colleagues also mention that continual feedback may be necessary. We, however, found no significant trend towards a rise in frequency during the second period when this was analysed in smaller time intervals. Unlike us, Stratton and colleagues aspired to a standard defined a priori. The need for frequent feedback may depend on the standard aspired to.

TINE BRINK HENRIKSEN
Research fellow
KARL MØLLER BEK
Registrar
MORTEN HEDEGAARD
Research fellow
NIELS JØRGEN SECHER
Consultant in obstetrics and gynaecology

Perinatal Epidemiological Research Unit,
Department of Gynaecology and Obstetrics,
Aarhus University Hospital,
DK-8000 Aarhus C,
Denmark

Doctors' and nurses' right to refuse to participate in abortions

EDITOR,—In his letter on doctors' right to refuse to perform abortions Dennis Cox is misleading in three respects.[1] Firstly, he states that in two cases the House of Lords "made clear that neither secretaries nor nurses had a legal right to refuse to participate in abortions."[1] It did not. Section 4(1) of the Abortion Act 1967 states: "no person shall be under any duty . . . to participate in treatment authorised by this Act to which he has a conscientious objection." These terms include anyone (nurse, junior doctor, or anyone else) asked to participate. Cox's use of the word "perform" is therefore unfortunate. The word "participate" clearly encompasses a wider group than does "perform." In the case of Janaway *v* Salford Health Authority Lord Keith, delivering the judgment of the House of Lords, held that "'participate' . . . in its ordinary and natural meaning referred to actually taking part in treatment . . . for the purpose of terminating a pregnancy."[2] In this regard he was agreeing "entirely" with Mr Justice Nolan (as he then was) in the High Court, who, interestingly, also denied that the right of conscientious objection was limited to the doctor, nurses, and paramedical staff: it included those involved in preoperative and postoperative care.[3] Hence, clearly, any member of theatre staff involved in an abortion (whether junior doctor or nurse) has a legal right to refuse to participate. So too, it seems, may those involved in preoperative and postoperative care.

In the case of Janaway the House of Lords held that Mrs Janaway, in typing a letter of referral, would not be participating in the abortion. The House dismissed her appeal, not because she had no legal right to refuse to participate but because in its judgment the ordinary meaning of participate "did not cover any arrangements preliminary to . . . terminating a pregnancy, such as typing letters of referral."[2]

Secondly, Cox refers to two cases but cites only one: that of Janaway. Janaway is the only case in which the House of Lords has decided on this matter.

Thirdly, whereas Cox states that the general practitioner "has a legal duty to sign the [green] form" there is nothing in Lord Keith's speech to warrant such a sweeping statement. Lord Keith observed: "It does not appear whether or not there are any circumstances under which a doctor might be under any legal duty to sign a green form, so as to place in difficulties one who had a conscientious objection to doing so. . . . I do not think it appropriate to express any opinion on the matter." In other words, Lord Keith expressly left this question open.

Cox is wrong to say that the House of Lords ruled that the conscientious objection "applied only to people performing abortions." Junior doctors and nurses can rest assured that their right to refuse to participate (that is, to take part) in abortion is guaranteed by law.

GAVIN JARVIS
Research student

Queens' College,
Cambridge CB3 9ET

1 Cox D. Doctors' right to refuse to perform abortions. *BMJ* 1994;**309**:1582. (10 December.)
2 Janaway v Salford Health Authority [1988] 3 All ER 1079 (HL).
3 Keown IJ. Abortion, conscientious objection, and the law. *Litigation* 1988;**8**:17.

Muslim customs surrounding death

EDITOR,—A R Gatrad's article on Muslim customs surrounding death, postmortem examinations, and organ transplants was useful.[1] The current view of eminent jurists in south Asia is that organ transplantation is permissible and desirable only if it is life saving; there is a longstanding tradition of this practice among Muslim nations of south Asia. The absence of women from funeral rites is not strictly adhered to and is more a cultural practice than a religious one.

Lastly, the photograph in the article does not show typical mourning and may distort the view of readers. Such sights are unfamiliar to most Muslims except perhaps in Iran, which represents the Shia tradition of Islam.

M J H QURESHI
Consultant psychiatrist

Mental Health Services,
New Cross Hospital,
Wolverhampton WV10 0QP

1 Gatrad AR. Muslim customs surrounding death, bereavement, postmortem examinations, and organ transplants. *BMJ* 1994;**309**:521-3. (20-27 August.)

