specifically related to factors such as conflicts between career and personal life and lack of female role models than to sex differences in doctors' responses to emotionally charged events like failure of treatment and talking to distressed relatives.[1]

A study of veterinary surgeons[2] has given rather different results in that women were consistently more likely than men to show both short and long term emotional reactions of a broadly depressive kind to both failure of treatment and carrying out euthanasia, which is a unique and common component of veterinary practice.

Women have formed a noticeably increasing proportion of veterinary surgeons in recent years and this may be associated with the shift of emphasis towards the treatment of animals that fill an emotional rather than economic role.

A direct comparison of the effects of the two professions might be of considerable interest. The less formal and hierarchical organisation of the veterinary profession may reduce some of the career conflicts found to be important among house officers while throwing other sources of stress into relief.

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1 Firth-Cozens J. Sources of stress in women junior house officers. *Br Med J* 1990;**301**:89-91. (14 July.)
2 Abrahamson D, Fogle B. Pet loss: a survey of the attitudes and feelings of practising veterinarians. *Anthrozoos* 1990;**111**: 143-50.

Loop diathermy excision

SIR,—The paper by Dr D M Luesley and colleagues raises a number of questions.[1] They carried out diathermy loop excision of the cervical transformation zone in 616 patients with abnormal cervical smears and concluded that it was an effective treatment with low morbidity in this group of patients.

Unfortunately the cytological terminology used by these workers does not correspond to that recommended by the British Society for Clinical Cytology,[2] which is now used by most British laboratories. This idiosyncratic terminology, which is regrettably not explained in the text, makes it impossible to interpret the cytological indications for treatment except by guesswork.

More importantly, 45% of the patients who had a loop excision, which is essentially a small cone biopsy, were found to have no or only minor abnormalities of uncertain clinical[3] and pathological importance[4,5] (5% histologically normal, 22% koilocytosis only, 18% cervical intraepithelial neoplasia grade I). In addition to haemorrhage and cervical stenosis surgical manipulation of the cervix has been associated with cervical endometriosis,[6] which has been found in 43% of women after cone biopsy in this hospital and often presents with postcoital and intermenstrual bleeding. This must be regarded as an important complication in this group of patients, 70% of whom were aged 30 years or less.

Though diathermy loop excision may be a good treatment for cervical intraepithelial neoplasia, uncritical application of this technique in this instance has regrettably resulted in overtreatment in 45% of cases, which must be considered uneconomic if not positively harmful to the patient. I would ask for a more critical approach regarding the indications for treatment of cervical intraepithelial neoplasia. To those of us who are interested in cervical pathology the important question is not how but which cervical squamous lesions should be treated.

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1 Luesley DM, Cullimore J, Redman CWE, *et al.* Loop diathermy excision of the cervical transformation zone in patients with abnormal cervical smears. *Br Med J* 1990;**300**:1690-3. (30 June.)
2 Evans DMD, Hudson EA, Brown CL, *et al.* Terminology in gynaecological cytopathology: report of the working party of the British Society for Clinical Cytology. *J Clin Pathol* 1986;**39**:933-44.
3 Robertson JH, Woodend BE, Crozier EH, Hutchinson J. Risk of cervical cancer associated with mild dyskaryosis. *Br Med J* 1988;**297**:18-21.
4 Ismail SM, Colclough AB, Dinnen JS, *et al.* Observer variation in histopathological diagnosis and grading of cervical intraepithelial neoplasia. *Br Med J* 1989;**298**:707-10.
5 Robertson AJ, Anderson JM, Beck JS, *et al.* Observer variability in histopathological reporting of cervical biopsy specimens. *J Clin Pathol* 1989;**42**:231-8.
6 Williams GA. Endometriosis of the cervix uteri—a common disease. *Am J Obstet Gynecol* 1960;**80**:734-41.

SIR,—I am writing concerning the paper by Dr D M Luesley on loop diathermy excision in patients with abnormal cervical smears.[1] I regard the figure of 27% overtreatment of cervical intraepithelial neoplasia (5% of patients with no evidence of preinvasive disease and 22% showing only koilocytosis) as unacceptable.

