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**Women's Health Today**  
A magazine connecting women to national healthcare experts in a dialogue about today's health concerns.

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# Chronic pelvic pain

## It isn't all in her head

BY STEVEN D. MCCARUS, MD

**C**hronic pelvic pain poses a significant problem in women's health care in the United States for patients and clinicians, and in overall costs to the health care system. An estimated 9 million American women, or nearly 15% of women in their reproductive years, have chronic pelvic pain (CPP), defined as pelvic pain that lasts longer than 6 months.<sup>1</sup>

Three of 4 women who experience CPP do not recognize the serious implications and do not seek consistent medical management. More than half never receive any diagnosis.<sup>1</sup> Instead, they rely on over-the-counter pain medications, jumping from physician to physician or visiting urgent care centers whenever symptoms worsen. Only about 10% of women with CPP are under the care of a physician for this condition.

### A diagnostic challenge

Accurately diagnosing CPP can be a painstaking process of elimination requiring patience, diligence, and compassion. There can be numerous explanations for pelvic pain. Once anatomic, GI, and genitourinary causes are ruled out, there is an 80% chance that the patient has pelvic endometriosis.<sup>2</sup>

Approximately 5.5 million women in North America have endometriosis, one of the top 3 causes of infertility, which affects 30% to 40% of women with endometriosis.<sup>3</sup> The resultant pain can destroy sexual relations in a marriage and lead to depression as women lose hope for finding a solution. It is also the leading reason for hysterectomy and the third most likely reason for hospitalization of women during their childbearing years.<sup>4</sup>

continues on page 6



## Talking to your patients about pain

**Patients who experience chronic pain can assist in arriving at a diagnosis by keeping careful records and being specific about what they are feeling.**

**Here are some suggestions to help your patients act as partners in health care:**

- Ask patients to bring a written pattern of symptoms instead of relying on their ability to recall and talk about them. This is especially helpful for patients who are feeling emotional and frustrated by the lack of a diagnosis.
- Encourage patients to be honest about their symptoms and to not feel shy about mentioning painful intercourse or problems with bowel movements or urination.
- Have patients prepare monthly symptom calendars, illness progression timelines, and temperature charts like those used to track ovulation and bring them to your office when they come for checkups.
- Establish trust. It may be necessary to ask difficult questions about domestic violence, physical or sexual abuse, or psychological conditions that can be fueled by chronic pain.

Practical strategies in  
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# Let's talk

## A message from the founder

After a tremendous response to our first issue of *Practical Strategies in Women's Health*, we are very excited to bring you the next issue of this physician newsletter. The

intent of *Practical Strategies* is to facilitate communication and assist you in your everyday dealings with your patients. Although the primary goal of the Foundation for Female Health Awareness is to educate consumers about all aspects of their health, an extremely important component of this is to be in constant contact with the physicians who treat women. The Women's Health Experience is a unique program designed to put accurate and timely information in your patients' hands through the national magazine *Women's Health Today*, live meetings, and an extensive internet site [www.womenshealthexperience.com](http://www.womenshealthexperience.com).

*Practical Strategies* will provide you with the most up-to-date medical information regarding various facets of women's health and is designed to coordinate with key consumer articles published in the simultaneous edition of *Women's Health Today*. In this issue of the newsletter, nuances in the evaluation and management of endometriosis are discussed, along with an update on minimally invasive surgical procedures and a discussion of a new option for testing FSH in women approaching menopause. We hope you enjoy this issue and that it fosters enriched communication between you and your patients.

Sincerely,

Foundation  
for Female  
Health  
Awareness

# In skilled hands

## An overview of minimally invasive procedures

INTERVIEWS WITH ANDREW BRILL, MD, AND SUSAN CERA, MD, CONDUCTED BY LYNN WALTZ

**W**ith the rapid increase and expansion of minimally invasive procedures (MIPs) in surgery over the past 2 decades, primary care clinicians are increasingly called upon to offer advice and make suitable referrals. Growing consumer awareness and demand for these procedures require physicians to guide patients who are in need of surgery to decide whether an MIP is an appropriate choice, and to make a surgical referral with confidence.

