SNOWSHOEING

Special Olympics Coaching Quick Start Guide

Special Olympics

February 2007

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Acknowledgements

Special Olympics wishes to thank the professionals, volunteers, coaches and athletes who helped in the production of the *Snowshoeing Coaching Guide.* They have helped fulfill the mission of Special Olympics: to provide year-round sports training and athletic competition in a variety of Olympic-type sports for people eight years of age and older with Intellectual Disabilities, giving them continuing opportunities to develop physical fitness, demonstrate courage, experience joy and participate in a sharing of gifts, skills and friendship with their families, other Special Olympics athletes and the community.

Special Olympics snowshoeing welcomes your ideas and comments for future revisions of this guide. We apologize, if, for any reason, an acknowledgement has been inadvertently omitted.

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Special Thanks To the Following for All of Your Help and Support

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Planning a Snowshoeing Training Season

It's important to start off the snowshoeing training season with a plan for the season. A training season plan must take into account the competition schedule and the development and preparation of the athletes for those competitions. Season plans consist of three components: Preseason, In-season and Postseason.

The training season plan should incorporate the components that will allow the athletes to reach or attain the goals that they set at the beginning of the season. The goals may vary widely and should thus be adaptable as practical to the individual athletes' goals, which may range from competition to a weekly workout.

Developing a Season Plan

The snowshoeing coach needs to prepare for the upcoming season. The list below offers some suggestions on getting started.

- Improve knowledge of snowshoeing and coaching skills by attending training sessions and clinics.
- Recruit assistant coaches.
- Locate a facility for practice sessions.
- Arrange for needed equipment.
- Recruit volunteers to transport the athletes to and from practice and/or competition.
- Recruit athletes.
- Ensure that all prospective snowshoeing athletes are registered Special Olympics athletes.
- Establish goals and draw up a training plan such as the one provided later in this guide.
- Try to schedule at least one training session per week.
- If possible, develop a home training program.

Preseason

Maintaining overall fitness during the spring, summer and fall is the best preparation for a snowshoeing season. A steady progression to build up strength and conditioning is best. Running is the best preparation for snowshoeing.

In-season

This is where the plan comes into action. Plan each practice session according to what needs to be accomplished. Training can be done on snow, sand or soft grass. Just because there is no snow, it doesn't mean that training cannot occur. A limited amount of training in snowshoes on these surfaces will not greatly damage the equipment and will help athletes familiarize themselves with the sport if no snow is present.

During the first practice, administer the Sports Skills Assessment Test and set the athletes' goals according to individual ability levels. Orient the athletes to the facility and their equipment. The goals and skills of the athletes should be monitored periodically throughout the season with modification to the training session to enable the athletes to meet their goals. As competition approaches, try to simulate race conditions for athletes. Relays are a good way to prepare the athletes for the excitement of racing and teamwork. If on-snow time is limited, emphasize conditions that simulate races or race pace as much as possible when you do get a chance to be on snow.

Postseason

Once the season is over, this is the time to thoroughly evaluate the athletes' progress against goals set and provide feedback to the athletes. Develop off-season training plans for those athletes who wish to train in the off-season. Off-season training plans should be consistent with the athletes' overall training goals.

Evaluate the training plan and make modifications for next year's season. Request feedback from athletes, assistant coaches, parents, etc., for use in modifying next year's training program.

Snowshoeing Training Session

Planning a Snowshoeing Training Session

Each training session needs to contain the same essential elements. The amount of time spent on each element will depend on the goal of the training session, the time of season the session is in and the amount of time available for a particular session. The following elements need to be included in the training session; however, times may vary depending on the specific requirements of the session.

The Warm-up	10-15 minutes
Specific Event Workout	15-20 minutes
Conditioning or Fitness Workout	15-20 minutes
The Cool-down	10-15 minutes

NOTE: Please refer to the Teaching Snowshoeing Skills Sections in each area for more in-depth information and guidance on these topics.

Principles of Effective Training Sessions

Keep all athletes active	Athlete needs to be an active listener
Create clear, concise goals	Learning improves when athletes know what is expected of them
Give clear, concise instructions	Demonstrate – increase accuracy of instruction
Record progress	You and your athletes chart progress together
Give positive feedback	Emphasize and reward things the athlete is doing well
Provide variety	Vary exercises – prevent boredom
Encourage enjoyment	Training and competition is fun; help keep it this way for you and your athletes
Create progressions	Learning is increased when information progresses from: • Known to unknown – discovering new things successfully • Simple to complex – seeing that "I" can do it • General to specific – this is why I am working so hard
Plan maximum use of resources	Use what you have and improvise for equipment that you do not have – think creatively
Allow for individual differences	Different athletes, different learning rates, different capacities

Weekly Home Training

Each athlete needs to recruit a partner who will train with him or her at home. This can be a sibling, parent or friend. The athlete and partner must push each other to make training effective.

