PEAK PERFORMANCE

PMTS Check Point 1
By Harald Harb, Inventor of PMTS ski teaching

Tissue Prep
By Eva T. a 2X Alpine Olympian

What Students Remember
By Dean Blanton, Ski School Director

Long Leg/Short Leg
By Witold Kosmala, Certified Trainer

Reaction Time

Do You Trust Us?
By Gordon Carr and Doug Washer
Photo on the Summit

Scott Marland took the photo of 2 patrollers in the Turnagain Pass area outside Anchorage AK.

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From the Top
By Witold Kosmala
The Publisher and the Editor of Peak Performance Gazette
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Trainer at Sugar Mtn. Resort Ski School, NC
K2 Ambassador

So, what are you doing right now? Let me guess – you are reading this, and I am thrilled. You found this piece of literature worth your while. What else are you doing to satisfy your passion for the sport? How about making ski plans? Do you want to improve your ski performance this season? How about your ski teaching and coaching? You know, they go hand in hand. My brother Andrzej used to tell me this many, many years ago. He was reading up on ski technique and tried to share it with me. But, stupid me, I dismissed all his attempts. I skied, and I skied fast and jumped high. That’s all that mattered to me at the time. Of course, when I participated in NASTAR, I wished I was faster and wished those Gold medals came easier. Also, there were “good” days and “bad” days. I had no idea why. But, faster I went, better the day got. Of course, at that time I did not realize that gravity was my “friend.” So I skied with only one thing on my mind: don’t run into anything. I sure wish I had more things on my mind pertaining to ski technique, but I was stubborn. Lying flat on the back of my skis in order to go under a fence, and then standing up as if there was no ACL to damage, was one of the stupid things I enjoyed doing.

However, there were a few things that made me change my habits. One is that I was afraid of certain slopes. When I was in a group of other skiers I always hoped they will not go on slopes which were too difficult for me, like very steep, or tough snow conditions.
I also wanted to change my habit because someone asked me how I was doing something and my answer was: “Like this.” I simply could not talk through my moves or explain how to do things. I could demonstrate, and now I bet that demonstration left a lot to be desired.

Joining a Ski School helped me tremendously change my habits. I became much more inquisitive. Wanted to know more, wanted to know how and why, and what to look for. I went on a journey just to find out that further I go, the more complicated it becomes. It is indeed a journey for a lifetime. I remember driving from Boone, NC as far as Pennsylvania for dry-land sessions during summer before taking my Level III teaching exam. There was nothing further south of there closer to home, that I knew of. To get ready for Level III Part 2, I doubled up in taking ski trips, in attending ski events, in skiing terrain which I feared. I bagged local instructors if I could practice coaching on them since my Ski School Director never assigned me to teach upper level skiers. I knew the terms like: skidding, pivoting, White Pass turns, chatter. But I never used them in classes which I taught and they sounded strange to me coming out of my mouth. Robert Jones, currently of Beech Mountain, was a big supporter and of great help to me at the time (and still is). Other local mountains hosted me to broaden my skiing different slopes, but Deep South was still limited. Skiing slopes that simply cannot be found in the South, or even in the whole East, really improved my skiing, my fear factor, pushed my ski technique analysis and love for the sport. It is really true that if you can do it better, you will like it better.

So, if you care to learn off of me, find you skiers that are better then you are and ski with them. Watch them, ask them questions. Don’t be a good weather skier. Go out in the worst of conditions (to a point) and go to the worst of the slopes. Read about ski technique and visualize skiing when not on the slopes. Attend ski events. ALWAYS think about some skiing aspect when you navigate down the slopes. Plan on your next certification exam for motivation. Go out West and ski their terrain and be ready for anything that comes your way. Skiing will become your passion.

When it comes to dry-land sessions, I host several of them during months of September to December, usually on the Appalachian State University campus in Boone, NC. If you are interested in attending to learn or to share your knowledge, please write me. During these sessions we learn from each other. They are quasi-interactive, so people don’t just sit there and listen. Perhaps you are not in the area but might be passing through and would like to stop and check out one of these sessions. You can even be an invited speaker. Perhaps you need a tax deduction?

My huge hopes are that this gazette will help you on all accounts. I hope it will motivate you and feed you knowledge. Now, as I heard Brian Whatley say many times, it takes 4 things to be a successful skier: physical ability, knowledge of technique, possession of right equipment, and mental readiness. (Brian, I hope I did not misinterpret you, but I agree with these 4 things.) So, don’t focus only on technique. Your life depends on your equipment, so don’t neglect that. And if you have restrictive physical conditions, do all you can to overcome them. Remember that it takes about 300 correct repetitions of a certain move in order for it to become part of you, (and they should be consecutive). So, just think how many CORRECT moves you must make in order to believe in your abilities so your fear factor will drop. It is difficult to ski down when you are sweating from fear, shaking, heartbeat is racing, eyes are blurry, and you practically don’t even remember your own name. I hope your reading this publication will help you on all those fronts. And I thank all our current, past and future authors for sharing their knowledge and love for the sport with all our readers. Maybe you will not have to travel hundreds of miles for dry-land, like I did. This gazette will bring it to your doorstep.

If you don’t remember how you got this issue in your hands or would like to tell others how to look one up, here are a few ways. Choose one.

- Go to the new webpage www.peakperformancegazette.com.
- Use the dropbox www.dropbox.com/sh/wjrz16pzrpho63i/PQr004dmUj.
- Ask the Ski School and Patrol Directors for a copy.
- Look up the Facebook www.facebook.com/peakperformancegazette.
- Google search “Peak Performance Gazette” and see the first item.
- Go to my university webpage www.mathsci.appstate.edu/~wak/.
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- Write me for more information.

