

# Classic-Style Cross-Country Ski Instruction



brought to you by:

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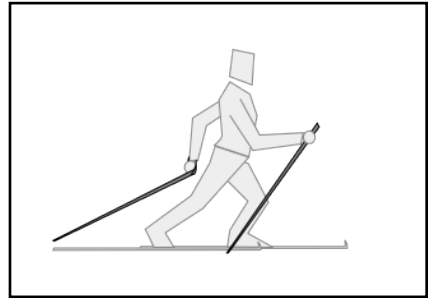
The Bitterroot Cross-Country Ski Club, in existence for more than 20 years, is a non-profit, non-partisan, public-interest corporation whose purpose is to benefit the public by promoting Nordic (*cross-country*) skiing and other outdoor recreational activities.

Instructional illustrations by: **Daniel Griffing**

# Beginning Skiers – The Basics

This simple instruction booklet is for people who are interested in learning the diagonal-stride (*kick and glide*) method of cross-country skiing and for those who already know some of the basics and want to improve their technique.

It's been said that, "Anyone who can walk can ski." That statement has gotten a lot of people out on skis, but it also has caused a lot of people to miss the joys of skiing with expertise. It certainly is true that just about anyone can walk the trails of a



groomed ski area wearing cross-country skis and have a good time. But it is equally true that if you want to ski efficiently, with control, and improve your speed, you should learn proper techniques. That can be accomplished either through formal lessons or by going out with a skier who is skilled and able to demonstrate proper form. Of course, either method of instruction still requires that you practice on your own. The more you practice, the better you'll become.

To become accomplished, you need to be able to do the "classic" move which is referred to as the "diagonal stride" or "kick and glide." Similar to speed walking, the correct movement combines the planting of one foot with a dynamic stride forward onto the other foot.

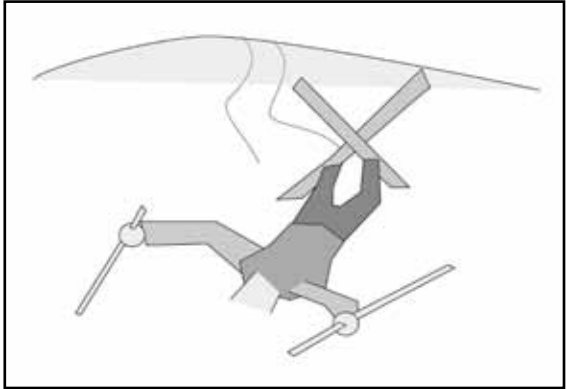
In other words, push straight down on one ski to grip the snow. Then swing the opposite ski forward into a glide and step onto the gliding ski with a dynamic movement as your body slides forward into a balanced position. Poles are used for propulsion with the arm opposite the gliding ski moving forward with each stride. The opposite positions of the arm and leg account for the name, "diagonal stride."

## Conquering Fear—Silliness, Falling, and Getting Back Up

Many are unwilling to try skiing because they're afraid they'll look foolish. Don't worry about it. Every skier was once a beginner and looked silly.

Don't worry about a fall. Everyone falls, even Olympic Level skiers. And remember, falling is the world's favorite stopping technique. The key to falling is learning how to do it properly and safely.

When you feel a fall about to happen, lower yourself closer to the ground. Bring your hands nearer to your body so you don't jam a finger against your ski or strain a shoulder.

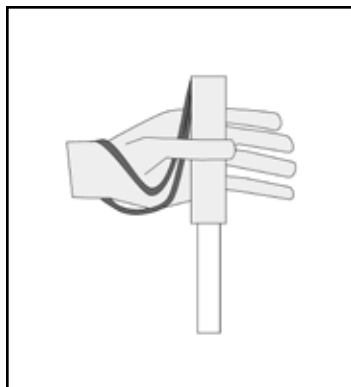


When you finally come to a full stop—sometimes in a tangled mess of skis, arms, and poles—roll onto your back like a turtle. Then, roll over onto your hands and knees with your knees on top of your skies. Keep your skis across the slope and flat on the snow. Slide one ski forward and push yourself up. Dusting off is optional, quitting forbidden!

We'll begin by learning how to grip the poles properly. Then we'll move on to the proper stance and how to move forward, sideways, and turn around on skis. We'll finish by covering the mechanics of controlling speed on a downhill and how to climb uphill.

