

Over-the-counter analgesics: A review

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Over-the-counter (OTC) analgesics are available for many different painful conditions that people present with every day in the pharmacy. These conditions may range from headaches, toothache, period pain, gout pain and various muscular aches and pains.

The effectiveness of a particular analgesic depends on the type and severity of pain the patient is experiencing, as well as the dose of medication.

To ensure the safety of the patient, it is of utmost importance that the patient's age, medical history, including current medications and allergies, be taken into account.

Which analgesics are available OTC for acute pain?

Nonsteroidal anti-inflammatory drugs (NSAIDs) are a group of analgesics available for pain, fever and inflammation. These products, which include aspirin, ibuprofen, diclofenac and naproxen, are available OTC.

Paracetamol is widely used OTC for pain and fever. It does not have any anti-inflammatory properties.

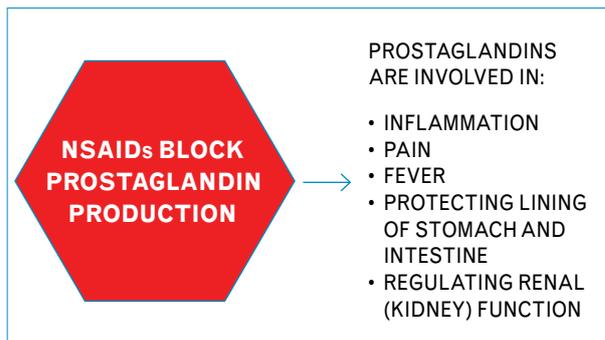
Codeine is also available OTC, in combination with paracetamol or a NSAID for mild to moderate pain.

Combination analgesics

The above analgesics are available in combination. Each ingredient would need to be individually considered when making recommendations for use.

The available OTC analgesics should be recommended for the relief of acute pain and should not be used for more than a few days. The maximum recommended dose should also not be exceeded.

How do they work?



NSAIDs reduce the production of prostaglandins. Prostaglandins are hormone-like substances that are involved in pain, inflammation and fever. They also play a role in protecting the lining of the stomach and intestine, as well as regulating renal function. Therefore, through their action of blocking prostaglandins, NSAIDs help relieve pain, inflammation and fever, but carry a risk of inducing gastrointestinal irritation, bleeding, kidney and cardiovascular problems.

Aspirin, although classified as a NSAID, is not as effective as other NSAIDs in relieving pain. Due to the risk of a rare, but serious condition known as Reye's syndrome (swelling of liver and brain), aspirin should not be given to relieve pain or fever in children under 16 years of age.

Paracetamol is widely used for relieving mild to moderate pain and fever. However, unlike with NSAIDs, paracetamol does not relieve inflammation, nor does it usually affect the blood clotting mechanism. For this reason, paracetamol is less likely to cause gastrointestinal irritation. Although paracetamol is relatively safe if taken at the recommended doses, it is important to note that high doses may lead to acute liver failure. Paracetamol overdose is known to be one of the leading causes of acute liver failure. Many other products, such as cold and flu medications contain paracetamol. Therefore,

patients should be counselled to carefully read the product ingredients so as not to accidentally duplicate and overdose on paracetamol.

Codeine is a weak opioid analgesic. It is not particularly effective for pain on its own but works better when combined with paracetamol and/or ibuprofen. Codeine-containing analgesics may be considered for patients who are not responding to NSAIDs or paracetamol on its own. Analgesics containing codeine should not be used on a long-term basis, due to the risk of dependency. Patients who have a history of drug abuse should not be recommended products containing codeine.

Asking the right questions

It helps to ask the right questions in order to minimise the risk of side-effects, as well as to determine the most effective analgesic for an individual patient.

What type of pain are you experiencing?

