



# PRE-COURSE TRAINING SCHEDULE

## INTRODUCTION

As many instructors say, the best way to get fit for skiing or snowboarding is to go skiing or snowboarding! However, the fitter you are, the more quickly you will progress and the less likely you are to injure yourself. In order to help prepare for the upcoming season we have put together the following programme. Of course, this is only a **suggested guide**, not a strict regime! All we are trying to do is make you aware that you are likely to get much more out of your course if you arrive in good condition.

We are aware that not everyone has access to gym facilities. As a result, we have developed a guide that incorporates exercises that can be done outside, as well as inside the gym.

You should consult your doctor before taking part in this training schedule if you have any medical condition or injury. NONSTOP Ski & Snowboard specifically disclaim any liability, loss or risk, personal or otherwise which is incurred as a consequence, directly or indirectly, of the use and application of any exercises within this training schedule.

## AIMS

The ideal programme should aim to include aspects of the following realm of fitness:

### **Endurance**

Endurance exercises improve cardiovascular, aerobic fitness – one's ability to maintain long periods of less explosive physical exertion. Being aerobically fit will enable you to ski or ride for longer without needing to rest, as well as reducing your recovery time after exertion. The only way to improve aerobic fitness levels is to carry out endurance exercises that raise your heart rate for an extended period.

### **Strength**

Skiing and snowboarding also calls for anaerobic fitness, the strength and ability to sustain short bursts of exertion. Skiing bumps, short radius turns and schussing all require power, as well as stamina. Muscular strength helps a skier or snowboarder to relax, yet also be in control at the same time as it improves your skill of handling fast adjustments in the case of uneven terrains.

### **Balance/ Coordination/ Flexibility**

Finally, your ski fitness programme should aim to improve your coordination, balance and flexibility, allowing you a more dynamic range of movement. This is vital tool for a skilful skier or snowboarder. Good coordination, balance and flexibility can also help to reduce the likelihood of injury occurring.

\* By combining work on these areas you should arrive for your NONSTOP Ski & Snowboard course fit and raring to go!

## EXERCISES

Our training schedule focuses on those muscles and muscle groups that are used most during skiing and snowboarding; leg muscles, primarily the quadriceps, hamstrings, inner adductors and outer abductors; the abdominals and the core, which control body posture; and the triceps, which are used when poling.

## WARM UP

It is important that you “warm up” by doing a light jog, cycle or cross train for at least 10 minutes before training in order to increase the blood flow to your muscles to relax and warm them before exertion. You should follow this by stretching the major muscle groups to prepare them for more vigorous use:

### Warm Up Exercises

#### 1. Calves (Gastrocnemius)

To stretch this muscle at the back of your lower leg lean against a wall with both your hands, with both feet facing forwards in the same direction with both heels on the floor. Your back leg, the one which you are stretching should remain straight, and you should feel the stretch through the back of the calf.



#### 2. Calves (Soleus)



Repeat the above exercise, yet bend the back leg to feel a stretch through the bottom of your calf above your Achilles Tendon.

#### 3. Front of thighs (Quadriceps)

Stand on one leg with the supporting leg slightly bent. Keep your knees together, hold onto the wall for support, and pull the other foot up to your buttocks.



#### 4. Adductors (inside of thighs)



Stand with your legs apart and bend one leg slightly at the knee whilst keeping the other straight. Push your hip to the side of your bent leg. Feel the stretch on the inside of the upper thigh (groin area) of the straightened leg.

#### 5. Hamstring

Stand with one foot forward and straight, whilst keeping the back leg slightly bent. Keep both feet flat on the floor. Bend your weight forward and rest your hands on



the front knee for support. Ease into the stretch and feel it down the back of the advanced leg.



6. Triceps

Drop one arm behind your head, hold above the elbow joint with the other hand and pull. Feel the stretch down the back of the arm being pulled down.

7. Back

Sit on the floor, lock your hands under your knees and pull upwards. Try to curl your back.



