Painkillers

There are three main types of painkiller: non-steroidal anti-inflammatory drugs (NSAIDs), paracetamol and opioids. Each works in a different way. Most people only need to take painkillers for a few days or weeks at most, but some people need to take them for a long time. You can buy some painkillers from pharmacies; this includes some NSAIDs, paracetamol and some weak opioids (codeine or dihydrocodeine). If you buy painkillers that contain weak opioids and you need to take them for more than three days you must discuss this with your pharmacist or doctor.

What are painkillers?

Painkillers are medicines that are used to treat pain. There are a large number of painkillers available and they all come in various different brand names. They can be taken:

- By mouth as liquids, tablets, or capsules.
- By injection.
- Via the back passage (rectum) as suppositories.

Some painkillers are also available as creams, ointments or patches.

Even though there are a large number of painkillers available, there are only three main types (each works in a different way). They are:

- **Non-steroidal anti-inflammatory drugs (NSAIDs)**. Examples of NSAIDs include ibuprofen, diclofenac and naproxen. Aspirin is also an NSAID. However, it is mainly prescribed (in low doses) to help to keep the blood from clotting - for example, for people who have had a heart attack in the past.

- **Paracetamol**.

- **Weak opioids and strong opioids** (sometimes called opiates). Examples of weak opioids include codeine and dihydrocodeine. Although commonly described as ‘weak opioids’, they are extremely effective analgesics often used to treat severe pain; however, they can lead to significant addiction and adverse effects, so should not be underestimated. Examples of strong opioids include morphine, oxycodone, pethidine and tramadol. Many people who need strong opioids are in hospital.

Different types of painkillers are sometimes combined together into one tablet - for example, paracetamol plus codeine (co-codamol).

In addition to the above, some antidepressants and antiepileptic medicines can be used to treat neuropathic pain. The rest of this leaflet does not discuss these types of medicines. For more information on them see separate leaflet called Neuropathic Pain.

There are also other alternative methods for pain relief such as, transcutaneous electrical nerve stimulation (TENS) machine. See separate leaflet called TENS Machines.

How do painkillers work?

**NSAIDs** work by blocking (inhibiting) the effect of chemicals (enzymes) called cyclo-oxygenase (COX) enzymes. COX enzymes help to make other chemicals called prostaglandins. Some prostaglandins are involved in the production of pain and inflammation at sites of injury or damage. A reduction in prostaglandin production reduces both pain and inflammation. Not all NSAIDs are exactly the same, and some work in slightly different ways from others. See separate leaflet called Anti-inflammatory Painkillers for more details.

**Paracetamol** - no one really knows for sure exactly how paracetamol works. But it is also thought to work by blocking COX enzymes in the brain and spinal cord (central nervous system). Paracetamol is used to treat pain and to lower a high temperature. However, it does not help with inflammation.

**Opioids** work by binding to certain receptors (opioid receptors) in your central nervous system, your gut and other parts of your body. This leads to a decrease in the way you feel pain and your reaction to pain, and it increases your tolerance for pain. See separate leaflet called Strong Painkillers (Opioids) for more details.

Which painkiller is usually prescribed?

The type of painkiller your doctor will prescribe depends upon:

- The type of pain you have.
- Any other health problems you may have.
- How severe your pain is.
- The possible side-effects of the medicines.
Paracetamol is normally prescribed if your pain is not too serious and you do not have inflammation.

NSAIDs are generally prescribed for people who have pain and inflammation - for example, if you have pain in your joints (arthritis) or muscles (back pain). This is because there is likely to be some inflammation present and NSAIDs work well to treat pain as well as inflammation. NSAIDs have a number of possible side-effects and they are not suitable for everyone. For example, they are not suitable for people who have or have had stomach ulcers. In this case a doctor may prescribe a safer medicine (paracetamol) even though it may not work as well. NSAIDs can be used with heat and ice treatment in joint, muscle or ligament injuries. See separate leaflet called Heat and Ice treatment for pain.

Weak opioids are usually prescribed for more severe pain, or if you have tried paracetamol and/or ibuprofen and they have not worked.

Stronger opioids are normally used to treat severe pain - for example, cancer-related pain, pain after an operation, or if you have had a serious injury.

Anti-inflammatory medicines used as a cream (topical painkillers) are mainly used to treat pain in your soft tissues and muscles. See separate leaflet called Topical Anti-inflammatory Painkillers for more details.

How should I take painkillers?

People who are in pain all the time are usually recommended to take painkillers regularly. For example, if you have been prescribed paracetamol you will normally take it four times a day, every day until the pain is better. Otherwise, you only need to take painkillers when you need them.

If you are taking an NSAID such as ibuprofen or diclofenac, you will need to take this with or after food. This is because they can irritate the lining of your stomach and sometimes cause bleeding in your stomach.

What is the usual length of treatment?

