

10 practical, evidence-based suggestions to improve your minimally invasive surgical skills *now*

↘ Whether you're a laparoscopic or robotic novice or veteran, implementing any of these pearls will elevate your prowess and success in the operating suite

Catherine A. Matthews, MD

When my colleague, Dr. Mark D. Walters, offered “10 practice, evidence-based suggestions to improve your gyn practice *now*” in the January 2011 issue of OBG MANAGEMENT [available at www.obgmanagement.com], he made an important observation: “Attention to evidence-based guidelines and to outcomes for individual patients continues to drive medicine...you're challenged to sort through the great, and growing, mass of medical information so you can focus on key issues that improve care.”

Dr. Walters' succinct, invaluable suggestions for your gyn practice launched what will be a recurring format, on a range of topics in women's health care, in the pages of this publication.



Dr. Matthews is Associate Professor and Director, Division of Urogynecology and Reconstructive Pelvic Surgery, Department of Obstetrics and Gynecology, University of North Carolina School of Medicine, Chapel Hill, NC. She is a member of the editorial board of the International Academy of Pelvic Surgery (IAPS).

Dr. Matthews reports that she is a proctor for Intuitive Surgical.

So in this article is, once again, capsule advice for you: this time, my 10 suggestions for performing minimally invasive gyn surgery—including two when you use the robot. These pearls are **backed by evidence and easy to put into practice**. And, again, each includes a pertinent reference from the literature.

1. Entry: Be safe

Use Palmer's point in the left upper-abdominal quadrant for laparoscopic entry in patients who have had any prior abdominal surgery.

Granata M, Tsimpanakos I, Moeity E, Magos A. Are we underutilizing Palmer's point entry in gynecologic laparoscopy? Fertil Steril. 2010;94(7):2716-2719.

Laparoscopic entry in the left-upper quadrant is safe and is associated with a low rate of failure. Gyn surgeons tend to underutilize this route of entry; using it can significantly reduce the rate of bowel injury that can occur with attempted umbilical entry.*

*A video that describes the appropriate anatomy is found at www.academyofpelvicsurgery.com (Module 5, Video 3 in the “Video Library”).

CONTINUED ON PAGE 25

IN THIS ARTICLE

When to close fascia
page 25

Care of the ureter
page 25

Use egg-crate foam, not shoulder blocks
page 26

2. Port sites—come in high

Place accessory ports 1) under direct vision and 2) above the anterior superior iliac spine, to avoid injury to the ilioinguinal and iliohypogastric nerves.

Whiteside JL, Barber MD, Walters MD, Falcone T. Anatomy of ilioinguinal and iliohypogastric nerves in relation to trocar placement and low transverse incisions. *Am J Obstet Gynecol.* 2003;189(6):1574–1578.

The right lower- and left lower-abdominal port sites that are used in laparoscopic pelvic surgery are common causes of these troubling complications.

3. Worry less about the Veress

The various Veress needle safety tests or checks provide little useful information about the placement of the needle. Furthermore, avoid wiggling the Veress needle: Such movement can enlarge a 1.6 mm puncture to an injury as large as 1 cm in viscera or blood vessels.

Vilos GA, Ternamian A, Dempster J, Laberge PY; the Society of Obstetricians and Gynecologists of Canada. Laparoscopic entry: a review of techniques, technologies, and complications. *J Obstet Gynaecol Can.* 2007;29(5):433–465.

Instead, an opening pressure of <10 mm Hg is a reliable indicator of correct intraperitoneal placement of a laparoscopic trocar.

4. Keep risk of herniation low

Hernias at the site of laparoscopic ports are significantly more common with 12-mm trocars—even bladeless, radially expanding ones. Close fascia, therefore, when you've used any type of trocar that is 10 mm or greater in diameter.

Chiong E, Hegarty PK, Davis JW, Kamat AM, Pisters LL, Matin SF. Port-site hernias occurring after the use of bladeless radially expanding trocars. *Urology.* 2010;75(3):574–580.

Patients who develop nausea or vomiting

after laparoscopic surgery should have an early computed tomographic scan performed to evaluate them for port-site herniation or bowel injury, or both.

5. Arm tucking

Avoid brachial plexus injury in laparoscopic surgery by always tucking the arms, instead of placing them on arm boards that can inadvertently be moved beyond horizontal during the surgery.

Shveiky D, Aseff JN, Iglesia CB. Brachial plexus injury after laparoscopic and robotic surgery. *J Minim Invasive Gynecol.* 2010;17(4):414–420.

This routine safety measure takes little additional time and facilitates more comfortable access to the patient.

6. Release of gas

Completely evacuate all pneumoperitoneum and instruct the anesthesiologist to perform five manual inflations of the lungs before the patient is taken out of Trendelenburg position.

Phelps P, Cakmakkaya OS, Apfel CC, Radke OC. A simple clinical maneuver to reduce laparoscopy-induced shoulder pain: a randomized controlled trial. *Obstet Gynecol.* 2008;111(5):1155–1160.

These maneuvers help to avoid having a bubble of gas trapped under the diaphragm—an uncomfortable problem for many women after laparoscopic surgery.

7. Care with the ureter

If you are even remotely suspicious that a ureter has sustained thermal damage, recognize that immediate efflux of indigo carmine dye from the ureteric orifices does not predict delayed post-operative ureteral necrosis and a subsequent leak or fistula.

Parpala-Sparman T, Paananen I, Santala M, Ohtonen P, Hellstrom P. Increasing numbers of ureteric injuries after the introduction of laparoscopic surgery. *Scand J Urol Nephrol.* 2008;42(5):422–427.

Consult urology to place a ureteral stent for



Avoid brachial plexus injury in laparoscopic surgery by always tucking the arms, instead of placing them on arm boards

6 weeks to ensure complete healing of the potential injury.

