

## 2 THE RIGHT MOVEMENTS

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Skiing consists of a combination of physical movements. To understand and learn the movements of skiing in theory, we need to divide the actual movements into smaller parts. While this can be difficult in practice, it is possible to develop and improve your skiing by understanding each individual movement.



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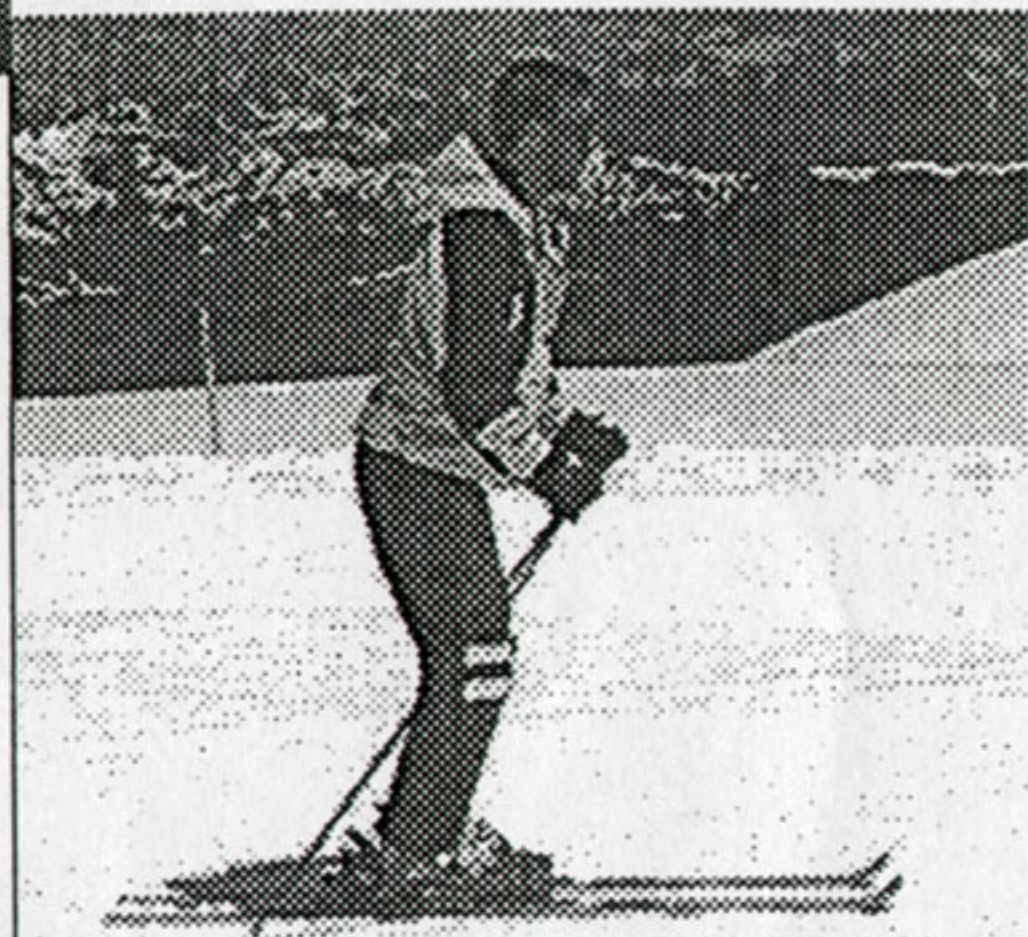
## 2-1 THE DYNAMIC STANCE

