

FREE ASCENT TRAINING

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I have been asked to contribute an article on Free Ascent giving the RAN view. I cannot give an "official" view but offer my personal interpretations of current RAN practice and the reasons for that practice.

Because of past fatalities, the RAN attitude is that Free Ascent training can only be carried out adjacent to a chamber.

The RAN considers that, although with proper diving procedures there should be no need for free ascents, a properly trained diver should know how to do one and keep in practice. In fact RAN free ascent training is buoyant ascent as apparatus and weights are ditched and the sailor is helped up by the buoyancy of his wet suit. The ascent rate aimed at is the standard 60 feet per minute.

Some years ago there were deaths during free ascent training. At least one man died while being carried unconscious along the jetty to the recompression chamber. Following this free ascent training was only carried out when a portable recompression chamber, with a medical officer standing beside it, was on the jetty at the point where the trainees would surface. Unfortunately the portable recompression chambers are one man deck decompression chambers designed for the uncomplicated decompression of a fit diver. The decompression technique they were designed for involves the diver in an ascent (at 60 feet a minute) to the surface, immediate entry into the deck decompression chamber and immediate pressurization to 10 metres deeper than the depth of his first stop. He must reach this pressure within five minutes of leaving the bottom. After five minutes at this depth decompression is carried out as for a bottom time of 10 minutes longer than it actually was. For what they were designed to do, these chambers are excellent. But they are not treatment chambers.

They can hold two men but the second has to lie beside or on top of the first and cannot act as an efficient attendant. There is no room for any resuscitation. Once the patient is inside there is no way that anyone can get at him. If he vomits and inhales his vomit the chamber becomes his coffin. A further drawback is that the one man deck decompression chambers were made over 20 years ago when the idea of mating small and large chambers for transfer under pressure was unthought. So there is no way of transferring the patient to the larger RAN chamber where he can have an attendant and be resuscitated if necessary. The RAN is obtaining new chambers, both fixed and portable, with transfer under pressure capabilities which will allow for immediate treatment at the jetty edge and transfer to the larger chamber.

Recently the RAN appears to have reduced compressed air free ascent training and taken to training in free ascent using oxygen breathing apparatus. While this still puts the lungs at risk the embolus is inherently less dangerous as the oxygen will all be metabolised and the bubble will disappear in the process allowing restoration of blood flow. The problems of the single man chamber have probably played a part in this decision. The current practice is to have a medical sailor with resuscitation equipment and a stretcher at the site of training, on a jetty close to the large recompression chamber. The training party is large enough to provide at least four stretcher bearers. A doctor is in attendance at the School of Underwater Medicine, less than twenty feet from the chamber. While this system does increase the delay in recompressing the man by a minute, the pay-off is better care under pressure.