### Gripping the Poles

There is a proper way to hold (*grip*) the poles. Place the poles in a vertical position in front of you with the loops hanging free. Put



your hand up through the hanging loops and grip the poles' handles. You'll notice your hands are actually holding a portion of each loop where it attaches to the end of the pole. This grip allows you to apply pressure with the meaty side of your hand (*and wrist*) against the loop and increase the backward pressure with the pole without maintaining a death grip.

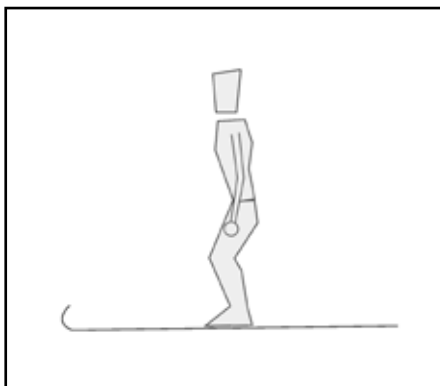
## Proper Stance

If you've never been on skis before, for a few moments forget about skiing. The first order of business is to simply gain a minimum level of comfort on the skis. Put your poles aside for a few moments.

Begin getting used to those long sticks by simply walking on them. If you need to take exaggerated steps to move your feet forward, do it. Go for a stroll, picking your skis right up off of the snow.

Then, begin leaning forward and tilting to the right and left. Bend your knees a little bit as you take each step. Then, rather than pick up each ski, simply shuffle your feet forward, one after the other. Just get comfortable leaning over each ski while moving forward. This is the “athletic” and proper stance.

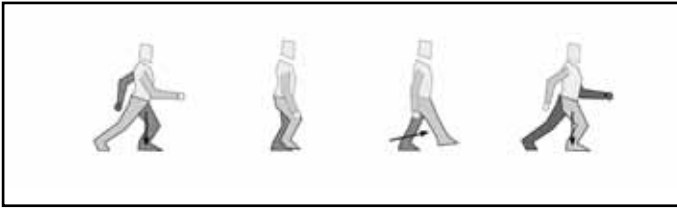
As you move forward on your skis, concentrate on keeping their tips from crossing—if you're in tracks that should be easy. Guide them straight forward and parallel to each other. One of the basics is getting used to the fact that skies have very little traction.



Unless you're standing still, you always want to be in an athletic stance on your skis—knees and ankles should be slightly bent, your chin up, and muscles slightly tensed—like you're ready for anything.

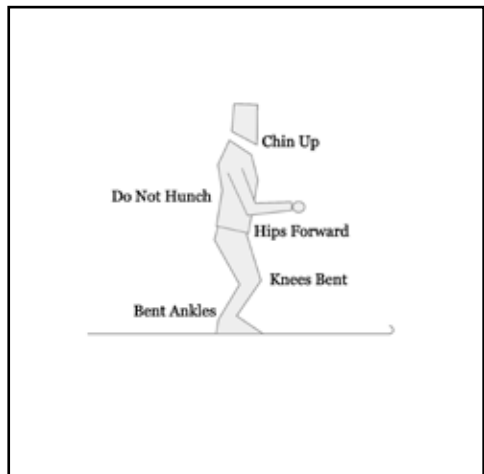
## Moving Forward

**The Kick** – Shift your weight onto one ski. With your feet and skis still parallel, bend your knees and begin pushing down—root back—with one foot. Keep your hips (*and weight*) over that ski. Keep your chest and hips forward (*Don't be fooled by the illusion that diagonal striders are kicking backward*). Keep your weight on the foot that is pushing down.



Swing (*kick*) your other leg forward past the foot and leg which are pushing down. As your swinging leg passes the stationary leg, begin to shift your weight onto the swinging leg so that by the time it has swung completely forward, your full weight is on that ski. That action will make you glide forward.

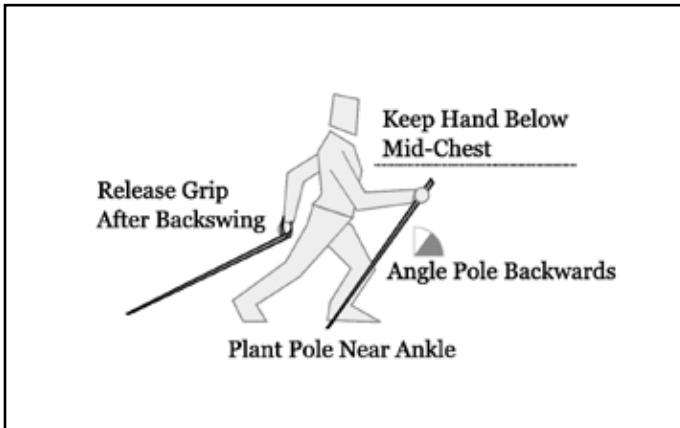
**The Glide** – When gliding, always bend slightly at the knees, but don't hunch your upper body. Keep your chin up and hips forward with your hands in front of you with all your weight on the gliding leg. Remember to bend your ankles and keep your entire leg flexible.



