GLEANINGS FROM MEDICAL JOURNALS

The following abstracts have come to the notice of the editorial staff. They are printed to bring them to the attention of members of SPUMS. They are listed under various headings of interest. Any reader who comes across an interesting article is requested to forward the reference to the Journal for inclusion in this column.

BAROTRAUMA

Sahni TK, Lamba PS and D’souza J.
Localized obstructive pulmonary emphysema during diving training. *Med J Armed Forces India* 1989; October

A case of localized obstructive emphysema in a 23-year-old diving trainee is reported. Clinical presentation and radiological features were the key to the diagnosis. The mechanism of development of this condition during diving due to pressure changes, along with its implications are discussed.

DECOMPRESSION SICKNESS

Weathersby PK, Survanshi SS and Nishi RY.

The difference in risk of decompression sickness (DCS) between dry chamber subjects and wet, working divers is unknown and a direct test of the difference would be large and expensive. We used probabilistic models and maximum likelihood estimation to examine 797 dry (and generally resting and comfortable) and 244 wet (and generally working and cold) chamber dives from the Defence and Civil Institute of Environmental Medicine, supplemented with 483 wet (working, cold) dives from the Navy Experimental Diving Unit. Several analyses considered whether dry and wet data were distinguishable using several models, whether models obtained from one set of exposure conditions would correctly predict the occurrence of DCS in the other condition, and whether a single wet-dry risk difference parameter was different from zero. Although the two conditions may not produce identical risks, immersion appears to change relative risk of DCS by less than 30% and certainly involved less than a doubling of DCS risk. Uncontrolled differences in exercise and temperature stresses unavoidably complicate interpretation. Several methods are presented to extrapolate results from dry-test subjects in decompression trial to expected at-sea performance.

From

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Lee HC, Niu KC, Chen SH, Chang LP and Cho SH.

Before 1982 the standard procedure at our facility was to treat type II decompression sickness (DCS) with United States Navy (USN) treatment table 6A rather than table 6. However, we were sometimes confronted with recurrences during ascent from 165 to 60 ft, which could necessitate shifting to the lengthy USN treatment table 4. Therefore we modified USN treatment table 6A (the modification we term table 6A1) by extending the bottom time up to 60 min and adding 3 more stops (120 ft for 1 min, 80 ft for 8 min, and 70 ft for 15 min) from 165 to 60 ft so as to minimize recurrences during treatment. Using data collected from 1982 through 1986, we conducted a retrospective study of 128 cases of type II DCS which received treatment on either table 6A or modified table 6A1, followed by several courses of hyperbaric oxygen (HBO) therapy if residual symptoms existed. The clinical outcome revealed a cure rate of 21 out of 31 (67.7%) in the 6A group and 74 out of 97 (76.3%) in the 6A1 group (P > 0.05). Among those cases responding completely to the first recompression, the cure rate was 8 out of 31 (25.8%) in the 6A group as opposed to 49 out of 97 (50%) in the 6A1 group (P < 0.05). The recurrence rates for 6A and 6A1 were 5 out of 31 (16.1%) and 4 out of 97 (4.1%), respectively (P < 0.05). This suggested that our modified table 6A1 not only improved the cure rate but reduced the possibility of recurrence during treatment travel from 165 to 60ft.

DROWNING

Simcock AD.
The resuscitation of immersion victims. *Appl Cardiopulmonary Pathophysiol* 1989; 2: 293-298

This paper reviews the outcome of 150 victims of drowning and near-drowning brought to a district general hospital close to the sea. The pathophysiology of the drowning process is reviewed. Patients were treated immediately on arrival by a resuscitation team. Respiratory difficulties were relieved as quickly as possible. Common problems were hypoxia, hypothermia, acidosis, and low blood pressure. The apparently dead were assessed very carefully. The results show an excellent prognosis for those