From the Top

By Witold Kosmala
PSIA-E Alpine, Level III
Ski School Trainer
K2 Ambassador

What a spectacular autumn we had in these tallest mountains east of Mississippi. Beautiful colors, great weather. I don’t want to wish my life away nor any of these glorious days, so I am pretending that I am content, but if you know me, you know that I am looking forward to the wonderful winter wonderland that this region offers. I hope you all are making plans and getting ready for the winter. Last year our slopes were already open at this time. When will it be this year???

Recently I went to an eye doctor for a check-up. After all the testing was done he asked me if I wore glasses or prescription goggles when I skied. When I said “no” he asked me, “soooo, how do you see where you are going?” I told him – “I see white, I go on white.” His response was – “Wouldn’t it be nice to see the surface and texture of the snow? You might consider getting contacts.” I went after his recommendations. Indeed, it would be nice to see what slope irregularities are coming my way when I ski and plan ahead, instead of just planning to be ready for everything. Therefore, now I am doing different sort of training for the winter – how to put in my contact into tired and dry eyes, and then to take them out. One day I forgot I had contacts in and rubbed my eyes. I forgot that this is not a correct “move” for me any more and sure enough my contacts got lost somewhere in my eyes. I felt like as if I made a bad move on skis and crashed.

Everyone is getting ready for the winter in a different way. My K2 Charger skis, ski poles and helmet are all ready to go. I put my boots on to get my feet reacquainted with the pressures, exercise as much as my schedule permits, and now even vision is being worked on. We all try to keep ourselves updated with equipment as much as possible. You all need to know that K2 is out with NEW ski boots. You should read what our Southeast K2 Rep. Scott Squires has to say about them on page 3. In so many places I read about new equipment, but there is very little written about our updating knowledge of technique, not just equipment. Our Ski/Snowboard School is affiliated with PSIA, so many of our instructors, and patrollers, are

<table>
<thead>
<tr>
<th>Inside</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helpful Hints</td>
<td>2</td>
</tr>
<tr>
<td>Gordon Carr</td>
<td></td>
</tr>
<tr>
<td>K2 Ski Boots</td>
<td>3</td>
</tr>
<tr>
<td>Scott Squires</td>
<td></td>
</tr>
<tr>
<td>Sugar Does It Again</td>
<td>5</td>
</tr>
<tr>
<td>Carr and Trew</td>
<td></td>
</tr>
<tr>
<td>Learning Never Ends</td>
<td>9</td>
</tr>
<tr>
<td>Dixon Styres</td>
<td></td>
</tr>
<tr>
<td>What is Pre-jump?</td>
<td>11</td>
</tr>
<tr>
<td>Witold Kosmala</td>
<td></td>
</tr>
<tr>
<td>What are Side-slips?</td>
<td>13</td>
</tr>
<tr>
<td>Witold Kosmala</td>
<td></td>
</tr>
</tbody>
</table>
members of PSIA/AASI. If you want to update, consider joining a skiing/snowboarding organization. It does not have to be PSIA/AASI necessarily. But note, if you know more about technique, you can get more out of the equipment which you ride on. So, join an organization, become a certified instructor and climb the ladder. Make plans for your personal update, not just an update of your equipment.

The other day I was walking on a sidewalk and one dried up leaf was accompanying me. The wind was blowing it in such a way that the leaf was just in front of me moving in the same direction that I was going. Do you suppose there was a meaning to this? Was this leaf actually my leader? Or perhaps it was telling me that I am not alone. Am I overthinking this?

There was another occurrence that took place just yesterday (as I am writing it.) I was taking a shortcut on my bike through our famous Greenway that I talked about in our September issue of Peak Performance. In one secluded part of it, I saw a brown fox just sitting next to the pavement. He did not move as I rode by, which I found very strange. So, I turned around and went back to see what is going on. The cutest brown fox was just sitting there. He was looking at me with those big eyes, how touching. He did not make a beep. When I got closer, he tried to move away. This is when I noticed that his back legs have been broken and the poor guy could not walk. He dragged his body a bit and stopped to look back at me. This is when we really connected. Just over 5 years ago, I was in his same situation, all broken, seriously banged up, and bleeding to death lying in the woods next to the ski slope. Like this little fox, I was not suppose to survive. I called for help for my newly acquired friend, but I don’t know what was his final outcome. I wonder what sorts of acrobatics this little fellow was doing to get hurt. There are no cars driving on the Greenway and there are no roads anywhere near to where he was lying hurt. It did not look like a work of another animal who would go for a throat. Maybe this fox was climbing on the nearby boulders and lost his footing?

OK, it is time to turn it over to authors of our featured articles. I truly hope you will enjoy reading this gazette and find the information presented in it worth your while. We hope that you will find Peak Performance to be a resource second to none. We hope you will reread our previous issues. Surly they will speak to you differently then they did the first time. So, journey on to my web page that can be found at

www.mathsci.appstate.edu/~wak/

and look up all the issues of Peak Performance that are posted on the bottom of the page. You are welcome to share all the included information with your friends. Also, please, don’t ever hesitate to write me at Kosmalaw@bellsouth.net. Remember that our intentions for Peak Performance are to promote the snow sports to the best of our abilities, so your ideas are most welcome!

Don’t forget the great day of Thanksgiving later this month. In fact, perhaps everyday will be a day of thanksgiving in your life!

