

WBGT - Wet Bulb Globe Temperature Monitoring

The goal of every high school administrator, coach and the sports medicine team is to allow their athletes to participate safely and injury free. Sports provide an opportunity for competition, teamwork, dealing with success and adversity and most importantly to develop a framework for future successes. Sport injuries are an inherent risk of athletic participation. Heat illness is one of the most preventable conditions.

Beginning with the 2018-19 school year, all schools will be required to use a **wet bulb globe thermometer** to determine safe conditions for practice or competition during times of high heat and humidity.

A **WBGT** device is a measurement tool that uses ambient temperature, relative humidity, wind and solar radiation from the sun to get a measure that can be used to monitor environmental conditions during exercise. Establishing WBGT guidelines that dictate modifications in activity (work/rest ratios, hydration breaks, equipment worn, length of practice) at given WBGT temperatures play a huge factor in helping to prevent Exertional Heat Stroke. As environmental temperature and humidity increase, there is an increase in the heat stress that is placed on the exercising individual. Exercise in the heat causes athletes to rely on evaporation of sweat from the skin as the primary method of dissipating heat that is produced by the working muscles. As humidity increases, the ability to dissipate heat through evaporation is further hindered, thus causing the body to have an increased body temperature, which increases the risk of Exertional Heat Stroke

SCISA has deliberately avoided specifying any particular manufacturer or retailer of Wet Bulb Globe Temperature devices. SCISA is sensitive to directing schools to instruments that are portable and that are reasonable and within a school's budget. The following list of instruments and web sites is being put together to serve as a reference or starting point for schools.

First, this is not an exhaustive list – there are other units on the market that are functional and affordable. Secondly, there should not be any assumption that the SCISA is recommending or endorsing any particular instrument.

Kestrel has a good reputation, but a little expensive.

<https://kestrelmeters.com/collections/all-kestrel-meters>

These others seem to work fine and are easy to use.

<https://www.medco-athletics.com/deluxe-wbgt-temperature-index-monitors#sin=37698>

Sling Psychrometers are a much cheaper option, but can be more difficult to operate.

https://www.google.com/search?rls=com.microsoft%3Aen-US%3AIE-SearchBox&ei=rZUVW8uROYSCsQXUjoTICw&q=sling+psychrometer&oq=sling+psychrometer&gs_l=psy-ab..0i67k1j0l2j0i67k1l2j0l5.2701.3440.0.4192.6.6.0.0.0.94.378.5.5.0....0...1c.1.64.psy-ab..1.5.373...0i22i30k1.0.Wd00rtmnByQ

Other models include:

www.scientificgear.com Delta OHM HD 32.2 Kyoto KEM – WBGT-103 Heat Stroke Checker

www.quest-technologies.com QUESTemp 32,34,36,44,46,48

www.nkhome.com/kestrel-4400/ Kestrel 4400

www.medco-athletics.com General Reed -- WBGT meter 8778

www.testequipmentdepot.com Reed – SD-2010

www.schoolhealth.com EBGT Model #1

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WBGT Reading	Activity Guidelines and Rest Break Guidelines
Under 82.0	Normal Activities. Provide at least three (3) separate rest breaks each hour of minimum duration of three (3) minutes each during workout.
82.0 - 86.9	Use discretion for intense or prolonged exercise; watch at-risk players carefully. Provide at least three (3) separate rest breaks each hour of a minimum of four (4) minutes duration each.
87.0 - 89.9	Maximum practice time is two (2) hours. <u>For football:</u> players restricted to helmet, shoulder pads, and shorts during practice. All protective equipment must be removed for conditioning activities. <u>For all sports:</u> provide at least four (4) separate rest breaks each hour of a minimum of four (4) minutes duration each.
90.0 - 92.0	Maximum length of practice is one (1) hour. No protective equipment may be worn during practice and there may be NO conditioning activities. There must be 20-minutes of rest breaks provided during the hour of practice.
Over 92.1	No outdoor workouts. Cancel exercise; delay practices until a cooler WBGT reading occurs.

Reference: [Korey Stringer Institute](https://ksi.uconn.edu/prevention/wet-bulb-globe-temperature-monitoring/)

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