

LETTERS TO THE EDITOR

IN-WATER RECOMPRESSION

Ichthyology Collection
B P Bishop Museum
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29/7/97

Dear Editor

I thoroughly enjoyed the article¹ by Dr Elliott in the June 1997 issue of the SPUMS Journal, concerning the treatment of decompression illness following mixed gas recreational dives. Dr Elliott states that "in-water recompression using only compressed air is generally thought to have worsened more cases than it has cured" (p 92). I completely agree, this belief does, indeed, seem to be generally held by many hyperbaric medical specialists. What eludes me, however, is upon what evidence this general belief is based.

Farm, Hayashi and Beckman² surveyed diving fishermen in Hawaii and gathered information on incidents of in-water recompression (IWR) performed in response to symptoms of decompression illness (DCI). Of the 527 cases of IWR, all of which were performed with compressed air (Hayashi EM, personal communication 1994), 462 (87.7%) were deemed "successful" (i.e. no perceivable DCI symptoms after IWR), 51 (9.7%) resulted in detectable improvement but with mild residuals and the remaining 14 (2.7%) involved "incomplete recovery" such that the divers sought subsequent treatment in a hyperbaric facility. In my own review of published and unpublished cases of IWR (pages 154-169), 81 of the 86 cases were performed using only compressed air. Of these, 45 (56%) resulted in no detectable symptoms, 27 (33%) resulted in clear reduction of symptoms, 5 (6%) yielded ambiguous outcomes and only 4 cases (5%) involved detrimental outcomes. Only two cases involved exacerbation of symptoms, the other two divers never returned to the boat and the causes of their deaths are unknown. Even if the ambiguous cases are combined with the detrimental outcomes, these numbers hardly support the conclusion that air-only IWR has worsened more cases than it has cured. Moreover, in my informal interviews with diving fishermen in Hawaii and elsewhere, I have found that most of these divers have performed air-only IWR as a routine part of their profession (conservatively several hundred cases) with overwhelming success.

I want to make it clear that I do not advocate the use of air as a breathing gas to perform IWR. Indeed, in our review article on this subject,³ Dr Youngblood and I adamantly discourage this practice. The advantages of

breathing oxygen in response to DCS symptoms (whether on the surface or underwater) are undeniable. Our position is that if divers will ever consider attempting IWR, the proper equipment and protocol should be established in advance. However, if we are to assess the value of immediate recompression in response to the onset of DCI symptoms (regardless of breathing mixture) accurately, we need to maintain an honest and accurate perspective on the practical experience revealed by actual IWR cases. If a substantial record of detrimental outcomes to air-only IWR exists, I would genuinely want to be made aware of it. If not, perhaps it is time for the hyperbaric medical community to re-evaluate its beliefs on this particular issue.

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Collections Technician

References

- 1 Elliott D. Treatment of decompression illness following mixed gas recreational dives. *SPUMS J* 1997; 27 (2): 90-95
- 2 Farm FP, Hayashi EM and Beckman EL. *Diving and decompression sickness treatment practices among Hawaii's diving fishermen*. Sea Grant Technical Paper UNIHI-SEAGRANT-TP-86-01. Honolulu: Sea Grant, 1986
- 3 Pyle RL and Youngblood DA. The case for in-water recompression. *AquaCorps J* 1995; (11): 35-46

Key Words

Air, decompression illness, immersion, treatment.

DIVING MEDICAL EDUCATION IN THE COOK ISLANDS

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To all SPUMS members and interested parties

Dear Editor

SPUMS NZ has been contacted about a diving related death of a pearl diver in the Northern Group of Cook Islands. Medical advice to the diver and support personnel at the accident was provided via phone to Rarotonga by a doctor untrained in diving medicine.