intermediate social and economic conditions, has a similar prevalence of gall stones at necropsy to that found in several English towns. However, the death rate from ischaemic heart disease in Scotland was 26% greater for males under 60 and 60% greater for females in the same age group. We do not have sufficient information to analyse statistically the relationship between gall stones and ischaemic heart disease, but these figures suggest that the negative correlation described by Dr Barker does not apply to this region.

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[1] Donaldson LA, Busuttil A. *Br J Surg* 1975;**62**:26-32.
[2] World Health Organisation. *World health statistical Annual 1977.* Geneva: WHO, 1977:vol 1.

## Incidence of malignant melanoma of the skin

SIR,—I would like to support the views expressed by Dr Peter Clough (12 January, p 112) in his recent letter concerning the association between malignant melanoma and arsenic in the soil. In a recent report[1] it was shown that, of 144 patients who had received medicinal arsenic in South-west Lancashire, 64 (44%) had premalignant keratoses and 17 (12%) had skin cancers. Chromosome studies performed on these patients showed significantly more chromosome abnormalities than in the controls, suggesting that arsenic is mutagenic as well as carcinogenic.

In an extended similar study of 481 subjects, 150 have died, 40 with malignant tumours of the skin or internal organs, including one malignant melanoma.

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[1] Evans S. *Br J Derm* 1977;**97**, suppl 15:13-4.

## ECT: balancing risks and benefits

SIR,—The Royal College of Psychiatrists several years ago published a memorandum on the use of electric convulsive therapy (ECT), in which it is implicit that the treatment is given under intravenous anaesthetic and muscle-relaxant drugs. It may not be generally realised that the anaesthetic is given solely to protect the patient from the unpleasant sensation of suffocation from paralysis of the respiratory muscles due to the effect of the muscle-relaxant drugs that are routinely used in general surgery. These are given, of course, to prevent the occasional fractures (mainly of the vertebrae) that used to occur when the ECT was given unmodified. The passage of the current required to start the convulsion does itself produce instantaneous loss of consciousness and a retrograde amnesia, usually only of a few seconds' duration, but sufficient to prevent the patient from knowing anything about the actual treatment.

The Royal College's memorandum on ECT made no mention of unmodified ECT, as it was rightly assumed that under all normal circumstances the treatment would always be given with anaesthetic and muscle relaxants. As strongly urged by the Faculty of Anaesthetists, the injections are supervised by an anaesthetist, though inevitably in some hospitals or clinics a second psychiatric specialist experienced in anaesthetic techniques may actually give the injection. It is conceivable that there could be medical contraindications to the use of anaesthetics or muscular relaxants, or both, and yet the ECT be urgently needed to control the patient's behaviour. In these circumstances it would, of course, need the clinical judgment of the psychiatrist in charge of the case to decide whether to proceed after due consultation. There might also be situations in which anaesthetists are not available at short notice, or even a second psychiatrist experienced in anaesthetic techniques. Another possibility is that the patient has no usable veins, so that it might be more humane to proceed with unmodified treatment, the nursing staff itself receiving instruction on how to hold the patient. Again it would be a matter for the clinical judgment of the consultant whether in those circumstances he would be justified in going ahead without the modifications.

The current practice of ECT in this country is at the moment being investigated by the Royal College of Psychiatrists with a grant from the Department of Health and Social Security. It is hoped that this will show among other matters how many ECT treatments are usually given in a course, the usual clinical indications for its use, the incidence of complications and side effects, etc. As in the rest of clinical practice, the hazards of treatment have always to be balanced against the risks of continuing illness. It can be argued that withholding ECT from some patients —for example, the suicidally depressed— could amount to negligence.

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## Services for the mentally handicapped

SIR,—Now that the benefits of different types of services for the mentally handicapped are being considered (12 January, p 123), it seems justifiable to again ask if improvements should be based on the specialty of "mental handicap." It continues to be difficult to attract people to work in this field and the need becomes no less urgent. The objectives are clear: giving a high priority to prevention, treating mental handicap when feasible, and enabling the mentally handicapped to lead as normal a life as possible. Many of the problems are social and educational rather than medical, and an increasing contribution is being made from all these services.

Perhaps a change of attitude towards the medical component is needed. Will it ever be possible to provide sufficient consultants in mental handicap? It is recognised that age presents special medical problems, but is it also necessary to divide medical care according to the intelligence quotient? Cannot the medically handicapped be regarded as individuals who require special social and educational help, but have the same medical needs as anyone else? In paediatrics the problems are likely to be more varied than among children in general, and many will require help from those working in the paediatric subspecialties. In particular, the child who is mentally handicapped will be more than usually liable to emotional and behaviour disorders. So child psychiatrists will be particularly involved in the care of such children, which will only be possible if extra resources are provided.

The problems are more difficult among adults who are mentally handicapped as fewer can be cared for at home. This may mean that the organisation of the services required will be the responsibility of the social services rather than of doctors spending a lot of time in administration. Otherwise, however, cannot the same principles apply—medical aid being given as required, with some specialisation within the rubric of psychiatry?

