



SKI TRAINER

CHANGE THE WAY YOU SKI FOREVER





SkiA Ski Trainers are the fast and fun way to train balance and coordination skills for skiing – and to change the way you ski forever.

They are endorsed and recommended by professional ski instructor associations, top ski schools, race clinics, coaches and athletes worldwide.

There are 4 sizes of balance block, to provide a graded and progressive challenge:

The **green** blocks are the largest, and are designed to be stable and relatively easy to use

The **blue** blocks are smaller, and are a difficult challenge for good skiers.

The **red** blocks provide very little stability, and are a hard challenge for good skiers.

The **black** blocks are extremely difficult, but achievable for those with excellent balance skills

Whatever standard of skier you are, whether beginner or expert, you will improve your balance reflexes and movement patterns by practice on them.

After just a few minutes, you will understand how to stand in centered balance. This is an essential skill for improved skiing performance. With practice you will get progressively better at this, and will further improve your skills with movement in balance.

Whatever your ability, and even if you are an expert skier, we recommend starting with the green blocks - even if only briefly. Once you are comfortable using these, progress to using steadily narrower blocks.

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

SAFETY FIRST

Please be careful - SkiA Trainers are designed to challenge your balance, and it's important to avoid slips and falls.

It's ideal if you have a buddy available to assist 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.

The trainers are designed to work on flat, firm surfaces. **Don't use them on a slippery, wet or icy surface.**

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.

They can be used on carpet, particularly if the carpet is not deep or soft. However, the smaller blocks will be more difficult to use. Take care not to damage carpet or other flooring, particularly by pivoting.

They can also be used on firm snow, in a flat location. The larger blocks (green and blue) can work quite well on firm snow, though the smaller blocks tend to sink in. Again make sure that the surface doesn't become icy with use.

They aren't a 'walking aid' for ski boots, so don't aim to walk long distances in them.

The balance blocks have a rubber moulding on their base, to reduce the risk of slips. The material we use has been specially selected to have the optimum degree of 'grip' and durability, and should last many years of normal use.

However pivoting on very rough or course surfaces can quickly shred the moulding. We recommend that when you practice pivoting (as described in the manual) that you **take care to select a firm surface that is not rough or coarse in texture.**

Check during use to make sure that the blocks are not wearing excessively, and that the surface you are on is not being damaged.

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 the blocks. They're not designed for these loads. In the same way, avoid forceful lateral (side to side) jumping movements.

The trainers fit all sizes of adult alpine ski boots perfectly.

Children's ski boots are narrower than adult boots, so don't fit snugly. However, they can still be used safely with the Trainers, with adult supervision.

FITTING THE TRAINERS



Fit the green balance blocks to your trainers. Ensure that the peg on the block engages in the central hole of the trainer, and the 2 pegs of the trainer engage in the block.

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. There is also an 'arrow' on the front.

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]**



The easiest way to fit the Trainers is to start seated, with at least one ski boot off. Turn the boot upside down, and hold it in your lap between your knees with the boot sole uppermost.

With the front strap of the Trainer undone, place it upside down on the boot, ensuring that the heel strap goes round the heel of the boot.

Then simply keep the trainer pressed firmly forwards on the boot, while adjusting the heel strap to snugly align the centre mark of the block with the 'I' of the 'IA' mark.

Once the heel strap is adjusted, remove that Trainer, and repeat with the other one.

When adjusted, place them both on the ground beside you.

Now put your boots on, fastening them as tightly as you usually do for skiing.

Place 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, and 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 snugly, 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 - it's hard to do this yourself.. If needed, slacken off the front straps and adjust the heel straps again to get this exactly right.

For storage, all the blocks can be stowed on the trainers, using the holes fore and aft of centre (don't fit the blocks to these in use)

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

“A ratchet clip won't engage and hold the strap properly”.

The ratchet clip has rotated through 180°. Make sure it is pointing 'up' from its attachment. The strap should feed into the open 'mouth' of the clip.



THE SKIA TRAINING PROGRAM



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. Expert skiers may only need to spend minutes on the green blocks. Nevertheless, everyone should begin with these, as confident balance on the green blocks is the foundation for development on the other blocks.

Stand up and balance carefully on the blocks, feeling for the central balance points in the center of your feet - so that both your toes and heels remain off the ground. You can flex very slightly to help this process.

