REFERENCES

1. Yokoe DS, Platt R. Surveillance for surgical site infections: the uses of antibiotic exposure. *Infect Control Hosp Epidemiol* 1994;15:717-723.
2. Fry D. *Surgical Infections.* Chicago, IL: Little Brown; 1994.
3. Lee J. Wound infection surveillance. *Infect Dis Clin North Am* 1992;6:643-656.
4. Kritchevsky SB, Simmons BP Toward better antibiotic use in hospitals. *Infect Control Hosp Epidemiol 1994;15:688690.*
5. Condon R. Meakins J, Haley R, Lee J. Does infection control control infections? *Arch Surg* 1988;123:250-256.
6. Olson M, Lee J. Continuous, ten-year wound infection surveillance: results, advantages, and unanswered questions. *Arch Surg 1990;* 159:212-217.

James T. Lee, MD, PhD, FACS
Minneapolis VA Medical Center
Minneapolis, MN

The authors reply

We agree with many of the points raised in Dr. Lee's erudite Letter to the Editor but do not feel that these issues conflict with the use of postoperative antibiotic exposure to detect surgical site infections.

We agree that excessive use of postoperative antibiotics is common practice and that there are little data to support the additional usefulness of antibiotic administration for most surgical site infections beyond that obtained by opening and draining infected wounds. Our proposed surveillance method based on antibiotic exposure, however, does not depend on whether the decision to use antibiotics is right or wrong, but rather makes use of antibiotic exposure as a marker for identifying patients who receive antibiotics because their physicians believe that a postoperative infection is present.

Dr. Lee also observes that under managed care initiatives, efforts to reduce medical costs likely will include minimizing unnecessary antibiotic use, and he speculates that a surveillance system based on antibiotic exposure would be "silently disabled by this positive accomplishment." We agree that the practices governing antibiotic use vary over time. This variation will necessitate periodic reevaluation of the optimal antibiotic exposure thresholds used to distinguish patients most likely to have postoperative infections from those unlikely to be infected. Such reassessment will prevent antibiotic-based surveillance from becoming "completely unreliable," as predicted by Dr. Lee. In addition, limiting unnecessary antibiotic usage may, in fact, increase the predictive value of using antibiotic exposure to identify serious postoperative infections by eliminating misclassification of the extended use of perioperative antibiotic prophylaxis.

The largest potential limitation of antibiotic-based surveillance imposed by the manifestations of managed care will be the increasing percentage of surgical site infections diagnosed after discharge resulting from shortened hospital stays. Postdischarge infections, however, also are difficult to monitor using traditional "shoe leather epidemiology." In the case of managed care organizations where outpatient use of antibiotics is monitored closely, outpatient antibiotic use potentially could be used to identify infections diagnosed after discharge using outpatient pharmacy records.

Lastly, we agree with Dr. Lee that, as supported by his series of landmark studies, "shoe leather epidemiology" is likely to be the most complete surveillance method for tracking surgical site infections. This method, however, may be becoming increasingly less practical as a result of tightening hospital budgets and diminishing staff resources. Surgical ward and clinic nurses likely will have less time to allocate to the identification and documentation of surgical site infections. Antibiotic-based surveillance is labor- and personnel-efficient and, although perhaps less sensitive and specific than traditional surveillance methods, may be adequate to identify risk factors contributing to the endemic and epidemic occurrence of postoperative infections. An additional benefit of antibiotic-based surveillance is that it uses relatively objective data, reducing the potential for interobserver variability and variation in surveillance intensity over time.

In conclusion, although the concerns raised by Dr. Lee are valid, we are optimistic that a surveillance system based on postoperative antibiotic exposure can be engineered to surmount these potential problems. Rigorous testing of this hypothesis will let us know whether such surveillance is worthwhile.

Deborah S. Yokoe, MD, MPH
Richard Platt, MD, MS
Brigham and Women's Hospital
Boston, Massachusetts

https://doi.org/10.1017/S0195941700007827 Published online by Cambridge University Press