

Document ID PR-07-04	Title Extreme Cold Weather	Effective Date 5 Feb 2018
Revision 2	Prepared By Rusty Hopper	Date Prepared 2 Feb 2018
	Approved By Board of Directors	Date Approved 5 Feb 2018

Purpose: During extreme cold weather, the Club will not offer events or programs, will adjust athlete training sessions and will endeavour to provide guidance to protect trail users, who are advised to "exercise caution" when skiing in extreme cold weather.

This procedure applies to athlete training, events and programs during cold weather. The procedure does not apply to recreational skiers who are advised to "ski at their own risk".

Our Club needs to lead in teaching the community how to enjoy our winter weather, even at the extremes. The procedure identifies hazards and provides guidance to recognize those hazards, and use procedures to mitigate the risks posed to skiers by the hazards.

Ultimately, adults and parents of children have the responsibility to consider the temperature and to decide whether or not to participate in the activity.

Definitions: Club: Walden Cross Country Fitness Club

Procedures:

During periods when the outside temperature is -25°C and colder, a sign will be posted in the window of the Chalet by the Chalet Attendant, informing skiers that they "***In extreme cold weather, skiers should ski with a friend and exercise caution***".

Jackrabbits (includes Bunny Rabbits and Adventure)

The Jackrabbit program will be cancelled at temperatures below -30°C as reported by www.weather.gc.ca for Sudbury at 8 am on the morning of the lesson. The Jackrabbit Coordinator is responsible to determine if the lesson needs to be cancelled. The Coordinator will send an email to the parent distribution list by 9 am to notify that the session has been cancelled and will advise the Chalet Attendants and Chalet Manager of the cancellation. Parents are encouraged to monitor their email on mornings when temperatures are forecast to be close to -30°C and/or contact the Chalet after 10 am to confirm if the lesson will be held.

Jackrabbit leaders should consider the following safety measures when skiing with young children during cold days (temperatures below -15°C).

- If children are inappropriately dressed, they should be excused from the session and their parent should be notified.
- Use a scarf or neck tube to cover the neck, back of the head and chin.
- Wear mitts as they provide better insulation from the cold than gloves.

- Inform skiers and parents that a hat should be worn at all times. Ensure ears are covered to avoid frostbite.
- Bring children inside when they say they are cold.
- Choose areas that are protected from the wind and avoid activities in open areas.
- Keep younger children close to the chalet in the event that someone does get cold.
- When temperatures are below -20°C, instructors should plan more frequent breaks and plan activities in the Chalet. Younger kids can have colouring activities. Older kids can use the opportunity to learn about hydration, nutrition, stretching and ski waxing.
- Allow additional time to warm-up; it takes longer to get the body warmed-up for sport activity in cold weather.
- Apply Vaseline or Dermatone (available at Chalet) to cheeks and nose to help prevent frostbite.
- Every 20-30 minutes, a “frostbite check” should be performed using a buddy system. Check the face for the warning signs of frostbite.
- If in doubt, cut the lesson short.

Junior Race Team Competitions

The Club recognizes the unique risk incurred by young athletes in cold weather conditions and has adopted the following policy.

With respect to racing, the procedure is to follow FIS CCC rules. Coaches should be fully knowledgeable regarding these standards.

Notwithstanding the above, where the head coach at an event feels that other weather factors put our athletes at risk, he or she may pull the team from the race. The head coach is expected to use discretion in evaluating whether this decision should apply to all age groups or not.

Training and Practices

With respect to training and practices led by a ski team coach, several factors need to be considered. When temperatures are -20°C or colder, the coach leading the practice will decide whether to hold the practice. Among the factors the coach will consider are:

- The wind speed, wind chill index (Appendix A), trail sections in large open areas or long downhill sections
- Exposure to bright sunshine can lessen the effect of wind chill index (make it feel warmer) by 6 to 10 degrees
- Length of practice

- Distance away from the chalet
- How well dressed athletes are
- Whether temperatures will change
- The effort that will be expended during the practice and the time that athletes will be relatively inactive (eg. resting or receiving instruction)
- The age of the athlete

Race Events

Temperature cut-off guidelines for race events are taken from the Cross Country Canada's Canadian Competition Rules Section 315.9:

- For distances over 15 km the minimum air temperature is -18°C.
- For distances 15 km and less the minimum air temperature is -20°C.
- In events for Atom & Pewee age groups (ages 9-12 on Dec 31), the minimum air temperature is -15°C.
- Temperatures are taken at the coldest area of the course, without wind chill index.

The Club will follow the latest version of Cross Country Canada's Canadian Competition Rules published at <http://www.cccski.com/Events/Rules-and-Regulations>.

Loppet Events

Temperature cut-off guidelines for Loppet events are taken from the Cross Country Canada's Canadian Competition Rules Section 387:

- If the temperate is forecast between -15 and -25°C on any part of the course, recommendations regarding cold weather protection should be made to participants. Under such conditions it is the responsibility of the participants to seek the information and to follow the recommendations given by the organizer.
- If the temperature in a major portion of the course is -25°C and below, the competition shall be delayed or cancelled.
- Temperatures are taken at the coldest area of the course, without wind chill index.