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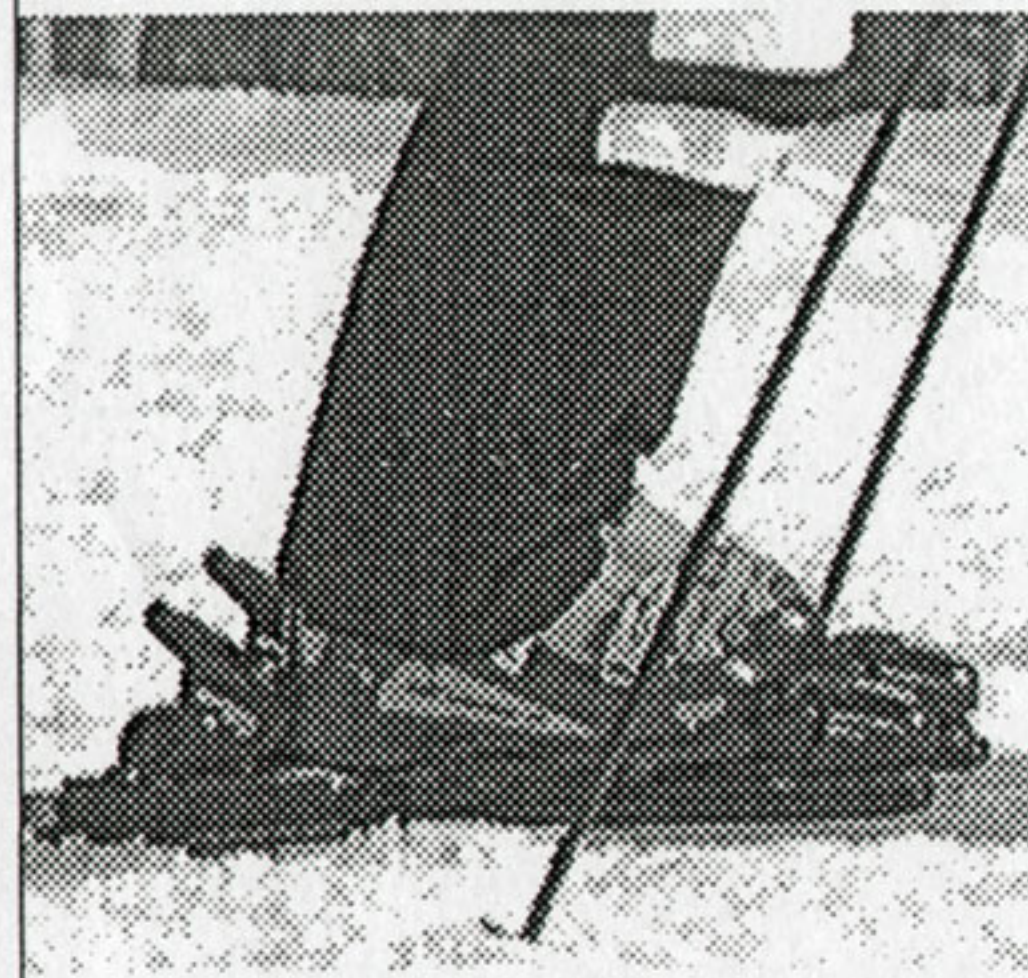
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*Dynamic skiing*



*A good flexible stance*



*The weight on the front part of the feet*

### 2-1 THE DYNAMIC STANCE

We are fully aware that the heading of this section contains two words that are completely opposite in meaning - these words being: dynamic and stance. In this context "stance" does not mean "the position in which one should hold oneself" but rather "the specific body position, which you as a skier should strive for."

The dynamic stance is the key to becoming an expert skier. Before you can learn the more advanced elements of skiing and the movements associated with it, you must have a good starting point. Therefore a good basic stance is crucial and is what separates a novice from an expert.

In the following section, we describe the elementary parts of the basic stance. We start from the assertion that the basic stance is "a position in movement".

#### 2-1.1 THE BASIC STANCE GIVES YOU GOOD BALANCE

As in all other sports, a good basic position enables you to keep your balance. Firstly, assume a good base in order to support yourself by the correct placement of your feet and body over the skis.

The point of balance should be exactly under the balls of your feet just behind the toes. Many skiers tend to forget their feet once they put on a pair of stiff ski boots and they typically relax in their feet. The result of this is that they end up leaning too far back.

**Tip 1: Feel your weight on the front part of your feet!**

Try to remain focused on your feet, as this is the path to good balance. A simple exercise can help you to understand this. Firstly, stand up barefoot. In a standing position, your weight will go predominantly through your heels, or between your heels and the balls of your feet. Now take up a more sporty position by bending your knees and crouching forwards. Your knees should be slightly apart at the same time as you hold your arms out in front of your body. Finally, you should look up and straight ahead. This position we call an "all round" sports position. From here you can move easily in any direction: up, down, forward, backward, sideways and around.

Imagine that you alone have to defend the basket on a basketball court. If you stand in the position that we first described (standing normally), it would be easy for an attacking basketball player to get around you. If, on the other hand, you take up the more sporty position, which allows you more and faster movement, you might just be able to keep the attacking player from the basket because you have a stronger and better foundation.

