

# THE NEW HOPE NORDICS ... A CROSS COUNTRY SKI CLUB

An assortment of xc ski articles from past newsletters, irregularly updated.

## BEGINNERS GUIDE TO CROSS COUNTRY SKI EQUIPMENT & CLOTHING

This is intended to be a beginners guide to cross country skiing. Cross country skiing, like many other outdoor activities, carries the chance of personal injury and the need for “common sense” on your part. This guide is not intended to take the place of professional instruction.

If you're racing, telemarking, or planing on retracing Roald Amundsen's 1911 adventure at the South Pole, you will have your own needs and viewpoint.

It's written from the standpoint of an opinionated, biased, sometimes pompous, XC skier who has a bias towards waxable skis.

For more information try:  
[xcskiworld.com](http://xcskiworld.com) -or- [dvxcskier.com](http://dvxcskier.com)

### TWO BASIC TYPES OF SKIS:

With **WAXABLE** skis you crayon on a thin layer of wax to match the day's snow conditions. The benefits are increased glide & better traction. Although you can skate on a waxable ski, a real skating ski will be much faster.

**NO-WAX** or “waxless” skis have a grip pattern molded into the base. They're convenient (just put them on and go), and are popular with touring and backcountry skiers. When conditions are changing from above- to below-freezing, waxing can be a real challenge and many skiers switch to a no-wax ski. Because the grip pattern may drag on the snow, a no-wax ski is difficult to skate with and is generally slower than a waxed ski. Most experienced skiers “glide wax” the tips & tails of their no-wax skis.

### FITTING OF SKIS:

**CAMBER** is the bend in the middle of the ski where the “wax pocket” or “grip zone” is. A ski needs enough camber & stiffness to hold the grip zone off the snow when you're gliding, otherwise you go really slowly, which is not considered fun by most people. But, when you stand on one ski and press down, the ski has to bend enough under your weight to force the ski to grip the snow and move you forward.

Your **weight** and **skiing ability** affect the amount of **camber** and **stiffness** you need. Stiff skis are faster but more demanding of your technique. It takes practice to avoid slipping backwards on stiff skis. Racers love stiff skis. Novice skiers are happier with a softer ski that requires less force (especially at the end of a long day).

**IMPORTANT:** To go faster, you should first try to glide further instead of moving your arms and legs faster. The longer you can balance and glide on one ski, the faster/smooth/better skier you will become.

A **WIDE** ski gives more flotation in soft snow while a **NARROW** ski gives more speed and less drag. People who ski on groomed trails use a narrower ski than backcountry skiers. People who ski with heavy packs choose wide skis.

**SHAPE OF THE SKI:** Skis are hourglass shaped, narrower under the foot than at the ends. This is called side cut and it makes the ski easier to turn and steer. Backcountry skiers need skis that turn easier than a skier who is always in prepared tracks.

The **LENGTH** of the ski is decided with your height, weight and skiing ability in mind. As a general rule: a shorter ski is easier to handle and steer. A longer ski gives increased stability and glides further. A ski should be properly matched to your **WEIGHT** and skiing **ABILITY**. As a very general rule: **CLASSICAL SKIS** should reach to the wrist when you raise your arm over your head. **FREESTYLE (SKATING)** skis are about 10 cm shorter.

## LENGTH OF POLES

IMHO the old measure of under your arm pit is dead. Most skiers should be using from top of shoulder to below the chin for traditional skiing because it's much more efficient when climbing hills. Skaters & racers are using poles to the mustache.

**IMPORTANT POINT!** Don't grip your poles too tightly - you'll only fatigue your arms. Push on the straps from your wrists. Practice skiing with your pinkie fingers extended.

### METAL EDGES:

Cross country skis with metal edges used to be limited to hard-core backcountry/mountaineering types and telemark skiers. The situation changed with the introduction of the NNN Backcountry bindings and the shorter skis. It's possible to get metal edged skis that weigh just a few grams more than a regular ski. They must be paired with good boots and bindings to let you control them. Metal edges may let you ski on ice infected hills, but, is that what you really want to do? You'll accelerate very rapidly on even a shallow icy slope, and unless you're very, very good, you may become very, very scared, very very fast. Consider metal edge skis for your 2nd or 3rd pair, after you have some gained some experience, and know what you are getting into.

## BOOTS & BINDINGS:

Both boots & bindings have improved dramatically over the last few years. Even the fossilized three pin bindings have shown new life in their heavier, backcountry versions.

The integrated boot/binding combo like the NNN II and SNS Profile is the choice for most people. It's light, durable, and gives vastly improved edge control. And control of your edges is everything...! The drawback is the different boots and bindings are not interchangeable, which is a problem for those of us with four pairs of skis!

