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Study tackles labeling errors

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With a long-held commitment to continuously improving the quality and safety of patient care, Mayo Clinic researchers are recommending a new technologically-advanced labeling system aimed at reducing specimen labeling errors in a high-volume gastrointestinal endoscopy center. That conclusion is based on the results of a study they are presenting at the 2008 American College of Gastroenterology (ACG) Annual Meeting.

"The Gastroenterology and Colorectal Surgery outpatient endoscopy unit at our facility yields over 30,000 specimen bottles that are sent for pathologic review every year," says Dawn Francis, M.D., the lead author and a gastroenterologist at Mayo Clinic. "Over the past several years, Mayo Clinic identified some issues with mislabeling of tissue specimens in the units. Most labeling errors have been due to either the wrong patient label or no label being affixed to a specimen bottle. As a result, a quality improvement initiative was created to reduce the number of specimen-labeling errors."

This study used a technology, radio-frequency identification (RFID), to track biopsy specimens taken during gastrointestinal endoscopic procedures and to automate identification. An RFID tag can be applied to or incorporated into an object so that it can be identified by using radio waves. Radio-frequency identification is used in other settings, such as libraries or passports, as an automated tracking system. This is its first application to track specimens in a health care setting.

Researchers reviewed the number of specimen-labeling errors for the first three months of 2007, prior to the implementation of the initiative

and the first three months of 2008, six months
after the initiation of RFID specimen labeling. Specimen-labeling errors were categorized as Class 1 (only typographical with no potential patient care consequences), Class 2 (minor error, unlikely to have patient care consequences) and Class 3 (significant error that has the potential to detrimentally impact patient care).

The endoscopy unit sent 8,231 specimen bottles to the pathology laboratory for evaluation during the first three months of 2007, and 8,539 bottles in the first three months of 2008. Compared to 765 errors in 2007, only 47 errors were noted in 2008. Overall, serious errors were low anyway, but the new labeling system reduced such errors even more, minimizing risk for patients. The two incidents of Class 3 errors in the first quarter of 2008 were recognized and corrected prior to specimen processing in the pathology laboratory.

"This system has provided us a great opportunity to enhance safety and quality efforts in specimen management. The RFID system has allowed us to reduce the number of data transcription points during the handling of these very important specimens," says Schuyler Sanderson, M.D., a pathologist involved in the research study. "It appears that this quality initiative, with emphasis on correct data creation and transcription point reduction, has the potential to significantly improve our clinical practice."

Previous Mayo Clinic research on RFID technology revealed that human error decreased dramatically as multiple checkpoints in specimen handling were eliminated.

Source: Mayo Clinic