



Urban Area Security Initiative (UASI-PHX) Phoenix Police Department / Homeland Defense Bureau Public Health Situational Awareness Bulletin



Preparing for Hazardous Heat



As the summer temperatures increase, heat related illnesses increase. Excessive exposure to the heat can be **life threatening**. Nationwide, heat is the #1 weather-related killer and Arizona is known to be one of the hottest places on the earth from June to September. [1]

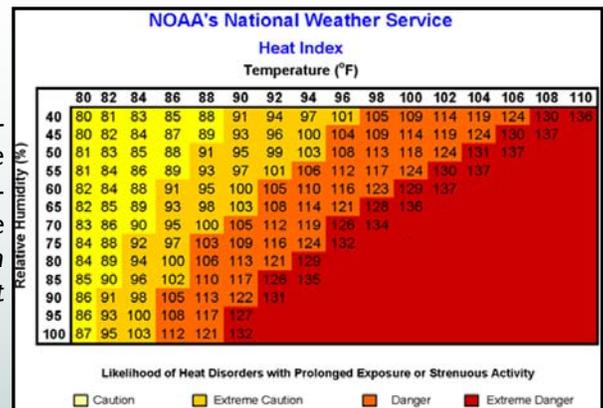
It is important to be mindful of heat stress symptoms that could lead to a heat related injury such as heat exhaustion or heat stroke. Early symptoms to watch for include **fatigue, heavy sweating, headache, cramps, dizziness, high pulse rate, and nausea/vomiting**. [2]

Unlike some occupations, it is not always feasible for police/fire/EMS personnel to avoid the heat nor do they have the ability to take precautions prescribed to the public such as scheduling work for cooler hours or wearing lighter colored clothing. Therefore, those having to spend a considerable amount of time in the heat are strongly advised to use protective measures to avoid heat related illnesses. **Hydration and sun protection** are among the best ways to avoid the effects of the sun and wearing light colored clothing when feasible to do so. [3]

The National Weather Service statistical data shows that **heat causes more fatalities per year than floods, lightning, tornadoes and hurricanes combined**. The elderly, the very young, and people with chronic health problems are most at risk. However, even young and healthy individuals can succumb to heat if they participate in strenuous physical activities during hot weather. Additionally, some behaviors also put people at greater risk: drinking alcohol; taking part in strenuous outdoor physical activities in hot weather; and taking medications that impair the body's ability to regulate its temperature or that inhibit perspiration. [5]

Monsoon Weather—Heat Index

In addition to hot temperatures that often exceed 110 degrees, monsoon weather raises humidity levels increasing the **heat index**. The heat index is a measure of how hot it really feels when relative humidity is factored in with the actual air temperature (see chart). [3] The Arizona "monsoon season" officially extends from June 15th through September 30th, the time during which associated hazards are most likely to occur." [5]



Be Aware of Excessive Heat Watches/Warnings

During Arizona's hottest months, the National Weather Service (NWS) Warning and Forecast Office (WFO) in Phoenix issues special products to alert the public when unusually hot weather (by Arizona standards) is expected. These products are intended to raise the public's awareness to prevent heat illnesses from occurring. When the NWS WFO Phoenix issues one of its heat products, it should serve as a signal that on that day outdoor activities are not "business as usual." [6]



Excessive Heat Outlook—Head's up! Extreme heat is possible 3 to 5 days from now

Excessive Heat Watch—Watch out! Extreme heat is expected within the next 2 to 3 days

Excessive Heat Warning—Warning! Extreme heat will occur today or tomorrow.

Heat Related Illnesses—Know the Signs

Heat Cramps effect workers who sweat a lot during strenuous activity. Sweating depletes the body's salt and moisture levels. [4]

Symptoms

⇒ Muscle cramps, pain, or spasms in the abdomen, arms or legs

First Aid

⇒ Stop all activity, and sit in a cool place.

⇒ Drink clear juice or a sports beverage, or drink water with food.
- Avoid salt tablets.

⇒ Do not return to strenuous work for a few hours after the cramps subside.

⇒ Seek medical attention if you have the following: heart problems, are on a low-sodium diet, or if the cramps do not subside within one hour.

Heat Exhaustion is the body's response to an excessive loss of water and salt, usually through sweating. [4]

Symptoms

- ⇒ Rapid heart beat
- ⇒ Heavy sweating
- ⇒ Extreme weakness or fatigue
- ⇒ Dizziness
- ⇒ Nausea, vomiting
- ⇒ Irritability

⇒ Fast, shallow breathing

⇒ Slightly elevated body temperature

First Aid

⇒ Rest in a cool area

⇒ Drink plenty of water or other cool beverages.

⇒ Take a cool shower, bath, or sponge bath

Heat Stroke is a condition that occurs when the body becomes unable to control its temperature, and can cause death or permanent disability. [4]

Symptoms

- ⇒ High body temperature
- ⇒ Confusion
- ⇒ Loss of coordination
- ⇒ Hot, dry skin or profuse sweating
- ⇒ Throbbing headache
- ⇒ Seizures, coma

First Aid

⇒ Request immediate medical assistance

***Heat stroke is a severe medical emergency. Summon emergency medical assistance or get the victim to a hospital immediately. Delay can be fatal [5]**

⇒ Move person to a cool, shaded area.

⇒ Remove excess clothing and apply cool water to their Body *Do NOT give fluids [5]

References:

1. Monsoon Awareness Week <http://www.wrh.noaa.gov/psr/pns/2013/June/MonsoonAwarenessWeek.php?day=fri>
2. DPS/HS—Heat Preparedness Bulletin City of Indianapolis 061213
3. DHHS-(NIOSH) www.cdc.gov/niosh/topics/outdoor/
4. ADHS—Heat Emergency Response Plan http://www.azdhs.gov/phs/oeht/pdf/ADHS_HeatEmergencyResponsePlan.pdf
5. NOAA—Heat: A Major Killer <http://www.nws.noaa.gov/os/heat/index.shtml>
6. Heat in the Southwest <http://www.wrh.noaa.gov/psr/general/safety/heat/>

Additional Resources:

Tucson—http://www.wrh.noaa.gov/total_forecast/getprod.php?wfo=twc&sid=TWC&pil=PNS
Surviving Arizona Summer Heat—http://www.azdhs.gov/phs/oeht/pdf/heat_brochure.pdf

For this or other health-related questions, please contact David Leinenveber at David.leinenveber@phoenix.gov
or 602-644-5938 Public Health Program Manager, PFD Homeland Defense Bureau