Relax and be supple during this process. Use your core strength to stabilize the centre of your body.

Keep your feet hip width apart and parallel, pointing straight forward -

just the same as when you ski. Don't allow your feet to spread too wide. If you're training on your own, working in front of a mirror can help you check this.

Aim to keep your feet as still as you can manage.

If you have to take little steps forwards and backwards, you're not in balance yet. You don't need to deliberately rock your feet forwards or backwards.

Aim to look straight forwards into the distance.

If you look at your boots, you will be out of balance.

You may be quite surprised how it feels to balance on the blocks, 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.

After a few minutes, remove the trainers and stand on flat ground for a minute in your boots. During this time your body will process the new information. Repeat this sequence a couple of times.

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

- **Do I understand where the balance points are?**
- **Can I feel the balance points under my feet?**
- **Did my balancing on the trainers improve during the session?**

Go skiing now, if you're able to, and feel for the balance points as you ski

Use the skiing drills, shown at the end of this manual, as they will help you to maximize your improvement. To begin with, just use the first 2 or 3 drills.

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.

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.

Can you flex and extend through your whole range of movement, and stay perfectly in balance? Gradually increase the range of movement that you use, until you can touch your toes, or even the floor.



Even experienced skiers find this tricky at first.

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).

After a couple of minutes, remove the trainers and stand on flat ground, for a minute. Again, your body processes the new information. Repeat this sequence a couple of times.

With this exercise, it's very important to first flex with your legs (keeping the hips forward), before finally tucking at the waist.

To find the right movement, stand without the trainers on with your back to a wall, not quite touching it. Bend your knees to flex as low as you are able to, *without your bottom touching the wall*.

You will find that you have to engage the core muscles of your abdomen and pelvis to keep your hips forward. You will also find that you are limited in how low you can flex by tightness in your leg muscles.

Now step forward a pace from the wall. Flex in exactly the same way. When you can't get any lower, finally allow your body to tuck. When extending, ensure that your hips return to the same position before finally straightening up with your legs.

Repeat, with Trainers on. Training a smooth, 'two-stage' movement in balance will greatly aid your core strength and stability.

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

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

If you are able to, now go skiing again and feel for the balance points as you ski

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

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?

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.

The solution is to retrain the coordination of your movements, so that you stay in balance throughout.

The Trainers give you constant feedback on this. They allow you to retrain your movement patterns and correct any flaws in your stance.

THE SKIA TRAINING PROGRAM

Rotation Movements

Pivoting of the skis is essential for short radius turns - for example on steep terrain or narrow corridors.

Balanced, centered rotation will improve the quality of your steering enormously.

Skiers often make the mistake of pivoting further forwards under the forefoot, even in front of the toe binding, which causes unbalanced skidding effects.

The axis of rotation of the trainers exactly matches that of your skis. The Trainers enable you to train pivoting your skis in a way that is highly accurate and effective

Stand quite upright and, looking forwards into the distance, slowly pivot both feet left and right. Aim to rotate them from '10 o'clock' through to '2 o'clock' and back, taking 5 or 10 seconds for each movement.

Keep these movements slow and steady. It's tempting to make quite fast, jerking movements, but it is both harder and better to do these movements slowly.

Keep your hips still as you do this. You want the rotation to be occurring in the legs (more accurately, in the hip sockets), independently of any body movement. You can check this by putting your fingers on your hips, to check for any swiveling of your pelvis, or ask a buddy to help keep your hips still as you pivot

You can help train this movement lying down, for example in bed - simply rotate your feet slowly left and right as you lie flat.



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

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.

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 lean 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.

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



Fun and Games

The Trainers are fun to use by yourself, and even more fun to use with friends and buddies.

Challenge yourself to stand on one leg, and then the other. This will really give you a strong sense of balancing on center.

Pass a light weight - a ball, or a bottle of water - behind your back, and between your knees in a figure-of-8.

Play catch and throw with a ball, making sure that you catch high and low.

Pass a medicine ball, or flex down low while holding weights, and really work your core.

Make up your own games, and let us know!

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 to the red, and then finally the black blocks, making sure that you have given your body a chance to excel at each level.

You may like to try swapping to smaller blocks before you've fully mastered the larger size - the small blocks will feel extremely challenging, but when you go back to the larger blocks, they will feel much more stable than before.

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.