Since this gazette is an independent resource, I wanted to ask you if you could distribute the above info to members of your Department, to your family and friends, and whoever else you see fit? You do not have to endorse all the ideas contained in this gazette in order to let others know that this gazette exists and that perhaps they might wish to look through it. I would deeply appreciate you sharing Peak Performance with others as an additional resource.
Please, let me know if you would like to contribute to our gazette. If you like to write about technique, that is great. If you would like to write how your ski school promotes lessons for advanced skiers, that is great. Or perhaps you would like to buy space for advertisement of business or of a ski area – that is great as well. Write me at Kosmalaw@bellsouth.net.

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With this said, go on reading what our great authors have to say, and see what our great supporters show through their advertising. Let me give a special THANK YOU to our anonymous monetary donors. Your help is really appreciated.

Main Course

What Students Remember Most ...

By Dean Blanton

My name is Dean Blanton. I am currently the Ski & Ride School Director for The Beech Mountain Resort Inc. (BMRi) located on Beech Mountain, NC. We are a busy school but when I finally get around to conversations with any member of the ski & ride school staff following a lesson or something I noticed, the questions I like to ask of instructors are, “How did your lesson go?” ... “What do you think your student(s) will remember most about their time with you?” & “What were your goals and did you make their day memorable?” Realizing that so much is learned in the early years, this season the Ski & Ride School (SRS) of the BMRi is embarking on a new adventure. We will undertake the opportunity to grow a new program we are calling “Snow Kamp”. We want to start growing snow sports enthusiasts and memories early. The concept was a result of many comments, observations & conversations during my 30+ years affiliated with The Beech Mountain Resort, Inc. All of us with BMRi are in the business of making our guests’ experiences the best possible. For too many reasons this is often a challenging but not impossible task! There are variables that frustrate our customers and it is our job to listen and communicate effectively to provide the services necessary.

In the SRS we have observed various levels of frustration when families arrive at our desk with young students who do not naturally embrace the snow sports experiences that have guided the older family members to us. We hear, “What can we do with our little ones who just aren’t ready for this?” The weather, temperatures, crowds, sounds, equipment, lifts, snow guns, and more are just too much for little guys to take in and understand! Our plan is to belay those worries and fears by using the day to gradually introduce them to the winter fun that can be found in “Snow Kamp” as they are immersed in the recreational wonderland that is Beech Mountain. In doing so, parents can also enjoy their time on Beech with an understanding that their young ones (3yrs+ & potty-trained) will be supervised, cared for, entertained and introduced to skiing/snowboarding/both ... if that is “their” desire. Also there will be some combination of other indoor and outdoor activities to keep them and the family coming back to Beech. (*Note: BMRi also offers a nursery... reservations recommended.)
Before we start the classes (3-14 yrs) we consider age and cognitive development to establish the primary daily objective. It is important that we talk to each student (…and parents) to get their ideas and feelings about what to expect of the day. We strive to create a fun-filled atmosphere where the “kid-friendly” Snow Kamp staff can maximize the opportunities of the day for safe fun and learning. Using various informal approaches to assess and communicate throughout the day, we try to reduce the anxiety that can arise and minimize any observable tensions. There might even be an indoor snowball fight!

Let me offer a brief personal introduction… I spent 38 years as an elementary teacher/administrator and later a district level coordinator for school safety and energy conservation. I was also working weekends and holidays as a ski instructor and later, a supervisor. During my days working in public education and as a ski teacher I encountered so many students testing the waters of education, questioning at every opportunity and bringing their personalities to the table. All the time they seemed to be searching for ways to both understand/master what was being taught and not sacrifice their individuality. The SRS recognizes how understanding shapes our lesson plans. If we do it right, hopefully, the best memories are connected to positive learning dynamics that were not just experienced, but “felt” and then locked into a form of learning called associative. As a school, the staff is constantly reminded of the importance of making those important connections associated with customer service. This understanding is NOT just tied to the old adage of “the customer is always right”, but is based on our position that offers a twist that believes the customer is entitled to the right level of attention to maximize their experiences while with us. Even with the youngest of students it is our practice to make every attempt to speak with everyone and discuss what they want and expect to experience in the lesson(s) so that there can be a blend of positive, proactive procedures, games, and varied snow activities into the learning experience. The instructors in Snow Kamp camp are trained to work with children and know how to be patient and make their day(s) both safe & playfully productive. Snow Kamp will give kids the chance to experience all that can be made available to our younger patrons.

The school philosophy behind our plans to make Snow Kamp successful is tied to the strong emotional responses which we know heighten our students’ senses when they are having fun. Excitable fun, works as a powerful trigger for memory. This is also why we use prior experiences, games, music or movement (skiing/riding) to trigger memories … Other factors based on cognition, emotion, prior experience and environmental influences, all play a part in how understanding, or a personal view, is acquired or changed, and knowledge and skills retained. Hopefully, skiers/riders for life are created! SRS has a slogan, “We play outside,” and what we do is base much of our instruction for children on play. Adults also play though sometimes we have to remind them. Play is also how we learn to socialize. Play sustains us and keeps us all young!

From a theoretical approach, we know that there are several schools of thought regarding learning and play. Those who study constructivism associate learning and the ability to learn with what the learner already knows/understands. Also they believe new knowledge may need to/should be individually developed and presented. Other champions of learning theory present a transformative learning philosophy whereby it is believed that some transformation of the learner’s opinion/view/concept might require augmentation and explanation. Play is just that… It allows the development of new knowledge and skills based on what is usually a new set of surroundings and catalysts. There is also the chance/likelihood of certain intrinsic values/opinions forming. By definition, play is to engage in an activity for enjoyment … the state of being active, operative, or relevant… recognizing that other motives surely may surface. Basically, all play is just that – a type of diversion and/or entertainment engaged in for any number of reasons. I have observed children devoting hours and hours to playing at any number of, what others might see as distractions … and following wherever their imaginations took them. I witnessed emotions/focus/dedicated efforts to master “whatever”!