Main Course

Helpful Hints from Holly

By Gordon Carr
PSIA-E Alpine, Level II

The 2013-14 Season is about to blast off…let’s hope with a blast, like of snow and cold. For those of you new to Sugar Mountain Ski and Snowboard School, you are in for a treat, in fact several treats. First, your new “office” will be the best office you’ll ever have…the great outdoors in the wonderful “white time” on the best ski and board mountain in the South! Second, you’ll be working for and with a great Ski and Snowboard School Director, Len Bauer. Third, you’ll have the chance to get on the slopes with some really great skiers and riders, all of whom are more than willing to offer tips and hints on how to improve your personal skiing and riding. In addition to
the School’s scheduled training you should feel free to tag along with any of the staff who are skiing or riding and let your personal performance improvement plan be known to them. All the gals and guys on staff are very open to sharing their thoughts and ideas about improving our teaching and personal snow sport performance…just ask! Fourth, being an instructor at Sugar Mountain qualifies you to become a member of our professional instructor organizations, the Professional Ski Instructors of America – Eastern Division (PSIA-E) or the American Association of Snowboard Instructors (AASI). Sugar Mountain Ski and Snowboard School is a PSIA-E/AASI affiliated school. Individual member benefits include availability of a large number of on-snow training workshops and clinics at resorts all over the country, a certification process to recognize increasingly higher standards of teaching and skiing/riding ability, and professional discounts on a lot of cool winter gear to name just a few of the benefits. (I just got a new pair of skis at a huge discount thru the member “pro program”!)

Ask Len, our School Director, Mike Simmons, our PSIA-E/AASI Area Rep, or any of the gals or gals you see with the “shield” on their parka or tap into www.psia-e.org for a full description of benefits and educational material available! Fifth and last, but certainly NOT least, you are about to work with the most appreciative group of snow sport clients you’ll ever meet…our Southern guests to Sugar Mountain. Those of us who have been ski or snowboard instructors at other mountains are continually impressed by our Southern guests…they love Sugar Mountain and they love to be out in our winter wonderland. The beginners love the instruction we give them and are always thrilled about the great winter wonderland we introduce to them. They love to see OUR enthusiasm for the world of snow sports, so share your excitement…it is infectious!

If you are reading this, you have already been introduced to the Peak Performance. There is an enormous wealth of knowledge about skiing, riding AND teaching others to ski and ride contained in our gazette! All the back issues are available for review or printing from Witold’s web site, www.mathsci.appstate.edu under “Faculty – Kosmala, Witold A.”, listed by month and year. In the February 2013 edition there is a complete index, by topic, back to issue #1, February 2009! (Dr. K is our Editor, Design and Layout expert, and general guiding inspiration for the Peak Performance.)

For all you gals and guys new to the snow sport instruction world, at first this gig can feel like trying to drink from a fire hose…it seems there is just so much to learn and remember. You’ll be getting great locker room and on-snow training from Len and the School trainers. Official Resort and Ski and Snowboard School policies and procedures will be presented to you and are posted in the locker room, both upstairs and downstairs; don’t just glance at the papers, give them a really good read. The Policies and Procedures are your roadmap to success at coping with that “unusual situation”, such as an accident or injury involving a guest. In addition, there is an index of Peak Performance articles which may be of special interest to new instructors (won’t hurt any of us to review some of the articles) in the January 2013 edition of our gazette. These articles are a compilation of subjects such as teaching beginners to ski and ride, building trust in a group, principles of feedback, etc. Also, the October, 2013 edition, just published, has an excellent article about “Teaching Principles” for snow sport instructors by Ross McNeil which is well worth repeated study and review by all of us. Good job, Ross!

Last but not least, if you feel so inclined and have the time, please jot down your thoughts about your experiences of becoming a member of the Sugar Mountain Ski and Snowboard School team. Your comments about how we, the existing staff, can be more inclusive and welcoming to new staff would be appreciated and instructive. Each Peak Performance edition contains the instructions about how to submit an article. Don’t be bashful; sometimes the newest eyes see most clearly…remember the “emperor’s new clothes”. So welcome aboard…see you on the snow!

THINK COLD AND SNOW!

Now Introducing, K2 Ski Boots

By Scott Squires
K2 Sports Sales Representative, Southeast

Here is what often people say about ski equipment: “Boots are the most important component of your setup. If you are wearing good boots, even crappy ski will turn for you.” For all these years K2 was making skis, which
were not always given justice by the testers because they did not use proper ski boots. Now, with new K2 ski boots available, there are no reasons why K2 skis should not perform for you.

K2’s focus and commitment for the past 50 years is to skiers who ski the entire mountain, in all conditions. This same philosophy holds true in ski boots. We did not start with a rigid, intimidating race boot. We wiped the slate clean and built our boots from the ground up to maximize efficiency, optimize power transfer, and deliver performance over a wide range of terrain and snow conditions. The result is a complete line of ski boots that fit and function unlike any other boot, with a style that is uniquely K2.

**SKI BOOT TECHNOLOGY**

**Energy Interlock**

A rivet-free technology that locks the cuff and shell in both the forward and aft direction. This fundamental technology gives the boots life and power ideal for all-mountain and freeride skiing where you encounter a wide variety of conditions and terrain. When the boot flexes forward, the Interlock stretches, creating a buildup of energy. This not only puts lower stresses on the boot material but also produces a smoother, more efficient load transfer, delivering a more natural flex and dynamic performance in all conditions.

**Synchro Interlock**

Built on the Energy Interlock design platform, the Synchro Interlock enables the simultaneous release of both an internal wedge and the Interlock. When released, the Synchro Interlock delivers greater fore and aft range of motion for more efficient touring. Engaging the wedge and Interlock functionally creates an all-mountain boot, with 100% of the flex index and uncompromised downhill performance. This user-friendly design can be locked or released with the flick of a ski pole for on-the-go efficiency.