## Using the Poles

Think of how you walk at a fast pace and how your arms naturally swing. In a similar fashion, as you slide forward on your right ski, your left (*opposite*) arm will naturally swing forward with it. To do this with poles, keep your elbow bent and bring your arm up and forward to near chest level.

Pick up your poles and grip them properly. Plant the pole in the snow no farther forward than the ankle of your lead (*opposite*) leg. Using your back muscles, push down and back with your arm. Allow your arm to follow through behind your back in concert with the opposite leg.



Keep the poles fairly close to your sides when you plant them in the snow and push forward. Placing them too far out to the sides is not as effective and far less efficient.

Remember to release your grip on the pole at the end of each backswing. Then, extend your arm forward so the pole is close to vertical, but still angled backward (*Going to or past vertical actually stops your forward motion*). Remember to always keep the poles angled backward so when you apply pressure to the snow, it propels you forward.

## The Diagonal Stride in Review

**Kick:** Push straight down through your left boot on the midsection of the ski as you initiate a kick with your right leg. Your legs and ankles should be slightly flexed and your torso leaning forward in an athletic stance.

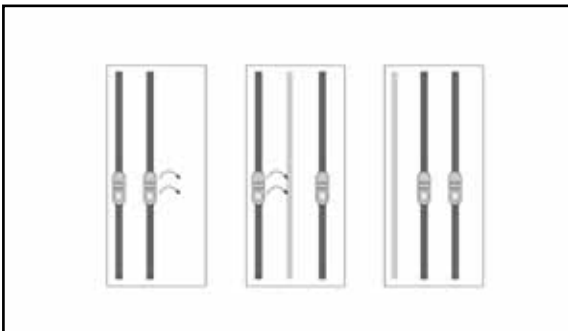
**Glide and Pole-push:** Your weight has shifted to your right leg (*and ski*), which is driven forward and down the track in a glide. Your opposite (*left*) arm naturally follows, coming forward for the next pole-plant. Your elbow should be bent for maximum power in the pole-push and your hand no higher than mid-chest.

**Kick:** The pole-push should occur just before the initiation of a kick with your left leg.

**Glide and Pole-push:** Your weight then shifts to your left, or gliding leg, and the sequence begins all over again.

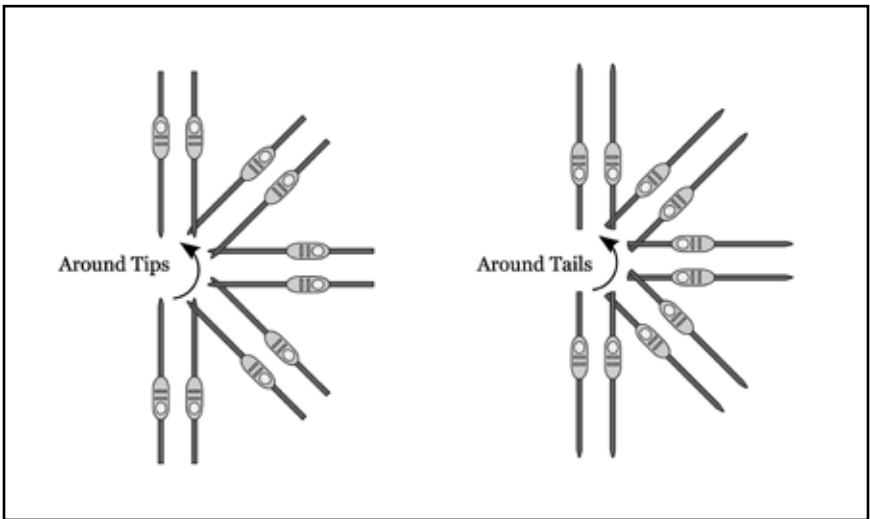
## Moving Sideways

There are times when you want to move sideways on your skis. It's easy to do. Simply pick up the ski nearest to the direction you want to go and step farther away from your body's center. Follow this action by picking up the following ski and placing it in the snow directly under you. Repeating this action moves you farther and farther in the direction you want to go. It's called the "side-step" and is most often used to ascend or descend very steep hills.



