

IN-WATER RECOMPRESSION

48th Workshop of the Undersea and Hyperbaric Medical Society.

Edmond Kay and Merrill P Spencer, Chairmen and Editors. Undersea and Hyperbaric Medical Society, 10531 Metropolitan Avenue, Kensington, Maryland 20895, USA. Published 1999.

Price from the publishers \$US 20.00. Postage and packing extra. Credit card orders may be placed by phone on +1-301-942-2980 or faxed to +1-301-942-7804. E-mail <uhms@uhms.org>.

This 48th Workshop of the Undersea and Hyperbaric Medical Society, was held on 1998/5/24 (to use the new international standard for dates) as a tribute to the late Dr Ed Beckman. Carl Edmonds opened the batting by describing the Australian underwater oxygen treatment for DCS, introduced in late 1960s to treat seriously affected divers in remote areas, many, many hours flying time away. Frank Farm from Hawaii presented statistics from Hawaii where many divers had three or four hour boat trips to shore so chose to treat themselves at sea using air, with a remarkably high recovery rate seeing that increasing paralysis seems to have been necessary for the diagnosis of DCS. Commander J M Chimiak, MC USN, whose first name escaped the editors, spoke on the USN and NOAA routines for in-water recompression. The USN considers that hyperbaric oxygen, using a closed circuit oxygen rebreather is the method of choice if in-water recompression (IWR) has to be carried out. However the USN Diving Manual states that "recompression in the water should be considered an option of last resort, to be used only when no recompression facility is on site and there is no prospect of reaching a recompression facility within 12 hours". Drs John Hardman and Leticia Smith presented evidence that immediate in-water recompression (IIWR) of neurological DCS has a high success rate, enough for them to "believe that safe IIWR protocols can now be used for the treatment of divers suffering from decompression sickness". Their definition, based on experimental work, of "immediate" was "within 30 minutes".

So far three speakers definitely for in-water recompression and one accepting that it might have a small place. The next speaker, Paul Webb, gave a wide ranging and very interesting discussion of heat loss and its effects. It is perfectly possible for well wet suited working divers to lose considerable amounts of heat, enough to interfere with mental function but which does not produce a low core temperature.

As with all workshops the discussion period after the morning's presentations was illuminating. Some clinicians wanted to know how many of the cases of IWR described had been supervised by a doctor. This in spite of mention of remote sites 12 or more hours away by air or 3 or 4 hours by boat from the shore. The cases described are very seldom seen by doctors because they are treated long

before a doctor could reach them. This also applies to oil rig diving. Treatment is rapid, within 30 minutes or less, and very successful. But rapid treatment is never seen in hospital hyperbaric facilities, unless it is an inside attendant who is diagnosed promptly.

In the afternoon Ed Thalmann spoke about oxygen toxicity during in-water recompression. No figures were offered of the occurrence of oxygen toxicity during such treatment. His paper was, however, a good summary of how the USN recommends treating oxygen convulsions when using closed circuit oxygen rebreathers. His conclusions, printed in bold type, were "in-water recompression should never be attempted except as a treatment of last resort when it is certain that delaying recompression might put the diver in significant danger, and when the procedure can be done safely by trained individuals and will not delay evacuation to a recompression facility". The discussion on this paper made it quite clear that the never in the above statement should have been underlined for even more emphasis!

The next speaker was Richard Pyle who discussed technical diving practices and the need for these divers to be ready to undertake IWR as when problems arise in such a dive DCS is often of rapid onset and progressive. As readers of the Journal will remember Pyle and Youngblood published a large series (500 odd) of both air and oxygen IWR treatments with about 90% completely relieved of their symptoms. The discussion was largely devoted to Richard's and his buddy's experiences with DCS being treated with IWR.

The final speaker was Richard Moon, who was a guest speaker at the 1999 ASM. Richard is an advocate of doctors treating all cases of DCS in hospital chambers and has no place for recompression out of hospital. The final discussion was introduced by Dr Robert Overlock and is a pretty fair summary of the pros and cons. The ten pages of final discussion are well worth the price of this book. I cannot summarise it in a review, so readers will have to buy the book and guess which of the unidentified speakers is Alf Brubakk, the other 1999 guest speaker who is a believer in there being a place for immediate recompression. Not surprisingly, no consensus on the place of IWR was reached.

The only faults that can be found in this book are a few misprints of diving equipment names and the occasional omission of a word or two in a sentence which has the effect of giving the first sentence of a comment a different meaning from that derived from the following sentences.

John Knight

Key Words

Accidents, book review, decompression illness, immersion, meeting, oxygen, safety, thermal problems, treatment.