Our school’s intent is not to think that play matters only in so far as it brings some pleasure or distraction. Play is ultimately about learning… and all play is an educational experience that will be remembered if made meaningful… Just as you remember where you were and what you were doing on 9/11… Students remember not just what they learned, but how they felt as they were learning it. Cool stuff, crazy stuff, stupid stuff, serious stuff, … It all gets learned and classified in the file cabinets of memory. Often something felt as part of the learning serves as a symbol in that file and the student will remember the lesson based on that feeling or symbol. Never forget that ALL play has meaning to the ones playing. One of the most important things students children learn through all this tireless trial and error is how to relate to and connect experiences with their feelings, memories, thoughts, and learning together into experience and to file it away in the event they need to revisit it later. Through years of play, they learn to classify/categorize their experiences... as long as they remain interesting and fun. Even
later in life repetition and games are acceptable as long as they lead to mastery of the lesson/activity. ... All of this thanks to play and the skill of the teacher to weave a plan with enough play to make the experience relevant, emotionally interesting, memorable and life long.

Will your students remember you, how they felt, and what you taught them? What will your students take from your efforts? Remember it’s a two-way street. It is not enough to be remembered as good, nice, knowledgable, etc... Will you remember them? There is something transparent about being a teacher: No one cares how much you know until they know how much you care. What will your students remember most?

**Reaction Time**

By Witold Kosmala  
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Since most ski racing has rolling starts, unlike swimming or running, it is difficult to measure skiers’ reaction time. However, it is of outmost importance for skiers to have a very quick reaction time. As skiers, we very well know that when something comes up while we are on the slopes, we have to react to that and then perform an appropriate action. This can be pretty much any occurrence ranging from someone cutting in front of us, to noticing an obstacle in our way, to malfunction of our equipment. So, how long does it really take our brains to record an occurrence and then for us to take an appropriate action?

There are endless studies performed on swimmers. At any of their races, swimmer has to react to a sound signal (or perhaps to a light on a new starting block) and then use proper technique to get off the block in the least amount of time and in a best way possible to minimize their race time.

Surprisingly enough, (or perhaps not,) on the average of countless people from all over the swimming world, men demonstrated a quicker reaction time then women by 0.04 seconds. (Races are lost by less time then that.) Most studies have shown that the average men’s reaction time was 0.69 and the average women’s reaction time was 0.73 seconds. Now, this is only the reaction time that I am talking about. The time it took swimmers to get off the block is a topic for a totally different study since that is all technique-dependent. And of course, one can get off the block fast but land in the water incorrectly and loose the race.

Since swimmer’s eye to whole body reaction is similar to that of skier’s, it is useful to learn from research performed on swimmers. Some will say that playing video games is a good way to improve reaction time, but that is eye to hand reaction, which is not what is predominantly needed in skiing. I think that one can practice eye to foot reaction time whenever you stop your car at a red traffic light. Try to get your car going as soon as the light turns green. (Just watch there is no one trying to still get across the intersection at the last minute.) But, don’t slam at the gas pedal and send everyone out the back window. So, be quick but with finesse. Get to the gas pedal as quickly as possible but start the car gently.

Another good way to improve reaction time is to drive a car in dense fog. Maybe dangerous a bit, but definitely effective in developing better eye to foot coordination.

For swimmers the best way to improve their reaction time is by participating in a lot of races. There is nothing that will replace practicing the real thing. Even if a swimmer practices dives off the block by responding to the coach’s “GO” or even the same signal as at races, the background noise is different, which affects the swimmer’s response. This would translate to skiers putting on a lot of miles in all terrain and in all snow, trail and weather conditions.

However, we cannot stop at that last remark. There are things skiers can do to improve their reaction time other then playing video games or even other eye-to-leg sports. It is proved that proper hydration and nutrition in general can drastically improve reaction time. After all, brain is made up of approximately 80% water, so dried up brain surly cannot perform adequately. Proper rest and physical abilities will also have an effect on reaction time. Research also shows that caffeine plays an important role in reducing reaction time. One other very important factor, especially for skiers at the end
of a day: the tiredness. Tired, dehydrated, unrested skier is much more likely to have a slow reaction time than well-rested, physically fit, well hydrated and fed with hot cup of coffee under their belt skier.

Take, for example, certification ski exams. Don’t you think that most of the poor skiing happens at the end of such a day? Skiers get tired, washed out, brains don’t work, skiers ski on their autopilot with little thought put into it. All their mistakes become so very obvious and apparent. Performance drops.

If you go on a ski vacation, you should strongly consider consequences of late parting, alcohol intake and poor nutrition on your next day’s skiing performance as well as safety.

Effect of swimmers’ warm ups have also been studied pertaining to swimmers’ reaction time. Research has shown that good warm up is helpful for overall performance, but the effect on reaction time is questionable. Most research shows that there was no relation between type of warm-up and reaction time.

But, there is more. Just like with swimmers, winning does not entirely depend on their reaction time on the block. Granted, getting off the block the quickest is of most importance because this is the point at which swimmers are moving forward the fastest, their quality technique is of outmost importance. The same is with ski technique. A skier can see a root sticking out, have fast reaction to this observation, but poor technique may keep this skier from avoiding the obstacle.

The bottom line is that good habits will help you with reaction time, and many QUALITY miles will help you with safe and fun and fast navigation down the slopes. So: eat right, drink right, get good rest, stretch, get fit and get a quality instruction and equipment to make your skiing what it is supposed to be – GREAT!

