

# Muscle Magic

## Trigger Point Treatment Provides Pain Relief

**F**acial esthetics and facial pain have something in common—the oral and maxillofacial muscles. These muscles both shape the esthetics of the oral and maxillofacial areas, and cause the majority of pain in the head and neck. Once a dental clinician has been properly trained in facial esthetics and orofacial pain therapy, he or she can immediately look at a face and “see” if a person is in pain, without any input from the patient.

### A patient’s pain

I’d like to share a fascinating case encountered by BriAnna Schraw, DMD, who practices general dentistry in Fort Mill, S.C. Her patient, a 47-year-old nurse practitioner named Jenn, had been plagued with orofacial pain, headaches, temporomandibular disorder, and migraines for about 30 years. Although she lives and works on the opposite side of town, she found Dr. Schraw’s practice via an online search for facial pain and headache treatment in her city. In late April 2014, she showed up in Dr. Schraw’s office without an appointment, complaining of “horrific, awful pain” and saying she was “sick to death of eating pain meds and muscle relaxers 24/7.”

The patient’s medical history was generally unremarkable. Other than gymnastics accidents during her youth, she had no history of trauma that could have contributed to her pain. She was aware of some teeth clenching and bruxism during

both the day and night. She wore an occlusal guard at night but reported that it had never provided pain relief, even though her previous dentist insisted that it would help her.

For pain relief medication, the patient was taking Flexeril® and Toradol® daily, in addition to Motrin® and extra-strength Tylenol® as needed. She had been on many other medications in the past, including Topamax® (prescribed by a neurologist), which she stopped taking because it made her forget things.

Her pain worsened over time, and in the last few months before her visit to Dr. Schraw, she said, her pain grew to a 9 out of 10 on a pain scale. Over the years, the patient had consulted with and been treated by dentists, orthodontists, oral surgeons, neurologists, a neuromuscular holistic doctor, an otolaryngologist, and her primary physician.

The most invasive recommended treatment was a temporomandibular joint condylectomy, which the patient declined. She decided instead that she would live with the pain and try to manage it with the aforementioned medication, as well as regular deep-tissue massage therapy, hot and cold compresses, and Biofreeze.® Any relief she found, however, was short-lived.

### Triggering relief

Dr. Schraw performed a head and neck trigger point examination, which is crucial for establishing diagnosis and treatment success. Not surprisingly, she found many trigger points in the patient, several of which were accompanied by easily palpable muscle knots.

In the occipitalis, splenius capitis, and trapezius muscle areas, she found trigger points that elicited moderate pain that radiated along traditional pathways. In both masseters, both temporalis muscles, and both sternocleidomastoid (SCM) muscles she found trigger points that elicited severe pain that radiated along traditional pathways, with the right SCM eliciting more severe pain than the left SCM.

The treatment plan consisted of ethyl chloride spray at the known trigger points, trigger point injections with a mixture of .5 cc of 1 percent lidocaine and the appropriate dose of botulinum toxin, and traditional botulinum toxin injections in selected muscles. Depending on the patient and the trigger points, the mixture of lidocaine and botulinum toxin is preferred to alleviate the pain instantly, while the botulinum toxin begins to attach to the neuromuscular junction and



Figure 1. This patient’s facial muscles indicate that she has orofacial pain.



Figure 2. Trigger point injections result in greatly improved facial esthetics and elimination of long-term orofacial pain

calm down the muscle. The botulinum toxin mechanism of action takes between two and 10 days to reach its maximum effect.

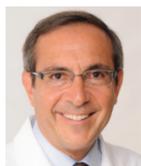
Figure 1 shows the patient at rest. For dental clinicians familiar with the muscles involved, it should be easy to see which ones are causing her pain. There is substantial masseter hypertrophy, which creates a very square look to the face. The wrinkles between the eyes and on the forehead are a result of the contraction intensity of the frontalis, procerus, and corrugator muscles, which adds to the facial pain. The downturned oral commissures are a result of overactive depressor angulioris muscles, a result of the patient's clenching and bruxism.

In determining the optimal botulinum toxin dose for each muscle, one must balance facial esthetics with pain relief. Dr. Schraw's treatment plan—which the patient accepted—included botulinum toxin injections in the frontalis muscle, glabellar region, and the right and left temporalis muscles. Trigger point injections of lidocaine plus various doses of botulinum toxin were performed in the right and left masseter muscles, occipitalis muscle, right and left SCM muscles, right and left splenius capitis muscles, and right and left trapezius muscles.

At the two-week follow-up appointment, the patient told Dr. Schraw that her use of Flexeril and Toradol had significantly decreased since her treatment. She was definitely enjoying the relief, but there was still some lingering pain and tightness. The trigger point muscle examination was repeated, and enhancement injections of botulinum toxin were administered in the right and left temporalis muscles, right and left masseter muscles, and right and left SCM muscles.

At the next two-week follow-up appointment (see figure 2), the patient arrived and exclaimed, "Look at my face! It's not square anymore!" No longer taking Flexeril and Toradol, she is pain- and symptom-free for the first time in years.

When I first discussed this patient with Dr. Schraw, she referred to her as "my BOTOX miracle patient." I say this every time I teach on the use of botulinum toxin: It's not magic, it's muscles. If a dental clinician is properly trained in the relationship between the head and neck muscles and their involvement in TMD, bruxism, dental sleep medicine, facial esthetics, and orofacial pain, and he or she learns how to treat these muscles with minimally invasive trigger point injections and chemotherapeutics, the symptom relief will seem like magic to patients. Get some training today and start making some magic of your own. ♦



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