## CLOTHING FOR CROSS COUNTRY SKIING

XC skiing demands a fine balance between staying warm and overheating. Overheating is a major concern because you will sweat and if you don't get rid of that moisture, you're going to get cold as soon as you stop. Almost all beginners overdress and they quickly stop to remove excess clothing. Cross country skiers often dress like runners. But, everybody's comfort level is different - what's good for you may be freezing or roasting for someone else. Skiers often carry a small pack with extra layers. A small pack is also a great place to carry water bottles and snacks. You need to drink frequently, you need to drink a lot, and you need to **drink before you get thirsty!**

Three **LAYERS** are used to regulate body temperature:

**WICKING LAYER:** In order to stay warm, the layer next to your skin **MUST** stay dry. Synthetics like polypropylene move the perspiration away from your body and into the outer layers. Cotton is cold when wet and will only make you colder when you stop! **Don't wear cotton.** Wool is OK too, but poly is much better.

**INSULATING LAYER:** Wool sweaters, pile and synthetics are best. Light and easy-to-pack layers are best. Racers may not even need an insulation layer (until they stop). Only wear cotton if you never fall, never perspire, enjoy being uncomfortable, think that cars haven't really improved much since the 1962 VW Beetle, and haven't heard that the Grateful Dead are no longer touring.

**OUTER LAYER:** This protects you from wind and snow. The better shells have lots of neat zippers so you can vent excess heat and moisture. Put nice strings on the zippers so you can work them with your mittens on.

**LYCRA:** Once you ski in lycra tights you'll probably never wear anything else. The freedom of movement and lack of binding at the knees, etc., really adds to your comfort. Lycra tights now come with warm & fuzzy pile inside. Not to mention some really wild & colorful prints.

**HATS & GLOVES:** Like your grandmother said, if your feet are cold, put on a hat. You lose a lot of energy through your neck and head, so insulate it. The layering system can work here too, with a hat and a hooded wind breaker. Cold hands are no fun: liners, gloves and overmitts will make a versatile system to keep your hands warm in almost any weather. When you first start out the overmitts are nice and warm, but you easily remove them when you get warmed up. And you will get warmed up.....

## BASIC SKI MAINTENANCE

After a long summer of hibernation in the basement, your skis deserve a little TLC before they will be ready to carry you down the trail. These are the basics, and are not intended to cover the more advanced waxing and "rilling" techniques. Any good ski shop will be happy to make these repairs for you as well.

### CHECK TIPS & TAILS

**Equipment required:** Epoxy cement, C-clamp.

Check your skis for delaminations or cracks: the tails are the most common problem area, since this is the end you rammed in the snowbank by the tavern at the end of the day last season. Clean the wound: a nail file can help to get out the crud, and maybe some rubbing alcohol too, if you have enough common sense to use it without starting a fire. Mix epoxy according to the tube label. Apply with a small stick. Clamp

with a small C-clamp for as long as the label suggests.

Thanks to a now defunct airline, I once arrived in Breckenridge, CO with a pair of bashed skis. I was able to buy epoxy at an all-night convenience store, but no C-clamps. So I mixed up the glue and used a heavy chair as a clamp and it worked!

### CHECK THE BINDINGS

**Equipment required:** Screwdriver (Posi-Drive *preferred*, or large Phillips, carpenter's or white glue.

Look for cracks or obvious damage: bent parts, looseness, etc. The boots are part of the binding system: check that they fit properly into the bindings. In case of a problem, replacement is often the only answer. Are the screws tight? Check the heel plate. Some glue on the screws helps keep water out of the ski's internals.

### CLEAN THE BOTTOMS

**Equipment required:** Rag, wax remover, plastic scraper.

You must get last year's crud and wax off! Clean skis glide better! If the bottoms are clean, a rag and wax remover may be enough. If you find old wax on the skis, you'll have to use a scraper first. Plastic scrapers only, unless you're experienced.

### SMOOTH THE BOTTOMS

Gouges in a no-wax ski's kick zone are almost impossible to fix. Gouges in the tips & tails (glide zone) can be smoothed out. If the gouges are not too deep: polish with fine sandpaper, followed by a Scotch Brite scouring pad. Work in a tip-to-tail direction. You want it to be as smooth and flat as possible. Clean with wax remover. If the gouges are deep: you can fill in the large craters with a p-tex candle, followed by smoothing with a metal scraper. This works OK, but it's not for a beginner. Melting p-tex on the skin will cause very severe burns.

### WAX THE SKIS

You'll get better glide if you wax the tips & tails. It also helps protect the base. Crayon a THIN layer onto the tips & tails.

Smooth it with a cork, or better yet, use an iron, it will be more durable. Let it cool down, then scrape off the excess. You will probably want to re-wax during the season.

If you are using waxable skis you will be applying “grip wax” or “wax-of-the day” in the center part of the ski.

Do not put wax on the grip pattern of waxless skis: it will just clog up the mechanical pattern and you will spend a lot of time with solvents and toothbrushes cleaning it out.

There are products like “Maxi-Glide” or Swix F4 that are made to apply to the grip zone of waxless skis. Some people feel they help the glide and keep wet snow from sticking.

For more information about waxing try:  
Eagle River Nordic ([ernordic.com](http://ernordic.com))  
Swix ([swixschool.com](http://swixschool.com))

## THE 8 ESSENTIAL SKILLS OF XC SKIING

The skills needed to cross country ski can be broken down into eight easy-to-learn parts!

