

July 2017

RY'C-Sense' – Arrrrr Matey!

Were pirates the unluckiest people in the world? So many of them had to wear an eye patch. Did they forgot about their hook when they went to scratch their eye? Or, just maybe, they wore the patch for a different reason.

I frequently hear from people, "I am so bad at operating a boat at night. I can't see anything!" Well, good news. For the majority of people, it isn't bad eyesight, but rather a lack of knowledge about how to see at night. The pirates knew this. That is why they, and many other sailors of days gone by, wore an eye patch. It was a sure way to protect the night vision in one of their eyes. This wasn't only critical at night, but it was also important if they went below to navigate during the day as below deck of old wooden boats was typically very dark....and burning a candle wasn't a great idea.

Seeing better at night requires a basic understanding of how the eye works and knowing a simple set of rules to follow to let your eyes adjust, and remain adjusted, to seeing better at night.

The retina, the light sensitive area at the back of the eye, contains two types of photoreceptors, rods and cones. There about 120 million rods and 6 to 7 million cones in the human eye. The cones are less sensitive to light than the rods but are very sensitive to color. Cones are associated with daylight vision. The rods are about 1,000 times more sensitive to light than cones, but not very sensitive to color. Rods are responsible for our dark-adapted vision. What color sensitivity the rods do have peaks in the blue light area of the spectrum. Interestingly, they have little to no reaction to red light.

Have you ever thought your bedroom was totally dark only to wake up after an hour or so to find the room awash in light from just the tiny LED on a phone or computer charger? This happens because it takes about 30 minutes for the rods to fully adjust when moving from a light to dark environment. This concept can be your savior for operating a boat at night.

Here are some guidelines to follow to ensure you have the maximum night vision effectiveness when operating at night:

- Make sure your light sources at the helm are red. I have installed red lenses in the three most prominent lights in Serenity's wheelhouse
- Have a red penlight handy if you need to look at a chart or other written material
- If your GPS/Chartplotter/RADAR doesn't display in red tones in night mode, make a lens out of red plastic to place over the display when running at night. Red plastic report folders or transparent red light filters work perfectly.
- Relax your eyes and use your peripheral vision. The blind spot when you're in night vision mode using your rods is directly in front of you, as opposed to off to the side when using the cones in day vision mode.

- Protect your eyes from bright light, especially white or yellow light, at all costs. If somebody switches on a light, close or cover your eyes quickly (assuming there will be no navigational risk in doing so). Be proactive. Tell passengers the importance of keeping lights off. Better yet, turn off breakers for lights that could damage your night vision.
- Lay off the spot light. I see people use spotlights almost like headlights. This will kill not only your night vision but also the night vision of any mariner you paint with your beam. Even a short burst of a spot light's reflection off a white deck can reset night vision to almost zero. Only use the spot light to locate navigational markers with a short burst.

Following these guidelines should make your night ventures on the water more enjoyable and less stressful. Or, you can always get an eye patch! Arrrrr!

Potentially Interesting but Unrelated Department

The fastest speed every achieved on water is 299.8 knots (345 mph) by the jet powered *Spirit of Australia* under the command of Ken Warby on October 8, 1978. This was part of a 2-run average over a 1 kilometer course that resulted in an average speed of 276.0 knots (317.6 mph).

On November 24, 2012, Vestas Sailrocket 2, commanded by Paul Larsen, achieved the top speed for a sailboat of 68.0 knots (78.3 mph) as part of a 65.4 knot (75.3 mph) average run over a 500 meter course.

RY'C-Sense' is a monthly article in the Burgee written by Gregg Clark. Gregg has been operating vessels, both power and sail, ranging from dinghies to over 100 Gross Tons, for over 30 years. He has been regularly providing hands on boating courses for RYC members for the past several years. RY'C-Sense' is intended to provide practical boating advice to improve safety and seamanship in an entertaining fashion.