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AN ESSENTIAL RESEARCH PROJECT: LIVING WITH THE “AMERICANS WITH DISABILITIES” ACT

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Key Words

Fitness to dive, legal, medical conditions and problems, research, safety.

The Americans with Disabilities Act¹ (AWDA) is one sign of the profound changes in community attitudes towards any perceived discrimination which prevents a person from either obtaining training or employment, or undertaking any other activity, solely on the grounds of some condition (physical, mental or behavioural) they may have. This Act has been presented by politicians as a caring measure in defence of the civil rights of such persons but, unfortunately, is equally likely to have results far beyond those imagined or desired by its creators.

It is very likely that this act will be manipulated by a few individuals, intent on obtaining a financial gain,² using the inevitable loopholes which will exist in this, as in all, legislation. There will be claims of unfair or unjustified restrictions imposed because of medical advice and common work-safety beliefs. Regrettably there will be some who may suffer an injury because they are allowed to undertake activities which their “disability” renders less safe for them to undertake than for those not so affected.

There is, however, a potentially positive aspect to implementation of this Act (AWDA). The enforced employment of such persons will make employers consider designing much needed improvements in the work environment. In the recreational industries, those having a responsibility for the safety of participants will be in the same situation. If these improvements are carried over they

should reduce the risk levels for all, and so benefit everyone exposed to such work or recreational environments.³

The diving community will undoubtedly be significantly affected by this Act, at first in the United States but ultimately world wide, because of the direct and indirect influence of the major diver training organisations.⁴⁻⁶ These organisations originated in the USA and still dictate the content of training programs of their many overseas dependencies. The effect may well be delayed initially in America through the writing of effective “disclaimer” contracts.⁷⁻⁹ However what one lawyer devises is usually eventually circumvented by another. The “American disease”, of litigation at the least excuse, is spreading to other countries where such disclaimers of liability are far less protective.

The instructor organisations appear to have made a rod for their own backs by their strict enforcement of the rule that no changes can be made by instructors to the written training programs. This rigidity may be welcomed by their insurers and legal advisers as providing a convenient justification for all actions which rigidly follow these hitherto unquestioned protocols. However there is a down side. It appears that the organisations fear to modify their training protocols in line with incident and morbidity reports. It has been suggested that the reason is that any changes could later be represented, in court, as an admission that some parts of the present training programs were either inadequate or contained errors.

This paper is not to discuss the training programs of the instructor organisations beyond stating that there is obviously scope for discussion on the correctness of awarding the somewhat misleading title of “advanced diver” to some divers after they have made only nine scuba dives. In my opinion, the conclusions reached by the UMS (now UHMS) and SPUMS workshops,^{10,11} about the necessity for including a practice of shared air ascents in basic training, were reached without a sufficient regard to incident and morbidity data, which was available and should have been more fully considered. These workshop decisions will be a delight to any litigant’s lawyer, as there was obviously an acceptance by those involved that to run out of air is a situation which is so common and unavoidable that it should be accepted. This training module is justified to reduce the very obvious dangers of running out of air. The presumption in AWDA is that predictable risk factors must be removed, not accepted, so it could be cited to back a claim that the avoidance of such out-of-air situations should be the focus of diver training. This would reduce the risks that diver inexperience and low-air situations pose.

However it is the medical involvement in assessment of medical fitness to dive problems which is the primary interest here. Doctors first became interested in pressure-

related problems in response to exposure to the disabilities resulting from "caisson disease".¹² This was affecting the workers employed in some French coal mines, and where caissons were being used to sink shafts to obtain secure foundations for bridges. Doctors' involvement increased once the engineers made it easier for divers to reach ever greater depths. Later the development of scuba made possible the evolution of a group which dived for recreation. Recreational diving now has millions of certified divers. Dives have become longer and deeper and now sometimes involve the use of breathing gases other than air.

