



Cross Country Skiing Skills Books

Compiled by the Sport
Development Committee and
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STEPS IN TEACHING A DRILL

1. Introduce



Coaching Principles

2. Demonstrate
3. Explain
4. Organize
5. Execute
6. Correct
7. Practice

GENERAL PRINCIPLES

- Drills should relate specifically to what you are teaching.
- Athletes should be made aware of how drills relate to the sport.
- Drills should only be a part of your practice.
- Drills should be introduced at a slow pace and then gradually increased
- Drills should be accommodated for fitness, age and abilities.
- Drills should move from simple to complex. First perform drills that will help keep the interest of athletes.
- Drills should relate to the system of play that the athletes will use.
- Perform a variety of drills to prevent monotony.
- As fatigue sets in, technique deteriorates so provide frequent rest periods.

EXECUTION PRINCIPLES

- Review the drill procedure before practice so you know how it works.
- When introducing a new drill, walk a group of athletes through it so others can see how it is performed.
- Avoid talking too much, get the athletes performing, they will learn by doing.
- When errors occur, the drill should be stopped momentarily to correct errors.
- Praise those athletes doing the drill well and encourage those having difficulty.
- If equipment is necessary, ensure it is set up before so that progression from one drill to the next can progress smoothly.

Warming up for cross-country skiing is about becoming comfortable on the skis. Proper stretching of the lower body is also very important. As a group, work through a series of



Cross Country Skiing Warm Up

exercises on the skis. Follow these exercises with 5 minutes of stretching.

Before putting skis on:

- Big steps in the snow, quick walk up on toes.
- Side jumps
- Knee bends, knee lifts
- Lunges
- Ankle rotations

Jackrabbits:

Each letter in the acronym stands for something:

- J- Jumping jacks
- A- Arch the back, all direction 3 times
- C- Crouch and stand 5 times
- K- Kick to each side with each leg 5 times
- R- Reach as far upwards with each hand, and then both.
- A- Archilles tendon stretch
- B- Bounce on your toes, 15 times
- B Bend like a tree, left side, front, right, try to touch toes
- I- Intertwine fingers and stretch out hands.
- T- Touch the tips of your skis.



Warm Up Games:

Thousand Steps:

Skiers try to take little steps rather than big ones. Ask them to use a certain number of steps to get from one point to another.

Red Light, Green Light, Orange Light:

Line skiers up side by side. When green light is called, skiers move forward as fast as possible. When red light is called, skiers stop dead in their tracks. When yellow light is called, skiers move forward slowly. Switch back and forth between all three, mix it up!

Stance:

- **Rocking back and forth on skis.**
- Bouncing on skis bending knees.
- Hop in the air, spread skis out to the sides, hop and bring the skis back in.



Basic Motor Skills

Balance:

Understanding basic planes of balance: forward/backwards, lateral, vertical.

- Skiing with one pole.
- Skiing without poles.
- Lift the tip of the right ski off the snow, move ski out to the right, move it back parallel and place it on the snow.
- Skiing with poles stretch out horizontally in front.
- Skiing slowly over small bumps to practice balance.

Walking:

- Walking up the hill with straight skis.
- Walking up the hill with skis in a "V".
- Walking with poles, without poles.
- Walking backwards.



Side stepping:

- Side stepping with straight skis.
- Side stepping with skis in a "V" or "herringbone"
- Side step up a gentle slope, medium slope.

Weight Shift:

- Shift weight back and forth between right and left leg.
- Take small jump with the right foot, bring in left leg to join.
- Take small jump with the left foot, bring in right foot to join.

Recovery skills:

- Getting up from a sitting position facing downhill, facing uphill and sideways.

Falling and Rising:

- From the ground, position the skis so that they are parallel to each other and close to the body.



Sport Specific Skills

- Work body forward until you are on your hands and the knees are over the feet.
- Start by placing one knee on the ground and then pushing up with the hands to a standing position.
- If on a hill, place skis perpendicular to the hill in order to prevent skis from sliding during the rise.

