



Fishing Vessel Safety Division

(G-PCV-3)

SAFETY ALERT ***D17-04-04***

Cold Water Immersion: It's More Than Just Hypothermia!

Background: The Seventeenth Coast Guard District Boating Safety Alert program provides timely information of "Lessons Learned" from non-commercial boating casualties.

Incidents:

Review of the past 3 years of boating fatalities in Alaska indicate that approximately 75% of the individuals who died probably succumbed to initial stages of cold water immersion, rather than actual hypothermia. In 44 of the 58 fatalities, victims either never surfaced or did not make it to shore, and probably died well before any actual drop in their core temperature. We all know the adage "cold water kills." We used to lump it all into "hypothermia." The reality, though, is that cold water immersion follows 4 stages, starting with "cold shock," followed by "swimming failure," then "hypothermia," and finally "post-rescue collapse." You need to know how your body will react to cold water immersion, so you can take appropriate action and increase your chance of survival!

Lessons Learned:

1. The initial **cold shock** from falling into cold water provokes an **immediate gasp reflex**, of up to 2-3 quarts of air – or water, if your head is submerged. If you inhale water, it is highly unlikely you will come to the surface unless you are wearing a lifejacket. **This means you have to have your lifejacket on when you enter the water!** The cold shock stage is characterized by hyperventilation and rapid heart rate, which often produce a panic feeling. This stage lasts 3-5 minutes. The initial shock can also provoke a heart attack, which will make self-rescue extremely difficult. During this period, concentrate on staying afloat with your head above water while you adjust to the shock so you can act more effectively.
2. Next, **swimming failure** sets in after 3-30 minutes of immersion. If you have made the decision to swim to shore without a flotation aid, you are not likely to make it. Tests using Olympic swimmers graphically show how your body progressively becomes more vertical in the water due to loss of muscle coordination. You will be unable to make forward progress and keep your head above water when this occurs. Having a lifejacket on at this stage is essential to survival so that your head does not slip below the surface of the water during efforts to rescue yourself or be rescued.
3. True **hypothermia** sets in after at least 30 minutes in the water, depending upon water temperature, body type, size, insulation of clothing, acclimatization, and other factors. This means that **if** you have a lifejacket on, you have a significant "window of opportunity" for survival.
4. Once rescued, someone who has been immersed in cold water is still in danger from **post-rescue collapse**, as blood pressure drops, inhaled water can damage the lungs, and heart problems can develop as cold blood from extremities is released into the body core. It is vital to treat the victim gently and get immediate medical care.
5. What is the key here? **WEAR A LIFEJACKET at all times when boating!!** This keeps your head above water if you suddenly fall overboard or capsize, and gives you those precious minutes you need to get back onboard. Even if you have a lifejacket in your hands, you may not be able to put it on. If you cannot self-rescue, it may give you some hypothermia protection and can extend the time you can survive until someone else can rescue you.