USDBF Guide to Paddling in Hot Weather
Prevention of Hyperthermia/Heat illness

Background:

Hyperthermia, commonly known as heatstroke, is a life threatening condition which demands immediate emergency treatment. Heat exhaustion is a less severe form of heat illness that must be recognized before it progresses to heat stroke. Heat cramps are painful contractions of large muscles caused by exercise in hot weather.

There are two main factors causing your body to warm up. One is simply heat produced by your body's metabolism and that is increased by physical work like sports or exercise. The second one is heat exposure due to the environment you are in. The body has temperature regulating mechanisms, which can deal to a certain extent with those factors, but if they are overwhelmed it will lead to heat illness.

The evaporation of sweat is the main way in which we cool off in high temperatures. Other ways of heat loss are by radiation and convection but these are a less effective way of cooling and basically involve heat transfer to the air or what your skin is in contact with (water, other surface). Jumping in cool water is an example of this.

High humidity represents an added danger as it compromises our ability to evaporate the sweat. That is why it is factored into the "heat index" you may here weather people talk about. High humidity causes you to sweat, but it simply won't evaporate and cool you. Therefore you will sweat even more compounding the situation by increasing liquid loss.

Prevention:

The risks for heat related problems are increased with a higher temperature and anything that interferes with sweating since evaporation of sweat is the main way we cool off. The following factors increase the risk of heat problems:

a) High humidity because sweat cannot easily evaporate
b) Any medications that lower sweat production, a common type would be anti-histamines for allergies. The simple rule is that if a medicine makes someone's mouth dry it also decreases sweating.
c) Dehydration from the water loss of a hot weather practice or race
d) Any heart or circulation problems

To avoid problems you need to maintain a high fluid level. Drink water before leaving the dock and frequently while on the water. Take an individual plastic water bottle for easy access. Do not wait until you are thirsty to drink, take fluid frequently.
How much liquid is enough? As a rule of thumb drink a cup every 15 minutes.

Remember: You have to drink, even you don't feel thirsty!

Wear lightweight clothing. Plan an activity level consistent with the degree of heat and humidity. Do not exercise in hot weather if you have serious medical problems or are on a medication that reduces sweating.

Protect your head and neck from sun exposure with a wide-brimmed, bright colored hat.

Stay out of the sun and rest during the breaks between the races. If possible look for a cool place with good ventilation.

Avoid alcohol and caffeinated drinks as they will contribute to dehydration.

Know the signs of Heat Illness and Heat Stroke and monitor yourself as well as your teammates for the following symptoms.

Symptoms and actions to take:

Heat related illness involves two serious conditions:

HEAT EXHAUSTION

- Symptoms—Are flu like with throbbing headache, nausea, cool skin, chills, sweaty, pale, weak pulse.
- Actions—Stop all exercise immediately and do not resume it that day, drink water or Gatorade like fluids, cool off. Do not return to sports until completely well.

HEAT STROKE—this is life threatening

- Symptoms—Confusion or behavior changes is the hallmark of heat stroke along with the other signs of heat exhaustion. The athlete may still be sweating when this occurs! This can rapidly progress to convulsions and loss of consciousness.
- Actions—this is a medical emergency, call for an ambulance or rush the victim to a hospital ER. If unconscious lay the person on their side in case they vomit. Remove excess clothing, place them in a cool, shaded area, douse with cool water and use a fan or fanning actions to evaporate the water. Ice packs or cold compresses can be placed in the armpits, neck and groin. Wrapping the victim in wet towels is not a good idea as this will impair evaporation. Use those towels to fan the victim instead. Do not use alcohol rubs.

A less serious condition is **heat cramps** where the large muscle groups cramp up due to a salt imbalance; this is treated by using electrolyte solutions like Gatorade and avoiding further exercise. If severe, sometimes intravenous salt-containing fluid is needed at the hospital.

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