

cine during a two month period in 1985. Although they were not randomly selected, we can see no reason why their prevalence of hepatitis B infection should differ from that in attenders at any other time of year. Our studies were directed towards detecting the hepatitis B carrier state; this is not a transient phenomenon that persists for only a few months. Of course, we do not claim that patients of any race or colour at departments of genitourinary medicine are representative of the general population. The aim of our study was to detect the prevalence of markers of infection with hepatitis B in clinic attenders, as we were interested in the workload generated by specimens from these patients. We are only too aware of the sexual mode of transmission of hepatitis B virus and would have expected the prevalence of markers in clinic attenders to be higher than in the general population. The results showed, however, a high prevalence in native West Indians and not in either the white or negro groups born in the UK.

The native West Indians were generally older than those born in the UK (unavoidable in a parent population) but the mean age of those with markers of previous infection with hepatitis B virus (35·7 years) did not differ significantly from the mean age of the whole group (33 years) ($t=1.67$, $p>0.1$).

The work of others supports the need for screening for HBsAg in native West Indians.^{1,2} The remarkable finding of our study was the low prevalence of infection in the West Indian descendants born in the UK, even in a "high risk" population from a genitourinary medicine clinic. This must suggest that routine screening for HBsAg is unnecessary in British born negroes of West Indian descent in Lambeth, at least in the department of genitourinary medicine. Dr Cruickshank has misinterpreted our message. We believe our results are valid for the population we studied and that common sense has as important a part to play in medicine as confidence limits.

M J GODLEY
P W LAIDLOR
J E BANATVALA

Departments of Genitourinary Medicine and Clinical Virology,
St Thomas's Hospital,
London SE1 7EH

1 Mazzur S, Nath N, Fang C, et al. Distribution of hepatitis B virus (HBV) markers in blood donors of thirteen western hemisphere countries: proceedings of the Red Cross Latin American hepatitis B workshop. *Bull Pan Am Health Organ* 1980;14:44-51.

2 Barbara J, et al. Hepatitis B in a West Indian population in the United Kingdom. *Br Med J* 1986;292:766.

Employees with epilepsy in the NHS

SIR,—Dr T A Betts's desire to obtain employment for sufferers from epilepsy is well known, and occupational physicians would support him in his efforts. Certain qualifications to the guidelines he quotes in his letter (15 March, p 764) are, however, necessary. Firstly, the guidelines state that a person with epilepsy who is legally entitled to drive shall be deemed fit for employment in any branch of the National Health Service. One branch that would clearly exclude anyone who has had a fit after the age of 5 is the ambulance service. In addition, there are many other driving posts within the NHS that require only someone with a private driving licence but in which it would also be wise to exclude all subjects who have had fits after the age of 5. I believe Dr Betts will find that the medical advisers at the Driver and Vehicle Licensing Centre would term these "professional drivers" and agree with this exclusion.

Secondly, Dr Betts states that "many medical and surgical tasks do not carry such responsibili-

ties"—for example, sole charge of an unconscious patient. Perhaps he needs to be more specific. It would be difficult to find any, let alone many, medical or nursing posts in which a sudden loss of consciousness would not be potentially hazardous to a patient.

Thirdly, although I agree that every opportunity should be given to sufferers to appeal against a refusal or termination of employment on medical grounds, and to ask for a second opinion, in the end the decision must rest with the management, which has the right to accept or reject any medical advice given. Obviously, if the management decides to reject medical advice it risks the matter going to an industrial tribunal, but it still has that right. No doctor, unless he happens to be the manager, may take on this management role.

W G BENSON

Occupational Health Department,
Bristol Royal Infirmary,
Bristol BS2 8HW

Neonatal screening for sickle cell disease in Camberwell

SIR,—As the white mother of a mixed race child whose father is black (of West Indian origin) I was interested in the pilot study by Dr Mary E C Horn and others (15 March, p 737). I was surprised, however, to see no reference to the self help group, Organisation for Sickle Cell Anaemia Research (OSCAR),¹ which celebrated its tenth anniversary in 1985, or to any other self help group. Both the Lambeth and Lewisham branches of OSCAR must be close to the Camberwell area where the study took place.

Interestingly, Dr Horn and others did not include for screening those children of white mothers whose father was not white. I assume the reason was that there was no plan to inform parents whose infants were heterozygous unless requested, and this is the only likely abnormal phenotype for an infant with one white parent (almost certainly HbAA) and one black parent (possibly HbAS or HbSS). "In the absence of expert counselling routine notification of parents whose infants are heterozygous is of no immediate value and may cause unnecessary anxiety." I suggest that contact with counsellors from OSCAR would have supplied this need.

When at my request my son was screened at 18 months of age I would have wanted to know if he were heterozygous. Because of my medical training my attitude to this may differ from that of non-medical people. I think in general, however, that people want and have the right to know.

I strongly agree that "more emphasis must be placed on sickle cell disease in the education of doctors and nurses and short specialised courses are needed for health visitors undertaking counselling in family planning and antenatal clinics." The need for a "major programme of education and screening... for the two thirds of a million black people living in Great Britain" is something that should be undertaken in collaboration with the existing agencies, including OSCAR, so that black people may participate in the planning, rather than having them imposed by the health authority, thus recognising the needs that black people are themselves expressing.

