Is it enough to be 'Fit to dive'?

David H Elliott and Ian L Millar

The requirement for working divers to pass annual 'fit-to-dive' medical examinations is generally agreed to be important and appropriate, although what is implemented differs around the world. Some medicals are basic and others elaborate. Requirements are usually determined by the government that has jurisdiction over the diving to be done and they typically represent the legal minimum that the diver must attain in order to work in those waters.

For divers who regularly work around the world, such as those in the offshore industry and some scientific divers, international reciprocity and a consistent medical standard for all locations would be of benefit. The industry is seeking this and also has an expectation that the doctor who provides the medical examinations should have and maintain an appropriate level of expertise. There is, however, no formal international standard to enforce this. In the South East Asian region, frustration with the lack of consistency and international reciprocity has led an informal grouping of companies to publish names of doctors it considers appropriate to conduct medical examinations on offshore industry divers.

The International Marine Contractors Association (IMCA) is a peak body for the majority of employers of divers working in the offshore industry. It has accepted the medical standards of the European Diving Technology Committee (EDTC) for use worldwide. The EDTC has undertaken substantial work towards international standardisation, including outlining the training objectives for the medical examiners of divers (Level I Med) and it has also specified the additional requirements for those who provide routine and emergency medical support for diving (Level IIa / DM Occ). Specifically these include an appropriate knowledge of occupational health and safety for the medical management of hazards to health in diving.

These worldwide objectives were reviewed recently,[1] and courses aiming to meet EDTC requirements continue to be audited by the Diving Medical Advisory Committee (DMAC), a body that has been active in the North Sea region for some 35 years. It is promising that North American, South East Asian, Australasian and South African observer members have been invited to join EDTC and that this has led to improved momentum for internationalisation.

Glenn's article from the lay diving press recognises the importance of medical screening for finding any aspect of medical, mental and physical fitness that might affect the diver's safety at depth.[2] Glenn's particular concern, however, is with conditions that present themselves later in a diving career, possibly even after its completion. The writer is an instructor at the North Carolina Justice Academy and quotes the example of cumulative exposure to biological hazards with a possibility of delayed complications from diving in the Chesapeake.

Any possibility of 'workman's compensation' requires that the original exposure and its consequences have been properly recorded. Glenn concludes that each diver should ask his diving physician to establish a baseline of screening to be added to his annual assessment and, although his example may not be widely appropriate, the objective of promoting health surveillance is good. Much has been written on the consequences to the diver of exposure to physical, chemical and biological hazards and the need for surveillance that has been highlighted by several international workshops on the long-term health effects of diving.

Health surveillance is, however, a difficult and often poorly implemented aspect of the diving medical examination. Most recreational divers never have an examination subsequent to their initial review. Even for those occupational divers who have annual reviews out of choice or requirement, the degree of long-term health trend tracking that occurs is very variable and there is no clear separation in the medical examination between those aspects that are about fitness to dive and those that evaluate long-term health effects. Much of the standard examination aims to do both, of course, but many would argue that health surveillance should be conducted independently of fitness evaluations, particularly where there may be an incentive for divers to conceal problems in case they 'fail' the diving medical.

This is the clear view of DMAC, which, in April 2008, published a *Statement on the Health Surveillance of Commercial Divers*.[3] Outside of the diving industry, well-developed health surveillance programmes have usually had either a research base or have been enabled by individual employers needing to monitor for potential effects of specific hazards. For the highly mobile diver, this will never be satisfactory. New Zealand has addressed diver mobility within that country by establishing a centralised occupational diver-fitness registry that incorporates a health monitoring element into the annual fitness re-assessment process.

There have been a number of well-run, independent diving health surveillance programmes, such as the ELTHI study,[4] but these have limited geographical and temporal coverage. Some would argue that the diver's personal medical practitioner is in the best position to be responsible for long-term health surveillance, but this is generally unsatisfactory due to lack of diving and occupational medicine knowledge and the fact that many divers do not have a regular personal physician. In many cases, the diver's medical examiner is their most regularly visited single doctor.

Although Glenn argues for each individual's diving medical examiner to undertake the health surveillance role at the request of the diver, we believe that the need for health surveillance and its content should be determined by a suitably trained diving physician (Level IIa / DM Occ) or occupational physician. As recommended by DMAC, it should be conducted separately from the diving fitness examination.

In an ideal world, each diver would be able to have their long-term health data held securely in a register with worldwide accessibility and the potential to also use data for research and new hazard identification purposes. Information technology and the internet is making this logistically possible and health registries are increasingly being established in other fields. However, there are many legal barriers around health information privacy, funding is lacking and no suitable candidate organisations are apparent to undertake the task for divers and the diving industry. It is our hope that developments in international co-operation with respect to diving medicine training and the fitness to dive certification process will, in time, also extend to improving the health surveillance process for those who enter the special environment of the underwater world.

References

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