

Heat Syncope Treatment Guidelines

1. Prevention

As with many medical conditions, sometimes the best treatment can be prevention. Knowing the relevant risk factors associated with heat syncope and how to recognize them is particularly useful. These include:

- Evaluating the weather conditions, paying attention to heat waves and heat index.
- Ensuring proper hydration
- Evaluating for predisposing medications or conditions

2. Cooling measures

Initial treatment should focus on slowing the activity and moving the individual to a cool environment to lower the body temperature of the individual. Additional techniques to lower the body temperature include:

- **Cold water immersion:** Immersion in cold or ice water is the most effective method for rapidly lowering core body temperature. Administering this treatment quickly reduces the risk of organ damage and death in heatstroke cases.
- **Evaporative cooling:** When cold water immersion is unavailable, healthcare professionals can use evaporative cooling. This involves misting the skin with cool water and fanning warm air over the body, encouraging evaporation and skin cooling.
- **Ice packs and cooling blankets:** Wrapping the person in cooling blankets and applying ice packs to key areas, such as the groin, neck, back, and armpits, can also help lower the body temperature effectively.

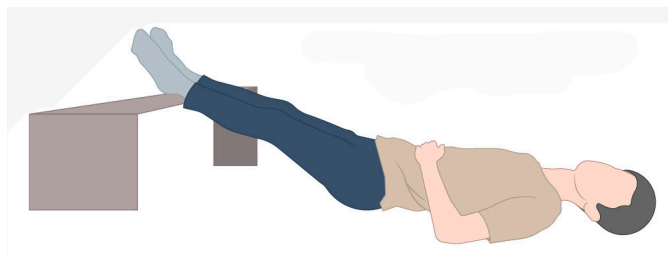
3. Replacement of fluid

It is essential to replenish lost fluids, with oral rehydration, such as drinking electrolytes or cool water, being the preferred method rather than relying on intravenous (IV) rehydration.

- **Mild dehydration:** A simple solution can be made by mixing 1 teaspoon of NaCl with 500 ml of water or using a commercial electrolyte solution. This should be consumed over 1 to 2 hours to help restore hydration and balance electrolytes. Sports drinks containing electrolytes are also effective, as they help replace both fluids and essential salts lost through sweating.
- **Severe dehydration:** Intravenous (IV) fluids may be necessary, typically isotonic solutions like normal saline (NS). A common approach involves administering a bolus of 20 ml/kg of NS over one hour, followed by a customized rehydration plan based on the patient's condition.

4. Positioning

It is important to place the individual in supine positioning, with leg elevation above the heart, this works to assist in venous returns.



5. Monitor vital signs

Monitor the patient until they are alert and have clinically stable vital signs. The individual can be discharged with instructions to continue resting and rehydrating. Additionally, advise them not to return to activity on the same day. If the individual does not improve despite these measures or shows progressive clouding of consciousness, they should be transported to an emergency facility for further medical care.

References

Chemical Hazards Emergency Medical Management. (2024). *Heat-Related Illnesses - CHEMM*. U.S. Department of Health and Human Services. <https://chemm.hhs.gov/heatstress.htm>

Coris, E. E., Ramirez, A. M., & Van Durme, D. J. (2004). Heat illness in athletes: the dangerous combination of heat, humidity and exercise. *Sports Medicine*, 34, 9-16.

John Hopkins Medicine. (2019). *Dehydration and heat stroke*. <https://www.hopkinsmedicine.org/health/conditions-and-diseases/dehydration-and-heat-stroke>

Leiva, D. F., & Church, B. (2023). *Heat illness*. PubMed; StatPearls Publishing. <https://pubmed.ncbi.nlm.nih.gov/31971756/>

Mayo Clinic. (2017). *Heatstroke - diagnosis and treatment*. <https://www.mayoclinic.org/diseases-conditions/heat-stroke/diagnosis-treatment/drc-20353587>

O'Connor J. P. (2017). Simple and effective method to lower body core temperatures of hyperthermic patients. *The American journal of emergency medicine*, 35(6), 881–884. <https://doi.org/10.1016/j.ajem.2017.01.053>

Peterkin, N. D., Atkin, J. S., & Coris, E. E. (2016). What is the best practice for the treatment of exertional heat illnesses (heat cramps, heat syncope, heat exhaustion, and exertional heat stroke)? *Athletic Training & Sports Health Care*, 8(3), 97–99. <https://doi.org/10.3928/19425864-20160303-01>

Research, I. of M. (US) C. on M. N., & Marriott, B. M. (1994). *Considerations for replacement beverages: Fluid-Electrolyte balance and heat illness*. National Center for Biotechnology Information; National Academies Press (US). <https://www.ncbi.nlm.nih.gov/books/NBK231121/>