## Turning around

The two simplest ways to turn around are referred to as “around tails” and “around tips.” To get the concept, think of a daisy (*flower*). Both turns are negotiated by keeping either the tips or the tails of your skis together in the center of the flower and moving the opposite ends of your skis around like they are the petals of the flower. The action is similar to the side-step, but with either the tips or tails staying in place while the opposite end of the skis move. Obviously it takes several small steps to complete an 180° turn. But, both turning methods are simple and you’re unlikely to fall down.



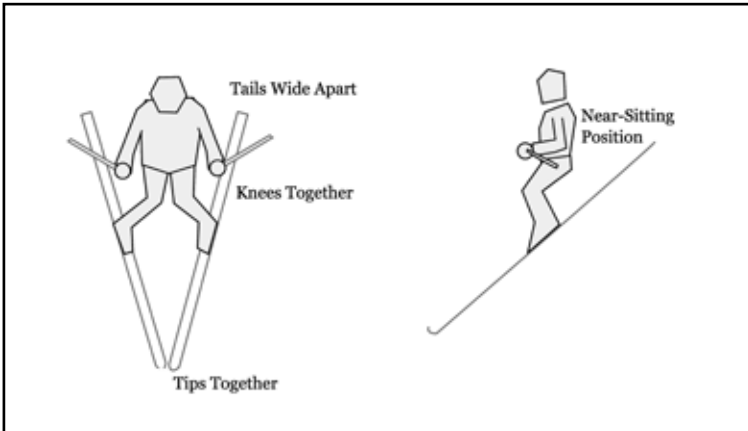
## Controlling Speed on a Downhill

**Snowplow** – If you want to ski down the hill but want to keep from going too fast, use this technique. It performs just like the name sounds—plows snow to control speed.

To learn the “snowplow”, find a slight downhill section of trail that you’re comfortable skiing. Begin moving down the hill, then bring the tips of your skis together while pushing the tails out to

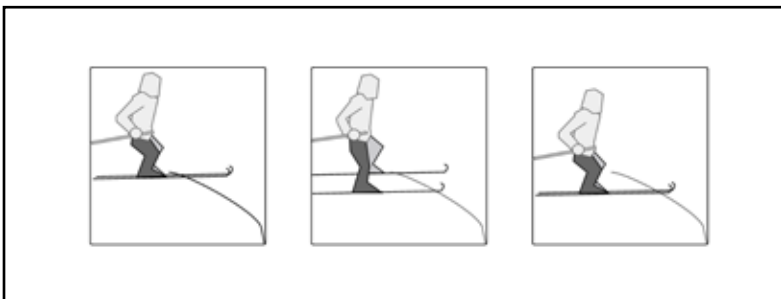


the sides. As your feet push out and move to the sides, bend your knees and bring them toward each other—your center of gravity will lower and you'll be almost in a sitting position. These actions transfer your weight to the inside edge of your skies and form a stable wedge of your skies. You'll notice immediately that the skies begin plowing snow and slowing your progress down the hill.

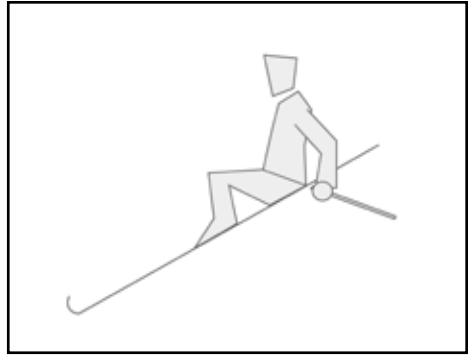


Mastering the snowplow takes practice. But once you've mastered the technique, it can be used even on a very steep downhill to control speed.

**Side-step** – If the hill is very steep or you're uncomfortable with being able to control your speed, use this previously-described method to descend the hill. It's very safe and easy to keep in control.



**Stopping** – If, no matter what you do, you find yourself propelling down a hill faster than you like, there is a very simple method for stopping. Sit down! Yes, it’s as easy as that. Just move your weight back and sit down on the snow between your skis. It may not look elegant but it works. You’ll stop!