**Tip 2: A lower, open and flexible stance is better for your balance!**

Not only is it important to stand directly over the skis, it is also essential to lean forward over your feet. If you fall back on your heels when you are skiing, you will become locked in this position and will not be able to deal with unexpected obstacles on the slope in an optimal way.

There are many reasons as to why you can end up in a position where you lean backwards on your heels. Relaxing your feet is one but wind resistance and anxiety also play a determining role.



*Standing normally*



*All-round sports position*



*Too far back*

## 2-1 THE DYNAMIC STANCE



*Position kept too far back*



*Skis kept too close*



*A good open stance*

Wind resistance has greater influence on the upper body than on the lower body. The upper body is pressed backwards by the wind and as a result, you end up leaning backwards in relation to boots and skis.

Anxiety results in a reticent attitude that hinders you from leaning forward over the skis to a position central to good control. Paradoxically, it is usually a fear of speed that results in the backwards-leaning stance and when you lean backwards, the skis have a tendency to run away from you and are more difficult to control.

**Tip 3: Lean forward over the skis - do not fall back in your boots.**

Another important factor in achieving better balance is to have the right distance between your feet and your skis. For many years it has been fashionable to ski with the skis as close together as possible. Indeed this has almost been a goal in itself.

However, our theory about skiing combines both the aesthetic and attractive with the functional and energy saving and we argue that there should be a certain distance between the skis. This space allows you to move freely and independently and improves your balance throughout the turn.

A good rule of thumb is that the width of your hip should determine the distance between your skis, about 10-15cm (4-6 inches) depending on your physique. This distance should be maintained no matter where you are on the mountain. On mogul runs and powder runs it is, however, an advantage to ski with slightly less distance between your skis than described above. On mogul runs, keeping your skis together gives the best balance, due to the unevenness of the surface of the snow. In untracked snow, it is an advantage to keep your skis together in order to create a collected and better bearing ability on

the skis. In this way, you can avoid sinking too much into the snow.

**Tip 4: A distance of approx. 10-15 cm (4-6 inches) between the skis gives good balance and freedom of movement!**

Arms, hands and the pole plant are just as central to the basic stance and to balance as anything else. Many skiers tend to hold their arms close to their sides, maybe to avoid looking out of control. But keeping your arms away from your body and held in front of you, is probably one of the biggest favors you can do yourself. It is absolutely decisive in helping you to keep your balance.

A comparison of a skier and a tightrope walker may help to put this into perspective. Try to imagine yourself walking on a tightrope with your hands in your pockets. You may insist that you cannot compare skiing with walking on a tightrope, but skiing, with its many challenges on the way down the slope - varying gradients, speed, the resistance of the snow, traffic, visibility, and the turn in itself - demands just a little bit of the tightrope walker in you! Therefore, it is important not to relax your hands and arms too much and "leave them behind you" but instead keep them and the ski poles in front of your body to maintain good balance.

**Tip 5: Always keep your hands within your field of vision!**

### 2-1.2 ABSORBING AND ADJUSTING THROUGHOUT THE JOINTS OF THE BODY

The following section describes the separate joints, their reciprocal connection and possible error-groups.

The body has many joints, which allow movement. The three most important joints for the movements of