NSAIDs and paracetamol both provide relief for mild to moderate pain and fever. Pain associated with inflammation, such as after an injury, or toothache, responds better to a NSAID. NSAIDs, such as ibuprofen or naproxen, due to their inhibition of prostaglandin synthesis, are also the treatment of choice for dysmenorrhoea (period pain). NSAIDs such as diclofenac are effective in relieving an acute gout attack.

Are you allergic to any medications?

Patients who are allergic to aspirin or any other NSAID, may have an allergic reaction to another type of NSAID (cross-reactivity).

Are you taking any other medications?

OTC pain medications may interact with the patient's current or chronic medication.

NSAIDs may interact with many different medications, such as blood thinners (leading to increased risk of bleeding), certain blood pressure and cardiovascular medications, other anti-inflammatories (for example celecoxib), and medications used to treat cancer or arthritis (for example methotrexate).

Patients on low-dose aspirin for prevention of blood clotting should avoid taking NSAIDs. If, however, the patient is taking a NSAID for pain, the patient should be advised to not take the NSAID at the same time as the low-dose aspirin. Rather advise them to take their low-dose aspirin first thing in the morning and to wait for at least half an hour before taking the NSAID. If the NSAID was taken first, it is recommended that they wait at least eight hours before taking the low-dose aspirin.

Paracetamol may be present in many different medications, and every effort should be made to avoid duplicating paracetamol in order to avoid the risk of liver damage.

Do you have any current or chronic illness or condition?

High blood pressure: All NSAIDs, except for aspirin, may increase blood pressure and should therefore be used

with caution in patients with high blood pressure. Patients receiving NSAIDs long-term should have their blood pressure monitored.

Cardiovascular disease: Certain NSAIDs may increase the risk of cardiovascular events, such as heart attack and stroke. This risk increases if patients take NSAIDs for a long period of time. While all NSAIDs are contraindicated in patients with severe heart failure, diclofenac should not be recommended for anyone with moderate to severe heart failure or heart disease.

Paracetamol is a safer alternative for people with cardiovascular problems.

Renal (kidney) problems: NSAIDs should not be used in patients with advanced kidney disease. Patients with decreased kidney function have an increased risk of acute kidney failure with NSAID use. Paracetamol should also be used with caution in patients with severe renal impairment.

Liver problems: Paracetamol should not be used in patients with liver disease. Patients who abuse alcohol should also not receive paracetamol. NSAIDs should be used with caution in patients with liver impairment.

Gastrointestinal problems: NSAIDs may cause irritation of the lining of the gastrointestinal tract. Anyone with a peptic ulcer, or a history of a peptic ulcer should not take NSAIDs. Elderly people have a higher risk of gastrointestinal side-effects with NSAID use. Patients with Crohn's disease or ulcerative colitis may worsen their gastrointestinal symptoms. Excessive use of alcohol with NSAIDs may also increase the risk of gastrointestinal bleeding.

Paracetamol is a preferred option for patients with gastrointestinal problems.

Asthma: Aspirin and other NSAIDs should be used with caution in patients with asthma. The use of aspirin and NSAIDs may worsen the asthma in some patients. Patients with asthma who have used NSAIDs before without it worsening their asthma symptoms, may continue to use an NSAID in the future if necessary.

Important points:

- Always obtain a proper patient history, especially with regards to high blood pressure, heart problems, current or history of ulcer, kidney or liver problems.
- Advise the patient to remain properly hydrated when taking a NSAID.
- Paracetamol is often a safer option for pain and fever in the elderly (over 65 years).
- Always check with a pharmacist or doctor if a patient is taking other medications to prevent possible drug interactions.
- Patients should be cautioned about avoiding alcohol while taking paracetamol due to an increased risk of liver damage.
- Recommend that NSAIDs be taken with or after food in order to decrease the risk of gastrointestinal irritation.
- Refer the patient to his/her doctor if the pain is not relieved with over the counter analgesics, if the pain worsens, or if it lasts for more than three days.
- Advise patients not to exceed recommended doses. The lowest recommended dose of NSAID should be used for the shortest period of time.

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