

Soccer in Cold Weather Part 1 of 2

This article describes the risk factors and signs associated with playing soccer in the cold weather. Part 2 will make practical suggestions to keep players safer, warmer, and more comfortable under cold or wet conditions.

While soccer players are not in the cold weather long enough to sustain serious cold weather injuries, there are many climates in which the game is played during very cold and wet conditions and tournaments can leave players exposed for longer periods.

Susceptibility to cold injury depends on our ability to retain heat, plus our ability to generate heat, minus the particular cold challenge of the day. As the cold weather overcomes our ability to retain and make heat, we lose core temperature. When we lose core temperature to the point where normal muscle and brain function becomes impaired, hypothermia has set in. Frostbite is an injury specifically to the skin caused by cold exposure. Frostnip is the mildest form of this injury and usually affects the cheeks, earlobes, fingers and toes.

Cold Challenges > Heat Retention + Heat Generation = Hypothermia and Frostbite

Heat Retention + Heat Generation > Cold Challenges = No Problem

Cold Challenges	
Temperature	Players are most vulnerable as temperatures drop towards or below freezing.
Wind	Wind evaporates moisture and draws heat from exposed skin. Soccer officials and coaches should carefully consider whether to allow practices or games when the temperature is below freezing and wind conditions are high.
Rain	Wet skin freezes faster than dry skin and water conducts heat from the body 25 times faster than air.

Hypothermia Stage	Signs
Mild	Shivering, goose bumps, numb hands
Moderate	Intense shivering, uncoordinated movements, mild confusion, difficulty speaking, withdrawn
Severe	Shivering stops, exposed skin becomes bluish, unable to walk, muscles rigid, decreased breathing and heart rate. Unconsciousness eventually follows

What To Do	
Hypothermia	Warm the player as soon as possible and take care to avoid further heat loss. Change wet clothing for dry and add extra layers as soon as possible. Shelter the player from wind and rain and use blankets (warm if available). Warm fluids will provide hydration and are a source of both calories and heat. Food intake will provide a slower release of energy. Alcohol, caffeine and tobacco should be avoided as they may further dehydrate the player and decrease blood flow.
Frostnip	Do not rub the area. Gently rewarm by blowing on the tissues, or immersing them in warm water (38 to 41°C). Warming should only take place if you are sure that the tissues will not freeze again. Refreezing of newly thawed tissue can cause serious damage. If the player has both hypothermia and frostnip, the priority is to warm the core.

As with most injuries, it is better to prevent than cure. The next part gives practical suggestions for the soccer player to avoid cold injuries.

Yours in Sport,

JR Justesen

JR is a physical therapist, a player, coach and father. He has worked in amateur and professional soccer and has also written a book on soccer safety available free of

charge at www.goal-tek.com. Articles are also available on the website www.parkwayphysiotherapy.com