*Do not drop your arms along the sides*



*Keep your arms in front of you*



*Hip, knee and ankle joints*

## 2-1 THE DYNAMIC STANCE

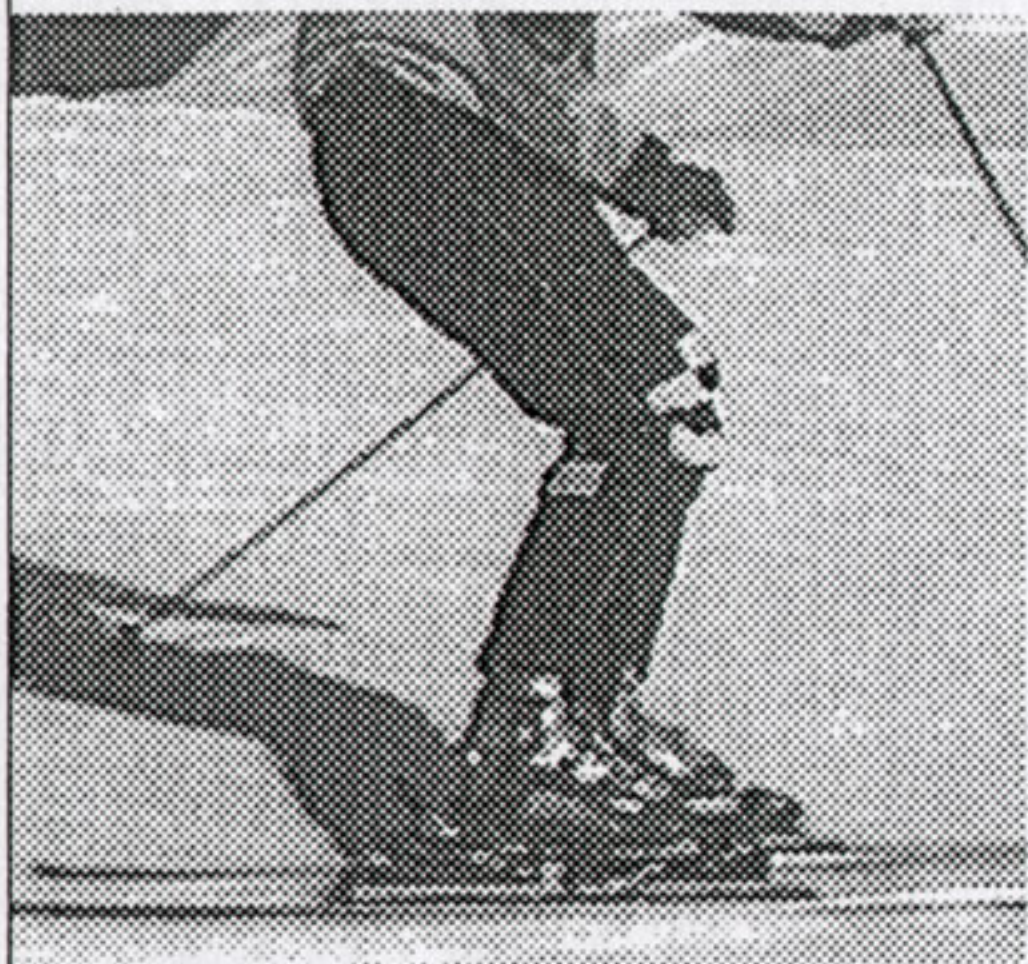
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*Compressed stance*



*Absorbing the terrain*



*Control your movements from the feet and ankles*

skiing are the ankles, knees and hips. To illustrate the importance of the function of these joints try to relate them to a shock absorber in a car. The shock absorber has an area of movement that goes from completely compressed to completely stretched. When the car is stationary, the shock absorber "holds" itself in a position that is somewhere between the two extremes mentioned above. This can be compared to the skier's basic stance. When the car begins to move and meets irregularities on the road, the shock absorber is pushed upwards so that the wheels can pass over the irregularities without being hindered. In a similar way, the shock absorber will stretch in order to keep in contact with the road when the car drives over a hole in the road. Everything put together results in a more comfortable ride and ensures that optimal contact with the road is kept. This is exactly the same thing that we strive for as skiers, to even out the irregularities in the terrain and at the same time keep a sensible amount of contact with the snow. This is primarily achieved with active legwork, where you stretch and bend your knees respectively in order to maintain contact with the snow.

**Tip 6: Let your body's joints act as shock absorbers, absorbing the unevenness of the terrain!**

The ankle joint is incredibly important - not only for the sake of balance, but also to help with edging the skis. Generally speaking, you should put more energy and focus on your feet in order to solve the many challenges that arise when skiing. That is, you should adjust your movements to keep your balance and edge the skis so that they can turn.

The further down your leg you start a movement to adjust your balance, the better and more effective the result. For example, if you are skiing towards an unforeseen obstacle and have to adjust your balance quickly, it may seem easier to use the upper body. But as the upper body is relatively large, heavy and slow, there is a risk of

over balancing - and you may end up 'eating snow'! If, on the other hand, you adjust your ankles and lower legs, you will be able to regain your balance much more quickly and effectively.

**Tip 7: Control your movements from your feet and ankles!**

The knee joint is one of the most complicated joints in the human body. Due to its central position in the body, it is also the most vulnerable - especially when skiing. Unfortunately, most serious ski injuries occur in and around the knee joint. Being in good physical condition before you go skiing is essential in helping prevent serious injury.

