



Allergic Reactions to Aspirin and Other Pain Killers

Frequently Asked Questions

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Q 1: How do aspirin and non-steroidal anti-inflammatory drugs (NSAIDs) work?

Aspirin is used to reduce pain from inflammation (redness and swelling), injury, and fever. It was originally isolated from plants in the early 1800s but is now made synthetically. Similar synthetic non-steroidal anti-inflammatory drugs (NSAIDs) are widely available.

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 helps prevent blood clots and reduces the risk of heart attacks and strokes in those who take it.

Q 2: What are the side effects of aspirin?

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.

Q 3: Can aspirin and NSAIDs cause an allergic reaction?

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.

People who have hives (urticaria), nasal polyps, or asthma have a higher risk of aspirin allergy than people without these conditions. These reactions can also be triggered by non-aspirin NSAIDs.

Some people have cross-reactive allergy to aspirin and other NSAIDs. **Cross reactivity** means that when a similar protein is present in different substances (like drugs), then a person may have allergic reactions to any substances containing that protein. Some people with NSAID allergy are sensitive to only one drug.

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.

Q 4: What medications contain aspirin and NSAIDs?

Aspirin or other NSAIDs may be present in many over-the-counter painkillers and cold/flu medicines. 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 important to tell your pharmacist or doctor about your sensitivity to any medicines.

Aspirin (acetylsalicylic acid) is a salicylate. People who are highly aspirin-sensitive may need to avoid other salicylates, which may be found in:

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

Some people who have urticaria, or asthma and nasal polyps will have symptoms if they eat foods that contain high levels of natural salicylates. Low salicylate diets are not a routine part of management.

Q 5: Is there an allergy test for aspirin or NSAIDs?

There is no reliable blood or skin allergy test to confirm or exclude allergy to aspirin and NSAIDs. Challenge testing under medical supervision may sometimes be performed to confirm allergy.

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 another anti-inflammatory medication.

Q 6: What is aspirin desensitisation?

Aspirin desensitisation is a procedure performed by a clinical immunology/allergy specialist which can induce tolerance to aspirin for people with confirmed aspirin allergy. This means you will be able to take aspirin without having an allergic reaction to it. The procedure involves being challenged with increasing doses of aspirin over several days, starting at a very small dose.

Desensitisation is useful in some people with aspirin allergy, nasal polyps, and asthma and can:

- 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

Side effects of desensitisation 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

Q 7: What other conditions can be associated with aspirin/NSAID sensitivity?

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 regular anti-inflammatory medication for pain, then you do not need to stop taking this medicine unless your hives clearly get much worse after taking the medicine.

Aspirin exacerbated respiratory disease (AERD), previously called Samter's triad, consists of asthma, nasal polyposis, aspirin sensitivity, and eosinophilic sinusitis. This is an adverse reaction, not an allergy to aspirin.

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