



My Nose Starts Dripping Like A Leaky Tap

Dear Dr James,

Immediately on rising in the morning, my nose starts dripping like a leaky tap in need of a new washer. This eases up for a few hours only to return again most evenings. Besides the embarrassment when socialising or out shopping, it is most inconvenient. I can easily soak a couple of handkerchiefs while playing a round of golf.

Dear reader,

The nose is a splendid organ with the dual vital attributes of discriminating between the tens of thousands of mostly pleasant odours that so enhance our lives and **filtering the (astonishing) 10,000 litres of air we breathe every day**. There are two aspects to the filtering that, in their very different ways, may result in the inconvenience and embarrassment of the “leaky nose”.

The first is its role in **protecting the delicate air sacs** (or alveoli) in the lungs against the injurious effects of the **100 billion or more pollutant particles, bacteria and viruses inhaled daily**. Here, the main line of defence is a **layer of sticky mucus, secreted by glands in the nasal lining, that trap the pollutant particles**. Meanwhile, **patrolling immunological mast cells mount an antibody-mediated response** to those infectious microorganisms.

The second, less obvious but equally important, **form of that filtering** is the nose’s function as an air conditioner of sorts, warming and moisturising the inhaled air to a temperature and relative humidity that is optimal for the exchange of gases (oxygen and carbon dioxide) within the alveoli. **The two main causes of the leaky nose arise from the disturbance (or exaggeration) of these filtering processes** – known respectively as allergic and vasomotor rhinitis.

Allergic rhinitis

For millions of people, the joys of spring are mitigated by the runny nose, intense itching and sneezing of the commonest form of allergic rhinitis: hay fever. Put very simply, those immunological mast cells, **recognising the presence of tree or grass pollen, release a cascade of chemicals, most notably histamine, causing the nasal blood vessels to release fluid into the surrounding tissues**.

For most this can be prevented and alleviated by a **combination of antihistamine pills and a steroid spray that suppresses the inflammation**. The persistence of symptoms despite these measures calls for a referral to an allergy clinic for immunotherapy to desensitise the mast cells. This requires identifying, with skin pricks or blood tests, which of the several types of pollen is responsible for the allergic reaction, and the patient is then regularly exposed to it in miniscule amounts, via an injection or a solution under the tongue. Similar considerations apply to **allergic rhinitis caused by cats, dogs or horses or the ubiquitous house dust mite**.

Vasomotor rhinitis

Vasomotor (or perennial) rhinitis is considerably more problematic – a near-constant outflow of fluid from those nasal blood vessels, persisting over many years. In contrast to the allergic form, there is rarely a specific trigger. Rather, **the leakiness is caused by overactivity of the parasympathetic nerves that regulate – through their role in dilating the blood vessels – the temperature and moisture content within the nose**. In this instance, antihistamine pills may again be of value, along with the nasal spray Atrovent, which blocks the action of the neurotransmitter released by the parasympathetic nerves.



In a few cases, the identification of a hidden cause of the rhinitis provides permanent relief – the main culprits being alcohol and caffeine, or as a side effect of several drugs: aspirin, ibuprofen, beta blockers and the blood pressure medication amlodipine. Finally, numerous irritants – tobacco smoke, traffic fumes, perfumes, newspaper ink – can exacerbate the leakiness of vasomotor rhinitis and should, where possible, be avoided.