

Adaptive Ski Bike clinic

Title: **Ski Bike as an Adaptive tool.**
 Set-up and beginning progressions

Participant Qualifications & Prerequisites:

Description: This clinic will educate instructors which students might be candidates for adaptive Ski-biking, how to properly set them up on the ski-bike and foot skis, according to their disability/ability.

Move out on snow and learn to teach a beginner ski-bike lesson, providing appropriate feedback and assists. Discuss and practice lift loads & tethering.

Objectives: Learn who might be a candidate for adaptive ski-biking and how to set up a student with a ski-bike. Discuss and practice beginner to intermediate progression.

Materials: personal skis and ski-bikes / foot skis if you have them, some will be provided

Terrain Guidelines: indoors / at base for equipment set-up then beginner and intermediate terrain.

Smart Sliding/Safety: Always make sure to teach/review speed control and stopping before progressing to steeper terrain.

Learn about correct seating position, use of foot-skis and counter steering.

Cited Materials: PSIA Ski-bike Info Guide

Snow-bikes have been around for quite a while. Some areas have allowed ski bikes on their mountain for general public use, some only for Adaptive clients. In adaptive lessons we mostly use Ski bikes with a low center of gravity and three points of contact with the snow. Due to the seated position, it is easier to stay in balance, the learning curve tends to be fast and minimal strength is required to operate a ski bike:

- If your student can walk short distances (15-20 yards)
- If your student has some control of his/her legs, even if they do not have the strength

Your student will be a good candidate for the ski bike. Each individual will need to be given strength and balance assessments to make sure that the specific ski bike you have available is the appropriate adaptive device for them. Students with the following Disabilities might be good candidates:

- Amputations, Below the Knee (BK) or even Above the Knee (AK)
- Double amputations
- Post Polio
- Muscular Dystrophy
- Multiple Sclerosis
- Incomplete spinal cord injuries L1-2
- Stroke or Brain Injury (hemiplegia)
- Mild Cerebral palsy
- Visually impairments
- Balance impairments
- Knee replacements or other knee & ligament problems

Due to the nature of sitting on the bike, the absorption occurring through the spinal column, bikes are not recommended for individuals with back problems.

Evaluation

Treat every student as an individual; the effects of an injury or disability can vary from student to student. Determining factors are their physical strength, mobility, ability to maintain balance in a seated position, fine motor control over their feet & being able to wear a ski or SB boot on at least one foot.

Medications can also be a source of concern. Verify any side effects a student may be experiencing as a result of medications. Additionally, you can obtain valuable information by knowing what other activities your student is involved in. Much of this information can be obtained from the student, parent or guardian.

Equipment Set-Up

Take time to select the appropriate ski-bike for your student, appropriate size, ride-on, adjust springs if needed Give your student a choice if possible since ski-bikes are intimidating for some. Evaluate your student, get comfortably fitting ski or snowboard boots and adjust them to the foot skis. Consider a bungee on the tip of the foot ski if your student does not have the strength or fine motor

control to control where that foot will point (Prosthetic foot, hemiplegic . . .)
Consider taking the prosthetic leg off in case of an AK amputation. Proper time spent during the initial set up will equal success for the student in the long term and more enjoyment of the sport for the participant.

Adaptive Ski Bike Progression

Beginner / Novice Zone Objectives

- Level 1:** **Welcome to skiing / Build the foundation**
Student assessment & Medical history
Equipment selection, introduction and set up
Equipment orientation and Static balance exercises, indoors
Student/instructor communication, safety and emergency stop
- Level 2:** **Introduction to Flats & sliding**
Attaching the Foot skis, pushing, turning, pivoting on flats
Static balance exercises, outdoors on flats
Mounting and dismounting the Ski Bike on “mini foot skis” (if applicable)
Falling and getting up (if applicable)
*Straight runs
*Traverses & Garlands & Fan progression
* Slowing & Stopping
Some student’s stamina may limit their ability to work on straight runs and flats for extended periods of time. Plan your lesson accordingly.
- Level 3:** **Introduction to Turning**
Turn left & right through balance and turning movements. The use of **your handle bar ! at slow speeds only !** will cause your snow bike to turn and thus point across the fall line to help decrease speed.
Practice at slow speeds: turning your handlebars and allowing the head and torso to follow into steered turns. Explain that abruptly turning the handle bars at high speeds might cause you to crash, similar to riding on a bike. **Some speed is needed to turn.**
Slightly flexed arms and shoulder similar to a position on a bike.
Vary turn shape and size
Speed control through turn shape
Turning to a stop
Linked turns - Garlands on steeper pitches if needed
Master beginner area
Introduction to Chair Lift and easiest Green Terrain
Chair lift loading and unloading procedures
Review lift evacuation procedures
Student assisted/instructor assisted chair lift loading and unloading
Develop greater skill blending
- Level 4:** **Explore the beginner mountain experience**
Introduce skidded turns! This is the most important aspect of successfully controlling your speed on a ski bike, once you start going up the mountain on steeper and narrower runs. Start skidding the “tail” of our bike out by flattening the ski and using your hips / torso to initiate the rotation.
Teach counter steering
Develop a short-radius braking turn
Vary turn shape and size for terrain and condition
Explore a variety of snow conditions

Throughout the entire beginner progression, discuss, demonstrate and practice instructor assists to facilitate student learning.