LETTERS TO THE EDITOR

DIVER EMERGENCY SERVICE

Hyperbaric Medicine Unit
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28/4/97

Dear Editor

It should now be known and appreciated by the recreational diving and diving medical fraternity that the funding for the Divers Emergency Service Australia (DES Australia) telephone (1-800-088-200 or +61-8-8373-5312 from outside Australia) is now being provided, with no strings whatever, solely by Divers Alert Network South-East Asia Pacific (DAN SEAP). This has been so since 1996, and DAN SEAP have so far contributed a total of $Aust 5000. Funding directly from recreational diving sources has long since ceased.

DAN SEAP generates its funds from membership subscriptions from divers, together with the income it earns from its excellent DAN SEAP Oxygen Courses for divers.

DES Australia is manned 24 hours a day, 365 days a year by voluntary, unpaid senior diving medical and professional ambulance expertise, and currently deals with about 500 calls annually from all over the Australian and Indo-Pacific regions.

It is quite certain that, but for DAN SEAP, DES Australia would have foundered many months ago, as divers, who are happy to use this service around the clock without a thought as to the cost and time involved, now contribute (with a few exceptions) not a jot to its financial survival. Reflecting the mindset of the dependent society we now live in, we know that many divers think that "the government" pays for DES Australia, and for the doctors and ambulance persons who man it! Some users of the service also expect DES call records to be available and precise (which they usually are!) when they call back months or years later for their own medico-legal purposes.

DES Australia is one of the world's original and most successful emergency diving medical services, and Australian Diving Medicine has every right to be proud of its contribution to diving safety to date. Many Australian (and beyond) divers owe their successful outcome from their diving injury directly to the existence and early response of DES Australia.

While acknowledging the past episodic support of some factions of the recreational diving industry, as time and experience have now clearly shown, expectation of reliable direct funding from recreational diving ranks is fruitless. Divers should now appreciate that the best way they can contribute to the maintenance of the DES Australia facility is to undertake and encourage regular membership of DAN SEAP, and to do the DAN SEAP Oxygen Course.

John Williamson
Director

Key Words
Diver Emergency Service.

PATENT FORAMEN OVALE AND DECOMPRESSION ILLNESS

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6/12/96

Dear Editor

Two articles[1,2] in the September 1996 issue of the SPUMS Journal considered the role of patent foramen ovale (PFO) in aetiology of decompression illness. I consider that your journal has allowed a proponent of one view to attempt to undermine research suggesting a contrary theory by use of unsubstantiated and unreferenced statements. Dr Bove stated that "Some people argue that the way Wilmshurst did his statistics was not quite valid." Which people and in what way?

Those who have read the original papers quoted by Dr Bove will be aware that there are numerical misquotations and technical errors in the text and meta-analysis. Most glaring is the suggestion by Dr Bove in his meta-analysis that the paper by Moon in the Lancet[3] included 176 divers who did not have decompression illness. This is untrue. The paper by Moon and colleagues had no control group. Moon et al. compared the prevalence of PFO in divers with decompression illness with the prevalence of PFO in two non-diving populations reported in studies from other centres, one of which was a study of prevalence of PFO in stroke patients. It is spurious for Dr Bove to classify individuals who were not exposed to risk, because they did not dive, as "No DCS". It is ironic for Bove to question our statistical analysis. Bove's meta-analysis was also far from comprehensive, since it contained less than half the publications on prevalence of PFOs in bent divers available at the time that his presentation was made. The limit on the number of references imposed on

letters published in SPUMS journal prevents me quoting them all.*

Incomplete literature review also means that Dr Langton has failed to mention publications[4-6] which challenge the validity of the paper[7] and refute the letter[8] by Cross and colleagues which he quoted. Langton suggests that small numbers and subgroup analysis limit the validity of observation by me and colleagues in our Lancet paper.[9] At the time, our paper was the largest investigation of the role of shunts in the aetiology of decompression illness and was the only one which was controlled; in distinction from earlier observational studies. We have since extended and confirmed the number of observations in over 300 divers reported in a further 6 publications. Our subgroup analysis was entirely valid, because it was predetermined, as mentioned in the paper, for the reasons described. We required significance to be established at the 1% level (rather than at 5%) to allow for the 4 subgroups, and in most cases of significance we found $p<0.001$.

Dr Bove expressed the opinion that if PFOs are going to cause trouble it would be in the situation of multiple days of repeat diving. Like much in his article this opinion is contrary to the scientific data.[10] Most of Dr Bove's article on "Cardiovascular problems and diving" is personal opinion unsupported by references.

Peter Wilmshurst
Consultant Cardiologist

References

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7 Cross SJ, Evans SA, Thomson LF, Lee HS, Jennings KP and Shields TG. Safety of subaqua diving with a patent foramen ovale. *Brit Med J* 1992; 304: 481-482
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9 Wilmshurst PT, Byrne JC and Webb-Peploe MM. Relation between interatrial shunts and decompression sickness in divers. *Lancet* 1989; ii: 1302-1306
10 Wilmshurst P, Davidson C, O'Connell G and Byrne C. Role of cardiorespiratory abnormalities, smoking and dive characteristics in the manifestations of neurological decompression illness. *Clin Sci* 1994; 86: 297-303

Key Words
Cardiovascular, decompression sickness, letter.

* *The Instructions to Authors allows four references for letters which should be of 400 words only. Dr Wilmshurst's first version of his letter contained 22 references, 2 more than are considered a reasonable number for an original article. He was asked to reduce his letter to under 800 words and ten references.*

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27/1/97

Dear Editor

Thank you for the opportunity to reply to Dr Wilmshurst's comments. For your readers' convenience I have used the same numbers as Dr Wilmshurst has used for references common to our two letters. The one reference not used by Dr Wilmshurst is numbered 11 to stay in the same sequence.

The "incomplete literature review" refers to three Letters to the Editor by Dr Wilmshurst,[4-6] commenting on the publications of Cross et al.[7,8] The letters themselves do not contain additional information and hence were not referenced. The two included references from Cross et al. contained observational information which is relevant to the discussion, namely the incidence of patent foramen ovale (PFO) in a small control group of divers,[7] and a further uncontrolled series of the incidence of PFO in divers with neurological DCI.[8] I have paraphrased one of the omitted references in discussing relative and absolute risks of DCI, and have referenced this to another of Wilmshurst's articles.[11] Interestingly, this editorial makes no reference to the work of Cross et al.[11]

My comments regarding "subgroup analysis ... validity" is in reference to the historically based division of patients into those with "risk factors for decompression sickness" versus "safe" dives. I have not questioned Wilmshurst et al.'s predetermined clinical sub-groupings. The numbers of patients with joint pain alone (6) or rash alone (2) are small, and meaningful statistical comparison is not possible.