

three possibilities: the sick diver may be given basic resuscitation while being decompressed as quickly as seems safe and then can be treated as a normal casualty; or the doctor may enter the pressure chamber on the rig and give treatment there; or the patient may be transferred to a lightweight pressure chamber, transported to the mainland, and then transferred to a large chamber for treatment at leisure.

Medical opinion was unanimous that the first of these approaches would be preferable in most circumstances—appendicitis, perforated ulcer, and many other “emergencies” may be treated conservatively for several days with a high probability of success. Only when life is threatened by a condition such as intra-abdominal haemorrhage is surgical intervention vital; and, since a patient in that condition would almost certainly be unsuitable for transport by helicopter in a small pressure chamber, his best chance would come from operation in the cramped facilities on the rig.

In fact, there is as yet no combination of helicopter and lightweight chamber that could be used for the transport of casualties under pressure. The Association of Offshore Diving Contractors has been working on the project and within a few months two lightweight chambers should be available (one holding one man, the other four men). Nevertheless, their prime purpose is the rescue of divers under pressure should a rig have to be evacuated in an emergency. These chambers will be available for transport of casualties, and there is a compatible shore chamber at Dundee: within a year or two there will be another at Bergen in Norway. Theoretically, therefore, it will soon be possible to offer the medical services all three choices in dealing with sick divers; but unfortunately their co-ordination is still far from ideal.² While the big pressure chamber is at Dundee, the surgical teams who are on call for diving emergencies are based at Aberdeen—and they are drawn from university staff with a research interest in hyperbaric surgery. Both the NHS authorities and the Government have insisted that their responsibilities for medical care do not extend out to sea, and they have played no part in providing medical services for divers under pressure. Thus, on the few occasions hyperbaric facilities have been needed, the equipment used has been borrowed from the Royal Navy, a diving contractor, or a research institute.

The size of the North Sea operation and the depths at which the divers are working have made the medical challenge more obvious than anywhere else in the world, and indeed nowhere else is there a really efficient medical service for the treatment and evacuation of diving casualties. The specialist services must be provided by the NHS, for no one would expect the oil industry to build its own hospitals in Britain, as it has done in other, more remote, parts of the world. There is an opportunity here for research to be done to establish the best management of surgical emergencies under pressure, but formal arrangements must be made to co-ordinate the specialist medical and engineering services concerned. Anxiety at the meeting about this state of affairs was somewhat allayed by the news that a voluntary co-ordinating committee is being set up from the medical and commercial interests. This should complement the working party chaired by Admiral John Rawlins which is examining the problems for the Department of Energy. So far we have been lucky, and dramatic medical emergencies have been seen only on the TV series *Oil Strike North*. No one, however, can tell when the need will be genuine. Time is not on our side.

¹ *The problem of hyperbaric rescue in the North Sea and its possible solutions.* Society for Underwater Technology, 1 Birdcage Walk, London SW1H 9JJ.

² *British Medical Journal*, 1975, 3, 556.

Tests on overseas doctors

TRAB. Isn't that something to do with seeing if immigrant doctors can speak English? Isn't the failure rate rather high? These popular half-truths both distort and underrate the task that the Temporary Registration Assessment Board has faced in principle since 1970 and tackled in practice six times since May 1975. The board was set up to test the clinical and English language competence of overseas doctors with qualifications for which the General Medical Council has no reciprocal recognition. Because the candidates' own countries will not allow examinations to be taken there, up to 3000 candidates a year may have to be tested in Britain, in perhaps twelve tests per year, taken at three centres. The General Medical Council turned for help to the three non-university licensing bodies, and each of them appointed two representatives to the new board; Dr T C Hunt was elected the chairman, and he co-opted expert advisers, including language experts from the University of Lancaster. The board agreed that clinical examinations were out of the question—and in any case this aspect was covered by the DHSS's clinical attachment scheme. Indeed, even with the new examination, a satisfactory testimonial from the supervising consultant remains a condition of employment in the NHS, quite apart from registration by the GMC.

