



Survival in cold water

Cold shock

The shock of exposure to cold water causes involuntary inhalation (gasps for air). Water can enter the respiratory tract. It can also cause a heart attack through vasoconstriction.

Cold shock response begins at water temperatures below 25 °C and peaks at 15 - 10 °C. It occurs in the first minutes of exposure.

Hypothermia

Cold water robs the body's heat 32 times faster than cold air. A core body temperature of 35 °C and lower will cause mental confusion and shivering, later drowsiness and unconsciousness.

Expected Survival Time in Cold Water

Water Temperature	Exhaustion / Unconsciousness	Expected Survival Time
16 - 10 °C	1 - 2 hrs	1 - 6 hrs
10 - 4 °C	30 - 60 min	1 - 3 hrs
4 - 0 °C	15 - 30 min	30 - 90 min

Source: Transport Canada, USCG



Thermal protection with Ki-Suit and Ki-Jacket

- When exposed to an increased risk of falling in water, close all zippers and cuffs to delay water ingress.
- In water the garment design will delay water ingress. This will minimise the cold shock response.
The automatic lifejacket will inflate in less than 5 seconds and keep your head well above water.
- 30 % of body heat is lost around the head. Don the hood to minimise heat loss.
Water is trapped in the garment and warmed up by the body. This delays the onset of hypothermia and allows survival of 1 hr in ice water < 5 °C.