Hugh Monney is a performance coach, author, and founder and Director of the BASS Network of elite snowsport schools. He runs Ski Performance Breakthrough clinics and private coaching in the Alps. He was a trainer and examiner of instructors for the British Association of Snowsports Instructors for 22 years. The BASS Network offers high quality lessons in small groups in English, at 10 resorts in the European Alps. The stated goal of BASS is to take skiers straight to the joy of skiing, using mind, body and spirit.

www.britishskischool.com
Snowperformance is an elite coaching academy based at Crystal Mountain, Washington that specializes in guiding intermediate, advanced and expert skiers to their best performances. While emphasizing true all mountain skiing, Snowperformance offers clinics, camps and private instruction in every aspect of skiing, including racing, high performance carving, steeps and bumps. All Snowperformance coaches are hand picked from the top levels of the sport and include PSIA clinicians, USSA race trainers, expert free skiers as well as physical therapists and fitness trainers. Snowperformance coaching is built around guiding skiers towards efficient fluidity in their skiing by utilizing simple, basic concepts of natural human mechanics and a teaching style designed to get skiers to be their own best coaches.

www.snowperformance.com
Thank you for purchasing the SkiA Sweetspot Trainer.

These are the fast and fun way to develop great balance and coordination for skiing – and to change the way you ski forever.

There are 4 sizes of balance block, so skiers of all abilities can use the trainers. Whatever standard your skiing is, you can improve your balance reflexes and movement patterns by using them.

Unlike many other devices, the sweetspot trainers automatically promote exactly the right skills for great skiing performance. Your body will naturally balance in exactly the right way, on exactly the right point – leaving no room for cheating!

After using them for just a few minutes, you will understand how to balance on the sweetspot. This is an essential skill for improved skiing performance. With practice you will get progressively better at this, and can develop your skills through movement in balance.

Whatever your ability, we recommend starting with the green blocks. Once you are comfortable using those, progress to using steadily narrower blocks.

You now have a wonderful opportunity to improve your skiing performance, straightaway. We hope that you will have fun using the trainers, and that you will always enjoy great results when you ski.

Skier: Andrew Lockerbie, BASI International Ski Teacher, Director of the BASS Megeve. Photo: BASS Chamonix
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SAFETY FIRST

Please be careful: SkiA Sweetspot Trainers are designed to challenge your balance. We recommend having a buddy available to assist and support you.

Choose a safe area free from hazards. Ensure that you have space to move freely, that you have sufficient headroom and that the area is clear of any obstructions that might cause injury if you fall.

Keep your fingers (and your buddy’s fingers and toes) clear of the trainers when balancing.

Don’t use the trainers while under the influence of alcohol or drugs, the use of which may increase the risk of injury.

The trainers are designed to work on a firm surface. Don’t use them on a slippery, wet or icy surface. They aren’t designed to be used directly on snow – though a mat placed on firm snow may be suitable.

They work on carpet, particularly if the carpet is not too deep or soft. However, it will make the smaller blocks harder to use. Take care not to damage carpet or other flooring, particularly by pivoting.

Although it’s OK to walk a few steps with them on, don’t use the trainers for walking – they aren’t designed as a walking aid for ski boots. They are also not designed for jumping movements. This could increase the risk of injury and cause the blocks to wear or break.

The trainers are designed to fit all sizes of adult ski boots. Children’s ski boots should only be fitted using the specific SkiA adaptor for children’s’ boots, if available.

Your boot fit and set up will affect the results you get, both on the trainers and on skis! We highly recommend that you seek out a professional boot fitter to make sure your boots are optimally set up for good movements.
FITTING YOUR SKI TRAINERS

THE SKIA SWEETSPOT TRAINING PROGRAM

WHY CENTERED BALANCE IS SO IMPORTANT

SKIING DRILLS TO TRANSFER SKILLS FROM THE SKIA SWEETSPOT TRAINER TO THE SLOPES
Fit the green balance blocks to your trainers. The blocks will simply push onto (and pull off) the central hole and pins on the bottom of the trainer.

Work out which is front and back by looking at the photograph above. The heel strap has just one clip. The front strap has two clips.

The first time that you use the trainers, fitting takes a little time. Once fitted, the trainers will stay correctly set up for you if the heel straps aren’t adjusted. Either way, subsequent fitting should be very quick and easy.

