

Stand Up OTH: ATS Clinic Outline

Group Size: 8-10

**Time: 3 hours (new instructors) –
1.5 (returning instructors, combine w/ Holds, Assists, Outriggers)**

Objectives: Introduce and/or review American Teaching System (ATS), with main focus on levels 1-5. Give instructors knowledge and confidence to implement ATS in their lessons, and to use it to improve their personal skiing. Introduce/review Student Assessment.

Safety Message:

- CKSS approach = Safety first, followed by fun and learning
- CKSS helmet policy (i.e. required for everyone)
- Skier responsibility code
- Incident protocol

Introduction: Overview of clinic. Preview evaluation form and skills to be checked off.

Assessment: Get general idea of skiing experience and levels. Check knowledge and/or experience of ATS. Check skier levels on the hill.

Goals and Objectives: Each instructor will:

- demonstrate knowledge of responsibility code
- demonstrate skills for evaluation sheet check off
- demonstrate knowledge of ATS progressions 1-5, applied to lessons & personal skiing
- demonstrate awareness of teaching and learning styles, communication approaches, student assessment and lesson planning/goal setting

Present and Share Information:

- Demonstrate how to address communication, teaching and learning styles throughout
- Demonstrate activity progression throughout: *static, simple, complex, whole exercise*

Guided Practice: See bullet points on next page

Check for understanding:

- Ask questions and ask for paraphrase, have instructor show understanding by doing tasks
- Give feedback using 5Ps: 1. Personal contact, 2. Permission, 3. Private vs public, 4. Preference on FB, 5. Paraphrase

Summarize

Materials and references:

- Laminated training cards
- CKSS Safety Procedures
- CKSS Volunteer Instructor Job Requirements/Descriptions
- PSIA manuals
- Ski volunteer information: www.allinahealth.org/Courage-Kenny-Rehabilitation-Institute/Programs-and-services/Adaptive-sports-and-recreation/Alpine-ski-and-snowboard/Ski-volunteer-information

ATS – Clinic Outline

American Teaching System: methodology for teaching ski progressions to any skier

Student assessment – Cognitive, Affective, Physical (CAP)

- Other activities, sports? ("teaching for transfer") Skied before?
- Student goals? Student concerns?
- Emotional state? Motivation?
- Disability information, secondary disabilities?
- Circulation problems?
- Medication that could impact skiing?
- Catheter or other medical equipment?
- Handshake / push away
- Observe walking (cane, crutches, walker, wheelchair)
- Observe balance (stand on one foot)
- Limited range of motion?
- Move feet in various directions, point and flex foot, push against your palm with their toes
- Cognitive abilities / understanding / focus. How do they communicate?

Equipment selection

- As little equipment as we can safely use
- Wear pattern on shoes/boots? (consider canting or filling voids in the ski boot)
- Weight primarily on heels or toes? When the student is walking does the movement come primarily from the legs, hips or shoulders?
- Leg length differences?
- Orthotics/braces? Generally students do not need to use Ankle / Foot orthotics (AFOs) in boots. If the student must use the AFO, a larger size boot may be required.
- Amputations / prostheses? Where are the amputations? (above or below the knee)
- Contractures / fused joints?
- Pronation (rotate inward) / supination (rotate outward) of the foot?
- Knock kneed or bow-legged?
- Ski boots dry?

Communication/terminology to be used w/ student

- Student's level, but do not dumb down
- Learning styles: visual, auditory, kinesthetic (thinker, seer, feeler, doer)
- Ask for permission before touching
- Positive feedback first, then possible improvements
- Stop, Left/Right, Yes/No, Cold, Drop (emergency stop), etc.

Responsibility code

- Always stay in control
- People ahead of you have the right of way
- Stop in a safe place for you and others
- Whenever starting downhill or merging, look uphill and yield
- Use devices to help prevent runaway equipment
- Observe signs and warning, and keep off closed trails
- Know how to use the lifts safely

Incident protocol

- When in doubt, call ski patrol
- Always alert site coordinator & fill out incident report (even if patrol is not called)
- Also mention to parents in case of possible bruising, etc.
- Never move skier if:
 - Head, neck or back pain
 - Joint pain
 - Unconsciousness
 - Severe bleeding

Developmental Framework for Adaptive Skiing

- Desired Outcomes: e.g. lesson goals or the effect of a particular task
- Tactics: choices to achieve goals based on student ability & desires, e.g. equipment, terrain, speed, line
- Skills Concepts (BERP): edging, rotation and pressure are integral to all turns and essential for maintaining balance. Drills (1 run for each skill set) – Goal = skill blending and teaching with tasks
 - Edging: side stepping, **traverse/side slipping**, hockey stops, railroad track turns
 - Rotation: **garlands**, **J turns**, **hockey stops**, pivot slips
 - Pressure: **falling leaf**, **backwards skiing**, **1000 step turns**, **shuffle turns**
 - Balance = outcome of ERP, but also: stretch & relax, hop, up/down, fore/aft, side/side

5 Fundamentals of Skiing – what we see as great skiing regardless of discipline or equipment:

1. Pressure (fore-aft): **Control the relationship of the center of mass (CoM) to the base of support (BoS) to direct pressure along the length of the skis** – Balance over center of mass, pressure along length of ski (accurately control turns), e.g. athletic stance, shins against cuff in both boots, hands in front; how far forward along length of the ski does snow spray start; imaginary line from ankles to hips should be parallel with imaginary line along the back
2. Pressure (lateral): **Control pressure from ski to ski and direct pressure toward the outside ski** – Slightly more pressure on outside ski helps turn initiation
3. Pressure (vertical): **Regulate the magnitude of pressure created through ski/snow interaction** – Flex and extend, open/closed ankles
4. Edging: **Control edge angles through a combination of angulation and inclination** – Same edge angle on each ski, smooth transitions between flat ski and edged ski (hold/slip, carve/shape, accurately control turn radius)
5. Rotation: **Control the skis' rotation with leg rotation, separate from the upper body** – Rotation from lowest functioning muscle group / body part, with steady upper body facing down the fall line, smooth turns with even radius, speed control via turn shape

