Essentials — Climbing and Heat Illness

Climbers often consider hypothermia and frostbite as part of their risk assessment. Yet, heat-related illnesses can be a significant and often bigger threat in many regions. Heat illness is a preventable condition ranging in severity from mild heat cramps and heat edema to more serious heat exhaustion and life-threatening heat stroke. Certain medications, extremes of age (young and old), and pre-existing levels of fitness and/or medical conditions put certain populations at increased risk, but heat illness and exertional heat stroke can occur in otherwise healthy individuals as a result of strenuous activity in hot weather.

PREVENTION
Good planning before leaving home is the most important way to prevent heat illness. Avoid routes or approaches/descents in sun-exposed areas during high temperatures. Cooler temperatures are not without risk, as rocks hold and radiate heat, and exertion has an important role in heat illnesses. Prior to climbing in warmer areas, acclimatizing to heat over 10 to 14 days can reduce risk. During climbs, stay hydrated by “drinking to thirst” and wear loose-fitting clothing. Drinking excess water prior to climbing or “pre-cooling” are not effective for prevention.

SYMPTOMS
Initial complaints of thirst, muscle cramps, dizziness, weakness, nausea, and headache can progress quickly to vomiting, lethargy, slurred speech, agitation, seizures, and coma. Individuals may be sweating profusely or skin can be red and dry. Heart rate and respiratory rate are often rapid.

PREHOSPITAL MANAGEMENT
Early recognition and treatment of heat illness is crucial to outcome. The most important initial step is to remove the individual from the warm environment. If immediate extraction is not possible, move to any available shade. Placing an individual on a sleeping mat, backpack, or clothing can reduce heat transfer from the ground.

For mild illness in climbers with a normal level of consciousness, treatment can be as simple as cessation of physical activity and rehydration with fluids (water or electrolyte drinks) in a cooler environment. Because there is often an overlap between heat illness and low sodium levels, salty foods or fluids can also be considered.

More severe illness, such as heat exhaustion or heat stroke (defined as core temperature above 104°F with changes in mental status), require rapid evacuation for medical treatment, with more aggressive cooling measures started immediately and continuing during transport. Active cooling measures—from most to least effective—include immersion in ice water or a natural body of water, wetting the victim with tepid water and then fanning them, and ice packs placed on the groin, neck, and in the armpits.

Unless symptoms are mild and completely resolve in a short time, all patients should be rapidly transported for medical assessment and care.

Images

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