Warm-Up Exercises	Instructions
Walking	Walk around in the snow for two minutes, and then jog in place for two minutes.
Arm Circles	Hold arms out to sides at shoulder height; make 15 small circles rotating arms forward. Rest, repeat arm circles by rotating arms backward 15 times.
Calf/Achilles Stretch	Stand facing a wall or fence with one leg in front of the other. Bend your forward leg slightly. Bend at the ankle of your back leg. Remember, you do not want to feel pain, only slight tension of the muscle stretching.
Push-Ups	Kneel down and place your hands on the ground in front of body, shoulder width apart. With a straight back, move your feet back behind you until you are on your toes. Your weight is on both your hands and feet. Slowly bend your arms until they are parallel to the ground. You chest will drop 4-5 inches from the ground. Push up to the starting position. Repeat five times. Try and work up to 10 or more. Remember to fully extend your arms in the start position, with a straight back. You can help keep a straight back by squeezing your stomach muscles.
Sit-Ups	Lie on your back with your knees bent. Your hands can be on your chest or shoulders or on the side with your fingers touching your ears. Your elbows are out to the side. Keep back straight as you slowly lift your shoulders, coming all the way up to a sitting position. Squeeze your stomach muscles as you slowly return to the start position. Repeat 10 times. Try and work up to two or three sets of 10. Rest for 30 seconds between sets. Remember, the wider apart the hands. the more the athlete works on the chest muscles.
Exercise for the Week (Exercise a minimum of 10 minutes)	
1. Set up a 10-meter course 2. Practice snowshoe starts 3. Race 10 times	Each week, increase the distance to 25 meters, then 50, then 100. Time each race to seek improvement. Practice putting on snowshoes, falling down and getting up. For distance snowshoers, jog at least two times a week in addition to regular training sessions.

Sample Training Program

Ideally, athletes need to train – compete – train – compete to achieve optimum benefits from sport participation. Your creativity is the key to helping athletes learn and enjoy themselves at the same time in both the training and competing environments. The following sample eight-week training program may help you to develop individualized training programs for your athletes. Please incorporate parts of this program as they meet the needs of your snowshoers.

Week One

1. Make introductions and do an overview of season schedule
2. Teach warm-up and stretching routines
3. Introduce basic snowshoeing skills
4. Play an active game
5. Cool down
6. Make closing remarks and distribute home training plan

Week Two

1. Warm-ups and stretches
2. Review previously taught skills
3. Administer Snowshoe Skills Assessment
4. Play a fun game
5. Cool-down and remarks

Week Three

1. Warm-ups and stretches
2. Review previously taught skills
3. Introduce new skills
4. Break athletes into skill groups for specific instruction
5. Play a short game or mini competition
6. Cool-down and remarks

Week Four

1. Warm-ups and stretches
2. Review previously taught skills
3. Introduce new skills
4. Break into skill groups
5. Go on a long-distance hike appropriate to various skill levels
6. Cool-down and remarks

Week Five

1. Warm-ups and stretches
2. Review previously taught skills
3. Introduce new skills
4. Break into skill groups
5. Practice sprint starts and speed races
6. Have a fun race
7. Cool-down and remarks

Week Six
1. Warm-ups and stretches 2. Review previously taught skills 3. Introduce new skills 4. Break into skill groups 5. Practice relay races or play a game 6. Cool-down and remarks
Week Seven
1. Warm-ups and stretches 2. Have a mini competition 3. Fitness training 4. Cool-down and remarks
Week Eight
1. Warm-ups and stretches 2. Work on weaknesses seen in mini competition 3. Play a fun game 4. Cool-down 5. Coordinate for upcoming event

Snowshoeing Skills Assessment

Athlete Name _____ **Start Date** _____

Coach Name _____

Instructions

1. Use tool at the beginning of the training/competition season to establish a basis of the athlete's starting skill level.
2. Have the athlete perform the skill several times.
3. If the athlete performs the skill correctly three out of five times, check the box next to the skill to indicate that the skill has been accomplished.
4. Schedule several Assessment Sessions into your program.
5. Snowshoers may accomplish skills in any order. Athletes have accomplished this list when all possible items have been achieved.

Stretching

☐ Knows stretches for calves, hamstrings, groin, quadriceps, triceps and shoulders

☐ Performs stretches

Dry Land or Inside Activity Warm-Ups

☐ Knows warm-up exercises

☐ Performs dry land warm-up exercises

☐ Performs on-snow exercises

Putting on Snowshoes

☐ Identifies parts of a snowshoe

☐ Identifies left and right snowshoes

☐ Positions foot properly

☐ Tightens straps securely

Removing Snowshoes

☐ Loosens straps and removes foot from shoe

Avoiding Snowshoe Overlap

☐ Stands on snowshoes without assistance

☐ Understands the concept of snowshoe overlap

☐ Spreads feet/snowshoes farther apart and moves them closer together

Walking Forward

☐ While walking, see if overlap occurs

Stopping and Recovery

☐ Stops intentionally

☐ Gets up without assistance

Turning

- ☐ Stands on one leg
- ☐ Takes long enough strides to avoid overlapping snowshoes
- ☐ Plants snowshoe flat on snow

Climbing Hills

- ☐ Ascends the most direct route on the hill
- ☐ Stamps with the toe to dig the cleat into the snow
- ☐ Uses arms to power up the hill

Descending Hills

- ☐ Keeps the weight forward
- ☐ Takes long striding, gliding steps, being careful not to over stride
- ☐ Identifies and goes down the fall line

Sprint Starts

- ☐ Stands upright with one leg in front, ready to start, with knees bent
- ☐ Thrusts upward with rear leg and forward pumping arms
- ☐ Uses the front leg as an anchor serving as the base for the thrust
- ☐ Performs the sprint start without falling

Sprinting

- ☐ Synchronizes arm and leg movements for maximum speed (right arm goes forward as left leg goes forward)
- ☐ Moves in a straight line

Distance Snowshoeing

- ☐ Breathes effectively
- ☐ Controls arms and keeps elbows in
- ☐ Runs by lifting the feet as little as possible
- ☐ Makes short strides to conserve energy
- ☐ Runs an even-paced race

Snowshoeing Attire

Clothing must be appropriate to the weather conditions. Incorporate the "25° F rule" when training and competing. This means that if the temperature outside is 40° F (4.4° C), dress as if it is 65° F (18.3° C). This is how warm you will feel from the heat generated by your workout. It is best to dress in layers so you can add or subtract clothes as needed. Always bring too many clothes instead of too few.

