INSTRUCTION

Typical Beginners' Mistakes and Ways to Correct Them

by Leonid Feldman

Here I would like to share the reasons for training beginners, to note their most typical mistakes and ways to correct those mistakes. I want to make clear that this entire section is devoted to beginners (on the Skill scale - up to the fourth level inclusive). Why stop at this level? Because movements incorrectly carried out at a beginning level, very quickly develop into habits and essentially prevent further perfection of skills. Consistent, habitual mistakes are more frequently the lot of those who have been skiing for many years, not beginners. Unfortunately, the majority of skilled skiers don't wish to retrain, although correcting old mistakes and acquiring new skills would certainly do them good. In my opinion, modern skiing techniques are much more elegant and more rational than those of ten years ago. However there are varying opinions on this subject. I believe that most will agree that the basics of skiing techniques have not changed.

It would be wonderful, if every beginner making his/her first steps were supervised by an expert ski instructor! Unfortunately, this is not always the case, so try to follow the advice we give here.

The basis for correct mountain skiing is the balanced stance: Arms – slightly bent at the elbows, in front and slightly apart approximately 20-24 inches. Feet - 10-12 inches apart, knees slightly bent, you feel the pressure on the tongues of your boots. The weight is evenly distributed on the foot, ankles slightly rest against the tongues of boots, and are pointing forward.

Put into words, this sounds extremely simple, however all these elementary components of beginning-level skiing techniques represent a number of difficulties for the student. What mistakes arise from the very beginning?

"Sitting on the back chair" with legs that are too straight without contact between the ankle and tongue of boot.

Photo of 1

Hands pressed to the body.

Photo 2

Looking down at your skis.

Photo 3

Turning the upper body uphill.

Photo 4

Why are all of these - mistakes? Legs that are too straight and absence of contact between the ankle and tongue of boot leads to loss of control over the front part of the skis, resulting in unguided skis. Hands that are pressed to the body only aggravate the “sitting on the back chair” position and create problems with lateral balance. Looking down causes stress and makes the shoulders and back rigid, limiting the dynamics of movements necessary even for initial-level turns.

To correct these mistakes, I would recommend the following exercise: imagine that there is a heavy object in front of you which you are pushing forward with slightly bent hands. Rest your palms against it, and feel, at the same time, your shins resting against the tongues of boots. As a variant, pretend that you are pushing a closed door that opens out. Go downhill, pushing the door open for 2-3 yards and stop in the wedge position.

Usually, preparatory exercises, such as sliding on a flat place pushing with poles with one ski on either right or left leg, or steps in a flat place in either direction with skis on both legs, do not cause special difficulties but as soon as the tips of skis in the wedge position are put downhill, problems arise. The first and the most simple - the skier tries to stop by sticking the poles in the snow.

Photo 5.

This problem is solved very simply: put away the poles and make sure that your arms are positioned correctly.

A variant to that is to try to learn to stop while traversing a slope. That is directing the skis practically across a slope on a very flat place, trying to lightly press on the downhill ski and bending the downhill knee more.

The most typical mistake is for the tips of the skis to cross (photo 3). As a rule, this means that the skier is balanced behind; in other words he is too far bent backward thus the contact between the ankle and tongue of a boot is, naturally, lost. Try not to hurry and to analyze the stance closely.

Especially important is what I already mentioned above - you should always feel the pressure of the shins upon the tongues of your boots with arms slightly bent, extended forward and away from your body. Here is a rather useful exercise - take two poles and hold them across the upper body on extended forward, bent arms. During all your descents control your body - slightly bent hands are always in front of you, do not lower them downwards, do not move them either to the right or to the left trying to break a turn of the upper body. The turn of the upper body uphill causes the overload of the uphill ski and, as a rule, leads to falling.

Remember, that all movements on skis are carried out by the legs, the upper body, at this stage, plays only a supporting role.

Now, I would like to discuss a simple but very important element - "the hockey stop". In the correct performance of the hockey stop - the skis turn ninety degrees in relation to the direction of your initial movement and rotation of ankles occurs simultaneously. A rather widespread mistake takes place when the external leg brakes and the internal is then put to it, thus the stop is smudged, stretched out in time, losing both control and efficiency. It occurs because the skier does not press ankles on the tongues of boots of the downhill leg strongly enough. Thus, the balance is displaced backward and, accordingly, too much weight falls on the uphill leg. In order to correct this mistake, I would recommend practicing lateral sideslipping, various rotations of skis with simultaneous ankle rotations and making large-radius turns where movements of both legs occur simultaneously on very gentle slopes. A very useful exercise at the initial stages of skiing is to make large-radius turns on a wide gentle slope, achieving parallel skis without fail.

Now let’s address the skiers with experience who began skiing on long straight skis. The problem is that on long skis the range of the fore-aft movements during turn was much greater than on skis of modern geometry as the turn occurred due to a rotary movement of the ankles. On modern skis, rotary movement of the ankles is replaced by the bending of the shins and displacement of the centre of gravity to the inside of the turn. The skis have changed, but if the techniques have remained old, new skis won't change much for the skilled skier. I will not undertake to advise experienced skiers in the current article. I am positive that my recommendations would elicit negative response from the advocates of the Godil and classical skis. Nonetheless, I would recommend taking a lesson with a competent instructor. There is nothing shameful in that. Many people who have been skiing for years come to me with the same request "Help me to re-trained, I am tired of fighting with these skis". The best exercise in re-training is to make large-radius turns on a very gentle slope, in a wide stance so that the movement of both legs occurs simultaneously, while paying attention to how, due to the displacement of the centre of gravity inside the turn, there is a bending of the ankles and the shins rest against tongues of boots. If there is no opportunity to find a competent instructor, please take advantage of this site. If you have any questions, please write us and we will always be happy to answer them.

I wish you all the best in the development of mountain-skiing techniques!

INSTRUCTION

For Those Who Never Ever Skied

by Leonid Feldman

I'm very happy that you are here. To me this means that you are about to face a great challenge. Instead of watching TV and snacking all day long on your weekend, you are probably making the most important decision in your life: to go outside, to get some fresh air, to find out how beautiful the great outdoors can be. Who knows, maybe you will meet the most important person in your life, or open for yourself another kind of business?

Who am I? I am a guy who now for twenty-some years breathes, sleeps, and talks skiing, driving friends, acquaintances, and now even strangers nuts with my unyielding enthusiasm. Anyone who comes in contact with me eventually breaks down and finds himself (or herself) on the slope, and, to my great pride and joy, comes back many times after. I started out when there was no high-tech stuff, when all you had were two straight and flat pieces of wood. I started out teaching myself, learning to make it down the slope in one piece by watching others. And here I am now, years later, a certified ski instructor who believes that anyone, I repeat, anyone can and should fall in love with skiing. I consider it **my mission** to introduce beginners to the wonderful world of skiing, to help those who know their way around the slopes to improve, and provide useful information for everyone regardless of their level of advancement. This is why I created this site, and I hope it serves its purpose.

