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## Midwifery and body fluid contamination

EDITOR,—The short report by Josaphat J Kabukoba and Pam Young highlighted a high incidence of skin contamination from patient's body fluids in obstetric and midwifery staff.<sup>1</sup> In their discussion they quoted observations of Braathen *et al* that suggested a possible role for epithelial Langerhans cells as vehicles for HIV infection across intact skin and mucous membranes.<sup>2</sup> This work was entirely experimental and there is no evidence that it has any clinical significance in the context of HIV transmission from patients to health care workers.

In a summation of prospective surveys documenting mucocutaneous exposure to blood infected with HIV, none of 453 health care workers became infected.<sup>3</sup> In contrast, of 1177 episodes of percutaneous exposure, five resulted in infection. Three cases of infection after mucocutaneous exposure have occurred,<sup>4</sup> and so a risk does exist—but, although no precise figure can be assigned to it, the risk must be very small indeed. A recent editorial in the *BMJ* reiterated the point that seroconversion after mucocutaneous exposure has not been reported in prospective studies.<sup>5</sup> Furthermore, in specialties where mucocutaneous exposure to blood is common, such as orthopaedic surgery, the prevalence of HIV antibody is determined by non-occupational factors alone.<sup>6</sup>

Kabukoba and Young concluded that "current practices for preventing contamination are inadequate." However, their report does not mention what proportion of those studied were following local infection control guidelines or indeed what these guidelines were. In contrast to this, a study by Marcus *et al* suggested that 37% of exposures would have been avoided if recommended guidelines had been followed.<sup>7</sup>

We believe that appropriate barrier protection and precautions to avoid needlestick injuries should be used universally. However, the argument that non-parenteral contamination of skin and mucous membranes represents an important route of transmission of HIV infection to health care workers is at best speculative and at worst alarmist.

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EDITOR,—I was pleased that Josaphat Kabukoba and Pam Young recognised the high rate of contamination of the surgeon's forearms while performing caesarean section<sup>1</sup> but was surprised that they did not look at manual removal of the placenta.

The report on HIV infection in maternity care and gynaecology, published by the Royal College of Obstetricians and Gynaecologists recommended that elbow length gloves should be available if gowns with an impermeable sleeve were not available for the manual removal of the placenta.<sup>2</sup>

Over the past three years I have made numerous inquiries about these items at all the hospitals where I have worked. They are rumoured to exist, but no one has ever seen them or knows where to obtain them. In my present post I at last found an elbow length rubber gauntlet, but it had perished after many years of repeat autoclaving and was no longer of any use.

I have found the following method effective in eliminating the contamination of the forearm with blood while carrying out a manual removal of placenta in an ordinary "permeable" gown wearing an ordinary pair of "short" surgical gloves. After donning a gown in the usual manner, a pair of surgical gloves are taken and all the fingers cut off. Both of the remaining sleeve portions are then pulled all the way up the same arm to the elbow, with some overlap. A second pair of gloves is then worn in the normal manner. This effectively forms an elbow length rubber glove and stops contamination of the sleeve of the gown and forearm with blood.

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## Contamination of skin and clothing of A and E staff

EDITOR,—Patricia Littlechild and colleagues found the personal clothing and uniforms worn by accident and emergency staff to be inappropriate.<sup>1</sup> We suggest that staff from all disciplines who are on call for emergencies anywhere in a hospital should wear the type of suits worn in hospital theatres. Such staff include members of cardiac arrest and trauma teams, all doctors with duties in accident and emergency departments, and the staff of intensive care, endoscopy, and maternity units. Staff can quickly discard soiled theatre clothes and maintain personal cleanliness and limit cross infection.

The Expert Advisory Group on AIDS recommended degrees of protection according to the risk category of tasks.<sup>2</sup> The full range of protective wear is recommended for category A(i) tasks, with potential for uncontrolled bleeding and spattering; gloves and possibly masks and protective eyewear are recommended for category A(ii) tasks, in which contact with blood is probable but spattering is unlikely; and gloves are recommended to be available for category A(iii) tasks, in which no contact with blood is likely. After many incidents of splashing we now take category A(i) precautions

for category A(ii) tasks and wear gloves for category A(iii) tasks in high risk patients.

Skin contamination continues, often because recommendations are not followed and sometimes despite them being followed.<sup>3</sup> Inappropriate fabric and design of current wear are often to blame. Cotton gowns are not protective. We have not seen anyone use elbow length gloves for manual removal of placentas. In our survey of one major teaching hospital with eight operating theatres only the orthopaedic theatre stocked water repellent gowns. One anaesthetic room had only a box of disposable latex gloves. One of 12 consultant anaesthetists wore gloves routinely. None of 15 junior colleagues interviewed had read the documents of the Expert Advisory Group on AIDS<sup>2</sup> or the BMA's *A Code of Practice for the Safe Use and Disposal of Sharps*.<sup>4</sup>

We are convinced that most incidents of splashing are preventable by better instruction and changes in attitudes and practice. This is important because the present suits do not provide overall protection. More long sleeved and high neck (Indian style) protective shirts would help. Junior members of teams are reluctant to adopt protective measures that make them stand out. Consultants or senior registrars can help by good example.

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## Personal protective equipment for employees

EDITOR,—In their short report on contamination of skin and clothing Patricia Littlechild and colleagues refer mainly to clothing worn by accident and emergency staff.<sup>1</sup> The discussion of adequate personal protective equipment, which includes "all equipment designed to be worn or held by a person at work to protect him against one or more risks,"<sup>2</sup> needs to be widened to include that used in all areas where employees of health care organisations may be exposed to any risk while at work.

One of the aspects of the European single market is the implementation of numerous pieces of legislation drawn up by the European Community as health and safety directives. These directives have to be implemented by the member states by 1 January next year. The framework for these new regulations is provided by the proposed Health and Safety (General Provisions) Regulations, which, among many other things, require all employers to assess work practices in which their employees' health and safety may be at risk.<sup>3</sup> The proposed Personal Protective Equipment at Work Regulations will require every employer to provide suitable protective equipment to all employees when risks cannot be adequately controlled by other means. When such equipment is deemed necessary the employer must ensure that it is appropriate for the risks entailed. The employer must also take into account ergonomic requirements—that the equipment will fit the wearer and, so far as is practicable, prevent or adequately control the risk without leading to any increased