Without recreational divers, Diving Medicine would be a very small sub-speciality indeed. As a result of the efforts of employers, and regulatory authorities, to reduce the risk of occupational diving the occurrence of diving accidents in the North Sea is so low that doctors now have to learn treatment routines treating recreational divers! Prompt (at the time of onset) treatment for decompression illness (DCI) is almost always successful. A far cry from the old days of pearl diving in Australia.¹³⁻¹⁶ Without the inventiveness of engineers, diving problems would have remained limited to the treatment of (near) drowning and of air embolism. Experience shows that every technical response to a diving problem is likely to produce at least one new medical problem which will require the attention of physiologists, physicians, or even undertakers.

Once involved with diving, doctors soon became convinced that medical fitness was the key element in safe diving and that they alone knew the cut-off between safe and unsafe conditions. It was a case of "better safe than sorry". In the interests of diver safety they set their opinions in absolute terms in relation to a list of certain named conditions and relative terms for many others. There was little known about the effects of diving on these conditions and what *was* known were the disasters. There are some in the diving community who appear to wish that medical involvement was still limited to treating air embolism and decompression sickness and developing even more "generous" decompression tables. But the instructor organisations, their lawyers and their insurers are presumably delighted to pass over the responsibility for certifying that an applicant is "medically fit to dive" to the medical profession, which has not realised that this franchise is a poisoned chalice.

When developing the Medical Fitness Standards for Australian divers, no allowances were made for the great variability in the severity of effect of most medical conditions with the same diagnostic label in different people, nor of the existence of so many exceptions to the theoretically predicted outcome in persons who have apparently similar clinical findings. The absence of any critical analysis, matching predictions against the data of diving morbidity reports, indeed the absence of attempts to collect and analyse such data, casts serious doubt on the

validity of many commonly held beliefs. These days published data is likely to be required to justify the medical opinions advanced in court. Reliance on precedent in medical matters is no longer always accepted by judges and any lawyer could draw attention to the differing medical fitness standards in different countries.¹⁷

It is unfortunate for those who may be called upon to defend the status quo in court that there are many who dive with apparent safety despite having "disallowing" medical conditions.¹⁸⁻²⁰ There are also many who are litigiously inclined who may enjoy setting lawyers to demand a sourced proof of the degree of risk which their medical condition has been shown to pose. This is a legitimate tactic which the diving medicine fraternity has not always approached in a scientific manner. Although our present views may well be largely correct, they have been developed without facing any rigorous critical questioning. It is because of the supposed difficulty of defending a medical fitness decision which differs from that promulgated in the Australian Standard that there has been a reluctance to risk a change to a "guidelines" protocol where applicants who have a medical or physical condition are assessed on a case-by-case basis. It should no longer be acceptable to apply a Procrustean Bed template (one size fits all) as a completely satisfactory basis by which to reach a decision on medical fitness to dive.

One problem to be faced in collecting the necessary data arises from the success achieved in persuading the diving community of the evils of allowing diving by those who have asthma or insulin dependent diabetes (or other conditions). These people are naturally reluctant to admit to having any such conditions if they have managed to escape detection by the medical net. They are therefore usually only identified if they are involved in a reported incident. Very rarely do they reveal their condition otherwise. The result is that the number of those who are diving safely with such conditions is unknown and so the degree of risk is undefinable. For many years any history of epilepsy was an absolute bar to holding a driving licence, but epileptics drove and they only admitted to their condition when this absolved them from a far more serious charge. Now that their condition can be declared and matters decided on a case by case basis the predicted-risk question can be openly discussed and managed. There has been no morbidity cost to this change.

This looming threat can be met by developing and utilising a data base containing information from and about divers (past or present) who have any type of medical or physical "problem", regardless of severity or the apparent significance to diver safety, and disregarding whether they have experienced any diving-related problems. Indeed it will be helpful to have as complete details as possible of not only their medical condition but also about diving problems they have experienced, including those clearly unrelated to their index condition.

A first step would be the development of a team of doctors and other interested persons to research the contentious matter of those who have an "asthmatic" history.²¹⁻²³ Some with such a history should obviously be strongly advised they should not to dive,²⁴⁻²⁸ but there will be others who have shown that they can and indeed have dived safely for many years. The task ahead is to attempt to determine where in the middle ground to define the point which indicates progression from an acceptable to an unacceptable risk, though first it will be necessary to define the term "acceptable risk"!

