



**BeBalanced!**  
SKITRAINING



by Eskil Läubli



# BeBalanced!

## SKITRAINING

### Skiing – A historical overview

Skiing originated in the Norwegian area of Telemark. Daring sportsmen developed ski-jumping from the technique used to move forwards on snow using rudimentary planks. In order to make training more efficient, they had to stop quickly after making a jump to reduce the time needed to climb up again. This is why they developed the first changes in direction or stopping turns. The concave-shaped original ski which was developed at that time already had a side-cut, similar to the modern carving ski. The other ski techniques (cross country and ski touring) are also derived from this original way of moving forwards with no fixed binding at the heel.

The increasing popularity of ski sports in Norway led to a veritable ski boom in central Europe in the second half of the 1890s. Norwegian skis were imported and skiing clubs were established.

In the 1950s alpine skiing developed into a recreational sport. Skiing is one of the most popular winter sports in the alpine countries as well as an important factor in winter tourism, both in the Pyrenees and also increasingly in the Carpathian Mountains, in Scandinavia and in other European mountain ranges as well as in the Rocky Mountains (USA and Canada) and in Japan and New Zealand (New Zealand Alps). Alpine skiing is also the national sport of Switzerland and Austria.

The most significant new developments, which have made skiing suitable as a recreational sport, include the turn with transfer of weight as a further development of the stem turn in the 1950s, the parallel turn in the 1970s (which made the classic "wedel" a possibility) and carving in the late 1990s.

The development of skiing into a sport for the masses was promoted in the 20th century primarily through increased expansion of ski runs, coupled with the construction of cable cars and ski lifts, but also with the upgrading of the tourist infrastructure (hotels and ski chalets).

### The profile of requirements for alpine skiing

The physical requirements for alpine skiing have increased continually during the last few years owing to technical developments. On the one hand the changes can be explained by the rapid developments in equipment (carving ski), but on the other hand requirements have risen rapidly due to ski run preparation (icing-up of the ski runs with the creation of artificial snow). Depending on speed, weight and the radius of the turn, forces of up to 5kN may arise, which must be absorbed and discharged neatly. The significance of strength and therefore of strength training has consequently increased over the years.

In addition to well-developed leg and torso muscles, a well-developed sense of balance is essential for alpine ski racing. Training to develop balance combined with strength exercises therefore makes up a large proportion of conditioning training in alpine ski racing.

### Implications for training

A good way of combining strength and balance exercises is the AIREX® Balance-pad Elite. It can be used in many different ways, for example as an element of strength training to promote inter-muscular coordination, the interaction of several muscles or also in combination with difficult coordination exercises (e.g. juggling). Lastly, the AIREX® Balance-pad Elite is also extremely well suited to building up strength after a knee or foot injury, which are the most common injuries in alpine skiing.

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### Warm-up exercises with the AIREX® Balance-pad Elite (torso and stabilisation exercises)

#### 1. Press-ups

1 - 2 series.

10 - 30 repetitions.

1 - 2 minutes break between the series.



#### 2. Rowing

1 - 2 series.

10 - 30 repetitions.

1 - 2 minutes break between the series.



#### 3. Handstand (for those who have practised)

Repeated „swinging up“ to the handstand position and trying to maintain this position.



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### Strength endurance exercises with the AIREX® Balance-pad Elite

#### 4. Squatting position

Take up a squatting position and then hold.

2 - 3 series.

Hold for 20 - 40 seconds.

1 - 2 minutes break between the series.



#### 5. Basic Jump

on the AIREX® Balance-pad Elite and land in a squat.

2 - 3 series.

15 - 20 jumps.

1 - 2 minutes break between the series.



#### 6. Basic Jump

As in exercise 5 but with eyes closed.

(Be careful as this is demanding)

#### 7. One-legged squat

Take up a one-legged squat position and then hold.

2 - 3 series.

Hold for 20 - 40 seconds.

1 - 2 minutes break between the series.



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### 8. Basic Jump

Basic jump on the AIREX® Balance-pad Elite, land on one leg and then stabilise the position.

2 - 3 series.

15 - 20 jumps followed by stabilising.

1 - 2 minutes break between the series.



### 9. Basic Jump

As in exercise 8 but with eyes closed.

(Be careful as this is demanding)

### 10. Skipping

Skipping with 1 or more AIREX® Balance-pad Elite, as well as on one or two legs.

2 - 3 series for 2-3 minutes.

1 - 2 minutes break between the series.



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### 11. Knee-bends

up to a knee angle of 90 degrees.

2 - 3 Serien.

15 - 20 repetitions

1 - 2 minutes break between the series.



### 12. One-legged knee-bends

with arms on hips.

2 - 3 series.

15 - 20 repetitions.

1 - 2 minutes break between the series.



### 13. Sideways jumps on both legs

on an AIREX® Balance-pad Elite.

2 - 3 series.

15 - 20 jumps.

1 - 2 minutes break between the series.



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### 14. Telemark jumps

Take-off on both legs from lunge, cross the legs in the air and land in a lunge with the other leg in front.

2 - 3 series.

15 - 20 jumps.

1 - 2 minutes break between the series.



### Stretching with the AIREX® Balance-pad Elite

#### 15. M. Iliopsoas and Quadriceps

Take up a lunge position, whereby the knee is supported on an AIREX® Balance-pad Elite.

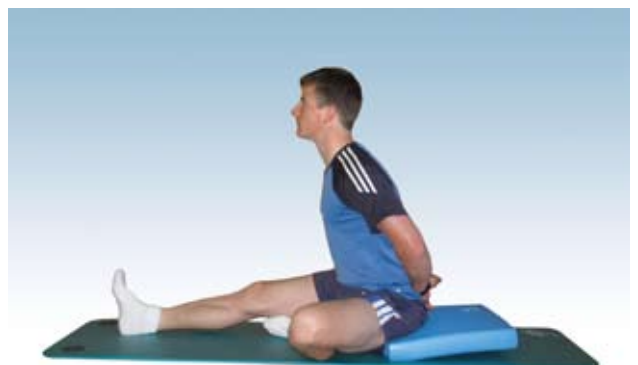
Hold the position for 20-30 seconds, possibly bounce slightly.



#### 16. Hamstrings

Sitting on the front edge of the AIREX® Balance-pad Elite and stretching one leg in front, try to reach a slight forward-leaning position with a straight back.

Hold the position for 20-30 seconds, possibly bounce slightly.



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### 17. Adductors

Lunge sideways, with one knee on the AIREX® Balance-pad Elite, the other leg spread apart.

Hold the position for 20-30 seconds, possibly bounce slightly.



### 18. M. Pectoralis Maior

Take up a position lying down with the back supported on the AIREX® Balance-pad Elite and both arms stretched backwards.

Hold the position for 20-30 seconds, possibly bounce slightly.





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**Further information about AIREX® Gymnastic mats and Balance-products, BeBalanced! exercise tips and distributor list see:**

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