

Cold Weather Hiking

Preventing airway and muscle pain



Photo: Man Khun Chan

WHAT, exactly, happens to the body as temperatures drop? There are two key impacts when we're exercising, says Marilyn Adams, physiotherapy director for Canada Snowboard and lead physiotherapist for the Canadian Freestyle Ski Association.

The first impact is on airways. Exercise in cold temperatures can cause bronchoconstriction, or a temporary narrowing of the airways, which makes it more difficult to breathe and can trigger asthma-like symptoms. Athletes often complain of a burning feeling in the lungs – a pain response designed to make us pay attention to the condition – and coughing and a sore throat, which are the physical consequences of the bronchoconstriction. “In the past they thought it was caused by cold temperatures,” says Adams. “But recent studies have shown that it's actually triggered by dry air.”

Cold also impacts muscle temperature. As the body constricts blood flow to the extremities to minimize heat loss and keep the vital organs in the core warm, the contractile properties of the muscles decrease. The result is reduced performance and greater risk of injury. “It's like an elastic band,” says Adams. “If you suddenly put a force on it when it's cold, it's going to snap. That's when you can get muscle strain.”

A cold muscle won't flush lactic acid and other wastes as effectively as a warm muscle and this can result in delayed muscle soreness and a stiff, tight start to the next workout, adding

to the risk of injury. Also, the same vasoconstriction responsible for decreasing muscle temperature can also cause numbness in the hands and feet, affecting balance and reaction time and contributing to traumatic falls.

PREP AND PREVENTION

To get the low-down on sub-zero exercising, there's really no better place to go than Saskatchewan. According to Brad Spokes, physiotherapist and co-owner of Zone Sports Physiotherapy in Saskatoon, safety concerns are actually greater when exercising in hot weather than for winter workouts. Exercising in

the cold can be quite safe. It ends up coming down to preparation," he says.

Watch the weather: "I'm a big proponent of checking what Environment Canada has to say," says Spokes. Because of the risk of frostbite and hypothermia, his recommended cutoff for outdoor exercise is -30 °C with the wind chill. "At that temperature, the risk outweighs the reward of getting out there and exercising."

Dress for success: "Dressing too warmly is one of the biggest pitfalls," says Spokes, who cautions against overheating. The key to safe cold weather exercise is to layer up. That way people can respond on the spot to their body's temperature, removing layers as they heat up and adding them as they cool down. Spokes recommends a three-layer approach: a synthetic base layer engineered to wick moisture from the skin, followed by an insulating layer of wool or fleece topped with a waterproof, breathable jacket. A toque, gloves and warm socks will prevent heat loss from the extremities. To moisten the air traveling to the lungs and to prevent broncho - constriction, Adams suggests wearing a winter face mask. She's also a fan of Gor-Tex shoes and YakTraks to

keep feet dry and give traction in slippery winter conditions.

Start out warm: A quality warm up is key to preventing cold weather injuries. A warm up is complete when the whole body is toasty, including the fingers and toes. If you have a chronic condition such as asthma or heart disease, discuss your exercise limits for cold weather conditions with your physiotherapist before beginning a routine. Both Spokes and Adams recommend starting any outdoor exercise with a dynamic warm up: standing knee tucks, lunges, leg swings, squats and arm swings.

Put warm ups on repeat: Warm ups should be repeated whenever there's a break from exercise in order to keep muscle temperatures from dropping. Beware of symptoms of frostbite, e.g. numbness in the extremities, and move inside to warm up.

Drink up: The thirst drive may be missing in cold weather, but sweating and the resulting dehydration can be a concern. A fuel belt that lies close to the body or a thermal water bottle can keep liquids from freezing.



Photo: Greg Conman



Photo: Man Khum Chan

Keep warm during cool downs:

Spokes recommends gradually decreasing the intensity of the workout towards the end and doing the final cool-down indoors. "But probably the most important thing is to get out of wet clothes."

Ease back into action: Both Adams and Spokes emphasize that physiotherapy treatments for cold and warm weather injuries are the same. The difference, they say, is in the return to sport during the recovery phase. "A big factor is educating the patient on the risk factors and the preventive things they can do," says Adams. "And then it's emphasizing that they need a really good warm up for the injured area, particularly in the cold." •

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