Your First Step

So you have made your way to a ski resort. The best thing for you to do is to go to the ski school and to sign up for a lesson. However, at some resorts it can be very expensive. There are two other ways to learn: to follow instructions on this site or to find among your friends an experienced skier who can help you out with your first steps. Why am I not pushing this site? First of all because it's better to watch than to hear. Second of all, you can't watch yourself. It is best when someone experienced can give you feedback, but in case such a person is not available, you should follow instructions on this page because I paid special attention to what each body movement should feel like when performed properly.

Equipment

Since we are assuming that you are a novice, with no equipment of your own, venture into the rental department. Do not worry too much about skis. There is only one thing that you should remember: they have to be shaped or parabolic. Now to your boots. They are probably the most important part of skiing equipment. I will try to explain why. First of all, your boots must be comfortable. This means that when you put them on and walk around inside for 5-10 minutes, there are no uncomfortable pressure points anywhere, boots feel snug and, most importantly, you should not be able to lift up your hill from the inside sole of the boot while bending your knee and pushing your shins against the tongues of the boots. Let me explain the importance of a comfortable boot. Your boot is what connects you to your skis. Every movements that you make with your ankle will have an immediate impact on the movement of your skis. If you have a lot of room in your boot, your skis will not correctly respond to your motion. Think about that and try to find the best size for yourself (normally it will be the same as your shoe size).

Now you are ready to start you first ski lesson, but first, try walking in your boots. This is quite different from walking in regular shoes. Normally you put your whole foot on the ground when you take a step. In ski boots, you put the heel down first and your foot moves from heel to toe because plastic skiing boot is not flexible like your regular shoes. So think about moving your foot from heel to toe. Second, learn to carry your skis. There are three different ways: over the shoulder in open spaces, vertically in your hands in crowded areas, and, if you are not strong enough, you may cradle them under the arm.

Balance

Now, before you put your skis on, let's talk a little bit about your balance, or about your stance, because this is the most important thing in skiing. Please refer to the pictures as you go along, they should give you visual support of what I am talking about. To find your correct stance ("fore-aft" stance), stand in your boots so that the pressure from the tongue of the boot feels equally distributed from shin to calf.

Most of your weight should be felt between the heel and the arch of the foot. You should feel less weight on your toes. From this position you can move in any direction quickly and smoothly. Now start leaning forward in your boots until all your weight is on your toes. Keep pressing forward until you pitch forward (use your poles to catch yourself).

Now, go back to a neutral stance and then try to flex forward just enough to feel the pressure shift from the center of the foot to the ball of the foot but without falling forward. This forward position is within the range of the normal fore- aft movements of the correct stance. Do the same to the back and feel the pressure of your boot build against the calf and under your heel. Keep doing that until you pitch backward (again, use your poles to catch yourself)

Go back to the neutral and lean back just enough that you feel the pressure shift from your center of you foot to the heel. This is the backward extreme in your fore-aft movement range. Try to do exactly the same with your skis on. This exercise allows you to feel how the weight is distributed in the boot and where the balance points are.

First Feel of Skis

Now it is finally the time to put your skis on.

Binding consists of two parts: the tip part and the heel part. So, when you put your boots in your bindings for the first time, keep in mind that the tips go in first.

Now with your skis on, let's try to do some exercises to become familiar with ski equipment

1. Lift one foot and then the other

2. Lift the heel up, toe up, whole foot up

3. Lift the whole foot and turn the ski to the right and then to the left

All these exercises you should do on a flat terrain. Try to find a spot with little or no traffic.

"Walking" in Your Skis

Now it is time to walk on your skis. Try not to lift a ski to take a step, but try to slide on it.

Instead of making steps just slide forward on the inner edge of your skis. In this exercise your hands will be good helpers for your balance because when you are sliding on your right leg your right hand is moving forward and making a pole touch; after that, your left leg will ski forward and at the same time your left hand will point forward with a pole touch. Try to do this exercise in the straight line first, then make circles on the right and on the left side, and after that a figure eight.

I think that by this time you should be feeling much more comfortable than you did just about half an hour ago. Now, you will learn one great exercise that you will use throughout your skiing life. But before we do that, let's put you in the right position, or stance. This is your stance: feet shoulder width apart, the distance between your feet is 10-12 inches, your knees are bent, you feel pressure on the tongues of your boots and your hands are extended forward with elbows slightly bent .It is very important to feel pressure on the tongues of your boots, in your shins. When you are skiing, you always have to feel pressure on your shins from the tongue of your boots.

The Wedge

This is the most important part of your stance. Now, from this position, you can try to put your skis in the wedge; that means that the tips of your skis become closer to each other than tails. You can do it in three different ways: step into wedge, hop into wedge, or slide into wedge. The most important is the last one, slide into wedge. Try to practice it for a while. This is a movement you have to use when you slow down or stop. Try to remember it.

Climbing the Hill

Next thing that you will do is climb the hill. How is this done? First, standing at the bottom of the hill, try to put your skis sideways or in other words, across the hill. Now what do you do? Try to take a sidestep with your uphill ski (uphill ski, or inside ski, is the ski closer to the top of the hill; the downhill ski or outside ski is the ski that's closer to the bottom of the hill). Do not take big steps; first get comfortable with small ones. To prevent sliding, place your downhill ski on the inside edge (that's closer to the top of the hill) Your poles will help with your balance. Now try to do the same in a different direction. Great.

Your First Run

Now you are ready for your first run. It's very important to smile. You are here to have fun! Look around, the mountains are so beautiful. And around you there are a lot of people who came here for the same reason: to breathe some fresh air, to have unforgettable fun skiing, and to have an all around good time. You'll have a good time smiling too!

Climb a little bit up the hill. It is understandable that your skis will slide by themselves. Now what should you do? First, try to turn your shoulders down the hill, putting your poles in front of your shoulders and your hands on the top of your poles. Now your shoulders and your hands are facing down the hill, while your skis are sideways. So now try with small steps to point your skis downhill, while putting your weight on your poles. Now you are standing on parallel skis, with your body facing downhill, while putting some weight on your poles. What do you have to do to make your first run? Just pick your poles up off the snow and go! You will stop by yourself because of the friction between your skis and the snow. Try it one more time. As you practice more and more, better you will become better and better. Now let's make some changes. Climb a little higher, and when you are finishing the run, try to slide your skis into a wedge. I believe you remember how to do that. Keep in mind the position of your hands; they are stretched forward, slightly bent at the

elbows. Very good. Now the next exercise. Climb again a little higher and try to make the whole run in the wedge. If you have a problem with the tips of your skis crossing, that means that you have to correct your stance. Try to keep your hands forward and bend your knee a little more. Better? Great. Now what you have to do looks a little bit different. In your next run, try to adjust your wedge: make it bigger and smaller. You will realize very soon that the smaller your wedge, the greater your speed. So, while you're adjusting your wedge, you're adjusting your speed. Get a little bit of practice with it. The more you practice, the better you will be . Here are some more tips:

