

# *Your Guide to* **Asthma in Winter**

For those who have asthma set off by cold and dry air, exercise or indoor triggers, winter can be downright breathtaking. Here's how to gain control.

by PAMELA SWANIGAN





Whether you like to snowboard, ice skate, hike or just go for a nice bundled-up walk in a city park, winter can be a great time to get outdoors. For those who live with asthma, at long last there's no pollen floating in the air to test the degree of your medication control. But there is a chill on the good news of winter: it can be the sneaky season of less obvious asthma triggers that leave us unexpectedly coughing, wheezing or feeling tightness in the chest.

That cold, crisp air outside can be a big factor, but as *Allergic Living* reveals in the following guide to winter asthma management, exercise can be a related trigger. Being physically active always brings benefits – from general good health to enhanced airway capacity – so the goal is to bring exercise symptoms to heel, rather than resign yourself to lounging on the sofa.

Plus, being cooped up inside a winterized home presents the other big asthma risk of the season. From dust mites and pet dander to chemical fumes and viruses – indoors, you'll find a whole other set of allergens and irritants. Understanding your own triggers, and taking action accordingly through avoidance and medication, are the keys to finding and keeping asthma control in winter.

## IT'S NOT THE COLD, IT'S THE HUMIDITY

For decades, experts thought that it was the cold of winter that irritated asthmatics' hypersensitive airways. But recent research shows that the main asthma trigger of winter air is something else. "Cold is dry," says Dr. Christopher Randolph, a clinical professor in the Yale School of Medicine's division of pediatric allergy and immunology. "So wintertime air is dry air. And we now know that's the mechanism."

Randolph explains that our airways need a certain level of moistness to function, and when the air we inhale is dry, our airways humidify it by releasing their own moisture. In the process, the lungs get squeezed dry, like a sponge being wrung out, and allergic cells start sending out chemicals such as histamine and prostaglandins. The result: inflammation, mucus production, and constriction of the bronchial passages.

### STEPS TO TAKE

Be proactive to avoid the pangs of breathing difficulty in cold outdoor air.

- First, head into winter with your asthma well under control. "Cold, dry air will act more easily on an airway that is already inflammatory," says global asthma expert Dr. Louis-

Philippe Boulet, a pulmonologist at the Heart and Lung Institute of Laval University in Quebec City. "If asthma is well-controlled according to national guidelines, usually the airways should not react, or symptoms should be mild."

- Breathe through your nose. Yes, easier said than done, but this is also more important than you might think. Air inhaled through the nose is about 20 percent more moist than air breathed in through the mouth.
- Wear a scarf wrapped loosely around your face, to warm and humidify the air reaching your lungs.

## EXERCISING CAUTION

Just walking around in freezing winter air can test our abilities with asthma control. When we exercise in it, hyperventilating large volumes of air directly through our mouths, we greatly increase the dehydration. This can compound asthma issues with an asthma-like condition known as EIB – which stands for exercise-induced bronchoconstriction.

EIB is now considered its own separate condition, because about 10 percent of the population experience its symptoms, but do not have chronic asthma. A large proportion of elite winter athletes who

aren't diagnosed with asthma will experience EIB – including, for instance, an estimated 50 percent of Olympic cross-country skiers. For those whose only respiratory condition is EIB, the inflammation of the airways will fade within months of ceasing strenuous cold weather activity.

But for those who live with "true" asthma, exercise is also a common trigger. Approximately 70 percent of us may find our asthma symptoms flaring when we exercise. In cold air, without medication, that usually happens within five or 10 minutes. Even though EIB symptoms that are triggered by the exercise may diminish of their own accord an hour or two after the exercise has ended, Randolph says you shouldn't discount them. The severity of these symptoms is a valuable indicator of disease management: wheezing, coughing and chest tightness during exercise are signs that your underlying asthma is not well-controlled, and you should consult with your doctor, who will likely adjust your controller medication.

As well, while rare, people have experienced severe and even fatal asthma attacks while exercising. Pay attention to your symptoms, and *always* keep your rescue inhaler with you when you exercise. The more assuring news is that, in people sticking to a good management routine as spelled out in an asthma action plan, the effects of EIB should be minimal.



## STEPS TO TAKE

If you are a cold-air exerciser, take precautions to mitigate the effect of lung dehydration.

- Always warm up by exercising for two to five minutes before taking part in a sport or activity. "That gets the allergic cells programmed such that they don't release as much allergic chemical," says Randolph. This reduces the severity of bronchoconstriction during and after wintertime exercise.
- Take a couple of puffs of your bronchodilator 15 to 20 minutes before going out to exercise in cold winter air. Be aware, though, that if you have symptoms despite using the rescue inhaler, or you will be using it daily in order to exercise, you should speak to your doctor about adding long-acting medication to your asthma management. Also take note that short-acting inhalers may lose their effectiveness if used more than four times a week.
- Keep an eye on your symptoms for a good half-hour after exercise, and don't be fooled into thinking that your asthma is better-controlled than it is.
- Be sensible. If it's very cold – say, minus 20 degrees C or lower – and your asthma is unstable, Boulet recommends that you exercise indoors to avoid setting off asthma symptoms.

## SURVIVING THE GREAT INDOORS

Studies by the U.S. Environmental Protection Agency show that North Americans spend up to 90 percent of their time indoors. They also show that the quality of indoor air is at least two to five times worse than that of outdoor air. For those with asthma, wintertime can mean months spent immersed in allergens such as pet dander and dust mites, as well as pollutants like cigarette smoke and off-gassing furnishings.

On top of it, the pollutants and allergens don't get outside any more than you do. There's a good chance that you're not ventilating your indoor air, but rather sealing your home tightly to stay warm and keep down energy costs.