Star Turns: (because of the pattern they leave in the snow)

- Stand in a relaxed, balanced position, use poles as guides.
- Slightly bend left leg and place the full weight onto the leading leg.
- Lift the tip of the right ski, swing it out, and place the tip down at 30-45 degree angle to the right.
- Bring the left ski over, and place it parallel to the right ski.
- Repeat this until a full circle is completed. These drills are called star turns because of the pattern that they leave in the snow.
- Repeat this drill but keep tips on the ground and instead, lift and turn using heels. Lift heel up, swing it out and place it down at 30-45 degree angles. Continue for full circle.



Kick Turn:

- While stationary, plant one pole behind you on the same side of the skis as the other.
- Lift the ski farthest from the poles up and forward so that the tail of the ski is near the tip of the other ski.
- Swing the ski around so the tip is in the opposite direction and transfer body weight onto that ski.
- Immediately swing the other ski around and line it up parallel in the new direction.
- The key to achieving the kick turn is having good balance- use balance drills to help.
- Start the sequence in slow motion and then increase it to full speed.

Balance:

Skiing is 90 % balance. Mastering the correct balance and proper weight shift from one gliding ski to the other is vital.

Using the belly button as a “balance point”. Use its position as a focus point when switching between both skis. An athlete must balance and glide on one ski at a time. The balance point (belly button) should be directly over the gliding ski during the entire glide.



Sport Specific Skills

Practice:

- Stand tall on one ski and lift the other ski slowly.
- Hold the ski up for a count of 5 seconds.
- Feel the balance point (belly button) in alignment with the balancing foot.
- Keep arms still and avoid movement.

Downhill:

Teach downhill technique gradually. Move from light downhill to moderate to steep.

Progression:

- On small slope, practice changing back and forth from crouching to standing.
- While gliding down, slide one leg out in front...keep weight on back ski.
- Return to parallel position, then alternate legs.
- Next, practice sliding one ski forward and the other backwards.
- While gliding downhill, slowly lift tip up of one ski and balance on the other. Switch legs.
- Practice moving into a snowplow position for controlling speed on steeper hills. Gradually advance through bringing the tips of the skis closer together and splitting the ends apart. Distribute weight evenly on both skis.
- Practice the tuck position used when going down a hill without any turns.

Diagonal Stride:

Use this stride on most terrain and most conditions.



- Legs together, bent at the hips, knees and ankles.
- Skier first bends quickly and then pushes off from one leg. (like a spring)
- Glide forward on the other leg as far as possible.
- Gliding leg then bends slightly and pushes off.
- This sends the back leg forwards to become the gliding leg.
- Arm should move in sync with the legs and should swing forward and backwards.

Technique:



Sport Specific Skills

The leg pushoff is strong and forceful providing the momentum to propel the gliding leg forward.

Pushoff starts when legs are together and ends when push leg leaves the snow.

The leg pushes backwards, causing heel to lift and leg to extend back.

The trunk of the body leans forward and should form an almost parallel line with the back push leg.

Hip, knee and ankle should all contribute to the leg push.

Flex, push and glide! Emphasize pushing off with the rear foot and gliding on the front foot.
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The glide begins when the push leg has left the snow and ends when the legs come back together before the next stride begins. During the gliding, the trunk is leaning forward, parallel to the back leg.

After the push off, **the skier's weight** remains directly over the gliding ski until the skis meet in the middle again. At this point, the weight is exchanged to the other ski. With the next push off, the weight is completely switch and now over the new gliding foot.

The arms provide power during the strides.

Tips:

- When doing the diagonal stride, the skis are always moving.
- Do not bob up and down in the hips.
- Poles should be placed close to the ski and in the line ski direction.
- During the kick/push, look for full extension.

Pole Plant:

- Swing arms in a natural manner as if walking. Hold poles more or less vertical.
- Tell skiers to feel their arms swing up after the leg push.
- Once a rhythm is established, bend the wrists upwards so that the pole forms an angle to the snow.
- With the natural swing, the pole should sink into the snow and then come out as the arm swings back.
- Emphasize to not push the pole into the snow with the forearm or elbow- it is all in the wrists.
- The pole leaves the snow after the shoulder, elbow and wrist have extended.
- Be sure that hands are snug in the pole straps and that thumb and index finger are closely wrapped around the pole.