In the hands of a skilled surgeon, the benefits of MIPs have been established in multiple studies and analyses.<sup>1-3</sup> While outcomes that are equivalent to those of open surgical procedures have been shown with MIPs, patients who underwent these procedures were found to experience reduced pain, better cosmesis, and accelerated recovery. Faster recovery time translates into shorter hospital stays, less dependence on narcotic painkillers, and a quicker resumption of normal activities.

“The quality of life differences are enormous for the patients,” says Andrew Brill, MD, Professor and

### Minimally invasive surgery

When performed by experienced surgeons, MIPs are increasingly found to be safe and effective for many types of intra-abdominal disease, including relatively complex colorectal procedures.

Director of Gynecologic Endoscopy in the Department of Obstetrics and Gynecology, University of Illinois at Chicago College of Medicine. “Perhaps the greatest triumph of MIP is accelerating recovery back to ‘normal humanhood.’ However, the reduced hard costs incurred by shorter hospital stays is somewhat offset by the longer operating times and use of disposable instrumentation during MIPs.”

### History and application

The use of laparoscopy as an alternative to open surgery took root in gynecology, first as a diagnostic

## 6 Questions your patients might ask

- 1 What will the procedure involve?
- 2 Will you be using minimally invasive techniques to perform the procedure?
- 3 Are there any potential risks of surgery that I should be aware of?
- 4 How long will I have to stay in the hospital?
- 5 What can I expect during my recovery?
- 6 How soon after surgery can I return to my job and/or everyday activities?

## Advantages of MIPs for diseases of the colon

As of 2005, numerous case series and several randomized, controlled, clinical trials have compared laparoscopy with open colon resection in patients with a variety of colon conditions, such as Crohn's disease, diverticulitis, rectal prolapse, ulcerative colitis, and cancer of the colon. (TABLE, PAGE 5)

In 2 meta-analyses, outcomes have been compared in these trials with varying results.<sup>1,2</sup> Laparoscopic procedures appear to offer several short-term advantages including decreased blood loss, less pain, shorter duration of postoperative ileus, reduced stress response, less scarring, shorter recovery as measured by length of hospital stay and return to normal activity, and improved pulmonary function.

Operating time is always shorter for open surgical procedures. However, operative time for laparoscopic procedures appears to decrease with increased surgeon experience, and operative time for laparoscopic right colectomy is now approaching that of open right colectomy.

Long-term results of MIPs versus open colectomy were studied in the Clinical Outcomes of Surgical Therapy trial.<sup>3</sup> Additional risk for cancer recurrence was evaluated at 48 North American institutions in 428 patients with cancers of the right or left colon. At 3-year follow-up, cancer recurrence (combined distant, distant/local, and local) was similar in both groups. Patients randomized to laparoscopy had a recurrence rate of 16%; those randomized to open surgery had a recurrence rate of 18%. At 3 years, 86% of those in the laparoscopy group and 85% in the open-surgery group were still living.

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tool and then for tubal sterilization. Despite its widespread acceptance by American gynecologists, it remained undifferentiated for a number of years. During the 1970s and 1980s, pioneering work by European surgeons invigorated interest in the United States, leading to laparoscopic treatment for virtually all benign gynecologic conditions. Innovative work by French surgeons led to the rapid embrace of laparoscopy by general surgeons for the removal of the gallbladder. On the heels of these developments, the medical instrument industry responded with a plethora of innovative devices that served to vitally fuel the revolution of laparoscopy across all surgical disciplines.

Despite early studies showing that the laparoscopic approach to gallbladder removal was more dangerous than the laparotomic alternative, through training and education general surgeons were able to erase this difference, and laparoscopic cholecystectomy is now regarded as the standard of practice. The same transformation is expected in other surgical arenas.

“Surgical treatment of nearly every disease process has been tried with laparoscopy,” says Susan M. Cera, MD, of the Department of Colorectal Surgery at the Cleveland Clinic in Naples, Florida. Dr Cera operates almost exclusively laparoscopically. “Some conditions are more suitable for a minimally invasive approach, such as gallbladder removal, gastroesophageal reflux, appendicitis, and benign or noninflammatory colon disorders. Some are more difficult or challenging and must be completed by more experienced surgeons.”