**PowerFuse SpYne**

A rear co-injected “Y” shaped design that adds strength and power to the Energy Interlock, the PowerFuse SpYne maximizes fore/aft flex efficiency and lateral stiffness for sustained performance and responsiveness in all terrain. Because of the SpYne, we are able to optimize materials in the cuff and shell, eliminating excessive vibrations in rough terrain.

**Fit Logix**

Fit Logix is the bridge between your foot and the exterior features of our ski boots. Fit Logix includes the combination of a diverse last offering (97mm, 100mm, and 102mm), a navicular punch that is built into the mold of our boots to alleviate pressure during ankle flexion, as well as an advanced collection of K2 INTUITION® liners, to deliver performance, comfort, and a customized fit.

**MODELS**

K2 has boot models for every need. Here only 3 models are presented.

**SpYne 130/130 LV**

With a 130 Flex, the K2 SpYne 130 ski boot is built with high-performance, hard-charging, all-mountain skiing in mind. It is the burliest ski boot in our line and comes in either a 100mm or low volume 97mm last for a precise fit. The revolutionary Energy Interlock and the PowerFuse SpYne ensures efficient power transfer, and the PowerCinch Strap and PrecisionFit INTUITION® liner ensure the SpYne 130 is designed to take on all you can throw at it.
**Spyre 110**

The K2 Spyre 110 is an All Mountain ski boot built with a 110 flex to deliver the level of performance and flex demanded by today’s expert women riders. In addition to being our stiffest women’s ski boot, it is also loaded with technology and features to ensure it offers a precise fit, efficient power transfer, and performance all over the mountain. The addition of the PrecisionFit INTUITION® liner provides the necessary blend of comfort, fit, and performance.

**Pinnacle 130/130 LV**

The Pinnacle 130 has the performance of our hard-charging all-mountain ski boot, with all the features and technology that make it a premium freeride touring ski boot. Reinforced by the PowerFuse SpYne, the Synchro Interlock delivers a true 130 flex and uncompromised downhill performance, with increased fore and aft range of motion for efficient touring during walk mode. Add Integrated Tech Fittings, a 100mm and 97 low volume last, replaceable DIN-compatible outsoles that accommodate all bindings, the K2 PowerBuckle, and the PrecisionFit Tour INTUITION® liner and you have the ultimate freeride boot.

**PRECISION FIT LINER**

Our premium, heat-moldable liner, the PrecisionFit INTUITION®, is molded/lasted to deliver a precise “out-of-the-box” fit, minimize “dead spots,” and optimize power transfer between the liner and shell.

There are other lines available as well as numerous other great features to the new K2 boots. For more information about new K2 boots, visit our website at [http://k2skis.com/](http://k2skis.com/).

---

**Sugar Mountain Does it Again!**

*By Gordon Carr  
PSIA-E Alpine, Level II*

*By Mike Trew  
PSIA-E Alpine,  
Level II  
Nordic, Level I*

Thanks to Mr. Jochl, President/Owner, Sugar Mountain Resort, Inc., and Len Bauer, Ski and Snowboard School director, on January 31 and February 1, 2013 Sugar Mountain pulled off another spectacularly successful PSIA-E/AASI group of on-snow clinics, children’s workshop, and an exam. While occasionally Region 7, Eastern
Division resorts have to cancel scheduled workshops because too few skiers and riders sign up, there was no doubt about this one! Sugar Mountain played host to 6 (yes 6!) separate on-snow events with over 50 attendees from all across the South.

What made these events truly remarkable was how Mr. Jochl and his grooming team recovered trail conditions after, I’m sure you remember, absolutely soaking rains on the previous two days. Some locations in our area received over 7 inches of rain; roads were closed due to flooding; and several of the PSIA-E/AASI clinic leaders had to return to their motel while enroute to dinner the night before because of flooded road conditions. I don’t believe anyone thought we’d be skiing and riding...at all. If you watched the resort’s web cam, trails narrowed visibly by the hour, and by sundown on the 30th, more dirt than snow was showing on Lower Flying Mile. Certainly any optimist who thought maybe the clinics could be held also realized that the conditions would be pretty marginal.

But upon arrival at Sugar Mountain on the morning of January 31st, we were greeted with covered trails, snow guns doing their thing and conditions, overall, remarkably great! Rumor had it that Mr. Jochl, himself, was up at 3 AM and was personally part of the grooming team who worked Sugar Mountain back into its usual stellar snow conditions. I don’t know about the other groups, but in our workshop, visiting skiers, the guys from Sugar Mountain, and our Clinic Leader, Tom Butler (Director, Sugarloaf Ski and Snowboard School, Carrabassett Valley, Maine and PSIA-E Examiner) all were amazed at how great the conditions were considering all the “liquid snow” which had fallen the previous two days! Not only was Sugar Mountain skiable...it was fine! We had Mr. Jochl and the grooming team to thank for two excellent on-snow training days. Also, thanks, Len; you put your usual “organizing touch” on the supporting background details for the events and they all came off without a hitch.

Thanks also to Wendy Snyder who hosted an informal cocktail party at her trailside condo for all participants on the evening between the event days. Visiting skiers and riders and the clinic leaders whom I overheard all were singing the praises of our resort’s hospitality. This kind of personalized, friendly reception doesn’t always happen at PSIA-E/AASI events and exams, and I know all our guests and local staff were most appreciative of the “Do” at Wendy’s.

