

Pain-killing drugs

Pain-killing drugs (analgesics) are common medications that many people use at some time in their lives. Women are more likely than men to use these types of drugs. There are two broad categories of analgesics:

- **Non-opioid** – such as aspirin and paracetamol, which are mainly used for mild to moderate pain
- **Opioid** – such as morphine and oxycodone, which are mainly used for severe pain.

The side effects and potential problems related to using opioid (narcotic) analgesics, such as addiction and overdose, are generally well known. However, most people assume that non-opioid (non-narcotic) analgesics are harmless. In fact, over-the-counter painkillers can cause a range of unwanted side effects, particularly if they are taken in large doses over a long period of time.

In 1998, there were over 14 million prescriptions issued for analgesics through community pharmacies in Australia – 6,874,000 for opioid and 7,127,000 for non-opioid analgesics.

Pain receptors

The sensation of pain is relayed from pain receptors, along nerves, to the spinal cord and brain for interpretation. Some areas of the body have more pain receptors than others. For example, the skin is loaded with receptors that can give specific information on the exact location and type of pain, while the relatively few receptors in the gastrointestinal tract means it is harder to pinpoint the precise location of a stomach ache.

The message relay

Pain receptors are attached to two main types of nerves – one relays messages quickly (which results in a sharp, acute pain) and the other relays messages slowly (which results in a dull, throbbing pain).

The spinal cord receives the message, then sends it to a brain structure called the thalamus. The thalamus also contributes to mood and arousal, which helps to explain why our interpretation of pain partly depends on our state of mind. The pain message is then delivered to the brain's cerebral cortex. Interestingly, some people who have injuries to areas of their cerebral cortex still experience pain, but don't care about it that much.

How analgesics work

Analgesics work in various ways. For example, opioid analgesics alter pain messages by influencing brain chemistry, which is why these drugs tend to be addictive.

Aspirin works by blocking a particular enzyme in the body that is needed to create prostaglandins. Prostaglandins are chemicals, similar to hormones, which trigger physiological changes like increased temperature and dilation of blood vessels. That's why blocking their action reduces fever and inflammation. However, prostaglandins also help the stomach lining to resist gastric acid, which is why aspirin can cause stomach irritation and bleeding in some people.

Side effects

Some of the side effects of common analgesics include:

- **Aspirin** – stomach irritation, allergic reactions in susceptible individuals (such as triggering an asthma attack), tinnitus (ringing in the ears), kidney damage (if used in large doses for a long time) and reduced blood clotting ability.
- **Combination analgesics** – such as preparations that contain paracetamol and codeine: side effects include nausea, vomiting, dizziness and kidney damage (if used in large doses for a long time).
- **Opioid analgesics** – such as morphine, oxycodone and codeine – side effects include nausea, vomiting, constipation, drowsiness, reduced physical coordination and balance.

- **Non-steroidal anti-inflammatory drugs (NSAIDs)** – headache, nausea, stomach irritations and upsets, skin rashes, fatigue, dizziness and sleep problems.
- **Paracetamol** – skin rash, sweating and kidney damage (if used in large doses for a long time).

General cautions

Over-the-counter analgesics need to be treated with respect and caution, just like any other drug. It's always a good idea to discuss any medication with your doctor. General suggestions include:

- Don't self-medicate during pregnancy – some medications can reach the foetus through the placenta and potentially cause harm.
- Take care with children – they don't metabolise drugs in the same way as adults. A medication that works for an adult may not work for a child, or it may cause dangerous side effects.
- Don't give children over-the-counter drugs unless you have been advised to do so by your doctor or chemist.
- Make sure you administer the correct dose for your child's weight and age according to instructions on the label.
- Keep all drugs out of reach of children.
- Take care if you are elderly or caring for an older person. Older people have an increased risk of unwanted side effects. For example, taking aspirin regularly for chronic pain (such as arthritis) can cause a dangerous bleeding ulcer.
- Always tell your chemist about any prescription drugs you are taking so they can help you choose a safe analgesic. Over-the-counter drugs can interact with other drugs, sometimes dangerously.
- Don't take more than one over-the-counter drug at a time, or you may unintentionally take an overdose. For example, you may be using paracetamol tablets and 'cold and flu' tablets, but those 'cold and flu' tablets may already contain paracetamol.
- See your doctor or health care professional for proper treatment for sport injuries; don't use pain-killing drugs to 'tough it out'.
- Consult your doctor before you use any over-the-counter drug if you have a chronic physical condition, such as heart disease or diabetes.

Pain relief without drugs

Apart from analgesics, other proven methods of pain relief include:

- Acupuncture
- Biofeedback therapy
- Hot and cold compresses
- Local anaesthetic creams
- Meditation
- Therapeutic ultrasound
- Transcutaneous electrical nerve stimulation (TENS).

Where to get help

- Your doctor
- Chemist
- DrugInfo Clearinghouse Tel. 1300 858 584 www.druginfo.adf.org.au (for information)
- Direct Line Tel. 1800 888 236 (for counselling and referral)

Things to remember

- There are two broad categories of analgesics: non-narcotic (such as aspirin) and narcotic (such as morphine).
- Pain-killing drugs (analgesics) are common medications that most people use from time to time.
- Over-the-counter painkillers can cause a range of unwanted side effects, particularly if they are taken in large doses over a long period of time.

This page has been produced in consultation with, and approved by:

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