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Do You Trust Us?

By Gordon Carr and Doug Washer

We all know that the fragile bond of trust between us and our snowsport students is just that… fragile. Ours is a relationship which must be studiously nourished and constantly messaged; yet it is a relationship based upon the student’s trust of us which can be shattered in a single thoughtless moment. Since this is the start of another season, we thought this was such an important topic that it deserved revisiting. The current article is extracted from one we previously published as “Trust Us” in the September 2010 edition of Peak Performance. PSIA/AASI in a chapter in Core Concepts For Snowsport Instructors also emphasize the importance of the trust issue and break down the elements of maintaining a “trusting relationship” into working the learning environment, assessing movements, providing feedback, and debrief and closure (see Core Concepts, chapter 3, p 24; 2001, PSIA EF). A re-read of this manual each season is well worth your time. There, and in other chapters, as well as articles in 32 DEGREES, many authors describe the various components of “trust” and discuss ways to promote this fundamental characteristic of our relationship with our skiing and riding guests.

Arguably however, our interactions with our “learning to…” public are not about gaining and building the trusting relationship. Doug and I posit that the guests who come to our resorts arrive already entrusting their safety, their learning experience and their money (!) to us, perhaps even to an overabundant degree. Our main job during early contacts with them therefore is to not ERODE or DESTROY their trust in us through insensitive and thoughtless behaviors on our part. Peter Howard, PSIA-E Eastern Education/Certification Chairman, also writes about the trust issue in “The Promise Purchased” in the Winter 2014 SnowPro; give that a re-read…you’ll be glad you did.
With this as background, Gordon and I would like to offer an integrated learning model which adds the “trust” issue as a foundation, as the primary building block, upon which the basic skills of snow sports are learned. The fundamental movement skills and their integration and blending have been a corner stone of learning snow sports for several decades. PSIA/AASI has pointed out the interrelated nature of muscle movements which produce rotary forces, edging forces and which manage and create the pressure forces involved in snowsport performance. All these skills have to be integrated, in varying degrees, within a circle of dynamic balancing. (See the Balance Circle and the embedded ‘Skill’ Circles illustration made by Konrad Kosmala.) We propose, however, that this entire complex of skills is developed within and based upon a foundation of trust. Without the student’s trust in us as instructors, the learning and integration of the fundamental skill sets and the acquisition of personal comfort in a dynamic balancing environment simply will not happen. This expanded “learning model” further underscores the critical importance of the trust issue.

Think, for moment, of tandem sky diving for the first time. Jumping, while strapped to a stranger, out of a perfectly well functioning aircraft… would you do that if you DIDN’T trust the instructor? How about the summer time tandem paraglider trip launched off the slope next to Corbett’s Couloir at Jackson Hole, WY; floating around next to cliff faces, hanging under a stranger who has your life in his or her hands! Was there initial trust involved in that relationship before take off? You bet there was! Have you ever observed the amount of time instructors in these sports spend “building trust”? We have…it is minimal! Forget skill sets and learning; in many high-risk sports you have the trust in the instructor when you arrive to engage in the sport or you simply don’t do it!

So too with learning to ski or snowboard, which to our newbies ARE high risk sports. Just listen to their nervous laughter (or dead dog silence) while waiting for an instructor. All the fundamental skills sets to be learned in the dynamically evolving balance world of snowsports must occur within the context of a trusting relationship between our students and us. We are amazed at the complex relationship building we instructors are expected to do with anxious, perhaps even fearful strangers who are coming to learn our sport. And all the relationship building and learning of basic skills typically must be accomplished within 1 or 1 ½ hours at many resorts. Most of the technical books and articles about teaching snowsports make it sound like we all have unlimited hours and days to build an evolving, trusting relationship. It seems to Doug and me that perhaps those words are written primarily by staff from huge destination resorts where a “vacation week” spent with the same students is the norm for most instructors… it just seems that must be so from the tenor of the articles. We know the articles discuss spending time on relationship building and teaching basic skills which many instructors don’t have time for in 1 or 1 ½ hours with our new Learn To… guests. But don’t despair… all is not lost just because our initial lesson may only be 1 ½ hours.

The thesis for our article, as a point of discussion, is that most guests come with significant trust attributed to us sight unseen! They come much as we might go to an Emergency Room for medical care, where we place trust in strangers and empower them to do “dangerous things” to us because they “are professionals”. And, yes, we too are “professionals” to the snow crowd coming to learn to ski or ride. They believe we have expertise and they trust us (maybe too much). It must be the case that our guests place trust in us “sight unseen” (that we will guide them through the “scary” learning process of safely sliding down that “terribly steep” learning slope which dead-ends at a building at the bottom”) or they wouldn’t be with us.

Of course building trust through methods described by Aga Wusatowska-Sarnaek in her article about the JoHari Window in the September 2010 Peak Performance, for example, and by others in the PSIA/AASI technical manuals is important. Incorporating their ideas into our teaching plan is important; we need all the trust from our students we can garner. It is critical! But as we said earlier, for discussion purposes, let’s turn this whole notion of building trust on its head. Based upon the thesis that guests come already trusting us, yes of course, continuing to build that trust is important. But it is a slow and delicate process. Ahh, but eroding the trust can be accomplished with a single thoughtless word or behavior by us prior to or during the initial learning session.

What, then, are some of the “trust eroding” things we can do (but shouldn’t) which will diminish the trust our students have in us? Here are several:
1. Make fun of their fear and anxiety about the slick and cold snow. Sometimes it is just plain hard for us on that perfect day with sunshine and perfectly groomed snow on a non-crowded slope to even imagine “how can this be frightening?” Believe us; to newbies it can be terrifying.