Progressions

Choose skill and terrain wisely: New hill, old skill -- new skill, old hill

Level 1 – Flat terrain:

- assessment & goal setting
- introduce equipment
- move around in boots
- athletic stance: jump and land, or stretch tall and relax
- move around in skis (first one ski, then both skis):
 - slide forward and back
 - **figure eight**
 - side stepping
 - **wagon wheel**
 - games, e.g. Simon Says, Follow the Leader

Remember:

- where to meet
- chairlift challenges
- reciprocal teaching
- permission for feedback

* **bold** = drills with instructor participation

* **underlined** = required functional skiing tasks

Level 1-2 – Gentle slope:

Parallel progression: if student is unable to make a wedge, or if student has very good leg strength and seems able to learn quickly – teach by stepping into the turn

- straight run (with terrain to stop) (side step up, then wagon wheel to fall line)
- gliding wedge (intro static wedge on flat)
- braking wedge – increase braking action by larger wedge + edge angle
- **wedge to turn** (pressure on outside ski's big toe)
- vary size of wedge to control speed
- turn to stop
- ensure student can complete emergency stop (wedge or hockey turn, "drop" command)
- metaphors:
 - steering wheel, lunch tray, (camcorder)
 - quarter in front cuff of ski boot, or tomatoes for ketchup

Level 2-3:

- vary shape and speed of turns
- **traverse, followed by turn**
- linking turns
- vary turn shape to control speed
- drills: garlands, side slipping, 1000 steps, hop steps

Level 3-4 – working toward parallel turns

- **Wedge Christies**
- intro to pole touch
- extension movements in direction of turn ("foreagonal")
- edge release movements and skidded turns
- vary turn radius
- drills: pat-the-dog, bicycle turns, turns lifting the tail/whole ski

Level 5-6 – match skis earlier in turn, then fully parallel, pole touch

Note: Our ultimate goal is to teach the student proper skiing skills and how to control their own speed. Teach them speed control by varying turn shapes and finishing turns.

Additional materials to cover if time or to answer specific questions

Movement Analysis & Drills (based upon BERP and 5 Fundamentals)

Skills (BERP): most effective from the lowest functioning muscle group / body part up, i.e. perform movement analysis from the snow up and then offer a prescription for change.

5 Fundamentals: which fundamental interactions with the snow do you observe

- What's happening on the snow? Turning or tipping?
- DIRT: Duration, Intensity, Rate, Timing
- Simply describe what you see (without value judgement)
- Start with positive feedback
- Prescription for change

Helpful drills

- Hourglass turns
- Exaggerate the time spent in fall line in order to make turns rounder, less jagged (have them count 1-1000 while in fall line with a flat ski, don't hang out in the traverse)
- Teaching new skill: on known, mastered terrain; static, exaggerated, then dynamic
- Defensive stance: reduce terrain
- Circle drill to observe all skiers during one run: ski a few turns, stop, next skier skis past and stops a few yards down from you, and so on until everyone is at the bottom

Teaching Cycle

- Introduce lesson and develop trust
 - Assess students and their movements
 - Determine goals and plan experiences
 - Present and share information
 - Guide practice
 - Check for understanding
 - Debrief the learning experience
- ...repeat

Notes

- Teach to their motivation and try to give them the tools to best serve their students (What thrills you about teaching?)
- Make them comfortable physically and socioemotionally
- Use callbacks
- Use reciprocal teaching, especially with returning instructors (have them pair up, one teaches the other a skill, observes, offers feedback and prescription for change; then reverse the pair)
- Use chairlift challenges

Stand Up OTH: Holds/Assists + Outriggers Clinic Outline

Group Size: 8-10

Time: 3 hours (new instructors) – 1.5 (returning instructors, combine w/ ATS)

Objectives: Introduce and practice skills for stand up outrigger use. Introduce and practice holds and physical assists. Introduce and practice use of bamboo pole as an assist.

Safety Message:

- CKSS approach = Safety first, followed by fun and learning
- CKSS helmet policy (i.e. required for everyone)
- Skier responsibility code
- Incident protocol

Introduction: Overview of clinic. Introduce concept of 3-track and 4-track skiing.

Assessment: Assess skiing skills, and awareness about diagnoses that may 3-track or 4-track.

Goals and Objectives: Each instructor will:

- demonstrate knowledge of equipment
- demonstrate basic use of stand up outriggers
- demonstrate how to use a physical hold and bamboo pole
- demonstrate awareness of safety related to OR use, holds/assists, and bamboo pole

Present and Share Information:

- Demonstrate how to address communication, teaching and learning styles throughout
- Demonstrate activity progression throughout: *static, simple, complex, whole exercise*

Guided Practice: See bullet points on next page

Check for understanding:

- Ask questions and ask for paraphrase, have instructors show understanding by doing tasks
- Give feedback using 5Ps: 1. Personal contact, 2. Permission, 3. Private vs public, 4. Preference on FB, 5. Paraphrase

Summarize

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We decided to focus on Holds/Assists etc. and use remaining time, if any, for OR use. If an instructor ends up on OR lesson, they can refer to their lead instructor or ask a trainer for a mini session.