Socks

Socks are a personal preference, but it is suggested that a wool or blended-material ski or hiking sock be used for snowshoeing. Definitely avoid cotton socks because they absorb moisture, are poor insulators and will result in blisters. It is recommended that liner socks made of synthetic or natural fibers be worn underneath insulated socks. The liners will help wick away perspiration and moisture from the foot and add more insulation layers of air. The liners will also absorb the friction between the feet and outer socks to prevent blisters.

Footwear

Any type of shoe can be used. Running shoes and cross-training sneakers are popular because of their light weight and comfort. The heavier the shoe, the more weight the back will feel while running. Boots may be used in colder weather, but be sure that there is flexibility in the ankles and that the boot can remain securely attached to the foot while walking and running. The most important thing is to keep the feet dry and comfortable. It is recommended that the shoes fit comfortably with the socks that will be worn while snowshoeing. Booties that fit over the shoe and cover the space between the top of the shoe and the bottom of the pants are very useful. Neoprene cycling booties are great to use over running shoes.

The key in snowshoeing is that the boot or shoe is the interface with the snowshoe. The snowshoer's warmth comes from the exercise and layering, rather than bulky boots. Heavy boots will make it harder to snowshoe because they add weight. Additionally, they may cause excessive foot perspiration, which can lead to cold feet very quickly.

Mukluks or moccasins can be used in combination with a traditional wood snowshoe and binding. Mukluks or moccasins can have a crepe/ rubber sole and felt insert to provide protection. Mukluks are known for being warm, comfortable and lightweight. These typically provide a good interface with the snowshoe.

Pants and Tops

Incorporate the three-layer system. It's simple and it works well.

Inside Layer

The inside (or inner or base) layer is the wicking layer. Long underwear made of synthetic materials, natural materials (silk) or treated materials will remove perspiration from the body. Both the upper and lower body should be covered by a wicking layer. A shirt that covers the neck and fits snugly at the wrists is an effective way to conserve body heat.

Middle Layer

The middle layer should be an insulating layer and consist of wool (sweater or pants), fleece (top or bottom) or treated material. Synthetic insulations or phase change treatments have also proven to be lightweight but very effective. This layer provides warmth by trapping a layer of air around the body.

NOTE: Except in extremely cold conditions, the legs do not need and would be constricted by this layer.

Outer Layer

Wind and snow are blocked by the weatherproof outer layer. For the legs, nylon wind pants are good. If wind pants are not available, choose looser-fitting synthetic sweatpants. A lined windbreaker or warm-up jacket works well on top. Clothing that uses laminates that are waterproof, windproof and breathable (allowing perspiration to leave the body) can be useful. Be aware that absorbent clothing such as cotton sweatpants will provide little protection from the wind and cold. Snowshoes tend to kick up loose snow on the legs and back, and this is best shed by a slick and smooth nylon outer layer. Snowshoeing can be a highly aerobic activity that can generate a tremendous amount of heat and require clothing to allow unrestrictive movement.

Consider the ability of your athlete, the weather and the distance of the event when deciding upon clothing for competition. For optimal competition, strive to dress your athlete in clothing that is lightweight, breathable, layered and slick on the outer surface, and that allows unrestrictive movement. Consider having the athlete wear a thick, heavy, easily removed jacket and pants over everything to keep warm between events. At many competitions, the greatest challenge is staying warm while standing around between events. These bulky layers should have the ability to be easily and quickly removed and put back on before and after events. Do not neglect an extra set of warm, dry clothes to change into for athletes whose competition clothes will get wet with perspiration during longer races.

Accessories

Knitted hats are necessary to keep heat from escaping through the head. Gloves or mittens with the same three layers—synthetic base, thermal insulation layer and wind/waterproof outer layer—are needed according to weather conditions. Suitable eye protection is recommended to protect the eyes from damaging ultraviolet rays and glare and from snow kicked up by the snowshoes. Polarized sunglasses will cut glare, and high-quality glasses will be less likely to fog. Remember that if the glasses fog up, a sunglass-friendly soft handkerchief should be used.

Snowshoeing Equipment

Securing proper equipment is essential for good, safe snowshoeing, so getting the correct type of snowshoe is the most important decision to make. There are two types of snowshoes: traditional wooden-framed snowshoes and metal snowshoes which are made from aluminum, rubber, and other "high tech" materials. To be competitive, it is recommended that a snowshoe specifically produced for competition is used. These snowshoes are lighter, smaller and asymmetrical (see explanation below).

Snowshoes

Shoe weight and size are critical in snowshoeing. It is estimated that one extra pound on the foot equals 5-10 pounds of weight on the back. Also, a narrower frame is better to keep the weight centered and the legs directly beneath the torso, so that the frame will not hit the lower legs as much. Body weight is a very small factor. Everyone will sink in dry, powdery snow no matter how big the snowshoes are, but even the heaviest athlete will be able to snowshoe in moist, compacted snow in smaller shoes. Keep the snowshoe as small as possible for the snow conditions. Rules state that the snowshoe must be at least eight inches wide and 25 inches long (20.5cm by 64 cm). This size works best for most adult athletes.