2. Talk disparagingly about previous students within the hearing range of current students. (“If you say that about other students, what will you say about me after this class is over?”)

3. Laugh AT (humiliating) versus laughing WITH (sharing the funny things together). This is a tough one and a bit like fine art appraisal. I don’t know much about art, but I know what I like. It is a delicate line between laughing at and laughing with, but you know it when you see or feel it.

4. Ignore our classes or private lessons by talking extensively with other instructors, friends, or to a previous class’s students. A smile and quick “hello” of recognition of previous students is probably a good thing (“Hey! You really care about your students!”). Keep the focus on your students who are with you NOW.

5. Not trying to remember class member’s names. Maybe within an hour you won’t use each student’s name each time without error, but you must make the effort. (Sometimes the mistakes can be turned into an amusing ice breaker, where you can’t even remember your own name).

6. Not treating all your gear (parka, gloves, skis or boards, etc) with respect. Casual sloppiness or tossing your gear around and letting it get soiled is not the mark of any professional in any venue. (Would you go to a physician who wears soiled clothes and has dirty nails and eye boogers; one who tosses the stethoscope on the floor casually?) Guests come believing we are professionals... that is why they come trusting us. Act and dress the part at all times even when you are not in a lesson.

Don’t bemoan all the trust building and relationship strengthening things we have to do in 1 or 1 ½ hours in addition to teaching the class necessary skills. These two tasks are interrelated; the more our guests learn based on the guidance we give, the more they trust us. Assume what certainly is a fact: our “learn to” newbies and others early in their snowsport careers come attributing expertise, professionalism, and trustworthiness to us! Capitalize on that fact. Get on with the lesson using all the “bag of tricks” you have in your teaching quiver. Get the folks MOVING... you only learn balancing muscle movements and new skills when you are moving. But, just keep in mind some of these trust eroding behaviors and avoid them like the plague! We are more important to our learning guests than we can possibly imagine and they notice everything we say and do. And, we are never “off duty”. If we have a school parka on, someone, who may be just thinking about taking a lesson, is watching and listening. What we say and do when we think no one is watching is still important because, remember, someone is always watching. Ski and riding instructors are heroes to people new to our wide, wide wonderful world of white!

Now the challenge to our readers. Gordon and I have listed a few trust eroding behaviors we can unthinkingly do when we are not sensitive to our guests. We would like you to send your examples of the boneheaded behaviors we can do inadvertently which erode or destroy the trust which our guests come to lessons attributing to us. Send them to gordoncarr@charter.net and he will collate them for publication in an article later this season. Be sure to specify whether you want attribution or not. If you do, please list your primary teaching specialty, certification level, and home resort. Perhaps we all might see in your submissions examples of our own behavior which we did not realize others view as insensitive and trust eroding. Thanks in advance and,

THINK COLD AND SNOW.
Following retirement from the Department Veterans Affairs as a Clinical Psychologist and health care executive, Gordon (pictured on the left) began teaching skiing in 1999 at Sugarloaf in Carrabassett Valley, Maine. After teaching there for 7 years, he moved to North Carolina and has been teaching at Sugar Mountain Resort since the 2008/09 season. He is a member of PSIA, Eastern Division and is certified at Level II, Alpine.

Doug Washer (pictured on the right) has been skiing for over 50 years, and teaching skiing for over 30 years. He has also been teaching snowboarding for the past 15 years. Doug is certified PSIA Level II and AASI Level I, and 25 year member of PSIA/AASI. He lives in Blowing Rock, NC.

Tissue Prep and Conditioning for the Minimalist to the Pro

By Eva Twardokens
2X Olympian in Alpine Skiing

The majority of seasonal skiers I speak to do nothing to prepare for the ski season, simply hoping that it won’t be their year for a tweak or an injury. Then, there is the other population who want to make it to the next level in their skiing and prep for the season, but they are missing specific components to their program. Finally, there is the skier who is totally on it and is serious about going hard this season; they have great programs, but need an adjunct or a travel plan to stay consistent with their workouts. So to review, we have the totally unprepared skier who hopes for the best; the motivated skier who misses the mark; and the well-prepared pro who needs a little extra.

The important thing to remember for all levels of skiers looking forward to the season is that there are some specific movements that are unique to skiing, and we need to address them before buckling up those ski boots. I am not talking a full conditioning program, I am speaking of tissue prep, waking up those nerve pathways and putting our bodies into the corners we challenge when we are on a black diamond mogul run and have lost control of our speed. And, what if we fall? It makes sense to prepare with movements that will give us that bit of protection that draws the line between being sore, and ending up at the doctors office. If I were to give you advice from the 10,000 foot level I would say this:

* Make sure your range of motion off the slopes, matches your range of motion on the slopes. This means that you should be able to move freely into all the positions you will potentially be in when you are on snow. This does not necessarily mean stretching, it means being able to move dynamically into and out of those positions.

* Be "full body" strong, meaning it is just not legs we need for skiing but a fully functional body to withstand spills. A minimal amount of conditioning can shield you from serious injury, not a guarantee, but a little bit of effort will pay off greatly! Can you handle 20-30 minutes a day?

* Make sure your spine stabilizers are awake and strengthened. Body inherently protects the spine through isometric contraction, meaning that if you twist your spine in an unusual attitude, the muscles around the spine will “brace” you to avoid a catastrophic outcome. That is why it is important to practice gymnastic-like holds pre-season.
Check in with your knees and hips to see if they can still angulate and bend to full range of motion. We rarely, if ever, do much angulation in our day-to-day lives. Working on angulation movements prepare us for a head start on the season.