1. Practice narrow then wide wedges while gliding downhill

2. Practice widening and narrowing with one foot only. Alternate feet while gliding

3. From a straight gliding wedge ,or straight run, turn one foot further to bring yourself to a stop. Try using alternate feet

4. Turn tips of both skis in the direction of the turn

Making Turns

Now it's time for us to make some turns. So you are in the same place as you were before in the wedge position. What do you have to do to make a turn? Just put a little bit more weight on one ski! How is that done? Just bend one knee a little bit more and redistribute more of your weight on it. Bending your right knee, you go to the left, and bending your left knee, you go to the right! That's all that you have to do. Do not try to put too much pressure on your turning leg. Just a little bit. For some people it works when they are just thinking which side they want to turn or which way they want to go. Now practice, practice and practice! The more you practice, the better you are! Try different turn shapes. For example: you can make turns while counting to five and counting to three. You'll find out that the bigger the turns, the higher your speed becomes. What do you have to do to slow down before your turn? Just put a little bit more weight on your downhill ski, meaning bend a your knee a little more applying pressure forward. That's all that you have to do. Now howto practice? First, try to follow my instructions. The most important thing is body position. Try to keep in mind that your stance and balance are the most important parts of skiing. Try to make your movements at low speed. When you get a consistent feeling, you can increase speed and can try a little steeper terrain. If you don't feel comfortable there, please come back to practice on a flatter slope because the key to your future successes is there. I hope you have a lot of fun and wish you good luck in your new endeavor.

MORE

We are Improving

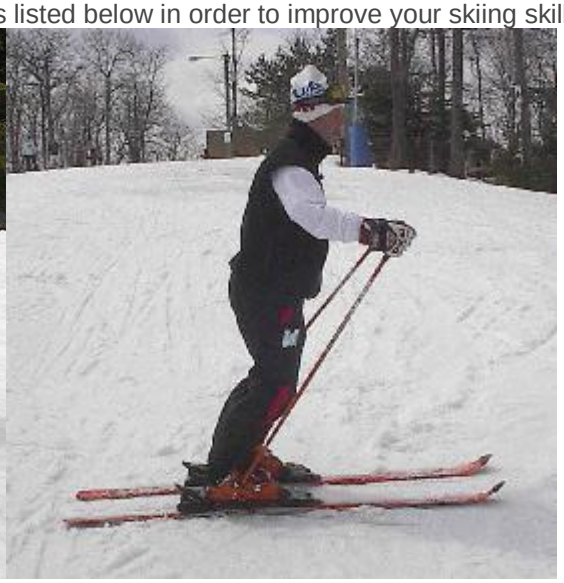
by Leonid Feldman

Happy to see you again! Now you know a little bit about skiing, and, I hope, want to improve your theoretical knowledge and your skiing skills. I think that you are here because you are tired of the wedge turns and want to become a parallel skier. I created this page to show you some good exercises that will improve your skiing technique and help you become a parallel skier. So, let's go then.

As we discussed before, the most important skill in skiing is balance. If you are in a balanced position, you can do whatever you want on your skis. So what is your balanced position?

Feet shoulder-width apart, distance between your feet 10-12 inches, knees bent, feel the pressure from the tongues of your boots on the shins, arms in front of you with elbows slightly bent.

Feeling the pressure on your shins from the tongues is very important. When skiing, you should always feel that pressure from the tongues of your boots. On the downhill ski, the pressure has to be stronger to make the turns possible, while in the uphill boot your shin should be just touching the tongue. It is very important that you do the exercises listed below in order to improve your skiing skills.

1. Traverse with a step. From our good stance position, let's traverse down the hill. (***Traverse is a maneuver when we cross a big part of terrain without or slightly loosing altitude).*** While traversing the hill, try to lift and step with your uphill ski. Traverse across, making three or four lifting steps and then make a turn. Do it in both directions, starting with a lower speed, paying maximum attention to your stance and balance. From run to run, slightly increase speed and pressure on your downhill ski.

2. Do the same keeping the tip of your uphill ski on the snow.

3. Do the same with the tail of your uphill ski on the snow.

4. Do the same with lifting your uphill ski completely from the snow and traversing for a few seconds on one ski.



5. From the same stance and on the same terrain, while traversing across the hill try to keep tips of your skis together and the tail of your uphill ski brushing the slope in the uphill direction and returning into the position parallel to the downhill ski.

6. Traverse with side-slipping. Work on edge release and engagement while traversing.

7. Falling leaf with a side slip. Picture the way a leaf falls off the branch. It makes a nose dive, then shifts direction and falls stem first, then nose dive again, etc. Without rocking or moving the body, press forward on the tips of the skis and let them slip forward. More pressure on the balls of the feet moves ski forward. Skis come to a stop because they are edged and turned slightly uphill. Allow the pressure to move toward the hill while maintaining the same amount of edging. The skis will begin to slip diagonally backward. Begin to twist the feet gently so that the tips of the skis will drift downhill faster than the tails. As the skis begin to slow, again press onto the balls of the feet to get skis moving forward. Applying pressure on the balls of your feet on flat skis will move the tipstowards the fall line. Doing the same while edging skis will turn skis uphill.

8. Hockey stops to both sides. Hockey stop is a stop with matched skis, creating the upper and lower body separation and a countered stance, when legs and feet turn actively against the upper body. Do a straight run then turn the skis sideways, feet going either right or left. This is a quick pivoting movement of the legs and feet underneath the stable body. The upper body should remain facing the fall line. The goal is to stop while maintaining balance and weight over the downhill ski.

If you feel that when you are finishing a turn you have to make a step with your uphill ski that means that you are not putting enough pressure on your down hill ski. Try to bend your downhill leg a little bit more and

put a little bit more pressure on the tongue of you downhill boot. In this case, your uphill ski will become lighter and it will be easier for you to make a turn

Now lets work on another common problem. A lot of skiers in the initial stages of training begin their turns from the upper body, and that is understandable because this is a more natural way for us humans, since the muscle mass is much bigger in our upper bodies. In skiing, we have to change our ways a bit. The closest parts of your body to the skis are your feet. You have to begin the turn from your feet. We will talk more about it later, but always keep that in mind.

Now some more exercises that will help you improve you balance and overall technique. The purpose of this set is to ensure proper arm position. Your arms should always be in a fixed position in front of you, hands on the chest level. To make sure you know what your body balance should feel like with the proper arm positioning, let's do the following:

1. From your stance position, extend your arms in front you and hold your polls horizontally to the ground in your hands. From this position try to make some turns as close to the fall line as you can.

2. This exercise will be without poles. Try to imagine that in front of you there is a wall. Extend your arms in front of you and from your good stance position push that wall. That does not mean that you have to push your self forward and lean forward. **It means that you have to bend your knees** and apply pressure on the tongues of your boots to start moving forward with your hands "pushing" against the imaginary wall. From this position try to make a run as close to the fall line as you can.

