

Para Nordic Skills Development Program Clothing Requirements

Welcome to the Para Nordic Skills Development Program! Winter is one of the toughest times of the year to know how to dress properly for being active outdoors. The body at rest during the winter months is preparing to conserve energy and keep blood flow close to the core of the body. As soon as the body begins to move, the muscles require an influx of blood, and the heart begins to pump to deliver food to the muscles. As the muscles and circulatory system warm up the body by generating, the body begins to regulate the increased temperature by sweating. Sweating creates moisture on top of the skin which results in the body to feel cool when it is not active. The type of clothing is critical for maintaining comfort. Understand that many disabilities may not have the ability to regulate heat or cold sensations.



How to dress? Think of an onion and a sheep. Onions are comprised of layers and sheep stand in the rain and never get cold with their natural oils from their wool. A snowmobile suit or downhill ski jacket and pants are good for keeping yourself warm while enjoying the outdoors while expending low intensity energy or sporadic intensity with a thick single layer of clothing. Once you begin to sweat there are not a lot of options in removing the single thick layer while maintaining the activity and keeping warm. The better option is to dress in layers comprised of mainly natural animal fibres and some manmade fibres.

The first layer is known as the base layer needs to be a material that can wick away moisture (sweat) while also retaining some heat. Merino wool long underwear (tops and bottoms) are the best material for the above mentioned qualities with the added benefit of resisting odour and anti-bacterial properties. Cotton is a natural fibre and is good initially for providing warmth but as soon as sweat is absorbed into the cotton fibres the material against the skin cools and takes heat away from the body. Cotton long underwear products is not recommended for activity. An alternative fabric is polypropylene which has some wicking capabilities and provides warmth even when wet. Polypropylene has a downside in that the material retains odours. The feet needs to be warm and ideally a wool sock is best as the best material for comfort. Always

put on the long underwear on prior to placing sock on the feet. The top of the sock should be over the top of the long underwear at the ankles. This is really important as when you put the second layer (i.e. tight or windpant) on top of the first layer (long underwear) does not get rolled up exposing the skin. A note for sit skiers who are seated and kneeling that the pants have the potential to slide up from the ankles leaving the skin exposed to the elements around the ankles to the calf. Strongly suggest an over-the-calf length wool sock to ensure bare skin is not exposed. There are underwear boxers for both males and females specifically for wind protection which has a wind stopper panel at the front of the briefs or on the front panels of the long underwear. This is required on really cold days in particular for para skiers who are standing and skiing down long downhills. An alternative to wind briefs is a sandwich/freezer bag place in the front between the underwear layer and the long underwear layer.

The second layer also known as the midlayer should be comprised of a long sleeve wicking type of shirt and/or fleece and tights. These layers should be able to allow moisture to transfer through to another level. The material at this stage can be natural fibres or man made textiles. This layer can also provide some loft material such as PolarTec® or Down for additional warmth.

The third layer is the outer layer which is a coated fabric to prevent wind and water from entering into the layers below. Goretex® is a great material and is by hands down the best waterproof and breathable material on the market. There are other manufacturers who have proprietary fabrics (eg. Climasoft) that are cheaper than the Goretex® brand and offer similar level of protection. Seam sealing zippers will add another cost to the garment but it does prevent a pocket full of water.

A toque made out of natural fibres is also the best option to ensure that the ears are covered without losing too much heat through the head and protecting ears from possible frost bite. There are some participants who have a visual impairment that would choose to wear a baseball cap with a brim to help provide sun protection coming over the top of their sun glasses if the light intensity changes from shadows (trees) to bright sunshine (fields).