Risks generally include complications at the trocar sites (access ports) and unintentional vascular and visceral injuries. Drawbacks include being restricted to a 2-dimensional view, with its inherent lack of depth perception, and loss of direct tactile feedback for the surgeon. In some instances, this has led to a hybrid used in a range of digestive-tract-related surgical procedures called hand-assisted laparoscopic surgery (HALS), in which the surgeon's hand is inserted into the field.<sup>4</sup> In some cases, this approach may help to prevent the conversion of a modified laparoscopic procedure to an open procedure. Other potential challenges of MIPs include difficulties with large specimen removal and the risk of access port site metastasis in the face of spilled malignancy.

### The benefits of experience

The learning curve for MIPs is steep, and outcomes can be linked to the innate visual-motor skills and operative experience of a particular surgeon. This significantly contrasts with open surgery, where the learning experience is comparatively accelerated and unencumbered by the intrinsic limitations created by the laparoscopic alternatives.

“The absolute two-dimensionality of the video view, coupled with fixed operative ports, necessitates an entirely new visual-motor processing at which some individuals excel and some do poorly,” says Dr Brill. “This is a specific skill set that varies from human to human and is very different from open surgery, where there is a normal three-dimensional reality in which the surgeon can palpate and feel tissue and the sensory feedback is unaltered.”

## Meta-analyses and select randomized, controlled trials comparing laparoscopy with open laparotomy for colorectal disease

Study	Disease state	N		Operating time (min)		Hospital stay	
		L	O	L	O	L	O
<b>Meta-analyses</b>							
Schwenk, 2005 <sup>1</sup>	Colorectal disease	2992/2554*		8-275	60-188	3.9-10.4	6-12.7
Abraham, 2004 <sup>2</sup>	Colon cancer	1055/1237 <sup>†</sup>		L>O by 32.9%		L<O	
Purkayastha, 2005 <sup>3</sup>	Rectal prolapse	97	98	L>O by -60		L<O by -3.5 days	
<b>Randomized controlled trials</b>							
COST, 2004 <sup>4</sup>	Colon cancer	435(90) <sup>‡</sup>	428	150	95	5	6
Leung, 2004 <sup>5</sup>	Colon cancer	203(47)	200	89.9	144.2	8.2	8.7
COLOR, 2005 <sup>6</sup>	Colon cancer	539(91)	546	145	115	8.2	9.3
<p>* n=operative time evaluated for 2992 patients; length of hospital stay evaluated in 2554 patients</p> <p>† n=operative time evaluated for 1055 (537 L; 518 O) patients; length of hospital stay evaluated in 1237 patients</p> <p>‡ n in ( ) = converted cases KEY: L, laparoscopy; O, open surgery</p> <p>1. Schwenk W, Haase O, Neudecker J, et al. Short-term benefits for laparoscopic colorectal resection. <i>Cochrane Database Syst Rev.</i> 2005; Issue 2.</p> <p>2. Abraham NS, Young JM, Solomon MJ. Meta-analysis of short-term outcomes after laparoscopic resection for colorectal cancer. <i>Br J Surg.</i> 2004;91:1111-1124.</p> <p>3. Purkayastha S, Tekkis P, Athanasiou T, et al. A comparison of open vs. laparoscopic abdominal rectoplexy for full-thickness rectal prolapse: a meta-analysis. <i>Dis Colon Rectum.</i> 2005;48:1930-1940.</p> <p>4. Clinical Outcomes of Surgical Therapy Study Group. A comparison of laparoscopically assisted and open colectomy for colon cancer. <i>N Engl J Med.</i> 2004;350:2050-2059.</p> <p>5. Leung KL, Kwok SP, Lam SC, et al. Laparoscopic resection of retrogmoid carcinoma: prospective randomized trial. <i>Lancet.</i> 2004;363:1187-1192.</p> <p>6. Veldkamp R, Kuhry E, Hop WC, et al, for the Colon Cancer Laparoscopic or open Resection Study Group (COLOR). Laparoscopic surgery versus open surgery for colon cancer: short-term outcomes of a randomized trial. <i>Lancet Oncol.</i> 2005;6:477-484.</p>							

In some settings, expansion of MIPs into established open abdominal surgeries such as hysterectomy has been slower than for other conditions. Economics may play a part in this scenario. Operating time is longer and the procedure is more surgically demanding, resulting in potential complications and concerns about liability. “Even if a physician knows laparoscopy is a good idea, the reality is that the economics can be punitive,” says Dr Brill. “You have to be dedicated to making better choices for patient well-being. As a strong advocate for women and for changing the way medical care is delivered, I seek the least invasive option for the best outcome.”

