

Allergic reactions to aspirin and other pain killers

Aspirin has long been used to reduce pain from inflammation (redness and swelling) and injury, as well as fever. Although it was originally isolated from plants in the early 1800s, aspirin is now made synthetically. A number of similar synthetic non-steroidal anti-inflammatory drugs (NSAIDs) have been introduced.

How do aspirin and NSAIDs work?

Aspirin and NSAIDs work by inhibiting an enzyme in the body called cyclo-oxygenase-1 (COX1) which produces compounds known as prostaglandins. These prostaglandins are involved in tissue inflammation, pain and fever. Aspirin also inhibits the activity of blood elements known as platelets (which help clotting). Therefore, aspirin helps prevent blood clots, thus reducing the risk of heart attacks and strokes. There is recent evidence that aspirin may even reduce the risk of bowel cancer.

Aspirin may have side effects

Common side effects of aspirin include bruising and stomach upset. Less commonly, a stomach ulcer or stomach bleeding may occur. Very high doses of aspirin may cause confusion or ringing in the ears (tinnitus). Aspirin should be avoided in children, as it can trigger Reye's syndrome, a condition with liver inflammation and brain swelling.

Aspirin and allergy

Aspirin can cause allergic reactions in some people. Symptoms include flushing, itchy rashes (hives), blocked and runny nose and asthma (sometimes severe), usually within an hour of taking a tablet. If you have hives (urticaria), nasal polyps or asthma, your risk of aspirin allergy is 10-30% compared to 1% in people without these conditions. These reactions can also be triggered by non-aspirin NSAIDs.

The presence of aspirin is not always obvious

Aspirin or other NSAIDs may be present in many over-the-counter painkillers and in some:

- Medications for headache, period pain, sinus pain
- Cold & flu tablets

Some people who are highly aspirin-sensitive may need to avoid other salicylates (also related to aspirin) which may be found in:

- Inflammatory bowel disease drugs
- Complementary alternative medicines such as willow tree bark extract and some herbal arthritis pills
- Topical salicylates such as arthritis creams and teething gels

If you are sensitive to aspirin, you will need to carefully read medicine labels and be cautious about taking any pain killer without talking to your doctor or pharmacist first.

Most people who are allergic to aspirin and NSAIDs can safely take paracetamol and/or codeine.

There are many brands of NSAIDs

As there are so many brand names of the same medication, and so many types of medications available, accidental exposure to aspirin or NSAIDs may occur. It is therefore important to tell your pharmacist or health professional about your sensitivity to these medicines.

Testing for drug sensitivity

There is no reliable blood or skin allergy test which has been proven to be useful for confirming or excluding sensitivity to aspirin and NSAIDs. The only way to do so is a graded open challenge under strict medical supervision. Challenge testing is not always necessary, but may be advised in some circumstances to prove that sensitivity exists, or to prove the safety of an unrelated medicine, so that you have another drug from which to choose if you need to use a pain killer.

What is aspirin desensitisation?

This is useful in some people with aspirin allergy, nasal polyps and asthma. It can be used to:

- Improve asthma control
- Reduce the severity of sinusitis/nasal polyposis
- Reduce the rate at which polyps regrow
- Enable people to use aspirin or similar medication for treatment of heart disease or arthritis.

Side effects can include:

- Stomach irritation such as ulceration and bleeding at high doses
- Easy bruising (common)
- Tinnitus (ringing in the ears, a rare side effect).
- Potential significant exacerbation of asthma
- Anaphylaxis

The decision to undertake aspirin desensitisation should be made in consultation with a clinical immunology/allergy specialist.

Management of aspirin / NSAID sensitivity with ongoing hives

If you have ongoing hives (urticaria), you should avoid aspirin and NSAIDs unless you know that you can tolerate them without a problem. If you are already taking regular aspirin (for example, to prevent heart attack or stroke), or a regular arthritis tablet for the treatment of pain, then you do not need to stop taking this medicine unless your hives clearly get much worse after taking the medicine.

Severe allergic reactions after taking a pain killer

Many people have cross-reactive allergy to aspirin and other NSAIDs. However, some people with NSAID allergy are sensitive to only one drug. If you have had an allergic reaction to one type of NSAID, a challenge with a different drug can be considered if you need to take aspirin or an anti-inflammatory medication for the treatment of arthritis.

Tolerability of some NSAID medications

Some NSAIDs such as celecoxib and meloxicam predominantly inhibit the cyclo-oxygenase 2 (COX2) enzyme rather than COX1, and therefore can be taken safely by many (but not all) patients who have aspirin and NSAID sensitivity. If you need to take one of these medications for arthritis, it would be best to consult a clinical immunology/allergy specialist.

Dietary salicylates in aspirin-sensitive patients

Some people who have urticaria or asthma and nasal polyps suffer symptoms if they eat foods that have high levels of natural salicylates. Low salicylate diet trials may occasionally be recommended but are not considered a routine part of management.

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