8. Vaginal cuff dehiscence

Recognize that vaginal bleeding and sudden watery discharge are the most common presenting symptoms of vaginal cuff dehiscence after hysterectomy.

Kho RM, Akl MN, Cornella JL, Magtibay PM, Wechter ME, Magrina JF. Incidence and characteristics of patients with vaginal cuff dehiscence after robotic procedures. Obstet Gynecol. 2009;114(2 pt 1):231–235.

With a mean time to presentation postoperatively of approximately 6 weeks, vaginal cuff dehiscence occurs at a higher rate after laparoscopic and robotic hysterectomy (with the latter, reported to be as high as 4.1%) than it does after abdominal or vaginal hysterectomy, and is often triggered by coitus. Your efforts to reduce the risk of this complication should include **1)** limited use of thermal energy when performing colpotomy and **2)** paying attention to placing sutures into healthy vaginal tissue. 🚫

2 more suggestions—when using the robot

9. Keep the patient in place

Place patients directly on egg-crate foam for robotic surgery. Doing so results in minimal movement on the table, even in the maximal Trendelenburg position.

Klauschie J, Wechter ME, Jacob K, et al. Use of anti-skid material and patient positioning to prevent patient shifting during robotic-assisted gynecologic procedures. J Minim Invasive Gynecol. 2010;17(4):504–507.

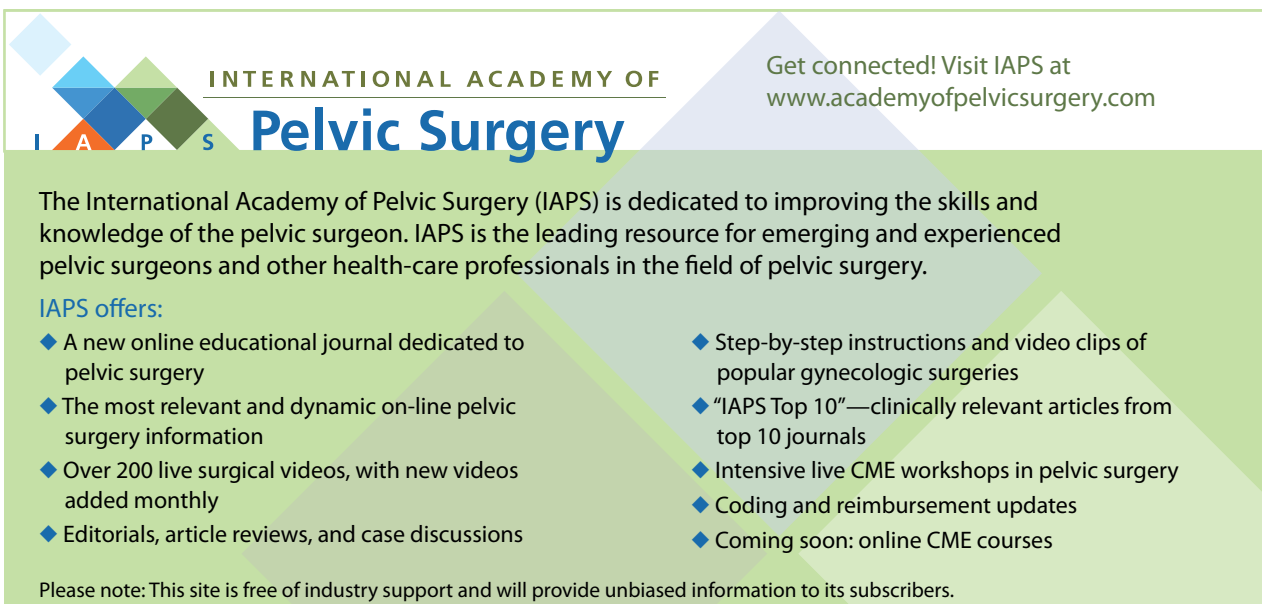
This tactic is economical and isn't associated with any risk of brachial plexus injury—a complication that can occur with incorrect use of the shoulder blocks that are commonly used to prevent slipping.

10. Placing and spacing ports

Position robotic ports at least 10 cm apart to avoid interference by the robotic arm. You need a distance of at least 15 cm from the symphysis to the umbilicus to have adequate room between camera and pelvis.

Matthews CA, Schubert CM, Woodward AP, Gill EJ. Variance in abdominal wall anatomy and port placement in women undergoing robotic gynecologic surgery. J Minim Invasive Gynecol. 2010;17(5):583–586.

Because African-American women often have shorter lower-abdominal dimensions than white women, they sometimes require port placement above the umbilicus. Interference by the robotic arm will frustrate many novice robotic surgeons; this easy technique prevents these problem situations in most cases.



INTERNATIONAL ACADEMY OF Pelvic Surgery

Get connected! Visit IAPS at www.academyofpelvicsurgery.com

The International Academy of Pelvic Surgery (IAPS) is dedicated to improving the skills and knowledge of the pelvic surgeon. IAPS is the leading resource for emerging and experienced pelvic surgeons and other health-care professionals in the field of pelvic surgery.

IAPS offers:

- ◆ A new online educational journal dedicated to pelvic surgery
- ◆ The most relevant and dynamic on-line pelvic surgery information
- ◆ Over 200 live surgical videos, with new videos added monthly
- ◆ Editorials, article reviews, and case discussions
- ◆ Step-by-step instructions and video clips of popular gynecologic surgeries
- ◆ “IAPS Top 10”—clinically relevant articles from top 10 journals
- ◆ Intensive live CME workshops in pelvic surgery
- ◆ Coding and reimbursement updates
- ◆ Coming soon: online CME courses

Please note: This site is free of industry support and will provide unbiased information to its subscribers.