3. This exercise will be without poles. Extend your arms in front of you, bend your elbows and grab an elbow of the opposite arm with each hand. From this position try to make a run as close to the fall line as you can.

Grab each of your poles somewhere in the middle and extend you arms in front of you. Your poles have to form an imaginary "doorway" through which you want to enter. Maintaining this position, try to make a run as close to the fall line as you can

The main idea of all these exercises is to make your upper body stable and solid, looking downhill, while your legs are rolling underneath. **Always keep in mind that when you are making short turns your shoulders are pointed downhill, your eyes looking forward (do not look at the tips of your skis) and your center of mass, or in other words, your hips are pointed towards the next turn.**

I'm pretty sure that if you tried all these exercises and put a lot of miles on your skis in the process, you can already make turns on parallel skis. All this means is that when you are making your turns your skis are in a consistently matched position; they are parallel and not in a wedge. All modern skis made in the last 5 years have parabolic shape. This means that the radius of your turn is already determined by the shape of your skis. All you have to do is to put them on edge and apply forward pressure on your boots maintaining the balance that we've been working on in this set of exercises. Getting you to this point was exactly the goal of this chapter. Have a great day of skiing and good luck!

INSTRUCTION

Advanced Lessons

by Leonid Feldman

Welcome to the Advanced Lessons page! The fact that you are on this page tells me that you already have several skiing seasons behind yourself and now you are looking for a guidance on what you can do to become an advanced skier. You've already skied several resorts in US and maybe even visited some slopes in Europe. You know the difference between really groomed terrain in the early morning hours and slushy, bumpy snow at the end of the day. So you already have some experience and you are here to improve, to become a better skier, to feel comfortable in different snow conditions and turn shapes.

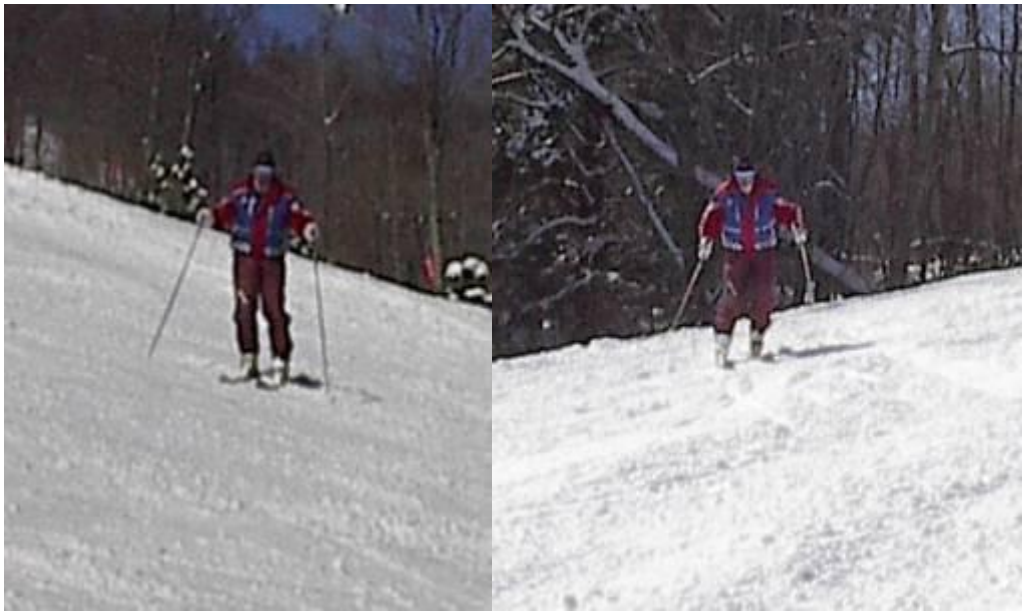
As I told you before, to improve your technique, you have to use various exercises and drills. I completely understand that when you come to a ski resort all you want to do is ski. It's true that the more you ski the better you are, but if you add to your skiing special drills designed to improve your existing skills, you will become not simply a good skier, but a great one!

Why are ski instructors good skiers? For two reasons. First - they have to ski a lot. Second - when they teach they use specific drills for improving different skiing skills. The same is true for racers: they use drills in their freeskiing and on the gate training. Drills create skills. Hermann Maier is the prime example. Before he became the Olympic and the World Cup champion, he was a ski instructor at his father's ski school.

Take advantage of the ski instructors' expertise when you go out on the slopes because a good ski instructor can see any weaknesses that might be in your technique and show what kind of drills you can use to fix them. When I'm giving a lesson, I usually ask my students to make a run of about 100 feet (30 meters). After that I know what I have to work on.

I wrote this chapter for those of you who don't want to be bothered with instructors and want to do their own thing at their own pace. Below are some exercises that will prove to be very useful to you in improving your skiing skills. It would be great if you have a more experienced friend who could give you a feedback on your progress. If not, try to watch your own shadow on sunny days or concentrate on how your feet feel. If you use these drills for a half an hour every day skiing, you wouldn't believe how good you can get by the end of the season. Good luck!

Traverse



We use traverse when we ski across the terrain or as a part of linked medium turns. Make sure that you are in the right stance: your arms are extended forward, your knees are bent, your shins are against the tongues of your boots, the pressure on the tongues of your boots is distributed approximately 70/30 between downhill/uphill ski. Maintaining the hips over the feet, allow the uphill ski and boot to travel about half a boot ahead of the downhill ski and boot. Do some static edging exercises where your downhill knee goes slightly inside the turn and your hips are turned in the direction you are traveling and slightly down the hill because the edging comes from the hips. You should stay in balance with the majority of your weight on the downhill ski.

Progressions:

- **Traverse- edge set.**
- **Traverse with side slipping.**
- **Traverse with tipping your skis uphill.**
- **Traverse with hopping from foot to foot.**
- **Traverse in a wider stance with steps up and down the hill.**
- **Traverse on the uphill ski.**

Open Parallel With No Poles

This is the upper of the lower levels of skiing (when you are coming out of Christies). The main idea is to execute nice and smooth turns with skis in consistently matched position, putting more weight on the downhill ski. Make sure that you are in the right stance. From this position, flex and extend your knees. This exercise will teach you to feel that you have to extend your knees to make your skis easy to turn and that after the turn you need to flex in your ankles, knees and hips to make your arc nice and smooth. Stay slightly flexed through the turn completion with pressure dominating the downhill ski. Above the fall line your hip movement toward the inside of the turn should be dominant.

