As a dental professional, you have probably already experienced trigger points, whether you know it or not! A trigger point is a group of muscle fibers that are in a constant state of contraction. It feels like a hard knot, and when pressed upon may be painful locally or refer pain to a distant part of the body. Trigger points may be active (painful) or latent (causing stiffness and restricting range of motion). Because they are caused by prolonged muscle contraction, postural asymmetry and mental stress, it is easy to see why trigger points are so common among dental professionals.

If allowed to persist untreated, some trigger points can cause compression on nerves and contribute to syndromes such as thoracic outlet syndrome or pronator teres syndrome (a carpal tunnel-type pain). Trigger points are often the cause behind ‘mysterious’ pain syndromes that elude Western medicine practitioners.

The postural demands of delivering dental care predispose dental operators to trigger points in some muscles more than others. These muscles tend to become tight, short, weak and can refer pain to specific areas in the body. One of these muscles that is especially problematic in dentistry is the iliopsoas muscle. Trigger points that develop here can lead to low back pain, and also pain in the upper buttocks and anterior thigh.

The iliopsoas (pronounced ilio-só-az) muscle is constantly activated when sitting actively (not resting on a backrest) in dentistry, which is a majority of the time for most operators. This muscle functions to flex the hip, abduct the thigh outward and laterally rotate leg, as is often seen among operators who ‘straddle’ the patient chair in operatories. Iliopsoas trigger points are especially aggravated by prolonged sitting with the hips acutely flexed--90 degrees or more (i.e. on a non-tilting seat pan). Trigger point pain in this muscle is referred to the low back, (see picture to right) and sometimes upper buttocks and anterior thigh. Pain is also common when walking, and relieved when lying down and when flexing the hip. Trigger points in this muscle can cause improper posture, which aggravates other muscles, leading to trigger point development in them.

Identifying tightness in the hip flexor muscle requires a special test (the ‘Thomas Test’), performed by a physical therapist or similar healthcare practitioner. There would also be palpable tightness and pain in the muscle as well. The quadratus lumbarum muscle should also be assessed for involvement, as these two muscles are often ‘partners in crime’. Effective treatment of trigger points is essential, and should be
performed by a healthcare practitioner trained in trigger point therapy or having a CNMT (certified neuromuscular therapist) designation.

**Prevention of iliopsoas trigger points**

- **Hip Angle.** Ensure you are sitting with a hip angle greater than 105 degrees. A stool with a tilting seat pan or a saddle stool work well. You may also retrofit your non-tilting stool with an **ergonomic wedge-shaped cushion.**

- **Iliopsoas seated stretch.** (picture to right) Sit on the edge of a chair (without armrests), with one buttock hanging off the edge. Let the outside leg drop down, and slide the foot backward until a stretch is felt in the front of the thigh. Hold 2-3 breath cycles.

- **Prone push-up.** A yoga move, also known as the ‘Cobra’. Lie face-down on the floor, with hands at shoulder level. Gently and slowly push up, making sure you keep the hips pressed against the floor. Hold 30 seconds.

- **Hamstring stretch.** There are many ways to stretch the hamstring muscle. Always ensure that your knee is straight and you are bending forward from the hips, not the back. Tight hamstrings can cause a posterior tilt of your pelvis, which can overload the iliopsoas muscle. Hold 30 seconds.

Weak abdominal and gluteal muscles also contribute to overload and trigger points in the iliopsoas muscle in seated occupations such as dentistry. You can find specific exercises that strengthen these muscles, as well as more iliopsoas stretches in “Smart Moves for Dental Professionals On the Ball” home exercise DVD kit, at www.posturedontics.com.

There are numerous potential causes of low back pain, which is why you should always consult your doctor for proper diagnosis. However, with a conscientious routine of ergonomic strategies in the operatory and proper stretching/strengthening, low back pain caused by problematic trigger points in the iliopsoas muscle can be prevented.

**ABOUT THE AUTHOR**

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RESOURCES (available at www.posturedontics.com)

Trigger Point Therapy Workbook – Davies

Practice Dentistry Pain-Free: Evidence-based Strategies to Prevent Pain and Extend Your Career - Valachi

Smart Moves for Dental Professionals On the Ball home exercise DVD kit - Valachi

FitBALL Wedge Cushion – Ergonomic wedge seat cushion to retrofit non-tilting seat pans

OTHER RESOURCES (available at www.amazon.com)

Myofascial Pain and Dysfunction: The Trigger Point Manual – Travell/Simons

The Manual of Trigger point Myofascial Therapy by Kostopoulos/Rizopoulos