



TRIGGER POINT INJECTIONS

Trigger Points

Every muscle cell (fibre) in the body is composed of hundreds of contraction units (sarcomeres) joined end to end – like carriages in a train. In a trigger point, the units closest to the middle of the muscle fibre become locked in spasm. Trigger points can form when a muscle is overloaded, (particularly if fatigued), or when the muscle's nerve supply is irritated. In some circumstances, trigger points tend to persist, forming characteristic tense, tender bands within the muscle. These tend to refer pain towards the muscle's tendon insertion, not around where the actual trigger point is. Trigger points cannot be seen with normal imaging techniques like ultrasound and must be diagnosed clinically.

Trigger Point Injections

Muscular trigger point injections are a powerful tool used to release trigger points and relieve the pain that they cause. The key is needling the precise area of spasm within the muscle to send a signal to the spinal cord. This in turn triggers a spinal reflex and a signal is sent back out to the muscle causing it to twitch. This “twitch reflex” resets the neuromuscular circuit and helps deactivate the trigger point. A weak solution of local anaesthetic (xylocaine) is typically injected at the same time to make the procedure less uncomfortable and improve its effectiveness.

The patient typically experiences a twitching or electric zapping sensation, which most people report feels “more weird than painful.” The patient can experience almost instant relief as their trigger points are released. Health professionals who are not legally allowed to inject

patients (e.g physiotherapists) may “dry needle” trigger points, although this is usually more painful. Once trigger points have been injected, they tend to be numb for 30-60 minutes. The area may then feel a bit sore for a few days and gentle stretching will help reduce this. There is a possibility that some local bruising will occur, particularly after the first treatment. The worse the underlying muscle trigger points, the more vigorous the twitch response and the more likely that bruising will occur. The bruising is therefore not a bad sign and will tend to fade over a week or so.

Addressing the Cause

Although trigger point injections are a powerful tool to release trigger points and reduce referred muscle pain, they are best used thoughtfully. In order to give relief from pain, it is critical to target the right areas. First and foremost, it is important to correctly diagnose which muscle is “unhappy”, as the pain is usually referred away from where the actual trigger points are. Secondly, trigger point injections tend to be most effective when they are also used to help unload these symptomatic muscles. This often means targeting trigger points in opposing (antagonistic) muscles that are short and tight, rather than just the sore ones.

Trigger points will tend to recur however, if the factors that caused them persist. It is therefore important that the patient is given knowledge and understanding to modify their movements / postures to reduce the likelihood of recurrence. This could entail coaching in safe desk posture or modification of their exercise habits.

Self-Treatment of Trigger Points

Once patients understand which trigger points are driving their pain, they can perform deep massage on them to help ease some of the pain. A tennis ball or spiky massage ball can be a useful aid. Local heat can also be helpful. However, it is critical NOT to stretch the sore muscle, as it is likely to already be overloaded. Long, gentle stretching of a shortened opposing muscle is likely to be helpful (esp. the pec major muscle for upper body pain).

Dr. Chris Homan

MBBS FRACGP FACRRM DRANZCOG PGDipMSM(Otago)