

Dive safety and risk management: never let your guard down

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Key words

Risk, safety, scuba diving, training

Abstract

The vast majority of people who scuba dive do so without negative consequences. However, because of the probability of various injuries and risks involved, we must realise that accidents and injuries will occur despite best practices. There is no room for complacency in the world of prudent risk management for recreational scuba-diving practice.

We use the word ‘safe’ quite loosely in our everyday lives. However, how we determine what is and is not safe is not as widely discussed. Lowrance defined safety as a judgment of acceptable risk, and risk as a measure of the probability and severity of harm.¹ Nothing in life is risk free and activities are judged safe only when their risks are judged acceptable. As there are degrees of risk, so are there degrees of safety. Determination of how safe things are requires two activities:

- 1 measuring risk, which is an objective scientific activity
- 2 judging the acceptability of that risk, which is a personal and/or social value judgment.

Gauging risk, therefore, is a matter of estimating probabilities. This approach assesses the overall chance that an untoward event will occur, but not a specific event. For example, gauging risk by estimating probabilities can determine the likelihood of decompression illness occurring for any given dive profile; however, this approach is limited in that it cannot predict which divers will have decompression illness. The same can be said of air embolism, drowning and diver fatality.

Scuba diving is a reasonably safe activity and is categorised as such based on the concept of acceptable risk. Acceptable

risk is defined by several factors, including prevailing professional practices, reasonableness and the highest practical protection and lowest practicable exposure. Adhering to standards and always being safety conscious when diving or supervising others who are diving, helps decrease the probability of an accident or incident from occurring, although it does not eliminate the probability altogether.

A disciplined adherence to effective risk management principles assists divers and dive professionals by increasing safety and minimising risks to oneself and any divers for whom one is responsible. In addition, various personal and social value judgments affect the perception and reputation of any given activity. As previously mentioned, safety is the degree to which risks are judged acceptable. Recreational scuba diving is largely viewed by the non-diving public as a high-risk activity. In all likelihood, this view stems from diving's poor safety record in its infancy in the 1950s and 1960s, and the fact that it is an activity experienced by a minority of the total population. So when things go wrong and a diver dies while scuba diving, it often makes front-page news in local papers.

It is difficult to define precisely what is considered acceptable risk for all involved groups. Consider for a moment how the definition of acceptable risk might be defined differently for the following groups: novice divers, experienced divers, dive operators, certification organisations, equipment manufacturers, insurance carriers, the legal profession, divemasters, instructors and the lay public. As mentioned previously, risk depends on the probability and severity of the injury, so the likelihood of a diver suffering an ear squeeze, near drowning, air embolism, decompression sickness or a fatality all vary both in probability and in severity. The skill and experience level of the individual involved, a novice or instructor, also affects the insight and ability that person has in accepting a risk.

Formalised and modern systems of diver education, along with various statements of understanding, waivers and liability releases combine to present to an individual that diving has an element of risk, and that the severity of that risk can have catastrophic consequences, however unlikely. In my experience, informing a diver of this is in the best interest of the individual and the professional, and is both ethical and moral. In short, it is the right thing to do. Intelligent people make the personal choice to accept these risks on their own.

The vast majority of people who scuba dive do so without negative consequences. However, because of the probability of various injuries and risks involved, we must realise that accidents and injuries will occur despite best practices. It is incumbent upon each of us, whether we are divers or dive professionals, to act, teach and supervise others in a manner that never compromises the high standards that modern, recreational, scuba-diving practices have established. It is also important that we all exercise prudent and wise judgment in every environment and circumstance and that we always put the safety and wellbeing of those we dive with, supervise or train above all else. There is no room for complacency in the world of prudent risk management for recreational scuba-diving practice.

Reference

1 Lowrance WW. *Of acceptable risk: Science and the determination of safety*. Los Alton: Kaufman; 1976.

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