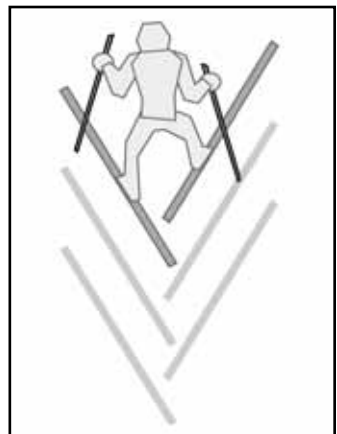
Remember to move your skis across the slope of the hill before you try to stand up. Otherwise, you will keep falling.

### **Climbing a Hill**

Sooner or later you’ll want to climb a hill which is steep enough that, no matter what you do, your skis keep slipping and you can’t make any uphill progress using the normal diagonal stride technique. Here are a couple of methods for climbing steep hills.

Herringbone – This technique consists of placing your skis in a herringbone pattern—thus the name—to climb steep sections of trail. Move the tips of your skis out to the side while keeping the tails close together behind you. Shifting your weight from side-to-side, first over one ski then the other is the key to making this technique work.

Begin by lifting your right ski and placing it in front of you (*uphill*) in the herringbone position. As you place the ski on the snow, shift your weight onto that ski and push downhill with your left ski pole (*the tip of which should be placed in the snow slightly behind your body*).

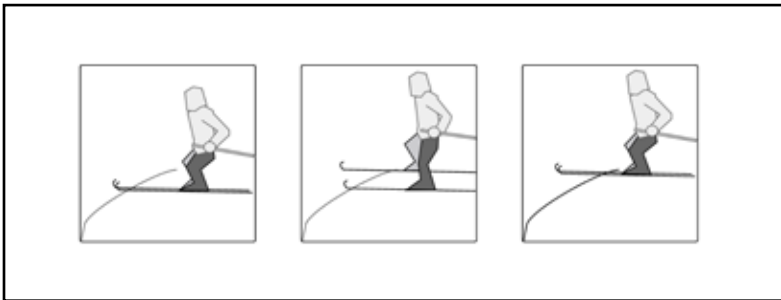


With most of your weight now on the right ski, lift your left ski and place it in front of you (*and your right ski*) in the herringbone position. As the ski is placed on the snow, use your right ski pole to help shift your weight to the left ski.

Continue up the hill, continually shifting your weight onto the uphill ski (*right then left then right, etc.*) over and over until you reach the top.

This is not a technique which can be mastered in one outing. It takes plenty of practice to get the timing of the weight-shift plus the pole placement and push just right. But once you become proficient, it will get you up most hills.

**Sidestep** – When all else fails, this previously-described technique will get you up almost any hill. It’s slow going but it works!



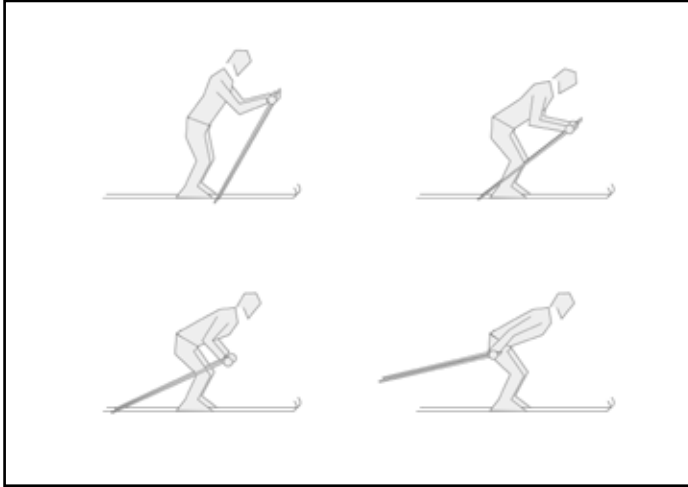
## **Double-Pole**

Eventually you’re going to be going down a hill fast enough that you’re unable to keep up the diagonal stride technique but not so fast that you want to slow down. In fact, you may want to go a little faster. There is a poling technique for such an instance. It’s called the “double-pole.”

This is how you do it. While you are gliding down the hill with your skis next to each other, place both poles in the snow (*at the same time*) next to the toes of your boots and push backward using your core (*abdominal*) and back muscles. As you crunch your

body, trying to keep the poles in contact with the snow as long as possible, let the poles swing up and out behind you, allowing them to completely leave the snow before you recover to a standing position. Only then should you repeat the process. You'll quickly discover that by using both poles together, you can generate much more power to your forward progress and increase your speed substantially.

