

Rochester Nordic Ski Team

Ski Skill Checklist

Home position

Home position is a way to get people to feel the basic body position that is used in skate skiing. It's a unique stance that isn't used in other sports.

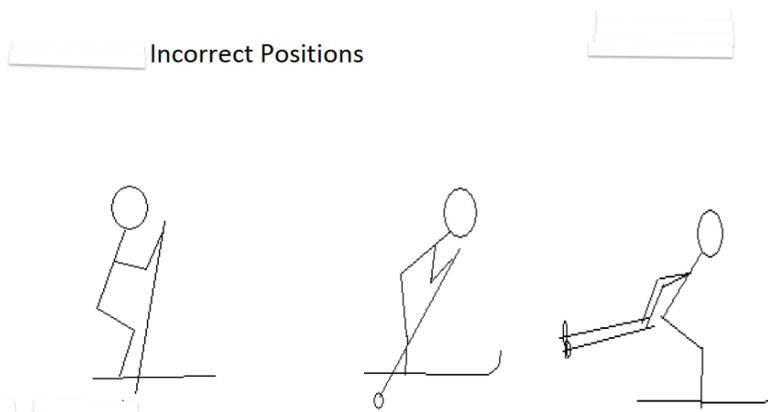
- Shoulders slumped down slightly in a bit of an ape position
- Lower back as if it is pressed up against a wall
- Abdominal muscles flexed slightly
- Butt cheeks flexed slightly, so that pelvis is under torso
- Knees slightly bent
- Ankles slightly bent. Ankle flex is a key area of understanding. A tense, rigid ankle is a natural response to unsteadiness. Practicing relaxing the ankle and allowing for ankle flex is important. Flex of the ankle is a key flex-point for the up and down motion of the body while skiing. Knees and hips will also flex some, but ankle flex should be maximized as it helps facilitate the more up-right posture and also helps economize use of leg muscles that tend to tire (eg quads).

Double pole

Double poling as described below provides the foundation of movement that is used in V2 and V2 alt techniques. Some of the principles also apply to V1 technique. In addition, double poling is used during race starts, crowded skiing situations, on flatter surfaces as an efficient form of movement, for classic skiing and for training purposes with skate skiing.

Basic skill set

- 1) Hands to eye level, with a 90 degree at the elbow and armpit. Avoid having arms straight out or elbows at greater than a 90 degree angle.
- 2) Poles mostly parallel to forearm
- 3) Aim pole tips to land in front of binding, but since you are moving the pole plant will actually end up being about mid-boot
- 4) Main pole thrust is pushing down, rather than pushing back. The main thrust ends when the hands are about at the hips. The second, less powerful phase of the thrust occurs when the hands move past the hips and the arms swing through the full extension of the poling motion.
- 5) Avoid poling in the incorrect positions (see below).

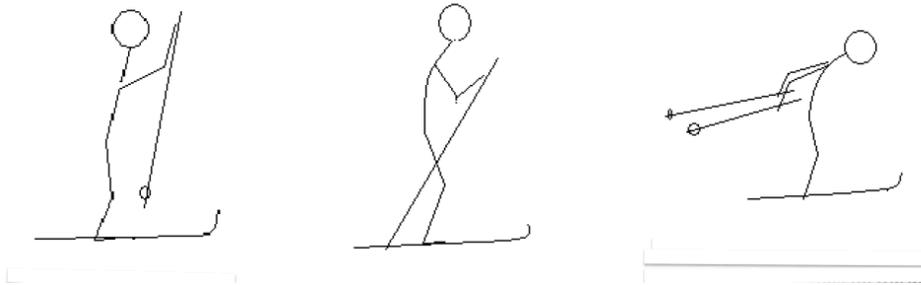


- 6) Ankle flex is a key spring for the up and down motion. There will also be some knee and hip flexing, as well, but less pronounced than is depicted in the “incorrect positions”.
- 7) A slight forward lean during poling.

Advanced skill set

- 1) The main poling thrust involves using pull-up muscles, in combination with an abdominal crunch where the upper body starts in an “I” shape, and crunches to a “C” shape, which is depicted in “Correct poling”. Keeping the butt cheeks flexed slightly keeps the pelvis under torso with the crunch move and facilitates making the “C” shape. (see below)

Correct Poling



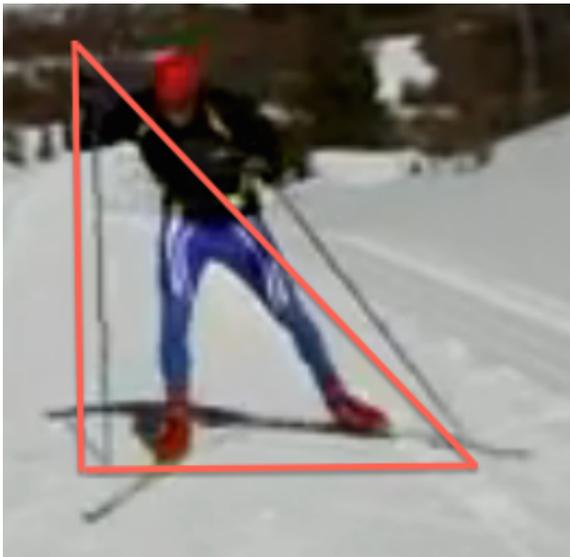
- 2) The gradient of follow-through:
- A) During a race start, in tight traffic, during faster sprinting or when terrain is uphill or any time quicker turn-over is needed, double poling can be limited to just the main thrust. In this case, the hands don't go past the hips, but come back up immediately following the powerful main thrust.
 - B) On flatter, faster terrain, the main pole thrust can be combined with follow-through. With this, the hands pass by the hips and poling power is extended by using the triceps muscles as the arms and poles extend behind the body. You can let go when poles are behind you by fully or partially loosening grip.
 - C) Between those two extremes, there may be a gradient where partial extension and follow-through is utilized.

