Firstly, one should know whether all medical admissions pass through the accident and emergency department. If not one should know the proportion of cases admitted directly to medical wards. It would also be interesting to know the average time (and the standard deviation of the time) that passed from admission to the accident and emergency department to disposal to a specialty ward. I note that all the patients whose deaths were diagnosed as due to myocardial infarction had time to undergo 12 lead electrocardiography and cardiac monitoring before transfer to a medical ward or coronary care unit. I am left to wonder what diagnostic label was put on patients who died without having had this test performed. We should know the electrocardiographic diagnostic criteria for myocardial infarction used in cases which almost by definition could not have had sequential electrocardiographs performed.

Mr Shalley and Mr Cross rightfully draw attention to the need for training in cardiological conditions for doctors working in accident and emergency departments. The best index of this should relate not just to fatal cases but to the number of non-fatal cases of heart conditions passing through an accident and emergency department.

W STC SYMMERS

Scottish MONICA,
Usher Institute,
Edinburgh EH9 1DW

SIR,—Mr M J Shalley and Mr A B Cross suggest that many deaths in an accident and emergency department are due to myocardial infarction and that "a much greater emphasis should be placed on the management of medical emergencies." Although the precise modes of death in the patients with myocardial infarction were not stated, they were probably the result of asystole, electromechanical dissociation, or ventricular fibrillation. In view of the poor prognosis associated with the first two of these conditions and the relatively non-specialised management of the third, I would be interested to know how Mr Shalley and Mr Cross think that a more highly medically trained casualty staff could alter the mortality?

G D STANLEY

Coronary Care Unit,
Leicester Royal Infirmary,
Leicester

SIR,—Mr M J Shalley and Mr A B Cross discuss the initial hospital management of acute serious medical, surgical, and traumatic conditions and raise points about training for accident and emergency staff.

Although the British Association for Immediate Care (BASICS) has been primarily concerned with prehospital care, we consider that it cannot be separated from initial hospital care. We want to improve the care provided for all patients with serious emergency problems from the time that they occur until definitive appropriate hospital treatment. A survey undertaken by BASICS in 1982 suggested that less than a quarter of medical students were trained in life supporting procedures.

In an attempt to establish standards of training in the prehospital and initial hospital management of the acutely ill or seriously injured patient BASICS has been discussing a

possible diploma examination in emergency or immediate care. This would not attempt to cover the full scope of accident and emergency medicine but would concentrate on life supporting procedures: the proposals cover the particular problems with both medical and surgical emergencies mentioned by Mr Shalley and Mr Cross.

If this is introduced we hope that it will prove useful for general practitioners and hospital doctors both in and out of accident and emergency medicine and so improve patient care in this critical phase of emergency treatment.

BRIAN G STEGGLES

Chairman, Training Committee,
BASICS

Tavistock, Devon PL19 9DP

Spinal cord disease due to *Schistosoma mansoni* successfully treated with oxamniquine

SIR,—The case of paraplegia reported by Dr John Efthamiou and Dr David Denning (5 May, p 1343) is important because it appears to be the first case of schistosomal myelopathy to be reported in a Ghanaian. Histologically proved cases of schistosomal myelopathy are rare in women; there seem to have been no cases of *Schistosoma haematobium* myelopathy and only six cases of *S. mansoni* myelopathy reported—all from Brazil.¹⁻³

It seems likely that the myelopathy was caused by *S. mansoni*, but it might have been caused by *S. haematobium*, which can also involve the conus medullaris usually without other evidence of *S. haematobium* infection.⁴ The detection of *S. mansoni* ova in the faeces of a patient from a country like Ghana where both parasites are endemic does not prove that it was the cause of the paraplegia. For example, an Egyptian patient who was being treated for relapsed proved *S. haematobium* myelopathy was noted to have coincidental intestinal schistosomiasis.⁵

While most cases of schistosomal myelopathy present with acute paraplegia acute necrotising myelitis with infarction is rarely reported.³ Study of reports of proved cases shows that intramedullary granulomatous myelopathy usually affecting the lower cord and conus medullaris is the commonest presentation.^{2,4}

