

# Trigger points made easy

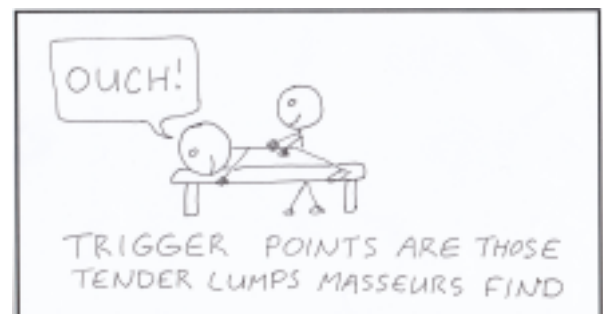
A plain language easy to understand guide to arguably the most common cause of musculoskeletal pain such as back, neck and shoulder pain.

Find out:

- what trigger points are
- what problems they cause
- why trigger point pain keeps coming back
- how they can be successfully treated

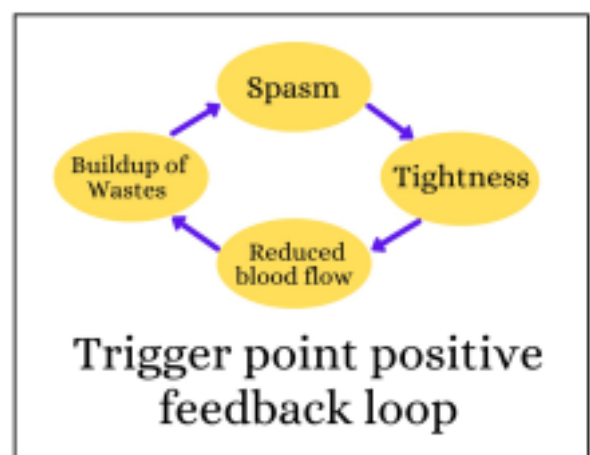
## Introduction

Trigger points are those tender lumps in muscles that therapists find. They start off being small and only causing pain when pressed upon, but if allowed to develop they can eventually shoot pain all the time, and are arguable the biggest cause of pain such as back, neck and shoulder pain.



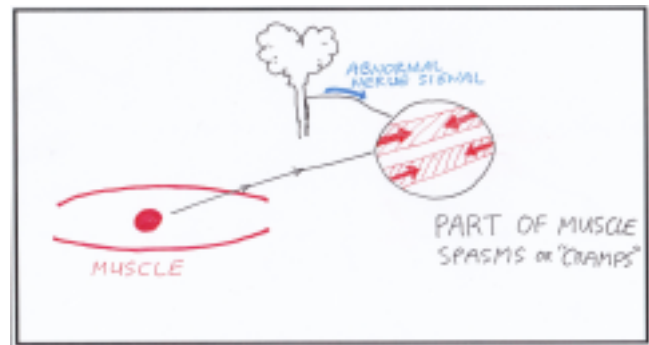
## What trigger points are

In this section we look at what those lumps therapists find actually are. Basically, they are part of the muscle that has gone into spasm or "cramped" forming a lump. This creates a chain of events as shown in this diagram that cause them to "lock on" and continue to grow. We'll look at each one of those steps because it helps understand what they do and how they are treated.



## Abnormal nerve signals

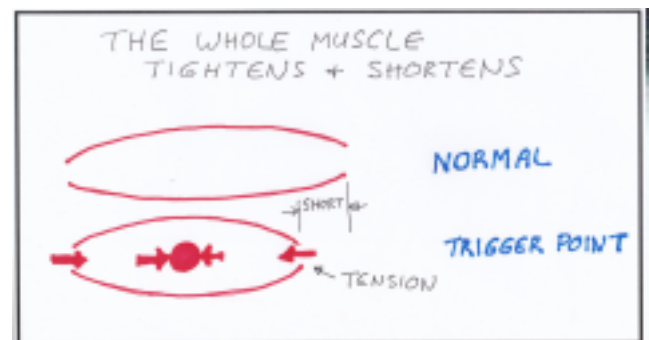
The parts of the muscle that have locked into a continuous spasm or "cramp" are continually stimulated to contract (tighten) by abnormal nerve signals. These result from what is known as a positive neurological feedback loop. This is the same principle as the loud feedback squeal you get when you put a microphone next to a loud speaker.



