for a busy laboratory are not accompanied by commensurate and worthwhile financial savings.

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SIR,—Dr G W Pennington (21 February, p 521) expresses the anxiety felt by many people who work in clinical laboratories that as a result of new technology there may be, on the one hand, excessive centralisation and, on the other, over-distribution of some analytical work to bring it near to the patient.

The adoption of small machines to help hard pressed junior doctors to undertake a large part of the laboratory workload in hospitals would be uneconomical and present almost insuperable problems for training and quality assurance. Over-centralisation would attenuate the links between the pathologist and the clinician. Formal or informal comment or interpretation by a pathologist, which is common to all the laboratory disciplines, is as much a part of the scientific process as quantitative observation, and deterioration of this aspect of the laboratory service cannot be of benefit to patients.

Major discoveries or innovations are constantly challenging accepted ways of thinking or suggesting alterations in the delivery of a service. In fact, there has been an increase in the demand for skills in laboratory services despite the fact that much of the output in some disciplines comes from mechanised analysers. With the further development of the sciences the ability to attract first rate medical and non-medical recruits to the scientific services and to harness their skills will, I believe, continue to be essential for advance in medicine.

Dr Pennington pleads for a professional examination system that puts patient care before an inappropriate emphasis on research. There can be few, if any, royal colleges that would deny that some research is highly desirable in the training of doctors. Designing a project, making original observations, however humble, and writing a scientific document that is acceptable to the peer review of a scientific journal or university examiners provides us with a critical resource for evaluating published data, on which so much of our practice is based. The council of the Royal College of Pathologists is reviewing the structure of its examinations so that pathologists in training might have more flexible programmes without the overall duration of training being extended.

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What's new in the new editions?

SIR—In the review of the excellent new book on magnetic resonance imaging (21 March, p 765) I was surprised and saddened that such an eminent physician as Dr Clifford Hawkins continued the general confusion that surrounds diagnostic x rays, neutrons, and magnetic resonance.

In diagnostic radiology the patient is not "bombarded by neutrons" but exposed to a beam of electromagnetic waves with wavelengths of 0.1 nm to 0.01 nm (x rays), produced when accelerated electrons bombard a tungsten target in a vacuum tube. Exactly the same rays may be emitted when a

radionuclide decays, but when produced in this way they are called gamma rays.

Neutrons, by contrast, are not "rays" but uncharged subatomic particles with the power to penetrate deep tissues. They are used in some forms of radiotherapy and may have some advantages over deep x ray treatment. Magnetic resonance imaging uses pulses of non-ionising radiowaves, from the opposite end of the electromagnetic spectrum to x rays, with wavelengths in metres and centimetres similar to those used by radio "hams" and shipping communications. These perturb a tiny proportion of a patient's spinning protons, which have been preconditioned in a strong magnetic field, and then a receiver collects the re-emitted radiosignal that the protons produce when returning to their original state. A sectional image is constructed by a computer from the information encoded in this signal.

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SIR,—Many readers will have been startled to learn from Dr Clifford Hawkins's review of publication *Magnetic Resonance Imaging: Principles and Applications* (21 March, p 765) that the technique is safer because the patient is not being "bombarded by neutrons as in conventional radiography."

This remarkable misconception about the routine radiograph some 90 years after Roentgen's discovery of x rays reinforces my belief that medical students should learn about radiology from radiologists and that some critics succeed only in "disturbing the peace of the dead."

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Open access to orthopaedic appliances for general practitioners

SIR,—I was interested to read the articles by Dr Sandra Payne and colleagues and Professor William Waugh (21 February, p 485 and 464) as I was not aware that appliances could be prescribed for a patient only if that patient had been examined by a consultant.

When I was appointed consultant to this district in 1981 several clinical appointments were occupied by patients for whom I was being asked to renew corsets that had been prescribed initially many years previously, which seemed an obvious waste of my time. It was also apparent that a patient with acute neck pain might simply need a collar, but because the volume of patients did not allow that person to be seen immediately the collar might not get fitted until well past the time when it was necessary.

It was therefore agreed (after some initial resistance from the holder of the surgical appliance budget) that general practitioners should be able to refer directly to the surgical fitter patients whom they thought might benefit from lumbosacral corsets, collars, wrist splints, insoles, and so on. Though a condition of the agreement was that I had to countersign these requests after the appliance was supplied, it became clear over a few months that appliances were not being prescribed inappropriately, and therefore for the past few years all general practitioners in this district have been able to prescribe surgical appliances as they

feel appropriate, which has meant that these appliances have been fitted when they were most needed.

As with direct access to physiotherapy, direct access to the surgical fitter has meant that outpatient clinics are less likely to be full of patients who do not actually need to be seen there and can be used more for diagnosis and management of the more complicated problems, with which the general practitioner needs help. At a time when demand on health services is increasing and patients may have to wait a long time for clinic appointments we cannot afford to see patients who do not really need to be seen.

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Restless legs syndrome

SIR,—Dr Chris Clough (31 January, p 262) regards as astonishing Von Scheele's finding that 17 out of 20 patients preferred levodopa (and benserazide) to lactose in a double blind trial in the treatment of restless legs.¹

Von Scheele stated that "Each patient was provided with two coded boxes: one contained capsules with levodopa and benserazide, and the other contained capsules with lactose. The appearance of the two preparations was identical, so the patient and the assessor were 'blind' to the contents of each box. The patients were instructed to take capsules daily from alternate boxes. The regimen was continued until patients stated a preference for one of the treatments or were unable to discriminate between the two." For preparations to seem identical may entail more than meets the eye. The smell and taste of the preparations is important, and the patients in Von Scheele's study had 14 days before the trial to become familiar with the taste and smell of levodopa, which gave them a basis for comparison during the study. This could have been tested empirically by formal tests of distinguishability before the trial to identify those patients who could tell the difference between the preparations.

Formal, systematic records of side effects kept by both the assessor and the patients and objective measures of restlessness of the legs kept by the assessor and the patients' relatives would have improved the study, as would a detailed report of the method of measuring, which resulted in 17 out of 20 patients reporting complete, as distinct from partial, relief.

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1 Von Scheele C. Levodopa in restless legs. *Lancet* 1986;ii:426-7.

Epidural morphine for outpatients with severe anginal pain

SIR,—Firstly, like most authors who write about epidural opiates, Dr Søren Eigil Clemensen and colleagues (21 February, p 475) did not describe the opiate regimens being used before implantation, and thus no comparison of opiate intake can be made. Secondly, there is little description of pain evaluation before or after treatment. The abstract states that "all patients were free of pain while receiving the treatment," but in the results the authors state that "anginal pain in all seven patients lessened."

Instead of giving hard data on the evaluation of pain the authors provide data on preoperative