Knee angulation. Plant your foot on the ground and angle your shin bone across the plane of the floor, like this:

Hip angulation. Angle your whole leg across the plane of the floor, keeping our upper body fairly upright, like this:

Train reaction time and quickness so you can signal your body to keep you on your feet. The ability to make a quick change of direction is mandatory for safety and performance. Don’t let your first crack at moving quickly from side to side be when you are pressed between two other skiers! Prepare yourself by doing skiing-like, quick movements off the snow.

I have given you a menu for different levels of skiers and their training, plus some main points on preparing your body for the ski season. Remember, the movements in skiing are far from what we do in daily life, and often far different than anything we do in the gym. Preparing your body, even if it is a minimalist approach will help you enjoy a safe and productive ski season. For more specific workouts please look out for my E-Book, "SkiStrong Pocket Workouts" (see http://www.evatstrengthandconditioning.com/eva-t-pocket-workouts/coming-soon-eva-t-s-skistrong/) coming out mid October that will walk you through a 30 day cycle of workouts that take under 30 minutes, need no equipment, and will get your body revved up for the season!

Eva T. is a 2X Olympian in Alpine Skiing (Albertville and Lillehammer) and a 12 year veteran of the U.S. Ski Team. She has won 6 National Championships, Won a World Championship Bronze Medal, and is a World Technical Skiing Champion. In 2011 she was inducted to the U.S. Ski and Snowboard Hall of Fame! She is now sharing her experiences from her athletic career and her knowledge in the Health and Fitness realm. As a sought after coach and consultant, she offers her services online as well as in person to help people experience an utmost quality of life! Check out Eva T. Strength and Conditioning website found at EvaTSC.com, or by clicking http://www.evatstrengthandconditioning.com/.
Training

PMTS Ski Racing Development
Movement ability, "Check Point 1"

By Harald Harb

Based on and derived from: "Essentials of Skiing".

Harb Ski Systems published the book, "Essentials of Skiing", in 2006 and everything in that book is still valid, and still setting the direction for development skiers, as the model for a strong skiing foundation. The book is for all levels of skiers trying to get to the advanced levels and also for skiers refining their expert levels. Therefore; it pertains totally to development athletes and racers.

From the "Essentials of Skiing", there was a need to recognize more details of a ski turn and for that reason "Racer Check Points" evolved. This isn't just for racers however, it’s the technique of the best racers that are demonstrated here, therefore these techniques will go a long way toward raising anyone’s skiing. For every one of these Check Points; we have a movement introduction and progression, so that all levels of skiers can achieve the skiing movements you see in this series. You may never be as fast or be as strong as these skiers, but you will be able to refine your skiing by using these movements from the demonstrations. There are simple entry-level practice movements developed for "PMTS Racer Development" for each "Check Point".

Everything begins with the number one, so let’s get started.
Check Point 1

Qualities and abilities: Ski on the outside ski, the whole turn, with the inside ski lifted, slightly.

Refinement: Tip the inside lifted ski to the same degree or angle as the outside ski. Keep tip and tail at the same distance from the snow.

Mechanics or Movements: Complete a round arc, at the point of edge change, return the lifted ski to the snow on it’s uphill or little toe edge side. Keep the inside ski, in this relationship on the little toe edge, and then raise or lift, by bending and retracting, the former outside leg. Transition to the new arc, keep the new inside ski lifted during transition, and tipped, while off the snow for the rest of the next turn.

Objectives: All skiers participating should be able to demonstrate to the coach from a stationary example of the exercise, with edge change and stance ski transfer. Then demonstrate an arcing traverse with balance on the outside ski without placing the inside ski on the snow. All skiers should then demonstrate, first in one turn, then in a series of turns, the inside ski lifted, by the end of the training session.

Quality of Movements: By the end of this training the skiers have had numerous opportunities to demonstrate balancing ability. The upper body coordinated with counter balancing and counter acting. The arms and poles should be held wide and pole tips should remain quiet and preferably on the snow.

Benefits of this exercise and variations of this exercise: Balance shifting ability from one foot to the other, independent balance and upper and lower body coordination. Excessive upper body adjustment can lead the coaches to understanding other technical needs for the skier and lead them to other exercises for individuals having problems. This is also a great opportunity for coaches to check foot and boot problems and have them corrected.
Footnote: All "Harb Trained" coaches have a working understanding of foot and boot needs that directly handicap or limit young skiers from performing these types of exercises. If these exercises are not attainable it may have more to do with boot fit, alignment or correct footbeds, than balance or technical ability.

Harald Harb  
Dumont, Colorado, United States


As you can see with a World Cup skier, inside ski lift is slight, the idea is to be able to ski and balance on the outside ski in all situations.
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Made in the USA
Dry-Land Training

Long Leg/Short Leg

By Witold Kosmala
PSIA-E Alpine, Level III
Trainer at Sugar Mtn. Resort Ski School, NC
K2 Ambassador

When skier’s feet are ON THE GROUND, long leg/short leg configuration is usually obtained when body is angulated and countered, when there is no inclination or leaning. In skiing this set-up is optimized when the largest forces come at you in a turn. In many cases this occurs in the transition, but not necessarily. If you are doing a short swing, long leg/short leg occurs in the belly, or just past the belly of a turn, as demonstrated by my son Konrad in the photo below. In the transition during the cross-under, when the skis are barely touching the ground, both legs are short, but this is not what we are talking about here. We are talking about long leg/short leg when there is an active pressure on the outside ski. Fast jumping over a shoebox is a great way to experience long leg/short leg. If you jump too slowly, it is likely that your hips will move from side to side as well. My son, Konrad is demonstrating this dry-land exercise. In the picture on the left, he should feel a little pinch in the pant line on his right side. If Konrad was to look down at the pictured moment, he would see the box under him. The same should be on the snow except there would be no box but snow. If you are skiing short swing and you look down when you are in the belly of a turn and you see your boots, then you are not reaching enough with your skis to the side, you have both short legs and small edge angles, which sacrifice your performance and limit your skiing abilities.