Remember:

- where to meet
- chairlift challenges
- reciprocal teaching

Holds and Assists

- These are usually hard/tiring for instructors to do long-term, so use as short-term aids to help with a particular skill or as an assist if the skier lacks confidence in a certain situation.
- Make sure student knows you are going to touch them, and understands what hold you're going to use.
- **SAFETY:** These holds affect your range of vision. Make sure you're looking in all directions before a turn.
 - **Ski tip hold:** Instructor skis backward and holds student tips. Can hold in wedge position and pull through easy turns. This is very hard on the instructor and only used on very easy terrain for short distances.
 - **Hand-to-hand (or mitten-match) hold:** Instructor skis backward and places hands on student's hands. Note that it's often better to either do fist-to-fist, or at least have student make a fist – that prevents them from grabbing instructor fingers or hand. Can be used to control speed and get students down a particularly difficult part. Do not use this technique to hold onto waist or hips.
 - **Two-point (hip and knee) hold:** Instructor laces skis between student skis and stands immediately behind student. Instructor places one hand on student hip and other hand above opposite knee (closest to instructor's outside ski). Instructor can help student initiate turns by pressuring hips/knees forward/backward to match desired turn direction. Be very careful with range of vision on this – hard to see around student on inside of turn.

Bamboo Pole

- The bamboo pole can be a very useful assist for skiers, but need to practice using it safely.
- Most typically used with two instructors. Hold pole horizontally at about waist height with an instructor holding pole at each end. Student skis holding on in the middle of the pole between them. Make sure student doesn't push down on the pole, and/or lean back with it.
- Pole can be pushed down by the instructor on the outside of the turn while the inside instructor raises it slightly, reversing roles at each turn. This helps pressure student's outside ski during the turn while placing their shoulders parallel to the slope in the finishing phase of the turn. (Higher-level skill for instructors)
- Two bamboo poles can also be used like horse-and-buggy, with student in front of the instructor and the poles flanking them. Teach counter-rotation of upper body by keeping the poles and upper body facing down the fall line while skis and legs rotate through the turns.

SAFETY NOTES for Bamboo Poles:

- Make sure everyone's skis are spaced safely apart. If skis get tangled, all will likely fall and could get injured. Students sometimes move one way on the pole – instructors need to be aware of this. Stop and readjust. Use tape or other tricks to mark the center of the pole for student.
- Instructor on outside of turn has to move faster and go farther, and can end up picking up too much speed (think "crack the whip"). Instructor on inside of turn needs to slow their turn.
- DO NOT go too fast. Make sure you're using and teaching turn shape and terrain to control speed.
- Due to space constraints, instructors will have to make an asymmetrical wedge – outside ski in full wedge position, inside ski mostly straight.
- Communication between instructors is crucial. Have one instructor call and lead all turns. If anyone feels out of control, stop immediately.
- This should only be used on easy green terrain.
- Not ideal for skier stance and skill development. Realistically, instructors will use it, but we should aim to present this point of view, too, and encourage instructors to aim for best possible stance and skill development when using the bamboo pole or any other assist.

Ski Pal

Outriggers

- Used with students who have balance/stability issues or need some help initiating turns. Not used to control speed or for extensive steering.
- Crutch-top, partial ski on bottom, friction device on back of ski (adjust the angle needed to engage by adjusting bolt on top of ski).
- Adjust height of outrigger, handle should be right at the snuff box (btw thumb and wrist) w/ student wearing boots & skis and outriggers in the ski position next to them. Shorten as skier progresses.
- Release ski to raised (crutch) position by pulling on string (remember to adjust string when adjusting length). Outrigger can then be used as a crutch when in the lodge or as a ski pole on flat terrain.
- Outriggers come in matching numbered pairs. Record number (and adjustments/length, i.e. which holes used) in student's file for future use.
- Outrigger can be used alone or can be used in combo w/ Tip Connectors and tethers. When tethered, OUTriggers are on the OUTside.

3-trackers – single leg amputee (or double, 1 AK, 1 BK)

- Very important to protect residual limb of a 3-tracker.
- 3-trackers generally progress quickly as they are used to dealing w/ their balance/stability issues.
- Teach to keep non-skiing leg steady and tucked in close to other leg. Swinging will disrupt balance.
- Optional (returning instructors): Flat ski almost impossible for 3-tracker → professional canting?
- Could start on a slider for extra support as they go through early progressions and work on flat ski.

4-trackers – anyone with balance and stability issues (may walk without aids, may use crutches or a walker)

- Important to teach to maintain symmetry of their body over skis so they don't further upset balance.
- Can be part of a progression from using slider

Progressions: Refer to ATS progression 1-5 and explain/check equivalencies

- Flats for first timers
 - Place outrigger ski in raised position. Practice moving forward/back.
 - Lower outrigger ski – move to side in a 4-step sequence: outrigger #1, ski #1, ski #2, outrigger #2, and repeat. Never more than one thing off the snow at a time.
 - Turn ski out slightly and use as a pusher. Try alternating left and right push to “skate” with the outriggers.
- On the slopes
 - Outriggers are used as balance aids; thus need to be in contact with the snow.
 - Braking: Either with friction device – drop elbow to engage, minimal braking ability – or by moving outriggers into a diverging wedge.
 - Initiating turns – slight outward turn of outriggers. Need to have outrigger on the snow. Turn of outrigger also encourages turn of head, then shoulders.
 - Remember to relax shoulders. Hunched shoulders will make for a sore student the next day.
 - Magic Box (where the outriggers should be) changes based on skier level: I) rectangle from ski tip to binding, II) triangle wider at the top, III) parallelogram forward and outward from the tip of the ski
- **Instructor Exercise:** Try 3-tracking. Either remove ski or lift ski. Steady boot tight against skiing leg.