Sport Specific Skills

Double Pole Plant: Used on downhills and during very easy flat glides.

The wrist action is the same as in the single pole plant except that both arms do it at the same time.

- Distribute weight equally over both skis.
- Bend arms slightly, lean gently forward and plant pole in the snow.
- Use trunk muscles to bend at the waist.
- Hips are over toes and weight is mostly on poles as trunk is almost horizontal to the snow.
- Push with the poles. Once the poles leave the snow, the skier slowly returns to a more upright position and prepares for the next pole plant.

Uphill:

Skiers use the diagonal stride to move uphill but with adaptations.

- Increase tempo of the overall movements.
- Keep body weight forward as gliding will be decreased.
- The pushing feeling is increased and the weight shift from one ski to the other is more pronounced.
- Skier pushes their body weight from one ski to the other and up the hill.
- Arm actions will also be shorter as there is a more constant need to propel forward.
- Practice this skill by simply having athletes perform the normal diagonal stride and slowly head up successively steeper hills.

The Herringbone:

This skill is used when the uphill is so steep that the skis cannot maintain a parallel position without slipping.

- Place skis so that the tips are spread apart, creating a “V” formation.
- Shift weight from one ski to the other.
- As the weight is fully on one ski, the other ski is placed farther up the slope.
- Push hard off the original ski to bring the ski up and land with the ski that is farther up the hill.
- Be sure to edge the ski into the snow to provide a stable base before pushing off. The steeper the hill, the more edging is required.
- Poles should be planted farther back and more out to the sides to provide propulsion.



Sport Specific Skills

- Trunk should remain mostly upright, do not lean way in!



Sport Specific Skills

Skating:

Used on flat sections of the trail or on gradual uphill.

- Skier pushes off one ski which is edged into the snow and transfers weight to the other ski which they glide on.
- The gliding ski is kept flat until the momentum is almost over.
- Then, the skier uses that gliding ski to perform the next push by edging it into the snow and transferring the weight to the new gliding ski.
- There must be a complete weight transfer from ski to ski.
- Push leg is “spring-loaded” by bending at the knee and then providing a powerful extension.
- Body lines up in the direction of the gliding ski.
- The pushing ski is mainly out to the side while the gliding ski is mainly directed forward.





Fitness and Games

There are a variety of games that can be used to help increase the fitness levels of the athletes as well as teach the different skills used in cross-country skiing. Spend 10 mins at the end of each practice having fun!

Fitness ideas:

- Race from one end to another, use a start turn to turn around at the end.
- Have a kick-glide contest to see who can glide the farthest.
- Race uphill doing the herringbone.
- Race uphill doing side steps.
- Take off skis and race up and down hills, or on flat terrain.

Steal the poles:

- Almost like musical chairs.
- Place poles in the snow about 50-75 feet away.
- There should be one less pole than player.
- Have athletes free ski around until a signal is given.
- At this point, skiers must try to get to a pole.
- Whomever has no pole, is out.



Frostbite Tag:

- Identify an outlines area.
- Have one person be “it”.
- If a skier is tagged, they are frozen until another player comes and touches them to free them.

Human Slalom:

- Line everyone up.
- First skier goes out about 10 m and stops.
- Next skier then skis around the first and stops 10 m further down.
- Continue this until the whole group has gone.
- See how far you can travel like this.
- For fitness, increase the speed

Unstructured Free Play: (10 mins)

Prior to the practice athletes who have arrived early should be encouraged to participate in free play activities.

Warm Up: (7-10 mins)



Practice Plan

Warm-up starts slowly and gradually involves all the muscles and body parts to be utilized in the exercise related instruction phase of the practice.

Basic Motor Skills: (15 mins max)

The Basic Motor Skills phase starts with known content and progresses to the application of skill(s) resembling the game or competition. Instruction may be related to sport skills, personal/social skills or sport values.