For contrast, if both legs on the ground are short (as Konrad demonstrates in the photo on the right) or both long, then there is a very limited angulation, which in skiing causes inclination or leaning and small edge angles. It is easy to see that 2 short legs (on the ground) when jumping over the box cause hips to move from side to side. On skis this is more difficult to spot, but obviously has to happen if both legs are short. Now think back; did your coach or trainer ever tell you that you ski with both legs short all the time? Does that mean that all your angles need improvement? Depends where and when, but most-likely: yes.
Long leg/short leg is what skiers ultimately want to be able to do. This is not for every type of skiing in every terrain, but definitely needed for skiing on a firm and steep slope. This configuration will allow you to increase the edge angles to the maximum desired size and permit you to reduce the platform angle as much as possible. It will allow you to deal with tremendous pressures developed in turning and give a split of a second for increased blood flow and muscular relaxation.

Look at any of the photos in the above article written by a great coach Harald Harb. All those skiers exhibit long leg/short leg in their turns. The same goes for Eva Twardokens, a 2-time Olympian and an inductee to U.S. Ski Hall of Fame. She also in her article on page 10 indicates the value of hip angulation, which results in long leg/short leg configuration.

Another way to obtain long leg/short leg is to simply jump over 2 lines which are about 18 inches apart, see the illustration on the right. Note that these feet are about 4 to 6 inches apart.

Again, jumping quickly, where landing is also a part of takeoff is recommended in order to stabilize the hips. (Great exercise for hop turns.) If the lines are closer together, or they are reduced to only one line, then lateral movement of the legs is small and likely the hips will move laterally some as well. In addition, if these lines are close together, the feet will land closer to each other permitting 2 short legs to occur. See the illustration on the left.

Personally, I prefer jumping over a taller object then a chalk on the pavement because there is a little height that needs to be attained. This means that lateral slipping is not promoted but more of a flexion and extension.

If you have access, you can also use Skier’s Edge machine, which is good for short swing. See photo on the right. Can you tell why more appropriate for short radius turns then long radius turns?

There are many other activities you can do on dry-land that exhibit long leg/short leg. One of my favorites is riding on a Trikke. It simulates giant slalom. It is not for short swing, can you tell why?

Looking at me on the Trikke, you can see that my destroyed right leg is on its toes. That is due to lack of dorsi-flexion in that leg. Later this season I will write an article on how I ski with this damaged leg.

Another commonly mentioned activity that creates one leg long and the other short is a bicycle. See the next page.

On a Trikke, there is a definite difference in the lengths of the legs. At standstill, Trikke has feet too wide apart, but they get closer when you make some nice turns. When turning on a Trikke you should feel large pressures on the long leg and a collapsing other leg with knee pointing in the direction of travel.
There is not one other sport which is exactly like skiing, so whenever we wish to improve a certain something in skiing, we need to pick an activity which will exaggerate the task that needs improvement and, preferably, one that promotes automatically positive results. One of those great sports for transfer is roller-skating using skates with 4 wheels. Without thinking you need to have weight on the balls of your feet. You will pay instantly for any sitting back that you will do. To turn you need to do something. Can’t just tip the skates, like you could for example in-line skates. Since in turning on regular skates feet tip due to applied pressure but not the skates, turning strengthens the feet. Furthermore, look at the picture how the wheels on the inside (my right

Biking is yet another activity which promotes long leg/short leg. Now, imagine that my pedals are reversed and on this turn my left leg was down. That would feel like a White Pass turn on skis. If you are doing “White Pass turns” on a bicycle make sure that your pedal does not hit the ground. So don’t tip too far, especially if your cranks are long and/or bottom bracket is low. Bicycle has feet much closer together then the Trikke, only about 6 inches apart. Since they had a choice how wide apart to make the pedals, why didn’t they make them wider apart? The answer to this question has a lot to do with skiing!!!

Here is my daughter Alina stepping up onto the next step on stairs. A little stiff, but can you see long leg and short leg? So, we can practice this concept every time we walk stairs. The way you position your shoulders will determine whether you are “skiing” slalom or giant slalom.

There is not one other sport which is exactly like skiing, so whenever we wish to improve a certain something in skiing, we need to pick an activity which will exaggerate the task that needs improvement and, preferably, one that promotes automatically positive results. One of those great sports for transfer is roller-skating using skates with 4 wheels. Without thinking you need to have weight on the balls of your feet. You will pay instantly for any sitting back that you will do. To turn you need to do something. Can’t just tip the skates, like you could for example in-line skates. Since in turning on regular skates feet tip due to applied pressure but not the skates, turning strengthens the feet. Furthermore, look at the picture how the wheels on the inside (my right
leg) make a tighter circular arc then the outside leg, and shins go parallel. Also, if you jump up, you have to land on your whole foot or else you also pay the price instantly. In this article we were talking about long leg/short leg. Note that this is also automatic on skates. I think that roller-skating on regular skates really promotes good skiing technique, and it is fun to do. (Just watch out for rocks and concrete cracks on sidewalks and watch out for steps. Going down is easier then up.)

So, all the above gives some of the ways we can practice long leg/short leg muscle memory on dry land. What sort of things can you do on snow to promote this configuration? I will give some of my ideas in the next issue of Peak Performance.

**Turn to Wisdom**

- Research of Dr. James Pennebaker, from the University of Texas, Austin indicates that you can’t change who you are by changing your language; you can only change your language by changing who you are.
- An optimist sees the doughnut. A pessimist sees the hole.

