knee problems referred for imaging in the two groups. In any evaluation such variations in case mix must be carefully controlled for,¹ particularly if results form the basis of recommendations for clinical practice.

It is curious that there was no orthopaedic input to the study. An orthopaedic consultant with an interest in the knee should be able to sort out most patients with knee pain on clinical grounds. Indeed, for some clinical diagnoses, such as anterior knee pain, magnetic resonance imaging has little proved clinical value.²⁻⁴ Not all general practitioners will understand the implications of the findings of magnetic resonance imaging. The sensitivity of imaging for a lateral meniscal lesion, for example, is not particularly high (approximately 0.8).^{3,4} Similarly, loose bodies may be missed. The patient may be falsely reassured and appropriate treatment delayed or denied.

From the above it might be assumed that we are not enthusiastic about magnetic resonance imaging of the knee. On the contrary, we expect the use of this type of imaging for knee and other problems to continue to increase. We are merely suggesting that widespread use is likely to lead to increased rather than decreased overall costs. When used judiciously, magnetic resonance imaging of the knee has a proved diagnostic and therapeutic impact and is associated with improvements in quality of life.⁴ We consider that patients with knee problems are best served by being seen quickly by an experienced orthopaedic surgeon, who can make appropriate referrals to a radiologist.

RODERICK MACKENZIE

Research fellow, university department of radiology

DENNIS EDWARDS

Consultant orthopaedic surgeon

ADRIAN K DIXON

Professor of radiology

Addenbrooke's Hospital,
Cambridge CB2 2QQ

1 Watura R, Lloyd DCF, Chawda S. Magnetic resonance imaging of the knee: direct access for general practitioners. *BMJ* 1995;311:1614. (16 December.)

2 Mackenzie R, Dixon AK, Keene GS, Hollingworth W, Lomas DJ, Villar RN. Magnetic resonance imaging of the knee: assessment of effectiveness. *Clin Radiol* (in press).

3 Justice WW, Quinn SF. Error patterns in the MR imaging evolution of menisci of the knee. *Radiology* 1995;196:617-21.

4 Mackenzie R, Palmer CR, Lomas DJ, Dixon AK. MRI of the knee: diagnostic performance statistics. *Clin Radiol* (in press).

5 Mackenzie R, Dixon AK. Measuring the effects of imaging: an evaluative framework. *Clin Radiol* 1995;50:513-8.

Paper highlights shortage of orthopaedic skill

EDITOR,—I am concerned at R Watura and colleagues' recommendation that general practitioners should have direct access to magnetic resonance imaging for knees with suspected internal derangement.¹ The basis of this suggestion was the observation that the findings on scanning for patients referred by general practitioners did not differ significantly from those for patients referred by orthopaedic teams. The claimed justification for the considerable expense involved was that patients with negative findings (26%) were not referred to orthopaedic clinics, which thus resulted in reductions in outpatient referrals and waiting lists. The authors imply that those patients referred to an orthopaedic surgeon would have required a scan anyway, but this is questionable. The authors fail to observe that the cost of a consultation with an orthopaedic surgeon with an interest in the knee is only a small fraction of the cost of a magnetic resonance imaging scan.

It can also be argued that magnetic resonance imaging scans often show spurious abnormalities, which, through doctors' lack of experience and sometimes a deficiency of clinical examination, may result in an increased number of outpatient referrals. Excessively easy access to special investigations may, at any level, be seriously detrimental to the declining art of clinical examination.

The final indications for, and the usefulness of, magnetic resonance imaging of the knee have yet to be determined by knee specialists. It is surely sensible to try to contain unnecessary costs until these are established. I suggest that this paper highlights the fact that there is a serious shortage of orthopaedic skill. Improvement in the provision of orthopaedic teaching for many present, and all future, general practitioners is needed. Much greater availability of properly trained and specialist orthopaedic surgeons is required if expensive, short sighted distractions such as direct access to magnetic resonance imaging of the knee are to be discouraged.

JOHN IRELAND

Consultant orthopaedic surgeon

Knee Surgery Unit,
Holly House Hospital,
Buckhurst Hill,
Essex IG9 5HX

1 Watura R, Lloyd DCF, Chawda S. Magnetic resonance imaging of the knee: direct access for general practitioners. *BMJ* 1995;311:1614. (16 December.)

