

APPENDIX J – Hypothermia

WHAT IS IT?

A condition in which exposure to cold air and/or water lowers body core temperature. Death may result from the brain and heart being exposed to an extremely low temperature.

SYMPTOMS OF HYPOTHERMIA

- The following are warning signs of hypothermia:
- Shivering
- Exhaustion or feeling very tired
- Confusion
- Fumbling hands
- Memory loss
- Slurred speech
- Drowsiness

WHY BE CONCERNED?

Hypothermia, even mild cases, decreases crew efficiency and increases risk of costly accidents.

PREVENTION

- Wear warm clothing and a lifejacket/harness. Have proper foul-weather kit for all crew. Dry suits are excellent. Insulate all areas of the body, especially the high heat-loss areas: head, neck, armpits, sides of chest and groin. Keep warm and dry, but avoid sweating; wear layered clothes.
- Rotate watch frequently.
- Get plenty of rest, prevent fatigue.
- Eat and drink normally, no alcohol.
- Take into account special medical problems of crew members.
- Regularly train crew in Crew Overboard recovery.
- Have two or more crew trained in CPR (Cardio-pulmonary Resuscitation).
- Practice donning survival suit (if carried) prior to departure. Know where they are stowed.

SURVIVAL IN COLD WATER (under 75°F, 25°C)

- **If boat is in trouble**, put on dry or survival suits if carried. Radio for help; give position, number of crew, injuries, boat description. Make visual distress signals. Stay below if possible. Remain aboard until sinking is inevitable.
- **If going overboard**, launch life raft and EPIRB (Emergency Position Indicating Radio Beacon). Take grab bag, visual distress signals and waterproof hand-held VHF. Get into raft, stay out of water as water conducts heat out of the body 20 times faster than air. Remain near boat if practicable.

- **If in the water**, crew should stay together near the boat. This makes everyone easier to find, helps morale. Enter life raft, keep dry suit or survival suit on if worn.
- **If not wearing dry suit or survival suit**, make sure you wear a lifejacket, keep clothes and shoes on for some insulation and flotation. Keep hat on to protect head. Get all or as much of body out of water as soon as possible – into raft or swamped boat or onto flotsam. Avoid swimming or treading water, which increases heat loss by hugging knees against chest. If in a group form a circle by putting arms over shoulders of adjacent crew. Minimise exposed body surface. A splashguard accessory on the lifejacket greatly improves resistance to swallowing seawater and also accommodates involuntary “gasping” when plunged into cold water.

WARNING

- First aid for severe and critical hypothermia is to add heat to stabilise temperature only. Rapid re-warming, such as a hot shower or bath, may be fatal; it will, at least, cause complications. Allow body to re-warm itself slowly.
- Body core temperature lags behind skin temperature during re-warming. Keep victim protected for extended period after apparent full recovery or medical help arrives. Many hours are required for full return to normal temperature even though victim says he has recovered.
- Always assume hypothermia is present in all crew overboard situations during which victim has been exposed for more than 10–15 minutes.
- Victims may also be suffering from near drowning, thus needing oxygen. Observe for vomiting.
- In a helicopter rescue, protect victim – including the head – from rotor blast wind chill.

HYPOTHERMIA FIRST AID

ALL CASES

- Keep victim horizontal
- Move victim to dry, warm, and protected area
- Allow to urinate from horizontal position
- Handle gently
- Remove very wet clothes – cut off if necessary
- Apply mild heat (comfortable to your skin) to head, neck, chest and groin – use hot water bottles, warm moist towels
- Cover with blankets or sleeping bag; insulate from cold – including head and neck
- Report to Doctor by radio

HYPOTHERMIA FIRST AID

MILD CASES

- Primary task is to prevent further heat loss and allow body to re-warm itself
- Give warm, sugary drinks – no alcohol – no caffeine
- Apply mild heat source to stabilise temperature and/or
- Re-heat to point of perspiring