*Abnormal nerve signals cause part of the muscle to "cramp" forming a lump*

## Muscle tightness

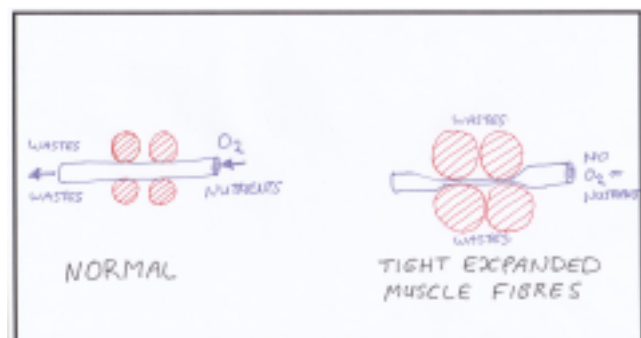
When part of the muscle tightens the whole muscle shortens and becomes tight.



*Trigger points cause muscles to shorten and tighten*

## Restricted blood flow

As seen with body builders, contracting (tightening) muscles causes the fibres to expand or bulge. Those tightened and expanded muscle fibres press on the blood vessels, blocking them. The muscle, and in particular the tender lump, are deprived of oxygen and nutrients, and suffer a build up of waste products.

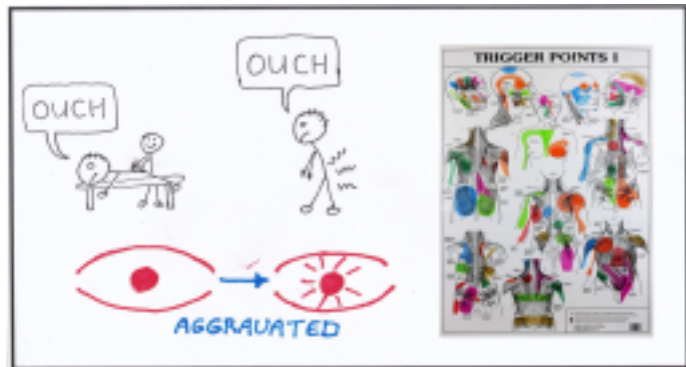


*Trigger points put pressure on blood vessels, reducing blood flow*

# The consequences

## Pain

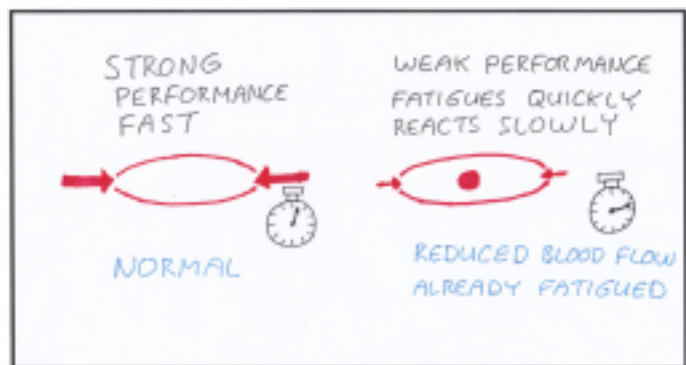
As anyone who has been to a masseur would understand, you may not be experiencing any pain but still have many trigger points that feel tender if pressed upon. However, if those trigger points are aggravated or allowed to worsen they can start shooting pain spontaneously, without being pressed upon. Scientists have found that these are probably the most common cause of all pain syndromes such as back, neck and shoulder pain. You may see charts like these in clinics showing some of the pain they cause.