Getting up with Outriggers

- Method #1 – Elephant walk
 - Move so skis crosswise on hill, remove both outriggers and lay them across skis in front of boots.
 - Place hands up-hill of hips and push down to raise hips.
 - Continue raising body by “walking” hands in a ¼ circle toward front of skis (elephant walk).
 - Once lower body is raised, reach down (symmetry over skis) and pick up outriggers.
- Method #2 – Outrigger assistance
 - Move so skis crosswise on hill, leave uphill outrigger on arm. Remove downhill outrigger.
 - Raise ski on downhill outrigger and place it in snow just uphill from hip, very close to hip for best leverage.
 - Place uphill hand above outrigger ski. Place other hand higher on outrigger.
 - Use outrigger as a lever to push and raise hips.
- Method #3 – Instructor assistance
 - Move so skis crosswise on hill, remove both outriggers and lay them across skis in front of boots.
 - Instructor stands downhill from skier and places one ski or boot across their ski to help lever it flat while interlocking arms biceps-to-biceps with the skier and helping raise them.

Stand Up OTH: Tethering Clinic Outline (NEW Instructors)

Group Size: 8-10

Time: 3 hours (new instructors)

Objectives: Introduce equipment for tethering. Introduce and practice skills required to safely tether a stand up skier.

Safety Message:

- CKSS approach = Safety first, followed by fun and learning
- CKSS helmet policy (i.e. required for everyone)
- Skier responsibility code
- Incident protocol
- Tether policy = cinched to bare skin
- Be aware: Tethering makes a large footprint on the hill

Introduction: Overview of clinic. Introduce concept of tethering.

Assessment: Assess skiing skills for tethering

Goals and Objectives: Each instructor will:

- demonstrate skiing skills necessary for tethering
- demonstrate tethering skills
- demonstrate knowledge and awareness of safety related to tethering

Present and Share Information:

- Demonstrate how to address communication, teaching and learning styles throughout
- Demonstrate activity progression throughout: *static, simple, complex, whole exercise*

Guided Practice: See bullet points on next page

Check for understanding:

- Ask questions and ask for paraphrase, have instructors show understanding by doing tasks
- Give feedback using 5Ps: 1. Personal contact, 2. Permission, 3. Private vs public, 4. Preference on FB, 5. Paraphrase

Summarize

Materials and references:

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Remember:

- where to meet
- chairlift challenges
- reciprocal teaching

Tethering for NEW instructors – Clinic Outline

Equipment

- **Tip Connectors:** students who have lateral (side to side) stability issues. Typically these students will not be able to maintain a consistent leg position (wedge or parallel) with their skis.
 - Hook & Eye – does not allow any movement of the ski tips
 - Trombone – allows for fore and aft movement, student can shuffle along in small, sliding steps
 - Bungee connector or snowboard clamp – allows more movement
- **Edgie-Wedgie:** a piece of surgical tubing with a clamp at each end. The least restrictive means of holding the ski tips together; however, the ski tips will be able to cross.
- **Spacer Bar:** students with weak hip muscles who cannot maintain a wedge position. Always used in combination with Tip Connectors. Can make a student more likely to fall to the side, since their skis are attached at 2 points.
- **Tethers:** approx. 15 ft. of nylon webbing that attach to the Tip Connectors at one end and the instructor's hands at the other end. They are used to control speed and help a skier shape their turns.
- **Safety:** Check/tighten Tip Connectors or Edgie-Wedgie at the top and bottom of every lift

Set-up

- Create a cinching loop by pulling the tether through the loop at the end of the tether
- Place the loop around your wrist, against the skin, make sure the cinch tightens, and wrap at least 1.5 complete wraps around the hands
- **Per CKSS policy, cinch must tighten on bare skin.** Do not place loop around gloves only, because it is not secure.
- Do not wrap the tether around individual fingers
- When used with Tip Connectors, tethers are placed on the D-rings (preferred) or the attachment screws on the Tip Connectors via another cinching loop (do before attaching to instructor)
- Tip Connectors or Edgie-Wedgie may be used with or without tethers
- **SAFETY: Never let skier go backwards with any kind of Tip Connector on**

Instructor Progression

Exercise #1 – Synchronized skiing

Teach synchronized skiing to build understanding of the proper instructor position above/behind a student and the proper timing of turns when tethering. Match lead skier at the same time and turn magnitude.

- Always remain uphill and behind the student (up the fall line, above the inside of the turn). Not following in front skier's path.
- Fall line = the path a large marble would leave in the snow if released at the top of the hill

Optional: Exercise #2 – Hold tethers while synchronized skiing

Front instructor holds tethers at hips (but not attached), back instructor holds tethers like they are tethering. Start with synchronized skiing in this exercise and progress to simple/gentle tethering as instructors build understanding and ability to time turns and remain in proper position. (NOTE: This is a training exercise only!)

Proper Technique

- Arms bent at 90° angle, with elbows in, for maximum control (the box)
- Control the size and shape of the student's turn by increasing the force on the tether which is intended to be the inside of the turn, by:
 - pulling back with one arm and moving forward with the other, or
 - rotating the upper body, moving one shoulder and arm to the front and the other back, while holding the arms in a constant position, and
- Add or release loops around hands to adjust the length of the tethers – wrap and unwrap in the turns to allow the student to finish their turns without restricting their downhill leg (practice at home behind a chair)
- Slow & gentle movements

Exercise #3 – Tether each other with various types of Tip Connectors

Note: Our ultimate goal is to teach the student proper skiing skills and how to control their own speed. Use tethering to teach them speed control by varying turn shape and finishing turns.

Do's & Don'ts

- Never take tethers off your wrists on the hill.
- Keep tethers off the snow to avoid tangles with skis.
- Instructor should ski in a wedge when tethering skier.
- DO NOT just take skier for a ride. Make and teach turns. Even when they are tethered, students should be taught to complete a stop and turn. Tethers should be regarded as turning aids and temporary speed control aids, not permanent pieces of equipment. Also, if Tip Connectors fall off mid-hill, it will be very helpful to have a student who can complete a stop.
- DO NOT ski too fast when tethering a stand up skier. Finish turns for speed control.
- Tethers can be used to help a student come out of a wedge and into parallel by crossing the uphill hand in front of your body, thus pulling the student's skis together.
- Be aware of your enormous footprint of student, tethers and two instructors and watch other people and objects on the hill.
- No hockey stops with student on tethers unless student has fallen and instructor must come to quick stop.