Late effects after radiotherapy for breast cancer

EDITOR,—We were disturbed by two of the illustrations in J C R Sainsbury and colleagues' article on the management of breast cancer.[1] The text of the article gives a balanced view of the late effects of radiotherapy; the photographs of patients treated with radiotherapy, however, show the worst end of the range of late radiation effects, and this is not discussed or referred to in the text. Osteoradionecrosis in particular is now an exceptional complication after the treatment of breast carcinoma. It results from outdated, crude radiotherapy techniques; treatment with orthovoltage radiotherapy; and inferior fractionation schedules, including the use of large fractions and alternate day treatment. No British oncology centre is likely to have used this fractionation and equipment within at least the past decade. Using modern linear accelerators and appropriate 4 to 6 week fractionation, we would not expect any of our patients to develop osteoradionecrosis after standard postoperative radiotherapy for breast carcinoma.

The second photograph, showing telangiectasia on the chest wall, is a reasonable illustration of the expected outcome in a patient who has been treated with radiotherapy after mastectomy. As discussed in the article, patients identified as having a high risk of local recurrence require postoperative radiotherapy. Usually the skin sparing effect of megavoltage radiotherapy is used, whereby the maximum absorbed dose is at a depth of ≥ 1 cm beneath the skin surface and the skin receives a dose of 30-40% of the maximum. In those at high risk of local recurrence in the skin or subcutaneous tissue after mastectomy, however, a full skin dose is indicated. This is achieved by applying 1 cm of a tissue equivalent substance, usually wax, over the chest wall, but at the expense of cosmesis; some patients may develop late skin changes, including telangiectasia.

This illustration is not representative of the outcome in most patients with breast cancer treated with radiotherapy to the breast or chest wall, will have minimal visible late changes in the skin in the treated area. It would have been helpful to include illustrations of more typical results of standard postoperative radiotherapy. Most authors agree that 60-80% of patients have a good or excellent cosmetic outcome after conservation surgery and postoperative radiotherapy.[2] Patients who have had breast conservation also generally assess their cosmetic outcome as good or excellent in 80-95% of cases.[3]

Given all the concerns currently being raised by members of the public regarding the potential late effects of radiotherapy and the campaigns of RAGE (Radiotherapy Action Group Exposure)[4] and other pressure groups, it is important that information in the major medical journals should reflect a balanced view on these issues. While patients and their families should be fully informed about the side effects of treatment, articles such as this, from which information may be disseminated through the media, may cause undue anxiety to those already worried about the late effects of their treatment.

MARGARET DALY
Senior registrar in clinical oncology
ELIZABETH J JUNOR
Consultant in clinical oncology
ADRIAN N HARNETT
Consultant in clinical oncology

Beatson Oncology Centre,
Glasgow G11 6NT

1 Sainsbury JRC, Anderson TJ, Morgan DAL, Dixon MJ. ABC of breast diseases: breast cancer. *BMJ* 1994;**309**:1150-3. (29 October.)
2 Sarin R, Dinshaw KA, Shrivastava SK, Sharma V, Deore SM. Therapeutic factors influencing the cosmetic outcome and late complications in the conservative management of early breast cancer. *Int J Radiat Oncol Biol Phys* 1993;**27**:285-92.
3 Sneeuw KCA, Aaronson NK, Yarnold JR, Broderick M, Regan J, Ross G, *et al.* Cosmetic and functional outcomes of breast conserving treatment for early stage breast cancer. 1. Comparison of patients' ratings, observers' ratings and objective assessments. *Radiother Oncol* 1992;**25**:153-9.
4 Sikora K. Enraged about radiotherapy. *BMJ* 1994;**308**:188-9.

Series editor's reply

EDITOR,—As Margaret Daly and colleagues state, we made clear in the text that with modern machinery the incidence of skin reactions, telangiectasia, and rib damage is rare. The illustrations represent extremes of the range. The legend below the photograph of the patient with osteoradionecrosis makes clear that the patient was treated 30 years before, by a combination of treatments that is no longer used. An illustration of a patient with an excellent cosmetic result after breast conservation was submitted with the article but was not included by the series editors because of lack of space. When the series is published in book form this illustration will appear.

J MICHAEL DIXON
Editor, ABC of Breast Diseases

Department of Surgery,
University of Edinburgh,
Royal Infirmary,
Edinburgh EH3 9YW

Breast pain

EDITOR,—While I agree that breast pain is rarely a symptom of breast cancer,[1] it is common in patients with breast cancer who have received radiotherapy. With the increasing use of conservation surgery and radiotherapy the incidence of symptomatic breast pain after radiotherapy to the intact breast or the chest wall flaps after local