tion in the concentration of hepatitis B surface antigen.

Secondly, there is advice that if a surgeon is to continue operating he or she must either be known to have been immunised or have detectable hepatitis B surface antigen.² This advice is echoed in recommendations of the United Kingdom Advisory Group on Hepatitis, which says, "All staff who perform invasive surgical procedures . . . should be immunised against hepatitis B . . . and . . . their immunity should subsequently be checked."³

There is the possibility that health care workers who are immune, according to the first view, will be discriminated against. In our experience it is not uncommon for some individuals who are known to have responded to quickly become seronegative on routine testing. Further, it is well recognised that a few people persistently do not respond to the vaccine. Some Japanese authors describe the delayed-type hypersensitivity (DTH) skin reaction as "a useful and reliable marker for the acquisition of active cellular immune responsiveness of HBsAg."⁴ This may provide a solution. But in the absence of any standardised current test of the memory cells or of the cellular component of immunity against hepatitis B how would such discrimination be avoided?

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1 Kane M. *Effective strategies for the control of transmission. Improving protection against hepatitis B in the workplace.* London: Viral Hepatitis Prevention Board, 1992.

2 Heptonstall J. Outbreaks of hepatitis B virus infection associated with infected surgical staff. *Communicable Disease Report* 1991;1:R81-5.

3 United Kingdom Advisory Group on Hepatitis. *Hepatitis B infected health care workers: occupational guidance for health care workers, their physicians and employers.* London: The Group, 1992.

4 Nagafuchi S, Kashiwagi S, Okada K, Anzai K, Nakamura M, Nishimura Y, et al. Reversal of nonresponders and post-exposure prophylaxis by intradermal hepatitis B vaccination in Japanese medical personnel. *JAMA* 1991;265:2679-83.

Disorienting stationary escalators

EDITOR,—Surely the answer to the disorientation that accompanies climbing or descending a stationary escalator¹ is that the stairs on a static escalator have disconcertingly unfamiliar graduated rises at the top and bottom, with higher rises than on normal stairs in between. As Bernard Dixon so accurately describes it, "The sensation becomes less odd as you go downwards, but stepping off at the bottom is equally disconcerting."

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1 Dixon B. Out of steps. *BMJ* 1992;305:1101. (31 October.)

Juniors' hours and conditions

EDITOR,—In her article on juniors' hours Fiona Godlee mentions that the task forces are responsible for seeing that juniors' living conditions are improved.¹ They should look into the difficulty of sleeping in many on call rooms.

Time and time again I find that when I eventually get to bed I am deprived of sleep by assorted disturbances: other doctors' telephones and bleeps going off (dividing walls seem to be paper thin); patient monitor alarms sounding; and busy nurses, porters, and relatives coming and going. At the crack of dawn (usually just before I get to bed) the cleaners arrive, greeting each other loudly and

singing while they polish the floors with a noisy machine. All this is against a background drone of unseen machinery punctuated by sounds from dyspeptic plumbing. Other sensory disturbances are no less infuriating: the light, be it from daybreak, streetlights, or carpark floodlights, which threadbare curtains do not keep out; rock hard or marshmallow soft mattresses; and, occasionally, foul smells.

Little time seems to have been given to finding ways of improving the quality of juniors' sleep while they are on call. Most of the above problems could be solved at minimal expense by considerate planning of the location of on call rooms and provision of adequate sound proofing and light proofing, such as double doors on rooms and lined curtains that cover windows fully. I hope that the task forces deploy some effort and money on this problem.

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1 Godlee F. Juniors' hours: is the end in sight? *BMJ* 1992;305:937-40. (17 October.)

EDITOR,—Fiona Godlee states that centrally funded consultant posts are allocated in order to reduce the hours of those who work for these seniors.¹ As a surgical house officer, I worked alongside another house officer for the same consultant. With the introduction of a newly appointed consultant my opposite number was removed and told to work for his new boss. My workload effectively doubled.

As Godlee recognises, there is still a long way to go in achieving a reduction in the hours and an improvement in the conditions endured by junior doctors. Guidelines may be set, but this does not mean that they are followed. An example is the filtering of out of hours calls by the night co-ordinator. Rightly, the aim is to let the night sister deal with some of the problems and to save up other calls until a reasonable hour. But it does not work; in practice, many nurses just bleep the doctor anyway.

Nurses are not permitted to give intravenous drugs if they completed their courses at alternative hospitals. But doctors do not attend courses on intravenous drips, let alone one at the hospital where they currently practise. And being tired is likely to lead to mistakes and to doses being given at erratic times.

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1 Godlee F. Juniors' hours: is the end in sight? *BMJ* 1992;305:937-40. (17 October.)

EDITOR,—Fiona Godlee's article on the problems facing regions attempting to reduce junior doctors' hours provides a useful summary of the current difficult situations.¹ She is not quite correct, however, when she states that regions "have no jurisdiction over senior house officer posts." The National Health Service (Vocational Training) Regulations (1979), introduced as a result of the National Health Service Act 1977, empower regional postgraduate committees to select posts for general practice training from the pool of posts approved by the specialty colleges. In practice this covers most senior house officer posts in accident and emergency, medicine, paediatrics, geriatrics, obstetrics and gynaecology, and psychiatry.

