whether the patient required hospital readmission and to what facility.

Surgical wound surveillance is becoming more important in the current situation of increasing antibiotic resistance by organisms. Whatever system is used needs to be able to accurately and quickly detect significant changes in infection rates. A common experience is that an outbreak of SSI may be detected by those caring for the patient before it is evident in the surveillance data. This underscores the importance of having infection control practitioners in regular contact with the surgical wards and the surgeons' offices. It also means that the system used must include simple indicators that are easily evaluated. Hospital readmission and surgical procedures for infection are two easily monitored indicators.

### REFERENCES

- 1. Roberts FJ, Walsh A, Wing P, Dvorak M, Schweigel J. The influence of surveillance methods on surgical wound infection rates in a tertiary care spinal surgery service. *Spine* 1998;23:366-370.
- Emori TG, Culver DH, Horan T, et al. National nosocomial infections surveillance system (NNIS): description of surveillance methods. *Am J Infect Control* 1991;19:19-35.
- Horan TC, Gaynes RP, Martone WJ, Jarvis WR, Emori TG. CDC definitions of nosocomial surgical site infections, 1992: a modification of CDC definitions of surgical wound infections. Am J Infect Control 1992;20:271-274.
- Centers for Disease Control and Prevention. National Nosocomial Infections Surveillance (NNIS) System report: data summary from January 1992 to June 2001, issued August 2001. Am J Infect Control 2001;29:404-421.
- Horan TC, Emori TG. Definitions of key terms used in the NNIS System. Am J Infect Control 1997;25:112-116.
- Commission on Professional and Hospital Activities. International Classification of Diseases, 9th Revision, Clinical Modifications, vol. 3. Ann Arbor, MI: Commission on Professional Hospital Activities; 1978.
- Avato JL, Lai KK. Impact of postdischarge surveillance on surgical-site infection rates for coronary artery bypass procedures. *Infect Control Hosp Epidemiol* 2002;23:364-367.
- Platt R. Progress in surgical-site infection surveillance. *Infect Control Hosp Epidemiol* 2002;23:361-363.
- 9. Holtz TH, Wenzel RP. Postdischarge surveillance for nosocomial wound infection: a brief review and commentary. Am J Infect Control 1992;20:206-213.
- Sands K, Vineyard G, Platt R. Surgical site infections occurring after hospital discharge. *J Infect Dis* 1996;173:963-970.

Frederick J. Roberts, MD, FRCPC British Columbia Cancer Agency Vancouver, British Columbia, Canada

# The authors reply.

We agree with Dr. Roberts that the current classification system based on the International Classification of Diseases, 9th Revision, Clinical Modifications (ICD-9-CM), adjustments by the National Nosocomial Infections Surveillance (NNIS) System for length of procedures, and American Society of Anesthesiologists scores have limitations for the surveillance of surgicalsite infections (SSIs) for most surgical procedures.

Our study<sup>1</sup> involved a detailed and extensive surveillance of SSIs associated with coronary artery bypass grafts. We compared our rates with those reported by the NNIS System and found that we had a higher rate of SSIs because of our comprehensive program for postdischarge surveillance for SSIs. However, most of the deep infections were diagnosed before discharge and other serious infections related to the chest or harvest sites required readmission.

Dr. Roberts suggests classifying SSIs into those treated out of the hospital and those requiring readmission. He reasons that because superficial wound infections rarely cause significant sequelae, we should focus our limited resources on identification of infections that may result in morbidity and mortality (ie, infections that are identified during hospitalization and those that result in readmission). Our study confirmed that a great deal of time was expended by dedicated infection control practitioners in the collection and analysis of data including infections postdischarge. We agree with Dr. Roberts that such expenditure of time and money might not be justified for one surgical procedure, and that a system should be developed to quickly detect significant changes in the rates of infection. He suggests a system that includes simple indicators that can be easily monitored, such as hospital readmission and surgical procedures performed because of infection. Even with his suggested system, each institution will need to make prudent decisions to allocate its limited resources to a few surgical procedures at one time, especially procedures that are associated with a higher risk of SSIs.

Improving communications be-

tween infection control practitioners and surgeons in all disciplines in conjunction with the simple indicators would certainly help to identify clusters of infections earlier so that interventions could be instituted to reduce morbidity and mortality.

## REFERENCE

 Avato JL, Lai KK. Impact of postdischarge surveillance on surgical-site infection rates for coronary artery bypass procedures. *Infect Control Hosp Epidemiol* 2002;23:364-367.

> Joan L. Avato, MPH Kwan Kew Lai, DMD, MD University of Massachusetts Medical School Worcester, Massachusetts

# A Risk Index for Sternal Wound Infection After Cardiovascular Surgery

### To the Editor:

I really enjoyed reading the article by Kohli et al. in the January 2003 issue of Infection Control and Hospital Epidemiology.<sup>1</sup> The authors have provided a neat study of risk factors for sternal wound infection at the largest center for cardiac surgery in the province of Ontario. A huge data set was tackled, hard work ensued, and the findings are going to stimulate useful discussions among surgeons and non-surgeons alike. I am nonetheless disappointed that the authors made no mention of our study, which was published in 1993 in peerreviewed cardiac surgery literature.<sup>2</sup>

The epidemiologic study in Minneapolis spanned 15 years of cardiac surgery practice in a system that enjoys the benefits of an aggressive and rigid global surgical infection surveillance program that has been operational since 1977. Detailed microbiology data have always been garnered in that effort as well. In setting the predicate for their study design, Kohli et al. cited four prior studies of risk factors for sternal wound infections, three of which were from 6 to 10 years older than ours. It is no doubt linguistically accurate to state, as they did, that "numerous studies of the risk factors of sternal surgical wound infection exist," but there certainly have not been numerous regression analyses performed with a mainstream