As it has emerged, the test has four parts and occupies two days. Firstly, the 60 multiple-choice questions test medical knowledge. Secondly, recorded voices are used to test whether the candidate understands spoken English, including the meanings conveyed by intonation and stresses. Thirdly, there is a modified essay question—replying to a general practitioner, answering a patient, or giving instructions to the ward sister as part of an unfolding case history. Lastly there is a 20-minute viva, in which two examiners consider whether the candidate can sustain a sensible conversation with doctors, paramedical workers, and lay people on medical matters. So far there has been a reasonable correlation between a candidate's marks and a 50-60% pass in each part; though the overall pass rate for all the parts together has been around 30%.

Most of the problems of overseas doctors—their integration, training, and service contribution—have fallen on the staff of peripheral hospitals. Thus the 296 postgraduate medical centres and their clinical tutors are deeply concerned, and at the annual meeting of the National Association of Clinical Tutors at the Royal College of Physicians on 25 November the tutors cross-examined the President of the GMC, Sir John Richardson; the secretary for overseas affairs to the GMC, Mr Robert Beers; and the chairman of TRAB, Dr Hunt. The authorities regarded the language testing as satisfactory and even exciting—while, contrary to expectation and popular myth, they reported that it was seldom the sole cause of failure. On the other hand, the tutors regarded the clinical testing (done without the traditional tests of clinical skills) more sceptically, though the large number of examiners (120-130) needed were said to be experienced.

Later in the meeting the tutors had the unusual experience of trying to answer an MRCP paper, which must have made them realize some of the difficulties faced by the overseas doctors in taking this examination. One obvious question is how long can the high failure rates in the TRAB examination continue before clinical standards have to be lowered merely to staff the NHS? That question was asked by the tutors, but could not be answered by Sir John—though he was able to reassure the meeting that the DHSS had not made any difficulties about introducing the tests. Nor could he say how those doctors who failed managed until they could resit the

exam in two months' time—when again only a third would pass. It is a pity there was no one at the meeting to speak on behalf of candidates who are having to face the TRAB exam.

The ten day rule

There was some indignation when *Which?* recently published a report on radiation safety¹ and suggested that some hospitals were not following the standard safety procedures. Despite minor details deserving criticism, this report reflected the awareness of the public that *x*-rays cause damage. A long series of reports and reviews has discussed the risks and their reduction or elimination.²⁻⁴ The latest *Code of Practice for the Protection of Persons against Ionising Radiations arising from Medical and Dental Use*⁵ quite clearly states the responsibilities of a doctor referring a patient for radiological investigation. In all cases he must be sure that the possible benefit to the patient justifies the risk to that patient of radiation damage to organs, tissue, cells, gonads, or offspring. He must always give sufficient relevant clinical information to ensure that the radiographer and radiologist do the right examination in the best possible way and so gain the maximum of useful information with the minimum of exposure to radiation.

Tissues and organs are most susceptible to damage by radiation when they are most rapidly growing, and that occurs in utero. Every doctor asking for any radiological examination that will include the abdomen (including the pelvis and hips) of a woman of childbearing age (between 12 and 50) must include in his request the date of the last menstrual period. Whenever the examination may irradiate a patient's uterus it should be arranged for a time when the patient could not be pregnant—that is, within ten days after the date of the last (or a future) menstrual period. That is the "ten day rule." It may be ignored if the patient can affirm that she could not be pregnant, because there has been no recent sexual intercourse; because she has been on a contraceptive pill, or is fitted with an intrauterine contraceptive device proved effective over more than three months; or because she has been sterilised.

