

## CARDIAC SHUNTS AND POSTURE

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23 January 1990

Sir

In the October-December 1989 issue there was discussion of the effect of posture on right to left shunting of blood in divers who have intracardiac shunts and what effect this might have on decompression sickness.<sup>1,2</sup> Both papers mention that with head down and legs raised, the right atrial pressure is increased and the authors speculate that this could increase paradoxical gas embolism.

The flow across interatrial shunts is determined mainly, but not entirely, by the pressure gradient across the septum. In most instances, raising the legs, alters right and left atrial pressures similarly, but coughing does not. Therefore an individual in the head-down position will not necessarily increase the size of an interatrial shunt if one is present, but he may do if the weight of viscera on his diaphragm makes respiration laboured. Our published observations on altering posture of divers with demonstrable shunts, show that the head-down position has no consistent effect on shunt size.<sup>3</sup>

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### References

- 1 Gorman DF, Helps SC. Foramen-ovale, decompression sickness and posture for arterial gas embolism. *SPUMS J* 1989; 19 (4): 150-151.
- 2 Davies D. Patent foramen ovale. *SPUMS J* 1989; 19 (4): 151-3.
- 3 Wilmshurst PT, Byrne JC, Webb-Peploe MM. Relation between interatrial shunts and decompression sickness. *Lancet* 1989; ii: 1302-1306.

## DIVING AND CENTRAL NERVOUS SYSTEM DISEASE

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Health and Safety Executive  
Greyfriars House, Gallowgate  
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UK  
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It is clear that in the carrying out of diving activities, both of a recreational and commercial nature, a small number of people each year contract acute, and in some cases long lasting, damage to the central nervous system.

This is a matter of concern because of the consequences for young lives and particularly for future employment prospects.

So far as the commercial sector is concerned the number of cases is small, but the individual consequences for future employment in diving are great.

Just as the Department of Energy is concerned to regulate diving practice to reduce the incidence of cases, we in HSE are concerned to discover whether there are predictive factors which can enable individuals to be advised against undertaking commercial diving, or particular forms of commercial diving activity, or in the event of "early warning" to be removed from continued diving work.

To these ends discussions are in progress with the Diving Medical Advisory Committee and other interested parties to agree on a research programme in which divers attending for medical assessment at centres in the United Kingdom may be invited to participate.

It is intended that the work done in the United Kingdom will be correlated with work of a similar kind being undertaken in other countries.

## HYPERBARIC FACILITY FOR WESTERN AUSTRALIA

Hyperbaric Medicine Unit  
Fremantle Hospital  
Fremantle, 6160  
Western Australia  
11 December 1989

Sir

The new Hyperbaric Medicine Unit for Fremantle Hospital has opened, and within its first week was involved in the management of three cases of decompression sickness. It forms another link in the chain of hospital based Clinical Hyperbaric Medicine Units that is being established around Australia. This two chamber, three compartment unit is proving very flexible, and is already treating routine clinical cases.

The Unit has developed a close working relationship with the consultants in the Emergency and Intensive Care Departments at Fremantle Hospital, all of whom have undergone training courses in the recognition and early management of dysbaric illness, and other acute problems requiring emergency hyperbaric treatment.

The Chief Hyperbaric Technician is Tom Nalpon, lately of the Alfred Hospital Hyperbaric Unit, Melbourne.

A data entry program has been established both for diving and non-diving Hyperbaric Medicine cases.

Harry F Oxer  
Director