
Teaching Sit-Skiers

What is a Sit-Ski?

A sit-ski allows people who have limited use of their bodies or have significant balance problems to ski sitting down in a sled-like contraption. The sit-ski is used primarily for students who participate very little in the skiing process. In many cases, the student is sit-skiing for the joy of zooming down the hill with the instructor doing all of the “work.”

If you have a student who is capable of steering a sit-ski, consider transferring to a bi-ski.

❖ **NOTE: All sit-skis must be tethered at all times!**

Common Disabilities associated with Sit-Skiers	Common Medications to Consider
<p><i>Almost any disability can use a sit-ski.</i></p> <p><i>Typically, the skier will be severely disabled and unable to sit in a bi-ski</i></p> <ul style="list-style-type: none">• Cerebral Palsy• Multiple sclerosis• Traumatic Brain Injury	<ul style="list-style-type: none">• Anticonvulsants (seizures)• Analgesics (pain)• Antibacterials and Antibiotics (infection)• Anticholinergics (bladder spasms)• Antispasmodic Medications (spasticity)

Student Assessment and Equipment Fitting

Some things to consider when assessing a sit-skier:

- Can the skier hold a pair of picks or a kayak pole and move his arms? If yes, consider transferring to a bi-ski.
- Check for other physical limitations: balance, arm strength, spasticity, seizures, muscle atrophy. Is the student prone to pressure sores? Additional padding may be required to avoid sores. You may need to make special adaptations to compensate.
- Can the student sit up straight or correct leaning on his own? If not, additional padding and strapping may be required to keep the student’s body from moving around while skiing.
- Remember many sit-skiers have limited or no feeling in their legs. Also, the sled has direct contact with the snow and can become quite cold. Be sure to keep the legs and body warm and protected. Make sure straps do not cause chaffing or injury.
- Because the sit-ski is so low to the ground, the skier often gets sprayed with snow. Make sure the student has appropriate clothing, including a helmet and goggles.

The Ski

The sit-ski is a sled that has padding inside to keep the skier snug and comfortable. Adjust straps so that the skier is snug inside the ski. Think of it as the equivalent to a ski boot. It needs to be tight and secure, but not painful. When tightening straps, watch out for bladder bags and sensitive areas.

When necessary, use additional strapping, padding, or other creative means to provide support. Make sure the skier is stable and as upright as possible. Also ensure that the skier is warm and protected from the snow.

❖ **HINT:** Look at the student's wheelchair and try to duplicate the padding system. For example, some wheelchairs are molded to the shape of the skier's body. If you can't get the person's body to straighten out, pad the ski to allow the person's body to maintain its natural shape. When loading and padding, make sure the center of mass is centered in the ski.

If the student will not be using his arms, secure them inside the snow skirt for protection.

Use padding under the skier's knees to keep them slightly bent. This accomplishes two things: prevents hyperextension and helps prevent the skier from sliding down into the ski. If the student has spasticity, place the knees in a position where the spasms stop. This may be different for each student.

Picks/Kayak Poles

Hand-held picks and kayak poles help the skier turn the sit-ski. The picks or ends of the pole are dragged in the snow to cause friction that helps redirect the ski. If the skier can use picks or a kayak pole, consider moving the student to a bi-ski.

Tethers

Each sit-ski has a tether line attached to the back of the ski. The tether is used by the instructor to help steer the ski, to control the speed, and to stop the sit-ski. For more information, see the Tethering section.

❖ EVERY SIT-SKI MUST BE TETHERED AT ALL TIMES!!

Helmets

All sit-skiers *must* wear helmets. Use goggles as well to protect the eyes.

Special Considerations for Sit-Ski Students

- Pay attention to your student's physical needs—are they warm enough? Are they comfortable? Beware of snow accumulating in the sled and around the student's face. Check in the helmet for snow after a fall.
- Many sit-skiers at SKIFORALL are unable to communicate clearly. Be patient. Ask the student how he or she says yes and no.