Authors' reply

EDITOR,—We recommend magnetic resonance imaging for investigating suspected ligamentous or meniscal injury. In response to Jeremy Southgate and Neil Thomas, our study suggests that general practitioners are as capable as hospital doctors of requesting magnetic resonance imaging and using the results appropriately. Altogether 12% of patients with normal scans were referred to an orthopaedic surgeon and 25% of patients with cruciate meniscal tears were not referred, which indicates that general practitioners will use their clinical judgment in assessing the importance of the findings on magnetic resonance imaging. More work needs to be done to determine whether selection of patients can be improved in both groups to minimise inappropriate requests for scans. Monitoring of referrals is essential.

There are not enough consultant orthopaedic surgeons with an interest in knees to see all patients, and many patients who are referred are seen by junior staff. To employ new consultant orthopaedic surgeons with the back up of an arthroscopic theatre would have more resource implications than access for general practitioners to magnetic resonance imaging.

Mackenzie and colleagues suggest that orthopaedic surgeons may take patients direct to arthroscopy. General practitioners too may refer patients with appropriate signs and symptoms direct to an orthopaedic surgeon.

Reference is made to the skill of clinical examination by orthopaedic specialists. Unfortunately, the apparent decline in clinical skills is not just due to the availability of imaging techniques as a short cut but also because better imaging has shown the limitations of even good clinical examination.

With regard to justifying the cost of our recommendations, there are potential savings in orthopaedic referrals and value for money in improved and prompt management. A single consultation with an orthopaedic surgeon may at present be cheaper than magnetic resonance imaging, but many patients who are seen also require imaging. Having the result of imaging available at the initial consultation may save on follow up appointments.

Finally, general practitioners need to keep up to date with modern imaging, which forms an increasingly important part of patients' management. Radiologists can provide advice and guidance when appropriate.

Open access for general practitioners to such investigations as ultrasonography and endoscopy was initially opposed by hospital consultants, but few would now suggest a reversal of that policy. It would be absurd to suggest that general practitioners are capable of prescribing expensive

drugs with complex interactions and side effects but not capable of selecting patients for magnetic resonance imaging of the knee and using the results appropriately.

DAVID C F LLOYD

Consultant

SANJIV CHAWDA

Registrar

Department of Radiology,
Cardiff Royal Infirmary,
Cardiff CF2 1SZ

ROLAND WATURA

Lecturer

University Hospital of Wales,
Cardiff CF4 4XW

Cochlear implantation is controversial among deaf people

EDITOR,—Richard Ramsden and John Graham's editorial on cochlear implantation makes it clear that, from a medical perspective, this treatment represents a great advance in the management of deafness.¹ I am surprised that the authors fail to mention the reaction that this issue has provoked among deaf people.² There is no opposition to restoring hearing to children or adults who have become deaf after learning spoken language, but in promoting cochlear implants for children who are born deaf doctors have lost the confidence of many deaf people.³

The editorial's authors point out that a deaf infant given a cochlear implant may be expected "to acquire intelligible speech" and "be educated in mainstream schools." Unfortunately, speech that is intelligible to a sympathetic listener and hearing that will never be completely normal may not be enough to enable the child to thrive in a mainstream school.

Hearing people assume that to be provided with limited speech and hearing is necessarily better than being deaf. Others have argued that the most reliable way for a deaf child to attain normal development and education is for sign language to be accepted as the child's first language. In social development, too, children with cochlear implants will fall into the group who are neither deaf nor hearing, unable to be fully integrated into a hearing world but set apart from the vibrant culture of deaf people.

There is no doubt that we live in a world that handicaps deaf people. We should not assume that the answer to this problem lies in surgery, especially when deaf people themselves are challenging such management.

RUPERT GAUNTLETT

Second year clinical student

Leicester University Medical School,
Leicester LE1 7RH

1 Ramsden R, Graham J. Cochlear implantation. *BMJ* 1995;311:1588. (16 December.)

2 Lively debate at cochlear implant forum. *British Deaf News* 1994;25(9):17.

3 BDA members discuss cochlear implants. *British Deaf News* 1994;25(10):6.

BMA division disagrees with association's stance over advance directives

EDITOR,—Bromley division of the BMA is seriously concerned by the association's stance over advance directives. The BMA originally expressed the view that "mutual respect and common accord is better achieved without legislation" and stated that "the BMA does not support legally binding advance directives." Despite this and the decision of the annual representative meeting in 1993 that "in the matter of advance directives, no doctor should be obliged by patients, relatives or hospital admini-