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Outpatient Surgery

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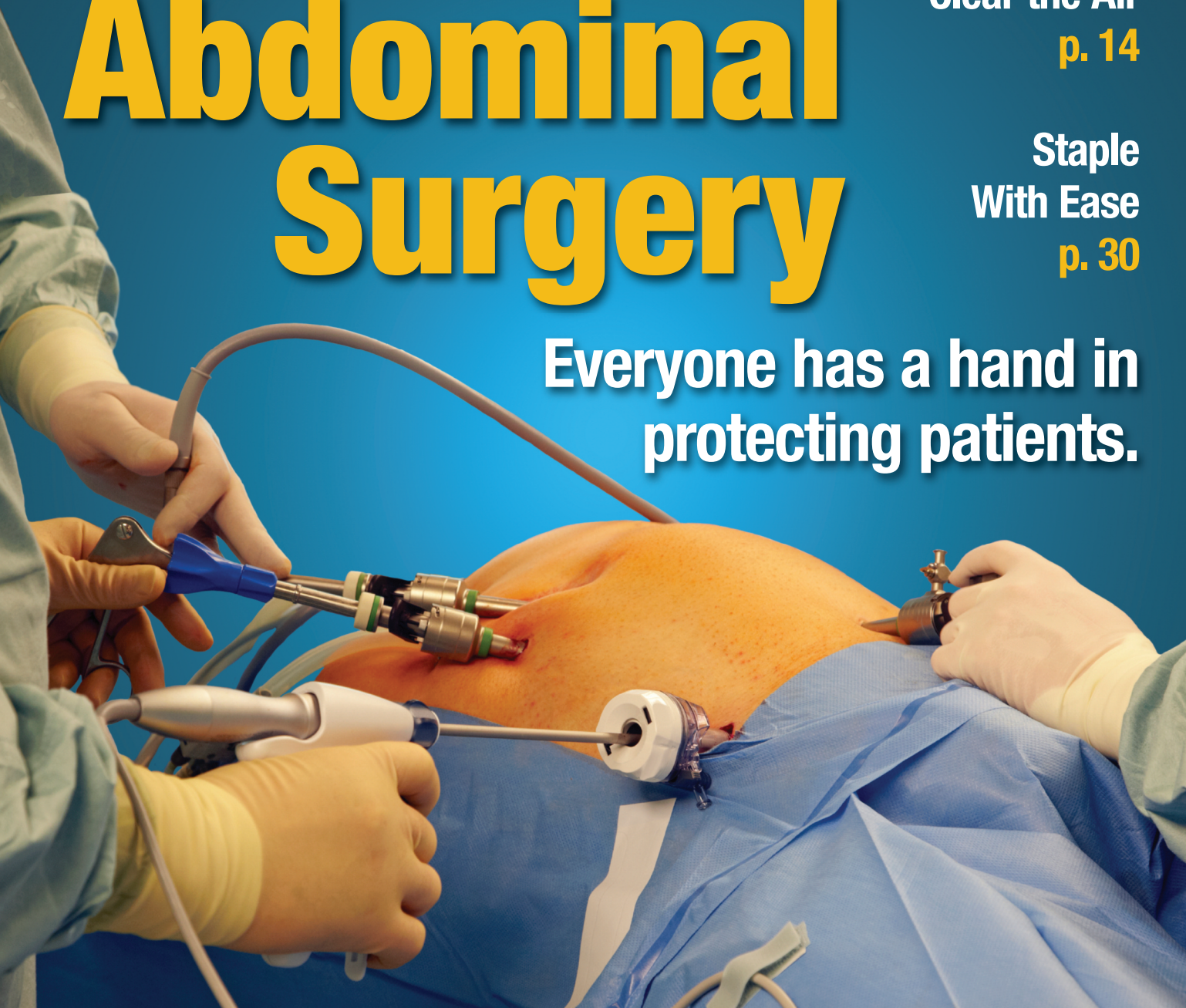
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Manager's Guide to

Safer Abdominal Surgery

**Everyone has a hand in
protecting patients.**



Minimize The Risk Of Nicks

Of the many complications that can occur during abdominal laparoscopic surgery, perforated bowels might be the most disastrous.

Dan O'Connor | Editor-in-Chief

Two things usually follow a punctured or perforated bowel. The patient dies and the family sues. In rapid succession and with alarming regularity, that's what you can expect when your surgeon nicks the bowel during such routine laparoscopic procedures as hernia repair, liposuction or tubal ligation. Electrosurgical burns, adhesions, retained objects and stapling mishaps are complications of abdominal laparoscopic surgery that you want to avoid at all costs, but what makes bowel perfs so vexing is that they're frequently fatal and so easy to miss.

"When you violate the abdominal cavity, you do run the risk of injury," says Paul G. Curcillo II, MD, FACS, a Philadelphia-area surgeon who pioneered reduced-port surgery. "When you snip a piece of bowel and you don't see that you've done it, the results can be devastating."