Now to the nubbin of the article. This was to be a compilation of notes taken by some of the participants during the on-snow clinic led by Tom Butler. Sugar Mountain Ski and Snowboard School was more than adequately represented by Doug Washer, Mike Simmons, ZT Whiteside, Witold and I; Mike Trew, whom many know as a former Sugar Mountain instructor attended and is co-author of this article; two Sugar Mountain Ski Patrol members joined us; and, two visiting skiers rounded out the group. Many who took notes during the chair rides
forwarded them for inclusion in this article, and I agreed to attempt a creditable distillation of the kernels of wisdom for improvement.

Sorry, I just haven’t been able to do it. I have struggled with the notes since March and as a summary of just drills and exercises nothing coherent had emerged. We didn’t just ski a bunch of drills and take a tour of the mountain. There seemed, to me, to be a meta-plan underlying Tom’s guidance for our skiing improvement. Did we have an unbelievable, transformative two days of instruction from Tom Butler? You bet we did! We were pretty much a bunch of “Old Grays” with collectively, probably more than 300 years of skiing experience (Sorry, Doug and Mike, but your years of skiing and instructing experience qualify you for membership in the Geritol Club). All participants had numerous PSIA clinics under their belts so had background upon which to assess this skiing workshop. At the end of the second day ALL AGREED IT WAS THE MOST PRODUCTIVE AND TRANSFORMATIVE ON-SNOW EVENT WE HAD EVER ATTENDED! For you guys who passed on your notes…they were excellent. Mike Trew’s notes and pencil sketches are especially notable and his collaboration on this article was significant…Guys, it was not the song…the singer just couldn’t carry this melody. An enumeration of exercises and drills just wasn’t working. But your notes did help me discover (I think) Tom’s meta-plan about which I can and will write and Mike’s sketches to support the article were spot on. I just want to make clear that ideas flowed from all your notes and contributed to my musings; but all the errors of thought about the clinic activities and lapses of judgment concerning principles of skiing movements are mine (Gordon) alone. So for what it’s worth….

The last time Sugar Mountain members of a PSIA-E skiing workshop collated notes about an event was the workshop on March 7 – 8, 2011. During that clinic we performed many tasks and skill development activities during the two days. It was relatively easy to consolidate all those ideas about the drills into a coherent narrative. This clinic was different. It wasn’t just a presentation of skill building exercises while skiing all over the mountain. We were a very experienced group of skiers: Witold, ZT, Mike Simmons, and Doug Washer…need I say more. And yet, when I looked back trying to distill the collective insights from all the notes what struck me was that Tom Butler seemingly had an experiential concept for the event directed toward skiing us through movement fundamentals…and he presented the fundamentals sequentially “from the ground up” so to speak. This was a great group of skiers…comfortable anywhere on Sugar Mountain (and many other mountains in North America) and yet the first thing Tom focused upon was STANCE. Start with the absolute basics…skiing from the feet up. What is your “home base” stance and what are the consequences upon your ski performance of that stance? We skied a lot that first day focused just upon stance….stance and the influence it has on the rotational forces you impress upon your skis during turning. The conclusion Tom helped us discover was that a stance with some comfortable width between skis, different for each person due to individual physique differences, permits independent, yet simultaneous rotational forces to be applied to both skis by both legs. Although we, with our “instructor hats on”, often talk of initiating turns with rotational forces at our feet, we often unintentionally fail to clarify to our guests that the point of rotation is NOT just under the ball of the foot. When both feet twist under the ball of the foot during a turn, too much lead change is produced…the new inside ski becomes projected too far forward and your balance can shift to the rear. Rather, the point of rotation for more efficient turns and accurate control of balance is at a point somewhere BETWEEN the feet…think of standing on a large lazy Susan and twisting your legs (it is not doable in this article, but the ‘lazy Susan thing’ leads me to some strange ideas which need exploration: on the twisting platform as one foot goes forward, the other moves backward. Is that what really happens during ski turns?). Anyway, I digress. I often visualize an imaginary string (most of my skiing movements are imaginary now) with a weight on the string suspended from my belly button to touch the snow and that seems for me to be a conceptual “central” rotational point. (In reality such a string never would fall to the snow between your feet would it? It’s a conceptual thing.) FEET, your contact with the snow. How much more fundamental than that can you get? During the first day’s afternoon session Tom used his iPad (tablet or some such mysterious modern gadget) to video the group, doing open track parallel turns slowly down Easy Street. The “slow” really magnifies any movement weaknesses. You just can’t “fake it” when skiing slowly. He then provided individual feedback to group members using the videos.