Look carefully at the underneath of your ski boots, just above the sole, you will see central index marks like this: [A and A]

You can fit the trainers by yourself, or ask your buddy to do it for you. If you are fitting the trainers yourself, it’s easiest to start with your ski boots off - adjust the heel strap first, then put your boots on and fit the trainers. See below for more details.

Fitting the trainers is a two stage process:

1. **Adjust the heel straps, to center the blocks.**

   Place your boot on the footplate of the trainer, with the heel strap to the rear. Leave the front strap undone. Carefully adjust the heel strap so that the ‘I’ of ‘IA’ lines up exactly with the small center notch on the edge of the footplate (at the midline of the balance block).

   Keep the body of the trainer pressed forward quite firmly as you fit it, to keep the heel strap snug on the boot. Tightening or releasing the strap then moves the trainer backwards and forwards slightly on the boot.
After use, remove the trainers by undoing the front straps only.

Problem solving:

“I can’t get the straps to fit my boot”. The trainer is back to front – turn it round, so that the heel strap is at the rear “The front ratchet clip won’t hold the strap properly”. The ratchet clip has rotated downwards through 180°. Make sure it is pointing ‘up’ from its attachment.

Once the heel strap is adjusted, remove that trainer and repeat with your other one. Then put your boots on, fastening them as tightly as you usually do for skiing.

**2** Tighten the front straps.

Put one boot on a trainer. Check that your boot sole sits snugly inside the raised edges of the foot plate, with the heel strap to the rear. Press the boot firmly backwards into the heel strap. Fasten the front strap – first use the ratchet clip to attach it, and then the lever clip to tighten up. Don’t use excessive pressure to tighten up – the aim is for the trainer to sit so that it is a snug fit, rather than loose or very tight. Tuck the end of the front strap in the space between the trainer and the boot, to keep it out of the way.

Repeat with your other boot.

Once fitted, the index marks should still be perfectly aligned. Ask your buddy to check this for you. If needed, slacken off the front straps and adjust the heel straps again to get this exactly right.
The trainers are designed to challenge your balance, so please be careful in your first couple of sessions, until you become used to balancing on them.

They come with 4 different balance blocks: green, blue, red and black. Begin with the green balance blocks.

Stand up and balance carefully on the blocks, feeling for the central balance points in the center of your feet – the sweetspot - so that both your toes and heels remain off the ground.

You can flex your body down slightly to help this process.

You may be quite surprised how this feels, as few skiers balance here unless they have had very expert coaching. You will find that this gives your whole body a great workout, as your balance reflexes engage.

It is important to relax and be supple during this process, though you can use your core strength to stabilize the centre of your body. Make sure that your feet are spaced under your hips and parallel to each other through all the drills. If you’re training on your own, working in front of a mirror can help you check this.

After a few minutes, remove the trainers and stand on flat ground, for about a minute. During this time your body will process the new information.

Repeat this sequence a couple of times.

Video clips of all the exercises can be viewed on: www.skia.com/improve_the_way_you_ski
Review – trainer session, centered balance

After your session on the trainers, take a moment to review the process, by asking three specific questions:

1. Do I understand where the balance points are?
2. Can I feel the balance points under my feet?
3. Did my balancing on the trainers improve during the session?

Use the clear skiing drills, shown in section 3 of this manual, as they will help you to maximize your improvement. To begin with, just use the first 2 or 3 of these drills. This helps to simplify the process.

Review – skiing session, centered balance

After your skiing session, take a moment to review your progress by asking three specific questions:

Do I understand where the balance points are, as I ski?
Can I feel the balance points under my feet, as I ski?
Did my balancing on my skis improve during the session?

Repeat the entire sequence a few times, until you are able to maintain your centered balance during the first three skiing drills.
Movement in Balance

Now you have a great opportunity to retrain your movement patterns, so they become balanced, accurate and smooth. Many skiers have the habit of leaning forwards as they flex. This does flex the ski boots, but it surrenders balance and the capacity for dynamic movement.

Begin with a familiar, warm-up on the blocks, doing the exercises of the previous ‘centered balance’ session: balance, carefully, on the blocks, and after a couple of minutes remove the trainers and stand on flat ground for about a minute.

Now it’s time to increase your range of flexion and extension movements.

Back on the trainers, flex and extend gently, working carefully to stay on your balance blocks. Feel for where the pressure comes from the blocks to your feet.