Getting the timing just right takes lots of practice, but it certainly



pays off with increased speed. Many skiers claim that, once mastered, the double-pole technique not only increases speed, but allows a chance to rest.

## Come Ski With Us

We invite you to ski on what are among the best cross-country ski (*classic and skate*) trails in Montana or Idaho, the Chief Joseph Trail System located at the southern end of the Bitterroot Valley in the National Forest near Lost Trail Pass, just east of the junction of Highways 90 and 43. This area receives very reliable snowfalls every year, and is generally skiable earlier, later, and more often than any other groomed trails in the area.

## Summary of Beginning Techniques

After you understand the basics, you'll quickly discover there is plenty of work to do, especially putting it all together. Your main objectives should be:

- Getting comfortable with the feeling of the gliding phase of each stride;
- Making a more complete weight shift from side to side;
- Learning how to ski without poles;
- Learning to apply the “Wax Pocket Secret.” Press the toe for better grip, press the heel for better glide; and
- Using extra down-force “stomp” (*beyond just body weight*).

The biggest obstacles to making progress are learning to maintain solid balance on one ski and completing total weight transfer from one ski to the other.

To simplify the learning process, it's often helpful to separate practice sessions into some concentrating on leg action and others on arms and poling.

### **Groomed Trails for Everyone**

Trail difficulties range from easy (*green*) to difficult (*black*) and are appropriate for every level of skier from beginner to expert. People of all ages and abilities use these trails (*toddlers to retirees*) for fun and fitness. Every trail junction is marked with a trail map—it's almost impossible to get lost—and benches are placed at appropriate spots along the trails for those needing a short break or a place to sit while enjoying a snack or the wonderful views.

### **No Fees**

Open to the public free of charge during the winter, the trails at Chief Joseph Ski Area are groomed each ski season by volunteer members of the Bitterroot Cross-Country Ski Club.

# Intermediate Skiers

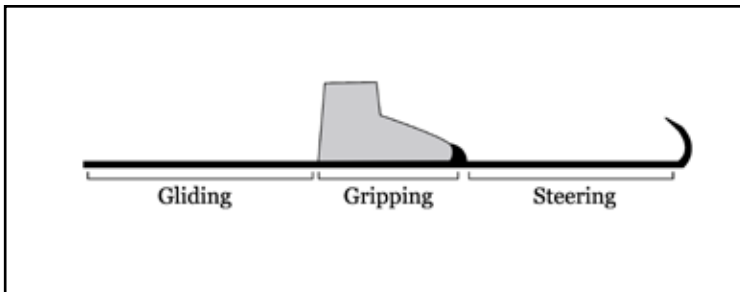
## Improving Technique

While you work on mastering the basic techniques of classic skiing, at some point you begin to wonder how is it that some people are able to ski quite fast even when they appear to be using minimal effort. The reasons are not a secret and are pretty simple. They are: proper levels of fitness, ski care, and technique. You have control over each of these three things.

The fitness level you reach is up to you. It takes work and commitment to become really fit, and whether you want to do that is up to you. However, even without working to become a world-class athlete, you can ski faster using less effort simply by taking care of your skis and by learning proper technique.

It sometimes helps to think of skis as having three distinct sections, steering, gripping, and gliding.

- Tip, the area of the ski in front of the kick zone, is used to steer.
- Mid-section, mostly under your foot, is for gripping.
- Tail, everything behind your heel, provides a major portion of the glide.



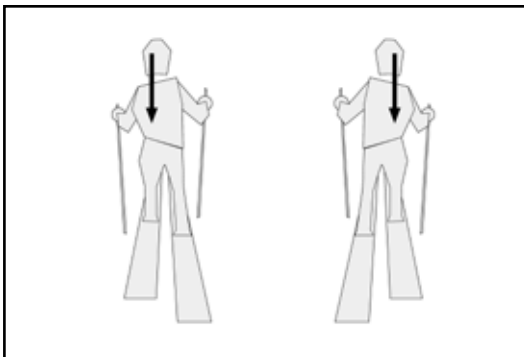
## Proper Ski Care

In order to move quickly over snow, the bottom of a ski must be kept in shape. Keeping it in good condition is not difficult; in fact, it's pretty easy.