Like all medicines, painkillers should be taken for the shortest period of time possible, in the lowest dose that controls your pain. This is to help avoid any side-effects. Most people only need to take painkillers for a few days (for example, for toothache) or weeks (having pulled a muscle). However, some people have painful conditions and need to take painkillers on a long-term basis. Examples include people with rheumatoid arthritis, osteoarthritis, or chronic back pain.

What are the possible side-effects?

It is not possible to list all the possible side-effects of each painkiller in this leaflet. However, as with all medicines, there are a number of side-effects that have been reported with each of the different painkillers. If you want more information specific to your painkiller then you should read the information leaflet that comes with the medicine.

Painkillers rarely cause serious side-effects:

NSAIDs
Most people who take anti-inflammatories have no side-effects, or only minor ones. When taken appropriately, the benefit usually far outweighs the potential harms. In particular, many people take a short course of an anti-inflammatory for all sorts of painful conditions. However, side-effects, and sometimes very serious possible adverse effects, can occur. These include bleeding into the stomach and gut, and cardiovascular problems. See separate leaflet called Anti-inflammatory Painkillers for more details.

Paracetamol
This is a safe medicine and side-effects are rare if you do not take more than the maximum recommended dose. However, paracetamol can be very dangerous if you take too much (overdose). Overdoses of paracetamol can happen by mistake, but some people intentionally take an overdose. The main problem with taking an overdose of paracetamol is that it can damage your liver permanently and you can die from this.

Opioids
The most common side-effects are:

- Feeling sick (nausea) and being sick (vomiting) - particularly at the start of treatment.
- Constipation.
- Dry mouth.

Opioids can also cause drowsiness and confusion. Some people can become tolerant to opioid painkillers (needing to take more to get the same effect) and then depend upon them. This includes opioids that can be bought in pharmacies. If you think you are depending on opioids and need to take higher and higher doses, discuss this with your pharmacist or doctor. See separate leaflet called Strong Painkillers (Opioids) for more details.

Some painkillers may interact with other medicines that you might take. This may cause reactions, or reduce the effectiveness of one or other of the treatments. So, when you are prescribed a painkiller, you should tell a doctor if you take other medicines.
Can I buy painkillers?

You can buy different painkillers, including paracetamol and some NSAIDs (eg, ibuprofen, aspirin and naproxen). However, weaker opioids, such as codeine, are only available to buy in combination with paracetamol or ibuprofen. The dose of codeine in these combination tablets is lower than the doses your doctor can prescribe for you. It is only possible to buy a few days’ supply of the weaker opioid combination tablets. If you need to take these for more than three days then you will need to discuss this with your doctor or pharmacist.

You need a prescription for weaker opioids that are not in combination with paracetamol - most NSAIDs (for example, indometacin, or diclofenac), as well as stronger opioids (for example, morphine, diamorphine and tramadol) and opioid patches.

Who cannot take painkillers?

It is very rare for anyone not to be able to take some type of painkiller. The main reason why you may not be able to take a painkiller is if you have had a serious side-effect or an allergic reaction to a particular type of painkiller in the past. Even if this happens, your doctor will usually be able to choose a different type of painkiller, which you will be able to take.

Aspirin cannot be taken by children under the age of 16 years, because there is a risk of the child developing Reye’s syndrome (very rare).

How to use the Yellow Card Scheme

If you think you have had a side-effect to one of your medicines you can report this on the Yellow Card Scheme. You can do this online at www.mhra.gov.uk/yellowcard.

The Yellow Card Scheme is used to make pharmacists, doctors and nurses aware of any new side-effects that medicines or any other healthcare products may have caused. If you wish to report a side-effect, you will need to provide basic information about:

- The side-effect.
- The name of the medicine which you think caused it.
- The person who had the side-effect.
- Your contact details as the reporter of the side-effect.

It is helpful if you have your medication - and/or the leaflet that came with it - with you while you fill out the report.

Further reading & references

- Control of pain in adults with cancer; Scottish Intercollegiate Guidelines Network - SIGN (November 2008)
- British National Formulary (BNF); NICE Evidence Services (UK access only)

Disclaimer: This article is for information only and should not be used for the diagnosis or treatment of medical conditions. Patient Platform Limited has used all reasonable care in compiling the information but makes no warranty as to its accuracy. Consult a doctor or other healthcare professional for diagnosis and treatment of medical conditions. For details see our conditions.

Author: Dr Gurvinder Rull
Peer Reviewer: Prof Cathy Jackson

Document ID: 13811 (v4)
Last Checked: 02/05/2018
Next Review: 01/05/2021

View this article online at: patient.info/health/painkillers

Discuss Painkillers and find more trusted resources at Patient.
Ask your doctor about Patient Access

- Book appointments
- Order repeat prescriptions
- View your medical record
- Create a personal health record (iOS only)

Simple, quick and convenient.
Visit patient.info/patient-access
or search 'Patient Access'