Clinical Pathology Selected Abstracts

Editor: Deborah Sesok-Pizzini, MD, MBA, professor, Department of Clinical Pathology and Laboratory Medicine, Perelman School of Medicine, University of Pennsylvania, Philadelphia, and chief, Division of Transfusion Medicine, Children's Hospital of Philadelphia.

Optimization of EHR order menu to improve test ordering patterns

May 2020—Laboratory costs represent approximately three to four percent of overall health care expenses but drive 70 to 80 percent of decisions made by physicians. One way to control laboratory testing expenditures is through appropriate utilization. For example, thyroid and antinuclear antibody (ANA) testing have reliable initial screening tests, yet specialized testing is overutilized for both. In 2000 guidelines, the College of American Pathologists and American College of Rheumatology established that the ANA screen by immunofluorescence in the setting of a negative result is sufficiently sensitive not to perform further testing with subserologies and that thyroid-stimulating hormone (TSH) is a sensitive marker of thyroid function and can often be used without further testing with a normal TSH. Both statements in the guidelines are also recommendations of the Choosing Wisely initiative, a national effort to promote more effective utilization of health care resources, led by the American Board of Internal Medicine Foundation. The authors conducted a study to adjust ordering options in the EHR that can influence ordering patterns without the need for additional utilization reviews. For the study, they adjusted the testing menu in the EHR at one hospital to reflect the Choosing Wisely recommendations so that the menu automatically favored screening tests that then reflexed to specialized testing on the primary provider's preference list. Shifts in ordering, from individual screening tests to tests that automatically reflexed to specialized testing, were observed in parallel with an overall decrease in the ordering of specialized testing. In this way, only a positive result for an ANA or TSH would generate additional diagnostic testing. The authors showed that a collaborative effort between specialty providers, informatics specialists, and laboratory experts can help lower costs and shift ordering patterns so they are more consistent with Choosing Wisely guidelines. Ordering patterns can also be controlled by limiting searchable names in the EHR or changing the name of a test. However, the authors noted that a potential downside to this approach is the possibility of unnecessarily triggering a reflex test. The authors concluded that although they were able to show a shift in ordering and a change in utilization within the EHR, additional outcome data are needed to ensure that there are no delays in diagnostic evaluation or an increase in reflex testing. Both of these scenarios may have the unintended consequence of driving up health care costs. However, the authors noted that adopting reflex testing algorithms that have been vetted through multiple reviews can help mitigate these unintended outcomes.

Barry C, Kaufman S, Feinstein D, et al. Optimization of the order menu in the electronic health record facilitates test patterns consistent with recommendations in the Choosing Wisely initiative. *Am J Clin Pathol*. 2020;153:94–98.

Correspondence: Dr. Charlene Bierl at bierlc1@chop.edu

How pathologists can help surgeons with microbiology specimen collection

High-quality specimens in microbiology are necessary to ensure that the right test is performed on the patient at the right time. Microbiology results need to reflect the patient's clinical situation so they can help guide treatment management. In some cases, an invasive surgical procedure is required to diagnose a potential infectious process. Tissue and aspirate fluid are ideal specimens for microbiology culture and provide enough volume to inoculate the various media required for the workup of certain culture types. When fungal, mycobacterial, and anaerobic cultures are ordered from the same site, as many as 15 to 20 media plates and slides may be needed for staining. The authors analyzed relevant literature on the collection and processing of surgical specimens submitted for microbiology culture between 2000 and 2018 and proposed standardized institutional practices. They described the complicated process of obtaining a specimen for culture in the operating room. The authors compared swabs versus tissue and aspirate fluid and evaluated other preanalytic considerations, such as how to handle tissue or

fluid collected during a surgical procedure that needs to go to different areas of the laboratory, including histology, cytology, flow cytometry, microbiology, and cytogenetics. They recommended that the person most familiar with the clinical circumstances and the results that are needed be the one to divide up the specimen in the operating room. Other preanalytic considerations are based on proper labeling of specimens, obtaining a comprehensive clinical history, and assessing noteworthy exposures and travel history. Therefore, the key to proper specimen collection is education and close collaboration among surgeons, other operating room staff, medical technologists, and pathologists. If these factors are not considered, an appropriate specimen for microbiology may not be obtained and a diagnosis missed. The authors concluded that interactive forums such as grand rounds, quality conferences, didactic sessions, and patient care rounds should be used to educate the surgeon and laboratorians in the microbiology laboratory. Institution-based protocols for best practices will help standardize the collection process and improve the quality and accuracy of the microbiology results reported.

Stempak LM, Middleton CE, Navalkele B, et al. How the pathologist can help the surgeon collect better specimens for microbiology culture. *Arch Pathol Lab Med*. 2020;144:29–32.

Correspondence: Dr. Lisa M. Stempak at lstempak@umc.edu