- First – don't put your skis on in the parking lot and ski over dirty snow full of grit which can damage the skiing surface. Wait until you've reached an area prepared for skiing.
- Second – have your skis hot-waxed at least three times each season, the beginning of the season, mid-season, and at the end. End-of-season waxing is especially important because that's what keeps the skiing surface from drying out over the summer.
- Third – before each day of skiing, wax your skis with a liquid or paste (*better*) wax. This is especially important if you want to get the best possible speed and glide from your skis. Doing so actually improves your skis over time so that they improve with age.

## Weight Shift

In one sense, skiing is similar to walking, but not completely. While walking, your weight seldom shifts completely from one foot to the other. Yes, it does shift from side-to-side, but never quite to a position directly over either foot. While skiing, complete weight shift is essential to achieve a good kick and maximum glide.

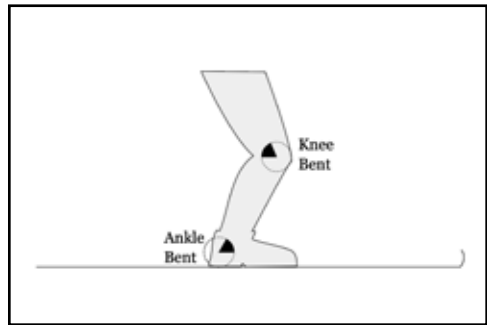


## **Timing**

If you expect to receive the most speed while exerting the least amount of effort with each stride, establishing and maintaining proper timing is a must. Consider your kick. If you kick too early, you stop your ski from completing the glide initiated during your previous kick. If you kick too late, your ski will be stopped on the snow for longer than necessary and your body will lose forward momentum. Ideally each ski should be stopped on the snow only for as long as it takes to complete a kick, no longer.

## **Knee and Ankle Flex**

In order to attain a complete transfer of weight from one ski to the other, your knees and ankles need to flex. In fact, while skiing, both knees and ankles should always be bent to some degree. Your knees should only be completely straightened when you're standing still.

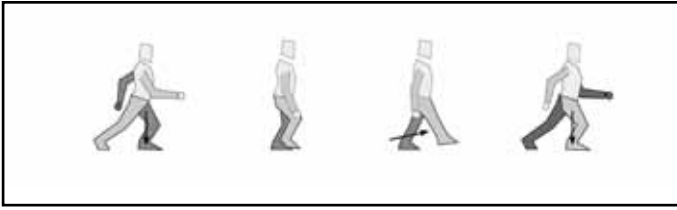


## **Stomp**

Ankle flex is extremely important if you expect to get maximum grip during the stomp phase of each stride. Only when your ankle is bent to a large degree will your body be low enough to apply a strong downward stomp for maximum grip.

Don't try to kick backward with your stomping foot to propel yourself forward. Stomp directly downward with the flat of your foot.





## **Leg Thrust (*Kick*)**

For the best glide, it's not enough to simply move your leg forward when you shift your weight onto the gliding ski. Make an effort to thrust (*kick*) your lower leg forward and land with your weight on the heel of the gliding foot. The momentum created by thrusting your leg forward transfers to the gliding ski and takes you farther with each stride than would happen if you simply moved your leg forward with little or no force.

It may be simpler to think of thrusting your leg forward as your “kick”—you are moving the leg forward with force after all—and your foot plant (*often mistaken for the kick*) as a “stomp.” Think about it for a moment. When you plant your foot to get traction with the snow, you really aren't doing what we normally think of as a kick. It's more similar to stomping your foot. And, when you forcefully swing your leg forward and settle your weight on the heel of your gliding ski, it really is more like what we normally call a kick.

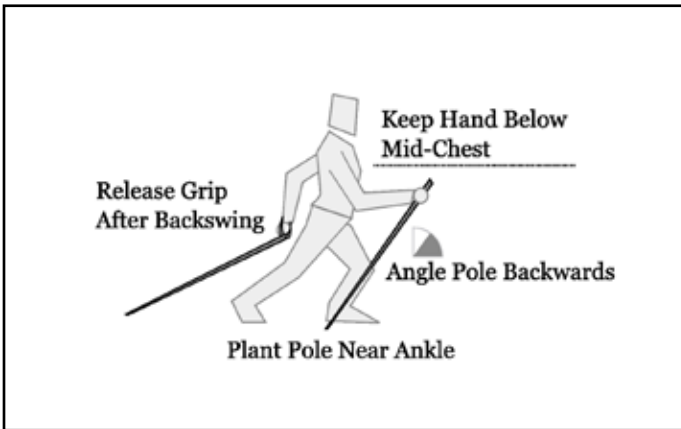
Put another way, the “stomp” establishes a solid base on the snow so that it's possible to “kick” your other leg forward (*onto the gliding ski*) with enough force to keep your body's momentum moving forward.

