



## Occupational blood-borne diseases in surgery

### To the Editor:

We read with great interest Dr Fry's article "Occupational Blood-borne Diseases in Surgery" [1] recently published by the *American Journal of Surgery*. The article draws the conclusion that it is unlikely that we know all of the potential blood-borne pathogens that may pose an occupational risk for surgeons, that blood exposure in the operating room is tolerated with the same lassitude that characterized the pre-HIV era, and that prevention of blood exposure is a desirable goal.

We are in agreement with Dr Fry's conclusions, and we would like to congratulate him on his efforts to prevent occupational infections. However, in complementing Dr Fry's recommendations, we would like to add that blood exposure prevention practices can be prioritized following the principles of the hierarchy of controls prevention model. In the hierarchy for sharps injury prevention, the first priority is to eliminate and reduce the use of needles and other sharps where possible. Next is to isolate the hazard, thereby protecting an otherwise exposed sharp, through the use of an engineering control. When these strategies are not available, or will not provide total protection, the focus shifts to work-practice controls and personal protective equipment [2]. Active involvement of the operating room team and hospital management is essential because decisions for supplies, immunizations, and training, among other considerations, require continuous team efforts. In relation to percutaneous injuries, the prevention approach that holds the greatest promise is to reduce the use of sharp instruments to the maximum possible extent by substitution [3] and other techniques like neutral zone or hand-free techniques. As such, the American College of Surgeons supports the universal adoption of blunt suture needles as the first choice for fascial suturing to minimize or eliminate needle-stick injuries from surgical needles [4]. Engineering controls on devices such as scalpels could potentially reduce scalpel blade injuries by as much as 64% [3] and personal protective equipment and techniques need to be used to avoid blood contacts [1]. We would also like to stress that reducing occupational exposures to blood in the operating room will require the involvement of all the operating room team (including attending and resident surgeons, nurses, circulators, students, and other personnel). Reducing exposure will take time, sustained effort, and a multitude of changes because of the complexity of the working environment [5]. Exposure and outcomes surveillance is needed to track progress of interventions and to identify gaps and future research needs, thus underscoring the importance of

reporting blood and body fluid exposure promptly. Finally, surgical services departments should ensure all these issues are covered in training activities.

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### Response

#### To the Editor:

I appreciate the commentary that has been offered by Gomaa et al with respect to the prevention of percutaneous injuries in the operating room. I would accept their comment that a reduction of sharps in the operating room environment is desirable, but only if alternative strategies are assessed objectively in terms of clinical outcomes. For example, the reduction in the use of the surgical knife for opening surgical wounds has been performed by greater use of an electrocautery device. However, some evidence raises concerns that such a practice increases surgical site infection rates, which is yet another appropriate concern at the Centers for Disease Control, Centers for Medicare and Medicaid Services, and in the practice of surgery in general. The hierarchy for sharp injury prevention cannot result in changes in surgical care to protect surgeons if