Surgeons with inadequate HBV vaccination underestimate the risk of transmission

To quantify the proportion of US transplant surgeons vaccinated against hepatitis B virus (HBV), Halpern *et al.* mailed questionnaires to all 625 active transplant surgeons. The researchers received 347 completed questionnaires. After excluding 36 respondents who had legitimate reasons for not being vaccinated, the authors found that 70 of the remaining 311 (22.5%) had received fewer than the recommended three vaccine injections. Compared with adequately vaccinated surgeons, inadequately vaccinated surgeons were more likely to have been practicing for longer (odds ratio 1.5 per 10-year increment in length of practice) and to be more fearful of infection (odds ratio 1.2 for each unit increase in fear out of 10). Fifteen percent of the 94 surgeons who reported needle-stick exposure while operating on a patient infected with HBV were not adequately vaccinated. Respondents who were inadequately vaccinated against HBV considerably underestimated the risk of both percutaneous exposure to infected blood during surgery, and of patient-to-surgeon transmission following exposure.

Although this study was limited by reliance on self-reporting and the conservative definition of adequate HBV vaccination, the authors suggest that these biases should, if anything, have led them to underestimate the true proportion of inadequately vaccinated surgeons. Given that unprotected surgeons underestimate the risk of HBV transmission but still fear infection, Halpern *et al.* suggest that informing theater staff about true transmission risks might improve adherence to HBV vaccination regimens. In the meantime, because unprotected surgeons pose risks to themselves and their patients, the authors suggest that proof of vaccination be a requirement for surgical personnel.

Original article Halpern SD *et al.* (2006) Inadequate hepatitis B vaccination and post-exposure evaluation among transplant surgeons: prevalence, correlates and implications. *Ann Surg* **244:** 305–309

GFR estimation by the MDRD equation using a standardized creatinine assay

The Modification of Diet in Renal Disease (MDRD) Study equation was developed to estimate glomerular filtration rate (GFR) from age, sex and race, and serum levels of creatinine, urea and albumin; a simplified four-variable form of the equation, which dispenses with the need for urea and albumin measurements, was subsequently formulated. The clinical utility of GFR estimates derived from these and other equations is compromised by the use of different creatinine assays in different laboratories. In response to an initiative implemented by the National Kidney Disease Education Program for creatinine standardization across the US, MDRD equations were recently revised and revalidated.

Levey *et al.* compared the revised MDRD equations with the Cockcroft–Gault equation, using data from the original MDRD study population of 1,628 patients with chronic kidney disease. GFR measured as urinary clearance of ^{125}I-iothalamate was used as a reference standard. The percentage of GFR estimates within 30% of measured GFR was 90% for the four-variable MDRD equation, 91% for the six-variable MDRD equation and 83% for the Cockcroft–Gault equation. Estimates derived from any of the equations were less accurate when measured GFR exceeded 60 ml/min/1.73 m^2.

The authors conclude that the simplicity of the four-variable MDRD equation and its comparable performance to its six-variable predecessor will make it a useful and reasonably reliable tool for estimating GFR in patients with chronic kidney disease once US standardization of serum creatinine measurement—expected in 2008—is achieved.

Original article Levey AS *et al.* (2006) Using standardized serum creatinine values in the Modification of Diet in Renal Disease Study equation for estimating glomerular filtration rate. *Ann Intern Med* **145:** 247–254