

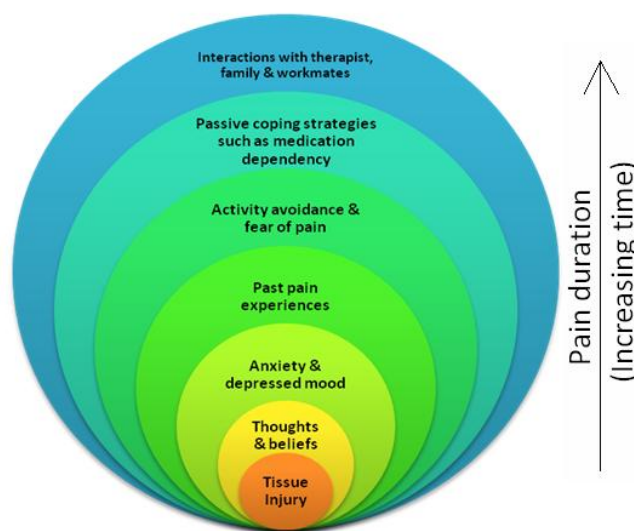
# Chronic Pain and exercise

## Why it Hurts! Understanding Chronic Pain

Chronic pain refers to pain that extends beyond the expected healing time and includes conditions such as spinal pain, post-operative pain, neuropathic pain and shoulder and knee pain. In Australia, 1 in 5 individuals are affected by chronic pain to the point that pain significantly impacts on their daily life. The incidence of chronic pain is predicted to increase by 10% per decade for the next four decades. One of the problems with treating chronic pain conditions is that clinicians often view chronic pain the same as acute pain, seeing pain as a reliable indicator of the severity of the injury, the worse the injury the worse the pain. The issue with this approach is that in contrast to acute injury, with chronic pain the relationship between pain and injury uncouples. In this instance, other factors besides injury to the joints, muscles tendons and ligaments and tissues become very important in 'how much it hurts' (Figure 1).

The longer pain persists the more important these 'non tissue related factors' become in driving the cycle of pain and disability. For some chronic pain conditions, such as spinal pain, fibromyalgia and chronic regional pain syndrome there is high level pain with no known cause identified. The best example of pain without injury is phantom limb pain which can persist for years after amputation. Here pain persists not only in the of absence tissue injury but in the absence of any tissue! Often it is very difficult for clinicians to work out how much of a patient's pain is caused by tissue injury (e.g. disc injury, degenerative joint, etc.) and how much is caused by other factors (e.g. anxiety, depression, increased central nervous system sensitivity, catastrophic thinking etc).

**Fig. 1 Contributing Factors for Chronic Pain!**



Some clinicians and patients get very focused on finding and fixing a problem with the tissues or a structure when treating chronic pain. However, this approach often fails because it does not take into account the multiple factors that contribute to someone's pain. It is not uncommon to have tried multiple treatments that have failed to deliver adequate pain relief. This can increase anxiety and foster a sense of hopelessness while the clinician might conclude "I think that it's all in your head." This is so wrong but there is some truth in this statement, because the brain is in the head and 100% of the time the brain tells us how much it hurts. If the brain was in the foot the clinician would say I 'think it's all in your foot!'

Pain is very useful when we have an acute injury like a sprained ankle where the pain causes you to limp and avoid too much weight bearing, allowing inflammation to settle and promoting healing. However with chronic pain, pain is much less helpful.. Chronic pain can impose significant stress on all the body's systems

**Fig 2 Things can change with chronic pain**

- Increased attention to the painful area above other areas of the body
- Decreased activity levels and decreased physical activity tolerance
- 'Software glitches' in nervous system and brain which turn up the pain volume, it hurts more and other areas of the body can start to hurt
- Increased anxiety, depressed mood and feelings of helplessness
- Depressed immune system with frequent illness and general poor health
- Guarded, compensatory and poorly coordinated movement
- Heightened stress response evidenced by inability to relax, poor concentration and memory and disturbed sleep



resulting in physical and emotional changes (Fig 2). Chronic pain is best treated actively by focusing on pacing up and developing effective coping strategies to manage and cope better with symptoms rather than passive treatment (e.g. massage, manipulation, back braces, medication dependency, etc). If possible try and seek out clinicians and therapists that adhere to this approach and who understand and can 'explain pain'. Be wary of therapists who tell you that 'you're going to be pain free after treatment' and this is their primary agenda.

## Motion is Lotion! Exercise and Chronic Pain

The body and mind love movement and gradually becoming more active is essential for treating and managing chronic pain. Some of benefits of exercise include: the joints get nice and lubricated and glide easier; some structures including the nerves and the discs of the spine need movement to get their nutrients and be healthy; the muscles get stronger and don't fatigue as easily; the nervous system winds down promoting relaxation; reduced flare-ups; improves mood and helps with anxiety and depression. Most importantly, your body produces its own pain relieving medication (e.g. endorphins) that work like the pain medication doctors prescribe. After a bout of exercise your pain tolerance increases, things hurt less, and this can last for up to an hour depending on the exercise.

## Exercise tips for chronic pain:

All the research shows that exercise works best for chronic pain when it is delivered with education and knowledge about your condition, physical activity and pain. For example, education and reassurance that pain does not necessary equal further injury reduces anxiety. It is normal for people with chronic pain to experience discomfort/increased symptoms as they gradually become more active. Guidance with acceptable and non-acceptable pain can be very helpful and reassuring.

In relation to exercise for chronic pain the motto is 'know pain or no gain' as opposed to 'no pain, no gain'. There is no one optimal type of exercise for chronic pain however exercise programs should be individualised, have a level of supervision which is generally higher at the start of treatment, and be fun! (Fig 3) Accredited exercise physiologists (AEPs) are trained in exercise prescription for chronic pain conditions. Generally, AEPs have longer consultations (45-60min) than many other allied health professions. This helps with patient-therapist communication and relationships, which promotes better outcomes. For some people, the stress imposed by chronic pain is beyond their ability to cope, and consultations with a Clinical Psychologist experienced with pain management can be beneficial. In some instances a combined treatment approach involving a number of health professionals (e.g. GP, Psychologist, Pain Specialist, Exercise Physiologist, Physiotherapist, etc.) will be the best way forward.

## References and further information

Exercise is Medicine Australia [www.exerciseismedicine.org.au](http://www.exerciseismedicine.org.au)

Find an Accredited Exercise Physiologist [www.essa.org.au](http://www.essa.org.au)

Exercise Right [www.exerciseright.com.au](http://www.exerciseright.com.au)

Chronic Pain Australia [www.chronicpinaustralia.org.au](http://www.chronicpinaustralia.org.au)

Pain Australia [www.painaustralia.org.au](http://www.painaustralia.org.au)

1. Butler D & GL Moseley (2003). Explain pain. Noigroup Publications
2. Moseley GL (2010). Painful yarns. Noigroup publications
3. Sapolsky RM (2009). Why zebras don't get ulcers 3rd ed. Henry Holt Publishing
4. Wall P (2000). Pain: the science of suffering. Columbia University Press



Fig. 3 Exercise Tips for Chronic Pain

- Choose exercise you enjoy. Weights, yoga, walking, swimming, etc. are all ok
- Consider some aerobic exercise in all programs (e.g. walking, swimming, etc.)
- Some discomfort with exercise is acceptable
- Avoid exercise which causes pain to continually increase or spread down the arms or legs
- Start slowly and be consistent across days
- Don't do more on good days and less on bad days
- Slowly pace up the exercise program by first increasing exercise volume before intensity
- Consider an accredited Exercise Physiologist if you need help with exercise

