Pollen Allergy

ASCIA EDUCATION RESOURCES (AER) PATIENT INFORMATION

Pollen from grasses, weeds or trees can trigger symptoms of allergic rhinitis (hay fever) and asthma. Pollen seasons can last for several months and exposure is difficult to avoid. However, there are simple ways to prevent or reduce symptoms.

What is pollen?

The word pollen is derived from the Greek word meaning ‘fine flour’. The role of the pollen grain is to fertilise the female flower to reproduce plant species.

- Some plants (such as flowering plants, including wattle) produce small amounts of pollen which are distributed by birds and bees from one plant to another.
- Other plants (such as pasture grasses and weeds) rely on the wind to disperse their pollen. These pollen are produced in vast quantities, blow long distances and cause allergies in people, even if they live a long way from the source.

Most of the troublesome pollen is produced by airborne Northern Hemisphere grass, tree and weed pollen. Improved pasture grasses are more allergenic than Australian native grasses. Pollen from exotic trees, which are planted for their autumn colours, is more allergenic than pollen from Australian trees. A number of weeds with highly allergenic pollen have also been introduced, including:

- Pellitory weed (commonly known as asthma weed) was accidentally introduced in a shipload of marble from Italy in the early 1900s. It is mainly found in Sydney.
- Paterson's Curse (Echium plantagineum) is an attractive flowering plant that was deliberately brought from England in the late 1800's by Dr Paterson. This plant has taken over large tracts of pasture in rural Australia and produces highly allergenic pollen.
- Ragweed and Parthenium weed were introduced in pasture seed imported from the United States. They have spread throughout Queensland and northern New South Wales.

Pollen allergy causes allergic rhinitis (hay fever)

The correct name for hay fever is seasonal allergic rhinitis. Even though it was known that pollen rather than hay was the cause as far back as the early 1800's, the term hay fever is still frequently used. Allergic rhinitis symptoms are caused by the body's immune response to inhaled pollen, resulting in chronic inflammation of the eyes and nasal passages. Symptoms include runny nose, itching, nasal congestion, irritable and watery red eyes, and itchy ears, throat and palate. Extreme fatigue may also occur and result in considerable impairment of the quality of life.
Allergic rhinitis (hay fever) is an important and debilitating disease

- Allergic rhinitis affects 1 in 5 Australians
- Allergic rhinitis predisposes people to more frequent sinus infections
- People with allergic rhinitis can get tired and run down due to poor quality sleep
- Severe allergic rhinitis impairs learning and performance in children, results in more frequent absenteeism in adults and reduced productivity
- Allergic rhinitis makes asthma more difficult to control

Pollen can also trigger asthma

Some people with severe allergic rhinitis (hay fever) think that their allergic rhinitis 'turns' into asthma or will make them tight in the chest or wheeze. However, pollen can directly trigger asthma as well as allergic rhinitis (hay fever). Small particles containing allergen can penetrate deep into the airways of the lung. Thunderstorms can also contribute to this - when pollen granules come into contact with water, starch granules are released that are small enough to be breathed into the airways, causing hay fever and asthma in some people. So if you wheeze mostly during spring, see your doctor for appropriate advice.

Pollen seasons can last for several months

Pollination times vary with the plant variety and its location. For example, trees pollinate in late winter and early spring. Grasses flower next, and the weed 'Plantain' flowers from August through to May. Grass pollen numbers are also higher in inland areas, where there are no natural barriers to wind dispersal.

In Australia pollen numbers are lower on the east coast where the prevailing winds come from the sea and where there is protection from westerly winds by the Great Dividing Range. Pollen numbers are higher on the Victorian south coast because the prevailing winds are from the north carrying pollen from the northerly grasslands. In South Australia and Western Australia, the concentration of pollen can vary according to the prevailing winds.

The principal grasses growing in the northern coastal areas are subtropical and mainly flower in January, February and March. Allergenic grasses in the southern part of Australia are mostly Northern hemisphere grasses, with the main flowering period in October - December.

