

HYPOTHERMIA - Good For Beer, Bad For Boaters

OK, so it's too cold to lie on the beach but you've already hung up your skis for the season. Your choices are to sit around and watch golf on ESPN or go boating. Once you've managed to find all your equipment and repair that frame you broke on the Tieton last fall, it's time to get on the river. You know you ought to get that rip in your drysuit fixed, but, hey, it's 60 degrees out and you're only going to do a Class III.

While it's true that most boating injuries occur on shore, hypothermia on the river is directly related to being wet. This may be advantageous when you're on the lower Salmon in August and it's 95 in the shade, but it can be fatal in the spring.

Heat loss from the human body is 30 times more rapid when the skin is wet than when it is dry. That means that your chances of survival are better standing naked in a zero degree freezer than being fully clothed while immersed in 40 degree water. Adding insult to injury is the fact that vigorous physical activity while immersed increases heat loss and shortens survival time.

Unfortunately, it doesn't require a flip for immersion to occur. Kayakers and catarafters get plenty wet even when they are upright. The onset of symptoms is slower and more subtle, but reduced body temperature is inevitable unless rewarming occurs.

Hypothermia is defined as a core body temperature below 35C (95F). Symptoms include shivering, reduced energy, nausea and lapses of attention.

As the internal temperature drops, people become more disoriented and irrational, sometimes insisting on taking their clothes off. At 30C (86F) shivering stops and muscle activity slows. Periods of unconsciousness may occur and become more prominent as the condition progresses. A desire to "just go to sleep" becomes overwhelming, and a state of coma ensues when the temperature reaches 25C (77F).

Sudden immersion in cold water, such as in a flip, can result in hypothermia, but death is more likely to occur because of a cardiac arrhythmia (irregular heartbeat) or respiratory arrest (cessation of

breathing) due to the shock of sudden cold exposure. Futile attempts to catch your breath can result in aspiration of water and drowning, even with a life jacket on. In addition, muscle spasms can impair your ability to get back on or in your boat, or even grab a lifeline.

Interestingly, studies using volunteer Coast Guard members wearing nothing but a rectal temperature probe show that the core temperature doesn't start to drop until 30 minutes after entering cold water. In fact, adults have survived for up to one and a half hours in 32 degree water without insulating protection. However, they were severely hypothermic by that time and required immediate, intensive care in order to recover.

The most dangerous hypothermia for boaters is that which comes on gradually and is not recognized until it is quite advanced. This occurs when a boater is not properly dressed and gets repeatedly splashed. Even a wet suit sucks body heat in order to warm the water that enters the suit. If both the water and air temperature are low enough, the body's heat generating capacity will become depleted, and core temperature will drop. This is aggravated by alcohol consumption which shunts blood from the core to the skin where heat is lost to the environment.

The classic case is a macho Class V boater who starts to shiver, but ignores the symptom. Instead he has another beer and then, because his judgement is impaired by cold and alcohol, takes a long swim.

Treatment for Stage 1 is to remove wet clothing, get the skin dry and begin active rewarming. This can be done with warm drinks, building a fire or body contact in a sleeping bag or other insulation. Stage 2 requires evacuation to a warm environment, preferably with medical evaluation. Stage 3 is a life-threatening emergency that may require CPR and immediate evacuation to a hospital. Since hypothermia preserves body tissues, CPR should be continued until the person is under medical care. There is an old adage that says "You're not dead until you're warm and dead."

Of course, the best treatment is prevention. For boating cold rivers when the air temperature is below 60F, a drysuit is the only sensible choice. In fact, wearing a drysuit with plenty of insulation can actually lead to hyperthermia, and boaters may need to take an occasional dip in the drink to cool off. Using a silk or polypropylene layer next to the body helps

wick away sweat and further reduces the risk of becoming cold. Postponing that beer or nip of brandy until the take-out will preserve both your judgement and core temperature. Mountaineers have a saying that "if your feet are cold, put on a hat." This refers to the large surface area represented by the head which can lead to heat loss.

Just remember, for spring boating - Stay dry, Stay warm, Stay alive! And have fun.

STAGES OF HYPOTHERMIA

STAGE 1 - 95-87F Shivering, fatigue, nausea, confusion.

STAGE 2 - 86-78F Shivering stops, muscle cramps, disorientation, sleepiness.

STAGE 3 - Below 77F Coma, cardiac and respiratory arrest.

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