In the Oxford region all these departments are now being visited by a team that includes the postgraduate dean, a regional adviser in general practice, and the regional adviser in the specialty concerned. Particular attention has been paid to educational aspects and to living conditions. The exercise has provided the opportunity for a useful

dialogue and results in a report, which includes a list of good points and recommendations. In one case approval for general practice training was removed from an accident and emergency department because of inadequate supervision and monitoring, thereby stimulating the appointment of additional staff.

What started out as an exercise to improve training conditions for doctors intending to enter general practice has become a channel whereby the regional postgraduate education advisory board can monitor what is happening in a large percentage of the region's junior hospital posts.

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Partial shifts

EDITOR,—Fiona Godlee and D J Vassallo and colleagues highlight the difficulties in achieving reductions in juniors' hours.^{1,2} The surgical directorate at the Royal Hallamshire Hospital comprises seven general surgeons and seven house officers, with 114 acute surgical beds, a high dependency unit, and a day unit. The partial shift has one house officer on nights (seven days, 2300 to 0900) with the remaining six staff working days (0800 to 1800), cover (0800 to 2300), or take (0800 to 2400). Unlike at St Bartholomew's Hospital,³ a house officer is needed for evening cover because of the workload. Staff and measures introduced to facilitate the rota include a bed manager, phlebotomist, resident pharmacist, filing clerk, and admissions unit.

The main benefit is protected time off duty between shifts, but when house officers are on leave the remaining doctors work extra hours and are delayed in performing routine duties. Doctors who moved from a rota to the shift system were enthusiastic, but recent house officers who have experienced only the new system are sceptical about working evenings frequently, disrupted weekends, and restrictions on the timing of vacations. The August intake initially worked up to 20 extra hours but has improved with experience. This problem will recur annually, highlighting the need for improved induction courses.

The management has shown genuine commitment to complying with recommendations of the task force, but resistance has come from consultants who fear the end of the firm system and loss of continuity of care (because doctors fail to hand over patients adequately despite overlaps of one hour).

We will persist with the partial shift system because we do not believe that excessively long periods on duty are beneficial for doctors or their patients. Other units have been unable to adopt this system as it becomes impractical when there are insufficient doctors in the rota to allow for prospective cover. Partial shifts may work at St Bartholomew's Hospital, where there are fewer beds and more doctors, but to suggest that they can succeed in a district hospital by increasing cross specialty cover fails to recognise the excessive number of patients in such hospitals.

When all inappropriate duties have been re-allocated it will be apparent that there are not enough doctors for the volume of work. We disagree with Godlee that the answer is to form a subconsultant grade, which fails to serve the interests of patients and trainees. We support the aims of *Achieving a Balance*, with an increase in consultants (concomitant with an increase in

juniors) resulting in a consultant based service, preserving the career prospects of future doctors.

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1 Godlee F. Juniors' hours: is the end in sight? *BMJ* 1992;305:937-40. (17 October.)

2 Vassallo DJ, Chana J, Ingham Clark CL, Smith RE, Wood RFM. Introduction of a partial shift system for house officers in a teaching hospital. *BMJ* 1992;305:1005-8. (24 October.)

EDITOR,—D J Vassallo and colleagues have devised a shift system for the eight preregistration house surgeons who work for three general surgical firms such that each doctor works on average less than 64 hours a week.¹ Each surgical firm comprises two consultants, one senior registrar, and a senior house officer. Two firms have three preregistration house officers and one firm has two. These doctors are responsible for 80 general surgical patients, and the house officers also look after 20 radiotherapy inpatients.

Vassallo and colleagues thus show that with an abundance of junior medical staff it is possible to devise a rota such that the preregistration house officers work less than a 64 hour week—well within the maximum working week of 72 hours to be allowed after the end of 1994. In their conclusion the authors suggest that the principles of this partial shift system are generally applicable and that the model can readily be adopted by general district hospitals.

The authors seem to be unaware of the staffing levels that exist in many departments in district general hospitals. In my orthopaedic department there are two senior house officers and a preregistration house officer, who at present work a one in three rota. Each of these doctors is responsible for 1000 consultant episodes each year. They have the advantage of exposure to abundant clinical material. But no computer designed shift system would allow these doctors to work for a maximum of 72 hours a week and still provide continuity of cover for the department. The obvious solution is to appoint an additional preregistration or senior house officer to work in the department and thus establish a one in four rota. This, however, is not possible because of restrictions on staffing.

The difficulties that I describe will be faced by many departments throughout the United Kingdom, and attention should be directed to them. Complacency should not be allowed to develop: Vassallo and colleagues describe a shift system for a department that could be considered to have a glut of junior medical staff.

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1 Vassallo DJ, Chana J, Ingham Clark CL, Smith RE, Wood RFM. Introduction of a partial shift system for house officers in a teaching hospital. *BMJ* 1992;305:1005-8. (24 October.)

