ARM-IMMERSION COOLING

WHEC
WARRIOR HEAT- AND EXERTION-RELATED EVENTS COLLABORATIVE

The Army Heat Center at Fort Benning

An **Arm Immersion Cooling System (AICS)** can be any reservoir of cold water used to immerse the hands and forearms during rest periods or at the conclusion of strenuous physical work in warm environments.

AICS serves as a preventive measure and can reduce core temperature by **~0.10°F per minute, so about 5 minutes of immersion yields 0.5°F reduction of core temperature.**

Water Temperature (Degrees)	Cooling Time* (Minutes)
> 80°F	Replace Water
71–80°F	12–15
55–70°F	8–12
45–54°F	5–8
35–44°F	3–5

*Times are calculated to achieve **~0.5°F reduction** in body temperature. Failure to maintain proper water temperature or immerse the arms for enough time will diminish the effectiveness of the device.

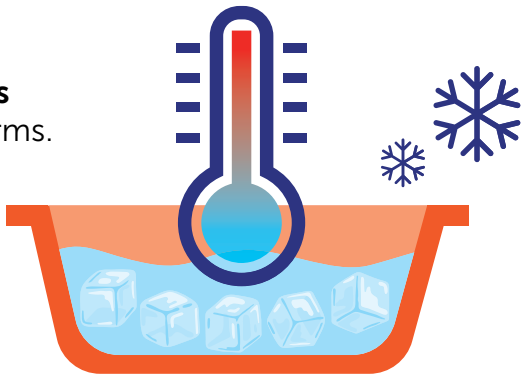
AICS COMPONENTS

While cooling systems are available commercially, they might not be available in every training scenario. Try other solutions instead.

- **Large cooler**
- **Large water trough**
- **Locally fabricated solutions**

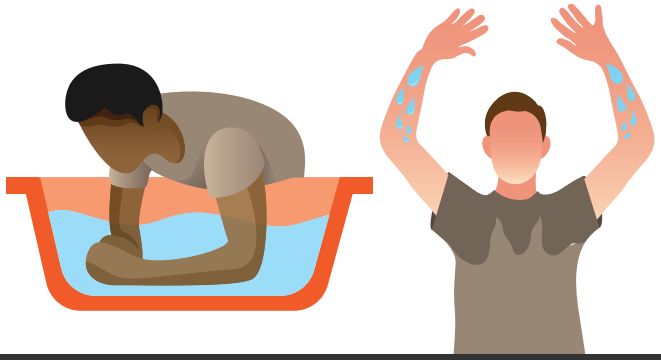
AICS SETUP

1. Choose any insulated container that can hold at least **20 gallons of ice water** with enough space for immersion of forearms or arms.
2. Fill the container with 20 gallons of ice water.
3. Insert thermometer into ice water to monitor its temperature.



HOW TO USE AICS

1. Submerge hands and forearms (up to biceps) in ice water.
2. Keep hands and forearms submerged for the approximate amount of time and temperature range to accelerate body cooling.
3. Raise arms above head to allow water to drip down to core.



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