The next fundamental movements Tom skied us through on day 2 focused upon isolating WHERE turning rotational forces were coming from. Ankles turn the feet very little; knees turn the feet almost not at all.
Rotational forces must come from higher up the body’s bone chain. But if the torque is generated from too high up you get the “beginner” whole body or shoulder rotation to initiate turns. Turns become most dynamic and efficient when the rotational forces come from the twisting of the head of the femur (thigh bone) in the hip socket. Each leg can twist though an enormous arc of movement just from the hip socket. Notice I didn’t say pelvis movement or spine twisting. As a test, stand on two pieces of wax paper, one under each foot, on linoleum, have a friend hold your pelvis in a forward facing position and see just how much your legs can twist...it is a very large arc! Visualize sitting in the chairlift with both legs extended straight out and with your skis vertical. We’ve all done this. Now twist your skis like windshield wipers and you see and feel them pass through a large arc. Your upper body is not twisting and your pelvis is certainly NOT moving...you’re sitting on it. Yet you can twist your skis back and forth. Why is it so easy to do while sitting and yet so difficult when standing on your skis during turns? In fact, Tom used a common and frequently used exercise to help us identify, isolate, and visualize pelvic movement so that we would NOT turn the pelvis or mid body (or at least minimize it) during turns. (See picture at right.) The drill involved linking your poles, basket to handle, one in front and one behind you, at the level of the top of your pelvis...those bony points of the pelvic bones around the belt line. With the poles thus clamped around the pelvis, it was like having extenders out to the side so that you could sort of feel and the other group members could definitely see how able you were to maintain a “down the mountain orientation” of your pelvis during turns. As goes the pelvis, so goes the entire upper body when twisting forces are primarily produced from within the hip sockets. Without the pole visual enhancement, it is just too easy when instructed to “keep your body facing down the mountain more” to really only twist the spine and have your shoulders face down the trail during turns. These movements are most appropriate and apparent during dynamic skiing...the longer the turn radius the more your body does appropriately, in fact, “come around with your skis”. But it is dynamic skiing, and the movements which lead to dynamic skiing, which must be mastered to be skiing at the expert level. To ski efficiently on steep slopes with short, linked turns, leg torque must come from the hip sockets while the pelvis and upper body remain relatively quiet, stable and oriented towards the fall line. For our group, this exercise was very revealing and repeatedly skiing with this visual enhancement facilitated changed skiing performance for each in the group. We didn’t ski a lot of different exercises or drills or explore a lot of trails. Tom introduced an exercise devoted to mastering specific fundamental movements and he stuck with it UNTIL we all got it. Truly LESS can be MORE! The ole Golden Rule, eh Tom?

First, STANCE and FOCUS on the FEET...second, rotational forces generated from the HIP sockets NOT the spine and upper body. Third, also during our last day on snow, Tom continued with a focus on reducing upper body twisting movements during dynamic turns but added another movement dimension. While upper body and shoulders should not twist to initiate turns, there should be continual shoulder and spine movement relative to what is happening with the legs from the hip socket down. When skiing dynamically with the feet and skis moving out from under the body during the apex of turns, the shoulders pretty much a.) face down the mountain; and, b.) by reacting to and managing the increasing forces which develop throughout the turn, the shoulders (and hips and knees and feet and skis and hands) should match the angle of the trail slope during all phases of the turn. This produces a feel of “relative movement”. If you manage these ever building turn forces with “whole body tipping” you lose the “dynamic” aspect of your skiing and many unintended and inefficient consequences follow (e.g. to name two; rhythm of linked short turns slows and pressure on the outside ski tends to lessen). Tom used a drill to add a visual effect of “outriggers” to help us avoid “tipping” and experience the more efficient and dynamic fundamental movements. We held the pole grip on top with the palm of our hands with arms extended so that the tips of the poles were effectively at least 12 feet apart and just lightly touching the snow AT ALL
TIMES! Artificially just lowering the downhill arm during a turn to maintain pole tip snow contact was “not permitted” and if it happened it was readily obvious to all watching. (See picture on the right.) That 12 foot outrigger really let you feel when the downhill shoulder wanted to “come up” at the completion of a turn because of a tad of unintended loss of angulation or unconscious lean up the hill. But if the pole tips did maintain constant snow contact and joint angles gradually developed during the turn (and were not just “a static position” during park and ride), then skiing became dynamic, skis moved out from under the body during the apex of the turn, edge grip was astounding and each in the group could see everyone’s skiing move to a higher level of performance. Remember these were very competent skiers to begin with; but after the second run, the smiles of all of us upon meeting at the chair were ear to ear! Not only could others see the changes, but we each FELT the jump up in level of our own performance. And Tom just kept us skiing repeatedly with this drill to ingrain the habit. The grins just got bigger!

Fundamentals: stance...turning from within the hip socket...upper body facing more down the hill...and shoulder (and hip, knee, and feet) angle matching the inclination of the trail slope throughout the turn. Nothing fancy, just the basics. But, Oh! how skiing those fundamental movements changed 10 people’s skiing on those two days. We all agreed that Tom Butler had presented one of the most coherent and transformational PSIA-E clinics we had ever attended (and with our collective years of skiing, we had attended a bunch)!

A spectacular on snow event after Noah’s Flood thanks to Sugar Mountain’s fantastic grooming staff and then two days of skiing and instruction, which changed each person’s skiing performance. What else could you ask for? Thanks Tom! It was unforgettable (we hope) and it will now be up to us to maintain these fundamental body movements inherent in dynamic skiing this coming season and on out into future seasons. I will guarantee this: skiers and riders at Sugar Mountain this winter will see a bunch of Old Grays who, when trail and crowd conditions permit, will grab their poles in the palms of their hand and stretch out some outriggers just to get a tune up and put sound fundamentals back in their skiing performance.

COME BACK AGAIN, TOM
WE MISS YOU ALREADY

Training

The Learning Never Stops

By Dixon Styres

In a collegiate setting it seems we are always in the act of actively learning. And while I would like to think that my calculus class does not deem itself worthy of my active learning, it most certainly does. Luckily, the collegiate experience allows for many more learning experiences outside of the classroom.

