

Commentary on the problems of diving in remote areas and underdeveloped countries

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The death of an individual while diving, particularly one so young, should resonate throughout the diving community. It reminds us that while diving is a relatively safe sport, unpredictable events can and do occur. This case report of a diving holiday gone tragically wrong highlights two important points:

- when going on diving holidays, people have to be prepared with contingency plans for both standard and diving medical emergencies.
- fit, healthy people may die regardless of prior medical assessments.

I often find it surprising that people who go away on expensive overseas holidays with expensive equipment skimp on travel insurance. Travel insurance, which usually covers medical costs, travel delays, cancellations and lost items, is relatively cheap and if you are diving, insurance and membership, such as the Divers Alert Network (DAN) provides, makes managing the treatment and repatriation of a sick diver all the easier. An insurer that has a background in diving-related injuries allows rapid decisions to be made; it unfortunately took a long time in this case for a diving injury to be identified and for DAN America to become involved. This delay may have ultimately cost this young man his life, as urgent recompression was always going to be the required treatment.

There is also an onus on the traveller to plan for an emergency. In some locations, doctors may not be available and very few doctors (even in diving locations) have the required experience to treat or even identify diving injuries. A method of contacting a diving emergency service in one's own country, such as the Divers Emergency Service in Australia, from an international location should be part of the contingency plan for all remote diving holidays. Even if you do not have insurance, most diving emergency services will help with diagnosis and try to arrange help, but the logistics are horribly complicated by a lack of travel insurance, particularly with repatriation or transfer to a better-equipped medical facility. On top of this, you may be repatriated to a country with very expensive medical care (such as Hawaii or Guam, which both charge at USA medical rates). As an example, one patient who had to be repatriated to Australia from the Solomon Islands by Medevac Jet cost USD 85,000.00 and the insurance company would only cover 80% of this cost. This meant that the family had to come up with an immediate USD 17,000.00 on a weekend, before the plane would even leave the ground!

As part of the pre-dive plan, the dive operator needs to be asked what equipment is on board, such as a first aid kit and

oxygen availability and to make sure for oneself that the cylinder is full and they are trained in its use. Responsible dive operators will be happy to demonstrate their safety equipment. The diving brief should also have plans for emergencies and prior to starting a set of dives, divers should ask what the evacuation plan would be if there were an injury or illness. If there are any concerns, it is better to live and dive another day.

The second point is one of current interest in Australia where there is a developing trend towards self-reporting medicals. The Australian Standard covering recreational diving is the AS 4005.1 (2000). However, with the exception of Queensland, this is not a mandatory item prior to scuba training. Most countries have now moved towards the self-reported medical and, as Australia moves to align with the ISO standards (for which a self-reported medical is the standard), it will be interesting to see whether or not there is an increase in morbidity and mortality in the diving community in Australia. In contrast to the Scottish data, a recent study of 1,000 diving candidates suggested that the self-reported medical potentially may miss medical problems that should exclude some people from diving.^{1,2}

The crux of the problem is in the word 'potentially', and this case is a good example. Would he have been excluded with a large cyst in his lung? Most doctors would have found him unfit for scuba diving if they had known about the cyst. Would I personally have done a routine chest X-ray on AB? Probably not, and this leads to the cost-benefit balance that we all practice in medicine and that we spend a lifetime refining in the light of experience. Unfortunately, sometimes, unexpected bad things happen to 'good' people. Planning can often make the consequences of a 'bad day at the diving office' less serious, and this brings me back to my open-water training maxim "*plan the dive, dive the plan.*"

Reference

- 1 Meehan CA, Bennett MH. Medical assessment of fitness to dive – comparing a questionnaire and a medical-based interview approach. *Diving and Hyperbaric Medicine*. 2010;40:119-24.
- 2 Glen S. Three year follow up of a self certification system for the assessment of fitness to dive in Scotland. *Br J Sports Med*. 2004;38:754-7.

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Conflict of interest: Hyperbaric Health is a company with 46 hyperbaric chambers in 20 countries throughout the Asia-Pacific region, and treats between 150–300 divers per annum.

Key words

Diving accidents, legal and insurance, communication, DES – Diver Emergency Service, medicals – diving, tourism