Some knee injuries occur as a result of simply overworking the knee joints but this can usually be prevented by a good basic stance. As described earlier, there are many skiers who lean too far backwards in their ski boots. Leaning back too far exposes the knees to particular strain as they are burdened by the entire weight of the body in addition to external forces and influences that occur whilst skiing.

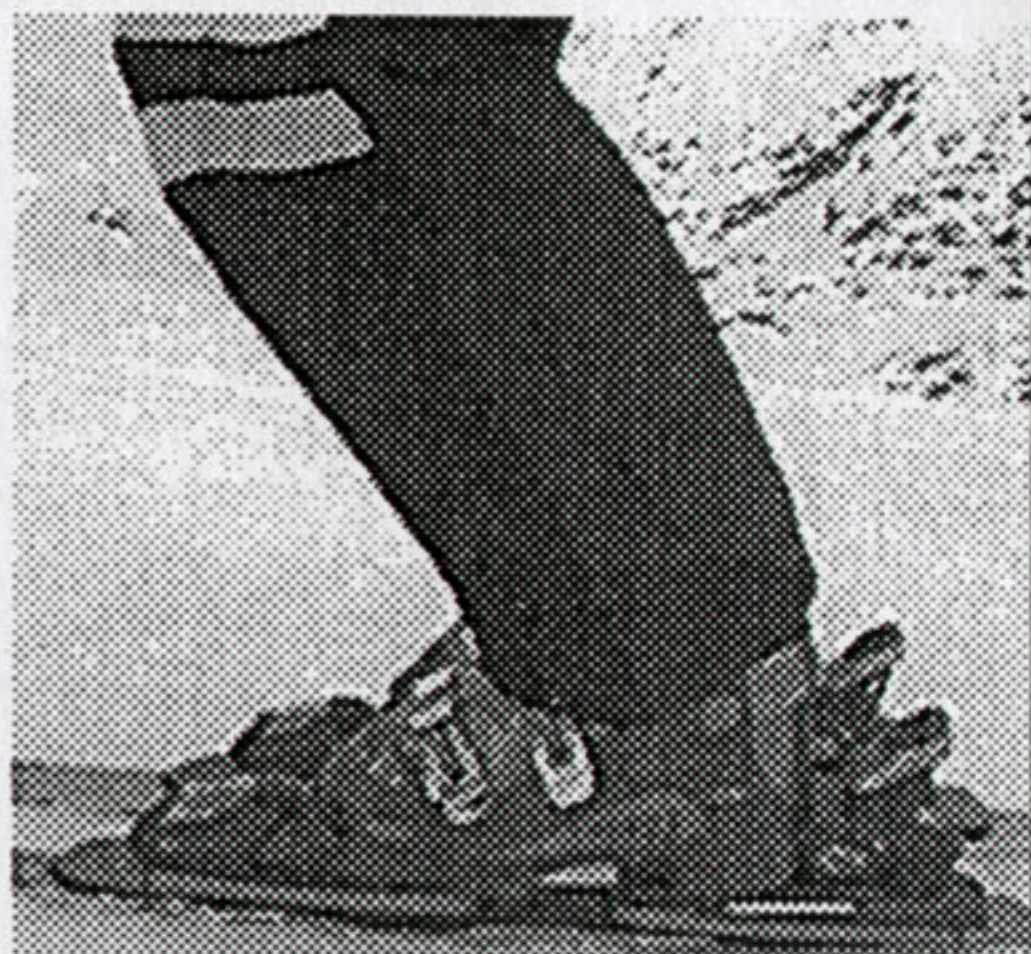
Be aware of pushing your knees as far forward as possible, so that you can feel the ski boots against your shins. In this way, you achieve not only better position and balance, but significantly reduce the risk of acid collecting in your thigh muscles. A rule of thumb is that if you quickly and often succumb to acid, especially in and around your thigh muscles, your position is too static and you are leaning too far backward.