It’s possible to flex your ski boots gently during this movement, while staying on the balance points (provided your boots are well set up).

Gradually increase the range of movement that you use, until you can touch your toes.

Even experienced skiers find this tricky at first.

After a couple of minutes, remove the trainers and stand on flat ground, for about a minute. Again, your body processes the new information. Repeat this sequence a couple of times.
Review – trainer session, movement in balance

After your session on the Sweetspot trainers, take a moment to review the process, by asking three specific questions:

- Do I understand how to move so that I stay on the balance blocks?
- Am I able to move in balance?
- Did my quality of movement on the trainers improve during the session?

Again, use the skiing drills, shown in section 3 of this book, as they will help you to maximize your improvement. To begin with, just use the first 2 or 3 drills.

Review – skiing session, movement in balance

After your skiing session, take a moment to review your progress by asking three specific questions:

- Do I understand how to move so that I stay balanced on my skis?
- Can I move naturally and athletically while in motion, staying balanced on my skis?
- Did my quality of movement on my skis improve during the session?

WHEN IT’S TIME TO GO SKIING, FEEL FOR THE BALANCE POINTS UNDER YOUR FEET AS YOU FLEX AND EXTEND
Problem Solving

Skiers have very few problems in these sessions. Our central nervous systems have evolved over millions of years and adapt to the balancing challenges fairly quickly.

However, experienced skiers may have firmly held beliefs, which may be at odds with the physics of the situation.

For example, if you believe that you have to lean forwards (or backwards) then you may prevent your body from adapting to the balancing challenges. In fact, any extra movement that takes you too far out of alignment will interrupt natural athletic motion.

Misleading beliefs can be like strong ropes tying you firmly to your past, even though you want to make progress.

If you recognize this in yourself, the real challenge is: can you set aside your preconceptions and just feel the physics?

There are two common problems that skiers encounter when they flex and extend.

Sometimes, skiers feel that their ankles are blocked by the ski boots, which limits their range of motion. Excessively stiff boots commonly exacerbate this problem. To overcome this, some skiers lean forwards to bend their ski boots, as mentioned above. This puts the body out of alignment, making it very difficult to move athletically.

The solution is to retrain the coordination of your movements, so that you stay in balance throughout. The Sweetspot trainers give you constant feedback on this. They allow you to retrain your movement patterns and correct any flaws in your stance.

Training movement patterns in this way promotes body durability and reduces the risk of injury. This is a really important step forwards, towards advanced skiing.
Gavin Kerr Hunter
SnowPerformance
Rotation Movements

Balanced, centered rotation improves the quality of your steering enormously.

The axes of rotation of the trainers precisely match those of your skis. You can train yourself to pivot your skis accurately and effectively on them.

Skiers often make the mistake of pivoting further forwards underfoot, even in front of the toe binding, which causes unbalanced skidding effects. Practice on the trainers will help you to master this essential skill.

Pivoting can wear the blocks, and you must choose the surface carefully. It should be firm and fairly smooth, though not slippery. **A rough or coarse surface can quickly chew up the rubber of the balance blocks** – and this is not covered by guarantee. Pivoting on carpet is unlikely to damage the blocks, but could possibly damage the carpet. Please be careful to avoid this. Check during use that the blocks aren’t wearing, and that the surface you are on is not being damaged.

Begin with a familiar warm-up session on the blocks. When comfortably centered, smoothly turn your boots together to the left and the right, focusing on the central balance points as the centre of rotation of each foot. Aim to keep your feet hip width apart as you do this.

Keep your pelvis and upper body as still as possible as you smoothly rotate your boots – isolating the movement of your legs from the rest of your body. Pivoting and edging movements start from engaging the feet and ankles and move up (and not from the knees, hips or head).
Edging Movements

The gentle rocker on the blocks of the trainer is designed to let you practice a gentle edging movement. This movement is quite small and directly relates to the beginning of your edging movement on skis, the initiation of edging.

Begin with a familiar warm-up session on the block. Establish your balance on the trainers, and then gently tilt your feet from side to side. These small lateral movements from the feet and ankles, when practiced frequently on the trainers, will really improve the quality of your edge initiation and you will feel the improved quality of steering.

Skis respond to tilting by steering, thus increasing lateral forces on the skier; so on snow you would then have to actively align more to balance those increased forces. On the trainers, it’s important not to try to tilt too far.