Weaning a student off tethers

- Go back to the bunny hill and practice turns and stops without tethers. This is especially effective if goals are set to include a trip to the bunny hill each week to help learn new skills.
- As student progresses, test the ability of the student to complete their own turns and control speed by using slack or loose tethers.

Chairlifts

- Before loading, explain to the student how the chairlift works and watch the people in front of you.
- Remove tethers from wrist, hold them in your outside hand (not around student), and have your arm on the student's arm for extra support.
- Ask the operator to slow the lift
- Guide the student to proper place for the chair load and tell them when to sit (count down)
- On the way up, remind the student of the unload process:
 - They will feel the snow come up and meet the bottom of their skis.
 - Give a countdown to help ("3,2,1, stand", "Land, Stand, Superman!"). You can place your shoulder behind the student with a firm grasp on the student's arm in order to assist the student in coming to a stand.
 - If you think student will have difficulty with unload, ask bottom lift operator to call up to top for a slow or stop. If that fails, use gestures to signal operator at top (hand across neck for stop; palm moving downwards for slow).
- If someone has fallen in the unloading area and you cannot safely unload with your student, stay on the chair, ride the chair past the unloading area and hit the emergency stop wand to stop the lift. The lift operator will need to assist you and your student in making a safe unload.

Rope Tow

- Remove tethers from both the student and the instructor.
- Assist student to get skis into the ski track. Stand behind the student with skis on the outside of the student's skis. Place your arms around the student to help with balance.
- Student and instructor will gently pick up rope together, letting the rope slide through the hand before gently squeezing the rope.

Magic Carpet

- Remove tethers from instructor's wrists, wrap them in outside hand and hold them up and out of way.
- Student stands on the carpet.
- Ride up directly behind the student.

Getting up from a fall

- Do not let go of the tethers and keep them cinched to your wrists. If they are tangled around the student or they prevent you from assisting the student, take one off at a time so you're still connected.
- If possible, the second instructor assists (skis off?), so you can remain uphill in tethering position.
- Get the student in proper position, skis across fall line or off, strong side uphill, and hips near their boots.
- Have the student assist by pushing against the snow and coming to a stand.
- Ask the student to remain stationary with skis across the fall line until you are ready to go.

Stand Up OTH: Tethering & Slider Clinic Outline (RETURNING Instructors)

Group Size: 8-10

Time: 3 hours (returning instructors)

Objectives: Review equipment and safety considerations with tethering. Review and practice skills required to safely tether a stand up skier. Introduce or review and practice skills for tethering slider.

Safety Message:

- CKSS approach = Safety first, followed by fun and learning
- CKSS helmet policy (i.e. required for everyone)
- Skier responsibility code
- Incident protocol
- Tether policy = cinched to bare skin
- Be aware: Tethering makes a large footprint on the hill

Introduction: Overview of clinic. Check who wants to be checked off for slider tethering.

Assessment: Ask about experience with tethering. Assess levels of experience within group.

Goals and Objectives: Instructors will:

- demonstrate skiing skills necessary for tethering
- demonstrate tethering skills with a stand up skier with Tip Connectors.
- demonstrate tethering skills with slider (if they want to be checked off)
- demonstrate knowledge and awareness of safety related to tethering

Present and Share Information: Draw out experience and information from returning instructors as much as possible

Guided Practice: See bullet points on next page

Check for understanding:

- Ask questions and ask for paraphrase, have instructors show understanding by doing tasks
- Give feedback using 5Ps: 1. Personal contact, 2. Permission, 3. Private vs public, 4. Preference on FB, 5. Paraphrase

Summarize

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Tethering for RETURNING instructors – Clinic Outline

Procedure: Review and elicit info on equipment, techniques and safety as quickly as possible from instructors. Draw out their experience.

Remember:

- where to meet
- chairlift challenges
- reciprocal teaching

Equipment

- **Tip Connectors:** students who have lateral (side to side) stability issues. Typically these students will not be able to maintain a consistent leg position (wedge or parallel) with their skis.
 - Hook & Eye – does not allow any movement of the ski tips
 - Trombone – allows for fore and aft movement, student can shuffle along in small, sliding steps
 - Bungee connector or snowboard clamp – allows more movement
- **Edgie-Wedgie:** a piece of surgical tubing with a clamp at each end. The least restrictive means of holding the ski tips together; however, the ski tips will be able to cross.
- **Spacer Bar:** students with weak hip muscles who cannot maintain a wedge position. Always used in combination with Tip Connectors. Can make a student more likely to fall to the side, since their skis are attached at 2 points.
- **Tethers:** approx. 15 ft. of nylon webbing that attach to the Tip Connectors at one end and the instructor's hands at the other end. They are used to control speed and help a skier shape their turns.
- **Safety:** Check/tighten Tip Connectors or Edgie-Wedgie at the top and bottom of every lift

Set-up

- Create a cinching loop by pulling the tether through the loop at the end of the tether
- Place the loop around your wrist, against the skin, make sure the cinch tightens, and wrap at least 1.5 complete wraps around the hands
- **Per CKSS policy, cinch must tighten on bare skin.** Do not place loop around gloves only, because it is not secure.
- Do not wrap the tether around individual fingers
- When used with Tip Connectors, tethers are placed on the D-rings (preferred) or the attachment screws on the Tip Connectors via another cinching loop (do before attaching to instructor)
- Tip Connectors or Edgie-Wedgie may be used with or without tethers
- **SAFETY: Never let skier go backwards with any kind of Tip Connector on**

Instructor Progression

Exercise #1 – Synchronized skiing

Teach synchronized skiing to build understanding of the proper instructor position above/behind a student and the proper timing of turns when tethering. Match lead skier at the same time and turn magnitude.