Progressions:

Before and after the turn try skiing:

- **On downhill ski with lifting uphill ski.**
- **Keeping either tip or tail on the snow.**

- **The whole uphill ski in the air (all of this is about balance and pressure).**
- **Shuffling.**
- **1000 steps.**

Vertical Sideslips

This exercise promotes an efficient balance - countered stance (open countered hips). Hip countering movements are an important component of advanced turns. Make sure that you are in the right stance. In order to separate your upper body from your lower body you must twist the torso firmly towards the fall line. Also turn both shoulders downhill, reaching with the arms over the downhill ski. Maintain a strong upper body with hips positioned fairly high and over the feet. Open the hips towards the fall line and keep the uphill hip, knee, and foot half a boot ahead of the downhill hip, knee and foot

Progressions:

- **First tip your legs and feet down the hill to bring your upper body over the feet and then tip your legs and feet in the opposite direction (up the hill).**
- **Use flexion and extension movements to engage and release the ski edges.**
- **Pull skier down the hill by his poles.**
- **Short radius turns behind the leader in the wedge.**

Hockey Stops

Hockey stop is a stop with matched skis, which creates the upper and lower body separation and a countered stance, legs and feet should turn sharply in the opposite direction of the upper body. Make sure that you are in the right stance. Do a straight run then turn the skis sideways with feet going either to the right or to the left.- quick pivoting movement of the legs and feet, while the rest of the body remains still, facing the fall line. The goal is to be able to stop while maintaining balance and weight over the downhill ski.

Progressions:

- **Stop on one ski inside and outside, with or without pole plant.**

Falling Leaf Sideslip

"Falling leaf" is an exercise which combines fore and aft balance, tipping (edging) movements and twisting movements. The objective is to slide forward and backwards within the corridor in a crisscross fashion. Stay in the proper stance. Putting more pressure on the downhill ski, keep your hips open towards the fall line. The uphill shoulder, knee, and foot must lead. Without rocking or moving the body, press forward on the tips of the skis while slipping forward. More pressure on the balls of the feet moves skis forward. Gently turning feet and skis uphill will add to the exercise. Skis come to the stop because they are edged and turned slightly uphill. Allow the pressure to move towards the hill while maintaining the same amount of edging. The skis will begin to slip diagonally backwards. Begin to turn the feet gently so that the tips of the skis will drift downhill faster than the tails. As the skis begin to slow down again, press onto the balls of the feet to get skis to move forward so you can repeat the exercise

Progressions:

- **Pressure fore and aft, edging and tipping skis.**

Skating

Skating down the hill is an exercise that will help to create foot to foot movements with strong hip movements down the hill and motionless upper body. Skating across the hill will help to develop movements during which upper body moves slightly ahead of the feet. Focus on moving forward from the extended downhill leg. Stay in the basic stance. Your hands should be forward, you are in slightly countered position, knees are bent, shins are against the tongue of your boots, you feel the strong contact between the ball and the arch area of your foot in your boot.

Progressions:

- **Pretend to skate on the ground without skis (do skating "steps" making sure that you control your arm/foot movements).**
- **With only left ski on, with only right ski on, with both skis on.**
- **Skate across the hill.**
- **Skate turns. On the skate turns extending the uphill leg moves the body across the skis, downhill and towards the new turn as the ski tips enter the fall line.**

1000 steps

1000 steps (also shuffling) is a great exercise to develop body position over the outside ski, commitment to the turn and an active movement of the body across the skis. This exercise can be varied to develop and enhance five of the six basic movement patterns of skiing:

- **Adjusting balance along the length of the skis.**
- **Twisting feet and legs.**
- **Tipping feet and legs to engage and release the edges.**
- **Moving from foot to foot to transfer weight.**
- **Flexing and extending legs to control pressure.**

By learning 1000 steps, you will begin to develop hip angulation which leads to edging of the skis.

Progressions:

Make sure that you are in the proper stance. On flat terrain make some steps with one foot, with another foot, move pressure forward and aft, show flexion and extension in your ankles, knees and hips, show movements foot to foot. While moving, practice lifting uphill ski, lifting downhill ski, tipping your skis uphill creating edges, do the same in a wider stance creating hip angulation and movement down the hill.

Hop Turns

Hop turns is a great exercise for edge control and twisting or pivoting movements. This is an intense exercise even for the most adept skiers. Hop turns require explosive turning movements of both legs and both feet to change the direction of the skis. Stance and balancing movements are critical. Your ankles do the major part of the job when hopping. You will need to keep in mind the following in order to perform hop turns correctly:

- **Skis parallel and across the hill target, hips and upper body down the fall line .**
- **Maintain rounded shoulders and a carved spine to help keep the upper body aligned over the feet .**
- **Stay flexed with both ankles and knees pressed forward and tipped up the hill .**
- **Keep strong contact over the arches, focus the majority of weight on the downhill ski.**
- **Plant the downhill ski solidly on the snow .**
- **Hop off the snow by extending the ankles and knees explosively, leaving the pole on the snow.**
- **Twist the feet and legs while in the air, pivoting the skis around the axis of the boots .**
- **Flex again and plant the other pole upon landing to prepare to hop and twist the feet and skis the other way.**

Progressions:

Begin by doing hop turns on the flat terrain first without skis, then with right ski on, then with left ski on, then with both skis on, then do the same on the steeper terrain.

Wedge hop

Wedge hop is a great exercise to reinforce edge control and foot-to-foot movements

- **Maintain a countered relationship between your upper and lower body .**
- **Put your skis in the wedge facing down the fall line .**
- **Feel the shins touch firmly against the boot tongues to ensure centered position of the hips and therefore the upper body over the feet**
- **Lift one foot off the snow as you begin to glide forward .**
- **Make small lateral hops from edge to edge while moving straight down the fall line .**
- **Plant the right pole when hoping from right to left and the left pole when hoping from left to right.**

The foot and primarily the ankle should dominate the movements. Extend from the ankle to jump from the previous edge and flex the ankle to engage the new edge. Contact progressively increases forward and against the inside of the boot tongue as the ankle flexes. The upper body stays relatively still as you displace your weight from edge to edge while leaping from foot to foot (from arch to arch). Pole plant is necessary for timing the hop and stabilizing the upper body

Progressions:

On flats without skis, with right ski, with left ski, with both skis, do the same on the steeper terrain.

Leapers

Leapers incorporate all basic movement patterns of skiing and are appropriate for developing the mechanics of medium radius turn. They are an appropriate choice for situations where snow or terrain make it difficult to initiate the turn

- **Choose the right terrain. Start traversing across the slope. While traversing, flex to prepare for the hop that initiates the new turn .**
- **Hop vertically using a pole plant for stability. While in the air, steer the skis slightly downhill and towards the next turn .**
- **Absorb the impact of the landing by flexing knees and ankles .**
- **During flexion, tip the skis onto their edges while continuing the guiding movements you began in the air. Continue to increase the edge angle as the turn develops. This creates a solid platform from which to hop to initiate the new turn.**

Progressions:

Begin on flat terrain without skis, with the right ski on, with the left ski on, with both skis on, do the same on the steeper terrain

---

Uphill Christies

Uphill Christies contain all of the basic movements that can help you feel what your skis can do when they are actively edged and pressed. They also will help you understand how to continue to guide skis during the turn. Do not forget to flex your ankles and knees

- **Face your body and skis about 45° from the fall line.**
- **Begin to glide across the hill on that 45° line .**
- **Press onto the ball of the downhill foot while feeling pressure on the front, inner part of the boot tongue. These movements engage the edge and cause the ski to bite into the hill. Slowly the ski will bend into the arc and turn uphill**

One Ski Skiing

One ski skiing is a wonderful exercise for improving balance and all other skiing skills that a good skier should demonstrate like:

- **Adjusting balance along the length of the skis .**
- **Twisting the feet and legs .**
- **Tipping the feet and legs to engage and release the edges.**
- **Flexing and extending legs to control pressure.**

In this drill try to pay most attention to two different things: first - you have to feel the tongues of the boots on your shins. Second - and that is probably the more important thing - you have to get the feeling that your feet together with your skis roll underneath you from your big toe (fully edged position) to your little toe (fully edged position again). This is exactly the same feeling that you get while carving.