A few weeks ago our team got the great pleasure of learning quite literally from one of the best Appalachian has to offer in the field of ski instruction. Dr. Witold Kosmala, or Dr. K as we call him, is a long serving member of the ASU Mathematics faculty also happens to be the team’s long-standing faculty advisor. Dr. K is a Level 3 Professional Ski Instructor of America, which requires a very in depth knowledge of the sport combined with
many years of dedication and experience. The team had a great time as we went over Ski Technique both on and off the racecourse. The team also had a great learning experience as we increased our knowledge on something that we are extremely passionate about. We of course had to try out our newly acquired lessons in the offseason as we set out to try to increase our agility and stamina on the trails, as well as on Dr. K’s Trikke, which is a motorized scooter bearing an extremely large resemblance to the motions of skiing. This makes it ideal in practicing racing and general maneuvers for the slopes. We setup several cones in the style of a slalom course, and with the Trikke we were able to have an experience as close to the real thing as you can get; without the snow of course! It is a thrill to have such a knowledgeable member of our team that cares about our success, and strives to make every year of racing better than the next. It will always be a pleasure to have Dr. K on the ski team. Ski Ya Later!

_Dixon Styres, below, is a sophomore at the Appalachian State University, majoring in Computer Science. He comes from Raleigh, NC and currently is the secretary to the ASU Alpine Ski Team._
What is a Pre-jump?

By Witold Kosmala
PSIA-E Alpine, Level III
Ski School Trainer

**Pre-jump** is a body movement just preceding the top of a mogul or a slope’s edge or a hump, which results in an absorption of the crest of the jump. This movement results in a flexion of the body just before the skier gets to the launching point. Do not confuse it with **pressing**. Pre-jump can be an energetic absorption. However, often absorption is preceded by an active extension with absorption being a passive move instead. This extension before the launching point comes is why this move is called a pre-jump. The result is that the skier goes into the air before the crest and follows the contour of the slope. This way the skier is not thrown high into the air at the edge of the slope. This is really effective in downhill racing, in ski cross, in skiing moguls, in steeps where a long time in the air would yield an uncontrolled acceleration, or in the trees where constant contact with snow will help with avoiding a collision.

On the other hand, “pressing” is when a skier progressively lowers their body as they approach the jump with being the lowest at the launching point. Then they go off into the air also in a low position, but this point of take off will be much closer to the launching point then the skier who pre-jumps. Skier who presses will usually stay in the air for a longer time and go higher, resulting in poorer race time, and loosing more control over their skis and maneuvers.

For me, a dry-land practice of a pre-jump is when I am cycling up a steep hill and need to change to a lower gear comes. In order not to grind the tight chain when changing to a larger sprocket, I suddenly apply big pressure to one pedal, which results in less pedal pressure throughout the following revolution, during which changing gears is smooth and easy. This sudden pressure on the pedal feels like a pre-jump on one leg.

Look above at the photomontage of Daron Rahlves taken by Ron LeMaster. This was Daron’s winning downhill at the Beaver Creek World Cup. Daron is performing a pre-jump. You can see Daron’s skis off the snow much before the crest of the hump. This resulted in a short flight along the contour of the slope. (Visit Ron LeMaster’s website [www.ronlemaster.com](http://www.ronlemaster.com) for lots of very interesting information.)

Ron LeMaster compares Daron’s flight with that of Hermann Maier, who came in 4th on that race. Photomontage is on the next page. Hermann presses before takeoff and absorbs the jump. But, this makes him go up much higher and much further then Daron did. You can see in the montage that Hermann stays on the snow all the way to the jump’s edge.

Peak Performance
On the left is Palmer Hoyt, a beautiful photo by Cody Downard. It is difficult to tell if Hoyt prejumped or pressed, but in situations like where he is, he certainly does not want to fly too far. He definitely wants to land before the next tree comes.

The photo of Palmer Hoyt was taken by Cody Downard, who is pictured below. Cody Downard, out of Vail, CO, is a photographer for many occasions that can be found on codydownard.com.
What is a Fall-line?

By Witold Kosmala
PSIA-E Alpine, Level III
Ski School Trainer

For a skier, the fall-line is the path a soccer ball would take if it was released where skier’s feet are located on the slope. We are very careful defining the fall line, because this line maybe very different just a few inches away from the spot you might be at. Also, note, we said that the ball is a soccer ball, meaning it is not too narrow and not too wide. Its track would somewhat resemble the width of a ski. A large exercise ball would likely take a different line down the hill. A little ball would follow all the little grooves in the snow. If it was water, it would soak directly into the snow. On the other hand, if the snow was frozen and water was spilled, it would go in the very finest grooves in the snow down the hill. Again, not a true indication of the fall line for a skier. Thus, a soccer ball is a good example. In addition, fall-line need not be a straight line.

Also, this soccer ball will indicate the fall line relative to its speed. If it was going slowly, the path would be different then when moving fast. So, we indicated that the ball is released because you are standing and not moving. This way, the ball will start out going as fast as you do indicating an accurate fall line. Further down the hill, if you are moving slowly, you need to have another soccer ball show you where the fall line is because the one you released earlier is long gone and it went its own way. The fast ball’s fall line will be different then yours if you have not gone as fast as the ball did.

Would it be correct to say that the fall-line is the quickest way down the hill starting at a particular point on the hill? The answer is NO. If you were to go down the slope in a gliding wedge, your fall line would be different then someone else’s who goes down at a faster pace. Remember, the fall line will be different for everyone on the slope. It will depend on where you are and how fast you are going. And we thought that at least the fall line was a simple idea on the ski slopes.

