although haemolysis is to be expected if copper is indeed involved in the aetiology of Indian childhood cirrhosis, its presence has yet to be adequately documented and we are grateful to Professor Ozsoylu for the opportunity of discussing this point.

Neither caeruloplasmin nor reduced glutathione was measured in our patient, although the former (as copper oxidase) was elevated in the patients of Kapoor *et al.*²

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¹ Gopalan, C, in *Diseases of Children in the Sub-tropics and Tropics*, ed D B Jolliffe and S P Stanfield. London, Edward Arnold, 1978.

² Kapoor, S K, Singh, M, and Ghai, O P, *Indian Journal of Medical Research*, 1971, **59**, 115.

Squints

SIR,—The illustrations to Mr P A Gardiner's article on squints (25 November, p 1480) are most confusing. The difference in position of the light reflections in the eyes of the non-squinting child is greater than that in the squinting child, and this can be confirmed by measurement.

Surely the point should be made that this test is only accurate when the observer's eye, the light source reflected, and the patient's point of fixation are all approximately equidistant from the patient's eyes.

N J C TREGENZA

Bodriggy,
Hayle, Cornwall

* * * We sent a copy of this letter to Mr Gardiner, whose reply is printed below.—ED, *BMJ*.

SIR,—The corneal reflex test is described in Duke Elder's *System of Ophthalmology* (vol VI) as "a simple though inaccurate procedure of considerable value." Our illustration designed to show epicanthic folds did not make allowance for the necessity that the reflex test should always be performed with the eyes in the primary position—that is, looking straight ahead—and the source of illumination in the midline. To omit these essentials increases the inaccuracy.

P A GARDINER

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Contamination of metronidazole discs with penicillin

SIR,—During an investigation into the sensitivity to metronidazole of certain carbon dioxide-dependent organisms present in the vagina it was noticed by chance that a 5- μ g metronidazole disc inhibited the growth of a strain of *Neisseria gonorrhoeae* grown in 10% carbon dioxide in air. As this seemed rather an unusual phenomenon the metronidazole discs concerned (Mast Laboratories Batch No 40006) were tested against six further strains of *N gonorrhoeae* and all showed zones of inhibition. Of 42 discs tested against the original strain, 40 gave zones ranging from 12 mm to 30 mm in diameter. This activity was not apparent when 1000 U of penicillinase was added to the discs. This observation, together with the fact that metronidazole discs

of a different batch (No 40307) were not active against these strains, suggested contamination with an antibiotic of the penicillin group. Elution of 50 discs for 5 h in distilled water followed by microbiological assay using the Oxford staphylococcus indicated that the 50 discs contained the equivalent of 0.6 μ g of benzylpenicillin (penicillin G). This is not an isolated problem, as two other batches of metronidazole discs produced by Mast Laboratories have been shown by this laboratory to be similarly affected.

Quite apart from the fact that the discs may give a false result, by suggesting that metronidazole might be suitable for the treatment of infections due to organisms which are really metronidazole-resistant these observations are of further practical importance, since sensitivity to metronidazole is frequently taken to indicate that an organism is an obligate anaerobe.

C J HALL
DANKA THARAGONNET
H R INGHAM

Public Health Laboratory,
General Hospital,
Newcastle upon Tyne

* * * A copy of this letter was sent to the manufacturers of the discs concerned, whose reply is printed below.—ED, *BMJ*.

SIR,—In admitting the correctness of the statements contained in the letter from Dr Ingham and his colleagues we would like also to acknowledge the co-operation we have received from Dr Ingham, which has resulted in the introduction of a more sensitive test system for the detection of trace contaminants in antibiotic-containing susceptibility discs such as those used for metronidazole.

It should also be pointed out that lot 40006 was withdrawn from issue and all recipients were informed immediately this problem was recognised.

A E BROOKFIELD
Production Director,
Mast Laboratories Ltd

Bootle, Merseyside

"Safety of Medical Electrical Equipment"

SIR,—As a director of a manufacturing company engaged in the production of medical equipment I must take issue with Professor J M A Lenihan's attempt to ridicule IEC Publication 601, *Safety of Medical Electrical Equipment* (30 September, p 948).

To dismiss this publication as a "non-book" does a gross disservice to the members of the medical profession, physicists, and engineers from many countries who have laboured together to produce this standard. It is essential that a safety standard common to the whole of Europe (and hopefully the world) is available so that equipment once tested and certified in any one country will be accepted by other countries without the problems of checking numerous standards together with the subsequent inspection and testing of each individual piece of equipment.

Although most UK manufacturers will agree that *Hospital Technical Memorandum No 8* has been a useful document for many years, it cannot now really be considered as "adequate" for present-day equipment produced for an international market. What the IEC publication has given us is a document

which lays down the general requirements for safety of electromedical equipment that can be accepted internationally by the user without the need for "monitoring" each individual item. The technical resources available in the various hospital regions to verify compliance would then be released for more useful work in maintaining and improving the Health Service without waste of time and effort.

