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AUTHORS' REPLY.—Our study showed significantly higher concentrations of gonadotrophin in oophorectomised women treated with the 0.05 mg oestradiol patch than in those given a 50 mg oestradiol implant. As stated in our paper, we think that the lower gonadotrophin concentrations in the implant group were due to the higher oestradiol concentrations observed. Unpublished data from this group of patients at 12 months show significantly different oestradiol concentrations: a mean (SE) in the patch group of 224 (43) pmol/l and in the implant group 544 (42) pmol/l (95% confidence interval for difference between means -443 to -197, $p < 0.0001$). As stated by Stevenson *et al.*, patches have been shown to prevent postmenopausal bone loss, as have implants,¹ but it has also been observed that percentage increase in bone density correlates with plasma concentrations of oestradiol,² and so treatments resulting in higher oestradiol concentrations may be more effective in preventing this long term consequence of the menopause.

This suggests that Eliot *et al* may not be correct in their assertion that serum oestradiol levels greater than 120 pmol/l provide no additional effect. We agree that implants should not be forced on postmenopausal women who are keen to have patches and vice versa.

Reid and Ganger question the ethics of our study. Delaying treatment ensured that all women had equivalent baseline hormone profiles before starting oestrogen replacement; given that one of the aims was to compare hormone profiles, this was a necessary part of the study design. They also question the doses used in this study: we did not set out to compare equivalent doses, but rather, the recommended starting doses. Careful reading of Chetkowski *et al*'s findings reveals that transdermal oestradiol significantly decreased gonadotrophin levels in a dose dependent manner.³ Kamel's paper referred to administration of the 0.2 mg oestradiol patch immediately after oophorectomy; suppression of gonadotrophins was not maintained.⁴ Our study showed that the 0.05 mg patch did not suppress gonadotrophin release after oophorectomy (mean concentration of follicle stimulating hormone after oophorectomy, 37.3 IU/l; after four months' treatment, 53.4 IU/l). Although there is no evidence from studies on the long term benefits of the 0.05 mg patch compared with the 50 mg implant, our study shows that there are differences in gonadotrophin concentrations which we suggest are due to differences in oestradiol concentrations and which may be reflected in the long term benefits of oestrogen replacement therapy.

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Midwifery and body fluid contamination

EDITOR.—Josaphat J Kabukoba and Pam Young contend that current practices to prevent the skin of staff being contaminated by mothers' body fluids during delivery are inadequate and that staff may be at risk of contracting viral diseases while practising obstetrics in the United Kingdom.¹ This has enormous implications for medical and paramedical staff practising in developing countries, especially in sub-Saharan Africa, where one in 40 adult men and women are estimated to be infected with HIV.²

Recently, we have seen three nurses with HIV infection probably acquired occupationally while they were working in obstetric and accident and emergency departments in Africa. The first patient was a white missionary nurse who had never had sexual intercourse but had worked for many years in general nursing and midwifery. The second was an African nurse from Zambia whose only sexual contact was her husband, who was HIV negative. She had worked in an accident and emergency department, although she may have received a blood transfusion. The third patient was a white nurse who had worked for two years in Zambia but denied having had sexual intercourse during that time. She had also worked as a midwife but had had vaccinations and minor ophthalmic surgery while in Zambia.

Kabukoba and Young found that the incidence of broken skin among doctors and midwives examined immediately after they performed obstetric procedures was 23%. Furthermore, 34% of the assistants, of whom 35% did not wear gloves, were shown to be contaminated with body fluids immediately after vaginal deliveries. This has important implications for those working in developing countries, as highlighted by the above cases. Staff doing high risk work should be encouraged at the very least to wear gloves to prevent or minimise the risk of transmission of HIV and hepatitis B virus.

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EDITOR.—A R Smyth and colleagues¹ may have misunderstood our paper on midwifery and body fluid contamination.² We did not discuss HIV infection across intact skin. This issue followed on after the discussion of the finding that 23% of staff had broken skin on their hands and arms. These skin breaks may be portals of entry for the virus, which may then be picked by Langerhans cells.

The studies quoted by Smyth *et al* report follow ups of single exposure incidents of health workers to infected body fluids.^{3,4} Obstetric staff have a cumulative risk during their long careers. With the rising prevalence of HIV it is not difficult to see that midwives and doctors face different risks from people having a single exposure. Any similarity to smoking and lung cancer?

We stated that the purpose of the study was to assess current methods of protection as issued by the royal colleges. We gave details of the methods of protection in use for the procedures mentioned and the levels of protection provided by these methods. Contamination even among surgeons doing caesarean sections who were "maximally" protected was 30%. Therefore the conclusion that the methods in use are inadequate is sound.

We will soon be publishing details of a new type of protection. A waterproof armsleeve with a watertight seal between it and the glove has been shown to reduce contamination to less than 5%. This is the answer to not only manual removal⁵ but also to all other procedures on the labour ward and theatre when spillage of blood is expected.

The risk of HIV infection may be small, but we do not know how small. Also it is constantly changing as prevalence changes. Authorities and staff must ensure that risks are kept to the minimum by adopting appropriate practices and methods, or we may, as suggested by Fernando *et al*,⁶ be too late.

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Day surgery for cataracts

EDITOR.—Hugh F Thomas and Roger Humphry confuse the issue of the advantages of day surgery when they fall into the trap of assuming the advantages of local anaesthesia over general anaesthesia.¹ With current anaesthetic agents it is possible to provide general anaesthesia while still offering early ambulation and feeding, with a low incidence of nausea and vomiting, and of coronary and embolic complications and less need for postoperative nursing care.

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Cardiorespiratory distress after sumatriptan given by injection

EDITOR.—Sumatriptan is a serotonin-1 (5HT-1) agonist that treats migraine by inducing cerebral vasospasm and is used to treat migraine and cluster headaches.^{1,2} A recent report suggested that coronary vasospasm may be induced in susceptible patients.³ We report two cases which show that serious ventricular arrhythmias may also be induced by this drug.

In the first case, a 42 year old woman who had suffered from migraine for many years and who had no previous cardiac history apart from mild hypertension (treated with Moduretic) collapsed within three minutes of receiving a first subcutaneous injection of sumatriptan. She was found to be in coarse ventricular fibrillation when the ambulance staff arrived seven minutes later. Sinus rhythm was regained by a single 200 KJ DC shock, and no further arrhythmias occurred. Subsequent investigations showed a normal 24 hour ambulatory electrocardiogram, an equivocal exercise stress test, and a 40% stenosis of the left anterior descending artery on cardiac catheterisation.

In the second case, a 67 year old man who was a life long migraine sufferer and who had had