Important observation is that if you were to gently roll a soccer ball across the slope, it will gradually turn down hill seeking its fall line. The same goes for the skis. If you were to finish one turn, that means you have some momentum, (like rolling a soccer ball across the slope) and in the transition just flattened your skis, (that’s right, not staring a new turn, just release the edges so skis become flat on the snow), before you know it, the skis would turn on their own trying to seek out their fall line. (Wow, so how smooth can you actually ski down the hill?) This illustration indicates that you don’t have to work very hard to start a new turn. Skis will do it for you if you just let them. OK, so this last part is the difficult part – letting them.

Now, if the fall line was complicated idea, just think about the double fall line. The easiest way that I can describe the double fall line is looking at a straight, paved road going down the hill. We think that we are going only down the hill. We are, (let’s hope) – one fall line. But, the road is actually tilted toward the edges from its crown (the center line) in order for the water to run off. This little slope to the side is considered to be the other fall line. The same translates to the ski slopes. The ski slope goes down, but it is tilted off to the side. If that’s the case, this slope is considered to have a double fall line. The result is that taking turns to one side is different then when turning to the other. Enough said.

What are Side-slips?

By Witold Kosmala
PSIA-E Alpine, Level III
Ski School Trainer

Stand across a smooth slope in a balanced stance. Your weight distribution should be equal over both skis. You might need a little more pressure on the big toe of the downhill ski to be more stable. Your platform angle should
be 90 degrees. Now, gently increase the platform angle in both feet at the same time. To do this, release pressure on your big toe on the downhill foot. You might need to add a little pressure on the downhill side of your feet and perhaps even on the downhill sides of the ski boots with your ankles. The edge angles should decrease at the same time. The goal is for your skis to sideslip (sideways) down the hill. You want your feet to move simultaneously at the same rate in a line perpendicular to your skis, that is directly down the fall line. It is best to keep your shoulders at 45 degrees to the fall line and hips countered gently.

**Difficulty:** If the snow is soft and/or the slope is not steep enough and/or your ski is too narrow under foot and not waxed properly, it may be hard to slide. Sometimes you can step over the build up snow next to your ski to start sliding; or you can make a series of side steps down the hill, kind of like running sideways in order to get more momentum so skis will start slipping. If you increase the platform angle (and/or decrease the edge angle) too much you will catch the downhill edges and fall over to the downhill side. Change and point the skis to the other side of the slope and you might see that one side of you is better than the other.

**Stopping:** To stop decrease the platform angle and increase the edge angle with your feet using your ankle joints. This will dig the edges more into the snow and create more friction. Sometimes more angles in the body will be needed. Put more pressure on your big toe of the downhill foot directed into the hill.

**Reasons for the exercise:** Sideslips test your stance, lateral pressures and balance, edge control. They will help you find the “sweet spot” of your skis. Also, often they are part of another drill, like pivot slips, hockey stops, and so on. Sideslips are used by even the most advanced skiers when they need to “fix” their line through narrow chutes or in the bumps. The same goes for the racers. Sideslips do not always have to be done in a line perpendicular to the fall line. Racers usually perform sideslips at the very top of their turns so they can enter the fall line exactly where they want to. The result is a stivot, discussed in the February 2013 issue of *Peak Performance*.

**Additional exercises:**

1. Side-slip and then suddenly stop by quickly increasing the edge angles. Make that stop very abrupt. Make it like gymnasts make the “stick landing.” Try to stop by engaging high edges suddenly, but then releasing them almost just as rapidly so that when you stop you do not need to make another move to get to the standing-up position.

2. See how fast you can side-slip down the hill. You can do side slip races with a partner.

**Questions and answers.**

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do advanced skiers ever use sideslips?</td>
<td>Yes, sometimes they need to slide down a slope just a touch to get onto a better “line” down. Sometimes there is no space to turn. Sometimes it is a part of their tactics. This task is always on instructor’s certification exams.</td>
</tr>
<tr>
<td>Skis can’t seem to sideslip together and parallel to each other.</td>
<td>Edges are not released evenly on both skis. The upper body might be favoring one ski. You might have uneven weight distribution over two skis. Perhaps edge angles or platform angles are not the same on both skis. Try putting skis closer together. Get on a slicker and/or steeper slope so that you can slide easier and explore how the body movements affect the skis.</td>
</tr>
<tr>
<td>There is a lot of snow build up along side of my downhill ski, which makes it difficult to side-slip.</td>
<td>Step over the loose snow and try again. You can make a few fast sideways steps down to get more momentum. This snow builds up if you don’t slide fast enough or you use higher edge angle than necessary.</td>
</tr>
</tbody>
</table>
I can’t seem to go sideways straight down the fall line. I keep drifting forward and/or backward. Why is that?

This drifting is caused by putting more of your weight forward or backward. Try balancing on the balls of your feet. Drifting forward and backward is not wrong, it is just not this particular drill. It is called a “falling leaf” drill.

Upper body has difficulty pointing down the fall line.

Sometimes it is not necessary to do that. Shoulders at 45 degrees to the fall line are often enough. But, if you want to improve facing straight down the fall line you can try to hold both poles together across and in front of the body. You can put them on top of your wrists with fingers down to prevent tipping. You can also grab poles in the middle of their shafts holding them vertically and “frame a picture” that you wish to focus on during your maneuver. Or, you can think that you have flashlights on your shoulders shining straight in front of you. Or, you can even point a “pistol” at an object directly below you.

---

Dry-Land Training

What are Bowties?

*By Witold Kosmala*

*PSIA-E Alpine, Level III*

*Ski School Trainer*

Stand on loose dirt, on sand or snow on both feet about 8 to 10 inches apart and pivot them about centers under each foot. The mark each foot leaves when lifted up is a bowtie. The movements that produce bowties can be good and can be bad.