❖ Do not "ignore" non-responsive students on chairlift rides. They are people and deserved to be treated with respect.

- After a fall, check the straps and padding to make sure the student is still balanced in the ski. You may need to readjust the student.
- *Beware of icy or hard-packed snow!* Snow conditions have a big impact on the sit-ski. If it is icy, it will be difficult to stop the ski. Give yourself extra time to react and be careful.

Sit-Ski-Specific Teaching Techniques

Chairlift Loading and Unloading

Safety is the key!! If needed, ask the lift operator to slow down or stop the chair. For more information about chairlift procedures, including emergency procedures, see Chapter 2, "Safety Procedures and Policies" in the SKIFORALL Volunteer Manual.

Keys to success:

- Do a practice lift with your assistant before entering the loading ramp. Decide who counts.
- Explain to the student what will happen and what you need the student to do. Picks or kayak poles should be in the student's lap. When loading, once the ski is on the chair, the student should lean back. When offloading, the student should lean forward.
- Secure the tether before loading. It should never be dangling from the chair. For best results, remove the tether, secure it around the roll bar, or place it in the snow skirt of the sit-ski.
- Communicate with the lift operators at both the top and the bottom of the lifts. Never assume they know or remember what you need. Report any problems with lift ops to your Lead Volunteer.
- Make sure the safety strap is accessible. Do not leave the loading area until the strap is connected to the chair. Signal the lift operator when it is attached (usually done by the lifter).
- For unloading, do not remove the safety strap from the chair until your skis touch the snow on the ramp. Stop the chair if necessary.
- When unloading, try to keep the sit-sit from dropping onto the ground. It can be quite uncomfortable for the student.
- **The first time** the student rides the chairlift, stop the lift when loading and ask the lift operator to warn the operator at the top of the lift. Stop the lift for unload.

Transferring a Student to a Sit-Ski

When moving a student from a wheelchair to the sit-ski, be sure to communicate with the student about what is happening. Do not touch a student without permission.

Before lifting the student, make sure the snow skirt is open and that all straps are accessible.

- ❖ Never lift a student by yourself. Work with your partner or find someone to help you. Follow proper lifting techniques (for example, use your knees not your back).
- ❖ Always make sure the evacuation straps are accessible.

Tethering a Sit-Ski

The sit-ski uses a single tether line attached to the back of the sled. Through the use of a tether, the instructor can have control over the sit-ski. For less-active students, you can safely ski them down the hill with little or no participation from the student. For students capable of initiating turns on their own, the tether provides speed control and corrections during a turn.

Wrap the tether line securely around one wrist. You are the only thing that will stop a sit-ski. If it gets loose, the skier and the public can be in serious danger.

❖ **NEVER LET GO OF A TETHER!** Always make sure the tether is securely attached to your wrist.

Skiing Behind a Sit-Ski

When tethering, at turn initiation you should be uphill and slightly inside the turn. As the ski moves through the turn, move slightly outside the turn. The goal is to stay behind the sit-ski and slightly uphill. Your exact location depends on the pitch of the slope, your speed, and how the skier is balanced in the ski. Most of the time, you will be in the *power wedge*—but avoid leaning back, this isn't water-skiing! In some cases, a short-swing parallel gives you more control and makes you ready to do a hockey stop to stop the ski. Use your best judgment. Short skis are recommended so your skis don't interfere with the sit-ski.

KEEP IT SLOW!! It is easy to lose control of the sit-ski at high speeds. In addition, the ride is not very comfortable for the student.

Steering the Sit-Ski with a Tether

When steering a sit-ski, it is very important to make sure you are in the correct fall-line position. If you pull at the wrong angle, you will flip the ski.

Initiate turns by using the tether as a lever. Pull to the left to point the ski to the right and pull right to point the ski to the left. For best results, use both hands on the tether. Keep the movements close to your body and use your biceps rather than your shoulders. Do not have your hands over your head or straight out to your side.

