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## Medications - non-steroidal anti-inflammatory drugs

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### Summary

- NSAIDs are commonly used to manage the pain and inflammation associated with arthritis and other musculoskeletal disorders.
  - NSAIDs can cause serious side effects, some of which may be life-threatening.
  - NSAIDs should always be used cautiously and for the shortest time possible.
  - Always talk to your doctor or pharmacist before buying or taking an NSAID to ensure it's safe for you to take.
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Non-steroidal anti-inflammatory drugs (NSAIDs) are commonly used to manage the pain and inflammation (swelling and redness) associated with some types of arthritis (such as rheumatoid arthritis) and other musculoskeletal disorders.

NSAIDs are also used to treat non-inflammatory conditions such as migraine, period pain and postoperative pain, and to reduce fever.

**Aspirin** is an NSAID with 'blood-thinning' properties. It can be used in low doses to reduce the risk of heart attack and stroke in high-risk patients.

Some commonly used NSAIDs include:

- aspirin (such as Disprin)
- ibuprofen (such as Nurofen)
- naproxen (such as Naprosyn)
- diclofenac (such as Voltaren)
- celecoxib (such as Celebrex).

### How NSAIDs work

Prostaglandins are hormone-like chemicals in the body that contribute to inflammation, pain and fever by raising temperature and dilating blood vessels, which causes redness and swelling in the place they are released.

NSAIDs block a specific enzyme called cyclooxygenase (or COX) used by the body to make prostaglandins. By reducing production of prostaglandins, NSAIDs help relieve the discomfort of fever and reduce inflammation and the associated pain.

### Side effects of NSAIDs

While NSAIDs are effective in relieving pain, fever and inflammation, they can cause unwanted side effects.

Gastrointestinal side effects such as indigestion, stomach upset (including nausea or feeling sick) or stomach pain are commonly caused by NSAIDs. Use of NSAIDs can also cause ulcers and bleeding in the stomach and other parts of the gastrointestinal tract (gut).

Other common side effects of NSAIDs include:

- raised liver enzymes (detected by a blood test)
  - diarrhoea
  - headache
  - dizziness
  - salt and fluid retention
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- high blood pressure.

Less common side effects include:

- ulcers of the oesophagus (food pipe)
- rectal irritation (if suppositories are used)
- heart failure
- hyperkalaemia (high levels of potassium in the blood)
- reduced kidney function
- confusion
- bronchospasm (difficulty breathing)
- skin rash
- skin irritation, reddening, itching or rash (if skin products are used, such as a cream).

NSAIDs (with the exception of low-dose aspirin) may also increase the risk of heart attack and stroke, even in healthy people.

In general, using NSAIDs occasionally rather than every day, and at the lowest dose possible, reduces your chances of developing serious side effects. If you're concerned or unsure about your risk of side effects with NSAIDs, talk to your doctor or pharmacist.

### **NSAIDs can provide relief**

While NSAIDs can potentially cause many side effects – some of which may be serious or life-threatening – if prescribed under the right conditions and used as instructed, they can be of great benefit. Your doctor can help you consider the benefits and risks of taking an NSAID to ensure they're the right treatment option for you.

When you're taking an NSAID, always use it cautiously and for the shortest time possible. If you need to use these medicines for a long time (for example, to manage the symptoms of arthritis when other therapies don't offer relief, or when you're taking low-dose aspirin to prevent a heart attack or stroke), make sure you see your doctor regularly.

### **NSAIDs high-risk groups**

Some people are at higher risk of developing serious complications from taking NSAIDs. Risk factors include:

- increasing age (side effects are more common in people aged 65 years and over)
- previous or current gastrointestinal problems such as ulcers, bleeding or *Helicobacter pylori* infection (the germ that can cause ulcers)
- having particular heart problems (for example, heart failure), high blood pressure, diabetes or kidney disease
- drinking alcohol
- taking high doses of NSAIDs
- taking NSAIDs for more than a few days at a time
- taking certain other medicines while taking NSAIDs.

Tell your doctor or pharmacist if you have any of the risk factors above before buying or taking an NSAID. They can advise whether an NSAID is suitable for you and discuss your risk of side effects.

Do not take NSAIDs if you are:

- allergic to NSAIDs, including aspirin
- suffering from a gastrointestinal ulcer or bleed
- pregnant or planning a pregnancy.

Talk to your doctor if you're unsure whether you should avoid taking NSAIDs.

### **Drug interactions with NSAIDs**

NSAIDs may interact with other medicines to cause unwanted effects. For example:

- When combined with blood-thinning medicines (such as warfarin) NSAIDs increase the risk of bleeding.
- NSAIDs can cause kidney failure when they are combined with ACE inhibitors (medicines used to treat heart problems and high blood pressure) and diuretics (medicines to remove excess fluid).
- NSAIDs can oppose the effects of medicines for heart failure and high blood pressure and stop them working effectively, including ACE inhibitors, beta blockers and diuretics.
- When combined with another type of NSAID (including low-dose aspirin) or with a corticosteroid medicine (for example, prednisolone) NSAIDs increase the risk of gastrointestinal ulceration or bleeding.

Alcohol can irritate the stomach lining. Regular or heavy drinking of alcohol while taking NSAIDs may increase the risk of gastrointestinal damage or bleeding.

### **Over-the-counter medicines can contain NSAIDs**

Some over-the-counter preparations contain NSAIDs, for example, pain relief medicines and some cough, cold and flu medicines.

If you already take an NSAID, you may increase your risk of side effects or an accidental overdose if you also take an over-the-counter preparation that contains aspirin or another NSAID.

Always check the active ingredient before buying any over-the-counter preparation and ask your doctor or pharmacist if you're unsure whether it's safe for you to take.

Do not take more than one medicine containing an NSAID at the same time, unless your doctor recommends it. If you're taking low-dose aspirin to reduce the risk of heart attack and stroke, you still need to consider the use of another NSAID carefully with your doctor.

If you are taking any over-the-counter NSAIDs, tell your doctor or pharmacist, particularly if you are due to undergo surgery or are starting a new medicine.

### **General suggestions for taking NSAIDs**

Do not take your NSAID for longer than your doctor recommends. Stop taking your NSAID and seek advice from your doctor immediately if you develop:

- swollen ankles
- difficulty breathing
- black stools
- dark, coffee-coloured vomit.

Other general suggestions when taking or planning to take NSAIDs include:

- Always tell your doctor and pharmacist about any other medical conditions you have or other medicines you take (or plan to take), including over-the-counter and complementary medicines, such as herbal remedies and vitamin supplements.
- See your doctor if you think your NSAID may be causing side effects.
- Be cautious of long-term or high-dose treatment with an NSAID if you are at risk of side effects. Discuss your concerns with your doctor. Ask if there are any alternatives to NSAIDs that you could try.
- Explore different ways to manage your pain. For example, you could try physical therapies or a different medicine that might be less likely to cause side effects (for example, paracetamol, anti-inflammatory creams). For chronic joint pain, losing weight if you're overweight, or surgery may assist.
- If you need to keep taking NSAIDs, your doctor may be able to prescribe other drugs to help manage some of the side effects.

### **Where to get help**

- Your doctor
- Pharmacist
- **NPS Medicines Line** Tel. 1300 MEDICINE (1300 633 424) – for information on prescription, over-the-counter

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**betterhealth.vic.gov.au**

and complementary medicines

- **Move — Muscle, Joint and Bone Health** (formerly Arthritis Victoria) Tel. 1800 263 265

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