*When aggravated trigger points can cause pain without being pressed upon*

## Poor performance

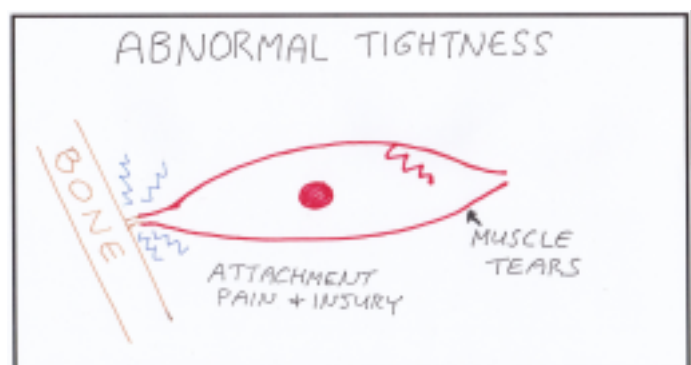
Muscles containing trigger points suffer from poor blood flow, a build up of harmful waste products, and are already fatigued due to the part constantly contracting. Because of this a muscle containing a trigger point will not be as strong, and will fatigue quickly. As well, scientists have found that muscles with trigger points are slower to respond to nerve signals from the brain.



*Muscles with trigger points are not as strong, fatigue quickly and react slowly*

## Abnormal tightness: tears and attachments

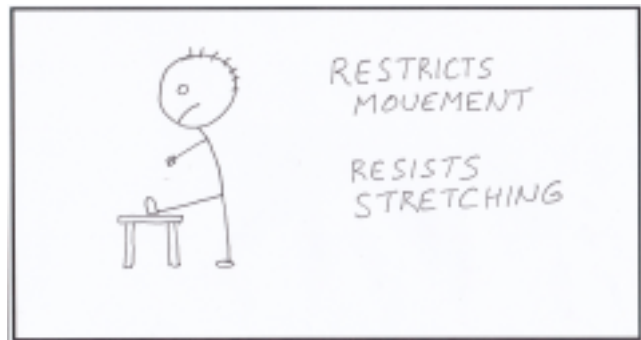
Muscles with trigger points are constantly tight, and because part is trying to contract all the time it will resist stretching. For this reason, muscles containing trigger points are much more likely to tear. The abnormal tightness also creates extra tension where the muscles join to bone. Those sites of extra tension are more prone to injury or "over use syndromes" such as tennis elbow.



*Trigger point tightening causes muscle tears, attachment pain and "overuse injuries"*

### **Abnormal tightness: restricts movements and stretching**

The abnormal tightness in your muscles will also restrict movement generally. As anyone who has tried to stretch a muscle in spasm or cramping will understand, attempting to stretch a muscle containing a trigger point will meet with resistance, and maybe some pain.



*Trigger points tighten muscles: restricting movement and stretching*

### **Abnormal tightness: posture changes**

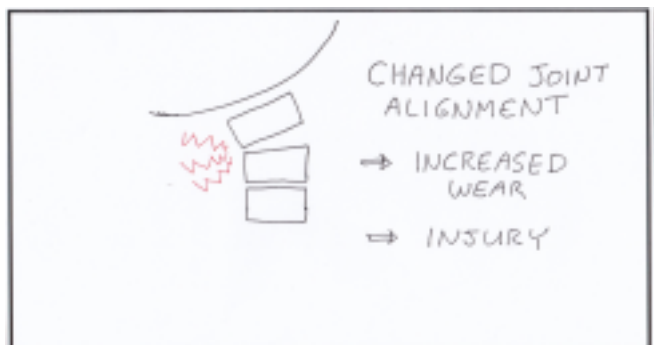
Normal posture is maintained by having the tension in the muscles on each side, side (or front and back) in balance. An abnormally tight muscle with a trigger point will alter this balance, causing postural changes.



*Trigger point muscle tightness changes posture*

### **Abnormal tightness: joint alignment**

The abnormal posture that results from an imbalance will alter the alignment of joints, resulting in increased wear and an increased risk of injury.



*Trigger point posture changes alter joint alignment, causing increased wear and injury*

# How common are trigger points?

Trigger points are caused by a variety of issues such as overuse, muscle tightness, postural issues and emotional stress. Because of this it is safe to say practically every adult gets many. Lets look at two scientific trials that have investigated this.

## People with no pain

An investigation of pain free adults found that nearly 90% had trigger points in their shoulder muscles.

