



Rowing British Columbia

COLD WATER IMMERSION AND PROTOCOL



Cold water/weather protocol

- In BC, most of the Rowing Regattas scheduled between October and March have been designated as being subject to our “Cold Water Protocol” ... *mostly because that is what we did the year before.*
- No objective scientific threshold that could withstand scrutiny *especially for shoulder events.*



Cold water/weather protocol

- It requires that all wet athletes be extracted and returned immediately to the dock for First Aid diagnosis/treatment ... *before or during a race*. This has eliminated any subjective analysis on the part of our Umpires or Safety boat operators when involved in a rescue of capsized rower(s).
- However, this could cause more harm than good ... as *heat loss might be increased while heat production is decreased*.



Cold water/weather protocol

Why?

- **Hypothermia** – almost 200 Canadian fatalities per year (in the water and on land). (Approximately 20% of victims suffering from severe hypothermia die either during or shortly after rescue.)

But ...

- Cold water immersion does not *immediately* equal hypothermia.



1-10-1 Principle

Simple memory aid for *approximate* times of the first three phases of cold water immersion. (Actual times vary depending on body weight and water temperature. *Graph follows.*)

- **1 Minute** to get breathing under control

Cold Shock Response: Gasp followed by hyperventilation. Drowning is the risk! Avoid panic; keep airway clear and above water.



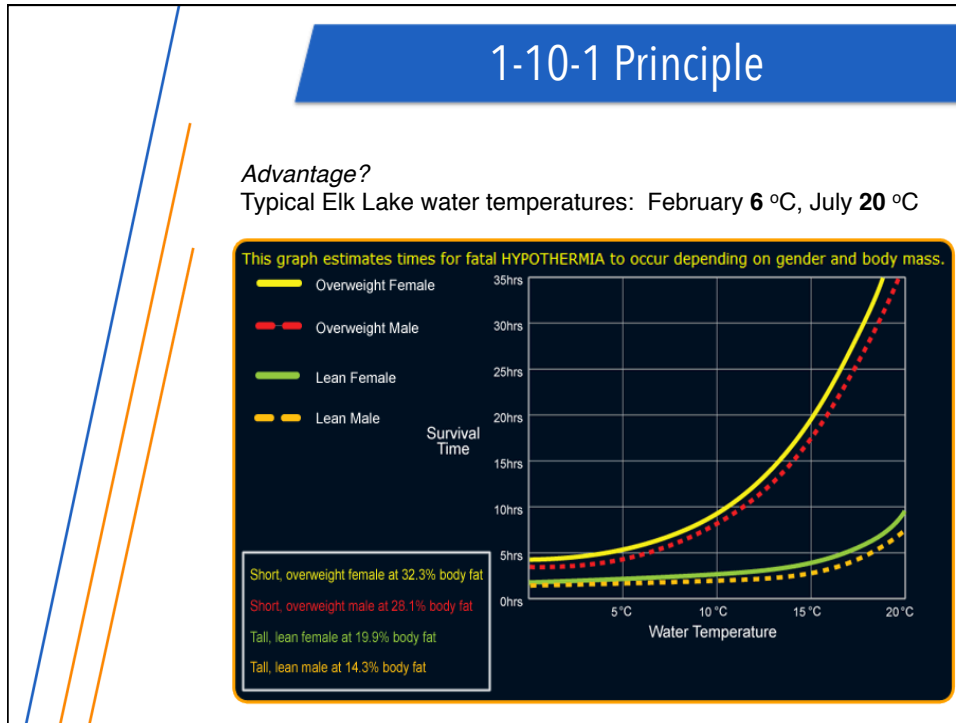
1-10-1 Principle

- **10 Minutes** of meaningful movement

Cold Incapacitation: Gradual loss of effective use of fingers, arms and legs over the next 5-15 minutes. Without a lifejacket, or something to hold on to, drowning is likely.

- **1 Hour** before unconsciousness due to hypothermia (even in ice water).





ASSESS COLD PATIENT

- From outside ring to centre: assess Consciousness, Movement, Shivering, Alertness
- Assess whether normal, impaired or no function
- The colder the patient is, the slower you can go, once patient is secured
- Treat all traumatized cold patients with active warming to upper trunk
- Avoid burns: following product guidelines for heat sources; check for excessive skin redness

COLD STRESSED, NOT HYPOTHERMIC

- Reduce heat loss (e.g., add dry clothing)
- Provide high-calorie food or drink
- Move around/ exercise to warm up

MILD HYPOTHERMIA

- Handle gently
- Have patient sit or lie down for at least 30 min.
- Insulate/ vapour barrier
- Give heat to upper trunk
- Give high-calorie food/drink
- Monitor for at least 30 min.
- Evacuate if no improvement

SEVERE HYPOTHERMIA

- Treat as Moderate Hypothermia, and
 - IF no obvious vital signs, THEN 60-second breathing / pulse check, or assess cardiac function with cardiac monitor
 - IF no breathing / pulse, THEN Start CPR
- Evacuate carefully ASAP

MODERATE HYPOTHERMIA

- Handle gently
- Keep horizontal
- No standing/walking
- No drink or food
- Insulate/ vapour barrier
- Give heat to upper trunk
- Volume replacement with warm intravenous fluid (40-42°C)
- Evacuate carefully

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and COLD OUTSIDE

Cold water/weather protocol

Issues to consider:

- Communication - CU, driver, rower(s)
- Assess, Rescue - Be prepared
- Transport - Protect from wind

Others?



Cold water/weather protocol

Credits:

- *Cold Water Immersion Workshop* (02-03 Oct 2018, RVYC)
Dr Gordon Giesbrecht, Professor of Thermophysiology at the University of Manitoba
- *Baby It's Cold Outside*, an awareness and educational program about hypothermia and cold injuries (website: <http://www.bicorescue.com/>)