Snowshoe Anatomy

There are six parts to any snowshoe.

Frame

This is the outside of the snowshoe that gives it shape. It is made of aluminum, wood or extruded synthetic materials and may be in a symmetrical or asymmetrical form. The symmetrical frame centers the foot in the middle of the shoe while the asymmetrical frame is more in the shape of the foot, with a right and left shoe, allowing the feet to be closer

together and eliminating the “snowshoe waddle.” The toe of the frame is raised up and the tail is weighted to ensure better movement and make sure that snow does not collapse on the shoe. Generally, the smallest frame that allows flotation on the snow is best for racing.

Binding System

This secures the athlete’s shoe to the snowshoe. Look for a solid landing platform, little movement inside the binding, comfort and no contact with the frame. Wooden snowshoes have a binding that is typically made of leather and attached at the toe cord. The alternate form of binding for wooden snowshoes is lamp wick (1 ½-inch flat cotton cord); the use of lamp wick requires the footwear to be modified to include loops on each side.

Pivot System

This allows for normal walking motion. There is a hole in the decking that allows the toe of the foot to go into the snow and push off while the frame remains on the surface of the snow. The pivot system on a wooden showshoe is formed when the binding is attached to the snowshoe.

Toe Cords

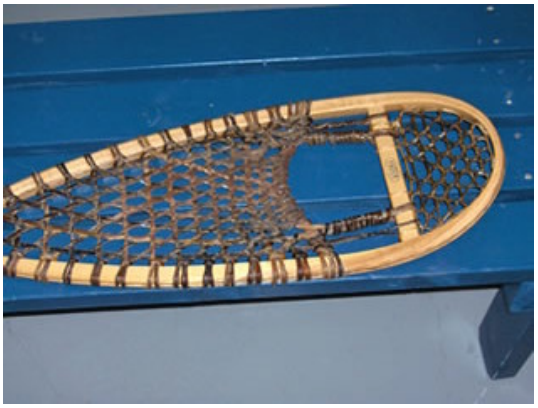
Toe cords are the part of snowshoes that connect the outer frame to the binding.

Crampons/ Cleats or Claws (Metal Snowshoe Only)

Spikes and claws grab the snow and provide traction when conditions are slippery. They are located beneath the binding, which also allows them to aid in pushing off. Rear traction devices under the snowshoe where the heel strikes are important for downhill traction and safety.

Decking

The decking material is attached to the frame and provides the majority of the flotation.



Poles

Most snowshoers do not use poles. Snowshoes provide much more traction, flotation and stability than a regular shoe, which helps most athletes negotiate slick, loose, deep and uneven snow with ease. Try to get your athletes to snowshoe without poles, if possible. Using poles is another action to coordinate when snowshoeing, and this will take more energy and motor control. If an individual can walk and run without poles when not wearing snowshoes, then he or she can snowshoe without poles. Certain athletes with very poor balance, strength or coordination may benefit from using poles. Ski poles that are long enough to reach from the ground to the elbow when the arm is hanging at rest are the proper length.

Teaching the Rules of Snowshoeing

The best time to teach the rules of snowshoeing is during practice. Please refer to the official *Special Olympics Sports Rules* for the complete listing of snowshoeing rules. As coach, it is your responsibility to know and understand the rules of the game. It is equally important to teach your athletes the rules and to make them play within the spirit of the game. Below are selected laws of the sport of snowshoeing. Maintain current copies of the official *Special Olympics Sports Rules* and your national and/or international federation snowshoeing rulebooks. Know the differences and carry these rulebooks to every game.

Divisioning

It is important that you as a coach learn and understand the rules and procedures of divisioning before attending competitions. Understanding the divisioning process will have a direct impact on your athletes' performance. The fundamental difference between Special Olympics competitions and those of other sports organizations is that athletes of all ability levels are encouraged to participate, and every athlete is recognized for his/her performance. Competitions are structured so that athletes compete with other athletes of similar ability in equitable divisions. Historically, Special Olympics has suggested that all divisions be created so that the variance between the highest and lowest scores within that division does not differ by more than 10 percent. This 10 percent statement is not a rule but should be used as a guideline for establishing equitable divisions when the number of athletes competing is appropriate.

Coaches are critical in helping competition management teams make divisioning work. Divisioning works best when coaches submit preliminary scores. This helps athletes get into the proper division as well as gain additional competition experience.

How Divisioning is Implemented

An athlete's ability is the primary factor in divisioning Special Olympics competitions. The ability of an athlete or team is determined by an entry score from a prior competition or the result of a seeding round or preliminary event at the competition itself. Other factors that are significant in establishing competitive divisions are age and sex.

Ideally, competition is enhanced when each division accommodates three to eight competitors or teams of similar ability. In some cases, the number of athletes or teams within a competition will be insufficient to achieve this goal. The following describes the sequential process for creating equitable divisions.

Unified Sports® Rules

There are few differences in the rules for Special Olympics Unified Sports® competition as the rules are stipulated in the official *Special Olympics Sports Rules* and modifications are outlined in the rules book. The additions are highlighted below.

1. A roster consists of a proportionate numbers of athletes and partners.
2. For snowshoeing, a Unified Sports team consists of two athletes and two partners of equal ability competing in the 4 x 100 and the 4 x 400 relay events.