D E OLIVER
Technical Director,
Electro-Medical Supplies
(Greenham) Ltd

Wantage, Oxon

Treadmill exercise test for predicting coronary disease

SIR,—Dr R M Boyle, (25 November, p 1494) has asserted that the "exercise index" as described by us (15 April, p 958) is not a reliable predictor of coronary disease. We suggest that the reason he was unable to confirm our finding is because he did not follow the regimen we described. Indeed, by recording the blood pressure after exercise and not during the last 30 s of exercise his methodology differed so fundamentally from ours that his lengthy speculations on his discrepant findings are irrelevant.

We have prepared for publication an analysis of the blood-pressure changes immediately following maximal treadmill exercise. We have found that the rapid and progressive fall in blood pressure which characterises normal people may be absent or reversed in patients with coronary artery disease. This non-uniform blood-pressure response destroys the usefulness of the technique used by Dr Boyle. Our continuing experience and that of others is that our "exercise index" remains a useful method of quantifying the important haemodynamic changes observed during diagnostic subjective maximal treadmill testing.

K BALNAVE
PATRICIA MORTON
G MURTAGH
MICHAEL E SCOTT

Cardiac Unit,
Belfast City Hospital,
Belfast

Postoperative pain

SIR,—We agree with Dr J V Stapleton and his colleagues (25 November, p 1499) that in the relief of postoperative pain the optimal mode of administration of analgesic drugs is not used. They have met with some success in overcoming the problems by using a continuous intravenous infusion of pethidine.

That solution has been taken one stage further in Cardiff with the development of a patient-operated apparatus which delivers preset increments of analgesic intravenously. As mentioned in your leading article (19 August, p 517), this method¹ has proved a valuable improvement for obstetric analgesia and has now been extended into the post-operative period, in which pethidine, buprenorphine, and ketamine show improved pain relief compared with conventional methods. The Cardiff Palliator (Pye Dynamics Ltd) is connected to an intravenous catheter and has built-in safety features to avoid overdosage, accidental or otherwise. When connected to a recorder the Palliator also

becomes a useful research tool for comparing analgesic drugs double-blind. We believe this method can bring us closer to the much desired goal of effective postoperative analgesia.

MICHAEL ROSEN
T R AUSTIN

Department of Anaesthetics,
University Hospital of Wales,
Cardiff

¹ Rosen, M, in *Pain—New Perspectives in Measurement and Management*, ed A W Hargus, R Smith, and B Whittle. Edinburgh and London, Churchill Livingstone, 1977.

Altered bile in diabetic diarrhoea

SIR,—I was interested to read the article by Anne M Molloy and Dr G H Tomkin (25 November, 1978, p 1462), in which they report increased faecal bile acid excretion in diabetic diarrhoea. This finding is at variance with our study using the ¹⁴C-glycocholate test as an indicator of bile acid malabsorption.¹ We found increased faecal ¹⁴C excretion in only one of seven patients with diabetic diarrhoea. In contrast, in a similar study of postvagotomy diarrhoea all the patients had increased faecal ¹⁴C excretion and responded to cholestyramine.²

In the present series the daily faecal volume is not given. Clinically important bile acid malabsorption is unlikely when the stool output is less than 200 g.³ It would also be interesting to know whether cholestyramine was used in these patients. I have found it to be generally disappointing in diabetic diarrhoea.

J H B SCARPELLO

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Sheffield

¹ Scarpello, J H B, *et al*, *British Medical Journal*, 1976, **2**, 673.

² Scarpello, J H B, and Sladen, G E, *Lancet*, 1977, **1**, 646.

³ Fromm, H, Thomas, P J, and Hofmann, A F, *Gastroenterology*, 1973, **64**, 1077.

Prophylactic co-trimoxazole in biliary surgery

SIR,—The study "Prophylactic co-trimoxazole in biliary surgery," by Dr C Morran and others (12 August, p 462), raises many more questions than it answers. Possibly the most important observation from their paper is that the majority of their wound infections grew staphylococci, an unusual organism in the biliary tract, as their bile cultures show. The authors state that wound sepsis is more common in patients with infected bile yet the data in their paper can scarcely be said to support this claim since of the nine patients in each group with a positive bile culture only three of the controls and none of those treated with co-trimoxazole had wound infections. We have no dispute with the central thesis of the paper that perioperative single-dose co-trimoxazole reduces the incidence of wound sepsis in elective biliary surgery. However, it seems to us that the effective prophylaxis has been against staphylococci, most of which have not been introduced from infected bile.

Two further matters are worth a comment. The first is that 10 of 47 patients undergoing elective cholecystectomy without antibiotic cover developed a wound infection (could it be that Dr McNaught did the surgery and Mr McArdle the bacteriology?). This infection rate of 21% is far too high and preventive measures are certainly justified. Nevertheless,

the cause of this high infection rate needs to be established and dealt with; on the data presented infected bile is not the culprit.

