



Sports

To ski or not to ski...

The science of why your nose runs in the cold

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Writer Are outdoor winter sports like skiing or snowboarding made less than pleasurable because your nose just won't stop running?!? Have you ever gotten a runny nose while skating in the indoor arena that made you feel like you've come down with some sort of bug? Or maybe just being outside on a cold day makes your nose start to sniffle.

Well despite the runs, you brave the cold with pockets of your jacket stuffed with tissues. You lace up your skates, and off you go, runny nose and all! However, soon after you come indoors into the warm air, your runny nose is a distant memory, until you go back outside. What's up with that? Do you have a short-acting cold or an allergy to cold air or something?

First things first. How well does one really know their nose? If you said that you need your nose for your sense of smell and taste, you are partially right. But did you know that your nose also works as a filter that prepares the inhaled air for entry into your throat, larynx (voice box) and lungs?

- **Fact:** To protect your lungs from particulate matter, your nose inhales the air and filters, warms and humidifies (moistens) it before air meets lungs.

You can get a runny nose or **rhinitis** (ree-nye-tis) for a whole bunch of reasons. A popular cause for your nose running is if you catch a cold, which is usually caused by a virus known as rhinovirus (*rhin* is Greek for nose). If you're an allergy sufferer, you'll know the feeling during ragweed or tree pollen seasons that cause that constantly running nose – a condition known as allergic rhinitis.

Other environmental irritants such as smells (someone's strong perfume), changes in weather (cold temperatures) and barometric pressure can also cause your nose to run. These are examples of non-allergic rhinitis.

So what is that fluid that runs from your nose anyway? Is it snot? Yes. Is it phelgm? Yes. But scientifically, it's called mucus...**nasal mucus** that is.

Your **respiratory system** is coated with a very thin layer of mucus (pronounced myu-kas). Mucus is a viscous, slippery secretion rich in mucins, water, cells, and inorganic salts. It is made by cells and glands of the mucous membranes, like those that line the inside your mouth, nose and other internal organs. Mucus works as a protective lubricant by coating, moistening and protecting the tissues.

- Fact: It doesn't matter what causes your nose to run...the end result is always the same – your nose will become congested and make lots of mucus.

When you breathe cold air, the lining inside your nose swells because tiny blood vessels (**capillaries**) swell (dilate) and warm blood tries to heat the cold air that enters your nose.

Nasal congestion is caused when capillaries swell, and mucus builds up and thickens in your nose. That's why you get congested and a stuffy nose on the slopes.

- Fact: Cold air speeds up mucus production, and makes otherwise thin substance thicker.

Believe it or not, because cold-induced runny nose is so common, scientists have actually given it a name. Yes, you guessed it..."The skier's nose".

The good news is that cold-induced rhinitis does not last. If it really bothersome, there are medications available, such as antihistamines and oral decongestants, that can help prevent your nose from running, and let you enjoy the great winter outdoors.

Learn More!

Scarupa MD, Kaliner MA. Rhinitis. Allergic Diseases Resource Centre. Click [Here](#)

Healthlink. Medical College of Wisconsin 2003. Click [Here](#)

The common cold: [National Institute of Allergy and Infectious Diseases](#).

[Dr Greene](#)

Allergic Rhinitis. Part 13. Disorders of the Immune System, Connective Tissue, and Joints. Section 2. Disorders of Immune-mediated Injury. Harrison's Online. Harrison's Principles of Internal Medicine, 16th Ed. Kasper DL, Braunwald E, et al. (eds). 2005.

Silvers WS. The skier's nose: a model of cold-induced rhinorrhea. *Ann Allergy*. 1991;67:32-6.

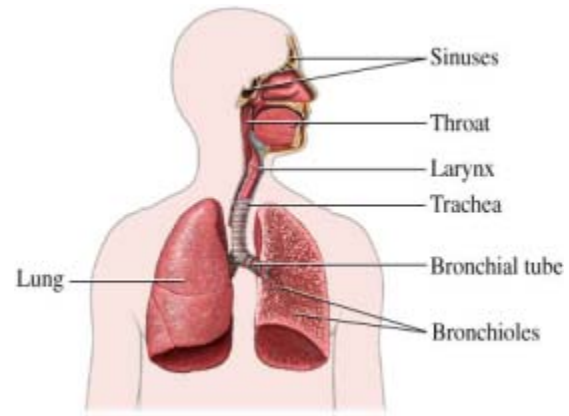
Flora Krasnoshtein is a medical writer with a diverse background in scientific research, dentistry, academic writing, pharmaceutical advertising, continuing medical education (CME), and website-based consumer-oriented health information. Flora has a B.Sc. in Biology from York University and a M.Sc. in Molecular and Medical Genetics from the University of Toronto. Flora's research included experiments funded by the Canadian Space Agency, in collaboration with NASA, to study bone loss in space, and gene expression studies. In addition to being published in scientific peer-reviewed journals, Flora has written advertising and CME materials, including video scripts, for pharmaceutical (drug) companies for the public and professionals (doctors, pharmacists, dentists, nurses, etc.). In her spare time, Flora is a figure skating judge for Skate Canada, as well as a Flamenco and Classical Spanish Dancer with Ritmo Flamenco.



Have you ever been struck by skier's nose? You know, that time when you've been out in the cold for a while and your nose just starts to run like you've got a cold? Yep... that's skier's nose.



Where's the Kleenex?!? Probably something you wished you packed when you've been out on the slopes and that nose begins to drip.



Your respiratory tract. The cold air that you breathe in is first warmed up by the heat of the blood travelling through tiny blood vessels in your nose before it reaches the lungs.