Sport Specific Skills: (15 mins max)

During this phase the athletes practice the skills as demonstrated during the instruction. Emphasis should be upon creating competition -like conditions during this phase.

Fitness: (12-15 mins)

This phase involves physical conditioning activities that are specific to the fitness needs of your sport. This is done by setting work/ pause ratios for your athletes that stress the correct energy system(s).

Cool Down: (5-8 mins)

Don't forget this portion. Cool downs are a vital part of a practice as they allow the heart rate to return to normal. Stretching should also be included at this time to prevent sore muscles the next day.

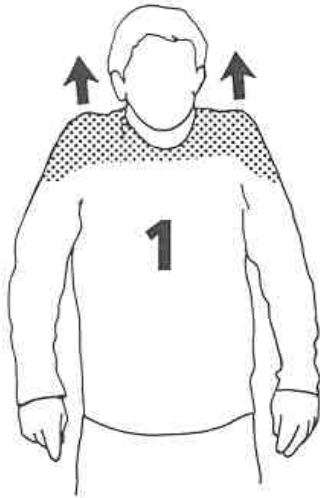
Evaluation: (5 mins)

Evaluation is used to assess the effectiveness of specific activities or the total practice. It is helpful to spend a few minutes with your athletes at the end of a practice to get some feedback on the practice session. It can take the form of a 5 minute rap session about things that went well and things that the athletes and/or coaches need to work on. The topics discussed can then be built into the next week's practice.

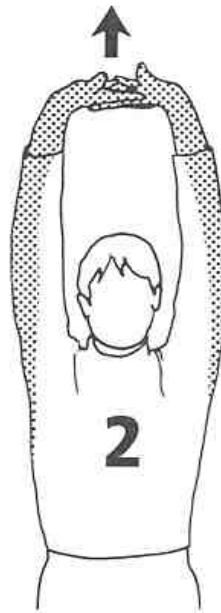
Before Skiing (Cross-Country)

Approximately 3 Minutes

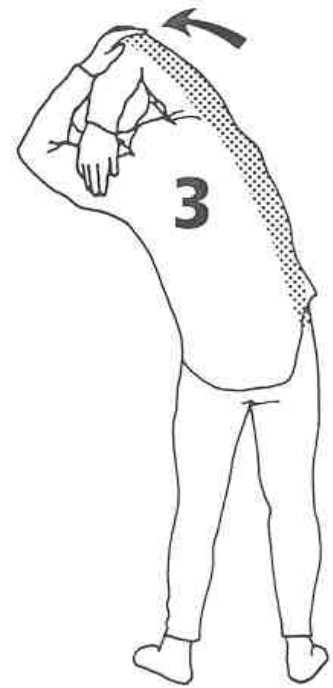
Warm up by walking for several minutes with a big arm swing before stretching.



5 seconds
3 times
(page 46)



10 seconds
(page 46)



10 seconds
each side
(page 44)



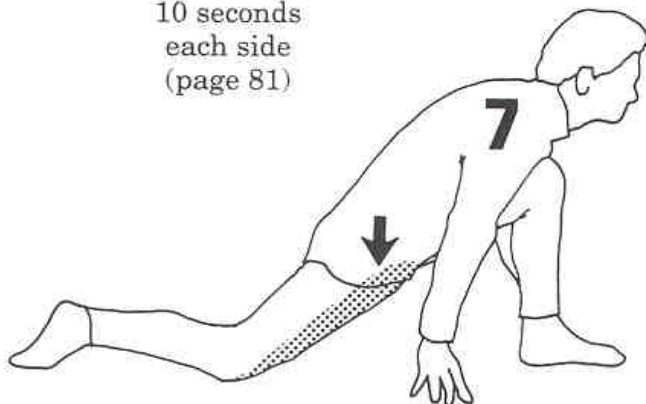
10 seconds
each side
(page 81)