**Deep Stuff**

- What is “humility?” Is it good to have?

**Thoughts for the Month**

- How should you carry the skis to the slopes?
- Think about the skier’s stance. What should a skier’s “home position” be?
- In view of the thoughts above, why was it so hard to teach newbies how to ski last season after they watched racers on TV coverage of Winter Olympics?
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Elaborations on last month's Thoughts for the Month.

**Question.** Everyone knows that there are 3 key words in real estate: location, location, location. In painting 3 key words are: preparation, preparation, preparation. What are the 3 words in skiing?

**Answer.** Balance, balance, balance.

**Question.** What are some similarities between normal car driving and recreational skiing?

**Answer.** Car driving is similar to recreational skiing. Partial list, not in any particular order is below.

- Look out for pot-holes
- Look where you are going
- Don’t drive too fast
- Don’t drive too slow
- Don’t stop on the road
- Don’t pull out in front of someone
- Slow down on the curves
- Slow down when surface is slick
- Put sunglasses on when it is bright
- Stop when police officer wants you to
- Know how to drive
- Have driver’s license
- Have a working and reliable car
- Have good tires
- Have gas in the tank
- Don’t let the car rule you
- Think about what you are doing
- Be ready for unexpected
- Normally, no sudden moves with steering wheel

There is no end to this list!!!

**Question.** In skiing, should toes be up or down?

**Answer.** There is a difference between lifting toes up and keeping them there, and lifting toes up and right away releasing the pressure and dropping the toes back down. If you lift toes up for an extended period of time, then you stiffen up the shins as well as the entire foot and ankle. This cannot be sustained for very long. This stress is normally resolved by putting more pressure on the heels. Not good.

If you lift your toes up quickly, they will pull your body forward, but then you need to drop them down to stay forward.

Here, my daughter Doria, track and cross country runner for UNC Chapel Hill, demonstrates, using her spiked shoes, how tight the leg is when toes are lifted but knee position is left in its proper place. This is uncomfortable position resulting with leaning back onto the heels eventually.
Question. Is it your bones or muscles that are so very important in skiing? Why?

Answer. OK, so one can’t live without bones or muscles, but one can ski with weak muscles. Correctly stacked bones can support a skier, and little muscular exertion may be enough to help you get down the hill at the end of the day.

Since you are thirsting with curiosity, let me say a few more related things. A normal human skeleton has 206 bones. Bones are fastened to other bones by long and fibrous straps called ligaments. The human body has more than 600 muscles, and number in males differs from that of females. Muscles make up about half of a person’s body weight. Muscles are connected to bones by tough, cord-like tissues called tendons. Tendons allow the muscles to pull on bones.

Even when you are perfectly still, there are (involuntary) muscles in your body that are constantly at work. Muscles enable your heart to beat, your lungs to breathe, and your blood to circulate. (Doesn’t this remind you of the BREATHING article in the previous issue of Peak Performance?)

Joints occur where two bones meet. Joints allow our bodies to move in many ways. Main joints that we need to know about in skiing are:

- hinge joints, which allow movement in one direction such as the knees and elbows.
- ball-and-socket joints, which allow the greatest freedom of movement, like the hips and shoulders.

Other joints, like those in the spine, wrists and fingers are more complicated and will not be discussed here. It is however important to recognize that the whole body works together, but by the way we ski, we can rely more on certain parts of our body then other parts. If we use our skeleton to help support us instead of relying more on muscles to do a job, then we can ski longer, better and with less effort. If your body has to perform multi-tasking, then everything usually suffers. Take for example lateral jumping over a shoebox. Have 2 similar people jump for 30 seconds over 2 different shoeboxes, one person bend 90 degrees in their waist and the other being straight up. The one that is straight up will make more hops over the box since his/her body does not have to do extra work of supporting the upper body muscularly. Try this exercise.

Question. How good is your reaction time? How can you improve it? How important is it for skiing?

Answer. See article on page 6.

This and That

Don’t Use It

Keep in mind, the use of the filler words — um, like, uh, I mean, you know, etc. are usually annoying to people. Don’t use them in your teaching, coaching, talking ... Ever!

Don’t Risk It

None of us can wait for the first good snow that covers the slopes and opens the mountain. There is something about it that makes us lose our common senses and we ski as if there was no summer since the last time we were on the slopes. Perhaps all our abilities are intact, but the snow is not what it was last Spring. The first snow covers all the roots, fallen trees, rock formations and other obstacles. So, if you wonder off a groomed slope to get your appetite satisfied, you might not only scratch up your skis, but yourself as well. Fresh snow will move out of the way and you can hit things which you might never see until it is too late. And, the worst is when your skis go under a fallen branch and you don’t. The world under the first snow may be very unexpected. Don’t risk it.

Did you even pile up bunch of leaves in the Fall and jump into it expecting them to be like a comfy living room couch? Surprise, surprise. You can break your tailbone if you hit it wrong. Or hurt your spine, or something else. First snowfall can be like that pile of leaves. Watch out!
Stay Healthy this Winter

Wouldn’t it be nice if you stayed healthy all winter long, had no need to stay home sick, had no need to see physicians and never missed a day of skiing? A lot of this has to do with good living habits and good nutrition. It is proved that eating plenty of vegetables will make you healthier then otherwise. But, it is not easy to implement adequate amount of vegetables into your daily diet. But, don’t worry. Juice Plus+ is The Next Best Thing to Fruits and Vegetables. Juice Plus+ is whole food based nutrition, including juice powder concentrates from 25 different fruits, vegetables and grains. And, your kids can get their delicious gummies absolutely free. Visit me on http://witold.juiceplus.com for more information.

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