Cold Water Shock – Capt. Geoff

Studies have shown that many drownings occur very close to shore or safety. A Canadian study for 2004 showed that 66% drowned within 15 metres of safety. What is the reason for this? While the water in some inlets (where there is little tidal flushing) can get quite warm in the summer, most of the waters around Campbell River, where there is a lot of tidal flushing, remain fairly cool year round. Hypothermia is a factor, but should take a while to affect an average person.

Cold Shock and Cold Incapacity are just starting to be recognized as a major risk when you fall into the water. It appears they can kill you far quicker than hypothermia.

Your body has a number of responses when suddenly immersed in cold water. Immediately, there is a gasp reflex. You cannot avoid taking in a large breath, and if your head is underwater at that time, you will ingest water.

As part of the reaction to cold immersion, you will then start to hyperventilate, your heart starts to race, and your blood pressure rises. Because of the press of water around you, your blood pressure rises even more. This can cause cardiac arrest.

Effects of Cold Shock last only a few minutes, but after about five minutes Cold Incapacitation starts to take effect.

Blood flow slows to the extremities and muscles start slowing down. In very cold water, physical coordination becomes poor; it becomes very difficult to do up a lifejacket or launch a flare. If you don't have a lifejacket on, it becomes increasingly difficult to keep your head above water. (This all happens before your body core temperature starts to fall, the definition of Hypothermia)

Not a pleasant scenario. However, other than ensuring you can't fall in the water (and on a moving boat, particularly with open, wet decks falling overboard is much easier than you might think) you can take one major precaution. Wearing a Personal Flotation device (PFD) will support you in the water, and if you do fall in feet first, it might keep your head above water in those first critical seconds. A 'keyhole" type standard lifejacket is actually the best in this case, as it provides more flotation, will turn you face up, and keep your face out of the water even if you are unconscious or in advanced stages of cold incapacitation. Unfortunately standard lifejackets are bulky and uncomfortable to wear continuously while aboard. Small vessel lifejackets are more comfortable, as they use less flotation and some have a fold down collar, like most child's PFDs. But most people still find them too bulky to wear all the time while on deck, which is the key requirement.

One newer option is an inflatable PFD. They are comfortable to wear, and will function like a lifejacket when inflated (keeping your face up). Unfortunately they are more expensive to buy, and can require more maintenance. Also, if you don't inflate them before you enter the water, your face may still be underwater when the gasp reflex strikes. Some new inflatables have an auto-inflate option, which will work even if you are knocked out or disoriented, adding a safety factor, but making it even more expensive. The first auto-inflate PFDs would inflate if they got

too wet, even in heavy rain or spray. But the newer ones have a hydrostatic release, so you must actually be underwater for it to trigger.

Remember you must be wearing the inflatable PFD in an open boat for it to be considered an approved PFD (You must have enough approved PFDs or lifejackets of the right size on board for each person aboard, and if the inflatables aren't worn, they aren't counted.)

Particularly outside of the summer months, it often makes sense to wear some type of full-time protection such as flotation coat or suit (essentially foam lined coveralls). These can make a chilly day much more comfortable in the cockpit or on deck, provide flotation, will mitigate cold shock and can delay cold incapacitation and hypothermia depending on their features and fit.

This article was not written to to scare people off of boating. This is a beautiful area, with hundreds of miles of channels and many inlets and bays to explore. However, accidents can happen, and taking precautions, such as wearing a PFD on deck can make boating safer. For links to learn more about Cold Shock, or Boating safety in general, please visit our website at http://www.ripplerocksquadron.com/