- Always remain uphill and behind the student (up the fall line, above the inside of the turn). Not following in front skier's path.
- Fall line = the path a large marble would leave in the snow if released at the top of the hill

Optional: Exercise #2 – Hold tethers while synchronized skiing

Front instructor holds tethers at hips (but not attached), back instructor holds tethers like they are tethering. Start with synchronized skiing in this exercise and progress to simple/gentle tethering as instructors build understanding and ability to time turns and remain in proper position. (NOTE: This is a training exercise only!)

Proper Technique

- Arms bent at 90° angle, with elbows in, for maximum control (the box)
- Control the size and shape of the student's turn by increasing the force on the tether which is intended to be the inside of the turn, by:
 - pulling back with one arm and moving forward with the other, or
 - rotating the upper body, moving one shoulder and arm to the front and the other back, while holding the arms in a constant position, and
- Add or release loops around hands to adjust the length of the tethers – wrap and unwrap in the turns to allow the student to finish their turns without restricting their downhill leg (practice at home behind a chair)
- Slow & gentle movements

Exercise #3 – Tether each other with various types of Tip Connectors

Optional – Exercise #4 – Tether each other with snow slider (see outlines on last page)

Note: Our ultimate goal is to teach the student proper skiing skills and how to control their own speed. Use tethering to teach them speed control by varying turn shape and finishing turns.

Do's & Don'ts

- Never take tethers off your wrists on the hill.
- Keep tethers off the snow to avoid tangles with skis.
- Instructor should ski in a wedge when tethering skier with Tip Connectors.
- Clarify difference between this and slider tethering. It is NOT the same – tip-controlled tethering requires more subtle movements to avoid jerking or knocking over skier. Slider tethering may allow for some side slipping and parallel skiing, but wedge turns are recommended for more control during the turn.
- DO NOT just take skier for a ride. Make and teach turns.
- DO NOT ski too fast when tethering a stand up skier. Finish turns for speed control.
- Tethers can be used to help a student come out of a wedge and into parallel by crossing the uphill hand in front of your body, thus pulling the student's skis together.
- Be aware of your enormous footprint of student, tethers and two instructors and watch other people and objects on the hill.
- Even when they are tethered, students should be taught to complete a stop and turn. Tethers should be regarded as turning aids and temporary speed control aids, not permanent pieces of equipment. Also, if Tip Connectors fall off mid-hill, it will be very helpful to have a student who can complete a stop.
- No hockey stops with student on tethers unless student has fallen and instructor must come to quick stop

Weaning a student off tethers

- Go back to the bunny hill and practice turns and stops without tethers. This is especially effective if goals are set to include a trip to the bunny hill each week to help learn new skills.
- As student progresses, test the ability of the student to complete their own turns and control speed by using slack or loose tethers.

Chairlifts

- Before loading, explain to the student how the chairlift works and watch the people in front of you.
- Remove tethers from wrist, hold them in your outside hand (not around student), and have your arm on the student's arm for extra support.
- Ask the operator to slow the lift
- Guide the student to proper place for the chair load and tell them when to sit (count down)
- On the way up, remind the student of the unload process,
 - They will feel the snow come up and meet the bottom of their skis.
 - Give a countdown to help ("3,2,1, stand" "Land, Stand, Superman!"). You can place your shoulder behind the student with a firm grasp on the student's arm in order to assist the student in coming to a stand.
 - If you think student will have difficulty with unload, ask bottom lift operator to call up to top for a slow or stop. If that fails, use gestures to signal operator at top (hand across neck for stop; palm moving downwards for slow).
- If someone has fallen in the unloading area and you cannot safely unload with your student, stay on the chair, ride the chair past the unloading area and hit the emergency stop wand to stop the lift. The lift operator will need to assist you and your student in making a safe unload.

Rope Tow

- Remove tethers from both the student and the instructor.
- Assist student to get skis into the ski track. Stand behind the student with skis on the outside of the student's skis. Place your arms around the student to help with balance.
- Student and instructor will gently pick up rope together, letting the rope slide through the hand before gently squeezing the rope.

Magic Carpet

- Remove tethers from instructor's wrists, wrap them in outside hand and hold them up and out of way.
- Student stands on the carpet.
- Ride up directly behind the student.

Getting up from a fall

- Do not let go of the tethers and keep them cinched to your wrists. If they are tangled around the student or they prevent you from assisting the student, take one off at a time so you're still connected.
- If possible, the second instructor assists (skis off?), so you can remain uphill in tethering position.
- Get the student in proper position, skis across fall line or off, strong side uphill, and hips near their boots.
- Have the student assist by pushing against the snow and coming to a stand.
- Ask the student to remain stationary with skis across the fall line until you are ready to go.

Slider Tethering – Clinic Outline

- Returning instructors only.
- Instructors need to have strong tethering skills in order to tether slider.
- Techniques for tethering slider are similar, but not the same as tethering with Tip Connectors on. Can use side slip as necessary with slider because skier has more stability than with just Tip Connectors on.

Safety

- Slider must be tethered at all times. Tethers must be cinched on bare skin on wrist. Never take tethers off. Make sure slider cannot slide away when not in use – put on side, or attach to something stable.
- Use hockey stop for emergency stop: instructor does hockey stop, slider may still face downhill. This is different from a normal stop in which the instructor turns both the slider and himself to a position perpendicular to the fall line.
- Must have a retention strap for chairlift. Check before you go out.
- The slider has a large footprint on the hill. Be very aware of this.
- DO NOT ski too fast with this. Should be making and teaching turns.