Whether you are a beginner or an expert, diagonal striding or skating, the skills apply to all levels.

For example, the basic snowplow starts by SKIDDING and STEERING the skis sideways into a Vee, then EDGING them into the snow. When you add WEIGHT TRANSFER, you will start to turn.

By practicing the basic skills for a few minutes each day when you ski, you will become a smoother, more efficient, and faster skier.

**SLIDING:** Gliding across the snow with a neutral, balanced stance with your feet side by side.

**GLIDING ON ONE SKI:** gliding across the snow on ONE ski, with your body mass centered over that ski.

**WEIGH TRANSFER:** Shifting your weight from ski to ski.

**PUSHING OFF:** Also know as “kicking”, when you grip the snow with the ski to move forward. Nowax skis grip with the fishscale pattern, wax skis grip with the wax, and skating skis grip with the edges.

**POLING:** pushing off against the poles.

**EDGING:** tilting the skis on edge so that the bottom corner digs into the snow.

**SKIDDING:** slipping the skis sideways across the snow

**STEERING:** turning the leg and foot to turn the ski.

# HOW TO TURN & STOP ON XC SKIS

(Yes, it is possible...)

The snowplow, and the snowplow turn (next page) are the most basic techniques to control speed and turning.

But first you need to be in the correct body position.

Years of watching and teaching people ski down a hill have shown me that improper body position is the most common problem.

It is also the easiest to correct.

## Downhill XC - The Basic Position



For balance & shock absorption: the upper body is slightly slumped, but still upright.

### TRY NOT TO BEND FORWARD!

The legs are bent at the ankles and knees so your legs can act as shock absorbers. Your toes, knees & nose are roughly aligned vertically.

Legs should be shoulder-wide for stability. It's harder to balance side-to-side well with your legs close together.

Practice by standing "flat footed" on the skis with your weight equally distributed between heels and toes. Rock back and forth and get familiar with the feeling of having your weight evenly distributed for-and aft. Closing your eyes may help you feel this.

Hands and poles don't do anything going downhill, so keep your hands and poles low and a just little forward of your thighs. Don't put your poles in front of you: impaling your-

self on your poles in a fall is not considered fun by most people.

If the hill is too steep for your comfort: Walk down the hill! But walk off the track, your footprints in the middle of a trail could cause another skier to fall. **The downhill skier (not the downhill walker) has the right of way.**

### AS SPEED INCREASES:

Your natural instinct is to lower your center of gravity to gain stability.

**BUT:**

**Resist the urge to bend forward!  
Really Important: Bend your knees!**

If you bend forward at the waist when going downhill, you will throw your center of gravity so far off, that it won't matter what kind of skis you have - you will be out of control!

Correcting body position solves most control problems.



## WEDGE OR SNOWPLOW

This is the most basic, and most widely used method to control your speed, and it is how most turns start.

Steer the skis into a snowplow, narrow at the front wider at the back

Bend your knees and ankles, and dig the inner edges of the skis into the snow. You can't efficiently edge the skis with straight knees.

Your shins should push into the tongues of the boots, but your heels should not lift up.

Practice steering by holding a pole between the tips of your skis. Lift a ski and push into the pole. Feel your big toe pushing against the boot.

Visualize squeezing a basketball or grapefruit between your knees, while at the same time pushing your lower legs/ankles outward.

This stance may seem "pigeon-toed".

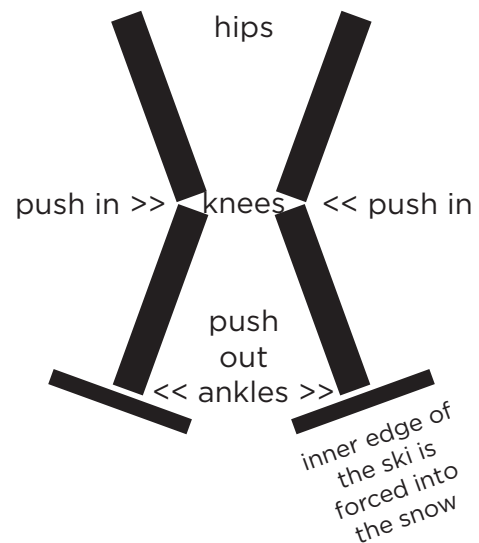
As your speed increases: go wider and lower.

Don't bend at the waist: imagine sitting in a chair, and looking forward.

Look straight ahead, not down at your ski tips (this is the don't bend forward part, again...).

Practicing without poles on a gentle slope can be useful.

The wedge can be modified to a half wedge when skiing on prepared tracks: one ski out of the track. This is an easy way to control speed in set tracks. With a little tweaking and a lot of polling this becomes the technique used by Bill Koch to win the a silver medal in the 1976 Olympics



## SNOWPLOW TURNS

Once you have a decent snowplow, just add weight transfer and you will start to turn.

Transfer more weight the ski on the outside of the turn.

Practice on a gentle slope, at low speeds, preferably without using your poles.