EDITOR,—Heartening as it is to see a centre of excellence embracing the new deal on junior doctors' hours,¹ we believe that some fundamental difficulties need to be addressed before such a scheme can be implemented in a district general hospital such as ours. Unfortunately, we also believe that these may apply to many new district general hospital trusts.

"Related specialties" in this hospital are general surgery—providing four consultants, two registrars, two senior house officers, and four house officers—and urology (on a split site)—providing two consultants and a single senior house officer. They have access to 60 beds. Orthopaedics and

fracture surgery have 48 beds, with three consultants, one staff grade surgeon, one career registrar, and four senior house officers. Though not doing higher surgical training, each of these senior house officers is in a post recognised for training for the FRCS.

In our case, combining orthopaedics and general surgery would result in 11 junior staff (seven senior house officers and four house officers) being available for shifts to cover nine consultants' firms. Safe cover of emergency admissions and 108 inpatients could be achieved only with a minimum of two doctors on call during night shifts as at least one would often be assisting the registrar or consultant on call in emergency surgery. The introduction of such a system in our district general hospital would be to the detriment of the quality of emergency care we currently provide and the training given to senior house officers. There would be no continuity of care by junior staff for emergency admissions after 10 pm. Decreased hours worked by junior doctors are not likely to be perceived as beneficial as the number and frequency of night shifts worked would cause much dissatisfaction. The out of hours commitment of consultants and career registrars would certainly be increased; as their commitment is already considerable this might well prove unacceptable.

We too have outlying patients for whom we must share responsibility, but direct comparison of our 108 inpatient surgical and orthopaedic beds with 50 general surgical beds at St Bartholomew's Hospital indicates that only after doubling our number of junior doctors would we have equivalent staffing. Thus we cannot accept that this system has any benefits to offer a district general hospital as we do not have the capacity for 50% redundancy in our junior staff. The standard of health care that is currently perceived as desirable can be achieved only at the expense of long hours worked by relatively few doctors for relatively little pay. Unless the number of doctors is increased, hours cannot be reduced without a lowering of that standard.

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1 Vassallo DJ, Chana J, Ingham Clark CL, Smith RE, Wood RFM. Introduction of a partial shift system for house officers in a teaching hospital. *BMJ* 1992;305:1005-8. (24 October.)

EDITOR,—The Junior Doctors Committee purports to represent our interests. D J Vassallo and colleagues' article on partial shifts¹ illustrates much of the double speak about the real views of many junior doctors.

"The new deal" is designed to bring about major reductions in junior doctors' hours of work and improve overall working conditions while maintaining clinical and educational standards. Without an increase in the number of junior doctors simple arithmetic dictates that to reduce our hours the volume of work and number of patients covered while on duty must be greater. In a busy faculty such as general medicine it is hard to see how this could be tolerated. Most of our colleagues view with scepticism the idea that this will be alleviated by the appointment of one or two more staff grade doctors.

The argument that a shift system can enhance social and family life when you work a week of nights is beyond us. Vassallo and colleagues gloss over the fact that only six of the 16 house surgeons concerned preferred partial shifts to their old on call rota.

The new deal also fails to mention the best method of learning, which will inevitably be destroyed—namely, having a close working relationship with your consultant, whose experience can never be substituted for by additional out of hours work in the library.

It is true that nobody likes change—but especially when it is for the worse.

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1 Vassallo DJ, Chana J, Ingham Clark CL, Smith RE, Wood RFM. Introduction of a partial shift system for house officers in a teaching hospital. *BMJ* 1992;305:1005-8. (24 October.)

EDITOR,—Having vivid memories of working a one in two on call rota in a professorial surgical unit (average weekly number of hours on call 116-128), I was pleased to read of D J Vassallo and colleagues' introduction of a partial shift system for house officers in a similar unit,¹ with a reduction in working hours to the more acceptable 64 per week.

It is unfortunate that the government has not chosen to address the problems of providing 24 hour cover 365 days a year in general practice, particularly in semirural areas. Although the intensity of work during time on call is less than it was in my professorial house job, disruption of sleep can impair performance during the next working day. To address this problem one of my colleagues (W M Campbell) has produced a model rota for a practice of three doctors (figure). The

Rota for general practice with three doctors (A-C)

rota reflects the partners' wish to have a rolling rota and complete weekend cover. It employs the concept of an on call doctor each day. The on call doctor holds an early surgery but has an unstructured day from 11 am, which allows him or her to carry out new and return home visits and deal with all problems arising over a 24 hour period. Before a weekend on call the doctor has the preceding Thursday off. On the subsequent Monday he or she has a half day. Thus 76 hours on call is buffered by a definite off period. In the remaining week of the rota each doctor has a half day on Wednesday.

We believe that the rota minimises the cumulative effects of multiple nights of disturbed sleep, and all partners have felt able to cope with the demands of providing 24 hour care. Now that the problems of junior hospital doctors' hours are being addressed, however, it is to be hoped that general practice hours and rotas could be given similar consideration.

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1 Vassallo DJ, Chana J, Ingham Clark CL, Smith RE, Wood RFM. Introduction of a partial shift system for house officers in a teaching hospital. *BMJ* 1992;305:1005-8. (24 October.)