The national head office of OSCAR is at 200A High Road, Wood Green, London N22 4HH, and there are other branches in Lewisham, Lambeth, Reading, Walthamstow, Nottingham, Birmingham, and Bristol.

H COOLING

Montpelier,
Bristol BS6 5JS

Radiation dose to patients from extracorporeal shock wave lithotripsy

SIR,—We would like to point out that extracorporeal shock wave lithotripsy using the Dornier lithotripter as described by Mr C R Charig and colleagues (29 March, p 880) is a procedure which necessitates a high radiation dose to the patient. No published data on the radiation doses received by patients during the procedure are presently available and we report here the results of measurements which we have made on a series of 33 patients treated on the Dornier lithotripter at St Thomas's Hospital.

Measurements were made by thermoluminescent dosimetry of the incident skin doses received from both of the x ray beams of the stereoscopic localisation system. The radiation doses to the skin had a mean value of 12 cGy (rad) (range 2-53 cGy).

Two exposure techniques are used: conventional TV fluoroscopy (mean screening time 218 s, range 23-521 s) and "snapshots"—radiographic exposures which give a higher quality still picture on the TV image storage system (mean number of snapshots 22, range 4-59). High exposure factors are necessary since the beams pass obliquely through the patient. These figures do not include one patient whose calculus was exceedingly difficult to localise and who was obviously an atypical case (145 cGy to left side, 107 cGy to the right side, 682 s screening time, 168 snapshots). These radiation doses are comparable with those received from other high dose x ray procedures such as cardiac catheterisation.¹

Several other commercial extracorporeal shock wave lithotripsy machines are now being introduced, some of which use ultrasound rather than x rays for localising calculi at the system's pressure focus.² This has the advantage of reducing both the radiation hazard and the cost of the equipment compared with systems that rely on x rays. However, x rays would still appear to have the edge over ultrasound in terms of the ease of localisation and of the clarity in monitoring disintegration of the calculus.

J E SAUNDERS
D J EARLE
J C PORTER
A J COLEMAN

Department of Medical Physics,
St Thomas's Hospital,
London SE1 7EH

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2 Martin X, Mestas JL, Cathignol D, Dubernard JM. Ultrasound localisation for shock-wave lithotripsy. *Lancet* 1985;ii:1005.

Assessing exercise capacity in chronic heart failure

SIR,—For some time we have been using the six minute walking test to assess objectively the exercise capacity of elderly patients and monitor their response to treatment (8 March, p 653). Previously we had found few patients aged over 70 years who would consent to bicycle or treadmill testing, and maximal or near maximal exercise was rarely achieved. Most, however, can attempt the six minute walk, which has the advantage of being performed in any level corridor without the need for special equipment. Compliance is generally excellent, and, although we routinely repeat the test once with a resting period between attempts, we find that the difference in distance walked in successive tests is rarely significant.

During the past two years we have used serial walking tests to monitor the response of patients

with congestive heart failure to treatment with angiotensin converting enzyme inhibitors. The mean (SEM) distances walked before treatment by our patients with New York Heart Association class II (five patients) and class III (10 patients) heart failure were 301 (21) m and 190 (29) m, respectively. These are shorter than those reported by Dr Lipkin and colleagues, perhaps because of the greater age of our patients (mean 77, range 69-83 years). Subsequent subjective reduction in symptoms and objective improvement in performance of daily activities and overall functional ability¹ appear to be closely related to increases in walking distance.

Our experience supports the conclusions of Dr D P Lipkin and others. As walking is often seen as the yardstick of health by old people² the six minute walking test would seem particularly appropriate for elderly patients, for whom more sophisticated testing is not at present widely available or practised.

JOHN PATHY
ANTONY J BAYER

University Department of Geriatric Medicine,
Cardiff Royal Infirmary, Cardiff CF2 1SZ

1 Sarro JE, Sarno MT, Levita E. The functional life scale. *Arch Phys Med Rehabil* 1973;54:214-20.

2 McHeath JA. *Activity, health and fitness in old age*. Beckenham, Kent: Croom Helm, 1984.

SIR.—We disagree with the suggestion of Dr D P Lipkin and colleagues (8 March, p 653) that symptoms are an unrealistic guide to the degree of cardiac limitation. Rather, symptoms are a necessary part of the clinical assessment although sometimes misleading. There is no single "gold standard" by which heart failure is judged.

We have recently studied this problem in a group of patients who presented with stable complete heart block accompanied by breathlessness. None were in overt heart failure, and breathlessness improved after pacing. In each patient the ventricular rate was changed at fortnightly intervals in a double blind randomised trial. An overall symptom score (better, same, or worse) was closely linked to other symptom scores,^{1,2} the distance walked in six minutes, and what is perhaps the acid test: weekly walking activity measured using a pedometer (χ^2 test; $p < 0.05$ for all associations).