Progressions:

Standing on one leg without ski make some aft and forward movements, flex and extend, roll your feet and legs right and left, do the same with the right ski on, with the left ski on, on the flat straight run try to do a hockey stop on one ski changing from left to right, on a steeper terrain traverse on the downhill ski then on the uphill ski, then try uphill Christies on one ski. Having done these exercises now you can do long and medium turns on one ski.

Short Radius Turns

Short radius turns will add efficiency to your skiing. The most important things that you need to maintain for these turns is your upper-lower body separation, the balancing movements and your body position (open countered hips are a crucial component of advanced turns). Make sure that the first part of your body that begins the turn is your feet. On the downhill ski you are rolling your feet from the big toe to the little toe (from edge to edge), and on your uphill ski your foot rolls from your little toe to your big toe (edge to edge again). All these movements have to be done simultaneously. To help control your movements, try to imagine that you are skiing in a room with a really low ceiling and you have to limit your up and down motions. Concentrate on feeling your lower body roll underneath your stable upper body.

Progressions:

- **Do hockey stop without pole touch, hockey stop with pole touch, hockey stop without coming to the full stop but with sliding down and pivoting around your axis.**
- **Try side slipping on one side, side slipping on another side without pole touch then with pivoting around your vertical axis.**
- **Do the same with pole touch making side slipping between pivoting shorter and shorter and finishing in a short radius turns. Try to do hop turns as well...**

Bumps

Most important parts of bumps skiing is upper-lower body separation and edge set. Before skiing bumps make sure that your stance is slightly countered

Progressions:

- **Traverse left-right while flexing and extending. Next do the same through the bumps. Full flexion with deep knees bending occurs on the top of the bump and full extension in the deep.**
- **Sideslip on both sides through the bumps using the bumps outside of mogul field (those are generally softer, smoother so easier to deal with). Do the falling leaf exercises using different pressure-leverage, aft and forward, side-to-side, up and down pressure, sideslip and turning while projecting center of mass down the fall line. Do the same through the bumps.**

Everything has to be done with pole touch. Be soft, subtle and passive, that will make it so much easier to turn through bumps. Solid edge sets directly down the fall line. Do not steer left or right. Start the run through the bumps with a solid edge set on the first bump followed by turns using all the previous exercises. Continue run with absorption, ankle and knee flex, direct arms and body mass forward down the fall line.

Pole Touch

by Leonid Feldman

On this page, I want to talk about your arm position. The correct pole action stabilizes the upper body and minimizes the need for gross upper body movements, putting the finishing touch in your technique and making you look good on the hill.

First you need to know what the correct arm position is. Put your arms in front of you and place your polls horizontal in your hands. The key is to hold your poles at the chest level, away from your body with hands wide apart.

As you link turns, hold the poles level and steady. From the first turns, you will find that it is difficult to turn. That is true because, in this position, your hands and arms are virtually frozen. This position makes your feet work first! That's exactly what I'm looking for.

You have to begin your turn from your feet. The more you repeat this exercise, the more comfortable your feet will be. Your feet will wake up! Now let's try it with the poles in a good stance. Hold your arms in exactly the same position as before with your pole straps on. Keep your arms wide apart and pushing forward. Make some turns without pole touches, just keeping your arms in the right position. Feel comfortable with it.

Here is a picture of what it should look like.

The next exercise is the double pole plant. Try to start practicing from a static position, after that in traverse. Keep in mind rhythm and timing. Practice moving your poles with the wristbefore starting to ski. Point the ski

tips down the slope and hands forward toward your ski tips. Now you are ready to make your turns. Make medium radius turns first. Tap both of your pole tips before every turn. Reach forward so the touch is well ahead ofyour boots, up by the ski tips. Lift the pole tip quickly and prepare for the next turn. Remember - you have to use your wrists, not your arms, to create the movements.

Plant the pole... then push the arm. Use wrist action on one pole to move the pole tip into position on the same side you wish to turn on. The arm that is not moving should be kept in a stance position, at ease, but ready. You have to always be ready for the next pole swing and touch. Remember: **do not drop your inside hand**. That will allow better pointing action which, in turn, will improve your edge grip, carving control, and upper body stability.

That is what it's supposed to look like

Tip - imagine that you are driving a stick-shift car, shifting from second gear to the third.

Keep all this in mind and you will be the best on the hill. Have fun and good luck.

by Leonid Feldman

On this page, I want to talk about your arm position. The correct pole action stabilizes the upper body and minimizes the need for gross upper body movements, putting the finishing touch in your technique and making you look good on the hill.

First you need to know what the correct arm position is. Put your arms in front of you and place your polls horizontal in your hands. The key is to hold your poles at the chest level, away from your body with hands wide apart.

As you link turns, hold the poles level and steady. From the first turns, you will find that it is difficult to turn. That is true because, in this position, your hands and arms are virtually frozen. This position makes your feet work first! That's exactly what I'm looking for.

You have to begin your turn from your feet. The more you repeat this exercise, the more comfortable your feet will be. Your feet will wake up! Now let's try it with the poles in a good stance. Hold your arms in exactly the same position as before with your pole straps on. Keep your arms wide apart and pushing forward. Make some turns without pole touches, just keeping your arms in the right position. Feel comfortable with it.

Here is a picture of what it should look like.

The next exercise is the double pole plant. Try to start practicing from a static position, after that in traverse. Keep in mind rhythm and timing. Practice moving your poles with the wristbefore starting to ski. Point the ski tips down the slope and hands forward toward your ski tips. Now you are ready to make your turns. Make medium radius turns first. Tap both of your pole tips before every turn. Reach forward so the touch is well ahead ofyour boots, up by the ski tips. Lift the pole tip quickly and prepare for the next turn. Remember - you have to use your wrists, not your arms, to create the movements.

Plant the pole... then push the arm. Use wrist action on one pole to move the pole tip into position on the same side you wish to turn on. The arm that is not moving should be kept in a stance position, at ease, but ready. You have to always be ready for the next pole swing and touch. Remember: **do not drop your inside hand**. That will allow better pointing action which, in turn, will improve your edge grip, carving control, and upper body stability.

