

**MIAA Sports Medicine Committee
Cold Weather Reference Document**

This document was created to outline best practices for sports and cold weather that are backed by many published documents. Additionally, a cold weather Wind Chill Determination chart published by USA Soccer is included for reference and guidance. These guidelines can be utilized to prepare for the cold, modifications for outdoor activities in responses to cold temperature and cold injuries to be most aware of. Please be aware these guidelines should be used in the *absence of any form of precipitation (ex. Snow, rain, etc.)*. In the case of precipitation AND cold weather, medical staff or athletic training services on site are should be responsible for final decisions regarding outdoor athletic activity due to the increased risk of cold injuries in this specific environment.

Wind-Chill Temperature	Recommended Guidelines
≤0°F	Cancel all planned events, practices, and outdoor workouts and reschedule (or move indoors if facility allows)
≤10-15°F	<ul style="list-style-type: none"> -All athletes not actively participating (due to injuries, illness, eligibility, etc.) shall remain indoors -Limit outdoor exposure time to no longer than 60 consecutive minutes -After 20 consecutive minutes of outdoor practice, allow for indoor re-warming for at least 15 minutes before returning outside -<i>Re-warming: allow for athletes to raise body temperature by being inside and changing base layer of clothing</i> -All practice plans should be mindful of outdoor temperature and be modified to include decreased “down time” -Encourage all athletes to continuously move when on sidelines during games
≤20°F	<ul style="list-style-type: none"> -All participants should be required to wear extra clothing and accessories to cover any exposed skin including, but not limited to, pants, long sleeve shirts, hats, and gloves. Athletic trainers or other medical staff present should make adjustments/recommendations for additional winter clothing or equipment as seen fit. -All athletes not actively participating (due to injuries, illness, eligibility, etc.) should remain indoors
≤25°F	<ul style="list-style-type: none"> -Be alert, aware, and attentive to possible signs of cold injury -All participating athletes should take all precautions to continue to cover any exposed skin. Hats, gloves and extra layers should be worn, at minimum, during warm-ups but encouraged during the entire practice -All athletes not actively participating (due to injuries, illness, eligibility, etc.) should take all precautions on the sidelines by covering any area of exposed skin and continuing to move around

	rather than stay stationary
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Cold Injuries and Illnesses

Early Warning Signs - Recognition

- Core temperature between 98.6° to 95°
- Continuous shivering
- Numbness, pain, burning or abnormal sensation of the extremities
- Slurred speech

<p>Signs and Symptoms of Hypothermia</p> <ul style="list-style-type: none"> ● Aggressive shivering ● Pale skin appearance ● Core temperature dropping below 98.6 ● NOTE: Hypothermia can have many signs/symptoms and progresses in stages; consult with athletic trainer immediately if these signs are apparent 	<p>Signs and Symptoms of Frostbite</p> <ul style="list-style-type: none"> ● Pain ● Burning, numbness, or tingling in extremities (fingers and toes specifically) ● Minor skin irritation (itchy skin) ● Slight skin discoloration (grayish-yellow)
<p>Signs and Symptoms of Chilblain/pernio (ulcers that result from over-exposure of bare-skin to cold temperatures)</p> <ul style="list-style-type: none"> ● Red or cyanotic (blue) lesions (typically found on the fingers) ● Lesions are tender to touch ● Swelling ● Itching, numbness, burning, tingling of the extremities ● Skin necrosis (tissue death) 	

Treatment/Referral

The following procedure should be carried out if athletic training staff is NOT PRESENT at time of injury/illness.

1. Immediately contact personnel from school’s sports medicine department
2. If no sports medicine staff are available at time of need, activate EMS, carry out emergency action plan procedures, and have athlete transported to nearest medical facility for evaluation and treatment

NOTE: Any athlete that has been referred to a medical facility for further evaluation regarding cold injury/illness should receive clearance from their school’s sports medicine staff PRIOR to returning to any form of athletic activity.



COLD WEATHER GUIDELINES

STEP ONE - DETERMINE WIND CHILL TEMPERATURE

The effects of cold weather can impact health and safety during practices and games. The definition of “cold stress” varies across the United States, depending on how accustomed people are to cold weather. A player from Minnesota will have a much different threshold for cold than a player from Florida.

WIND CHILL TEMPERATURE (WCT) INDEX														
TEMPERATURE IN DEGREES FAHRENHEIT														
		40	35	30	25	20	15	10	5	0	-5	-10	-15	-20
WIND SPEED	5	36	31	25	19	13	7	1	-5	-11	-16	-22	-28	-34
	10	34	27	21	15	9	3	-4	-10	-16	-22	-28	-35	-41
	15	32	25	19	13	6	0	-7	-13	-19	-26	-32	-39	-45
	20	30	24	17	11	4	-2	-9	-15	-22	-29	-35	-42	-48
	25	29	23	16	9	3	-4	-11	-17	-24	-31	-37	-44	-51
	30	28	22	15	8	1	-5	-12	-19	-26	-33	-39	-46	-53
	35	28	21	14	7	0	-7	-14	-21	-27	-34	-41	-48	-55
	40	27	20	13	6	-1	-8	-15	-22	-29	-36	-43	-50	-57
	45	27	19	12	5	-2	-9	-16	-23	-30	-37	-44	-51	-58
	50	26	19	12	4	-3	-10	-17	-24	-31	-38	-45	-52	-60

STEP TWO - FIND YOUR ALERT LEVEL

Use this chart to determine the alert level at your location based on the wind chill temperature.

ALERT LEVEL	WCT (F)	EVENT CONDITIONS	RECOMMENDED ACTION
BLACK	< 0	Extreme Conditions*	Cancel or attempt to move activities indoors. Frostbite could occur
RED	1-15	High Risk for Cold Related Illness*	Consider modifying activity to limit exposure and allow for more frequent chances to rewarm
ORANGE	16-24	Moderate Risk for Cold Related Illness*	Provide additional protective clothing, cover as much exposed skin as practical, and provide opportunities and facilities for rewarming
YELLOW	25-30	Less than Ideal Conditions*	Be aware of the potential for cold injury and notify appropriate personnel of the potential
GREEN	>30	Good Conditions	Normal activities

* In wet environments with colder conditions, the following situations are accelerated. Use additional caution to recognize potential cold injuries. (NOTE: These WCT guidelines were adapted from the NATA position statement: Environmental Cold Injuries by Cappaert et al. 2008.)