Protest Procedures

Protest procedures are governed by the rules of competition and may change from competition to competition. Only rules violations can be protested. Judgment calls made by officials or divisioning decisions cannot be protested. The protest must site specific violations from the rulebook and a clear definition of why the coach feels the rule was not followed.

The role of the competition management team is to enforce the rules. As a coach, your duty to your athletes and team is to protest any action or events while your athletes are competing that you think violated the Official Snowshoeing Rules. It is extremely important that you do not make protests because you and your athlete did not get your desired outcome of an event. Filing a protest is a serious matter that can impact a competition's schedule. Check with the competition team prior to a competition to learn the protest procedures for that competition.

Snowshoeing Glossary

Term	Definition
Binding	The part of a snowshoe that attaches the footwear to the snowshoe.
Carrying Surface	Surface area of a snowshoe; the larger the surface area, the more flotation and support for the snowshoer.
Crampon	The sharp pointed traction device that may be attached to a snowshoe's pivot hinge to prevent slippage. Generally made from heat-treated aluminum or tempered carbon steel.
Claw	Like a crampon but with comparatively short serrations. Claws are an angle traction device attached to snowshoes. They give a "grip" comparable to that provided by the webbing of traditional snowshoes and are used in conditions where ice or steep surfaces are not encountered.
Decking	Solid or webbed pieces of nylon, rawhide or rubber-like material attached to the snowshoe frame that provides flotation for the snowshoer.
Fall Line	Shortest distance down a slope. The direction perpendicular to the ground that an object (you, rock, snow) would fall.
Flotation	Ability of a snowshoe to limit sinking down into soft or deep snow.
Frame	The rigid outer structural component of a snowshoe, usually made of wood, plastic or metal.
Heel Strap	Part of the snowshoe binding that secures the heel. It is a strap that wraps around the back of the snowshoer's footwear.
Lamp Wick	A 1 ½-inch cotton woven cord (oil lamp cord) used for binding snowshoes.
Pivot Rod	Attaches to the frame and allows the foot and binding to rotate as the snowshoer moves forward.
Tail	The rear area of a snowshoe frame.
Tip or Toe	The front area of a snowshoe frame.
Toe Hole	The opening in the front decking that allows the forefoot to pivot through a complete range of motion.
Tuque	A knitted hat adorned with a tassel on the top, the traditional headgear for snowshoers.

Appendix: Skill Development Tips

Moving Forward

To move forward on snowshoes is as easy as walking. As a matter of fact, it is walking. The movement forward is just placing one foot forward while the other foot is stationary, while making sure that the snowshoe is lifted up and is moved outwards just enough to clear the ankle and the other snowshoe. It is important to avoid overlap to prevent falling. Once athletes can competently move forward, they will be able to progress to running and sprinting.

Teaching Points

1. Begin on very flat terrain with athlete standing.
2. Move first foot forward.
3. Raise and bring second foot forward allowing for the width of the snowshoe to clear the ankle.
4. Place second foot down ahead of first foot.
5. Repeat steps.
6. To move faster, increase stride rate and/or length.

Avoiding Snowshoe Overlap

A certain amount of distance is required between foot-plants to avoid overlapping the snowshoes. When overlap occurs with a shorter stride, the tail of the leading snowshoe lands on and presses down on some part of the frame of the trailing snowshoe. When the snowshoer tries to bring the trailing snowshoe forward and off the ground to start another stride, he or she cannot since the trailing snowshoe is pinned to the ground by the overlap.

Avoiding this overlap is the primary technique to be learned when snowshoeing. Snowshoe overlap most frequently occurs at slower speeds and when walking. It is technically easier to run in snowshoes than to walk in them, simply because the stride and distance between foot plants is longer when running. Even when running, though, an athlete's stride may be too short to allow clearance.

Conditions that may result in snowshoe overlap:

1. Athletes with shorter legs
2. Deeper or looser snow
3. Uphill slopes
4. Fatigue
5. Toes do not point straight ahead when walking
6. The first few steps to accelerate from a stationary position are too short
7. Improper foot placement on snowshoe

Experienced snowshoers recognize these conditions and apply a simple technique to compensate: spreading the feet farther apart to avoid overlap. It does not take much, as you only need about five or six inches between the feet to clear eight-inch-wide snowshoes. Most people walk or run biomechanically best with one foot planted in front of the other. Some athletes must focus on spreading the snowshoes apart constantly to move at all.

Stopping

Many athletes may have a fear of slick snow that resulted in a fall or an unpleasant experience with a sliding sport (skating, skiing) because stopping required a skill they did not have. You may not see this until the snowshoers come to the top of their first hill and freeze, refusing to descend.

Stopping is the same as when stopping while running or walking without snowshoes. Athlete must de-accelerate if they are moving fast by taking gradually smaller steps/strides until they can just cease taking any further steps.

Teaching Points

1. Gradually, over a few strides, decrease stride length and rate.
2. Teach athlete to keep weight forward, off of tails of snowshoes.
3. Teach athlete not to use other object to stop.
4. Gradually slow down; don't stop abruptly.
5. Show athlete that a snowshoe does not slide like a ski.

Turning

Turning on snowshoes is as easy as turning when walking or running without them, as long as the turn is not too sharp and the speed is not too high. Simply make each successive step a bit farther to the side in the direction the athlete wants to go.

