

DISCUSSION PAPER
IS "FIT ENOUGH" GOOD ENOUGH?

Douglas Walker

Medically certified Fitness is so obviously a GOOD THING that it may seem to be both churlish and deliberately contrary to suggest anything less than the highest possible standards if asked to state the physical requirements for some particular activity. But living creatures are rarely if ever completely identical so an allowance for some variation must be included, which is an indirect admission that there will inevitably develop a "grey area", a frontier zone where the law of whim (or "in my opinion") will hold sway. Guidelines rather than benchmarks are the "standards" for practical people in most day to day situations, and such must include assessments of fitness or otherwise.

The first question to be faced is the purpose proposed for any standard, whether it is seeking to identify and exclude all without perfection (as it so defines perfection), or to exclude only those with gross defects (with a high risk value to the applicant), or whether it is to assess the balance between discovered morbidity and the positive factors, such as intelligence, training, experience and use of correct equipment. Only the first two approaches lend themselves to legislation, the third requiring knowledge, judgement and a willingness to risk professional censure should a wrong decision be revealed by events. Such a risk is, obviously, what almost every practicing doctor does every time he treats a patient, though he may believe the contrary. The better the information available, the more likely is the decision to be correct, which is the real reason for the collection and publication of information in journals such as this one.

When Mr Herbert Spencer coined the phrase "The Survival of the Fittest" he meant those best adapted to their environment rather than those in perfect physical condition, though the sick and imperfect are soon removed from the struggle to exist in a like manner the early divers required brute strength and endurance to survive, there being a lack of understanding of the risks peculiar to their occupation. Natural selection rather than medical assessment worked well for such exacting times. Nowadays not only is our understanding greater but our methods of reducing the impact of the adverse environment are more effective. The physical requirements for survival in a 1 ATA suit are very different from those of a Standard Rig diver at the same depth.

Medical Standards were introduced initially by the various armed forces, a pedigree still heavily evident in present criteria of fitness. Naturally was not because the Naval authorities were tender hearted towards their members but rather because the fall-out rate from courses was reducing the efficiency of diver/charioteer production. As very little was understood at

that time (WW II) about underwater problems, nor was it recognised that they even existed as a limiting factor effecting everyone to some degree, it was through stricter selection rather than through changes in diving practices that in-training losses were reduced.

However in the gentler days of peace, a less Draconian approach is thought to be proper. At first, when sports diving started to become popular, there was a total *laisse faire* attitude to questions of medical fitness for diving. After all the only doctors who knew much about diving were in the armed services and there was no expertise available to civilians. Since those distant days there has been a partial return swing of the pendulum of fashion. Now many aspiring sports divers are expected to produce a certificate saying that they meet the fitness standards of Australian standard CZ18, a standard suitable for commercial divers but not necessarily suitable for sports divers.

The great advances of equipment available to sports divers have made it possible for the meek to inherit the underwater world, or attempt to do so, without the selection process imposed formerly by heavy equipment, poor heat insulation and a public belief that only the tough guys should attempt to dive. There will inevitably be some clash of opinion between those who, for a variety of reasons, propose High Standards and those who would allow the disadvantaged to Do Their Own Thing even if this carried a high risk (but not certainty) of morbidity or mortality.

While it is agreed that Procrustes carried the application of standard measurements too far, freedom to treat diving as a Russian Roulette exercise is hardly more acceptable. There must be some standards of medical and physical fitness because the environment is demanding, but there is no single environment situation faced by every "diver" so a flexibility of decision making is necessary. It must never be forgotten that the most critical factor in survival is training and the use of the appropriate equipment. Many a Coroner has been told "he was a keen athlete, a champion swimmer" when listening to the details of the demise of someone crying-out diving.

Fitness assessment should take into consideration the circumstances of the diving which is proposed, ignoring the factor of whether the person is an amateur or professional at the time, though consideration of Insurance and Legal Liability effect the employability of some otherwise symptom free divers, eg. the bones which show changes and the back X-ray showing deviation from perfection, or a history of unexpected sensitivity to the hyperbaria of diving situation (eg. DCS, Cold, Nitrogen or Oxygen over sensitivity).

The degree of "Nelson's Eye" to be afforded to experienced divers who fall below generally accepted fitness levels can only be related to specific cases, considerations of safety being the decisive factor at all times.

