Snowshoeing: The Under-Used Winter Workout

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Snowshoeing in the Northland
Those of us who have the good fortune to live and work in northern Wisconsin can be divided into two groups; those who love winter, and those who detest it. It seems that an important factor in determining membership in one group or the other, is whether or not the person in question is passionate about some outdoor winter activity. If winter means nothing but shoveling snow, scraping windshields, and rushing from one heated area to another, there is not much to like. Residents who like the cold season, know that the number and diversity of fun outdoor, winter activities available in the snow-belt, is one of the best kept secrets of the north-country. That some of those activities turn out to be outstanding forms of aerobic exercise during a season in which it is so tempting to park one’s self in front of the T.V. and loosen that belt notch by notch, is no small virtue, and that is the inspiration for this piece.

It has always seemed to this writer, that snowshoeing is the most under-used form of aerobic exercise available in this part of the world. It offers simplicity, safety, low cost, and ease of skill acquisition. Snowshoes and bindings are the only mandatory requirements for participation. I realize that this is an oversimplification. I’m taking the position that it is possible, at least theoretically, to take part in an activity that could be construed as exercise, without wearing clothing made of stretch fabrics. There is anecdotal support for this notion as well as some historical evidence that our ancestors did, in fact, snowshoe in clothing used for purposes other than exercise. There are reports, for example, of ‘cave paintings’ recently discovered in the Upper Peninsula of Michigan, depicting prehistoric men and women snowshoeing in the Stone Age equivalent of “street clothes” (Anthropologists from the Ishpeming School of Mines reported finding these pictographs on the basement walls of a really old local house).

In truth, snowshoes and bindings, along with common winter boots and clothing, will get a new snowshoer started. While there is nothing wrong with groomed or designated snowshoeing trails, they are most definitely, not necessary. A deep layer of snow provides access to the nearest woods or field, and can create a feeling of remote wilderness even while snowshoeing familiar terrain near home.

Snowshoes are probably the conveyance of choice for the winter naturalist. You’ll be amazed at the amount of evidence of animal activity left there in the snow. With a good tracking guide and the application of a little deductive reasoning, you’ll learn to unravel stories in the snow, and identify the animals that left the trail.

Snowshoes make it possible to visit habitats that are difficult to access during the warmer seasons, making winter the perfect time to explore swamps, bogs, and
marshes. Wet areas tend to hold concentrations of various animals throughout the year, and it is especially entertaining to keep track of that riparian recreational specialist, the River Otter, whose tracks, slides, and ice holes can be seen on, and near rivers and streams.

**The Need for Exercise**

Exercise physiologists and physicians are increasingly inclined to think of exercise as “medicine.” The numerous and diverse health benefits of exercise are becoming clear, and this form of “medicine” is now prescribed to both prevent and treat illness and injury. The scientific community no longer asks whether or not we should exercise, but instead, what type of exercise is best, and how much, how often, of what intensity, and to what end? Before we can be very specific in answering the first four questions on that list, we must answer the last, “to what end?” As of 1994, the American College of Sports Medicine (ACSM) and the Centers for Disease Control and Prevention have established recommendations for achieving two different outcomes: either improved cardiovascular fitness and reduction in body fat, or improved general health and longevity. Understand that the recommendations for improved fitness and fat loss will most likely improve general health, and promote greater longevity, but the recommendations for improved health and longevity may not have much of an impact on our levels of aerobic fitness.

For improved fitness and fat loss, the ACSM/CDCP recommend rhythmic movements using large muscle masses for 20 to 60 minutes (continuous), 3 to 5 days per week. The intensity question (how hard?) is a bit more complicated. Intensity is often expressed as a percentage of maximum heart rate. Perhaps surprisingly, maximum heart rate is determined by age, declining about one beat per minute, per year. You can estimate your age predicted maximum heart rate by subtracting your age from 220. To improve cardiovascular fitness, and lose body fat, an exercise intensity of between 60-90% of your age predicted maximum is recommended. In practical terms, the 60% end of that range is frequently referred to as “conversational level exercise.” The intensity should be such that you can comfortably carry on a conversation with your snowshoeing partner. If too breathless to converse, just slow down a bit; or allow your partner to have a turn at breaking trail.

