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*Summer weather means fun in the sun, but it also means long, hot, and dry days. Wherever summer takes you, follow these tips for a cool and safe summer.*

### **ES 101: Scorch this Hot Quiz for a Cool Summer**

***By Capt. Chris R. Storey,  
Associate Editor, Eagle Call***

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# Scorch this Hot Quiz for a Cool Summer

By Capt. Chris R. Storey, Associate Editor, Eagle Call

**FULLERTON**—“Warm weather means outdoor activities and fun in the sun!”—and sometimes heat stroke. So don’t get burned by ad hype. It’s dangerous out there. Whether you’re spending a week at encampment, working an air show or on an ELT search mission, ailments related to California’s heat could ruin the day, or the summer.

Scorchers can affect anyone, from the couch potato to the seasoned athlete. They’re more likely to affect young children, the elderly, and people with chronic health problems. Ask your health care practitioner if you have questions about how your medication may affect your ability to tolerate the heat. In the meantime, here’s your pre-summer quiz:

**1.** You know when it’s hot. When is it officially a heat wave? When more than 48 hours of high heat (90 degrees or higher) combines with high relative humidity (80 percent or higher). The National Weather Service steps up hot-weather warnings to alert the public to take hot-weather precautions. Score: 90 for the right answer, 80 for being partially correct (notice how we subliminally reinforced those numbers). Subtract 20 points for blurting the perennially overplayed Martha & the Vandellas tune on cue.

**2.** Is there a summer version of the winter windchill factor? Yes. It’s called a Heat Index, and paying attention to it can prevent heat-related illness. The Heat Index, in degrees Fahrenheit, expresses the combined effect of heat and humidity for greater accuracy. Direct exposure to the sun, for example, can make it feel 15 degrees hotter than the thermometer reads. Give yourself from 0 to 15 points on a sliding scale, depending on how quickly you answered.

**3.** One hour of exertion in heat can decrease physical and mental performance by a) 5 percent, b) 15 percent, or c) 25 percent? Sixty percent of the human body is water, and you remember that from high school biology, right? Water carries nutrients to every cell in your body and whisks away the waste. Water regulates body temperature. Health experts recommend more than the usual eight to ten glasses of water a day when it’s hot. But all that fatigue and muscle weakness; decreased endurance, mental efficiency and coordination; and impaired thinking and decision-making that come from dehydration has a miracle cure: water.

Give yourself 25 points if you answered “C” above. Celebrate with a Calistoga, not a stogie. Smoking dehydrates.

**4.** Fill in the blanks: Heat----- are painful muscle spasms caused by heavy exertion and above normal loss of fluids in a hot environment. Although heat-----are the least severe of the heat-related illnesses, they are an early sign that your body is having trouble with the heat. If you guessed “cramps” give yourself 10 points. You’re right—but that was too easy.

**5.** True or false: The best indicator of heat exhaustion is the most obvious, your body temperature. When people exercise or work strenuously in a hot, humid environment and lose body fluids, the blood flow to vital organs decreases, inducing a form of shock. Sometimes your body is prevented from cooling itself sufficiently because the humid air stops your sweat from evaporating in the humid air or because you are wearing too much clothing. Signs include clammy, pale, flushed, or red skin; heavy sweating; nausea or vomiting; dizziness, exhaustion and headache. Counter intuitively, your body temperature can be near normal as it has been struggling to keep cool. So, false—and give yourself 10 points for remembering your Red Cross training.

**6.** True or false: A victim of sunstroke could exhibit hot, red, and dry skin while suffering up to a 106 degree fever. True. That’s why it’s a life-threatening medical emergency. During heat stroke (a.k.a. sunstroke) the body’s temperature-regulating system stops working entirely. Temperature may also go up so high that brain damage—and death—would result if the body is not quickly cooled. Signs of heat stroke: changes in consciousness ranging from disorientation to unconsciousness to coma; a rapid, weak pulse; and quick shallow breathing. That was grim: Give yourselves 106 points for reading through.

Scoring: If you scored more than 250 points, congratulations ES-pert! Reward yourself with a glass of cool water. 100-200: Seek instruction from a Cadet who’s been in Boy Scouts. Under 100: Wear a PLB. We’ll soon be seeing your withered carcass, face down in the desert, next to a full canteen!

*Continued . . .*

## *Don't Eat Meat to Beat the Heat and Other Cold Comforts*

Follow these tips all summer long, especially when a heat wave is underway or predicted.

\*Slow down and avoid strenuous physical activity. Schedule any necessary physical activity during cooler parts of the day. Take regular breaks when engaged in physical activity.

\*Drink plenty of fluids, even if you do not feel thirsty. Avoid soda, tea, and alcoholic beverages. Alcohol and caffeine exacerbate heat effects and cause you to become dehydrated faster. Sports drinks contain carbs and electrolytes: good choice.

\*Dress for the heat. Wear lightweight and light-colored clothing, to reflect some of the sun's energy away from your body. Wear a hat or use an umbrella. If you have to be outdoors during the hottest part of the day, use sunscreen. Sunburned skin interferes with your body's ability to cool itself.

\*Stay indoors as much as possible. If air conditioning is not available, stay on the lowest floor. Try to go to a public building with air conditioning each day for several hours. Electric fans do not cool the



*Without proper hydration, all the world's a hostile desert.*

*Photo: Shane Terpstra*

air, but they do help sweat evaporate and cool your body by moving air over your moist skin.

\*Eat lighter and smaller meals more often throughout the day. Heavy meals that take longer to digest make the body work harder.

### *Scorch this Hot Quiz*

*Continued . . .*

#### *How to Treat for Heat*

Heat-related illnesses usually progress through stages. Dehydration can lead to heat cramps, which can lead to heat exhaustion, which can lead to heat stroke and death if not treated. If you recognize signs of a heat-related illness, here is what you can do to help.

First comes the heat cramps. Treatment: Find a cooler place. Rest comfortably. Sip small amounts of cool water. Stretch and massage cramped muscles. If the symptoms subside, they're good to go.

If it's gotten to heat exhaustion, take the additional steps of passive cooling measures by having the victim remove or loosen tight clothing. Offer the cool water only if they are completely awake and alert. If you have any doubts, give them nothing. Call 9-1-1 if they refuse water (or are not alert enough to drink it themselves), or if they vomit, appear confused, or lose consciousness.

Heat stroke is life threatening. Call 9-1-1 first. The victim must be protected from direct sun, even if it involves temporary shade made with clothing (such as in the desert). Place victims on their back

with feet elevated 10 to 12 inches, easing the work of the heart. Take active cooling measures to cool them down. Remove or loosen their tight clothing for them. Cover their body with wet sheets or cloth. Douse them with water. Use a fan, magazine, clipboard, or even a large piece of cardboard to fan them—anything to get the air moving. If you have ice packs, place them in the victim's armpits, groin, and on the neck to help cool the large blood vessels near the surface of the skin. Watch for signs of breathing difficulty. If victims begin to vomit, immediately turn them onto their side so they do not choke. Be prepared to perform CPR if necessary (see Maj. Carol Denise Edwards, "Keeping Your Head During Mouth-to-Mouth," *Eagle Call*, Winter 2005).

Memorize the method of treating for heat and remain alert to others around you who may be experiencing a heat-related illness. By taking care of yourself, you are protecting California Wings greatest asset.

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