If it can be accepted that all doctors, some more than others, have a duty towards the mentally retarded this may be more successful than trying to expand the specialty of mental handicap. This has particular implications for training, which usually receives scant attention in any plans for the future. Much could be achieved by the use of rotational posts—in paediatrics, for example, in the departments of psychiatry and neurology, which are already involved in the care of these children, as well as in long-stay hospitals.

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## Disinfection with glutaraldehyde

SIR,—The views expressed in Dr R M G Boucher's letter (1 December, p 1440) seem to be based on erroneous or incomplete data.

Firstly, Dr Boucher qualifies the statement made in his first letter (18 August, p 444) that "under normal hospital use the alkaline compositions have a short life (maximum 14 days)" by saying that "normal hospital use" means the use of Arbrook Cidematic machines. He claims that this accounts "for at least 60% of the Cidex market in US hospitals." In fact, Arbrook's data show that less than 10% of Cidex products are used in machines, while in the UK the figure is virtually nil. Thus the introduction of machine use into the argument appears to be something of a red herring and irrelevant to the central argument that alkaline glutaraldehydes can be as active as acid formulations over 28 days.

In this context, it is important to differentiate between Cidex Solution, a product with a proved 14-day use life[1] and Cidex Long-Life Solution (known as Cidex Formula 7 Solution in the USA), which has a proved 28-day use life.[2] While many users of Cidex in the UK only want a product to last 14 days, there are situations where under "normal" manual decontamination procedures Cidex Long-Life Solution is preferred because of its longer use life of 28 days. Such situations usually occur where use of Cidex is spasmodic and cost effectiveness is a prime consideration.

Dr Boucher further confuses the situation regarding shelf-storage life and stability of ready-to-use solutions. The shelf-storage life of the Cidex solutions before activation is essentially the same as that for Sonacide. After activation the Cidex products do lose glutaraldehyde slowly but they retain sufficient active ingredient to meet their label claims throughout their recommended use life under "normal use" conditions. "Normal use," as I have pointed out, is essentially manual decontamination using buckets and containers.

It is true, however, that there are conditions of high-dilution use where greater than 50% dilution can happen in less than 28 days, and this occurs mainly with the use of machines. Accordingly, we recommend a limitation on the use of Cidex Long-Life in machines to two weeks or 40 cycles. This has nothing to do with chemical stability, as indicated by Dr Boucher, but is purely a function of the physical dilution inherent in the use of machines. This limitation applies equally to acid glutaraldehyde solutions such as Sonacide.

Dr Boucher also omits to discuss the re-

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lationship of solution pH to biological activity. All the available data indicate that alkaline glutaraldehydes, including Cidex Long-Life, are significantly more active against micro-organisms than acid glutaraldehydes, including Sonacide.[2-4] These data, coupled with the fact that Cidex Long-Life is only slightly less chemically stable than Sonacide, enable us to state categorically that Sonacide does not have a longer use life than Cidex Long-Life when compared under identical conditions of use. In addition, Cidex Long-Life has greatly superior anti-corrosion properties throughout an equivalent use period.

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[1] Stonehill AA, Krop S, Borick PM. *Am J Hosp Pharm* 1963;**20**:458-65.
[2] Miner NA, McDowell JW, Willcockson GW, Bruckner NI, Stark RL, Whitmore J. *Am J Hosp Pharm* 1977;**34**:376-82.
[3] Collins FM, Montalbine V. *J Clin Microbiol* 1976;**4**: 408-12.
[4] King JA, Woodside W, McGucken PV. *J Pharm Sci* 1974;**63**:803-5.

## Inflammatory bowel disease in relatives of patients with Crohn's disease

SIR,—I was interested in the report of Dr J F Mayberry and others (12 January, p 84). Their findings that 9% of patients with Crohn's disease in Cardiff had a first-degree relative with inflammatory bowel disease is similar to the 15% previously reported in 186 patients with Crohn's disease in Birmingham.[1]

Their statement that only two married couples with Crohn's disease have been reported is erroneous; I am aware of a further such report[2] and there may well be others. As has been suggested,[2] the children of these couples should form the basis of a prospective genetic study.

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[1] Fielding JF. MD thesis, National University of Ireland, 1970.
[2] Fielding, JF. In: Badenoch J, Brooke BN, eds. *Recent Advances in Gastroenterology*. Edinburgh: Churchill Livingstone, 1972:276.

## Polycythaemia vera and central sleep apnoea

SIR,—We were interested to see the report on polycythaemia rubra vera and central sleep apnoea from Dr John F Neil and others (5 January, p 19).

We are currently studying nocturnal hypoxia in patients with chronically obstructed airways. In one such patient marked transient nocturnal hypoxia was reversed following a phlebotomy which reduced the packed cell volume from 0·6 to 0·5. In our case, however, there was neither central nor obstructive apnoea. We think that in some patients with chronic respiratory disease who have secondary polycythaemia and transient sleep hypoxia the high packed cell volume may be the cause of the extra sleep hypoxia rather than vice versa, as has also been proposed.[1] Whether this occurs through hypoventilation or increased ventilation-perfusion mismatch is not clear.