White Cypress (Murray) Pine is the only Australian tree that produces highly allergenic pollen. Its growth extends from the western slopes and plains of Eastern Australia across to Western Australia, south of the Tropic of Capricorn and it flowers from late July through to the end of August.

Wattle is frequently blamed for early spring symptoms but allergy tests (skin prick tests) seldom confirm that Wattle is the true culprit. There are many species of Casuarina or Australian Oak trees, which produce pollen throughout the year and may cause hayfever symptoms at any time of the year.
Diagnosis is important

A careful history should be taken of the timing of symptoms, identifying plants and trees that grow in the area and whether relief is obtained by going away on holiday. When this history has been obtained, confirmatory allergy tests (skin prick tests and/or blood allergen specific IgE [RAST] tests) should be performed using allergens which are appropriate for the area of residence and work. The relevance of the test results can then be interpreted by a doctor trained in allergy, in conjunction with the history.

An allergic rhinitis checklist and pollen calendar is available on the ASCIA website www.allergy.org.au/content/view/291/234/

Tips for reducing pollen exposure

- Stay indoors until after midday (if possible). This will reduce your exposure. Try to avoid going out on windy days or after thunderstorms.
- Wear sun glasses to protect your eyes.
- Do not mow the grass, and stay inside when it is being mown. If mowing is unavoidable, wear a mask.
- Consider planting a low allergen garden around the home.
- Keep windows closed both at home and particularly when in your car (and where possible use recirculating air conditioning in your car).
- Do not picnic in parks or in the country during the pollen season.
- Try to plan your holidays out of the pollen season or holiday at the seaside.
- If you are sensitive to particular weeds or trees that are outside your bedroom window, have them removed.
- Shower when you arrive home and bathe your eyes frequently with a wet washer.
- Carry a supply of tissues.

Effective treatments are available

Seek advice from your pharmacist or doctor about medications or treatments that will relieve your symptoms. Although drugs do not cure allergies, the medicines available for treatment are much more effective with fewer side effects than those available 20 years ago. You just need to know the best way to use them, and to avoid medicines that can cause more problems than they solve, like frequent decongestant (unblocking) nose sprays or tablets.

- Antihistamine tablets or syrups (non-sedating) help sneeze, itch and irritating eyes, but they are not as effective in controlling severe nasal blockage and dribble. The advantage of antihistamines is their flexibility; you can take them when you have problems, and avoid them when you are well. Antihistamine eye drops can also be helpful in controlling watery eyes due to allergies.
- Combination drugs containing both an antihistamine and decongestant are also available, but these need to be used with caution as the decongestants can cause many side effects.
- Intranasal corticosteroid nasal sprays (INCS) have a potent action on inflammation when used regularly (like asthma preventer medication). These need to be used regularly and with careful attention to the way in which they are used.
Decongestant sprays unblock and dry the nose, but should not be used for more than a few days as they can cause long term problems in the nose.

Decongestant tablets unblock and dry the nose, but should be used with caution as they can have 'stimulant' side effects like tremors, trouble sleeping, anxiety or an increase in blood pressure. People with high blood pressure should not take this medication.

Natural products such as salt water nasal sprays or douches can help relieve symptoms.

Appropriate management of 'pollen asthma' includes commencing anti-inflammatory asthma medication either preventatively or with the first 'wheeze' of spring. Some patients undergoing immunotherapy for their allergic rhinitis find that their seasonal asthma improves as well.

Immunotherapy is a long term treatment option

Medicines only reduce the severity of symptoms. They do not cure it. Another option is allergen specific immunotherapy (also known as desensitisation), whereby one tries to switch off the allergic reaction by repeatedly injecting small doses of allergen extracts, by injection or sublingual drops. Both are long term treatments, which are often given over a few years. Immunotherapy should only be initiated by a medical specialist (Allergist / Clinical immunologist).

Further information on Allergen Specific Immunotherapy is available on the ASCIA website www.allergy.org.au/content/view/148/128/

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Website: www.allergy.org.au
Email: education@allergy.org.au
Postal address: PO Box 450 Balgowlah NSW 2093 Australia

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