*\* These are stretches for the primary muscle groups we will be focussing on in our programme. There are other muscles groups that you may also wish to stretch such as the shoulders (Deltoids) and the chest (Pectoralis Majors). There are a number of different ways to stretch the muscles we have highlighted. We have offered one example for each, however if you feel more comfortable with a different method of stretch then stick with what you feel comfortable with.*

## ENDURANCE TRAINING

There are a number of ways in which you can train aerobically to improve endurance:

- Running
- Cycling
- Swimming
- Rowing (gym)
- Cross Training (gym)

The great thing is that the top three (or maybe four if you happen to have a boat and a lake!) can be done outside the gym. Try to do at least 30 to 45 minutes of endurance training three times a week.

## STRENGTH TRAINING

### Quadriceps

#### 1. Squats

Bend at the knees to a 90° angle keeping your back straight pushing your buttocks out. When you reach 90°, extend through the knees using your quadriceps to push you up to standing.

**More difficult?** You could try adding weights either in the form of free weights (dumb bells) held in either hand, or by adding a weighted bar across your shoulders. Furthermore try pulsing 10 ten times when you are at the bottom of your squat before you push up, this should hurt! **Make things explosive?** Try adding a jump when you extend pushing through the quads.



#### 2. Lunges



Place one leg out in front of the other. Make sure both feet are facing forwards. Lunge forward through the front leg lowering the torso of the body. Keep the body upright at all times and make sure your knee stays in line with the middle two toes on your foot and doesn't go in front of your foot. Once lowered extend back up and repeat the process. You could either do a fixed amount of lunges on one leg then move onto the other or alternate the lunges.

**More difficult?** You could add free weights to each hand or place a weighted bar across your shoulders.

## Hamstrings

It is a little harder to work on hamstring strength outside the gym away from specifically designed gym equipment.

Hamstring exercises in the gym:

1. Lie down on a matt and place your heels on the top of a fit ball (the big bouncy balls you find in a gym). Use your abdominals and core to lift your lower abdomen off the ground so that only your upper back, shoulders and head are in contact with the ground. With your heels on the ball and using your arms on the ground to support your abdomen, curl the ball into your buttocks and then extend the legs to push the ball away again. Repetition of this in a controlled manner should isolate the hamstrings.
2. Alternatively to work the hamstrings hold a weighted bar in both hands with an overhand grip down by your waist. Keeping the legs straight bend at the back and lean down with the bar to your feet. Extend back up through the back, back to your starting position. You should feel a strain through the back of your legs.

### Alternatives...

3. Kneeling on all fours, bring one knee in toward your chest (as shown in picture) then push the leg back behind you, toe pointed. Raise the extended leg.
4. Put an ankle weight around your ankle, lie face down on the ground and curl your leg up to your buttocks. Any form of curling the heel into the buttocks against resistance using gym equipment or otherwise will work the hamstrings.



## Abductors (Outer Thigh)



Lie on your side with both legs bent slightly. Raise and lower your upper leg and you should feel the strain on the outside of the thigh.

**More difficult?** To make things harder hold a free weight (not too heavy!) in the hand not supporting your weight and hold it on the working leg just above the knee to provide extra resistance.

## Adductors (Inner Thigh)

One can work the muscles of the inner thigh by using an open stance squat. This is similar to a regular squat only you should have a wider stance and angle your feet so that your knees and toes face away from the body at about 45° rather than straight forward as would be the case for a normal squat. **More difficult?** Add a weighted bar across your shoulders when you squat.

*\* Specifically designed seated gym equipment can also be effectively used to work the inner thigh. Ask a gym instructor to point you in the right direction.*

## Abdominals and Core

There are many exercises that are designed to help you increase the strength of your abdominals and core:

1. Ab Curls - Lie on your back on the floor, with slightly bent legs, and hands clasped (but lightly resting) behind your head. Use your abdominal muscles to lift your shoulders, keeping your lower back on the floor.
2. Lie on your back on the floor and lift your legs up so that they are as straight as possible pointing to the ceiling. In a controlled manner try to reach up with your extended arms and touch your toes. Go back down again and repeat.
3. To isolate your oblique's (muscles on either side of your stomach) lie on your back on the floor, raise your shoulders in a permanent state above the ground and reach round with one hand to touch the side of your ankle, repeating this motion on the other side.
4. The plank – facing the floor place the weight of your body on your lower arms and toes. Your body should be elevated above the ground in a plank-like position upon these two bases. Hold this plank position for as long as you can concentrating on remaining as straight as possible by keeping your abdominals, core and back strong. It hurts after a while!



