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Octopus Storage Methods for Scientific Divers

Abstract

Safety and uniformity within scientific diving are considered paramount concerns. Divers store their secondary regulators in two different ways, via an octopus necklace or a quick release. The former is a necklace made of rubber or bungee which holds the octopus around the upper chest area of the diver, while the latter is a smaller rubber band that can be clipped onto a D-ring on the diver's BCD. This project aimed to test the effectiveness of both storage methods, and the divers' personal preferences and anecdotal experiences were surveyed while testing the methods underwater. The findings of the survey indicated that 65% of the divers preferred the octopus necklace method, citing it to be quicker and easier to find than the quick release method. Interestingly, some divers who preferred the quick release also cited this same reason. The study concluded that both storage methods are comparable in effectiveness, and it's the small advantages or disadvantages in each method that divers might prefer or dislike, respectively. The study's limitations were a small sample size and a lack of quantitative data, which could not prove the comparative effectiveness of both storage methods. To get more robust results in the future, a larger sample size of different diving styles (scientific, technical, recreational, etc.) can be considered to provide complete and quantitative analysis.

Octopus Storage Methods for Scientific Divers

Within the scientific diving community, safety is a paramount concern with regular discussion and scientific inquiries. In many cases, safety and security are ensured through uniform codes or rules which allow divers to interact with familiarity given an emergency. One example is the methods used to store the secondary regulator (octopus) during scientific dives. Many organizations certified through the American Academy of Underwater Sciences (AAUS) require their divers to use an "octopus necklace," a necklace made from rubber or bungee, which holds the octopus around the upper chest area on a diver. When using the octopus necklace in an emergency air-sharing situation, the out of air diver will receive their buddy's primary regulator, while the donor breathes from their octopus. While this is considered standard amongst many AAUS organizations, another popular method of storing the octopus is the quick release (QR), which is a smaller rubber band usually clipped onto a D-ring anywhere on a diver's buoyancy control device (BCD). In a comparable situation, the out of air diver would receive their buddy's octopus straight from the quick release.

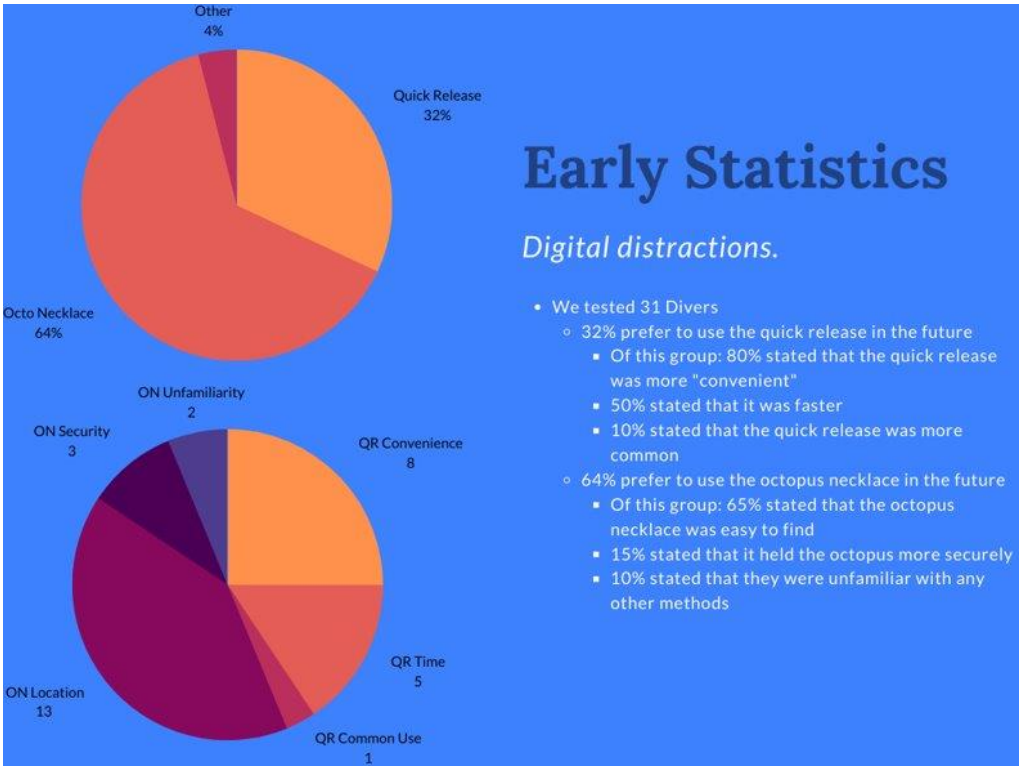
From a broad viewpoint, the octopus necklace appears to add an additional and arguably unnecessary step to the air-sharing process. The diver who still has air in their tank must take his/her primary regulator out and give it to their buddy, then begin breathing from their own secondary regulator. This is opposed to a situation where the diver with air simply hands their octopus to the out of air diver, thus cutting out the step of transferring the primary regulator. It is this potential logical fallacy that led to the beginning of this research project.

The initial goal of this Masternaut project was to test the effectiveness of both the quick release and octopus necklace. If the AAUS requires that divers use the octopus necklace, then it surely has some overlooked benefit over the quick release. While narrowing the methodology of

the testing, it became clear that a timed evaluation of which method was faster would likely not yield accurate data. A multitude of factors including human error in timing and unfavorable and/or difficult water conditions meant that any data would understandably be skewed, especially when dealing with differences of only a few seconds. Instead, a survey of divers' personal preferences and anecdotal experiences would provide more actionable results.

Before each of the test dives, the survey participants were briefed on how to use both methods and filled out a pre-dive survey questionnaire. The questions asked mostly regarded the drivers' experience with either method. This step was put in place to ensure that divers have relative experience with both methods. If, for example, a diver has logged over 1,000 dives on an octopus necklace and only 4 on a quick release, that individual would not be as comfortable with the quick release. After the survey and briefing, each diver practiced both methods of air-sharing 3 times while underwater. When the dive was completed, participants filled out the final post-dive survey, where they listed their personal feelings about each storage method.

Figure 1



The findings presented in Figure 1 suggest that most divers preferred the octopus necklace storage method over the quick release method. When prompted to provide reasons, 65% of the assenting group cited that the octopus necklace was quicker and easier to find when compared to the quick release. What is interesting however, is that 50% of the dissenting group cited the same reason for the quick release being superior. This suggests that personal preference is a large factor when considering which method is most effective.

The evidence from this study seems to advocate for the idea that both octopus storage methods are comparable in their effectiveness but offer different small advantages that divers might like/ dislike. The octopus necklace for example can “cause minor chaffing/ discomfort” as

one of the participants put it; whereas the quick release “seems to have a tendency of letting the octopus fall out.” This means that the AAUS standard for the octopus necklace is justifiable based on the previously mentioned notions of uniformity.

The limitations of this study are numerable due to its small scale and simple methodology. The largest issue was the small sample size. Only 31 divers completed all steps of the experiment, and most of those divers came from one organization - SCUBAnauts International – which follows AAUS standards. Another limitation was the lack of quantitative data to prove if and how the effectiveness of both storage methods was comparable. The only information that led to that conclusion was the participants' anecdotal evidence and the general spread of data. In a future test, a larger sample size with a greater variety of diving styles (scientific, technical, recreational etc.) would lead to a much more robust and complete data set. Finally, a quantitative analysis of the effectiveness of both methods (ideally a timed test) might potentially provide a complete conclusion as to which method was better for octopus storage: the octopus necklace or the quick release.

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