V-1

For beginners, this is a good way to get moving and can be used in many settings. For more advanced skiers, V1 is generally a “low gear” used for climbing hills.

Basic skill set

- 1) Basic timing of V-1 (stick to the basic 3-1 teaching...both poles and one foot plant at the same time, then transfer over to one foot etc...)
- 2) Rocking the hips rhythmically from side to side to work on weight transfer. Equal push off from each leg (can practice no-pole hill climbs)
- 3) Avoiding having the arms stick straight out. Hand of lead arm is going to be fairly near the face, with elbow of trailing pole bent, as well.
- 4) Lead pole is more pushing straight down with pole basket landing fairly near the boot. Trailing pole hand is more near diaphragm level and is pushing back and to the side. At the start of the poling motion, the body and poles are generally in the shape of a right angle triangle (see below).



Advanced skill set

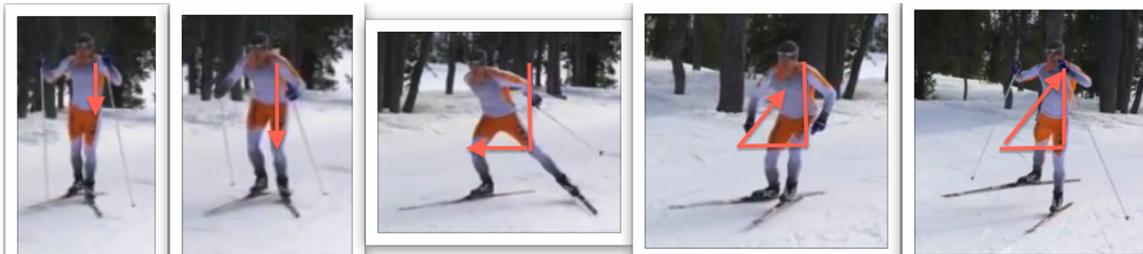
- 1) Ankle flex is still important. With uphill skiing, ankle flex may be fairly continuous as a way to keep a forward lean and to get your leg and ski under your body.
- 2) Shoulders square to trail. No shoulder twisting and the shoulders shouldn't be swaying side-to-side out beyond the vertical plane of the hips. In general, the torso shouldn't move very much, it's more feet, legs and hips that are moving.
- 3) Gradient of arm movement:
 - A) On flatter surfaces or slight to moderate up hills, the hand of the lead pole can be further away from the face and the arms can extend more through a full range of motion
 - B) As hill steepens...,the hand of lead pole come increasingly closer to your face. In very steep up hills, the hand of lead pole is as close to the face as a telephone and the basket plant is very close to the boot. There is minimal follow through with the lead arm, as it stays mostly like a chicken wing with the emphasis on body weight on pole.

V-2 Alternate

This can be used on slight down hills, flats and slight up hills as a very fast and efficient “cruise” mode. Can sometimes be used for sprinting.

Basic skill set

- 1) Basic timing of V-2 Alt...It starts being balanced on one ski, then poling on that ski followed by a push off sideways from the ski as weight is transferred to the other ski. When on the other ski, your poles are behind you. Weight is transferred back to the other ski with a sideways push-off, and the poles rise back up to the starting position with pendulum arm motion (see below).
- 2) In addition, the body moves in in a right triangle pattern (see below).



Advanced Skill set

- 1) Increasingly developing the ability to use the elements of double poling technique, including hands at eye level, pole parallel to forearm, downward main thrust with poles, flexing butt cheeks to keep pelvis forward, using abdominal muscles to aid in main pole thrust and using the ankles as a key flex point.
- 2) Keeps shoulders square to trail. Use the hips as a main way to transfer weight from ski to ski. The shoulders shouldn't be swaying side-to-side out beyond the vertical plane of the hips (like the wand of a metronome).
- 3) Using arms in a pendulum motion, including letting go when poles are behind you by fully or partially loosening grip.
- 4) Push-off ski with ball of foot, and extend the calf muscle and toe for full ski push-off.

V-2

This is used on uphill that aren't steep enough to employ V1, but are too steep for V2-alt. It can also be used on flatter terrain as more of a power stroke than V2-alt.

Basic skill set

- 1) Basic timing of V-2...It starts being balanced on one ski, then poling on that ski followed by a push off sideways from the ski as weight is transferred to the other ski. Poles go behind you during the weight transfer, then rather quickly rise back up as your weight fully transfers over to the other ski. When on the other ski, your hands are high and in the ready position for a full pole thrust off of that ski followed by a push off sideways from the ski as weight is transferred to the initial ski. (see below).
- 2) In addition, the body moves in in a "U" shaped pattern (see below).



Advanced skill set

- 1) As ability to balance on one ski improves, you're increasingly developing the ability to use the elements of double poling technique, including hands at eye level, pole parallel to forearm, downward main thrust with poles, flexing butt cheeks to keep pelvis forward, using abdominal muscles to aid in main pole thrust and using the ankles as a key flex point.
- 2) Try not to rush the technique.
- 3) Keeps shoulders square to trail. Use the hips as a main way to transfer weight from ski to ski. The shoulders shouldn't be swaying side-to-side out beyond the vertical plane of the hips.
- 4) Using arms in a pendulum motion. With higher-tempo V2 skiing, the hands may not swing past the hips before rising up for the next stroke. With lower tempo V2, the back swing can be more pendulum-like, including letting go when poles are behind you by fully or partially loosening grip.
- 5) Push-off ski with ball of foot, and extend the calf muscle and toe for full ski push-off.