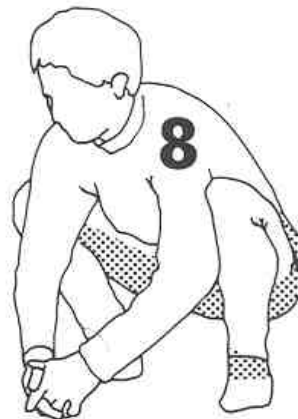
20-30 seconds
(page 55)



10-15 seconds
each leg
(page 75)



10-15 seconds
each leg
(page 51)

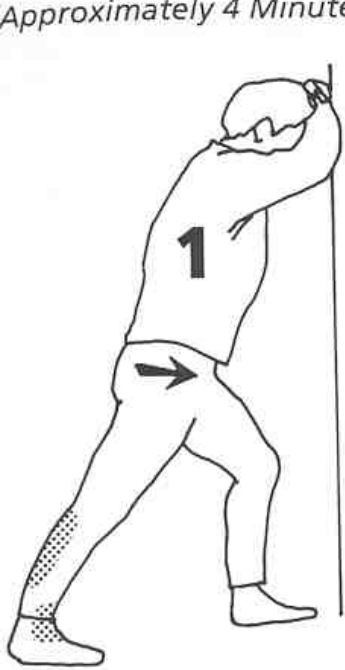


15-20 seconds
(page 65)

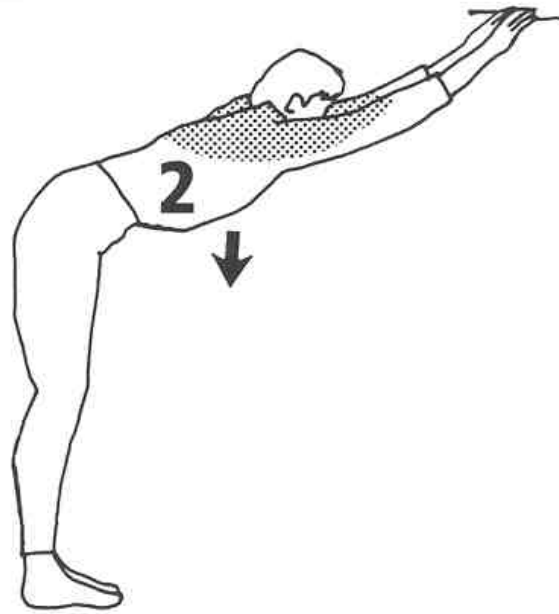
Short on time?
Do this mini-routine:
3, 4, 7, 8
Approx. 1½ minutes

After Skiing (Cross-Country)

Approximately 4 Minutes



15–20 seconds
each leg
(page 71)



10–15 seconds
(page 81)



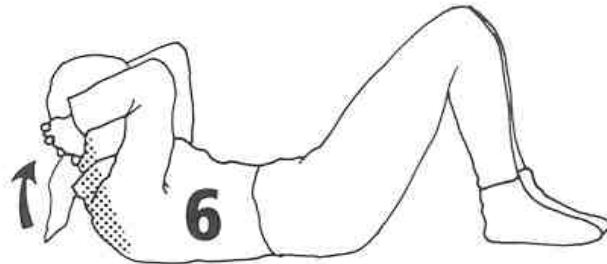
10–15 seconds
(page 58)



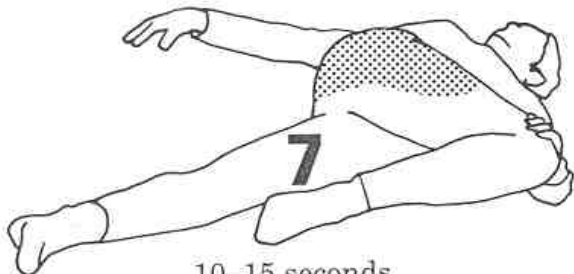
8–10 seconds
each side
(page 60)



10–15 seconds
each leg
(page 39)



3–5 seconds
2 times
(page 27)



10–15 seconds
each side
(page 32)



20–30 seconds
(page 26)

Short on time?
Do this mini-routine:
1, 3, 4, 5
Approx. 2 minutes