

Conditioning helps ensure muscles are ready for the slopes

By Alan Barichievich

Winter is finally here and while we're waxing our skis or boards, dusting off our goggles and making sure our boots are still comfortable, many of us tend to forget about pre-season conditioning. It's easy to just "click-in" and jump on the slopes. But if you don't take the time to get in exercise, increase your strength and flexibility and work on your balance – you could be in for a rough winter.



Proper conditioning can ease the pain the skiing.

By taking time and working on conditioning your body, it's possible to decrease your risk of injury or sore muscles and joints.

Endurance

Any popular aerobic activities are in the spectrum of endurance training, such as running, biking, swimming, the elliptical trainer and jumping rope. I recommend picking two

of these endurance activities to give you a cross training effect and minimize the potential for overuse injuries (3-4 days/week for at least 30 minutes).

Strength

Obviously, strengthening exercises will focus on the lower body; however, you must include core strengthening to really be prepared. (3 days/week, 2 sets of 60 seconds each exercise)

- Squats (free standing and/or against the wall)
- Lunges (forward and to the side)
- Bridges (double and single leg)
- Heel raises
- Hamstring curls
- Planks
- Sit-ups

Flexibility

Stretching should include both static and dynamic stretches and should only be performed after warming up with an aerobic activity. Two sets of 60 seconds each for static stretches; dynamic stretches should be a repeat of the static stretch motion but in an active manner, i.e., swing your leg from the hip forward and backward / side-to-side 5 to 10 times, marching in place with high knees (5 to 10 times each leg).

Stretches:

- Hamstrings
- Calves
- Quadriceps

- Sky reaches

Balance

If you have a solid single-leg balance stance on level surface for 60 seconds, you can progress to harder balance activities (daily, 2 sets of 60 seconds).

- Single-leg balance
- Single-leg balance with mini squats
- Single-leg balance playing catch or bouncing a ball
- Single-leg hop, hold landing for five seconds, repeat hop (straight up and down, forward and back wards, side to side)

Specificity Principle

One thing to keep in mind is that all of these exercises have their place in a pre-season ski conditioning program; however, in order for them to be a truly effective ski/snowboard conditioning program the "Specificity Principle" must be put in place. This principal states "sports training should be relevant and appropriate to the sport for which the individual is training and move from highly general to highly specific skill or sport." The principle of specificity also implies that to become better at a particular exercise or skill, in this case skiing or snowboarding, you must actually perform the exercise.

Ski boot exercises

With specificity training in mind, Barton Rehabilitation encourages skiers who are treated in physical therapy to bring their ski boots into the clinic in the later stages of their therapy to perform several of the above exercises. Outside of actually skiing, performing these exercises in your ski boots is the best way to prepare your legs and trunk for the forces that will be placed on your legs and body when normal foot and

ankle motion has been taken away and the weight of your ski boots has been added to your legs. In regards to snowboarding, the boots are generally not quite as stiff, weigh less and both feet are attached to one board; however, the four components, endurance, strength, flexibility and balance still apply.

Exercises to be done in ski boots include, but are not limited to:

- Squats, free standing and against wall
- Lunges, forward and side
- Single-leg balance, balance with ball toss or ball bounce
- Bridges
- Planks
- Hamstring and quad stretches

The ultimate goal of a pre-ski season conditioning program is to minimize the amount of time it takes for you to “get back into it” and reduce the risk for injury.

Remember, for the first few days when you go out on the slopes, your body will readjust as you start to move with the skis or board. It’s just like riding a bike – physically and mentally the muscle and brain memories come back slowly as you take to the hill. Be sure to take your time and enjoy.

Have fun this winter season and I’ll see you on the mountain!

Alan Barichievich is a Barton Health physical therapist and director of rehabilitation.