There have been several previous reports of patients who were diagnosed to have schistosomal myelopathy on the basis of myelography and evidence of systemic schistosomal infection.⁶⁻⁸ In the study from Malawi the follow up myelogram showed considerable diminution of the spinal cord mass following chemotherapy.⁸ El Banhawy has emphasised the diagnostic value of myelography in schistosomal myelopathy.³ Of course, the myelogram may be normal in some patients. When this is so (as is often the case) and when there is no other evidence of schistosomiasis⁹ a positive antibody reaction to *Schistosoma* (which indicates only schistosomiasis per se) may be of diagnostic value. Unfortunately a reaction even in the cerebrospinal fluid may be absent in schistosomal myelopathy.⁶

It is useful to know that oxamniquine (which has been used previously in schistosomal myelopathy^{9,10}) appeared to have been rapidly efficacious in this instance. Any apparent effect must be considered, however, in the context of a condition which has been reported to respond rapidly to many different treatment regimens and which may also spontaneously remit for prolonged periods.^{7,11} Because the condition is so rarely encountered and the pathological findings are so variable it is difficult to compare the results of different treatment regimens.^{7,12} Treatment should be

tailored to the individual, and decompressive laminectomy should still be considered in the patient with acute paraplegia and myelographic spinal block.¹²

E M SCRIMGEOUR

Laboratory for Central Nervous
System Studies,
National Institutes of Health,
Bethesda, Maryland,
USA 20205

- 1 Abath GM, Barbosa AV. Esquistossomose do sistema nervosa central. *An Fac Med Univ Recife* 1960;20:401-5.
- 2 Perpetuo FOL, Rodrigues PA. Esquistossomose medular. *Rev Assoc Med Minas Gerais* 1973;24:173-8.
- 3 Quieroz L deS, Nucci A, Facure NO, Facure JJ. Massive spinal cord necrosis in schistosomiasis. *Arch Neurol* 1979;36:517-9.
- 4 Ghaly AF, El Banhawy A. Schistosomiasis of the spinal cord. *J Pathol* 1973;111:57-60.
- 5 El Din SS, Haseeb NM, Basmay K, et al. The value of the circumoval precipitin test in the diagnosis of spinal cord bilharziasis. *Ain Shams Med J* 1973;24:25-30.
- 6 El Banhawy A. Schistosomiasis of the spinal cord, conus and cauda. *Neurol Med Chir* 1971;11:17-30.
- 7 Lechtenberg R, Vaida GA. Schistosomiasis of the spinal cord. *Neurology* 1977;27:55-9.
- 8 Molyneux ME, Galatius-Jensen F. Successful drug treatment of schistosomal myelopathy. A case report. *S Afr Med J* 1978;54:871-2.
- 9 Dar J, Zimmerman RR. Schistosomiasis of the spinal cord. *Surg Neurol* 1979;8:416-8.
- 10 Siddorn JA. Schistosomiasis and anterior spinal artery occlusion. *Am J Trop Med Hyg* 1978;27:532-4.
- 11 Raper AB. Cerebral schistosomiasis. *E Afr Med J* 1948;25:262-3.
- 12 El Banhawy A, Elwan O, Taher Y. Bilharzial granuloma of the conus medullaris and cauda equina. *Paraplegia* 1972;10:172-80.

Lymphangitis after tuberculin tests

SIR,—Dr J B Morrison's report on an unusually large number of cases of lymphangitis after tuberculin tests during 1979-83 (18 August, p 413) highlights some of the problems which sadly are arising as a result of a lack of doctors like himself with long experience in tuberculosis.

The cases reported reflect inexperience in the approach to tuberculin testing rather than a fault in the test itself. The tuberculin reaction is generally very strong in the presence of primary tuberculous lesions and may remain so for many years after healing.¹ In the same way adult tuberculosis is generally associated with high tuberculin hypersensitivity. When a diagnosis of tuberculosis is suspected, in order to avoid a severe reaction a Mantoux test using the weakest dilution of tuberculin—that is, 1 IU—to start with is therefore advised. Where there is radiographic evidence of old healed tuberculous lesions, as in several of Dr Morrison's cases, tuberculin testing could have been omitted.