That's because you're usually unaware of the bowel perf until the patient returns to the ER soon after surgery with the telltale signs of serious trouble: increasing pain and nausea, fever, decreased oxygen saturation, inability to void, distended abdomen and unusually low blood pressure. By that time, it's often too late.



▲ BOWEL PERFS Puncturing the bowel might be abdominal surgery's greatest risk.

Lessons from med mal suits

Medical malpractice lawsuits stemming from bowel perfs sometimes hold valuable lessons and details about how the mistake happened. There's also a reliance on a common defense: Bowel perforation is a risk of abdominal surgery and can occur in the absence of negligence.

• Retraction injury out of the field of view.

We start with a case in which the surgeons retracted instruments out of the field of view, resulting in 2 complete perforations of the jejunum. A woman underwent laparoscopic hernia surgery at a Dallas hospital in September 2003. The procedure was performed by 2 resident physicians and attended by an assistant professor of surgery in the GI division. The patient was discharged later that day. Two days later, she presented to the hospital's emergency room with severe abdominal pain. Emergency surgery revealed that during the hernia repair her bowel had been perforated in 2 places — a through-and-through small bowel injury — leading to acute peritonitis with sepsis. She died the following day of multiple organ failure. The attending physician surmised that the bowel perforation "was a result of a retraction injury out of the field of view."

• **Multiple organ failure due to sepsis.** Then there was the October 2006 case of a man who underwent laparoscopic ventral hernia repair and had to be admitted to the hospital because he suffered significant abdominal pain. The patient's health deteriorated from the time he was admitted until, days later, a surgeon performed an exploratory laparotomy and found that the man's bowel was perforated and his abdomen contained grossly contaminated enteric contents. He was suffering from septic shock caused by bowel perforation, and was comatose for more than a week after the exploratory laparotomy. The man remained in the hospital undergoing treatment for his infected abdomen until he was discharged in May 2007. After his discharge, the patient continued to require constant medical attention because of an open wound on his body and multiple bowel fistulas that developed while he was hospitalized. He had surgery to repair his bowel fistulas in August 2007, but his condition persisted. In February 2008, the man died of multiple organ failure due to sepsis.

• **Trocar perforates intestine.** A vascular surgeon perforated a woman's intestine while inserting a trocar through her abdominal wall during gall bladder surgery. The surgeon reportedly failed to recognize the condition and continued to remove the gall bladder and suture the wounds. The patient was sent home despite a high white blood cell count. Her condition worsened and she was readmitted to the hospital with fever and discharge from her incision. The surgeon reportedly performed additional surgery to repair the perforation, but the woman developed necrotizing soft tissue infection of the abdominal wall, sepsis and multi-organ failure. She died days later. A lawsuit against the surgeon claimed he was negligent by failing to use a finger or blunt instrument to make sure no intestine was in the area where the trocar would pass, failing to use a Veress needle and syringe to see if blood or bowel contents could be withdrawn and failing to use a syringe to perform a saline drop test. The lawsuit also alleged the surgeon was negligent in failing to perform a resection of the damaged section of the intestine. The surgeon claimed he inspected the intestine prior to removing the ports and found no evidence of injury.

• **Colostomy following laparoscopic ovarian cystectomy.** A female patient alleged that she suffered general colon and bowel injuries, requiring a temporary colostomy, and developed a hernia when she underwent a laparoscopic ovarian cystectomy performed by a gynecologist. She subsequently underwent another laparoscopy when sonograms showed persistent ovarian cysts that were increasing in size. She contended that her surgeon negligently used the Veress needle technique during the second laparoscopy instead of the Hasson technique (direct fascial incision) that would have provided improved visualization of her abdominal adhesions. The surgeon denied liability and contended that the woman gave permission for the conversion to an open laparotomy during surgery and requested the assistance of a general surgeon when he recognized the colon injury. The defendant further contended that the Veress needle technique was consistent with the proper standard of care.

Also beware of stray energy burns

If a cauterizing instrument in a surgeon's right hand touches the cold instrument in his left hand that's holding a piece of bowel, the cold instrument can heat up and burn the bowel. But wait, you say, the cold instrument is insulated in plastic. True, says Dr. Curcillo, but you can transmit the current from the "hot" instrument to the "non-hot" instrument up and down the shaft of the trocar. The current will go into the bowel — and not into the plastic trocar — and burn the bowel, thus weakening it. "This is an injury that doesn't declare itself for 3 or 4 days," says Dr. Curcillo. "When the blister on the bowel pops, it chars the bowel wall. That portion of the wall weakens over the next couple of days and then it can perforate."

A San Diego jury recently awarded \$2.2 million to a woman after she was injured by a stray energy burn during laparoscopic surgery. The patient's bowel was burned, causing a perforation and major internal injuries. When laparoscopic instruments emit stray energy during surgery, often it's out of the doctor's sight. "It's more concerning when you can't see the injury," says Dr. Curcillo. **OSM**

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