

Understanding cold water immersion

Tasmanian waters can be dangerously cold year-round, so every boater should know how to prepare for and survive cold water immersion.

Phases of cold water immersion – 1:10:1

Phase 1 1 minute



Cold shock

Impact on your body

Sudden immersion in cold water triggers a shock response, with an immediate gasp and an uncontrollable urge to take rapid breaths.

It may take several minutes to regain control of breathing.

Drownings often occur at this stage, especially in rough waters, as people reactively inhale when submerged.

Don't panic

Wear a life jacket.

Concentrate on keeping your head above water.

Try to calm and control your breathing.

Put on a splash/spray hood if fitted to your life jacket.

Phase 2 10 minutes



Cold incapacitation

Causes swim failure

Major muscles and nerves in the arms and legs are cool and are unable to perform reliably.

This leads to an inability to swim and keep your head above water without a life jacket.

Cold incapacitation can result in the inability to swim. This affects everyone, including strong swimmers.

Make a plan

Consider your options for self-rescue. In cold water, you may have only 10 minutes before your ability to move is impaired.

Be cautious about leaving your vessel, especially if you are not wearing a life jacket.

Be aware of swim failure.

Call for help.

Phase 3 1 hour



Hypothermia

Delay body cooling

When core body temperature drops below the normal range (36.5–37.5 °C), you become very cold (hypothermic).

It impairs a person's ability to move and think clearly, eventually resulting in a loss of consciousness and death.

Factors that contribute to hypothermia include water temperature, sea conditions, body positioning and the clothing/protective gear worn.

Without adequate clothing or thermal protection, people may become severely hypothermic after just 30 minutes.

If unable to get out of the water, adopt the '**HELP position**' (Heat Escape Lessening Posture) to protect the areas of maximum heat loss (head, neck, armpits and groin).

Groups of 3-5 people should adopt the 'Huddle position' to increase warmth, keep the group together and improve morale.

Cold water immersion

The facts

- Accidental immersion in cold water (less than 15°C) is a leading cause of drowning in Australia.
- Tasmanian waters are frequently less than 15°C, especially inland and offshore waters, and during winter.
- As the water temperature approaches 0°C, the risks associated with cold water immersion increase.
- Water in contact with exposed skin carries heat away from the body 25 times quicker than air at the same temperature.
- Water moving past the body further increases heat loss x 10.
- Understanding and planning for cold water immersion may save your life.

Planning and prevention

Planning

Preparation and awareness can save your life in cold water.

Always wear an appropriate life jacket and have safety equipment accessible.

- Dress appropriately for the conditions – consider the best options for weather-proof and thermal protective clothing.
- Understand the three phases of cold-water immersion and the 1:10:1 principle: cold shock, cold incapacitation (swim failure) and hypothermia.
- Plan how you would respond to an accidental cold-water immersion, ensuring you have;
 - the ability to quickly attract attention if stranded in cold water
 - a method to quickly reboard your vessel or get out of the water.

Prevention

Take extra care when on cold waters.

- Wear a life jacket, preferably with a splash hood and crotch strap.
- Avoid situations where you may fall overboard.
- Reconsider the need to set out in poor weather.
- Do not overload your boat.

Understand that alcohol impairs both decision-making and thermoregulation.

Adapted from: [Canadian Safe Boating Council](#); [Royal Life Saving Australia](#)

Centre for Antarctic, Remote and Maritime Medicine and the Australian Antarctic Division Polar Medicine Unit, in conjunction with Marine and Safety Tasmania (MAST)