We have used the six minute walking test in two further studies to assess symptoms of breathlessness in cardiac disease (unpublished findings). Although we have also found the test less useful in patients with mild disease, we believe that the sensitivity can be improved by the use of symptom scoring or possibly strong encouragement during the test.⁴

MICHAEL JAMES
MARK PAPOUCHADO
ADRIAN ROZKOVEC

Department of Cardiology,
Bristol Royal Infirmary, Bristol BS2 8HW

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Checks and counterchecks

SIR.—In writing about endotracheal intubation Dr R Sneyd (8 March, p 694) has expressed several opinions which are incorrect and in one instance

5 APRIL 1986

at dangerous variation with currently accepted standards of anaesthetic practice.

Firstly, his fear of being led "up the path of check and countercheck" is inappropriate for an anaesthetist. Repeated observations and unceasing vigilance are essential components of safe anaesthesia.^{1,2}

Secondly, it is not accepted practice for doctors to work "independently without checks." Junior hospital doctors treat patients under the supervision of a consultant, to whom some or all of the responsibility of the management of the case may devolve.³ Consultants themselves are not immune from scrutiny, as the current Savage inquiry illustrates.

Thirdly, although I cannot see the relevance of Dr Sneyd's comments on drug administration to endotracheal intubation, the issue is one of recurring topicality.^{4,5} There are many reports of morbidity and mortality arising from errors in drug administration,^{6,7} and the idea of obtaining an independent check, although irksome and time consuming, is actually a possible solution to the problem.

Lastly, the possibility of non-recognition of oesophageal intubation forms part of the central theme of Dr D B Scott's leading article (18 January, p 157) and echoes the findings of the Association of Anaesthetists' confidential inquiry into deaths associated with anaesthesia.⁸ If at any time doubt exists about the position of an endotracheal tube a second opinion, and possibly removal of the tube, might be extremely wise and certainly in the best interests of the patient.

MICHAEL BEECH
London SE24 9QY

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Restraint of babies in cars

SIR.—We note with great interest the suggestions by Ms Karen Penny-Jones and colleagues (1 March, p 591) that the medical profession and others should accept the challenge to improve the use of safety devices by babies in cars.

We were pleasantly surprised to read that the Southampton surveys found as many as 40% of parents using safety devices for their babies. The national surveys¹ and our own informal inquiries indicated a much lower usage rate than this for babies—somewhere around 25%. The authors may be encouraged to know that the Child Accident Prevention Trust has already accepted the challenge and has reconvened its previous working party on the safety of children in cars. This group is looking at the whole range of children and is expected to come up with recommendations which will include much greater activity by district health authorities and family practitioner committees to improve child car safety.

In 1985 a new British Standard, BS AU202, was published which provided a specification for infant carriers designed to carry young babies in a semireclined position facing rearwards in the car. Its publication has resulted in a few seats becoming available. However, as such seats are useful for only six to nine months and cost at least £30, there

may well be resistance by parents against purchasing them.

In the USA² and Australia³ the first six months is the most vulnerable period, although this is not so in Britain.⁴ There is, nevertheless, a strong case for the use of restraints for babies and an even stronger case for doing this through a hire scheme rather than by outright purchase. Following the examples of New Zealand, Canada, and the USA, the Child Accident Prevention Trust is thus currently preparing guidelines to set up hire schemes for infant carriers. The trust views such schemes as one means of increasing the use of infant restraint systems, complementary to educational and other measures. It is keen to encourage district health authorities and other organisations to establish such schemes based in maternity hospitals and antenatal clinics. Some health authorities—notably so far Fife, south Warwickshire, and indeed Southampton—are already examining their feasibility. We shall watch their developments with interest.

We consider improvements in car safety for children to be long overdue in Britain. The health authority hire scheme has the added advantage of introducing systematic concepts of child safety from the day of birth, not only for car occupants but also for all other aspects of child safety.

J G AVERY

South Warwickshire Health Authority,
Warwick CV34 4DE

H R M HAYES

Child Accident Prevention Trust,
London W1

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Screening for glaucoma

SIR.—Mr Roger A Hitchings (22 February, p 505) rightly draws attention to the desirability of screening for open angle glaucoma in the elderly. We believe that there is a role for the primary care team in so doing and would support him in this respect. However, he proposes that such screening should be conducted on the basis of identifying risk factors in the personal and family history and on direct ophthalmoscopy to detect abnormal cup to disc ratios. We would question whether this is the appropriate method, both on the basis of published evidence¹⁻³ and as a result of work which we have recently performed and prepared for publication.

The advent of "puff tonometry" in many high street opticians has resulted in an increase in referrals via GPs to eye departments for "raised intraocular pressure, ?glaucoma," as mentioned by Mr Hitchings. However, these instruments, as well as being expensive and impractical for GPs to use, give spuriously high readings with resulting false positives. By contrast, the cheaper Perkins applanation tonometer is similar in size to an ophthalmoscope and is highly accurate in trained hands. We felt that if large numbers of patients were likely to be referred by GPs to eye departments as a result of high puff readings alone there was a case for evaluating the results of screening by applanation tonometry alone. We chose the over 65s, a group less likely to see their opticians for the reasons mentioned by Mr Hitchings and among whom the prevalence of undetected glaucoma is estimated at 2.9%.