Equipment set-up

- Take time to set up for good upright stance. Adjust as needed for skier comfort and needs, e.g. if arm is bent, turn armrest to support, etc.
- Use Tip Connectors or Edgie-Wedgie as needed. Can also use bungee across all four ski tips. But, remember that these are restrictive – use only if necessary.
- Check that slider skis are evenly adjusted. Adjust wedge angle and tipping angle on them. Safety note: Don't put both wedge angle and tipping angle on max at the same time because it will turn too quickly and can tip.
- Tighten adjustments for each run, as they vibrate loose.
- Attach tethers at D-rings on the front (and side) of the slider crossbar only.
- Add instructor bars on side if you want. Not required, but useful on flats and to assist with turns.

Lift Procedures

- Two options:
 1. Need three instructors. Take skier in slider as far in lift line as possible. One instructor takes the slider up the lift with them. Two other instructors take skier up, assisting with load and unload. Ideally, first instructor positions slider so skier can ski off lift and right into slider.
 2. Take skier and slider up together, with instructor on each side. If the student is small enough, the lead instructor will have one foot inside the slider, so they have more control over it and can rest the slider on their leg. All other instructor feet stay outside of the slider. Slider rests on chair in front of student, instructors make sure it's supported and not resting on student.
- Slider must be attached to chairlift with a retention strap in both cases.
- Ask for lift slow or stop as needed.

Skier Progression

- Work on skiing skills. Don't just take them for a ride. Skiers can develop skills - encourage them to do as much as they can.
- Don't assume skier has to be on slider forever. Possible to wean off? Try four-tracking with outriggers (possibly/probably with Tip Connectors and tethers at first) on very easy terrain.

Stand Up OTH: VI Clinic

Group Size: 6 max

Time: 3 hours (returning instructors only)

Objectives: Introduce and practice skills to guide VI skiers.

Safety Message:

- CKSS approach = Safety first, followed by fun and learning
- CKSS helmet policy (i.e. required for everyone)
- Skier responsibility code
- Incident protocol

Introduction: Overview of clinic

Assessment: Assess skiing skills, and awareness/knowledge of visual impairment

Goals and Objectives: Each instructor will:

- demonstrate how to evaluate vision
- demonstrate basic guiding skills
- demonstrate awareness of safety related to VI guiding

Present and Share Information:

- Demonstrate how to address communication, teaching and learning styles throughout
- Demonstrate activity progression throughout: *static, simple, complex, whole exercise*

Guided Practice: See bullet points on next page

Check for understanding:

- Ask questions and ask for paraphrase, have instructors show understanding by doing tasks
- Give feedback using 5Ps: 1. Personal contact, 2. Permission, 3. Private vs public, 4. Preference on FB, 5. Paraphrase

Summarize

Materials and references:

- Laminated training cards
- CKSS Safety Procedures
- CKSS Volunteer Instructor Job Requirements/Descriptions
- PSIA manuals
- Ski volunteer information: www.allinahealth.org/Courage-Kenny-Rehabilitation-Institute/Programs-and-services/Adaptive-sports-and-recreation/Alpine-ski-and-snowboard/Ski-volunteer-information

Teaching Visually Impaired (VI) Skiers

Evaluating VI Skiers:

Check how person would like to be guided indoors, e.g. do they want to take your arm, walk behind you with their hand on your shoulder etc?

Check if/what useable vision skier has. Don't just ask; hold up fingers and/or use things you can see in the area to check if:

- skier can see color or shapes in light and/or in shadow
- skier has different vision in each eye
- skier has depth perception
- skier has tunnel vision? peripheral vision?
- Use this information to decide how to best teach and guide the skier. For example, if a skier has some vision in one eye, you might decide to guide from the side and use that.
- Note that vision may be different indoors vs. outdoors because of difference in light.
- Check for and be aware of other issues, disabilities and/or medications. For example, if visual impairment is the result of diabetes, it is important to be aware of possible circulatory problems and blood sugar issues.

Guiding:

There are different options for guiding. You and your student should decide which one is best.

1. Guiding from the front (guide skiing backwards): This is good to start with. It is reassuring for the skier and gives the guide control without physical contact.
2. Guiding from the side: This is good if the skier has some peripheral vision. Try to maintain a consistent distance and position.
3. Guiding from behind: This allows the student to hear your voice, lets you get a good view of the slope and allows you to observe skiing technique easily.
4. Guiding from the front (guide skiing forward): This is usually used with more advanced skiers (and in racing) and after skier/guide have skied together a lot.

Equipment:

- All equipment and/or holds and assists mentioned in the stand-up section can be used, but it may not be necessary.
- Can have them use ski poles right away because it gives info about terrain and surroundings.
- Always wear the orange blind skier/guide bibs
- Eye protection - VI skiers need sunglasses or goggles
- Introduce the equipment indoors by touch. Let them ask questions and get used to the boots. Introduce basic ski movements: athletic stance, side step, wedge stance. You will need to use touch to show these positions - make sure you ask and explain what you are going to do.

Communication:

If skier has skied before, they may have cues they've used and guiding preferences, so make sure you check and work with their preferences.

Safety note: Student and guide should always be in verbal or physical contact. Make sure your student knows to stop immediately if he/she doesn't hear you or doesn't know where you are.

- Explain/describe surroundings, conditions and terrain as needed, but avoid unnecessary chatter
- Voice inflection is important and adds information for the listener
- Before you go out on the hill, establish the cues you will use.

A. Emergency cues

1. 'Sit down' = An emergency; your student should sit down (to the side) immediately.
2. 'Stop' = A more gradual stop. Use inflection to indicate how fast/urgent the stop should be.
3. 'Slow down'

B. Directional cues

1. **Clock system:** Think of a round (non-digital) clock. The direction the person is facing is always 12 o'clock. Use numbers on clock to indicate direction. This is very helpful on the flats or in the lift line, e.g. say, "Move your skis to two o'clock."
2. **Grid system:** This can be used to describe to describe a run and where you will be skiing on it. For example, you could describe a run as '10 zones wide, with a total width of 40 yards'. You could tell the student that you'll be skiing in zones 3 to 6. This can give the student a better idea of the slope and help him/her in the size of turns to make. Don't use the clock and grid system together.

