

## **Heat Illness Management Millbury Memorial Jr/Sr High School**

### **DEHYDRATION**

Dehydration is an excessive loss of fluids in an athlete. Athletes should begin exercise sessions properly hydrated and should have convenient access to fluids throughout practice. They should be allowed to hydrate in addition to prescribed breaks. Dehydration is intensified with increase in humidity and/or ambient temperature.

#### **Signs and symptoms**

Dry mouth, thirst, irritability, general discomfort, headache, apathy, weakness, dizziness, cramps, chills, vomiting, nausea, head or neck heat sensations, excessive fatigue and decreased performance

#### **Treatment**

Dehydrated athletes should move to a cool environment and rehydrate  
Place a cold wet towel or ice pack on the back of the neck, head, wrists and/or groin area

#### **Return-to-Play Considerations**

If the degree of dehydration is minor and the athlete is symptom free, continued participation is acceptable. The athlete must maintain hydration status and should receive periodic checks from onsite medical personnel.

### **EXERTIONAL HEAT STROKE**

Exertional heat stroke is a severe illness characterized by central nervous system (CNS) abnormalities and potentially tissue damage resulting from elevated body temperatures induced by strenuous physical exercise and increased environmental heat stress.

#### **Signs and symptoms**

CNS dysfunction (altered consciousness, coma, convulsions, disorientation, irrational behavior, decreased mental acuity, irritability, emotional instability, confusion, hysteria, apathy), hyperthermic immediately post-incident, nausea, vomiting, diarrhea, headache, dizziness, weakness, hot and wet or dry skin, increased heart rate, decreased blood pressure, increased respiratory rate, dehydration and combativeness

#### **Treatment**

Aggressive and immediate whole-body cooling is the key to optimizing treatment. If untreated, hyperthermia-induced physiological changes resulting in fatal consequences may occur within vital organ systems. Provided that adequate emergency medical care is available onsite (i.e., ATC, EMT or physician), it is recommended to cool first via cold water immersion, then transport second. Cease aggressive cooling when core temperature reaches approximately 101°-102°F (38.3°-38.9°C)

Monitor airway, breathing, circulation, core temperature, and CNS status (cognitive, convulsions, orientation, consciousness, etc.) at all times. If complications develop that

Recommendations based off of the National Athletic Trainers Association

would be considered life threatening (i.e., airway, breathing, circulation), immediate transport to the nearest medical facility is essential.

### **Return-to-Play Considerations**

Physician clearance is necessary before returning to exercise. The athlete should avoid all exercise until completely asymptomatic and all laboratory tests are normal. The athlete should avoid exercise for the minimum of 1 week after release from medical care. The athlete should cautiously begin a gradual return to physical activity to regain peak fitness and acclimatization under the supervision of an ATC or other qualified healthcare professional.

### **EXERTIONAL HYPONATREMIA**

Factors contributing to onset of exertional hyponatremia are when an athlete consumes more fluids (especially water) than necessary, and/or when sodium lost in sweat is not adequately replaced. The risk of acquiring hyponatremia can be substantially reduced if fluid consumption during activity does not exceed fluid losses and sodium is adequately replaced. If condition progresses, CNS changes (e.g., altered consciousness, confusion, coma, convulsions, altered cognitive functioning) and respiratory changes resulting from cerebral and/or pulmonary edema.

### **Signs and Symptoms**

Low blood sodium levels, likelihood of excessive fluid consumption before, during and/or after exercise (weight gain during activity), low sodium intake, increasing headache, nausea, vomiting, swelling of extremities (hands and feet), irregular diet (e.g., inadequate sodium intake), during prolonged activity (often lasting >4 hours), mood changes, absence of severe hyperthermia (most commonly <104°F/40°C)

### **Treatment**

If blood sodium levels cannot be determined onsite, hold off on rehydrating athlete (may worsen condition) and transport immediately to a medical facility.

The delivery of sodium, certain diuretics or intravenous solutions may be necessary. All will be monitored in the emergency department to ensure no complications develop.

### **Return-to-Play Considerations**

Physician clearance is strongly recommended in all cases. In mild cases, activity can resume a few days after completing an educational session on establishing an individual specific hydration protocol. This will ensure the proper amount and type of beverages and meals are consumed before, during and after physical activity

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