

partners of two general practices in East Anglia, that the increase in lifespan which has resulted from advances in medical science and public health should not be years of a "prison sentence" but should be enjoyed.

Surely to advise elderly patients against going on holiday simply because they may fail to take some necessary medicine would be a complete travesty of this philosophy?

VIRGINIA ALUN JONES

Addenbrooke's Hospital,  
Cambridge

### Preventing postoperative thromboembolism

SIR,—We were interested to read the letter of Professor C A Wells (14 July, p 129) on "standing Fowler on his head." The apparent effect of "one pillow, nine-inch blocks at the foot of the bed, active leg exercises, and deep breathing" is that of reduction of the incidence of postoperative pulmonary embolism, although he does not present figures to support this. Presumably such an effect would be mediated by reduction in venous stasis, the third factor in Virchow's triad. With the abundance in recent years of trials on drugs which produce biochemical changes to reduce thromboembolism this area of research has perhaps been rather overlooked.

Professor Wells excludes "orthopaedic prosthetic procedures," but we think that his comments may also be valid in this area. After total hip replacement thromboembolism is particularly troublesome, and so at Gartnavel General Hospital, Glasgow, the fibrinogen uptake test and venography have been used since 1975 in the detection of deep venous thrombosis after hip replacement. During anterior-posterior screening of the venogram in these patients we noticed what appeared to be "hold-up" of the contrast at the level of the prosthesis (fig 1). This was a constant feature. Interested in this, we carried out a number of venograms, which included a lateral "shoot-through" film at the level of the hip prosthesis (fig 2). We then realised, although we should have known it already, that even if the patient's leg is supine, there is a 30° gradient which the "deep" venous blood must ascend, from behind the knee

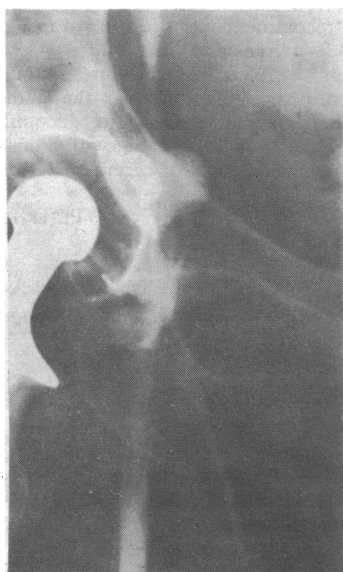


FIG 1—Anteroposterior view of venogram.

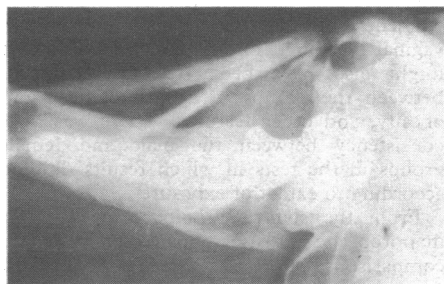


FIG 2—Lateral view of the femoral vein containing contrast.

(the popliteal vein) to the front of the hip (the superficial femoral vein). The summit of this incline is the pelvic brim, after which the external iliac vein descends into the pelvis (fig 2).

The anatomy of this region thus predisposes to venous stasis in the leg. The presence of the tight inguinal ligament may also contribute. Insertion of a hip prosthesis may worsen this obstruction to flow, by local haematoma, oedema, or even excess cement, by direct impingement. In support of this we have found deep venous thrombosis to be commoner and more extensive in the operated leg.<sup>1</sup>

The literature on this aspect of the pathogenesis of deep venous thrombosis after hip surgery is scanty, but Hartman *et al*<sup>2</sup> showed a reduction in deep venous thrombosis after hip fractures in patients in whom the bed end had been elevated by 20-25°. Perhaps hip replacement patients should also be nursed in this way.

Victoria Infirmary,  
Glasgow

JAMES R LOUDON

GERALD MCGARRITY  
IAN G KELLY  
P S RAE  
RAMSAY VALLANCE

Gartnavel General Hospital,  
Glasgow

<sup>1</sup> Loudon, J R, *et al*, *British Journal of Surgery*, 1978, **65**, 616.