A flexible approach requires good faith by all parties, that the entire truth be revealed by the applicant and that any conditional approval be strictly honoured. The recent fail-safe decision by the BSAC to withdraw permission to dive from all diabetic divers was an example of panic action best regarded as a reflex reaction rather than cortically induced, for those involved had already proved their actual safety and were experienced, careful divers. Nowadays epileptics and diabetics are often in legal possession of driving licences, so that day may yet dawn when carefully selected divers with such troubles will be able openly to attend for diving instruction. Our standards must be self evidently for the good of the person involved if we are to avoid a developing "sly diving" fraternity.

What guidelines should there be for the different grades of diving being undertaken now and in the future? Surely they can be divided into Absolute NO; You'd better not; There are better choices than diving for you; and Go to it Chum! Undoubtedly an uninspiring Grade notation would replace such descriptive terms, but the intention would be the same.

The absolutes would be either Psychological or Physical in nature. At present the diving Instructors de facto try to eliminate the first group, while the training itself seeks to upgrade purely physical deficits. The Medical Conditions are those where loss of clear consciousness may occur, barotrauma of upper or lower respiratory tract is likely to occur and be serious, or dyspnoea of effort can cripple the diver in a stress situation (eg. Cardiac and Asthma cases). The relative contraindications are non persistent infections and remediable ENT problems: in the future some may include Asthma, Epilepsy and Diabetes. The significance afforded to a perforated ear drum in a Hard Hat or 1 ATA rig diver will be less than should be a scuba diver. However the discovery in an experienced diver of a perforated drum of long standing should greatly reduce the adverse rating it attracts, supposing such a situation does exist. One the principle of "horses for courses" there will be some cases where Audiometry, Vitalograph, Long Bone X-ray Surveys, Oxygen Sensitivity, ECG, EEG, or full blood check will be essential elements on which assessment will be based.

The decision concerning which special tests, if any, are required by sports divers is a vexed one now receiving overdue consideration by non-medical bodies. There is the need to face this problem openly, to demonstrate to a somewhat sceptical diving population that it is their interest, to reduce morbidity, to have a "medical" and that one from a doctor well versed in the problems facing divers makes more sense than a "quickie" from an obliging cove down the road who equates fitness with footy toughness. With the present trend for the disabled to attempt everything, however inappropriate, it is necessary to be certain of our reasons for saying NO to anyone.

The provision of a graded system of diving fitness, a seemingly revolutionary concept which may soon be regarded as the obvious solution, would make it easier to make a logical defence of special tests. It should be remembered at all times that an experienced, trained diver of uncertain health, diving with full observances of advised diving procedures, is a better life risk than an Olympic swimmer who thinks anyone can dive without instruction.

It is suggested that discussion centre on the following points:

- a. Is a Medical Examination necessary or only a good idea for divers.
- b. Can all doctors give an adequate service or should there be a need to demonstrate a special interest in Diving Medicine.
- c. Should there be one, or several, Fitness grades.
- d. Suggest absolute, relative and debatable contraindications to diving.
- e. Can it be left to the diver and/or the diving Instructor to decide, after reading a Check List, whether to submit to a "Medical".
- f. Consider the information sources available to decide on the above questions. Are they adequate for a definitive decision?

A LEECH TO REMEMBER

Brian Wagstaff

On a recent course of basic scuba instruction conducted in the Mount Gambler area, I utilised Ewens Ponds for some of the dives. During one training session I encountered the nemesis of all diving instructors - ear problem in a student.

The student had had problems with ear clearing in the first Pond at Ewens and after leaving the water complained of a "fuzziness" and partial deafness in one ear. I asked her to cover her good ear and then listen - poor hearing confirmed her stated symptoms. To my consternation she then told me that the ear was bleeding also! A classic case of ear barotrauma thought I, feeling very worried indeed.

Wrong! Though you would also be forgiven for thinking so.

On closer examination (of the ear) I encountered a leech, engorged with blood, happily on its way out. No wonder the unfortunate student felt a bit deaf. It seems that the leech crawled inside her hood and latched onto the wall of her outer ear canal, causing the problem.

The moral of this story is to stay off the bottom and in clear water. Incidentally, it was a case for immediate hospitalisation; the bleeding took two days to stop even with packing and treatment.

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