## Upper and Lower Back

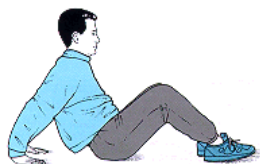


Starting in the position shown in the picture, raise above the ground one arm and the opposite leg. Then repeat this for the opposite arm and leg.

**An alternative?** To work the lower back try lying face down with your hands clasped and lightly resting behind the back of your head. Raise your head, neck and upper back using the muscles of the lower back and then lower back down.

*\* There are a number of ways in which to use gym equipment to build strength in the back. Seek assistance from an instructor.*

## Triceps



Tricep Dips - Sit on the floor with your knees bent and your palms on the floor behind your hips, fingers facing forward. Relax your stomach muscles and lower your body towards the floor, keeping your back straight. Bring your body up again by straightening your arms. Feel the strain through the back of your arms.

**More difficult?** If you have access to a bench try doing triceps dips by putting your hands up on a bench, making things more difficult by straightening the legs.

## Press Ups

Press ups are good for chest and arm strength. Whilst not as important for skiing and snowboarding as other muscle groups, a strong upper body can help maintain good posture and controlled stabilization on the slopes.

If you find these hard, do bent knee press ups instead.

**More difficult?** Try doing 10 press ups then holding yourself in the position shown just above the ground for 10 seconds. Repeat this 3 times (without stopping if you can!) and feel the burn!



## Calf Raise

Stand with only the balls of your feet on a step. Lower your heels below the level of the step then extend through the calf onto tip toes. Repeat this exercise and feel the strain through the back of your lower legs.

**More difficult?** Try doing this with free weights in your hand to increase the resistance and the strain on the calves.

## BALANCE AND CO-ORDINATION

By working on balance and coordination techniques one can improve their skiing and snowboarding capabilities as well as reduce the likelihood of injury. This works by improving kinaesthetic and proprioceptive senses, increasing muscle memory for movements and actions.

### 1. **Jumps to the Left and Right**

Try to cover a reasonable distance with each jump. This can be advanced upon by adding jumps forwards and backwards.



### 2. **One Legged Squats and Jumps**

Try doing squats on one leg and maintaining your balance. This can be made harder by adding a small jump before returning back into the squat.

### 3. **Throwing and Catching on one Leg**

Try standing on one leg and asking a friend to throw a ball to either side of you to catch. Try to keep your balance when throwing it back and catching. No friends?! You can do this throwing a tennis ball against a wall.

### 4. **Using a Wobble Cushion or Wobble Board**

In most gyms you should be able to find a wobble cushion or board which is designed to help you improve balance. They are hard to stand on but this is the idea. Once you get the hang of standing on these try squatting on them, then squatting on one leg.

## FLEXIBILITY

To stay flexible you should try and stretch (see the Warm Up section) as often as possible. It is important to stretch so that your muscles remain supple and loose to avoid injury and improve general sporting performance. It is also important when you are doing strength training as your muscles are likely to increase in size. Growing muscles need to remain elongated by being stretched so that they do not grow in a constricted manner.

## EXAMPLE TRAINING SESSION

This example session acts as a guide only. You may prefer alternative exercises or not have the time to do all the exercises. You should aim to train 2 to 3 times a week in the months leading up to your NONSTOP Ski & Snowboard Course.

ACTIVITY	TIME / QUANTITY
Warm Up/ Stretch	See Warm Up Section
RUN	20 Minutes
CYCLE	20 Minutes
SQUATS	3 (sets) x 12 (repetitions)
LUNGES	3 x 12
WIDE STANCE (ADDUCTOR) SQUAT	3 x 12
CALF RAISES	3 x 12
TRICEP DIPS	3 x 12
PRESS UPS	3 x 20
JUMPS TO THE LEFT AND RIGHT (Or any other balance exercise)	20 each side
AB CURLS	40
OBLIQUE CRUNCHES	40 (20 each side)
PLANK	30 – 60 seconds
DORSAL RAISES	3 x 10 each side
Stretch and cool Down	5 minutes