A significant number of the doctors are assigning a "medically fit to dive" finding to applicants whose asthmatic history is problematical or whose asthma is reportedly not active, subject to them satisfying a "provocation" protocol which uses nebulised hypertonic saline or methacholine.²⁹⁻³¹ There should be no ethical problems in following up this cohort of divers to discover whether they *have* experienced any asthma symptoms while they have been diving. Such a medically confidential survey would provide much useful information and it would greatly assist the designing and management of an expanded investigation, one involving the wider diving community, at a later date. It would be essential to ensure that those providing such personal information will be at no risk of losing diving certification nor of the certifying organisations learning their identity. This fear of loss of certification may be completely unfounded for many, as the only time most recreational divers require a medical certificate of fitness is when learning to dive. Some training organisations may require them for further courses.

Individuals in many countries are interested in this problem but the information is at present so scattered that it loses much of its value,³²⁻³⁴ or it has been pre-digested to appear in papers which present the writer's conclusions but necessarily omit all details. Once such a data bank containing pooled material has been set up and shown to be useful, it is hoped that this will be an encouragement to others to come forward to join the original contributors. This will enable the focus of interest to be widened to include many other conditions. Indeed it is possible that, in time, instructor organisations and diving medicine societies will come to recognise the importance of becoming actively involved in the collection and analysis of such information.

This is a plea to the diving community to develop evidence based benchmarks now, against which to assess the true risk to applicants with a medical condition or history which has a potential adverse effect on diving safety.³⁵⁻³⁷ Whether the medical risks are different in those who wish to dive using gas mixtures other than air could be one matter to consider. There will be great value in knowing the track record of those who have been diving with any of the many "adverse" medical conditions which are now listed.

The end point of improving information might well be that a doctor would in the future state not that the applicant was found to be either "fit" or "unfit" to (scuba) dive but would be given a less rigid statement, an opinion stating the possible significance to a trained and careful diver of any medical conditions which have been noted. The fully informed applicant would then be expected to choose whether or not he or she would accept the potential added risk factor. For an informed choice to be made the potential risks must be accurately presented and unfortunately this is not possible at present for lack of data. One must remember that nothing in life can ever be completely safe, but understanding the critical factors minimises the risks.

Interested parties are asked to write to the author.

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THE WORLD AS IT IS

DOCTORS DO IT DEEPER

Harry Oxer

An international group of doctors were given the opportunity to find out how the off-shore occupational diver (who used to be known as a commercial diver) lives and works, at a recent course held at the Fremantle Hospital Hyperbaric Medicine Unit in Western Australia. "Bennett and Elliott" came to Australia and worked with the Hyperbaric Medicine Unit in Fremantle Hospital, in October 1996 to conduct the two week course entitled "Medical Support of Commercial Diving". Its aims were to introduce specialist doctors to the working environment and tasks of working divers. The participants discussed the particular aspects of physics, physiology, and medicine associated with the work of many different groups of working divers.

Fremantle offered unique opportunities because of its excellent relationship with the commercial diving and

other organisations as well as the Hyperbaric Unit's own facilities for chamber experience and dry dives. The students, who came from Australia and nine other countries, were able to visit Coflexip Stena Offshore's dive support vessel the "CSO Venturer" and look at the saturation diving system and hyperbaric lifeboat on that vessel. Dave Jenkins, Coflexip Safety Officer shared his expertise with the class. Pat Washington and Bill Wallace from Oceaneering Australia came to Fremantle and lectured, drawing on their vast experience in the commercial diving field. Craig Roberts of Subsea International lectured and also arranged a visit to the Subsea facility to examine in detail their vertical chamber transportable saturation system, a dive bell and a hyperbaric lifeboat. The class also examined a large ROV (Remotely Operated Vehicle).

Contract Diving Australia made available diving experience using commercial diving equipment. Dusty Miller told the class about the equipment and supervised the diving. All members dived, using Kirby Band Masks, an extended full-face mask with gas supply and communications built in which is held in place by a zip up