

The Role of Medication in Pain

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.** This medication stands in a class by itself
- ◆ **NSAIDS** This stands for Non-steroidal anti-inflammatories and as their name suggests, these medications target inflammation. The most common medicines in this class include ibuprofen, diclofenac and naproxen.
- ◆ **Opioids** Such as Codeine./dihydrocodeine, morphine, oxycodone and fentanyl

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 so in the first instance, when you require pain relief the pharmacist will be able to advise you on what medication to take. 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.

Some people have misconceptions about pain-relieving medications and may be reluctant to take them. Here are some statements made by patients and our responses:

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”**

In order to understand the benefits of pain relief, we need to understand the adverse effects of pain. Pain can:

- ◆ **Limit how you function.** Pain can make you reluctant to move. In our article on self help measures, we discussed how in the initial stages of a musculoskeletal injury, it was important to protect the injured area. For some injuries, this may initially involve restricting movement of the painful area or undergoing “relative rest” and avoiding activities which aggravate the pain. **However**, if pain remains untreated and you continue to be reluctant to move because of this, this can be counterproductive because:

(a) If the painful area undergoes a prolonged period of lack of movement, muscles in that area can begin to become weak and can 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 under-used.

(c) Much of the work of therapists such as physiotherapists and osteopaths involves restoring normal movement and function. Yet pain can be a barrier, preventing you from tolerating hands on treatment and preventing you from doing the exercises prescribed by your therapist, so that you don't progress.

- ◆ **Cause “wind up” in the central nervous system if it is left unmanaged for long periods of time.**

In our article on “Understanding Pain” we explained that you are not “hard-wired” for pain. We explained that if pain continues for prolonged periods (i.e. months), the central nervous system often adapts (or rather maladapts) by actually growing more neurones and pain receptors. This can cause sensitisation even to the point that light touch and other (normally non-painful stimuli) becomes painful. Put another way, pain is a primitive response to injury, so the body becomes confused if the pain continues for a long time. It thinks that you have been ignoring the pain signals so it physically adapts to make these pain signals even stronger to make you do something about it. The trouble is that this can cause pain to persist even when the original injury has healed because the nervous system has physically changed. So for longer term pain, breaking the pain cycle and preventing further central nervous system “wind up” can be extremely important.

- ◆ **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 often be excessive and this can actually prevent blood flow to the damaged area which in turn prevents cells such as fibroblasts reaching the injured area to repair the tissues. Excess inflammation can also cause swelling which may take some time to subside and which can be sufficient to restrict movement. We have already discussed the implications of prolonged restriction of movement

2. “Medicines have side effects. I'll just be swapping my pain for a load of side effects.

It is true that 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 temporary and can subside with time, and other 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.

Medical management is very much about looking at the risks and benefits. Certainly all medication comes with a risk of side effects, but the benefits may outweigh this risk, particularly if any side effects experienced are likely to be minor. If you experience troublesome side effects on one medication, tell your doctor because they can often try a different medication instead.

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

Only a minority of medicines are potentially addictive over the longer term. Those which are tend to be managed by your doctor with the aim of reducing this potential by giving you 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 local pharmacist.

4. 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 (such as non-steroidal anti-inflammatory drugs or NSAIDs (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:

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 are at risk of epilepsy.

Both of the two categories of medicine listed above tend to come with the significant risk of side effects, many of which 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 doing this is to find the minimum dose which can control symptoms 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.

This article is not intended to provide a comprehensive review of all of the different types of medication used for pain. It is merely provided to explore why pain-relief can be a useful tool in the management of painful musculoskeletal conditions and to clear up some of the most common misconceptions that patients have. We hope you have found it helpful.