In the first case the patient was a 21 year old Indian and had clinical evidence of probable healed tuberculous cervical adenitis; his chest radiograph showed an old apical, presumably tuberculous, lesion in addition to a small round lesion in the other lung.

Except in conditions where tuberculin hypersensitivity is known to be generally depressed or absent—as, for example, in sarcoidosis or the reticuloses—the tuberculin test is unhelpful as a diagnostic aid in subjects over 40. In this age group the tuberculin reaction is commonly strong as a result of previous primary tuberculous infection or as a result of superinfection in those born in time to have had the benefit of BCG vaccination at school. The age range of the 47 hospital staff who received Mantoux tests was 45-55, and four developed lymphangitis. The age range of the 371 subjects who received Heaf tests performed by a health visitor was 35-56, and seven developed lymphangitis and five of

these had radiographic evidence of old tuberculosis.

In conclusion, it is unfortunate that tuberculin tests had been carried out in some cases where radiographic evidence of tuberculosis (healed or otherwise) could not have been in doubt and in others where the test was not only unhelpful but also undesirable in its outcome. I am glad Dr Morrison has drawn attention to the need for careful and judicious selection of the type of tuberculin test in these circumstances.

FREDA FESTENSTEIN

London Chest Hospital,
London E2 9JX

1 Caplin M. *The tuberculin test in clinical practice*.
London: Baillière Tindall, 1980.

SIR,—With reference to the short report by Dr J B Morrison may I add my own experience? In 1975 I administered mouth to mouth resuscitation to a 23 year old man who walked into the casualty department where I was working. He attended complaining of shortness of breath, promptly collapsed, and succumbed despite resuscitation attempts. Five days later I received a telephone call from the local coroner to inform me that the patient had died from "the worst case of open pulmonary tuberculosis he had seen in a decade," and he suggested that I might care to order a chest x ray examination and have a Heaf test done. Fifteen years before I had been given a BCG and had had no obvious contact with tuberculosis since then. Three days after having the Heaf test my forearm became very sore and swollen and developed lymphangitis, as Dr Morrison describes in his report. The lesions were photographed and letters sent to the appropriate journals—regrettably the matter was not considered to be of current interest to readers.

DEREK HALL

RAF Halton,
Aylesbury, Bucks

Can nocturnal emergency surgery be reduced?

SIR,—How refreshing to read the study of Mr D J Sherlock and others (21 July, p 170) relating medical staffing to out of hours emergency general surgery in Birmingham. I have long been amazed that major changes in hospital staffing can be proposed without information of this type being available.

They are right to emphasise that nocturnal surgical procedures are undertaken by surgeons who have already done a full day's work and are expected to do the same the next day, although I was amused that the authors (four of them surgical registrars) should suggest that if consultants instead of registrars were to deal with most emergencies they would be unduly fatigued the next day. I am sure they would, but are the registrars at present not fatigued after a night on and would it not be reasonable to suggest that anyone who has worked a 24 hour shift should have the next day off?

Mr Sherlock and others suggest that the reservation of a 9 am theatre session and a fresh surgical team would reduce nocturnal workload, but this seems difficult to justify when according to their own figures less than one case a day could have been deferred. In any case, the tired surgeon would no doubt still be

expected to drag himself off to the wards, outpatient department, or elective theatre lists the next day.

More radical changes need to be considered. Possibly the nomination of a single hospital as the emergency unit would help in many areas. In South Manchester, for example, we provide casualty, anaesthetic, medical, paediatric, obstetric, gynaecological, and orthopaedic services (together with appropriate theatre and nursing back up) 24 hours a day seven days a week in each of five hospitals within a circle with a seven mile radius. Perhaps the same is true in Birmingham. If there was less duplication of facilities would staffing problems be eased?

P A SYKES

Park Hospital,
Davyhulme,
Manchester M31 3SL

SIR,—The crucial questions raised by Professor Peter F Jones (21 July, p 145) and Mr D J Sherlock and others (21 July, p 170) concern the responsibilities of consultants in training and supervising their juniors in emergency surgery. While I agree that an increase in surgical consultants is necessary, particularly in non-teaching hospitals, I am not convinced that this would ensure that night emergencies would be more adequately supervised by consultants. Professor Jones calls attention to the more complicated procedures now advocated for certain acute conditions—for example, a definitive operation in dealing with perforated peptic ulcer. Senior registrars may have enough experience of major elective surgery to apply this in an emergency, but in many hospitals there is no senior registrar and the night work is done mainly by inexperienced junior registrars. It is still necessary, therefore, to advocate the simple lifesaving procedures.

