

All plenary speeches and discussions were audio-taped, and transcripts are being made. Eventually, the proceedings will appear as a hard bound book that will be generally available.

## Reference

- 1 Shields TG, Minsaas B, Elliott DH and McCallum RI. *Long term neurological consequences of deep diving*. Proceedings of a workshop organised by the EUBS and the NPD, Stavanger 1983.

*Professor Otto I. Molvær works both at NUTEC and the Department of Otolaryngology, University of Bergen. His address is NUTEC, P.O.Box 255, N5034 Ytre Laksevåg, Norway.*

*The above is an alternative view of the conference reported on by Dr Carl Edmonds in the last issue.*

## SCUBA DIVING MEDICAL EXAMINATIONS: NUMBERS AND COSTS

Jeffrey Wilks

### Introduction

The continuing debate about scuba diving medical examinations has received attention in recent months. Essentially the debate has been about General Practitioners' (GPs) training and qualifications to conduct diving medicals. Some argue that these examinations are specialised, and that only GPs with specific training in underwater medicine should conduct them. In support of this view, a 1985 study of 364 Queensland doctors involved in the assessment, advice or treatment of divers revealed that many were unable to match eight common diving accidents with their major treatments. From the specialists' point of view, there were also a number of important screening tests not routinely performed by GPs in that study.<sup>1</sup>

Until recently, Queensland was the only state in Australia where entry level scuba diving candidates were required to undergo a medical examination prior to using self-contained underwater breathing apparatus (Scuba). This requirement was initially part of the Workplace Health and Safety Act 1989, and is now included in the Code of Practice for Recreational Diving at a Workplace.<sup>2,3</sup>

In other parts of the country divers currently comply with Australian Standard 4005.1 (published by Stand-

ards Association of Australia, 16 April, 1992) which also requires a medical examination prior to using scuba equipment as part of entry level certification training.<sup>4</sup> The difference in Queensland is that a "diving medical practitioner" is defined as a "medical practitioner who has completed a course in diving medicine approved by the Board of Censors of the South Pacific Underwater Medicine Society (SPUMS)." Under Australian Standard 4005.1 any registered medical practitioner can perform the diving medical examination, though the Standard does recommend that the doctor be one who has completed an approved course of training. Since this is only a recommendation, many dive centres continue to use medical practitioners who have experience in diving medicine, but may not have attended a formal training program.

At the present time the AMA has adopted the view, in support of Australian Standard 4005.1, that "knowledge and experience" in conducting diving medicals is all that is required from a GP, and while specialised training is desirable, it should not be mandatory.

In a letter outlining the AMA position on diving medicals, Wilkins<sup>5</sup> asked about the numbers of regular or occasional sport scuba divers throughout Australia, and how often did SPUMS believe medical examinations should be performed for them? The actual number of diving medicals that are required in Australia each year has not been discussed before, so the first aim of this paper is to provide the relevant figures.

### Australian Divers Requiring a Medical Examination

The majority of diving medical examinations conducted in Australia are for new divers entering training to gain their open water certification. This entry level licence allows them to dive in buddy pairs to a recommended maximum depth of 18 metres, in fair weather conditions, in the area where they were trained. AS 4005.1 recommends that whenever divers encounter a new diving environment they should seek orientation to the new conditions. Since certification cards do not have an expiry date, the current situation is that a recreational diver is only required to have one medical examination to obtain his or her initial licence. There is no requirement for regular check-ups thereafter.

Based on figures provided by the four main Australian scuba training agencies (NASDS, NAUI, PADI, SSI) there were 54,153 new open water certifications issued during 1991. Since all new divers technically require a medical examination, a similar number can be anticipated each year. In addition, there were 19,242 other certifications issued during 1991, ranging from advanced and specialty ratings through to leadership qualifications (eg. divemaster and instructor).<sup>6</sup> Many of these divers may be requested to gain a medical clearance before taking their continuing education course. However, as noted above,

TABLE 1

**A COMPARISON OF PRICES FOR RECREATIONAL DIVING MEDICAL EXAMINATIONS**

Price (\$)	Actually charged by 50 SPUMS members	Thought reasonable by 50 dive shops
20	-	3
25	-	5
28	3	-
30	1	9
35	2	6
36	1	-
40	-	11
45	6	2
50	6	10
55	4	1
57	2	-
60	10	1
64	1	-
65	4	2
70	1	-
75	4	-
80	1	-
90	1	-
100	2	-
150	1	-
Average price (mean)	\$59	\$39
Most frequent price (mode)	\$60	\$40

there is no current requirement for regular check-ups of certified recreational divers. The exceptions to this are divemasters and instructors, who, by Queensland legislation, are expected to have an annual medical examination. The estimated number of examinations that would be required in Australia each year is therefore around 75,000.

### Price Considerations for Diving Medicals

The second topic that has received virtually no attention in the debate about diving medical examinations is that of price. Consumers are very conscious of the price charged for various goods and services.

In a previous study, the differing views of instructors and certified divers about a "reasonable price" to pay for scuba refresher programs was identified as a major barrier to diver involvement.<sup>7</sup> To determine whether similar discrepancies exist with the price of diving medical examinations a small study was conducted.

