

The Role of Medication in Musculoskeletal Pain

In order to explore the role of medication in musculoskeletal pain, we must first understand the nature of pain. You may wish to read our article on “Understanding Musculoskeletal Pain” first because it is only when we understand the problem that we can begin to understand what we can do about it.

We will be making reference to two types of pain in this article – acute and chronic, so just to recap:

Acute pain – is pain that comes on and lasts for a short time. It is the type of pain that you may initially experience after some sort of trauma (e.g. a sprained ankle).

Chronic pain – is pain which lasts longer. In musculoskeletal terms, we usually consider that pain is becoming chronic if it has been there for three to six months and is not going away.

Most of us would prefer not to be in pain, so taking an occasional dose or short course of pain medication when we suffer acute pain can make it a little easier to bear. However, if your pain persists (i.e. is becoming chronic) or keeps coming back (i.e. it is recurrent), this requires a more thorough exploration. In such circumstances, simply taking medication as a standalone solution is rarely a good idea. These are the considerations we would recommend when exploring your pain with a healthcare professional.

- **Can you identify the reason for the pain** i.e. is your pain related to poor posture, a particular activity (especially one which involves repetitive movement patterns). Was there trauma of some kind (e.g. accident) or could there be an underlying disease process?
- **Would activity modification help?** *i.e. can you modify or change any activities which either increase the chance of a similar injury or keep aggravating your pain ?*
- **Are you suffering with stress or with other mental health issues?** *Issues like stress, depression, anxiety or even having to cope with a traumatic life event (e.g. a bereavement) can influence can amplify pain. Stress and poor mental health can sometimes create a barrier to resolution of symptoms*
- **Are the basics right? Lifestyle measures such as paying attention to diet/nutrition, exercise, ergonomics and sleep where appropriate can have a positive impact on your musculoskeletal function** *(Please see our separate article on lifestyle measures)*

- **Have you explored other treatments such as specific rehab exercises or whether hands on manual treatment might help?**

Key Message:

Pain medication can be helpful but it is by no means the only solution for pain. All medications can have side effects. So, if you have chronic musculoskeletal pain or frequently recurring pain, we would strongly recommend that you investigate this further and (generally speaking) try not to use medication as a standalone treatment.

Most common types of pain medication

We can group pain-relieving medication into classes. Each class of medication has its own mechanism of action which may be more helpful in specific types of pain. Sometimes pain-relieving medications are combined. This involves taking one medication from two or more different classes to gain better control of the pain. The classes with which you may be most familiar are:

- **Paracetamol.**
- **NSAIDs** This stands for “non-steroidal anti-inflammatory drugs” and as their name suggests, these medications target inflammation. The most common medicines in this class include ibuprofen, diclofenac and naproxen. As their name suggests, these medicines are anti-inflammatory and work to relieve pain by tackling inflammation.
- **Opioids and opiates** such as Codeine/dihydrocodeine, morphine and fentanyl. We need to exercise care with these medicines since they can be addictive.
- **Corticosteroids** such as triamcinolone, depo-medrone and hydrocortisone may be given by injection to relieve pain and inflammation. These are mostly reserved for severe symptoms in instances where other measures have failed. Caution should be exercised about the dose and frequency of injections because of the potential for longer term adverse effects. Whilst chronic pain (i.e. pain that has been present for a long time) may require more than one injection to settle the pain, in general, where lasting relief of symptoms is not being achieved, a different type of treatment should be considered altogether, instead of repeating multiple corticosteroid injections if these are only delivering short-lived benefit.

Over the counter or prescription medicines

Some pain-relieving medicines may be purchased without prescription (e.g. from a supermarket or your local pharmacy) whilst others need to be prescribed for you. Your local pharmacy is often an easily accessible and very helpful resource and a pharmacist will be able to advise you on what medication might help. They will take into account what type of pain you have and whether you have any other medical conditions or are already on medicines for other conditions.