That is what it's supposed to look like

Tip - imagine that you are driving a stick-shift car, shifting from second gear to the third.

Keep all this in mind and you will be the best on the hill. Have fun and good luck.

INSTRUCTION

Core Concepts of Downhill Skiing

by Leonid Feldman

This page I strongly recommend for ski instructors and any skier who wants to understand the main concepts of downhill skiing. Just one small question: how do you imagine the process of skiing? Is it, a ski moving downhill with a skier attach on the top. Very poor, not romantic, just like what we read in different skiing magazines. However, I'm not magazine editor, I'm just trying to explain.

How ski can move downhill?

There are four different ways to move downhill : sliding, slipping, skidding and carving.

- **Sliding - skis moving downhill in the direction they are pointed. This can be in a straight run down the hill or a traverse across the hill.**
- **Slipping - skis moving sideways down the hill at an angle relative to the long axes of the skis. The direction of travel is perpendicular to the skis.**
- **Skidding - is a combination of sliding and slipping as the skis move through the turn. Tails of the skis making a wider path than the tips. Most turns involve some amount of skidding.**
- **Carving - when tips and tails travel through the same arc created on the snow.**

Sliding

Slipping

Skidding

Carving

So, our skis are moving down the hill, and what do we need to make a turn? The answer is very simple: we have to take center of mass away from of skis or skis away from of the center of mass. How you accomplish this, I will tell you on this page.

The skier that is on flat terrain or moving down the hill can make four different types of movements:

- **Balancing movements - maintaining balance when moving down the hill.**
- **Edging movements - aiding in adjusting the edge angle of the skis in relation to the snow.**
- **Rotary movements - turning and guiding the skis.**
- **Pressure control movements - managing and manipulating pressure variations between the skis and the snow.**

Lets take a look on each component in detals

Balance

When we are talking about balance, we talk only about movements, where the skier is moving down the hill. What movements can affect the balance?

- **Change the width of your stance**
- **Flexion and extension of your ankles, knees, hips and spine**
- **Use fore, aft and lateral movements to shift your center of mass**
- **Change the amount that you lean or tip into the hill**
- **Move your head and arms**
- **Increase and decrease muscle tension**

Narrow Stance

Neutral or Central Stance

Wide Stance

Forward (Toes)

Middle (Arch)

Aft (Heels)

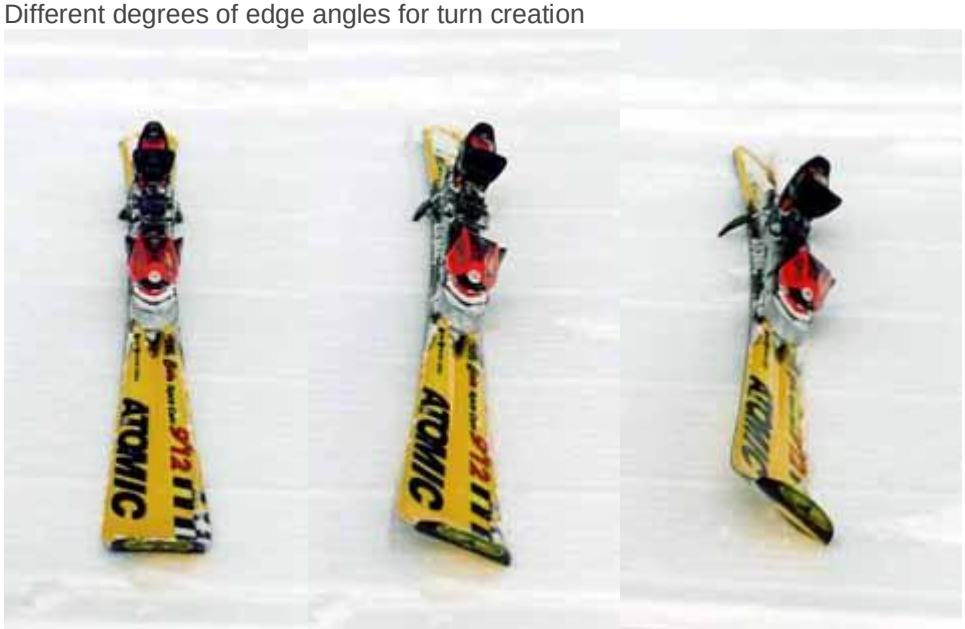
Dynamic balance is the key to success in creating modern downhill skiing technique. Always remember this when you are creating and developing any kind of technical elements.

Edging Movements

Edging movements allow the skier to:

- **Change direction**
- **Control speed**
- **Change the shape and size of turns**
- **Slip, skid and carve**

Different degrees of edge angles for turn creation



Edging movements are created from the center of mass, and may be developed in two different ways:

- **Inclination or tipping - involves the whole body**
- **Angulation - involves forming angles between body segments**

Tipping the whole body

Tip combination of different parts of the body

Edging is created by tipping (inclining) different parts of the body:

- **Feet / ankles**
- **Lover legs / knees**
- **Upper legs / hips**
- **Lower spine**
- **The whole body**

The main idea is: higher the point of inclination the more edge angle you can create.

Angulation - involves forming angles between body segments. In skiing angulation involves flexing and extending on a diagonal and / or lateral plane. Angulating different parts of the body throughout the turn allows you to:

- **Change the amount of edge angle without changing inclination**
- **Maintain the balance stance**
- **Resist forces created throughout the turn**
- **Manage the pressure along the lengths of the skis**
- **Increase or decrease the speed of foot movements**
- **Alter turn shape**
- **Negotiate changing terrain and snow conditions**

In skiing we angulate with a combination of the hips, knees and ankles. The hips and lower back create the biggest changes in edge angle. While the knees and ankles offer a chance to fine-tune the edge angle.

Most turns involve both: inclination and angulation. Inclination without any angulation is known as whole body tipping.

Rotary movements

Rotary movements involve turning some parts of the body relative to another parts of the body. Rotation is a circular motion around the axis. In skiing rotary movements in conjunction with edging movements and pressure controled movements allow us to initiate the turn and guide our skis through the turn. If you are standing on flat skis while gliding, and then twist your legs and feet, your skis will pivot and slip. If your skis are tipped on edge and you apply pressure and rotary forces to the skis while gliding, the skis carve rather than skid.

Rotary movements can be produced or stopped internally using the muscles, or externally using the pole plant or hard edge set. Skiing involves several types of rotary movements. Most of of the movements change direction of your skis, but combining rotary movements with balancing, edging and pressure control movements allows you to change directions more efficiently. ***Remember one of the major goals is in skiing to create and manage resistance between skis and snow.*** Beginner and low level skiers tend to use large scale rotary movements, often involving the whole body at the beginning of the turn. More advance skiers use rotary movements that are subtle, originate from the lower body and are distributed evenly throughout the turn. Major types of rotary movements in skiing are:

- **Upper body rotation**
- **Counter rotation**
- **Leg rotation**

Upper body rotation (of the shoulders, chest and upper back) is a very powerful motion but a very slow way to turn skis because movements going to your hips, knees and after that ankles with skis. Turn with upper body rotation was taught many years ago. In modern technique it is not used and not taught anymore.