Wound infection rates in elective biliary surgery without antibiotic prophylaxis appear to be very high (16.9-22%) in recent studies reported from the United Kingdom.¹⁻³ Studies reported from the United States indicate a lower wound infection rate (1.4-11%)⁴⁻⁶ and in this hospital the wound infection rate in 200 consecutive patients undergoing elective cholecystectomy was 6%. It is interesting to speculate on the reasons for these differences.

We are also surprised at a mean duration of stay of 10 days in patients with an uncomplicated postoperative course when this is 6 days in this hospital (200 patients) whether or not their course was complicated. There are obviously many reasons for these discrepancies and it would be useful for comparative purposes if papers of this nature could include data on patient characteristics, especially that of age distribution, so that useful comparisons could be made.

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P J McDONALD
C E J HOFFMANN

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Flinders Medical Centre,
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¹ Keighley, M R B, *et al*, *British Journal of Surgery*, 1975, **62**, 275.

² McLeish, A R, *et al*, *Surgery*, 1977, **81**, 473.

³ Strachan, C J L, *et al*, *British Medical Journal*, 1977, **1**, 1254.

⁴ Stone, A M, *et al*, *American Journal of Surgery*, 1977, **133**, 285.

⁵ Stone, H H, *et al*, *Annals of Surgery*, 1976, **184**, 443.

⁶ Cunha, B A, *et al*, *Lancet*, 1978, **1**, 207.

Function of the community physician

SIR,—I refer to your leading article "Epidemiology and the Potteries" (9 December, p 1590), in which certain remarks attributed to Professor E D Acheson may be misconstrued by those who are not familiar with the specialty of community medicine and the role of the community physician.

In order to clarify the issue it is vital to distinguish between the "administration" and "management." Administration is the day-to-day running of established services, usually the responsibility of non-medical administrators, whereas management is concerned with the planning and development of future services. While it may be true that some community physicians may be involved with some administrative duties, in general community physicians are neither interested in nor concerned with administration. Their training and orientation is in relation to their management function—that is, intimate involvement in planning and policy making in the field of health service development.

Planning services requires epidemiological studies and epidemiology is that science which, although not exclusive to the specialty of community medicine, occupies a large part of the training curriculum. Because of this the community physician has a unique depth of knowledge and expertise in this field. Clinicians must, of course, concern themselves with trends and developments in their own field of practice, but judging by continuing correspondence in medical journals the majority of today's clinicians are far too busy dealing with an ever-increasing case load to have either the time or the energy to cope with the exacting intricacies of accurate and effective epidemiological methodology.

It is in the field of epidemiology that the community physician and the clinician may most usefully combine their joint skills in furthering the understanding of the aetiology and prevention of disease processes. It would be a pity if the skills of community physicians in this important field were to be dismissed through a misunderstanding of their role and function in the Health Service.

FRADA ESKIN

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Department of Community Medicine,
University of Manchester

Opportunity in health visiting

SIR,—We, health visitors of the future, take exception to Dr Michael Hall's letter (9 December, p 1646). Our own experiences over the past year in trying to enter the health visiting profession have proved that it is extremely difficult to obtain selection: motivation is strongly questioned as well as academic ability and suitability for health visiting.

Concerning the review of training requirements of those working in the health professions, we feel the Briggs Report has either been misinterpreted or read with bias by your correspondent. The historical reference is relevant but incorrect, as medical and nursing qualifications have long been required for entrance to this profession.

We refute the implications about motives for moving from nursing to health visiting. Many of us entered nursing in order to become health visitors, and the increased interest in health visitor training has resulted in the combined course. Many health visitors in training bring a wealth of experience from their years in all branches of nursing, which also enables them to appreciate fully the value of preventive medicine.

We should be grateful if Dr Hall could suggest an alternative course for school leavers which would provide them with the expertise in human relationships, development of powers of observation and detection which are gained through nursing training, as well as, of course, a knowledge and understanding of other health professionals, which Dr Hall seems to lack.

1974 saw the integration of health visiting with the National Health Service. Gilmore found then that a high proportion of health visitors' functions were misunderstood and not fully appreciated by general practitioners. It appears, sadly, that this may still apply.

We agree that the role of the health visitor has never been so important as it is today in our stressed society.

JILL THORNTON
and 34 other health visitor students

Reading College of Technology,
Reading, Berks

Staffing of accident and emergency departments

SIR,—It is sad to think that we are as far from solving the problem of medical staffing in accident and emergency (casualty) departments as we were in the early 1950s, when senior casualty officers like myself were first forced on to a reluctant profession, and, if Dr D M Bowers (9 December, p 1648) is right, there is not going to be much improvement in the next 25 years.

At least 75% of the work presenting in the