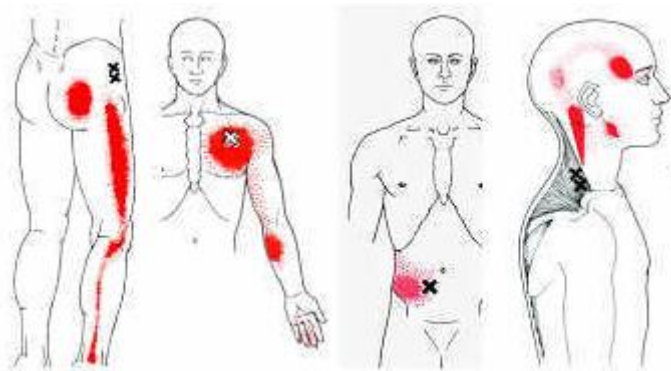


## Trigger Point Dry Needling

Trigger Point Dry Needling (TDN) involves the insertion of acupuncture-type needles into trigger points in the muscle to relieve pain and increase limited range of movement.

### ***What is a Trigger Point?***

A myofascial trigger point (TrP) is defined as a “hyperirritable spots in skeletal muscle that are associated with palpable nodules in taut bands of muscle fibres”, or more commonly known as “knots” in the muscle. These trigger points may cause local or referred pain as shown below:



Trigger points are very common. In fact, everybody will have trigger points in their body. The majority of these are *latent*, meaning that they are present but do not cause symptoms, but they may be tender when palpated. *Active* TrPs cause pain and other symptoms which increase when palpated. Latent TrPs may be from an old injury, or from on-going postural stresses. These latent TrPs may flare up or become active from time to time causing tightness and discomfort. Additionally, these areas of tightness in the muscle may alter body mechanics and therefore lead to problems in other areas.

### ***What Causes Trigger Points?***

Trigger points usually occur as a result of some kind of stress on the body. This may be from a sudden traumatic force such as a strain or an impact. Alternatively, they may develop over a long period of time as a result of postural stresses, e.g. sitting posture when using a computer, or through overuse of a muscle group, e.g. endurance training or compensation movements following an injury elsewhere.

Additionally, TrPs can be caused or perpetuated by a problem with the nerves supplying the muscle. This often happens near the spine where the nerves exit the spinal column. This is commonly seen in people with some degree of disc degeneration, injury or arthritic changes in the spine. These changes often cause nerve root irritation of the nerves supplying the muscles and cause them to tighten. Also, the muscles around the spinal segment, the multifidus muscles, often get tighter as well and put more pressure onto the nerve root, leading to a “vicious cycle” of pain and dysfunction.

There is still ongoing research into what is happening at a therapistological level within a trigger point. There is evidence to suggest that there is a continued release of neurotransmitter and *spontaneous electrical activity* at the neuromuscular junction (where the nerve enters and interacts with the muscle). This causes a self-sustaining contraction of the muscle fibres. This self-sustaining contraction then leads to an *energy crisis* at the trigger point. This means that as the muscle continues to contract it squeezes and closes the blood vessels which supply the oxygen and glucose the muscle requires to contract and relax. As there is no energy supply to the muscle, the muscle fibres become “stuck” in a shortened position, leading to the development of a trigger point.

### ***What does Trigger Point Dry Needling do?***

Trigger Point Dry Needling (TDN) is the insertion of a fine filament needle, such as those used in acupuncture, directly into the trigger point. The needles used are not the same as those used for injections; they are much thinner (approx. 0.25-0.3mm thick) and cause a lot less discomfort than hypodermic needles.

When the needle is inserted into the trigger point it causes the muscle to twitch (a *local twitch response*) and then release or “let go”. Once the trigger point has been released the muscle will then continue to function as normal.

### ***How does it work?***

There is still ongoing research into the mechanism of the effect of needling. As previously mentioned, there is *spontaneous electrical activity* within the trigger point. Inserting the needle into this area causes an electrical effect and discharges this *spontaneous electrical activity*. When it is discharged, the muscle can then release its contraction and allow blood flow to return to the area. Myographic studies have shown that insertion of a needle does in fact alter electrical activity in a trigger point. Additionally, the insertion of the needle simulates a *noxious stimulus* (i.e. something of potential danger to the body). The automatic reaction to noxious stimuli is vasodilation, or the shunting open of the local blood vessels. The opening of blood vessels in a trigger point causes a “wash through” of blood, supplying fuel and oxygen to the muscle and removing metabolic waste products. Studies have shown there to be an instant change in the chemical environment of the trigger point during the twitch response.

### ***What happens during a TDN session?***

You will be positioned comfortably. Your therapist will locate the trigger point by palpation. They will then insert the needle using a “tapping” technique. The therapist will then insert the needle into the trigger point. When the needle contacts the trigger point, a twitch response will be elicited. The twitch response is a small, involuntary contraction of the muscle. After the twitch occurs, the therapist will move the needle to another trigger point. You may receive needling to several different areas during a session.



### ***What do I feel?***

During insertion of the needle, you will feel the canister tap against your skin, but you may not feel the needle entering the skin. You will feel the twitch response as it occurs. When the muscle twitches, you may feel it as a pressure, a pulling, a cramping sensation, aching or a mild burning sensation. You should not feel any sharp pain during the process. If you do, tell the therapist who will then move away from that area of sharpness. You may also feel pulling or aching in an area away from the needled site, e.g. feeling symptoms in the neck or head when the shoulder is needled. This is quite normal, especially if the sensation is familiar to you.

The actual needling process is very quick. However, if you wish to stop, inform your therapist who will then stop immediately.

It is normal to feel some soreness 1-2 days after the session. This normally feels like muscle soreness such as that after exercise, or it may feel “bruised”. This is due to the release of the metabolic chemicals that were released from the trigger points when released. This is easily resolved with heating the area and stretching as demonstrated by your therapist.

### ***Is it safe?***

Dry needling is a safe procedure, though there are some potential risks involved. These risks are small with an experienced therapist, but include bleeding and bruising, infection and pneumothorax.

Bleeding/bruising – despite our extensive knowledge of human anatomy, everybody is different. As a result, the capillaries and small blood vessels may be pierced by the needle. When this happens you



will feel a distinct sharp sensation. If you feel this, inform your therapist to minimise any further bleeding. All major nerves or blood vessels will be avoided.

Infection – all needles used are individually packed and sterile. Needles do not get recycled. However, as it is piercing the skin, there is always a small chance of infection. Infection control measures are taken by your therapist to minimise any chance of infection.

Pneumothorax – this is a puncturing of the lung. If this happens it may only require an x-ray of the chest. Symptoms of shortness of breath may last for several days. This is a rare complication and should not be a concern with a skilled therapist.

### ***Is it like acupuncture?***

Dry needling is **not** acupuncture. Acupuncture involves the insertion of needles along meridians in the body to restore the flow of energy (“chi”). In TDN, there is no intention on affecting these energy meridians. TDN is based on modern Western scientific principles and anatomy and physiology. We needle trigger points only.

If you have any other questions, please feel free to voice them at any time. Remember, TDN cannot be done without your consent and you have the right to tell us to stop at any time.