Medicines purchased for minor musculoskeletal injuries without your doctor's knowledge should only be taken for a very short period (We would suggest no longer than a week). However, if the medication doesn't work or if your symptoms are severe or persist for

longer than a week you should take professional healthcare advice.

Misperceptions about pain-relieving medications

Personal attitudes towards medication vary. At one end of the spectrum we would encourage patients not to think of medication as a quick fix for all musculoskeletal problems and to try to think about what else they can do to improve their overall musculoskeletal pain and function. However, at the other end of the spectrum some people do not appreciate why in some circumstances, medication can play a helpful role and they may have misperceptions. For that reason, we will address a few of these misperceptions here:

Misperception 1:

“Medicines just mask the pain. They don’t cure it. I don’t want to take something that masks the pain. Pain is there for a reason. It’s there because there is an injury or some damage and if I mask the pain, I won’t know if I’m causing myself any further damage”

When we have an injury, pain occurs to encourage us to protect the injured area to allow it to heal. So yes, pain is designed for a protective purpose. But sometimes the pain is just too much to bear, and sometimes it continues for longer than it is necessary (i.e. past the useful time period for which “protecting the area” is helpful to aid the healing process).

In certain circumstances, pain relieving medications don’t just fulfil a role of “masking the pain”, they can sometimes be helpful for the following reasons:

- **Pain can be a barrier which limits how you move and function. It can also stop you tolerating rehab exercises and/or hands on treatment. When this happens, pain can stop providing a helpful role and can start to hinder your recovery.**

Pain can make you reluctant to move. As we have said, restricting movement of the painful area or undergoing “relative rest” and avoiding activities which aggravate the pain can often be helpful for healing in the initial stages of an injury. **However**, if pain persists and you continue to be reluctant to move because of this, this inactivity can be counterproductive because:

- (a) Eventually this lack of movement can cause muscles to become weak and start to waste.
- (b) If you are reluctant to use the painful area, you may compensate by placing additional stress through other parts of your body, and over time this can lead to muscle imbalances and pain elsewhere as some muscles become over-used whilst muscles in the painful area are being under-used.
- (c) Many of the treatment techniques that therapists such as physiotherapists and osteopaths involve restoring normal movement and function through rehab exercises and hands on treatment. Pain can sometimes be a barrier to this, preventing you from tolerating hands on treatment and preventing you from doing the exercises prescribed by your therapist. In this catch 22 situation where pain

levels are hampering your recovery, medication can play a part in removing the “pain barriers”.

- **Pain relief can prevent “central nervous system wind up” and can break the “chronic pain” cycle**

You are not “hard-wired” for pain. In other words, if pain continues for prolonged periods (e.g three months or more), the central nervous system often maladapt by actually growing more neurones and pain receptors. This can cause something called **pain sensitisation**. When this happens, people can start to experience pain even with very light stimuli which ordinarily would not be a problem (e.g. they may begin to find that even light touch causes them pain)

Put another way, pain is a primitive response to injury, so the body becomes confused if the pain continues for a long time. The body thinks that you have been ignoring the pain signals so it physically adapts to make these pain signals even stronger to try to make you do something about it. We refer to this as central nervous system “wind up”. The trouble is that this can cause pain to persist and even become worse, even in circumstances where the original injury has healed because the nervous system has physically changed.

Pain medication can therefore play a helpful role in patients whose pain persists longer term because it can help prevent or break into this unhelpful pain amplification feedback loop.

- **Some pain-relieving medicines are anti-inflammatory too.**

Inflammation can be a cause of pain. When the body attempts to heal an injury it mounts an inflammatory response. The inflammatory response is designed to bring specialist cells to the area to clear away any damaged tissue and infectious agents (which may be present if your injury involves a wound) so that the area can begin to be repaired.