*Ref: Lucas, K. R., Polus, B. I. and Rich, P. A. (2004) 'Latent myofascial trigger points: Their effects on muscle activation and movement efficiency', Journal of Bodywork and Movement Therapies, 8(3), pp. 160–166.*

## People with pain

An investigation of office workers and blue collar workers with pain in their neck and shoulder region were checked for trigger points in their neck, shoulder and arm muscles. The results were:

**Blue collar workers: Ave. 16 trigger points**

**White collar workers: Ave. 17 trigger points.**

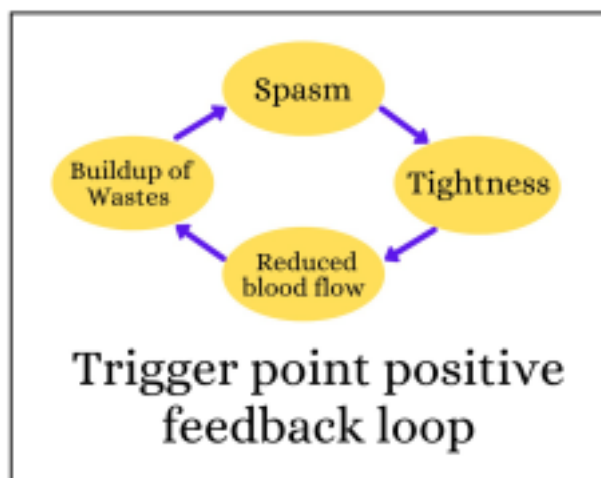
*Ref: Fernández-De-Las-Peñas, C. et al. (2012) 'Referred pain from myofascial trigger points in head, neck, shoulder, and arm muscles reproduces pain symptoms in blue-collar (Manual) and white-collar (Office) workers', Clinical Journal of Pain, 28(6), pp. 511–518.*

# The treatment of trigger points

In this section we will give an overview of how trigger points are treated. We will first discuss how trigger point therapies work, then how these can be incorporated into a plan to eliminate your trigger points and keep yourself trigger point free.

## Effective treatments

We understand trigger points are formed by the issues shown in this diagram forming a positive feedback loop. To break this loop an effective treatment needs to address one or more of these issues. It is for this reason that there so many different therapies used to treat trigger points and trigger point related pain. We have massage techniques, dry needling, lasers, stretch and freeze therapy, and the list goes on. As long as they address at least one issue they will have some effect.



**Effective treatments must work on one or more of these to stop the loop**



## Number of treatments

Clinical trials show that courses of 3-12 sessions of therapy reduce pain but eliminate less than one third of trigger points. Therefore a very large number of treatments is necessary to eliminate trigger points properly. Please see our article *Trigger point treatments: deactivate or eliminate* for more detail.

## Our choice of therapy

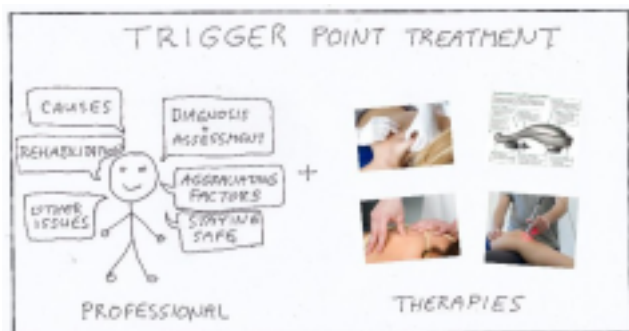
Vibration massage has been scientifically proven to address all the major issues of a trigger point. It disrupts spasm, relaxes muscles, increases blood flow, and the increased blood flow flushes the build up of wastes. For more details please see our article: *The scientific effects of vibration massage with clinical applications*. Further, it takes no special skill or knowledge to apply vibration massage, so it is ideal for home use. Because of the large number of therapy applications needed effective treatment needs to include some home treatment, otherwise it becomes unaffordable and inconvenient.



*Vibration massage is scientifically proven to address all the issues, plus can be used for effective self therapy*

## You need more than just therapy

Musculoskeletal conditions are complex. As this diagram shows you usually need a lot more than just therapy. We recommend you consult a professional. However, as discussed trigger points usually need a large number of applications of therapy over time, which if done by the professional may prove inconvenient and expensive. We recommend you have a professional assess and manage your condition, plus provide the care that requires skill and training. This care can be supplemented buy self applied therapy at home. The use of vibration massage under the advice of your professional is an excellent and effective way to do this.



*Musculoskeletal conditions are complex. Always seek the guidance of a professional*

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