Counter rotation can be explained using Newton's Third low of Motion "For every action there is an opposite and equal reaction." If you force something (your upper body) to turn clockwise something in return (your lower body and skis) must receive an equal but opposite torque.

Leg rotation is simply turning the legs to make the skis turn. In normal skiing conditions turning both skis is an optimal way because the legs are powerful, and the turning forces translated to the skis very quickly.

Anticipation - in skiing is the act of preparing for the next turn. Typically the upper body will be an anchor for the lower body to turn against, which allows you to create muscular tension in the mid-section of the body. This is the act when ski moving in arc finishing the turn and upper body (hands, arms and chest) already turned in the direction of a new turn.

Pressure Control Movements

The ability to manage, control and manipulate pressure is often describe as the most difficult skill to muster of skiing. Effective pressure control requires the constant action of muscles and use of specific movements to moderate forces from foot to foot, along the length of the skis, and between the skis and the snow. The amount of pressure that is applied to the skis can be controlled by repositioning the center of mass or by changing turn radius, speed, amount of bend of your joints, edge angle and weight distribution.

Fore and aft movements control pressure along the length of the feet and skis. The deliberate application of pressure to the front, middle or back of the feet allows you to use ski design to aid in turning and edging.

Turn radius in the other words size of the turn. In skiing we talk about short radius, medium radius and long radius turns. Short radius turns create more pressure that the long ones.

Speed also effects pressure during the turn: the greater the speed the greater the pressure.

Flexion and extension of the skiing joints, affect pressure. The speed at which you flex and extend can define the amount and duration of pressure on your skis. If you body accelerates downward from a tall position quickly, pressure on the skis temporary ***decreases***.

When the flexing is stopped pressure ***increases***.

Flexion and Extention

If your body accelerates upward from a short position quickly the pressure on the skis temporary ***increases***. As the extension is stopped pressure***decreases***. If you move in a constant rate the pressure can be the same or can be progressive.

Flexion can also help absorb changes in terrain and snow conditions while maintaining balance, and allow more powerful rotary movements. Flexion can be active (causing the knees to bend) or passive (allowing to push your knees into your body).

Edge angle is the amount a ski can be tilted relative to the surface of the snow and the hill.

If you increase the amount of edge angle, hence you are tipping the skis onto a higher edge and putting your weight into a smaller surface area, thus increasing pressure. If you decrease the amount of edge angle and flatten the skis you are putting you weight onto a larger surface area, thus decreasing the amount of the pressure.

Foot to foot changes in weight distribution can also control pressure. At the end of the turn you decrease the pressure on the old outside ski and move to the new outside ski. During the weight distribution from one outside leg to the other, the new outside leg is always extending as the new inside leg begins to flex. This long leg / short leg appearance produces a lateral movements of the center of mass into the new turn, and a shift of pressure from one ski to the other.

Now when we understand all types of movements let's take a look how they going to be used for skiers with different skiing skills?

Beginner main type of movements - rotary. Skier very often sitting on the back seat, skis moving flat, edge angle doesn't exist. For you as an instructor the main goal to put this skier in central stance. Put as much attention as you can on hands position and pressure on the tongue of his/her boots. Only green slopes.

Intermediate skier for this type of skiers I can put everybody who can make skidding turns. These skiers are trying to decrease the amount of wedge, and we can talk about vertical motion (flexion-extension). Skiers are decreasing rotary movements, and more and more are putting their skis on the edge creating edge angle. Aft-forward movements getting better in the process of completion. Their stance is narrow. Green and light blue slopes.

Advance skier that is finding harmony in all types of movements. Their stance is becoming wider, and turning with skidding moving to the dynamic carving turn. In this kind of turns, rotary movements practically do not take place. The main type of body movements fore-aft with angulation and edging. The amount of angulation and inclination depends of terrain, speed and type of the turn. Any kind of slopes.

I wish you good luck in your ski lessons

INSTRUCTION

Introduction to Carving

by Leonid Feldman

Now you are at the point where you learn how to carve. Everybody all over the world is talking about carving because on today's super-sidecuts skis, especially the most radical ones, you can make amazingly short radius virtually skid-free turns that make you feel like a flying angel. It is fun, it is easy, and you will be missing out if you don't try it. You will need two things to succeed on the slopes: right skis and right technique.

First about skis. The shorter is the sidecut radius the tighter arc you can carve. Skis with sidecut radius that make turns from 7 to 14 meters provide the greatest carving versatility.

Now that you have the right skis, lets begin. First stand with feet hip width apart or wider without your skis on. Try to push your right hand sideways.

You can easily start feeling how your hips (center of mass) moving in the same direction. Now try your left side. You should be receiving the same feelings. Try all these movements in front the mirror. You should discover that one of your legs is extended while another one becomes flexed. Next try to do the same with your skis on. You will find out that your skis will be rolling from one inside edge to the other. Go down the hill on a gentle terrain doing exactly the same. What is happening? When you push to the right, your skis go to the right, and when you push to the left your skis go to the left The process of pushing helps you to move your center of mass inside the center of the turn keeping your wide stance stable. I believe that you remember that all your movements have to begin from your ankles and they have to be flexed. That promotes enhanced shin angle.

Place more weight on your downhill ski on the inside edge. In that position, on the inside edge of your downhill ski, you are applying more pressure on the side of your big toe. Now, to make a turn, try to move pressure on your downhill ski from your big toe to your little toe at the same time pushing your hand. To do this simply roll your ankles downhill. For example you are going to the right, more weight is going to be on your left leg on the inside edge (side of your big toe) and pushing your right hand. Now roll your ankles from

right to the left and changing your pushing hand from right to left. Keep in mind that the pressure has to shift from your big toe to the little toe on the downhill ski and on your uphill ski it has to shift from your little toe to your big toe. These movements have to be done **simultaneously**.

Try to imagine that you are skiing in a room with a really low ceiling so you have to limit your up and down motions. Think about your lower body rolling underneath your stable upper body. As you are rolling your legs underneath your body, you will be creating long leg / short leg movements. Think back to when you were watching your self in the mirror. As you pushed to the side the inside leg began to shrink enabling you to take your center mass further inside the turn.

If you are making short radius turns, your upper body is always looking downhill because shorter turns require quicker edge changes and more angulation on your lower legs. Your shoulders, chest and hips face straight downhill, while your skis turn beneath them. That movements we call "cross under". You will feel "countering" of your hips as your finish each turn, but it is not something you force. It just happens if you keep your hips still and pointing at the fall line.

If you are making GS turns, your upper body is following the tips of your skis. As your skis turn, let your hips turn at the same speed, following their lead. Keep your pelvis comfortably perpendicular to the direction of your travel. Feel yourself flow with your skis. The more comfortable you feel on the flat terrain the more you will be able to increase your speed on the slopes.

Good luck!!