## **Poling**

Think carefully about your pole-plant. The pole should be planted as soon as possible each time it is brought forward. When you plant each pole in the snow, place it no farther forward than the ankle of the opposite foot—farther forward serves as a brake to

your momentum. Use the muscles of your core, back, shoulder, and arm (*triceps*) to push each pole backward until the tip loses contact with the snow.

One way to ensure your pole-plant is not too far forward is to make sure you only lift your hand as high as necessary before planting the pole. With elbows bent, bringing your hand only as high as your chest (*not shoulders*) is sufficient. If doing that brings your pole-plant too far forward, your poles are probably too short and should be replaced. Remember: Poles should be used for propulsion not balance. They should always be angled backward so you can push forward.

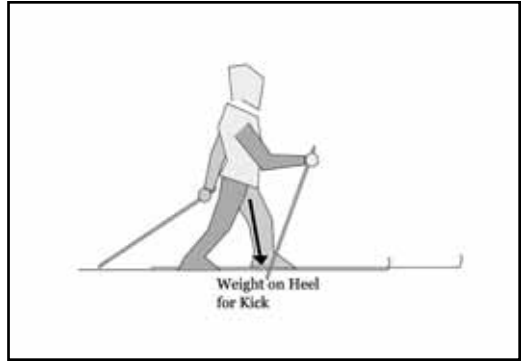


Some people find this technique easier to learn by concentrating on not grabbing the pole to move it forward (*after each push*) but simply dragging each pole forward over the snow after a push. Learning this way also helps keep people from establishing the very common mistake of holding the poles too tightly—a waste of energy and makes your hands colder than they have to be.

Proper use of your poles can contribute a lot to forward speed. Learning to take advantage of that fact takes practice but is well worth it.

## Glide

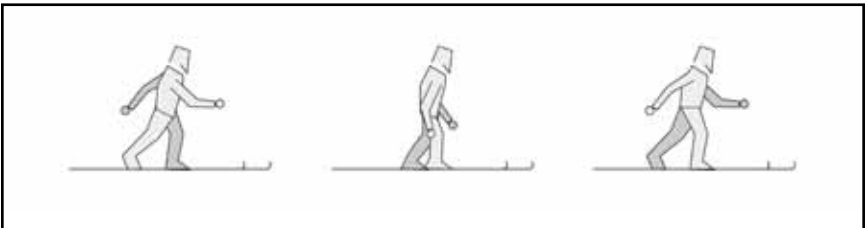
Learning how to glide correctly will add significant distance to each stride you take while skiing. Remember to think of your ski's tail as providing the glide. When you stride (*kick*) forward with one leg as the other finishes its plant (*stomp*), try to place most of your weight on the heel of your gliding foot. Doing so keeps your weight toward the back of the ski and improves your glide.



Ride each glide until the ski stops moving forward. Only then should you establish contact with the snow by stomping. This sounds easy, but your body will only learn (*establish muscle-memory*) the proper timing with practice, and plenty of it.

## Practice, Practice, Practice

There is an excellent technique for learning proper weight shift, knee and ankle flex, timing, and glide. It's called skiing without poles. Put your poles aside and ski back and forth along a fairly level stretch of ski trail. You'll quickly discover that if your technique is lacking in any of these areas, you're not moving forward efficiently.



Even when you believe you have your technique down pat, skiing without poles provides a good reminder of your weakest areas. Just about everyone who skis has at least one weakness—most of us have lots of them. It’s nothing to be ashamed of, but it is something to work on if you want to become a better skier. Each time you go out, a few minutes of skiing without poles (*after a warm up*) is not just good practice, it’s a reminder of what you need to work on. Over time, it will help make you the best skier you can be.

### **Become a Member**

You do not have to be a member of our Club to ski the Chief Joseph Trails, but we certainly hope you will join. Grooming ski trails costs money. Annual Membership Dues, donations from skiers (*donation boxes are located at the trailhead and in the Gordon Reese Cabin*), and support from area businesses and organizations help offset the cost of weekly grooming.

Individual (\$15) - Family (\$25)  
Supporting Individual (\$30)  
Supporting Family (\$40)

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