

Letters to the Editor

Being Wired for a Year

To the Editor:

There is confusion among infection control professionals regarding the National Nosocomial Infection Surveillance (NNIS) System definition of a surgical implant and the potential underreporting of coronary artery bypass graft (CABG) infection rates. This may greatly impact the validity and reliability of published data.

The NNIS System provides national data on nosocomial infections. The Centers for Disease Control and Prevention (CDC) uses the data to estimate the magnitude of the nosocomial infection problem in the United States and to monitor trends in infections and risk factors.¹ The person performing surveillance and contributing to the data must decide that the clinical, laboratory, and other diagnostic information gathered on the patient satisfy the criteria for an NNIS nosocomial infection.² For accurate and valid comparisons of data, the same definitions should be used over time.³ This consistency allows interhospital comparisons that use NNIS surveillance data for benchmarking.

I am reporting implant definition confusion pertaining to sternal wires when following CABG sternal wound infections (without valve replacement). By NNIS definition, an implant is a non-human-derived foreign body that is placed permanently in a patient during an NNIS operative procedure, not routinely manipulated for diagnostic or therapeutic purposes and not intended ever to be removed from the patient.⁴ Implants thus include sternal wires. In addition, if an implant is in place, an infection that appears to be related to the operative procedure and that occurs within 1 year of surgery is considered an NNIS infection.² Therefore, CABG sternal wound infections should be followed for 1 year, as I confirmed with the NNIS nurse epidemiologist (oral communication, T. Grace Emori, RN, MS, CDC, August 26, 1998).

A convenience sampling of three eastern Pennsylvania NNIS hospitals that follow CABG sternal wound infections revealed that only one hos-

pital uses the 1-year classification system. The other two hospitals generally consider any CABG sternal wound infection after 30 days to be community-acquired and thus excluded from NNIS reporting. Although most infections do occur within the first 30 days postoperatively, there is the potential for underreporting. If this small convenience sample is representative of confusion by other NNIS hospitals, the end result may be inconsistent or artificially low CABG sternal wound infection published rates.

When following CABG sternal wound infections, should hospitals officially use 30 days as a cutoff, because this appears to be the norm, or follow for 1 year according to definition? Should we keep track of rates using both time frames, just in case? To complicate the situation further, implantable devices in surgeries include staples, non-absorbable sutures, and clips. These materials are not documented on the operating room record, making it next to impossible for the infection control professional to know what devices were used in some surgical cases. In addition to CABGs, there may be discrepancies in following and reporting other surgical procedures (for 30 days vs 1 year) due to confusion with "implants." Perhaps it is time to look again at the definition of an implant and attempt to get consistency in reporting the data.

REFERENCES

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The authors reply.

Mr. Schweon is correct that sternal wires are implants according to the National Nosocomial Infection Surveillance (NNIS) protocol, and operations with implants are to be followed for 1 year after the operation for surgical-site infections (SSI).¹ We share his concern that some hospitals are defining implants differently than is intended and described by the NNIS System. Hospitals reporting data to the NNIS System record "implant" only on the Infection Worksheet of patients with an SSI and not on the summary (denominator) record. The frequent requests we have received to clarify the definition of "implant" have shown us that the definition has not been clear or understood by some. This has prompted us to include the information about the nature of an implant in training courses, a publication,² and in *NNIS News*, a newsletter we send to NNIS hospitals. From 1997 to the present, 59% of deep-chest SSIs after coronary artery bypass graft (CABG) operations with both a chest and donor-site incision (CBGB) were recorded as "Implant=Yes." This represents an increase in recording from only 11% in 1993, which we believe is largely due to the educational efforts, which will continue.

The more difficult question to answer is: Does the variation in applying "implant" and monitoring patients undergoing NNIS operative procedures for 30 versus 365 days undermine the NNIS surveillance data, rendering it useless for benchmarking purposes? To examine this question, we limited our analysis to CBGB, because this comprised 94% of all CABG operations from 1992 to 1997. For the 137,142 CBGB operations, 4,594 SSIs were reported; 2,269 were chest infections, either superficial incisional (45%), deep incisional (29%), or sternal-mediastinal infections (26%). Of the leg infections, 100% were listed as occurring within 30 days after the procedure. Of the chest infections, 93% were reported as occurring within 30 days after the procedure, a rate that