Don’t try to practice forceful edging with the trainers – for example by leaning against a wall - and putting your weight on the edges of your blocks. This would put enormous pressure on the edges. The blocks are not designed for these loads. Doing so will cause the rubber to stretch and split at the edges, and perhaps separate from the block. Damage caused by such use is not covered by guarantee.

When skiing, and your skis generate lateral forces, you’ll be perfectly placed to direct those forces through the sweetspot!

Advanced training

When you can flex and extend accurately and consistently on the green block, swap to the blue block. When you’re ready, progress through to the red and black blocks, making sure that you have given your body a chance to excel at each level.

When you can flex and extend in balance on the smallest blocks, you will have a very highly developed ability to balance and move on your skis.
Centered balance, centered pressure - your number one priority!

There is a sweetspot on each ski, a place to balance, a place to be. Your number one priority as a skier is to find this place on each ski, so that you can balance on it, press through it and pivot about it.

There are three questions that will help us get to grips with this issue:

Where is the place?
Why is this place so important?
How do I get there?

Let’s take a moment to define this place very clearly.

If you look at your ski, you will find that there is an index mark, either on the sidewall or on the top surface, near the point where the centre of your boot would be.

This is the place.

Every pair of ski boots also has an index mark embossed on its side just above the sole, near the centre of the arch of your foot. It looks like this: |A

When your ski boot is placed in your bindings, this mark is aligned with the index mark on your ski. Therefore this is a very important place. When these marks are lined up, your feet, boots, bindings and skis work as intended.

The center of the SkiA Sweetspot Trainer also lines up exactly with this point.

Using the trainer is the very best practice to feel and refine the skill of balancing on the sweetspot.
Skier: Andrew Lockerbie, BASI International Ski Teacher, Director of the BASS Megeve. Photo: BASS Chamonix
WHY CENTRED BALANCE IS SO IMPORTANT

Why is this place so important?

A ski is a compound spring, just like a modern archer’s bow. Typically, the front portion of the ski is longer, more flexible and more easily twisted than the rear. Modern skis are very carefully designed so that these qualities balance each other, to give very efficient, effective and predictable results.

The index mark on the ski shows the effective centre of this compound spring.

This point, the sweetspot, is also traditionally at the narrowest part of carving skis, at the heart of the ski’s sidecut shape.

There are three critical advantages to putting pressure directly on the sweetspot.

Your skis will work effectively. Your skis will be stable, so you will feel safe; and they will turn easily, so you will feel in control.

Your boots will flex correctly. This is not as simple as it appears to be. Ski boots are designed to work around the sweetspot. If you are not balanced on the sweetspot, you will have to fight your boots - every turn, all-day, everyday. This is reason enough to adopt your new balance targets.

When pressure is applied at the sweetspot, skis will flex to form a smooth, balanced arc that will carve naturally.

When pressure is applied away from the sweetspot, the curve will be distorted, bending the front (or rear) of the ski more. Although World Cup ski racers may deliberately do this momentarily, for the rest of us this is a bad thing!
Let's consider two different ways of standing.

In the first case, think of a soldier standing at attention.

Believe it or not many skiers subconsciously use this method of standing while they ski. Of course, this prevents them from skiing well, by blocking effective movement and natural use of their balancing reflexes.

Of course, it’s not their intention to stand to attention. They’re just trying to stand up, and that is their undoing. Up is the wrong direction and it misleads them. There is a difference between just standing up and dynamic balance. They need another way.

Think of a tennis player ready to receive a serve, a boxer ready to dodge a punch, or a swimmer on the blocks ready for the start signal.

Or a skier moving continuously, linking curves, and ready to adapt to snow and terrain.
All of these athletes are taking another approach to posture and balance. They are flexing through all their joints. They are ready and prepared for dynamic athletic movement. They have engaged their natural balancing reflexes, and are ready to make instant adjustments for effective balance.

We can call this athletic flexing.

So, flexing through all your joints towards the centre of your feet:

- will liberate your balancing reflexes,
- will allow you to move athletically,
- will help you find the balance points under your feet.

From here, everything is possible.

A final point, there are two aspects to this process:

- Direction (both towards and away from the balance points of your feet)
- Quantity (how much, how far?) A little can be fine in easy situations, while in more demanding situations it’s usually more effective to flex more deeply.

You can save energy in easier circumstances by being subtle with this process. To be effective, use progressive and efficient movements in alignment with the balance point.