At high speeds or on sharp (90 degrees or greater) turns, some snowshoes may slip sideways, as most snowshoes do not "edge" well. In these situations, the athlete must plant the snowshoe flat on the snow, not angling it into the snow. The tendency is to allow the snowshoe to make contact with the snow at an angle when one leans the rest of the body into a sharp turn or at high speeds to maintain balance. To counteract this, athletes should concentrate on landing on the balls of their feet (on front claws) and not angling the snowshoe.

Teaching Points

1. Teach athletes to take successive steps to the side.
2. Teach athletes to land on the balls of their feet with the snowshoe flat on the snow.
3. Teach athletes not to cause overlap on tips and tails of their snowshoes.
4. Teach athletes not to back up in snowshoes, but to take small steps when making a 180-degree turn.

Falling

Before you begin the on-snow portion, it is important to teach your athlete the proper way to fall. Falls are a natural part of snowshoeing and falling in the correct way can prevent injury. Take some time to talk to your athlete, letting them know that it is OK for a fall to occur. By practicing falling an athlete will become less apprehensive if a fall does occur. Be sure that the athlete also has all of the proper protective equipment prior to practicing falls.

90% of the injuries from falling in snowshoeing are to the wrist and shoulder. Most of these injuries happen when a snowboarder falls forward in the incorrect way. Practice these movements side by side with your athlete. Start on your knees and let yourself fall forward onto your forearms. Catch your weight with the forearms away from the body slightly with the elbows bent (picture of starting and falling positions). Allow your forearms to touch the ground first. Try to resist reaching out toward the ground, or placing the hands out in front. As contact is made, absorb the fall with your arms. You may want to practice this movement with your athlete until he or she is completely comfortable with the movement.

Teaching Points

1. Emphasize that falling can be safe.
2. Emphasize keeping elbows bent and close to body when falling.
3. Teach athlete how to tuck and roll (roll on shoulder).
4. Make sure the athlete is not physically injured.

Getting Up

Because falling can be a common issue in snowshoeing, it is important to teach the athlete how to get up from the snow. Many times this can be more frustrating than the fall itself, especially on an incline. The easiest way for a snowshoer to get up is to rise from a kneeling position where the athlete can then slowly rise to a standing position.

Even an athlete in good condition may have problems getting up from a fall. It is important to work until the athlete is comfortable with this task. During lessons, it is a good idea to have the athlete practice getting up if he or she falls. It is also important to make sure that the athlete isn't becoming over tired from having to get up too often. In this case you may want to offer more assistance.

Teaching Points

1. If athlete falls completely to ground, roll onto side.
2. Get up to the hands and knees.
3. Raise one knee and set the shoe flat on the snow.
4. Plant poles (if using poles) in front and stand up.
5. Without poles, the athlete may plant hands on one knee for a boost, if necessary, to regain standing position.
6. Make sure the athlete is not physically injured.

Climbing Hills

The ability to go up a hill is a facet of the sport that makes snowshoeing fun. Snowshoeing is the fastest and easiest way to go up snow-covered hills using one's own power. There are many different ways to go uphill depending on the snow conditions and size of the hill. All techniques can be accomplished on either snow or sand.

Teaching Points

1. Show the athlete where the fall line is (the line a ball would take as it rolls down the hill).
2. The fall line is usually the most direct route possible up a hill.
3. Take shorter steps, keeping the head up.
4. Keep weight on the balls of the feet.
5. Keep feet spread apart to avoid overlapping snowshoes.
6. Stamp with the toe to dig the crampon into the snow for better traction.
7. Pump arms to power up the hill.
8. Lean slightly into the hill.
9. On short steep hills with loose or deep snow, crawling forward using the hands for balance and traction can help.

Descending Hills

Descending hills can be done safely using the proper techniques.

Teaching Points

1. Do not lean back.
2. Try to keep the upper body perpendicular to the slope, and point the toes down to maintain traction.
3. Extend arms out to help maintain balance.
4. Keep knees bent to cushion the impact.
5. It is easiest to run down a hill to get maximum traction and prevent snowshoe overlap, and it is important to do this on icy slopes.
6. It is easier to go straight down the fall line of packed snow hills than to traverse across slopes.
7. Avoid over striding. Brake and slow down by not leaning forward as much and taking shorter, quicker strides.

Sprint Starts

A good start can make all the difference in a sprint because the athletes want to get out at the start of the race strong and fast.

In a sprint start, the athlete puts the "power foot" forward for a strong launch. Determining the power foot can be easily accomplished by having the athlete pretend to kick a ball. The foot that is used to kick the ball is the back foot. The foot that is used to support the body is the front foot, the power foot. Another way to determine the power foot is to stand behind the athlete and give a little nudge. The foot that the athlete steps out with is the back foot for the start.

Teaching Points

At Start Line

1. Stand behind start line, relaxed, with power leg in front and tips of snowshoes behind line.

"Ready" Command

2. Lean forward slightly at hips and bend front knee slightly (about 120 degrees), placing weight on ball of front foot.
3. Hold opposite arm, from front foot, flexed in front of body.
4. Hold other arm back slightly past the hip and bent.
5. Stand as still as possible.

"Go" Command

6. Drive back leg forward, leading with knee, swinging front arm back.
7. Push strongly off ball of front foot, swinging the back arm forward forcefully.
8. Stay low, using arms to drive body forward.
9. Take wider steps when leaving the start line to avoid overlapping snowshoes.

Acceleration to Top Speed

10. Use short, quick steps off the start line, allowing stride to increase in length as velocity increases.
11. Gradually transition to a more upright sprinting position.