Because the Trainer is a skill training device, we recommend short training sessions, repeated as often as you like (or are able). Typically, 15 minutes practice is enough. Once you feel tired, stop and do something different, then come back to the Trainers when you are rested.

Rest and sleep are particularly important. It takes time for new neural pathways to develop, and this happens during sleep. Some of these changes are permanent though, like any skill, they will particularly improve and develop with regular practice, challenge and repetition.



WHY CENTERED BALANCE MATTERS - Hugh Monney

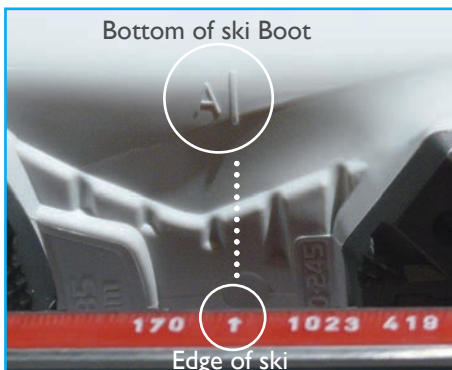
Centered balance, centered pressure - your #1 priority!

There is a sweetspot on each ski, a place to balance, a place to be. Your #1 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.

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.



Why is this place so important?

The center of the SkiA Trainer also lines up exactly with this point. Using the trainer is the very best practice to feel and to refine the skill of balancing on this place..

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 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, you will have to fight your boots - every turn, all-day, everyday. This is reason enough to adopt your new balance targets.

Your body will balance and move much more effectively. Finding the balance points under your feet, then feeling those points as you ski, will allow you to make the very best use of your natural athletic ability.

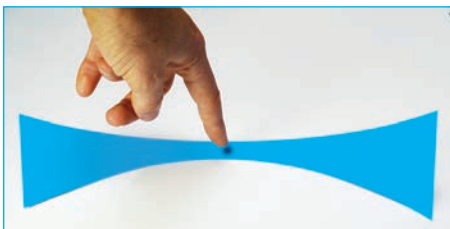
Athletic flexing

If you balance anywhere else on your feet, your body will be fighting just to remain in balance. You will be obliged to make literally hundreds of adjustments and corrections on each run and you will feel strained and fatigued very quickly. Fortunately, this is not how skiing is supposed to be.

So, now that you know where you want to be, let's highlight the process of getting there. Many skiers, probably most skiers, get in the way of their natural balancing reflexes and their ability to move athletically.

This is likely to be true of you, unless you are already very well-trained. The good news is that this is very easily changed. You just need a better plan and the freedom to use it. Let's identify the way ahead for you, very clearly.

Let's consider 2 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.



When pressure is applied on center, modern carving skis flex to form a balanced arc that carves naturally.

That's not their intention. 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 turns, 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 your body **in balance** towards the sweetspot.

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

From here, everything is possible.



When pressure is applied off center, the curve will be distorted, bending the front (or rear) of the ski more. Expert skiers use this to change their skis' performance (but of course this requires extra effort).

SKIING DRILLS TO TRANSFER SKILLS TO THE SLOPES

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

The SkiA Trainer will enable you to develop highly specific balance and coordination skills - two of these key factors - 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 to integrate these principles in your skiing performance..

Start in a simple place.

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

A 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.

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.

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?

Chris Fellows
North American Ski Training Center
Photo: Cath Howard



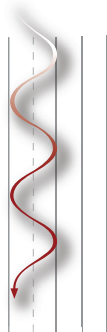
1. Medium radius turn corridor



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.

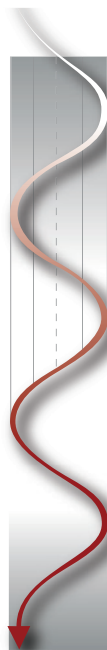
The rhythm and consistency give you a simple framework with which to work. This allows you to focus on achieving your objective - feeling the balance points under your feet.

2. Shorter radius turn corridor



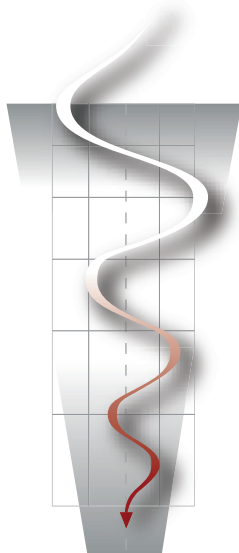
This challenges the coordination of your new skills. The tempo of movement and rate of steering are increased.