In summary, flex your body towards the sweetspot in balance as much as you need to.
SkiA Sweetspot Trainer is a fantastic tool to develop two of these critical factors - balance and coordination - in a very specific way for high performance skiing. Integrating this training with work to develop your aerobic fitness, flexibility, agility, strength and power will allow you to perform to the very best of your ability.

Now that we have identified some key Body Management principles, you need to integrate these principles in your skiing performance.

Developing a resourceful body

There are seven key physical qualities that will improve your Snowsports performance,

They are:

AEROBIC FITNESS  FLEXIBILITY  AGILITY  STRENGTH  POWER  BALANCE  COORDINATION

SkiA Sweetspot Trainer is a fantastic tool to develop two of these critical factors - balance and coordination - in a very specific way for high performance skiing. Integrating this training with work to develop your aerobic fitness, flexibility, agility, strength and power will allow you to perform to the very best of your ability.
Now that you understand the balancing process, here is a series of development drills for you to use.

Start in a simple place.

Choose a well-groomed slope, either a green run, or an easy blue run.

This simple performance environment removes many of the variables that would otherwise confuse your early attempts. It also allows you to feel very comfortable about experimenting with new ideas and this accelerates the developments you are working towards.

The series begins with a medium radius corridor and then moves on to introduce more variables, which helps increase versatility and improves performance.

You may find that you can deal with the first couple of exercises, but that the later drills are too complex.

Don’t worry, it may mean that you need other techniques to succeed with them. Everyone is on the same journey. There is a combination of the complexity of the drill and the complexity of the environment that challenges even the most highly trained skiers.

That’s the point.

Remember, in all these drills, your objective is to use the athletic flexing process to help you find the sweetspot.

Can you feel it?

So it’s important, even for advanced skiers, to find a simple, inviting slope where you feel happy to experiment, before moving on to more complex conditions.
1. Medium radius turn corridor
Imagine a corridor down the slope. You’re planning to turn from side to side in this corridor, so you need to choose a width for your corridor that allows you to complete medium radius turns, while controlling speed, very easily.

The rhythm and consistency give you a simple framework with which to work. This allows you to focus on achieving your objective - feeling the balance points under your feet.

2. Shorter radius turn corridor. This challenges the coordination of your new skills. The tempo of movement and rate of steering are increased.

3. Longer radius turn corridor. This drill challenges your balance and smoothness. Timing, balance and coordination all need to be finessed to do well at this drill.
4. Ski a ‘closing funnel’, decreasing from medium radius turns to shorter radius turns. This requires that you change every turn, providing a challenge for coordination and steering.

5. Ski an ‘opening funnel’, increasing from shorter radius turns to medium radius turns. Again, this requires that you change every turn, providing a challenge for your coordination.
6. The Blender. On a longer run, ski a series of repeating funnels, from short radius turns, to medium radius turns, back to short radius, and so on.

This is a fantastic workout for your coordination and steering.

All of the previous drills are appropriate for skiers from early intermediate experience onwards. Finally, here are two drills for advanced skiers and experts only.
7. On a gentle slope, ski a narrow corridor, use very open arcs and very direct exit lines.

8. On a steeper slope, ski a narrow corridor, use very closed arcs and very shallow exit lines. It’s a great extension of this drill to work in a rebound reaction from the skis, to propel you into the next turn.
Many skiers and snowboarders stop taking lessons at a very early stage in their development. There are many reasons for this, but it’s worth bearing in mind that the best sports people in the world benefit from continuous coaching.

Ski Performance Breakthrough
The ski training program by Hugh Monney. Available as an e-book and as a video, now available to download from www.britishskischool.com

Total Skiing
Chris Fellows’ book is a complete guide to skiing and training, with detailed training and development programs. Available in all good book stores. www.skinastc.com

Thank you once again for using the Skia Sweetspot Trainer for skiers. We hope that you will enjoy using it for many years to come, and that your skiing will continue to benefit enormously from this experience. If you like our product, tell your friends!

Please visit us at www.skia.com for videos which will help your technique, and keep in touch with us on Twitter and Facebook.

@skiasweetspot
www.facebook.com/skiingtrainer
With thanks to all who helped to make this product a success:

Marketing - Marketing Twentyone, www.marketingtwentyone.co.uk
Website - Surefire Media, www.surefiremedia.co.uk

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