroke down and back. If tender, continue to stroke gently until no longer sore. Repeat on the opposite side.

Extra-oral exercises

Touch and massage

Touch and massage each of the three points in front of your ear. If the point or area is not tender in response to pressure, move on to the next point. If it is sore or tender, massage the point using deep breaths to release the tension. Increase the pressure while breathing in.

Hold the spot while exhaling and feel the tension dissipate. Once the area is no longer tender to touch, move on to the next point.

Healthcare practitioners suggest that massaging the following points stimulates the lymphatic system, improves posture and enhances overall well-being. Touch and massage the acupuncture point K27 (points 18 and 19 see figure 2), the major pectoralis muscles (points 28 and 29 see) and the other key trigger points (points 16, 17, 20-27, 30 and 31 in figure 2) indicated on the diagram including the acupuncture points LI4 (large intestine 4) on the hand, and the Sp6 (spleen 6) on the ankle. If the point or area is not tender in response to pressure, move on to the next point. If it is sore or tender, massage the point using deep breaths to release the tension. Increase the pressure while breathing in. Hold the spot while exhaling and feel the tension dissipate. Once the area is no longer tender to touch, move on to the next point. As taught by health practitioners, tightness in the pectoralis muscles can pull the shoulders forward, altering posture and possibly contributing to head and jaw misalignment.

Clench and release

Clench your teeth and use your middle finger to feel the belly (the center) of the jaw (masseter) muscle (see points 3 and 4 in figure 2 pop out. Now unclench your teeth but keep your finger in the same position and massage with small circular motions to release the tension.

Feel the pulse

The pulse points are in two areas. These are indicated by points 1, 2 and 5, 6 (Figure 2). Touch lightly with your index, middle and third finger from both hands simultaneously and feel a pulse emerge. It can take 20 to 40 or more seconds to feel this light pulse. It releases and softens the external layer of skin that envelops the muscles and helps with facial tone.

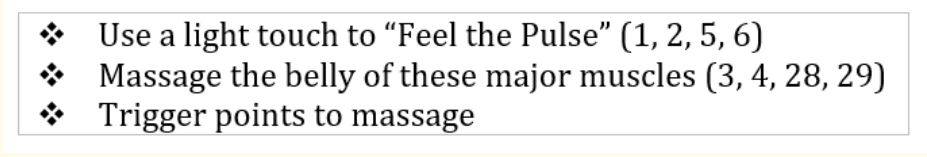

Figure 2: *Exercise points.*

Downward jaw

With your teeth apart, secure both borders of your lower jaw with your index fingers and thumbs just above the angle of the jaw line and gently pull down and forward (See figure 3). Hold for 30 seconds while feeling a gentle release.

“Jaw-exercise”

This is an excellent exercise for anyone with a limited range of mouth opening, hyperflexibility of muscles, headaches caused by teeth grinding or clenching or jaw instability. Create a fist and hold it lightly under your lower jaw (see point 8 in figure 2). Open the mouth with about two fingers’ width between your front teeth and press against your chin with your fist, creating light pressure, for 10 seconds. Now place your fist against the angle of your jaws and tense the jaw to match the light pressure being exerted by your fist. Hold for 10 seconds with the teeth apart. Repeat on the opposite side (see points 7 and 9 in figure 2). Do this exercise for 30 seconds (10 seconds under the jaw, 10 seconds on the right side and 10 seconds on the left side) four times a day.

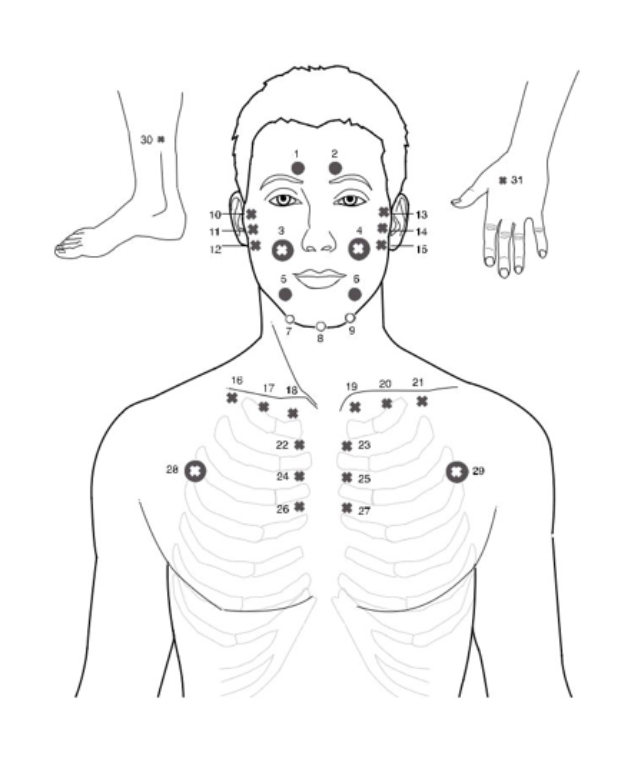

Figure 3: *Downward jaw.*

If these fail to relieve headaches, a dentist may recommend a bite plate or mouth guard that creates a smooth surface to help prevent the interlocking of tooth surfaces. Eliminating clenching and gnashing prevents the tightening of muscles that restrict blood flow and creates head "aches" [1-14].

Conclusion

Never underestimate the importance of the simple act of smiling. Smile therapy is a natural therapeutic approach to rebalancing our emotions so that we reduce anxiety and stress, which can have many negative consequences including headaches and teeth grinding and clenching. It is based on research that shows that when we smile, our brain receives a signal that we are happy, pumping endorphins into our body. Endorphins reduce pain, enhance our immune system, and make us feel and look better. Just remembering to smile can do wonders in relieving stress on the mouth and entire body. Smile therapy can involve placing stickers or notes strategically on our computers, cell phones or mirrors to remind us to smile throughout the day.

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