3. Longer radius turn corridor



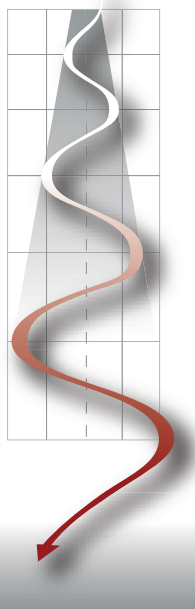
This drill challenges your balance and smoothness. Timing, balance and coordination all need to be finessed to do well at this drill.

4. Ski a 'closing funnel', decreasing from medium radius turns to shorter radius turns.

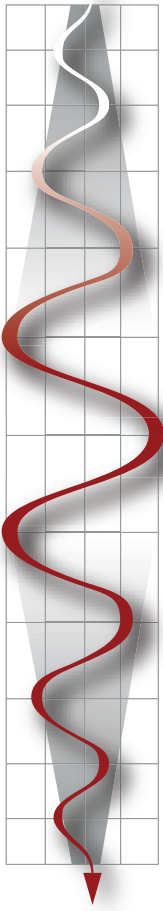


decreasing from medium radius turns to shorter radius turns. This requires that you change every turn, providing a challenge for coordination and steering.

5. Ski an 'opening funnel', increasing from shorter radius turns to medium radius turns.

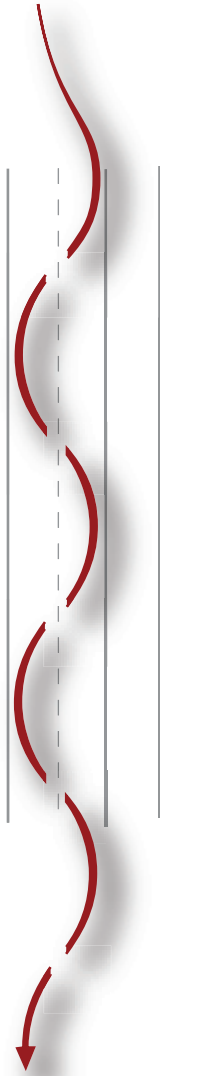


increasing from shorter radius turns to medium radius turns. Again, this requires that you change every turn, providing a challenge for your coordination.



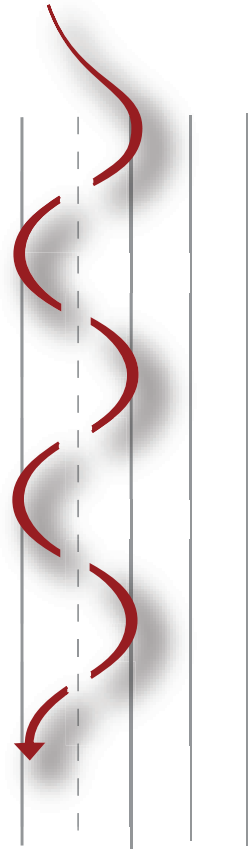
6. The Blender. On a longer run, ski a series of repeating funnels, from short radius turns, to medium radius turns, back to short radius, and so on. This is a fantastic workout for your coordination and steering.

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.

The SkiA Trainer has been developed in association with



Hugh Monney – BASS Network (British Alpine Ski School)

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.

Hugh Monney is the author of the “Ski Performance Breakthrough” series, available on Kindle

www.britishskischool.com



Chris Fellows North American Ski Training Center

The North American Ski Training Center (NASTC) is a performance ski school offering multi-day, full immersion and adventure ski training clinics for intermediate through expert skiers taught by members of the PSIA National Demonstration Team and AMGA certified guides. Founded by Chris and Jenny Fellows in Lake Tahoe CA in 1994, NASTC offers all conditions clinics at Squaw Valley, Whistler, Snowbird, Portillo, Chamonix, Sugar Bowl, Northstar, Alpine Meadows, Crested Butte, Grand Targhee, Zermatt, and more. Chris is the author of “Total Skiing,” and “Tactics for All Mountain Skiing.”

www.skiNASTC.com



Gavin Kerr Hunter, SnowPerformance

Snowperformance is an elite coaching academy based at Crystal Mountain, Washington specializing in guiding 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.

www.snowperformance.com



Photo Ron LeMaster



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