**Tip 8: Press your knees and shins forward so they make contact with the front of your ski boots!**

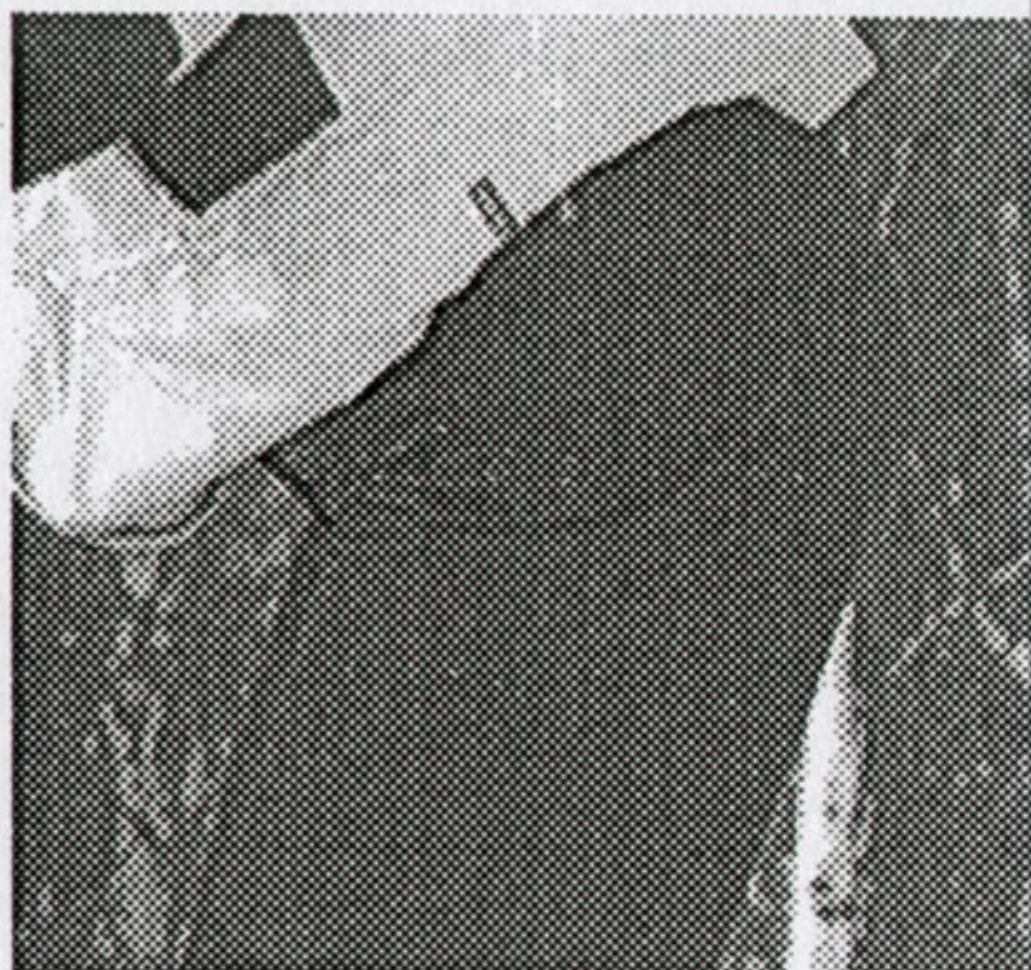
The hips are the joint most skiers use to absorb the unevenness that occur on ski runs. Big and strong muscle groups around the thighs and stomach, which are easy to



*The knee, an important joint!*



*Feel the front boot against your shins*



*The hip joint, not to control your balance with!*

## 2-1 THE DYNAMIC STANCE

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*Do not curve your back*



*Pull in your midriff under you*

"get in contact with", surround the hips. The problem is that these muscle groups are situated so far up the body that balance is not optimal if you concentrate on absorbing all the unevenness of the terrain with this muscle group. You should instead try to absorb irregularities through the feet, ankles and lower legs. Moveable joints have the additional advantage that they help to improve your feeling for the skis and snow.

**Tip 9: Move your focus from the upper body to your feet and lower legs!**

In addition to the fact that many skiers mistakenly bend over at the hips to absorb irregularities on the ski run, many skiers also curve their backs. This combination of bending at the hips and curving the back is not optimal as the basic stance, strength and ability to move is weakened. The body is strong in its entirety, especially when each muscle group and joint works well together. However, if the backbone is bent as the body becomes locked and divided into two parts - the upper and lower body respectively - your ability to feel with your feet and ankles is reduced. Bending your back ruins good balance. Therefore you should tighten your stomach muscles and pull in your midriff under you