Imagine the woman who presents to the outpatient department with an abnormal smear. By the loop diathermy modality of treatment she has a 15% risk of experiencing mild to moderate discomfort during the procedure, a 4·7% risk of secondary haemorrhage, a 5·6% risk of having vaginal discharge for more than six weeks, and a 1·3% risk of severe cervical stenosis. Admittedly she may have none of the above complications, but she could experience one or all of them and then has a 27% chance of being told that she had no disease in the first place. The potential risk of cervical incompetence and future spontaneous abortion must be borne in mind. The psychological aspects have not even been considered. I know that if I were a woman with, say, vaginal discharge six weeks after treatment for what many people see as cancer I would be worried sick. I believe that it is only humane to perform punch biopsies on women who present with abnormal smears before subjecting them to more radical treatment with potential risks.

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1 Luesley DM, Cullimore J, Redman CWE, *et al.* Loop diathermy excision of the cervical transformation zone in patients with abnormal cervical smears. *Br Med J* 1990;**300**:1690-3. (30 June.)

AUTHOR'S REPLY,—Dr S M Ismail raises the possibility that 45% of our patients were overtreated; this was discussed in our paper. The issue of whether cervical intraepithelial neoplasia grade I or warty atypia should be treated, however, must be based on sound prospective data and not on personal opinion. We must also assume that most of her patients are treated on the basis of directed cervical biopsy, a technique that we have shown to be inaccurate in comparison with loop excision and, furthermore, tends to overgrade lesions.

We are satisfied that our treatment has a low morbidity and think that it is deliberately misleading to compare transformation zone loop excision with knife conisation. Most workers in this specialty are aware of the differences in indication, technique, and morbidity between the two techniques. Though 43% of patients who have cone biopsies and a further representative biopsy may have endometriosis, this cannot be extrapolated to the total population of patients having cone biopsies (unless they are all given second biopsies or the sample was truly random). Thus such a suggestion lacks credibility, and this is compounded by the use of percentages without confidence intervals, which leaves the reader sceptical about sample size.

The economics of the debate on treatment will not be settled by personal prejudice, and one must be wary of any statement on health economics that does not count the cost of the alternative—that is, not treating patients with abnormal cervical smears. This cost must include not only the actual expense entailed in repeated cytological examinations (and eventual treatment in a proportion) but also the psychological cost to the woman, who is aware of her persisting abnormality.

Dr Ismail also criticises our cytological terminology. At the start of our programme trial the guidelines of the British Society for Clinical Cytology were certainly not adhered to universally, and indeed many laboratories still have not adopted them. We are, however, quite reassured that most laboratories and clinicians can interpret the cytology gradings without recourse to guesswork.

A point on which we would wholeheartedly agree is the need rationally to select patients for treatment. As clinicians managing patients we are aware of the need to develop our selective expertise and the appropriate clinical research protocols to enable this objective to be achieved.

Mr Charles Hillier regards a 27% overtreatment rate as unacceptable and suggests that prior directed biopsy is a more humane approach. We also believe that there is scope for improved selectivity but are aware of the fairly poor accuracy of directed biopsy. He should be aware that this procedure is not uncommonly uncomfortable and, in relation to transformation zone excision, is diagnostically inferior. It would be premature to dismiss koilocytotic atypia as normal given the strong associations between infection with human papillomavirus and intraepithelial neoplasia, and though I would wish to reserve judgment on the preneoplastic importance of infection with papillomavirus I would not consider such infection as normal. Furthermore, the technique that Mr Hillier recommends (punch biopsy) has been shown both by us and by others to overall koilocytotic atypia as mild or moderate dysplasia, and we would suggest that the high incidence of koilocytotic atypia in our series reflects to some extent the superior diagnostic technique.

A final consideration is the question of related anxiety. Mr Hillier would be "worried sick" as a result of associating a discharge with a diagnosis of cancer (although all our patients are counselled that they do not have cancer). I can assume only that a persistent cytological abnormality would be more acceptable to him as this is the alternative. I do not believe that Mr Hillier would enjoy majority support least of all from women with abnormal smears, in whom, unlike Mr Hillier, we have considered the psychological impact of such a situation and believe that by shortening the length of time that they have abnormal cytology we are considerably reducing their anxiety. Finally, the risk of cervical incompetence is theoretical and, in a procedure that not only conserves the internal cervical os but removes only the lower canal (like laser), is virtually impossible.

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Perioperative deaths among children

SIR,—In his editorial[1] on the newly published report on perioperative deaths among children Mr Malcolm H Gough said that the inquiry underlined the accepted need for continuing postgraduate education for all consultants who care for children, particularly for those in district and single specialty hospitals.[2] He suggested that the best way to do this is by joining and attending the meetings held by specialty associations such as the Association