

Aspirin/NSAID-intolerant asthma: pharmacy notes

Aspirin or nonsteroidal anti-inflammatory drugs (NSAIDs) can provoke asthma symptoms in some people with asthma.

Aspirin/NSAID-intolerant asthma (AIA)* is a distinct type of asthma that affects about 3-11% of adults with asthma.^{1,2}

Symptoms typically occur within 1-3 hours of taking aspirin or NSAID orally,^{3,5} and include some or all of these symptoms: shortness of breath, severely watery nose or rhinitis, red eyes, puffiness around the eyes and skin redness.^{3,4} People who have experienced sensitivity to aspirin or one NSAID are likely to react to other NSAIDs.⁶

Who is at risk?

Most people with asthma can tolerate aspirin and NSAIDs.⁶

The risk of a reaction to aspirin or NSAIDs is highest in:³

- people with severe asthma who experience long-term nasal congestion and severely watery nose
- people with recurring nasal polyps
- people who experience sudden, severe asthma (e.g. have been admitted to intensive care with asthma)
- people who first experience asthma as adults and do not have known allergies as the cause.

AIA is much less common in children than in adults.^{4,9} The prevalence of ibuprofen-sensitive asthma was 2% in a challenge study in children with mild-to-moderate asthma.⁹

Everyone with asthma should have an up-to-date written asthma action plan prepared by their doctor.

Practice points for community pharmacy

All products that contain aspirin or any NSAID should be avoided by:^{5,6}

- anyone who has been diagnosed with AIA
- anyone who has previously experienced runny nose or wheezing 1-3 hours after taking aspirin or NSAIDs.

These people should be advised to use paracetamol instead,^{5,6} unless contraindicated. Some people with AIA also have mild reactions to higher doses of paracetamol (1000-1500 mg).^{3,5,6} Leukotriene receptor antagonists (e.g. montelukast) are used for long-term control of AIA, but people taking leukotriene receptor antagonists must still avoid aspirin and NSAIDs.⁴

People with risk factors for AIA (severe asthma, long-term nasal congestion and severely watery nose, nasal polyps, sudden severe asthma, adult-onset asthma) should be advised to take precautions when using these medications:⁵

- Always carry reliever medication.
- Know what to do if symptoms occur – have an up-to-date written asthma action plan and follow it.

AIA facts

- Some people may not know that they have AIA.^{3,6} Higher rates have been reported in challenge studies, in which people with asthma were given test doses of these medications in a medically supervised setting.⁶
- A person with AIA typically begins to experience symptoms at around age 30: first as severe rhinitis (runny and/or blocked nose and sneezing), followed by a loss of sense of smell, nasal polyps and chronic sinusitis. Asthma typically develops over the next few years.^{3,7,8}
- AIA is not an allergy to these medications,⁵ but reactions can be clinically significant and even life-threatening³ if severe airway narrowing occurs.

AIA is unlikely in a person with risk factors who has used these medications regularly (e.g. daily low-dose aspirin) or recently (e.g. within past 6 months) without experiencing symptoms.⁵

Selective COX-2 inhibitors[§] are associated with lower risk than other NSAIDs in people with AIA.^{3,4,10} Celecoxib appears to be well tolerated. NSAIDs that are COX-2 selective only at low dose (e.g. meloxicam) may cause airway constriction (bronchospasm) at higher doses.¹⁰

Any analgesic class can be considered for other adults with asthma who have not experienced reactions with aspirin or NSAIDs,[†] with appropriate advice on potential risk.⁶

**Also called "aspirin-exacerbated respiratory disease" or "aspirin-sensitive asthma".*

*†Unless contraindications or precautions apply.
§ Under Australian Approved Product Information, all COX-2 selective inhibitors (like other NSAIDs) are contraindicated in patients who have experienced asthma, urticaria or allergic type reactions after taking aspirin or other NSAIDs.*

References

1. Thien F, Lewis A, Abramson MJ. Prevalence of NSAID intolerant asthma in a community based sample. *Intern Med J* 2008; 38 (Suppl 6): A166.
2. Vally H, Taylor ML, Thompson PJ. The prevalence of aspirin intolerant asthma (AIA) in Australian asthmatic patients. *Thorax* 2002; 57: 569-74.
3. Morwood K, Gillis D, Smith W, Kette F. Aspirin-sensitive asthma. *Intern Med J* 2005; 35: 240-6.
4. Obase Y, Matsuse H, Shimoda T, Haahela T, Kohno S. Pathogenesis and management of aspirin-intolerant asthma. *Treat Respir Med* 2005; 4: 325-36.
5. Thien F. Asthma. Its phenotypes and the influences of analgesics. *Aust J Pharmacy* 2007; 88: 76-80.
6. Jenkins C, Costello J, Hodge L. Systematic review of prevalence of aspirin induced asthma and its implications for clinical practice. *BMJ* 2004; 328: 434.
7. Thien FC. Drug hypersensitivity. *Med J Aust* 2006; 185: 333-8.
8. Szczeklik A, Nizankowska E, Duplaga M. Natural history of aspirin-induced asthma. AIANE Investigators. European Network on Aspirin-Induced Asthma. *Eur Respir J* 2000; 16: 432-6.
9. Debley JS, Carter ER, Gibson RL, Rosenfeld M, Redding GJ. The prevalence of ibuprofen-sensitive asthma in children: a randomized controlled bronchoprovocation challenge study. *J Pediatr* 2005; 147: 233-8.
10. Szczeklik A, Sanak M. The broken balance in aspirin hypersensitivity. *Eur J Pharmacol* 2006; 533: 145-55.



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Pain relievers and asthma: quick reference guide

Questions to ask every person requesting pain reliever medication

