

Glenbrook High School District 225
Sports Medicine

Guidelines and Recommendations for Hydration and Practicing
During Periods of Heat Stress

1. Proper Hydration
 - a. A minimum of 20 oz of water or an electrolyte drink is recommended 2-3 hours before activity. A minimum of 12 oz is again recommended 10-20 minutes prior to activity.
 - b. A minimum of 12 oz is recommended every 30 minutes during exercises.
 - c. It is advised that the athlete measure his/her weight before and after practice. At least 20 oz of electrolyte drink and/or water should be ingested per pound of weight loss following activity.

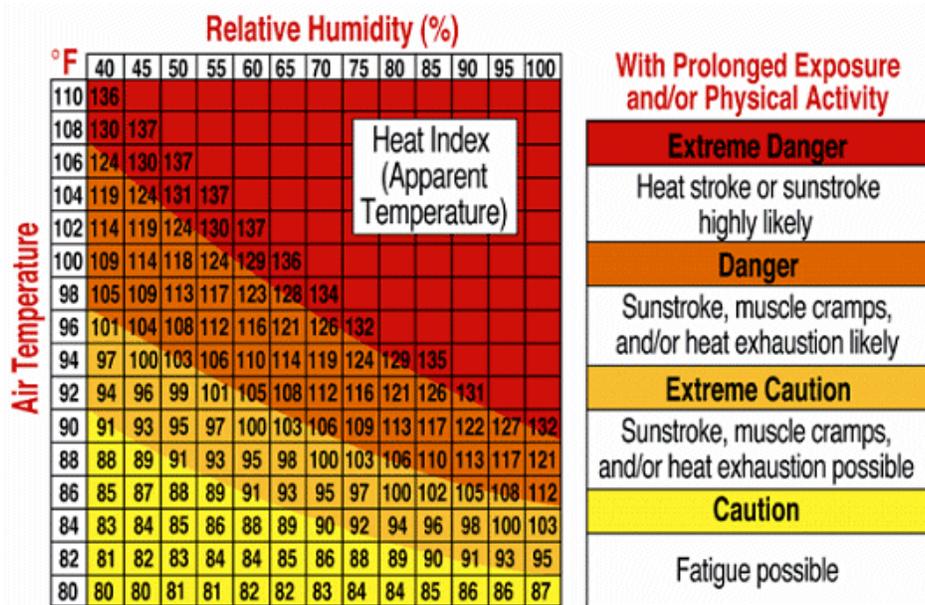
2. During periods of heat stress, a member of the Sports Medicine Staff may record a Wet Bulb Globe Thermometer (WBGT) reading before practice on both the grass and turf. The following protocol is recommended for making decisions concerning activity during periods of heat stress using the WBGT. Individuals identified as being prone to heat stress will be treated on an individual basis to reduce heat illness. In general:
 - a. **WBGT <80** Allow fluids as needed. No modification in activity.*
 - b. **WBGT 80-84** Frequent hydration of athletes and scheduled 5 min break every 25-30 min of activity.*
 - c. **WBGT 85-88** Frequent hydration; 5 min break every 15-20 min of activity.* Consider shells only. No equipment during conditioning.
 - d. **WBGT 88-90** Continued hydration; 5 min breaks every 10-15 min.* Modify practice as necessary (time, equipment, drills). Consider no protective equipment. Consider no off-campus practices. Consider changing practice time.
 - e. **WBGT 90+** Change practice time or move to indoor facility.

*Individuals prone to heat stress may be given more frequent or extended breaks to replace fluids and cool down body temperature.

*Breaks should take place in a shaded area, fluids ingested, and equipment removed or loosened to help dissipate heat.

The Wet Bulb Globe Temperature is measured using three different thermometers: (1) A standard dry bulb thermometer (Dry Bulb Temperature), (2) A standard dry bulb thermometer whose bulb is wrapped in a cotton sleeve, the bottom of the sleeve lying in a pool of water so that the cotton sleeve will always be wet, allowing continuous evaporative cooling of the thermometer's bulb, simulating the evaporation of sweat (Wet Bulb Temperature), and (3) A standard dry bulb thermometer whose bulb is black to allow measurement of the effects of the sunshine and other radiant heat (Black Globe Temperature). These three temperatures are integrated as follows: $WBGT = 0.7 WB + 0.2 GT + 0.1 DBT$.

WBGT temperature is very similar to the Heat Index (see chart below) but can vary due to intensity of the sun. WBGT temperatures feel similar to the color ranges in the Heat Index Chart. WBGT temperature of 80 to 84 yellow, 85 to 88 tan, 88 to 90 orange, and 90+ red.



The Heat Index Chart is calculated with a shade temperature and light wind of 5.8mph. Direct sun light can add 15 degrees to the Heat Index.

3. It is recommended that student-athletes who experience heat stress during/following a practice session follow rehydration criteria before returning to the next practice.
 - a. Consume a minimum of 60oz of water and/or electrolyte drink between practice and bedtime.
 - b. Consume a minimum of 68oz of water and/or electrolyte drink between breakfast and lunch.
 - c. Consume a minimum of 34oz of water and/or electrolyte drink within one hour of the start of practice.
 - d. Consume 12 oz of water and/or electrolyte drink every 30 minutes during activity.

4. At the discretion of the Sports Medicine Staff, selected student-athletes will be expected to follow the rehydration recommendation, as described in #3 above, at any time before a contest or practice in order to be cleared to participate. At the discretion of the Sports Medicine Staff, the student-athlete may be subject to a specific gravity urine test to confirm hydration (recommended it measure at 1.010 or lower at the start of practice) and to determine clearance for participation.

These guidelines have been modified from the Northwestern University Varsity Sports Medicine and New Trier High School Sports Medicine Guidelines and Recommendations for Hydration and Practicing During Periods of Heat Stress.