Exclusions from the ten day rule may include emergency admissions to accident and emergency departments and patients requiring urgent investigation in acute medical and surgical wards. Difficulties may arise with other hospital inpatients. The first responsibility for observation of the ten day rule lies with the referring doctor, who must indicate the date of the last menstrual period and whether urgency demands that the rule be waived. While the radiological department has a second responsibility to check omissions by the referring doctor, the clinician should avoid the criticism that will follow if the patient has to be turned away and given a further appointment by a reception clerk (or by a radiographer or radiologist) when she has already undressed and is perhaps on the *x*-ray table, perhaps prepared by fasting or purgation.

¹ *Which*, April 1975, p 100.

² Medical Research Council. *Hazards to Man of Nuclear and Allied Radiations*. London, HMSO, 1958.

³ Ministry of Health, *Radiological Hazards to Patients*. London, HMSO, 1959, 1960, and 1966.

⁴ Warrick, C K, *British Journal of Radiology*, 1973, 46, 933.

⁵ Department of Health and Social Security, *Code of Practice for the Protection of Persons Against Ionising Radiations Arising from Medical and Dental Use*. London, HMSO, 1972.

Depression and curtailment of sleep

Insomnia is a common, distressing feature of depressive illness. It is therefore intriguing to find recent reports suggesting that deliberate awakenings can benefit the depressed patient.

The two kinds of sleep alternate about five times a night, and the phase of rapid eye movement (REM) or paradoxical sleep occupies about a quarter of the total. Many drugs reduce the proportion of sleep spent in this phase, but in clinical dosage the effect is most definite with the mood-enhancing drugs, amphetamine, imipramine, and the monoamine oxidase inhibitors. Phenelzine, in a dose of 60-75 mg daily, will bring about loss of the signs of REM sleep after 1-2 weeks, and the delay is the same as the delay to improving the mood, if this occurs at all.¹ Conversely, reserpine often causes depression, and it is one of the rare drugs that increases REM sleep.²

Vogel *et al*³ therefore argued that by awakenings at the right moments selective deprivation of REM sleep might have a therapeutic effect. They have recently reported that this is true for endogenous depression, though not for reactive depression. Seventeen patients with endogenous depression were awakened repeatedly as soon as they began REM sleep phases during a three-week period. Independent psychiatrists rated the mood of these patients to have become significantly more improved than that of 17 control patients awakened equally often from non-REM sleep. Though of theoretical interest, the findings do not, of course, offer a practical alternative to conventional treatments, since the all-night monitoring is a highly technical and expensive procedure.

This study was a careful one which recognised the many pitfalls in trying to establish that a new treatment really works. The same, unfortunately, cannot be said of claims in the last few years to the effect that if depressed patients are deprived of all sleep it helps recovery. Over the centuries, depressed, guilt-ridden patients have been subjected to treatments that others would consider punishments—flagellation, centrifugation, and cold douches—which should make us cautious before we add deliberate sleep deprivation to their troubles. Two writers from the Maudsley Hospital have reported that for most of 39 patients a single night of total sleep deprivation was quite acceptable as a treatment and that seven patients began a lasting improvement.⁴ In a more adequately designed study in the Netherlands ten depressed patients were treated in this way and were rated to be improved in mood during the day after an imposed sleepless night—during which, of course, they had received a lot of attention. Prompt relapse was usual, but overall the Dutch authors were evidently impressed by the temporary improvement.⁵

As a research procedure, this approach may reasonably be taken further, but it should not be widely adopted at present. What is needed is a larger, carefully designed study, in which independent psychiatrists would use reliable tools for measuring depression and account would be taken both of the powerful effects of suggestion and of those natural processes that lead to recovery with the passage of time alone.

¹ Dunleavy, D L F, and Oswald, I, *Archives of General Psychiatry*, 1973, 28, 353.

² Hartmann, E, *Psychopharmacologia*, 1966, 9, 242.

³ Vogel, G W, *et al*, *Archives of General Psychiatry*, 1975, 32, 765.

⁴ Bhanji, S, and Roy, G A, *British Journal of Psychiatry*, 1975, 127, 222.

⁵ Van den Burg, W, and van den Hoofdakker, R H, *Archives of General Psychiatry*, 1975, 32, 1121.