C. Skiing cues:

- 'Right/left, turn' = Prepare and turn. Some people use 'Ready, right' or 'Ready, left'. Or 'Ready, turn'.
- 'Right, right, right' = Keep turning right. (Or 'More, more, more')
- 'Go, go, go' = Keep going in the current direction. (Or 'Hold, hold, hold'). This is helpful to give the student reassurance that he/she is doing the right thing.
- Auditory cues: The instructor can tap poles together or clap when skiing in front of the student. The student follows the direction of the sound.

Chairlift Procedures:

It is important to explain and describe the whole process in advance (lift line, loading, unloading). Explain the type of chairlift you'll be using (double, triple etc.). You can use chairs inside to demonstrate and practice.

Skiing Progression:

In most cases, the progression for VI skiing is exactly the same as other 2-track skiers, but it can move more slowly especially in the beginning. Use hands on and explanation to introduce new concepts.

Stand Up OTH: Ski Bike Clinic

Group Size: 6 max

Time: 1.5 hours

Objectives: Introduce and practice skills to ride and teach ski bike

Safety Message:

- CKSS approach = Safety first, followed by fun and learning
- CKSS helmet policy (i.e. required for everyone)
- Skier responsibility code
- Incident protocol

Introduction: Overview of clinic

Assessment: Assess skiing skills, and awareness of ski bike

Goals and Objectives: Each instructor will:

- demonstrate knowledge of progression for teaching ski bike
- demonstrate basic riding and ski bike tethering skills
- demonstrate knowledge of safety and how to load/unload bike on lift

Present and Share Information:

- Demonstrate how to address communication, teaching and learning styles throughout
- Demonstrate activity progression throughout: *static, simple, complex, whole exercise*

Guided Practice: See bullet points on next page

Check for understanding:

- Ask questions and ask for paraphrase, have instructors show understanding by doing tasks
- Give feedback using 5Ps: 1. Personal contact, 2. Permission, 3. Private vs public, 4. Preference on FB, 5. Paraphrase

Summarize

Materials and references:

- CKSS Safety Procedures
- General info on ski bikes: www.ski-bike.org
- PSIA-Rocky Mountain has a ski bike teaching guide: www.psia-rm.org
- Ski volunteer information: www.allinahealth.org/Courage-Kenny-Rehabilitation-Institute/Programs-and-services/Adaptive-sports-and-recreation/Alpine-ski-and-snowboard/Ski-volunteer-information

Ski Bike

Possible candidates for ski bike: Individuals with balance and/or fatigue issues are often good candidates to use the ski bike. Diagnoses might include: Multiple Sclerosis, Muscular Dystrophy, (mild) CP, traumatic brain injury (TBI) or stroke. If you think someone is a candidate for ski bike, check with a lead trainer.

Note that different ski areas have different policies about use of ski bike, so always need to check.

Equipment set up:

- Position of the seat should be comfortable for the rider. Ideal position is a 90 degree angle at ankle, knee and hip. Rider should sit on back 1/3 of seat.
- Handlebars should be adjusted to encourage upright position with good posture. You don't want the rider to be hunched over the handlebars. May need to rotate handlebars forward or back for comfortable arm position and good stance. Can use Velcro gloves or quad cuffs if they have difficulty holding on.
- Foot skis should rest comfortably on snow. If there are challenges with muscle strength or spasticity/tone that make leg or foot control difficult, you can attach a bungee between foot ski and bike (on one side, or both sides). CKSS bikes also have the option of fixed outrigger skis. Note that these are quite restrictive, and some skiers may not like that. Can use straps and/or padding on legs as needed - for example, can strap upper leg onto bike if skier has difficulty holding it into bike.

Ski Bike Progression

Intro on flats + Sliding:

- Practice getting on and off bike. Can walk next to bike and hold onto handlebars and slide OR can straddle bike, hold handlebars and slide.
- Practice static balance exercises. Practice sliding and turning on flats.
- Straight run: Find a short, gentle slope that comes to a natural stop. Instructor assist: can tether, straddle bike and hold skier/bike from behind, or ski next to rider with one hand on handlebar and one on bike seat.

Intro to turning:

- At slow speed, turn handlebars and turn head and torso to turn.
- Practice turning to a stop
- Link turns
- Vary turn shape and size. Use turn shape for speed control.

Intro to skidded turns:

Note that this is an important skill to be able to safely and successfully ski more challenging terrain.

- Start skidding tail of ski out to cut speed. Flatten ski out and use hips and torso to initiate rotation.
- Practice counter steering for balance, and to control turn shape and move into the next turn.
- Foot skis may also skid to help control speed. Feet should become more active as speed increases, with more flex and extension in response to terrain and movement.
- Practice emergency stops

Carved turns:

- Practice on easy terrain.
- Practice leaning bike over into turn, rather than turning handlebars. Guide both feet through the turn and keep inside body/leg/foot strong – don't let inside foot lag behind. Create angles by keeping upper body and head upright (not leaning into turn) for more edge engagement.
- Can add skid at end of turn.

Chair load/unload

- Instructor and skier walk through lift line, using bike for support if needed. Buddy takes bike at last possible point and loads chair ahead of instructor and skier. Bike MUST have a retention strap and be clipped to lift. At top, buddy positions bike near unload. Instructor and skier unload and skier slides onto bike.

Tethering

- Use a single tether and attach on back of bike near base.
- Note that ski bike tethering is different from other tethering because it's only an anchor – it's not possible to affect turn. Person tethering needs to be directly behind the bike, or can pull bike over. Slacken tether when bike is turning; tighten it to slow or stop bike.