

Introduction to dry needling

(Part two)

By Steve Barnett, PT



In last month's article, I shared information about the use and benefits of dry needling. It is a "tool in the toolbox" of techniques that a physical therapist certified in dry needling has to offer patients to restore the musculoskeletal system to optimal health. In this article, I would like to cover more about trigger points: what they are, how they occur and what effects they have on the body.

A trigger point consists of a hyperirritable spot in skeletal muscle. Most can be

felt as a nodule in a taut muscle band. When compressed, trigger points may give rise to characteristic pain, tenderness or motor dysfunction. The characteristic pain will be local and/or referred pain when stimulated. Trigger points are divided into active and latent trigger points, depending upon the degree of irritability. Active trigger points are spontaneously painful, while latent trigger points are only painful when stimulated, for example, with finger pressure.

Trigger points can be visualized by magnetic resonance imagining (MRI) and sonography elastography, which has shown that active trigger points are larger than latent trigger points and feature a reduction in circulation. Visualize a dam on a river. There is a buildup of water just before the dam. Water is flowing slowly over the dam. Similarly, at a trigger point, there is a buildup of blood in vessels just before the trigger point. At the trigger point, or dam,

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the vessels are constricted, so blood is not able to pass through at the same rate. Thus, trigger points are tissue contractures, characterized by local ischemia (lack of blood supply), hypoxia (lack of oxygen), a significantly lower pH (active trigger points only) and a chemically altered environment (active trigger points only). This leads to what we experience as local and referred pain, and altered muscle and joint function.


Trigger points have been identified in numerous diagnoses, such as radiculopathies, joint dysfunction, disk pathology, tendonitis, TMJ, migraines, tension-type headaches, carpal tunnel syndrome, computer-related disorders, whiplash-associated disorders, spinal dysfunction, pelvic pain and other urologic syndromes, complex regional pain syndrome, phantom pain and other relatively uncommon diagnoses.

What can cause trigger points to develop in our bodies? Trigger points occur in many happenings of our daily lives. Trigger points are common with occupations and hobbies that entail even low-level muscle contractions, such as office workers, musicians and dentists. People involved in direct trauma,

such as whiplash injuries, commonly experience trigger points. Studies performed show numerous muscles surrounding the neck possessing active trigger points following whiplash injuries. Eccentric contractions and actions, such as lowering a heavy load or walking downhill, may give rise to trigger points in unconditioned muscles. And many patients report the onset of pain and exhibit activation of trigger points following acute, repetitive or chronic muscle overload. Training for a running race, raking leaves for the first time in fall, and repetitive lifting are examples.

There are several precipitating factors that need to be identified and, if present, adequately managed to successfully treat persons with trigger points. Even though several common factors are more or less outside the direct scope of manual physical therapy, familiarity with these factors is critical in treating the whole person. Simons, Travell and Simons identified not only mechanical factors as noted above, but also nutritional, metabolic and psychological categories of perpetuating factors. For example, deficiencies or insufficiencies of

vitamins B1, B6, B12, C and D, folic acid, iron, magnesium and zinc may factor in the development and maintenance of trigger points. Psychological stress may also activate trigger points. Tests have shown that activity in trigger points increases dramatically in response to mental and emotional stress.

While we are all susceptible to having trigger points in our muscle tissues, the good news is that they can be treated successfully utilizing the dry needling technique, thus, relieving pain and restoring normal muscle tone and overall function. 



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