The Club will follow the latest version of Cross Country Canada's Canadian Competition Rules published at <http://www.cccski.com/Events/Rules-and-Regulations>.

Factors to Consider in Races and Loppets

- Delaying start time may put skiers on the course later than is wise. The race may then be extending back into a cold time of the day again. Be aware of the warmest time of the day - eg 1:00 pm
- Start times should be delayed the night before if predictions are reliable.
- Delays should be in half hour increments minimum.
- Shorter race courses could be considered
- Eliminating cold sections of the course may alleviate some issues - eg avoid going through the stadium on laps
 - Attention needs to be paid to the officials - eg provide hand warmers, Styrofoam, coverage for breaks etc.

Tips for Athletes When Training in Cold Weather:

- Wear extra clothing if necessary. Vests and toques are an important addition and it may also be reasonable to wear two layers of synthetic (polyester) underclothing.
- Balaclavas, neck-warmers and windproof briefs are also a good idea. Consider substituting mitts for gloves or wearing latex gloves as a liner.
- Creams, lotions and jellies can reduce the direct exposure of the skin to the air. However, to be effective they must not have water in their base. (Vaseline is available in chalet).
- Ski glasses/goggles can keep the wind out of your eyes, but they can also cause a "wind tunnel" effect on other parts of your face. For eye comfort, blink more often than usual. This is particularly true if you wear contacts.
- Consider carrying hand-warming packets (coaches can carry a couple of these with them) to avoid frostbite.
- Learn to recognize the signs and symptoms of frostbite.
- Individuals have a different tolerance to cold weather. Children less than 10 years of age are not able to thermo-regulate as well as older athletes.
- Make sure you are properly hydrated and are not hungry. Bring extra foods and fluids to the site of the event in case there is a delay.
- Up to 30% of cross-country skiers suffer from exercise-induced asthma (EIA). Cold dry air exacerbates this condition. If you are susceptible to exercise induced asthma you will

need to take extra precautions. A proper warm-up is critical and your predisposition to EIA should be discussed with a physician.

Other Club Policies and Procedures that Relate to this Procedure:

None

Revision History:

Revision	Date	Description of Changes	Requested By
0	5 Jan 2015	Approved by Board	Policy Committee
1	21 Nov 2015	Defined temperature limits for loppets	Executive Board
2	5 Feb 2018	Changed JR cut-off temp to -30°C	Board of Directors

Appendix A - Wind Chill Chart

Environment Canada Wind Chill Chart

Actual Air Temperature T_{air} (°C)

Wind Speed $V_{10\text{ m}}$ (km/h)	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45	-50
5	4	-2	-7	-13	-19	-24	-30	-36	-41	-47	-53	-58
10	3	-3	-9	-15	-21	-27	-33	-39	-45	-51	-57	-63
15	2	-4	-11	-17	-23	-29	-35	-41	-48	-54	-60	-66
20	1	-5	-12	-18	-24	-30	-37	-43	-49	-56	-62	-68
25	1	-6	-12	-19	-25	-32	-38	-44	-51	-57	-64	-70
30	0	-6	-13	-20	-26	-33	-39	-46	-52	-59	-65	-72
35	0	-7	-14	-20	-27	-33	-40	-47	-53	-60	-66	-73
40	-1	-7	-14	-21	-27	-34	-41	-48	-54	-61	-68	-74
45	-1	-8	-15	-21	-28	-35	-42	-48	-55	-62	-69	-75
50	-1	-8	-15	-22	-29	-35	-42	-49	-56	-63	-69	-76
55	-2	-8	-15	-22	-29	-36	-43	-50	-57	-63	-70	-77
60	-2	-9	-16	-23	-30	-36	-43	-50	-57	-64	-71	-78
65	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-79
70	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-80
75	-3	-10	-17	-24	-31	-38	-45	-52	-59	-66	-73	-80
80	-3	-10	-17	-24	-31	-38	-45	-52	-60	-67	-74	-81

where

T_{air} = Actual Air Temperature in °C

$V_{10\text{ m}}$ = Wind Speed at 10 metres in km/h (as reported in weather observations)

Notes:

1. For a given combination of temperature and wind speed, the wind chill index corresponds roughly to the temperature that one would feel in a very light wind. For example, a temperature of -25°C and a wind speed of 20 km/h give a wind chill index of -37. This means that, with a wind of 20 km/h and a temperature of -25°C, one would feel as if it were -37°C in a very light wind.
2. Wind chill does *not* affect objects and does *not* lower the actual temperature. It only describe how a human being would feel in the wind at the ambient temperature.
3. The wind chill index does *not* take into account the effect of sunshine. Bright sunshine may reduce the effect of wind chill (make it feel warmer) by 6 to 10 units.

Frostbite Guide
Low risk of frostbite for most people
Increasing risk of frostbite for most people within 30 minutes of exposure
High risk for most people in 5 to 10 minutes of exposure
High risk for most people in 2 to 5 minutes of exposure
High risk for most people in 2 minutes of exposure or less