When You’re Hot You’re Hot

by David L. Hough (exerpted from Sound Rider)

The ride south over the Siskiyou Mountains from Oregon to California started out cool enough. Up at 4,000 feet, it was chilly enough that I was glad I had added the jacket liner and neck warmer. But a hundred miles later, as I descend down into the Sacramento Valley, the temperature begins to soar. By the time I reach Oroville, the temperature signs are flashing 118 F. It's another hundred and fifty miles to the rally site at Mariposa in triple-digit temperatures.

A rider passes by in the opposite lane, jacket bunged on the back, bare chest exposed to the hot blast. I wave, but there is no response. His exposed skin is red, and he doesn't even appear to have noticed me, a bad sign that he¢s on the fringe of heat exhaustion. I don¢t wish any problems on a fellow motorcyclist, but there are lots of riders who have to contribute to the statistics before they crack the code.

To continue the ride, I go into hot weather survival mode. Full riding gear, including riding pants, leather boots, and gloves, and a knit neck "cooler" saturated with water. As quickly as the fabric dries out in the blast-furnace wind, I flip the face shield open, squeeze a gusher of water down my chin, and slam the face shield shut again. The water dribbles down to wet the neck cooler and my shirt inside the jacket. About 10 seconds after the water penetrates the neck cooler, it cools from evaporation in the hot air, and sucks some heat out of my neck.

I stop at a fast-food outlet every few miles to replenish the water bottle with ice and water. Whether riding or stopping for water, other people stare at me in disbelief. Peering out of their air-conditioned cars, or sitting in an air-conditioned restaurant, they just can't understand how anyone could tolerate being outside during a heat wave, bundled up in heavy riding gear.

Your body has automatic "thermostats" to protect the core organs from heat stress, including sweating, vasodilation, increase in heart rate and reduction of blood pressure. If these tactics don't keep core temperature within the redline, the body gives you warnings such as heat cramps. If you don't take care of the problem, it gets more serious, including heat exhaustion and heat stroke.

Sweating

The body has sweat glands to keep the skin damp. The evaporating sweat sucks heat from the skin, and transfers it to the air. Of course sweat is primarily water, so it's critical to keep replenishing the supply. That's one reason why we need to drink about a pint of water every hour during hot, dry conditions.

Vasodilatation

To help cool down the core, blood vessels enlarge to circulate more blood (and therefore body heat) towards the skin. If ambient air temperature is lower than body temperature, excess heat can be absorbed by the air. But if the air gets hotter than the skin, the increased blood flow simply soaks up more heat from the air and pumps it back to the core.

Symptoms of trouble

The human body won't take much of an increase in core temperature without complaining. The symptoms of overheating are leg cramps, tired muscles, headaches, dizziness, and even fainting. The various symptoms are trying to tell you how overcooked you're getting.

Heat Exhaustion

Heat exhaustion occurs as the body continues to shunt blood away from the brain and muscles. Symptoms of heat exhaustion include:

- Headaches, dizziness, nausea, momentary fainting
- Cramps
- Tiredness, weakness
- Profuse sweating
- Pale, clammy skin
- Approximately normal body temperature

If you begin to feel these symptoms during a desert ride, take immediate action before you pass out.

- Get into some shade, preferably into an air-conditioned room.
- Loosen clothing and wet down skin or undershirt to increase evaporative cooling.
- Slowly sip water, or salt water solution, same dose as for heat cramps
- If you feel faint, lie down and get feet raised above head level.
- If you can't keep the salt water down, get emergency medical aid. You may need an intravenous salt solution.
- Even after you begin to feel normal again, consider staying out of the heat for a day or two. Your body needs some time to recuperate. If you are on a long trip, consider a 24 hour layover in the next air-conditioned motel.

Heat Stroke

If you experience heat exhaustion and just try to "tough out" the heat without getting cooled down and rehydrated, the body thermostats will begin to fail. Core temperature continues to rise (may go as high as 106 or 107 degrees F.), sweating stops, the heart beats even faster, and you may pass out. If you are coherent enough to recognize the symptoms, immediately get medical aid while you are still mobile. And watch your riding buddies for any of the following heat stroke symptoms.

- Victim incoherent, staring vacantly, blanking out, or unresponsive
- Skin hot, red, dry (no perspiration)
- Rapid pulse
- Body temperature elevated

Yes, heat stroke is life threatening. It's a medical emergency. Don't be bashful about calling 911 for assistance.

In the meanwhile,

- Get the victim into some shade, out of riding gear, and cooled down by any means available. If possible, get the victim into an air-conditioned room, or use fans to help provide evaporative cooling.
- Repeatedly sponge skin with cool water or rubbing alcohol. Apply cold packs or ice cubes if you can get them. The goal is to get body temperature below 102 degrees F.
- Don't give the victim any stimulants, especially not any alcoholic beverages.
- If the victim's temperature begins to rise again, repeat the cooling process.
- As soon as possible, get the victim to emergency treatment.

Avoiding the Ugliness (editor's note: this may strike you as counterintuitive)

You may think your body is hot at 99 F, but it's "cold" compared to air at 118 F. If you expose your skin to air that's hotter than you are, your body just soaks up more heat.
The lesson here is that if air temperature is in the 80s or 90s, it helps to open up the jacket vents, or wear a mesh jacket. But once air temperature climbs above 99 F, the best way to keep from getting cooked is to keep your insulation on, and the vents closed. Desert nomads wear long, loose wool garments, both to keep the sweating skin in the shade, and to insulate the body from the hot air.

With the temperature in triple digits, I wear my leather gloves and insulated riding. My feet are down in the air stream that's first been heated up by the pavement, and then heated some more by the engine. Are my feet hot? Sure, but not as hot as if I were wearing thin boots or shoes that exposed my ankles.

Same for the helmet. Wouldn't it make sense to crack my visor when it's really hot, or at least open up the helmet vents? Nope. Any hot air allowed to reach my skin will heat up the skin, not cool it down. Inside my helmet at 118F, I'm sweltering, but the temperature is probably under 100 F. That crushable helmet liner inside the shell is there to cushion my brain against impacts, but it's the same expanded polystyrene foam they use to make insulated picnic coolers. So, the helmet actually provides insulation against the hot air.

Ride Safe, Ride Well

Bob Reagle, Chapter Educator.