We think that their suggestion that general practitioners should treat empirically for *Chlamydia trachomatis* infection is highly inflammatory. As they admit, this infection has an appreciable morbidity; the correct management of such sexually transmitted infections requires accurate diagnosis, effective treatment, adequate tests of cure, and, very importantly, examination and treatment if necessary of all sexual partners. Suboptimal management, as they suggest, has no doubt contributed to the rising incidence of *C. trachomatis* infection over the past decade.

We stand by our recommendations that screening for genital infections be performed in selected women who have had one smear showing inflammatory changes and in women undergoing colposcopic examination because of repeated smears showing inflammatory changes. Such policies should encourage closer links between departments of genitourinary medicine and colposcopy clinics, which can only be of mutual benefit to patients and staff.

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SIR,—The recommendation that young single women with inflammatory changes on cervical cytology should be screened for sexually transmitted diseases, made by Dr Janet D Wilson and colleagues, is useful and relevant.¹ To what extent such women should have a colposcopic examination is less clear. It would seem appropriate to perform repeat cytology in such women after their infection(s) have been treated. Indeed, the authors repeated the smear tests immediately before colposcopy—the results of these tests are not, however, given.

Several reports have suggested that persistent findings of inflammatory changes and other minor abnormalities in cervical smears may mask an underlying cervical intraepithelial neoplasia lesion.^{2,4} Dr Wilson and colleagues performed colposcopy in women with a single smear showing inflammatory changes. In all, 36 out of 96 women examined had abnormalities on colposcopy. In most of these (27) there was evidence only of wart virus infection or cervical intraepithelial neoplasia type I. (These diagnoses were presumably supported by histological results.) Women with an abnormality on colposcopy were more likely to be younger than those without such an abnormality.

I have recently completed a survey of findings on colposcopy in a series of 130 predominantly young women. I was surprised that about a third of them had abnormalities, most of which when biopsied showed evidence of wart virus infection or cervical intraepithelial neoplasia type I (M Griffiths, unpublished work). Giles *et al* have shown that colposcopy is more sensitive than cytology at detecting cervical epithelial abnormalities but that the excess of abnormalities is mostly due to small, low grade lesions, which may not be of clinical importance.⁵ I have reviewed some of the data from the paper of Giles *et al* and it would seem that within their study about a third of normal healthy women under 35 years had an abnormality on colposcopy. This calculation has been confirmed by one of the authors (P G Walker, personal communication). In a controlled study in immunosuppressed women abnormalities were found on colposcopy in 29% of controls.⁶

It seems that the prevalence of abnormalities found by Dr Wilson and colleagues on colposcopy was no greater than would have been expected in a group of young women from the general population. Therefore, although their advice regarding screening for sexually transmitted diseases is valid, the decision to refer for colposcopic assessment should continue to be based on either persistent findings of mild abnormality or

definite evidence of dyskaryosis on repeat smear testing.

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Should fertile people have access to in vitro fertilisation?

SIR,—We agree with Dr Marcia Ratcliffe and colleagues that efforts should be intensified to circumvent infertility induced by treatment, but their suggestions that women with lymphoma should have access to assisted reproduction techniques before cytotoxic chemotherapy¹ do not support extension of in vitro fertilisation to the fertile.² Many patients with cancer have impaired fertility even before cytotoxic chemotherapy, and the pretreatment storage of germ cells would thus have only a limited potential.³

The use of superovulants—that is, fertility drugs—to allow embryo freezing may carry a cancer risk in women.⁴ Excessive ovarian stimulation with fertility drugs during a single stimulated cycle may result in up to a fivefold increase in plasma oestrogen concentration,⁴ and excessive oestrogen secretion has been implicated in ovarian, endometrial, and breast cancer.⁵

Gonadotrophin releasing hormone agonists such as goserelin down regulate pituitary gonadotrophin receptors, leading to a fall in circulating gonadotrophin concentration and a consequent reduction in ovarian production of oestrogen. These drugs thus oppose ovarian stimulatory drugs. Goserelin can induce remissions of advanced breast cancer in premenopausal women and in a smaller proportion of postmenopausal women, most likely through indirect ovarian suppression and a consequent reduction in plasma oestrogen concentration. My colleagues and I have shown that the ovaries of postmenopausal women retain residual hormonal function that partly depends on the integrity of the pituitary-ovarian axis.⁶

The gonadotrophin releasing hormone agonist leuprolide has induced remissions in patients with refractory ovarian cancer.⁷ These remissions could possibly have been induced in a similar manner to remissions in patients with breast cancer. This is supported by the finding of a positive relation between ovarian tumour volume and plasma oestradiol concentration⁸ and tumour expression of oestrogen receptors in about one third of patients with ovarian cancer.⁹ As gonadotrophin releasing hormone agonists that oppose fertility drugs can temporarily reverse progression of breast and ovarian cancer the fertility drugs might provoke or promote these cancers in some patients.

Recent promotion of in vitro fertilisation as a procedure applicable even to the fertile² should be considered with caution. Fertility drugs before cytotoxic chemotherapy in patients with potentially curable lymphoma are unlikely to be effective and might increase the known risk of secondary malignancies.¹⁰ Other research strategies to preserve fertility in patients with curable cancers such as optimising the duration and content

of combination cytotoxic chemotherapy¹ and developing new anticancer drugs should also be explored.

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Treating renal anaemia with recombinant human erythropoietin

SIR,—In their article Dr Iain C Macdougall and colleagues have rightly emphasised the cost of treatment with recombinant human erythropoietin and the constraint that this imposes on patient selection for treatment of the anaemia of chronic renal failure.¹ They suggest that patients awaiting transplantation of a kidney from a live related donor should not be among the lucky few receiving this treatment and, by inference, should receive blood transfusions for symptomatic anaemia. We argue that these patients' condition, and indeed that of potential transplant recipients in general, constitutes one of the more compelling indications for erythropoietin.

About 30% of patients awaiting renal transplantation are regarded as "highly sensitised"—that is, they possess alloantibodies that react with more than 90% of a panel of cells that are representative of the donor population—and thus effectively are not able to receive a transplant; blood transfusions, previous transplantation, and pregnancy are the three principal causes of sensitisation. The alloantibodies may disappear in the long term in the absence of further transfusion, perhaps through the generation of anti-idiotypic networks, and, in rare cases, they can be removed by immunoadsorption. It is obviously preferable, however, not to provoke their generation in the first place. From the early 1970s to the early 1980s many centres reported the beneficial effect of blood transfusion before transplantation on graft survival. In recent years, for reasons that are not entirely clear, this beneficial effect no longer seems to operate (except perhaps for HLA matched and donor specific transfusions) and thus the one argument favouring transfusion over erythropoietin has collapsed.²

Unless or until adequate funding is provided for the optimal use of erythropoietin renal physicians will be forced to select patients for this treatment. It is prudent for recipients of transplants from live related donors, who will require erythropoietin only in the short term, to be given preference. Sensitising a potential recipient of a live donor transplant by unnecessary blood transfusions not only is disastrous for the patient but means one