"It's cold outside, so you close up all

the openings," says Boulet. "Now you have a concentration of allergens and indoor pollutants that can increase the inflammation of the airways."

## STEPS TO TAKE

If you or family members have asthma, strive to improve your home's air quality.

- Dust mites have been shown to be the most prevalent and potent indoor allergen, so vacuum regularly with a HEPA-filtered machine (ideally, wearing a face mask while doing so). Also use protective dust-mite covers under the sheets on your bed.
  - Consider finding a new home for a pet that sets off your asthma or, at a minimum, keep the pet out of bedrooms and off of upholstery.
  - Stop waiting for the Will Power Fairy to help you quit smoking. Get serious and try one of the cessation products available. Quitting smoking is still physicians' number one recommendation for mitigating asthma.
  - To combat dust mites and mould, keep the air in your home cool and dry, but not *too* cool or *too* dry. The same aridity that keeps dust mites and mould spores down also dehydrates airways.
- Randolph recommends indoor relative humidity that's above 25 percent but below 50 percent. You can measure the moisture in your house's air with an inexpensive device called a hygrometer, and modify it as needed to keep your indoor air within the ideal range.

## DEFLECTING INFECTION

Dry outdoor air and allergen-filled indoor air present significant challenges to asthma control. But it's the increase in viral respiratory illnesses such as colds, coughs, and flus that send the majority of asthmatics to the hospital during winter.

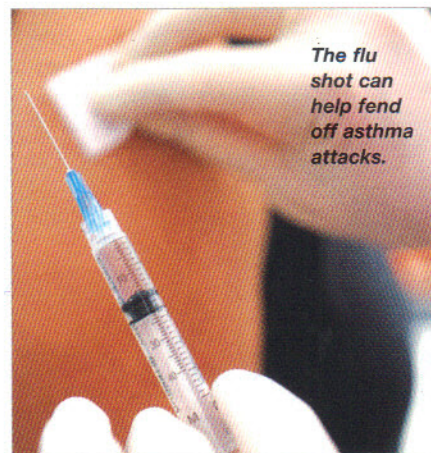
Rhinoviruses and influenza viruses are known to replicate and spread much faster in cooler temperatures. But an even bigger factor is that more of us are stuck indoors in winter, shaking hands or sneezing on each other, thus offering these illnesses a convenient transmission

highway. The immune systems of those with asthma have what doctors like to call an "exuberant" response to these invaders, and that significantly raises the chances of an asthma attack.

## STEPS TO TAKE

Make it a priority to avoid catching any kind of respiratory illness through these measures.

- Again, make sure that you have your asthma well under control going into cold and flu season. Visit your doctor or asthma educator, and expect to have your dosage of long-acting medications raised. Randolph calls his patients into his clinic every year during the "critical period" in late fall, and generally doubles their inhaled corticosteroid dosage from once to twice a day.
- Be vigilant about illness-prevention measures such as washing your hands and educating your children to sneeze and cough into the crook of the elbow.
- Don't shake hands unless you have to. This is becoming increasingly socially acceptable, since it's one of the best ways to avoid picking up germs.



The flu shot can help fend off asthma attacks.

- Get a flu shot. Face the facts: you have asthma, a chronic pulmonary disease. Like people over 65 and those with other lung diseases such as COPD, you should "most assuredly" always get a flu shot, says Randolph.

If you keep the wintertime triggers in mind, and stay vigilant about monitoring and managing your symptoms, you can enjoy the season – and perhaps even take up a new outdoor sport.



## TAKE CONTROL WITH A PLAN

**T**he best way to minimize reactions to wintertime triggers is to have your asthma well-controlled to begin with. The alarming truth, though, is that more than one-third of children and half of adults with asthma do not have it under control. What's more, many of them don't know it. In a Canadian study, 97 percent of the subjects said they had well-controlled asthma – but only 47 percent actually did.

Here's what well-controlled asthma looks like according to the Canadian guidelines:

- Daytime symptoms fewer than four times a week.
- Nighttime symptoms less than once a week.
- Fast-acting reliever inhaler needed fewer than four times a week (not including prevention of EIB).
- No absences from school or work for asthma symptoms.

- Peak-flow meter readings equal to or above 90% of personal best.

### KEEP AN EYE ON IT

Researchers have found that even those with well-controlled asthma will experience what they call "worsenings" (an increase in symptoms that affects quality of life) or "exacerbations" (symptoms requiring emergency treatment or oral steroids). They also find, however, that spotting and addressing these symptoms early enough significantly reduces the effects.

- If your use of your blue puffer starts creeping up, don't ignore it. This is the number one sign that asthma is getting worse.
- Take readings with your peak-flow meter daily. Consult your asthma asthma action plan or your doctor if the readings start to fall. If your peak flows are low and you're not responding to the bronchodilator, you need to see your doctor about adjusting your regimen – before you

wind up in the hospital. A reading of less than 50 percent of your personal best is a sign to call 911.

### HAVE A PLAN

An asthma action plan (AAP) is a must-have tool – a systematic program established in consultation with your physician or asthma educator. The AAP pairs warning signs (e.g. wheezing, lower peak-flow readings) with specific actions, such as increasing your inhaled steroid dose or calling an ambulance.

You can print off a colour-coded asthma action plan chart from the websites of major asthma and allergy organizations, and take it to your doctor. Dr. Louis-Philippe Boulet says the best time to create an AAP is when you have a good asthma-control regimen, so that your baselines are well-established. But don't let not having such a process stop you from developing an AAP.

An ounce of prevention is worth a pound of cure, and asthma is an eminently manageable disease. –*Pamela Swanigan*

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