To gain information about the prices charged for a recreational diving medical examination a telephone survey was made of 50 randomly selected doctors practising around Australia. The names were taken from the list of doctors who did diving medicals published by SPUMS in 1991.<sup>8</sup>

Table 1 presents the findings of the study. Prices ranged from \$28 in Cairns, through to \$150 by one doctor in Victoria. The average price for a diving medical examination was \$59, while the mode or most frequently charged fee was \$60. These prices did not include any specialised tests that may be required beyond the standard diving consultation, which according to AS4005.1 does not necessarily include audiometry, although it is recommended. However it is likely that most of the doctors contacted would include audiometry which is considered necessary by SPUMS.<sup>9</sup>

In contrast, a second telephone survey of 50 Australian recreational diving companies revealed that operators consider \$39 to be an acceptable average price for a diving medical examination, with the most frequently suggested fee being \$40. The 50 dive operators were randomly selected from advertisements in trade publications, with all states and territories represented.

### Discussion

The estimate of about 75,000 diving medical examinations being required each year shows that there is a substantial market for this specialised service. Whether GPs without specific training in underwater medicine can perform the service adequately remains a topic for further research. However, one factor that does need to be considered is that of price, both in terms of what the customer is willing to pay, and what is an appropriate financial return for a medical practitioner's time and skills.

For a diving medical examination SPUMS members currently charge an average of \$60, or twice the price of a GP's regular consultation. Given that the cost of a diving medical cannot be claimed under Medicare, commercial dive operators consider \$40 to be a more reasonable price to pay for the service. The difference between the two groups is not large, but for operators in price sensitive markets (like backpackers) this difference may explain the current practice of shopping around for dive medicals.

Commercial operators are probably unreasonable in suggesting that a doctor should perform a diving medical examination for as little as \$20, since the medical detailed by Rooney takes at least 30 minutes to perform.<sup>10</sup> The recommended price for a life insurance medical is \$77, which, as it takes much the same time, has been used in the past to determine the fee for a diving medical. On the other

hand, there are some vast differences in current fees, with some doctors charging 5 times the price of their colleagues for supposedly the same service. No price fixing was evident!

To place the price of a medical examination in perspective, the average cost of an open water course in Australia is \$300.<sup>11</sup> A two tank boat dive is around \$85, while one day's hire for a full set of dive equipment is around \$50. In the context of these charges cost will remain a distracting factor in the important debate about diving medicals.

**References**

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 3 Division of Workplace Health and Safety. *Code of Practice for Recreational Diving at a Workplace*. Brisbane: Queensland Government Printer, 1992.  
 4 *Australian Standard 4005.1-1992. Training and Certification of Recreational Divers. Part 1: Minimum entry-level SCUBA diving*. North Sydney: Standards Association of Australia, 1992.

5 Wilkins PS. AMA position on diving medicals. *SPUMS J* 1993; 23 (1): 22-24.  
 6 Wilks J. Profiles of the travelling diver. In: Wilks J, Knight J, Lippmann J. eds. *Scuba safety in Australia*. Melbourne: JL Publications, 1993, 64-75  
 7 Wilks J. Price structure and marketing of scuba refresher courses. *Sources* 1992; 4 (6): 46-48  
 8 *SPUMS members who perform diving medicals in Australia*. Published as a supplement to *SPUMS J* 1991; 21 (3):  
 9 *The SPUMS Diving Medical*. Published as a supplement to *SPUMS J* 1992; 22 (2):  
 10 Rooney M. Medical preparation for diving the Great Barrier Reef. *SPUMS J* 1993; 23 (1): 27-29  
 11 Esguerra R, Ashbolt L. and Callenbach P. *Report on a Study of the Australian Diving Industry*. Sydney: Dive Industry and Travel Association of Australia, 1989

*Dr. Jeffrey Wilks, PhD, is a psychologist and Senior Research Fellow at the Queensland University of Technology (QUT).*

*His address is Centre for Public Health Research, School of Public Health, QUT, GPO Box 2434, Brisbane, Queensland 4001, Australia.*

**SPUMS NOTICES**

**MINUTES OF EXECUTIVE COMMITTEE MEETING TELECONFERENCE**

held on 22.8.93 at 1800 Eastern Standard Time

**Present**

Drs D Gorman (President), C Meehan (Secretary), S Paton (Treasurer), J Knight (Editor), D Davies (Education Officer), C Acott and G Williams.

**Apologies**

Drs A Slark and J Williamson

**1 Minutes of the previous meeting**

These were accepted as a true record.

**2 Business arising from the minutes.**

2.1 Workshop at the 1995 meeting and guest speakers. The theme for the 1995 conference is to be Fitness For Diving. It was decided that this could be a good topic for a workshop and that the whole conference could follow the format of a workshop.

Suggestions for discussion topics were asthma (possibly including discussion on attitudes to diving and

asthma in different countries), ENT problems and some suggestions from the questionnaire (diving and the disabled, dive fitness re-accréditation, and diabetes).

The following speakers were suggested, Sandra Anderson, Andy Veale and David Dennison (respiratory physiology), Joe Farmer (ENT); Nick McIver, David Elliott, Phil Bryson and Fred Bove (fitness to dive).

Choices to be made at the next meeting

- a The whole conference in the form of a workshop on Fitness to Dive.
- b Theme: Fitness to Dive and Workshop: Asthma:
- c Theme ENT Problems and Workshop: Fitness to Dive

2.2 Theme and workshop topics for future meetings  
To be discussed at a later meeting

2.3 Rabaul ASM

2.3.1 Computer manufacturers are very interested in attending the conference.

2.3.2 Diving depth limit set at 39 m (130 feet).

2.3.3 A lot of interest in the conference has been expressed from the USA. They should get