

# Complications after endoscopies may be underestimated using standard reporting procedures

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Hospital visits following outpatient gastrointestinal endoscopies may be more common than previously estimated, according to a report in the October 25 issue of *Archives of Internal Medicine*.

About 15 to 20 million endoscopic procedures, in which a clinician uses a tube-like instrument called an endoscope to see inside a patient's body, are performed each year in the United States, according to background information in the article. However, data on the safety of these procedures and the complications occurring afterward are limited. Most estimates have relied on physician reporting, review of medical records and follow-up interviews, which may not capture all adverse events related to [endoscopy](#).

Daniel A. Leffler, M.D., M.S., and colleagues at Beth Israel Deaconess Medical Center, Boston, used that facility's electronic medical record to develop a system that automatically recorded admissions to the emergency department within 14 days after endoscopy. They then evaluated each reported case to determine if the visit was related to the endoscopy based on predetermined criteria, including whether the chief complaint in the emergency department predated the endoscopy.

Between March 1 and Nov. 30, 2007, 6,383 patients underwent endoscopies of the upper gastrointestinal tract and 11,632 had colonoscopies (7,392 for screening as opposed to diagnostic purposes).

A total of 419 emergency department visits and 266 hospitalizations occurred in the 14 days following the procedures, of which 134 (32 percent) of the emergency visits and 76 (29 percent) of the hospitalizations were related to endoscopy. The most common reasons for emergency department visits were abdominal pain (47 percent), gastrointestinal tract bleeding (12 percent) and chest pain (11 percent).

The standard physician reporting recorded 31 complications, the authors note. "Although the overall rate of severe complications, including perforation, [myocardial infarction](#) [heart attack] and death remained low, the true range of adverse events is much greater than typically appreciated, and the overall rate of one in 127 patients visiting the hospital due to an outpatient endoscopic procedure is a cause for concern, especially in the setting of screening and surveillance when otherwise healthy individuals are subjected to procedural risks," they write.

The average cost per hospital visit following endoscopy was \$6,355.71. The total cost for hospitalizations among patients undergoing endoscopy for screening or surveillance was \$355,489.76, adding \$48.09 per examination to the cost of the screening program. "The overall cost of hospital visits related to endoscopy at our center was nearly \$1.4 million per year with an incremental cost of approximately 4 percent to the screening program," the authors write. "Although on an individual basis this cost is relatively low, projected nationwide, this is a considerable and underreported cost to the medical system, which could exceed \$650 million per year in the United States."

"Using a novel automated system, we observed a 1 percent incidence of related hospital visits within 14 days of outpatient endoscopy, two- to three-fold higher than recent estimates," they conclude. "Most events were not captured by standard reporting, and strategies for automating adverse event reporting should be developed. The cost of unexpected

hospital visits postendoscopy may be significant and should be taken into account in screening or surveillance programs."

**More information:** *Arch Intern Med.* 2010;170[19]:1752-1757.

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