Remember, the sit-ski is a fall-line seeking ski, meaning that it will try to head straight down the hill. To get the ski to head into the fall line, simply pull back on the tether while you are uphill from the ski. And be aware that it is difficult to traverse with a sit-ski. Choose your terrain carefully.

The Emergency Stop

Choose a signal for an emergency stop and discuss it with your student. Typically, the student raises the outriggers or hands and yells "Stop!" Practice the stop with your student.

❖ It is important that the sit-ski is heading straight down the hill and that you are in the appropriate position when you do the hockey stop. If the ski is turning when you stop it, you must be uphill on the inside of the turn or the ski will tip over. For best results, always have the ski pointing down the fall line when stopping.



Lesson Plan: Flatlands

Goals

- Become familiar with equipment and sensation of moving on the snow.
- Add slight changes of direction to the straight run to introduce turning. Gradually increase size of turn.
- Turning in each direction to a stop, using pick braking if needed.

❖ If you student is capable of performing flatlands or turns, consider moving to a bi-ski.

Teaching Tips

- If the student will not be participating in the skiing, you can skip the flatland drills and move to the chairlift.
- If the student has the ability to move independently in the sit-ski, considering transferring to a bi-ski.
- To help the student learn to turn, have the student turn his head, point his chin in the direction, and lean into the turn. If the torso is not turning with the head, try having the student point his belly button in the direction of the turn. Add the pick/kayak pole drag to encourage the student to lean into the turn.

Exercises

- Have the student move the ski around on the snow. Lift the ski off the ground, turn in circles, get up from a fall.
- In straight run, begin looking in direction of the turn.
- Drag the picks/kayak pole in the snow to initiate turns.

❖ NOTE: Adapt the exercises to the ability of the student. Not all exercises are appropriate for all sit-skiers. Use common sense.

Skills Concept (BERP) Review

- ◆ **Balancing movements** — Maintain balance while moving.
- ◆ **Edge-control movements** — Keep a flat ski during straight runs.
- ◆ **Rotary movements** — Slight rotations of upper body in direction of the turn.
- ◆ **Pressure-control movements** — Pick pressure on the snow to initiate turns. Lean forward slightly to help initiate the turn and return to center to finish the turn.



Lesson Plan: Wedge Turn Equivalent

Goals

- Learn to ride the chairlift.
- Use picks, pressure, and leaning to turn. Increase size and variety of turns on beginner terrain.
- Develop ability to link turns of different sizes and shapes. Use turn shape to control speed.

❖ **THE SIT-SKI MUST ALWAYS BE TETHERED!!**

- ❖ NOTE: Adapt the exercises to the ability of the student. Not all exercises are appropriate for all sit-skiers. Use common sense.

Teaching Tips

- Explain chairlift loading and unloading procedures to the student. SAFETY FIRST!
- Anticipate the student's turns. Be careful to remain in the correct position so you always have control of the ski.
- Watch out for other people on the hill. Be aware of traffic and remember that it takes additional time to stop a sit-ski.
- Avoid rough terrain. It is uncomfortable for the skier and makes stopping difficult for the tetherer.

Exercises

- MILEAGE!! Make many runs and vary turn size and shape. Work on tighter turns.
- Uphill Christy Fan progressions—allow student to become comfortable with turning uphill to slow down and stop.
- Garlands—focus on either turn initiation or finishing the turn. Show how leaning forward and looking downhill starts a turn and how returning to neutral position helps end a turn. Let student become comfortable with shifting weight from one turn to the other.

Skills Concept (BERP) Review

- ◆ **Balancing movements** — Maintain balance while moving.
- ◆ **Edge-control movements** — Maintain flat ski while turning, lean into the turn to engage edging while turning.
- ◆ **Rotary movements** — Rotation of upper body in direction of the turn. Drag the picks in the snow helps enhance rotation of the body.
- ◆ **Pressure-control movements** — Push picks in to the snow to initiate turns. Lean forward to help initiate the turn and return to center to finish the turn.