Sprinting

Sprinting is the art of running as fast as possible. Sprinting happens when an athlete's legs move faster to propel them forward at a greater rate of speed. Sprinting is when more steps are taken and/or longer steps are taken. Sprinting is a mechanical body action that can be refined as the athlete gets more comfortable.

Teaching Points

1. Run in an upright position so the maximum distance is attained with each stride.
2. The forearm and upper arm should form a 90-degree angle at the elbow.
3. Pump the arms (forward and back) with every stride.
4. The arm and leg movements should be synchronized. Move the right arm forward as left leg goes forward.
5. Increasing stride length or stride rate or both will increase speed.
6. Stay in lanes (25m, 50m and 100m). For other races, athletes need to keep moving forward toward the inside lane of track.

What is the body doing while you are sprinting?

Head	Straight ahead with eyes focused on the finish Relaxed jaw and facial muscles
Shoulders	Relaxed and square with little or no rotation
Hands	Clasped, not tightly, with the thumbs up
Arms	Used for balance Drive up and out and do not cross the body
Feet	The toes are straight ahead

Relay Races

Relay races are the 'team' events in snowshoeing. It is the art of running as fast as possible while making a successful connection with the next runner on your team. Relays develop a camaraderie and sense of team. Relay teams consists of four teammates who proceed around the track in order. To make a successful 'tag' (or 'exchange'), the racers have to stay in a set zone while the incoming runner tags the hand of the outgoing runner.

Teaching Points

1. Receiving athlete is positioned in exchange area a few meters in from the start of the exchange area.
2. Receiving athlete is standing in ready position with body slightly turned, arm extended to the side and back, with palm facing up.
3. Receiving athlete watches for approaching teammate.
4. Receiving athlete starts to move forward when approaching athlete reaches the exchange zone or a predetermined point.
5. Approaching teammate runs up to extended-arm side of receiving athlete and tags the hand of the receiving athlete.
6. Receiving athlete runs to next exchange zone.
7. Approaching athlete continues to move in a straight line until coming to a gradual stop.
8. Approaching athlete turns to look that there are no other approaching athletes. When track is clear, proceed off track into the infield area.

Distance Snowshoeing

These are the longer races that really test an athlete's endurance. It combines cardiovascular endurance and endurance to elements such as wind and cold, if training and race conditions are not perfect. These events require specific training to ensure that athletes have the endurance to train and compete at the longer distance and not be at risk for injury.

Teaching Points

1. Keep tall, in an upright position.
2. Have controlled relaxed arm movement.
3. Keep shoulders not hunched and elbows tucked in
4. Try to maintain same speed throughout the entire distance of the race.
5. Keep body relaxed.
6. Appropriate aerobic conditioning is required – athletes should increase duration first, then intensity, to improve conditioning.

Waterfall Start

For events involving a turn, 200 meters and up and the relays, a curved "waterfall" starting line is used so that all snowshoers in all lanes of the track cover an equal distance to a point at the start of the first turn. Snowshoers are lined up starting from the inside lane or lane 1. This lane is reserved for the quickest athlete.

Teaching Points

1. Snowshoers should have a good understanding of starting and passing skills, as both will be required.
2. Snowshoers should position themselves at the start line so that they are pointed toward their target point at the first corner.
3. The target point should be the last point along the inside edge of the track visible to an athlete positioned at the start line.
4. Snowshoers need to judge the minimum distance to the athlete(s) ahead and beside them to avoid collisions and blocking.

Following the race start, the snowshoer should take the shortest path to the target point based on the position relative to other snowshoers. Passing can occur during this section but generally requires the athlete to pass on the right. This results in a longer path which may warrant the snowshoer waiting to pass on the straight to minimize the distance covered to accomplish the pass.

Pacing

One of the most difficult advanced skills to learn for a snowshoer is proper pacing. It is more efficient and faster to maintain a constant speed during all segments of a race than to move at an uneven pace. Proper pacing is especially important in longer distance races of 800 meters and above. Depending on the skill and ability level of the athlete, pacing can become important in races as short as 100 meters.

It is sometimes difficult for an athlete to apply the concept of proper pacing, as typically many other athletes in a race will not run with proper pacing. Most athletes start too fast for their aerobic and physical ability, slow dramatically in the middle, and then sprint to the finish. After all the basic skills of snowshoeing have been mastered, improvement essentially comes down to practicing to improve fitness and conditioning so that the athlete can maintain a faster pace throughout the race until the finish.