So what kind of torture do they prescribe for improved health and longevity? I think you’ll be pleasantly surprised. Increasingly, the research indicates that general, moderate activity, rather than structured exercise, is adequate and effective. The ACSM/CDCP recommendation is as follows: “All children and adults should accumulate a minimum of 30 minutes of moderate physical activity on most and preferably all days of the week.” Did you notice the phrase “accumulate a minimum of 30 minutes...” within that prescription? It’s true. It is currently believed that short bouts of activity spaced throughout the day are beneficial on the basis of their cumulative effect. The only remaining question is considered to be whether or not it is necessary to specify a minimum duration for these short periods of exercise. Some of the numbers being discussed as possible
minimums are 5 and 10 minutes. It seems that, for now, the conservative approach would be to err on the long side of that range.

**Snowshoeing as Exercise**

Now that we know that exercise is a good thing and we have some answers to the questions: what kind, how much, how hard, and how often, we are ready to ask “how about snowshoeing as exercise? “ Well, snowshoeing is great exercise. The sport offers a very wide range of options for exercise intensity. At one extreme, you can poke along on flat terrain, over packed snow, at a slow or stop-and-go pace, just like a leisurely walk. At the other extreme you can break trail through deep snow, up and down hills, at a strenuous pace; think of a Stair-Master on steroids. There are benefits to be had from one extreme of the intensity range to the other, depending on your state of health, your fitness level, and your desires.

Snowshoeing has finally begun to receive some attention from Exercise Physiologists. Patrick L. Schneider, and associates of the University of Wisconsin-La Crosse, conducted a study of the effects of snowshoeing on men and women who were breaking trail over flat and varied terrain at an average speed of about 3 MPH. They found that this exercise compared very favorably to running at 6 MPH, cross country skiing at 5-8 MPH, cycling at 14-16 MPH, or swimming at 75 yds. /min. These sorts of findings were seconded, by Dr. Declan Connolly, of the University of Vermont, in a separate study.

**Snowshoeing for Weight Loss**

In the minds of most people, ‘weight loss’ and ‘winter’ simply do not go together. I suggest that we reconsider this point of view. Once food is digested and absorbed, the body must convert the food bi-products into useable energy. It turns out that this process is only about 40% efficient, with the remaining 60% of the available energy given off as heat. This means that of all the calories you ingested in the form of that Triple Cheese Packer Backer Burger, 40% will be available for the use of your exercising muscles... or other things and a full 60% will turn into heat. We use this heat to keep warm in Northern Wisconsin and, when it gets cold, our bodies will ‘turn up the thermostat’ to keep us warm. It is literally true that exposure to the cold, all by it’s self, will cause us to burn more calories than we would in a warm room, or on a warm day. By way of demonstration, the National Outdoor Leadership School of Lander, Wyoming, found that a typical N.O.L.S. student requires 3,500 calories per day to maintain body weight while mountaineering during the summer months. That same student requires 5,000 calories per day for the same activity during the winter season. Exercise in the cold is a great way to lose fat.

When we combine the high quality exercise of snowshoeing with the accelerated fat loss due to cold exposure, some really great things happen for those of us interested in thinning the fat layer. Dr. Connolly found that his subjects went through twice as many calories while snowshoeing, as they did while walking at the same speed. During the U.W.-La Crosse study, researchers found that while snowshoeing for 30 minute periods, the women burned calories at a rate of 750
per hour, while the men burned off calories at 1000 per hour (The men in their study weighed more than the women, and it requires more energy to haul around those heavy, male carcasses). Considering that one pound of body fat is equivalent to 3,500 calories, this rate of caloric expenditure means that snowshoeing represents the fast track, to fat loss.

**Safety**
Studies indicate that exposure to very cold air while exercising causes the heart to work a bit harder. Snowshoeing can be very strenuous exercise even without this cold weather effect, so obtain your doctor’s OK before trying this activity.

Remember all of those calories you'll be burning off while snowshoeing? Well, the “calorie” is a unit of heat, and you’ll produce lots of it as you move across the snow. So, dress in layers of wool, or wicking synthetics such as polypropylene so that you can make adjustments as you go. Protect exposed skin and small body parts such as ears and fingers from exposure to the cold air and wind. Drink plenty of water, and carry emergency food, matches, a compass, extra clothing, and other essentials of survival. A daypack is a great place to store those shed layers, water, and emergency gear.

It seems as though just about any human endeavor includes inherent risks and, as we’ve just seen, snowshoeing is no exception. On the other hand, one seldom sees a cause of death listed as: 'snowshoed into a tree at high speed.' This is a pretty safe activity.

**Conclusion**
The great thing about snowshoeing is that it allows you to engage in the activity on your own terms. Whether you desire a severe athletic challenge or some gentle, relaxing, low impact activity, snowshoeing can answer your needs. More than anything else, remember to have fun on your snowshoes. That way, you’ll do a lot of it and find yourself wishing for snow.

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