Clearly most of the 23 "assorted abscesses" and 26 "minor anal conditions" of Mr Sherlock and others should have waited until the morning. The necessity of dealing with those at night highlights a problem related to hospital finances. Of the 18 cases of "pain in the right iliac fossa" 12 were reported as having normal appendices, but do we conclude that six had abnormal appendices for which operation was perhaps justified in an emergency? We are not told the nature of the 13 "assorted abdominal conditions." Presumably the signs and symptoms were acute and may have merited exploration. Few surgeons can boast that they have seldom done laparotomies for expected acute conditions at which nothing abnormal was found, but this is a small price to pay rather than miss the case which should have been done urgently. I am sorry that Mr Sherlock and others list appendicectomy for acute conditions as a minor rather than a major operation. The diagnosis of acute appendicitis is not usually difficult, but to assess the exact state of the pathology or to forecast the potential difficulties of the operation are quite different.

Mr J Meyrick Thomas (11 August, p 378) affirms that it is seldom necessary to operate at night on a patient with acute appendicitis unless "for convenience." Surely we operate for appendicitis urgently to try to save the patient from the hazards of perforation. This still carries an appreciable risk of serious morbidity and occasional death. I do not believe that antibiotics do much to delay perforation or to mitigate its serious consequences if the appendix is mechanically

obstructed. In selected patients with perforated peptic ulcers conservative management is a good second to operation, but it has its dangers. There is strong evidence that the case done within six hours after the onset of symptoms does much better than the case done after ten hours. I also disagree with Mr Thomas's suggestion that "most cases of acute obstruction" can be deferred until morning. Even if the fluid and electrolyte balance are temporarily restored and if gastric suction has proved helpful such measures can do nothing to prevent a simple obstruction of the small intestine being converted to a strangulation (not necessarily with obvious symptoms or signs of this catastrophe.) If in the small hours this does happen and at a belated operation a resection is required up goes the mortality.

Mr Thomas discards some well established principles. If he is to prove his case with appendicitis, for example, he must document his "over 400 cases." We must know: who made the decision for delayed operation and on what grounds; the interval between admission and operation; who did the operation (the consultant or the junior); and the exact pathology of the appendix.

Mr Pradip K Datta (11 August, p 379) raises the interesting point that registrars may operate at night to make sure that they get to do the cases themselves. Regrettably, some registrars do see it as a right that they should be let loose at night. Some consultants may encourage them in this belief. I have had quite junior registrars who have been astonished when I have indicated that I wished to be informed before they opened an abdomen. This rule is the least that a consultant should issue to his juniors. From a discussion on the telephone the consultant can usually decide whether or not the registrar should proceed on his own.

In elective surgery the trainee is usually well instructed and supervised before he operates independently; in acute abdominal surgery he is much too often left to his own devices. I remain convinced that much more supervision is necessary in his early stages than is at present accorded.

JOHN A SHEPHERD

Heswall,
Merseyside L60 8NQ

SIR,—We recently set out to determine whether the emergency surgical workload of this district general hospital had decreased with time. We felt that better preoperative resuscitation, more effective antibiotics, and less invasive investigative techniques would have allowed more cases to be deferred to daytime operating lists. We were therefore surprised that when we compared figures over a two month period 10 years apart there had been virtually no change in the number of operations performed after 1700 and before 0900. In January and February 1972 there were 557 operations, and 65 (12%) emergency operations were done after 1700 and before 0900—17 of these were major emergencies (that is, operations on the stomach, duodenum, small bowel, colon, or gall bladder, or on hernias). In the same months in 1982 there were 622 cases, 92 (15%) out of hours emergency operations, and 18 major emergency operations. These cases do not include patients with suspected appendicitis or perianal conditions because it is still this unit's policy to operate as soon as possible for these problems.