Teaching Points

1. Make sure your snowshoers can actually move at different speeds and can do this independent of others. It may help if you or someone else initially snowshoes along with your athletes to show them different speeds and paces, but realize that the athletes must eventually learn to do this on their own.
2. Emphasize that it is not always the athlete who starts the fastest who wins a longer race.
3. Inexperienced athletes usually start longer races at the pace of the fastest starter, and then as they go into oxygen debt, everyone slows down except the fittest athlete. All others must slow until they recover (which they never completely do) and then start moving faster again at their own individual threshold pace. This is a very painful and inefficient way to run a long race.
4. Emphasize that a consistent pace and speed over the entire race is what usually produces the fastest times. The effort required to maintain a high even pace will increase as fatigue accumulates. An analogy is that over 50% of the effort is used in the last 25 % of the race.
5. Athletes need to run their own best race and pace for the first part of a longer race, and then focus on actually racing other athletes later in the race. Emphasize that the skill at the beginning of a race is to run near their ideal even pace, and this may require letting other athletes get ahead.
6. Coaches should determine at what pace an athlete should move in an ideal even-paced race, or the "goal pace." Take the best time for an athlete for a given distance, and then divide that time by the number of segments of a shorter distance that goes into the longer distance evenly. This will give you a time-per-distance speed to strive for. The shorter distance is usually 100 or 200 meters for a 400-meter race, 200 or 400 meters for an 800 or 1600-meter race, and 400 or 1000 meters for the 5 K or 10 K.
7. An 800-meter runner with a best time of 4:00 should maintain a speed of 1 minute per 200 meters for an even paced race, as 800 divided by 200 equals four and 4 minutes divided by four equals 1 minute.
8. A 5 K runner with a best time of 32:00 should proceed at a pace of 6:24 per kilometer, or about 2:56 per 400-meter segment.
9. These goal pace/distance times are a key tool in allowing athletes to practice even pacing and are useful for athletes to gauge their progress in longer races, if they can take or get intermediate split times from their coaches. Good coaches follow every step of their athletes in longer races and record intermediate split times to analyze later.
10. A workout for distance snowshoers might consist of multiple repetitions over a known shorter distance at a speed equal to the pace they want to maintain for their entire distance, with rests in between. For example, a 1600-meter snowshoer with a best time of 10:00 minutes might do a workout of six times 400 meters at a speed of 2:30 per 400, and with a jog of 200 to 400 meters between each of the six repetitions.
11. As fitness improves, the athletes can increase the number of these repetitions and/or decrease the time/distance resting between them. Athletes can increase the speed when they improve their best time.
12. Coaches should be aware that athletes' best times for a distance may rapidly improve at first, once they learn to pace themselves properly. Goal pace is something that can change weekly/daily for a novice snowshoe athlete, but is more constant for experienced athletes.
13. Be aware that snow conditions, weather, hills and terrain may drastically affect the speed at which a snowshoer might travel in a race. Athletes should thus learn to eventually base their pacing more on effort than speed.

Passing

The ability to safely and effectively overtake and pass another snowshoer is a skill all snowshoers should understand and use. Snowshoeing is unique among Special Olympics winter sports in that most of the races involve a mass start and the athletes do not have to stay in lanes. Passing is a form of interaction among the groups of racers.

Teaching Points

1. A pass is usually required when a faster snowshoer catches up to a slower snowshoer or a snowshoer who has fallen or stopped. Near the end of a race, it is sometimes wise to initiate a pass so that the snowshoer has a clear run at the finish in case the leading snowshoer slows.
2. Straight sections of the course or track are the best areas to pass. A snowshoer attempting to pass on the outside of a turn will have to cover more distance to pass, and thus will have to be moving significantly faster to make the pass successful. A snowshoer should be able to look ahead to see what is coming up on the course before starting a pass. If the course soon narrows, it may be best to wait until after that to initiate the pass.
3. Athletes should move to the side with sufficient space to pass, and to the side that will position them on the inside of the next turn, if possible. Generally, snowshoers on a track will keep to the left edge, and passes will have to be made on the right. It is possible to pass on the left side on a track if the snowshoer in front has strayed from the left side and the pass can be made quickly enough so that the passing snowshoer cannot be cut off by the snowshoer in front, who has the right of way.
4. Generally, you need to move at least 50 cm (20 inches) to the side of a snowshoer to pass. More is better as long as it does not significantly increase the distance to be covered.
5. Ideally a pass can be made without significant energy-wasting changes in pace. Usually, completing a pass involves a slight acceleration in order to compensate for attempts by the leading snowshoer to maintain the lead.
6. The extra length of snowshoes requires that passing snowshoers attain a greater lead before moving in front of the passed athlete than if they were walking/running without snowshoes on. A passing athlete needs to turn the head slightly to glance over in order to determine when he or she has a sufficient lead. Generally, a snowshoer needs to be a minimum of two strides or about 1.5 meters (4 1/2 feet) ahead to move in front without interfering.
7. After taking the lead, the passing athlete should resume his or her own race. This means moving toward the side of the course so as to be on the inside of the next turn. The passing athlete should not worry about those behind him or her on the course.

Finishing

Finishing a race requires the development of pacing skills and timing to allow the snowshoer the opportunity to maintain or even increase speed just before the finish line. Snowshoers who effectively use finishing skills can improve their final positions relative to other athletes who do not have the endurance or energy to apply the final "kick" to the finish line. In very close finishes, the snowshoer who applies the finishing lean may improve his or her final position. The snowshoer whose torso crosses the finish line first is scored higher.

Teaching Points

1. The snowshoer should have a good understanding of pace and passing skills, as both will be required.
2. The snowshoer needs to judge the maximum distance to the athlete(s) ahead and the distance required to catch and pass the athlete(s). Sufficient distance to the finish line should be given for any challenges to the passing maneuver by the opposing snowshoer.
3. An allowance of a few meters for these challenges is usually sufficient. Risk of the snowshoer regaining the position increases if the finishing kick and pass are completed too early.
4. Sprinting events require the snowshoer to maintain speed and lean into the finish line with the torso as required in close competition. The athlete should be able to lean forward just enough to gain the advantage but not so far forward as to lose balance and fall forward or lose forward speed.
5. Distance events require the snowshoer to use an adequate race pace to maintain an acceptable recovery distance from the leading athlete.

Special Olympics

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Created by the Joseph P. Kennedy, Jr. Foundation for the Benefit of Persons with Intellectual Disabilities.

QSG_SS_05/07