**Good points of bowties:**

They give a skier a feel of rotation of the foot. They wake up static feet and rotate extremities without rotating hips. They make skier aware of the big toe movement toward the side of the boot and the feel of how the toes should steer the skis.

**Bad points of bowties:**

They are performed about each foot’s center causing tip lead in skis. They might be performed incorrectly by rotating entire body instead of only leg in the hip socket or by swinging the heel off to the side too much. They might promote body over-rotation. They are very rarely actually performed while skiing.

**Possible usage:**

- In 180-degree hop turns, but only on the inside leg.
- When skiing on one leg.
- In some drills.
- When necessary.
- When swinging skis from side to side on a chair lift.

The bowtie on the right was made in the sand.
**Turn to Wisdom**

- Smiling is contagious.
- When you tell people the truth, they usually slam door in your face.
- Unhappy people like it when everyone else is unhappy.
- The only place where success comes before work is in the dictionary.
- I am a great believer in luck, and I find the harder I work the more I have of it. *By Thomas Jefferson*

**Thoughts for the Month**

- Move forward!!! We say this to practically every skier on the mountain, but few understand what that means, especially beginners. When you tell them to move forward, they think you are crazy. After all, they already are moving forward. Certainly they are not moving backward (except at some moments.) So, what does “moving forward” really mean? Can it be replaced by another expression that is more clear to a beginner?
- Does playing violin have anything in common with skiing?
- If your ski coach tells you to make more pole plants, what does it mean to you?

Elaborations on last month’s *Thoughts for the Month.*

**Question:** What are “sideslips?” Are they good to do, when, where and why?  
**Answer:** See page 13.

**Question:** On the slopes, what is a “fall line?” What is meant by a “double fall line?”  
**Answer:** See page 13.

**Question:** *Bowties* represent foot pivoting, but do not always correctly represent foot’s action while skiing. Can you think of instances when bowties are correct movements and instances when bowtie movement is not correct?  
**Answer:** See page 15.

**This and That**

**SELF-LEVELING**

And you thought that only skiers are self-leveling. Look at this old self-leveling vehicle. You should see some new ones. Wow.
SELLING ANY EQUIPMENT?

If so, perhaps on www.craigslist.org or other places, then read what police has to say below.

Crime Alert: Check Cashing Scams

ASU Police and Boone Police would like to make the campus community aware of recent reports involving check cashing scams. We caution you to be skeptical of anyone that sends you a check or money order and in turn asks you to deposit it and wire transfer any amount of money back to them. You should never wire money to a stranger. The check you receive will be counterfeit and inevitably you will personally be out the money you wire to them.

This type of fraud is commonly referred to as a “Nigerian check scam”. These individuals use email, postal mail, and telephones to contact potential victims. In any case the check you receive is counterfeit, and will be returned to your bank as unpaid. As a result the full amount you wired will be deducted from your account. You are fully responsible for the loss. An important fact to know is that the Bank is required by Federal law to make deposited funds available within 1-5 business days; however this does not necessarily mean the funds have cleared. It could take weeks before the check is discovered to be counterfeit.

Tips to avoid a counterfeit check scam:

- **Never wire money to strangers.** If anyone insists that you wire back funds, end the transaction immediately. Legitimate buyers don’t pressure you to send money by wire transfer services. In addition, you have little recourse if there’s a problem with a wire transaction.
- **If you’re selling something, don't accept a check for more than the selling price**, no matter how tempting the offer or how convincing the story. Use an alternative way to pay, like an escrow service or online payment service. If this is not an option require the buyer to send a bank certified cashier’s check or money order for the exact amount.
- **Any correspondence which offers you** money but requests that you pay a fee first.
- **Any correspondence that offers you** a check and requests that you take a percentage and then use Western Union to send the remaining money somewhere else. The use of Western Union is common in these scams and should be a red flag.

If it sounds too good to be true – it probably is. Any promises of large sums of money in any context by unknown people online, through mail, by phone, or otherwise should be carefully scrutinized.

2014 WINTER OLYMPICS

On

http://skiing.about.com/od/winterolympics2014/a/2014-Sochi-Winter-Olympics-Travel-Guide.htm?nl=1,

Mike Doyle gives information pertaining to upcoming Winter Olympics, which are to take place February 7 – 23 in Sochi, Russia. Here is a list of dates of some skiing events.

- **Cross-Country Skiing:** February 8 – 9; 11; 13-16; 19; 22-23
- **Ski Jumping:** February 8 – 9; 11; 14-15; 17
- **Nordic Combined:** February 12; 18; 20
- **Alpine Skiing:** February 8 – 9; 12; 14-16; 18-19; 22-23
- **Freestyle Skiing:** February 8; 10 – 11; 13-14; 17-18; 20-21
Announcements

• SugarFest is December 13 – 15. Look for the whole list of exciting activities on www.skisugar.com/sugarfest. Highlights are: Adult Preseason Ski Clinic with 1994 Olympic Gold and Silver medalist, Diann Roffe as this year’s celebrity coach, equipment demos on Saturday and Sunday, 1992 Olympic Silver medalist Paul Wylie’s ice skating show on Friday and Fireworks on Saturday, just to name the few.

Pet of the Month

Here is my sister Weneta, enjoying waters of Pacific Ocean next to Catalina Island off the California coast. In my opinion, her companion should pick up a paddle and start to carry his own weight. Wait, maybe he is pretending to be a skier because whoever stands in a kayak or a rowboat acquires automatically skier’s stance.