<sup>2</sup> Hartman, J T, Altner, P C, and Freeark, R J, *Journal of Bone and Joint Surgery*, 1970, **52A**, 1618.

### Umbilical hernia in child swimmers

SIR,—The major exertion in swimming apart from the use of the limbs is in breathing control. Forced exhalation is produced by simultaneous contraction of the diaphragm and abdominal muscles in the short time that the head is above water in the swimming cycle.

As the parent of two children who are keen swimmers I often attend their training sessions. A year ago I saw a 9-year-old boy lifted from the water during a hard training session with excruciating abdominal pain. I was told that this had happened to him several times in the preceding months.

On examination there was gross spasm of the abdominal muscles, respiration was rapid—from his exertion—and splinted, and pain was referred to the umbilicus. Within the umbilicus I could feel a small, tense hernia. We laid him flat and persuaded him to relax, and as his breathing excursions lessened I reduced the hernia. The boy was referred to Mr David Dunn, who repaired the hernia.

I have recently seen the exact pattern again in another child. The important physical sign is the recognition of the hernia during violent physical exercise. Recognition of the cause of

the pain is important to the child, who might otherwise be unjustly labelled as a "functional" complainer. In years of swimming coaching I have never seen this malady in adult swimmers. Increasing emphasis on child "age group" competition in swimming clubs makes it important to recognise this cause of umbilical hernia.

A wider issue is also called to mind. In 30 years of swimming I have never seen a case of abdominal "cramp" in a swimmer, though it looms large in the folklore of deaths by drowning. Could it be that the unrecognised hernia in years past could be the cause of this "cramp"? I would be interested to hear from correspondents on this matter.

F D SKIDMORE

Royal Aberdeen Children's Hospital,  
Cornhill Road,  
Aberdeen AB9 2ZG

### Diving and hypothermia

SIR,—The multifaceted safety structure built into diving, whether for sport, scientific research, commercial enterprise, or military goals, implies that the majority of diving accidents are multifactorial in origin. That hypothermia can be a major contributing factor has been known by divers for many years. Indeed, the 1966 edition of the British Sub Aqua Club Diving Manual stated, "Cold can be an insidious killer."<sup>1</sup>

On the basis of a study of cold water scuba diving, Davis and others<sup>2</sup> advocated the use of continuous deep body temperature monitoring for all extended diving in temperate or cold waters. Several of the subjects in this study became dangerously cold in water at 5°C in less than one hour but still persevered with their underwater tasks, their dives having to be terminated by the surface support team. In another study<sup>3</sup> the practicability of a monitoring technique based on an ingested temperature-sensitive radio pill was established for the umbilical diver.

The report by Drs M G Hayward and W R Keatinge (5 May, p 1182) on symptomless hypothermia is most timely in highlighting once again a serious problem. However, they are incorrect in assuming that "standard practice during deep dives is to flood the suit continuously with warm water. . . ." The vast majority of diving conducted around British and New Zealand coasts is on air-using scuba apparatus and utilises either neoprene wet suits or constant-volume dry suits without any form of external heating. Under these circumstances the problem becomes one of educating the diver if such fatalities are to be avoided.

F M DAVIS

Department of Anaesthesia,  
Christchurch Hospital,  
Christchurch, New Zealand

<sup>1</sup> British Sub Aqua Club, *Diving Manual*, 5th edn. London, Eaton Publications, 1966.

<sup>2</sup> Davis, F M, Baddeley, A D, and Hancock, T, *Undersea Biomedical Research*, 1975, **2**, 195.

<sup>3</sup> Davis, F M, *et al*, in *Underwater Research*, ed E A Drew, J N Lythgoe, and J D Woods. London, Academic Press, 1976.

### Heatwave deaths and drugs affecting temperature regulation

SIR,—Surgeon Captain F P Ellis's letter (21 August 1976, p 474) regarding heatwave deaths and drugs affecting temperature