An alternative explanation for the finding of Dr Neil and his colleagues that the sleep apnoea only occurred during non-rapid eye movement (non-REM) sleep is suggested by Phillipson.[2] He found in dogs that classical chemical control of ventilation (brain stem) did not seem to regulate respiration during phasic REM sleep and hence interference with brain stem blood flow might not be so critical during this period.

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[1] Douglas NJ, Calverley PMA, Leggett RJE, Brash HM. *Lancet* 1979;i:1-4.
[2] Phillipson EA. *Am Rev Resp Dis* 1978;**118**:909-39.

## Day-bed units

SIR,—We have followed with interest the correspondence arising from our papers on day surgery and the work of a day-bed unit (22 September, pp 712 and 714) and should like to thank contributors for their comments.

Mr C A C Clyne and Mr C W Jamieson (27 October, p 1075) appear to believe that the place of outpatient surgery for varicose veins is very limited. They are correct in noting in our data a small relative decline in major day surgery during the last two years, but their interpretation of the cause is not correct. There are several reasons. The most important have been industrial action by hospital and ambulance personnel during the past two years; the opening of a five-day ward, which allowed us to work through a waiting list backlog of short-stay patients; and the special efforts made to enhance the through-put as part of a clinical trial[1] in 1974-5 (hence the peak in those years)—but not any diminished enthusiasm for the day-care system itself. Overall, in fact, the proportion of our varicose vein operations performed on an outpatient basis has steadily increased over the last decade. In the five years 1969-73 53% of our varicose vein surgery was done on an outpatient basis. In the years 1974-8 the figure rose to 70%. It is likely to level out at somewhere between these two figures.

The clinical trial referred to above produced "consumer" responses which showed a higher proportion of responses favourable to day care than to inpatient care in an acute ward or a convalescent hospital,[2] and the responses were thus different from those reported by Mr Clyne and M Jamieson. We certainly do not accept the suggestion that day surgery "will often provide inadequate treatment." That surely has more to do with the quality of the surgery than the system of care employed. Operations in our trial all involved multiple incisions; roughly 50% included stripping of the upper half of the long saphenous vein (we do not strip the distal long saphenous vein); and the operations lasted on average about one and a half hours.

The valuable contribution to the literature made by Mr T H Berrill (3 November, p 1146) was acknowledged in our second paper. Any comparison between our experience and other published series was intended to relate not particularly to numbers of patients but to the scale of procedures employed, with the object of encouraging others to widen the scope of this type of care. Mr Berrill can be reassured that no persuasion was necessary to encourage colleagues to use the day-bed unit. On the contrary, the problem has been to provide sufficient accommodation for all the enthusiastic claims. He is probably quite correct in recommending day care for ENT procedures. We cannot comment since that specialty is not represented at the Western General Hospital, nor can we usefully answer Mr Berrill's challenge on the merits of combined medical and surgical day care versus a surgical unit alone since we do not have experience of the latter. There is probably a good place for each type of unit.

Mr H D S Vellacott (17 November, p 1293) and Dr Elizabeth Spalding (15 December, p 1586) are both enthusiastically in favour of day care and correctly point to its unexplored potential. We agree with Mr Vellacott that it is difficult to run day care on an ordinary surgical ward on anything except a minor scale. Specific day care accommodation and staffing are required. Elizabeth Spalding seems to blur the distinction between day care and short stay but there are important practical differences. We were a little puzzled by her reference to doctors removing sutures. District nurses remove most of our sutures except from patients who are too old or too ill, or whose social circumstances prevent discharge from hospital before sutures are due to be removed. Dr Spalding describes an altogether admirable approach to post-operative care in the home, but we suspect that she may not realise that in most acute surgical wards nowadays it would be difficult for her to find patients who could appropriately be sent home earlier to the type of care she describes. In our experience the average acute ward largely contains very ill or very dependent patients. Most of the patients suitable for day care and early discharge are not in acute wards—they are on waiting lists.

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[1] Ruckley CV, Cuthbertson C, Fenwick N, Prescott RJ, Garraway WM. *Br J Surg* 1978;**65**:456-9.
[2] Garraway WM, Cuthbertson C, Fenwick N, Ruckley CV, Prescott RJ. *J Epidem Comm Health* 1978; **32**:219-21.

## Chiropractic and the NHS

SIR,—Would you allow me to use your correspondence column to comment on the report "Chiropractic in the NHS." (5 January, p 54)?

Manipulation is already available within the NHS from an ever-growing number of specially trained physiotherapists. Over 200 such expert practitioners in the NHS, industry, and private practice belong to the Manipulation Association of Chartered Physiotherapists, a "specific interest group" of the Chartered Society of Physiotherapists. This body was set up over 10 years ago and is a steadily growing national group dedicated to the extension of postregistration manipulation training for chartered State-registered physiotherapists. Our president is Mr Philip Newman, FRCS. Regular long courses are held in all aspects of manipulative therapy and teachers include internationally recognised medical experts.

There is nothing that a chiropractor could offer a patient with back pain that a suitably trained physiotherapist does not; indeed, we believe the physiotherapist has far more to offer—and in a proper ethical relationship with the referring medical practitioner. The idea

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