**Tip 10: Pull your midriff "in under you" and tighten your stomach muscles.**



### 2-1.3 SUMMARY: THE DYNAMIC STANCE

**Tip 1:** Feel that your weight is based on the front part of your feet!

**Tip 2:** A lower, open and flexible stance is better for your balance!

**Tip 3:** Stand forward on your skis; do not lean back in your boots!

**Tip 4:** A distance of about 10-15 cm (4-6 inches) between the skis gives good balance and freedom of movement!

**Tip 5:** Always keep your hands within your field of vision!

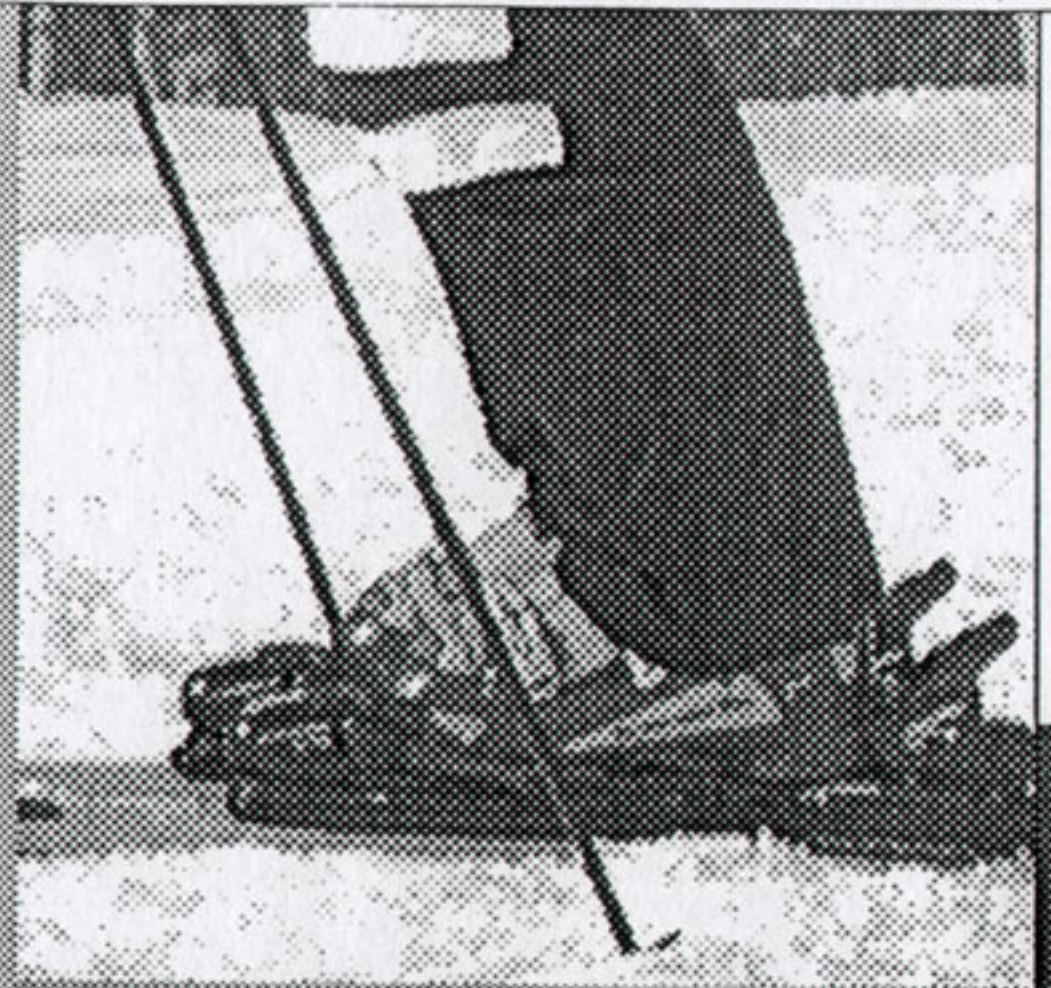
**Tip 6:** Let your body's joints act as shock absorbers, absorbing the unevenness of the terrain!

**Tip 7:** Control your movements from your feet and ankles!

**Tip 8:** Press your ankles and shins forward so that they come in contact with the front of your ski boots!

**Tip 9:** Move your focus from your upper body to your feet and lower legs!

**Tip 10:** Pull your midriff in "under you" and tighten your stomach muscles!



Tip 1



Tip 4



Tip 5