



Pollen

Plants produce tiny—too tiny to see with the naked eye—round or oval pollen grains to reproduce. In some species, the plant uses the pollen from its own flowers to fertilise itself. Other types must be cross-pollinated. Cross-pollination means that for fertilisation to take place and seeds to form, pollen must be transferred from the flower of one plant to that of another of the same species. Insects do this job for certain flowering plants, while other plants rely on wind for transport.

Pollen grains contain potent allergens which can cause hay fever, asthma attacks and conjunctivitis. Clearly, as pollen comes from trees, grass and weeds, most exposure occurs outdoors. However, pollen will inevitably also find its way indoors, so those allergic to pollen also find themselves reacting to pollen indoors.

Pollen grains include proteins that cause the immune system in an allergic person to over-react (it is these proteins that an Airora hydroxyl cascade neutralises). Exposure to the allergen proteins triggers a release of histamine from mast cells, that in turn leads to symptoms of allergy like redness, sneezing, swelling and runny nose.

A skin prick test, where you are exposed to various pollen allergens, can be used to confirm whether you have a pollen related allergy. Pollen grains that cause allergies are typically between 10 and 40 microns (a micron is 1/1000 of a millimetre) in size but can also fragment into smaller particles of around one micron in size. Airborne pollen can travel a surprising distance, for example into the centre of cities, but in a still internal environment it can quite quickly fall onto a surface, only to re-enter the atmosphere when it is disturbed.

Pollen allergies and your health

Hay fever

symptoms include:

- itchy nose

Asthma

symptoms include:

- coughing

Conjunctivitis

symptoms include:

- itchy eyes

- nasal congestion
- wheezing
- watery eyes
- frequent sneezing
- tight chest
- reddening of the eyes
- runny nose
- difficulty in breathing out
- swollen eyelids

Conjunctivitis is inflammation of the membranes lining the inside of the eyelids.

Tips for reducing exposure to pollens outdoors

- check the pollen forecast before planning your day's activities
- try to limit your time spent outside during the pollen season, especially at peak pollen times like early morning and late evening
- keep the windows of your car closed and use air conditioning fitted with a pollen filter
- avoid mowing the lawn or raking up leaves
- wear sunglasses when you are outside
- Wear a face mask designed to filter pollen out of the air and keep it from reaching nasal passages, if you must work outdoors.
- Take your vacation at the height of the expected pollinating period and choose a location where such exposure would be minimal. Vacationing at the seashore or on a cruise, for example, may be effective retreats for avoiding pollen allergies.

Tips for reducing exposure to pollens indoors

- Change into clean clothes when you get home, particularly before entering the bedroom.
- Damp dust or vacuum to get rid of dust and the pollen it contains.
- Don't hang clothes out to dry in the pollen season.
- Keep windows in the home closed when pollen counts are high, especially in your bedroom at night
- Pets carry pollen on their fur, so make sure to wash them regularly.
- Install an Airora 4-in-1, at least in your bedroom and in the room in which you spend most time during the day!
- Wash your hair to remove any pollen when you get home, especially during the pollen season.

Season and time of day matters

One of the most obvious features of pollen allergy is its seasonal nature—people have symptoms only when the pollen grains to which they are allergic are in the air. Each plant has a pollinating period that is more or less the same from year to year. Exactly when a plant starts to pollinate seems to depend on the relative length of night and day—and therefore on geographical location—rather than on the weather. On the other hand, weather conditions during pollination can affect the amount of pollen produced and distributed in a specific year. Thus, in the Northern Hemisphere, the farther north you go, the later the start of the pollinating period and the later the start of the allergy season.

For instance, in the UK:



A pollen count, familiar to many people from local weather reports, is a measure of how much pollen is in the air. This count represents the concentration of all the pollen (or of one particular type) in the air in a certain area at a specific time. It is shown in grains of pollen per square meter of air collected over 24 hours.

Pollen counts tend to be the highest early in the morning on warm, dry, breezy days and lowest during chilly, wet periods. Although the pollen count is an approximate measure that changes, it is useful as a general guide for when it may be wise to stay indoors and avoid contact with the pollen.

Night-time 'pollen showers'

On a warm day, when there is naturally a lot more pollen around, warm air rises up from ground level, taking pollen up with it. When the air cools, after dusk, the pollen that has risen during the day drifts back towards the ground. This effect creates what is sometimes termed a 'pollen shower' and explains why, in the middle of a hot night, you may get an allergic attack when you are in bed, particularly if you have the bedroom windows open.

Types of pollen

It is common to hear people say they are allergic to colorful or scented flowers like roses. In fact, only florists, gardeners, and others who have prolonged, close contact with flowers are likely to be sensitive to pollen from these plants. Most people have little contact with the large, heavy, waxy pollen grains of such flowering plants because this type of pollen is not carried by wind but by insects such as butterflies and bees.

Generally, it is tree, grass and weed pollens that cause the more common allergic reactions.

The tiny grains of pollen readily become airborne and are capable of travelling significant distances away from their source.

Although there are more than 1,000 species of grass, only a few produce highly allergenic pollen.

Pollens which you may be allergic to:

- | Trees | Grasses | Weeds |
|--------------|----------------|------------------|
| • Ash | • Dogstail | • Dock |
| • Birch | • Fescue | • Mugwort |
| • Cedar | • Foxtail | • Nettle |
| • Chestnut | • Meadow | • Plantain |
| • Cypress | • Oat | • Ragweed |
| • Elder | • Rye | • Sorrel |
| • Elm | • Timothy | • Wall pellitory |
| • Hazel | • Vernal | |
| • Oak | | |
| • Poplar | | |
| • Sycamore | | |
| • Walnut | | |
| • Willow | | |

Medication

Besides self-help and allergen avoidance, it's important to get your hay fever medication right. What you use needs to be safe and effective.



If you are still using sedating anti-histamines, think about the impact the side effects may have on work or school performance and on activities like driving or operating machinery. There are non-sedating alternatives available. It may also be that your medication is not effective for the level of your hay fever symptoms. Again, there are many other options.

Most hay fever medications are available over-the-counter but if your usual tablet or spray is not controlling your symptoms, or if you are experiencing side effects, it's worth asking your pharmacist for advice.