Gloves or mittens. Wool mittens is not recommended nor is large goretex gloves that cannot fit through the strap of the ski pole. Ski poles come with two types of attachments for the hands. The first is the adjustable loop strap and the second is a harness strap. Most harness straps are sold in sizing with XS, S, M, L and XL. A harness gives the skier a lot more control of the pole compared to the adjustable loop. Some manufacturers harness strap also provides an additional feature of a quick release from the pole. This feature is excellent for not having to exposure bare hands to make adjustments to equipment or clothing or biathlon without having to take the hand out of the strap and/or glove. If a participant falls into the snow with wool mittens they run the risk of having snow balls pilling onto the material and as time moves on the warmth of the hands melting the snow. Gloves enable individual fingers to have freedom which is good for having a feel of the ski pole handle in the hands. However, on cold days the separation of each digit being exposed leaves the hand at risk of getting cold and forcing the blood to not to circulate to the ends of the fingers. A merino wool liner would be a good additional layer to fit inside but the glove needs to be a little loose fitting as too tight can

restrict blood flow to cause cold hands. A lot of gloves are made out of combination of manmade fabrics for backing of the glove and the palm is made out of leather. On really cold days mittens are the best to wear as the hands are grouped together and they can retain the heat better. Windstop® material can be found on a lot of mittens to help shield the fingers and hand from getting cold.

A neck tube or a Buff® is typically made out of fleece or manmade material that can be used to protect the neck from the cold. It can also be an additional layer under the toque to help cover the ear and face for the participants who have visual impairments and need a baseball hat as explained earlier.

A final layer of a winter coat can also be used for warming up or at the end of practice to ensure heat is maintained. A caveat to the benefits of animal materials should be considered depending on the level of moisture. A duck/goose down filled coat or vest is good for a nice sunny day as the feathers are capable of trapping warm air. On a day of heavy wet snow or rain creates problems for duck/goose down with the down feathers being saturated with moisture they compact to the bottom of the individual compartments (billows) in the coat which creates large open spaces of wet material with a result of a person getting cold. The alternative to duck/goose down is manmade fibres such as PrimaLoft®, Thinsulate® and PolarTec Alpha® which hold their loft even when wet. The alternative is to place a GoreTex® shell overtop the duck/goose down to keep the jacket dry. If duck/goose down does get wet a tennis ball in the dryer with the article of clothing on air dry can create the loft. It may require some additional manual fluffing each billow to ensure evenness of the duck/goose down.

The Canadian Cancer Society's SunSmart program of Slip-slop-slap is highly applicable for winter activities. Slip the sunglasses on. Slop the sunscreen/sunblock onto your cheekbones, nose and ears. Slap on the necktube or Buff® to cover the face and ears.

All participants and especially participants with Albino are really susceptible to the Ultra Violet rays of the sun and risk damaging both their eyes and skin. Sunscreen absorbs ultra-violet rays before it reaches the skin. Sunscreen is time sensitive meaning re-application may be required depending on length of time. A sunscreen with a rating of SPF 50 should be considered with waterproof/sweatproof. Sunblock is literally blocking the sun's rays with a physical block using zinc oxide. Some sunscreen and sunblock products can help to block the wind to prevent windburn.

Sunglasses are essential for ensuring the sun does not harm the eyes with sunburn from the reflecting effect of the sun rays bouncing off the snow. Purchasing sunglasses with 100% UV protection or UV protection up to 400nm or UV400 which is equivalent of 100% protection. Additional lens features such as polarization, anti-reflective and gradients do not contribute to UV protection, however, it may prevent eye strain and provide comfort in bright light situation. A wrap around lens will help prevent light coming into the sides of the glasses and avoid the small round oval sunglasses. The temples or arms of the glasses should grasp the side of the

head so when the participant is in activity their glasses are not falling off their face. A wide strap can be found on some sunglass manufacturers can be used to hold sunglasses in place. The last item specific for sit skiers is that you are not wearing a cross country ski boot. A regular winter boot that will provide you warmth and shield your feet from the cold. Many sit skiers use a lightweight puffy type of slipper with traction such as the North Face Thermoball Traction and again being careful with rain.

The onion is complete and it is time to ready to enjoy winter activities. If a participant is feeling too warm, we can always take a layer off. If the participant begins to feel cool an additional layer can be added to regulate temperature. The old adage of, "There is no such word as bad weather conditions it is a person who chooses to be a bad dresser!". Dress appropriately for the conditions and enjoy in the comfort of your clothes while you explore!!!