However, the inflammatory response can sometimes be excessive or continue for too long. When this happens, it can actually impede blood flow to the damaged area which in turn prevents cells such as fibroblasts from reaching the injured area to repair the tissues. Excess inflammation also causes swelling which may take some time to subside and which can be sufficient to restrict movement. We have already discussed what can happen if your movement patterns become restricted over longer time periods.

Misperception 2:

“Medicines are addictive. I don't want to get addicted to anything”

Only a minority of medicines are potentially addictive over the longer term and for those that are, the aim should be to give the lowest effective dose for as short a time as possible. If you have any concerns about the medication you have been prescribed, please discuss this with your doctor or pharmacist.

Misperception 3:

“I went to my doctor because of pain but my doctor thinks I'm depressed. They didn't give me anything for my pain. They gave me an anti-depressant instead!”

There is a type of pain known as “neuropathic pain”. Neuropathic pain is pain that is caused by damage to or dysfunction in the nerves that transfer information between the brain and spinal cord from the skin, muscles and other parts of the body. Descriptions of neuropathic pain often involve the words “burning”, “shooting”, “stinging” or “pins and needles” . Neuropathic pain is often associated with increased sensitivity to the point where even usually normally non-painful stimuli (such as light touch) can produce pain.

Neuropathic pain can vary in its intensity. However, the trouble is that the painkillers with which you may be most familiar (e.g ibuprofen or paracetamol) are not usually effective for this type of pain. Of the medications prescribed to treat neuropathic pain, there are two somewhat unexpected classes of medication which can be particularly effective. These are certain types of antidepressant or antiepileptic drugs:

Antidepressants

Examples: amitriptyline, duloxetine, venlafaxine

Although these medications were originally marketed for the treatment of depression, this group of drugs has also been found to have an effect on managing nerve pain. They are often used at much lower doses for neuropathic pain than the doses used for depression. So, if your doctor prescribes an antidepressant for your pain, the likelihood is that they think you have a component of neuropathic pain and this does not mean that they think you are depressed.

Anti-epileptics

Examples: gabapentin or pregabalin

Again, although these medicines were originally marketed for the treatment of epilepsy, these drugs can also reduce nerve pain and ease neuropathic symptoms. Being prescribed this medication does not mean that your doctor thinks you have epilepsy.

Both of the above types of medication for neuropathic pain tend to come with the significant risk of side effects, although many will be dependent on the dose prescribed. So, when doctors prescribe these types of medicine, they use what is often referred to as a “**titrating dose**”. This means that they start off by prescribing a low dose and gradually increase it. The purpose of a doing this is to find the minimum dose which can control symptoms - hopefully without causing too many side effects.

There are other medications that can be used for some types of neuropathic pain, such as

- ◆ opioids,
- ◆ lidocaine patches, and
- ◆ capsaicin cream.

What about side effects?

All medicines can have side effects. What side effects you may experience can vary from individual to individual. A medication well tolerated by one person may not be well tolerated by another. This is worth bearing in mind because some people are reluctant to try a medicine simply because they know of someone else who tried it.

Some side effects are minor and temporary and subside with time. Some side effects are what we refer to as “dose-dependent”. This means that the side effects are much more likely to be experienced at higher doses.

It is therefore important for you to consider the risks and benefits and to decide whether the benefits of taking a medication outweigh the risks. If you experience troublesome side effects on one medication, tell your doctor because they can often try something else instead.

In some cases, a particular medication may not be suitable for you or may need to be used with extra caution. This may be because you have other certain medical conditions, or allergies, or you may be on medication for another condition which interacts with it.

You should always check that a medicine is suitable for you before you take it.

Summary:

The purpose of this article is to provide a balanced overview of the role of medication in pain. In some circumstances pain medication can be helpful but it should not be seen as a “quick fix” for everything and quite often, there are other measures you can take.

This article is not intended to provide a comprehensive review of all of the different types of medication used for pain, and it is not a substitute for individualised professional advice. It is merely provided to explain why a balanced approach to medication is necessary.