- Keep victim warm and horizontal for several hours

MODERATE CASES

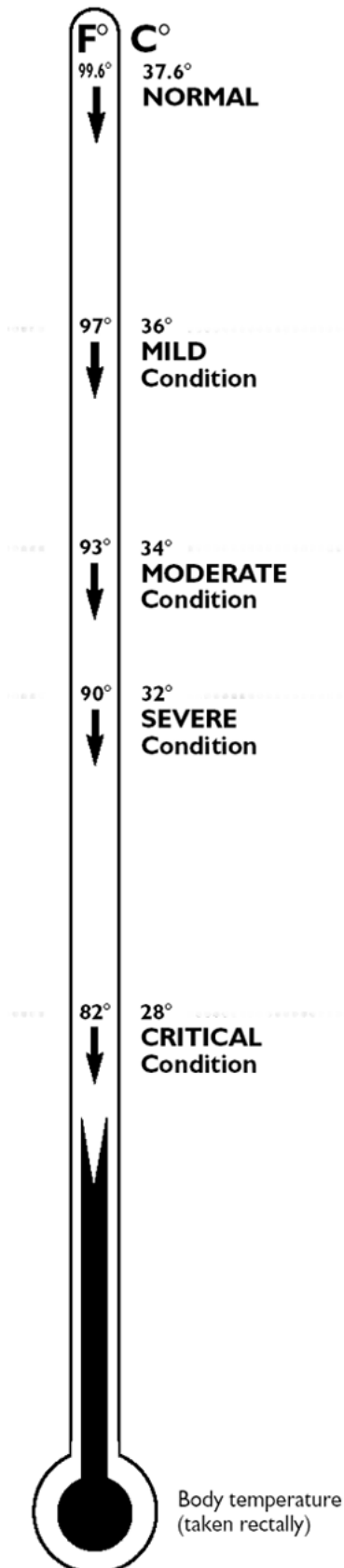
- Same as above
- Offer sips of warm sugary liquid only if victim is fully conscious and able to swallow without difficulty – no alcohol – no caffeine
- Have victim checked by doctor

SEVERE CASES

- Obtain medical advice as soon as possible using your radio
- Assist victim, but avoid jarring him – rough handling may cause cardiac arrest or ventricular fibrillation of heart
- No food or drink
- Observe for vomiting and be prepared to clear airway
- Ignore pleas of "Leave me alone, I'm OK" victim is in serious trouble – keep continuous watch over victim
- Lay victim down in bunk, wedge in place, elevate feet, keep immobile; no exercise
- Apply external mild heat to head, neck, chest and groin – keep temperature from dropping, but avoid too rapid a temperature rise

CRITICAL PATIENTS

- *Always assume the patient is revivable – hypothermic victims may look dead.* Do not give up – pulse very difficult to feel, breathing may have stopped.
- Handle with extreme care.
- Tilt the head back to open the airway – look, listen and feel for breathing and pulse for one to two full minutes.
- If there is any breathing or pulse, no matter how faint or slow, do not give CPR, but keep a close watch on vital sign changes.
- Stabilise temperature with available heat sources, such as naked chest to back warming by other crewmember (leave legs alone)
- If no breathing or pulse for one or two minutes, begin CPR immediately. Do not give up until victim is thoroughly warm – alive or dead, unless these efforts put the crew in danger or advised by trained medical personnel.
- Medical help imperative – hospitalisation needed.



RANGES OF HYPOTHERMIA SYMPTOMS

MILD CONDITIONS (97-93°F, 36-34°C)

- Shivering, cold hands and feet
- Still alert and able to help self
- Numbness in limbs, loss of dexterity, clumsiness
- Pain from cold

MODERATE CONDITIONS (93-90°F, 34-32°C)

- Same as above
- Confusion, loss of time estimation and reasoning power

SEVERE CONDITIONS (90-82°F, 32-28°C)

- Shivering decreases or stops
- Further loss of reasoning and recall, confusion, abnormal behaviour.
- Victim appears drunk; very clumsy, slurs speech, denies problem and may resist help
- Unable to help themselves
- Victim semiconscious to unconscious
- Muscular rigidity increasing

CRITICAL CONDITIONS (82°F, 28°C and below)

- Unconscious, may look dead
- Little or no apparent breathing
- Pulse slow and weak, or no pulse found
- Skin cold, may be bluish-grey colour
- Very rigid

Note: Most physical symptoms vary with each individual and may be unreliable indicators of core body temperature. Only a low temperature rectal thermometer gives reliable core temperature (the mouth cools too rapidly). In general, as body temperature fails, symptoms will increase.

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