Clinical studies do not adequately address the psychological and emotional benefits that MIPs offer to patients. “To quickly return to work, to return to being a mother, a spouse. There’s no adequate reckoning,” Dr Brill says. “Studies look at hospital days, injuries, bleeding, complications, re-operations, and costs of surgery. But the subjective benefits to the patient are immeasurable.”

### Making a confident referral

For the referring physician, the single most important facet—after determining the appropriateness and desirability of the MIP approach—is determining the experience level of the surgeon. Successful MIPs are directly linked to the number of times the surgeon has done the procedure. Time in surgery also decreases in direct correlation to experience in performing MIPs.<sup>5-7</sup>

Currently, there is no certification for surgeons who perform MIPs, as this type of surgery is not yet considered a distinct specialty. The best way to make a good referral is to contact local hospitals and ask them specifically how many procedures are done laparoscopically and which surgeons have done the highest number of the desired procedure. In some instances, it may be necessary to refer patients out of the area to find a surgeon with the appropriate credentials.

According to Dr Cera, “As surgeons become more familiar with technology and techniques, and as new instruments are designed, more disease processes will be commonly approached laparoscopically.” ■

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# Chronic pelvic pain

continued from page 1

Historically, the disease has been dubbed “husbanditis” because the complaint of pelvic pain during intercourse was deemed an excuse to avoid sexual encounters. This bias may still linger today. Because of the difficulty of diagnosing the disorder, in some cases it may be tempting to consider that the pain is “all in the patient’s head.” However, current research shows that with rare exceptions, such as in cases of sexual abuse, trauma, or mental illness, endometriosis is a real disorder in need of medical intervention.

It is challenging for busy primary care clinicians to commit the time to properly take a thorough patient history in order to rule out the many disorders that can present in the same way as endometriosis. On average, it takes a woman 9 years to receive a diagnosis of endometriosis.

While symptoms of endometriosis are varied, many patients complain of dysmenorrhea, dyspareunia, heavy or irregular bleeding, and infertility. A questionnaire distributed by the Endometriosis Association revealed that 100% of respondents experienced pain 1 to 2 days prior to menstruation, and 71% reported pain midcycle.

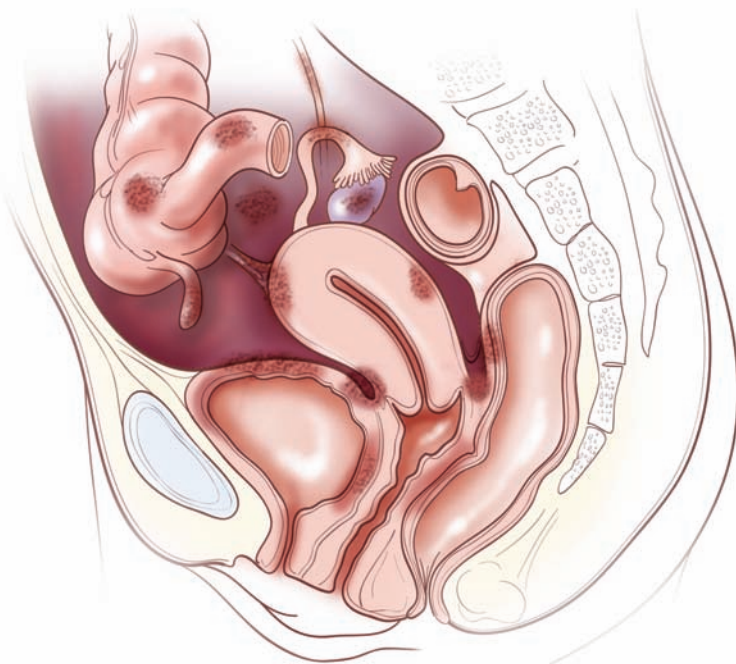
Less common are reports of bowel or bladder symptoms, including painful defecation or urination, lower back pain, or pain that radiates down one or both legs, particularly during menstrual periods. Endometriotic pain can be either cyclic or noncyclic. It is essential to note that some women with even advanced endometriosis have no symptoms, and that the size or number of growths is not directly correlated to pain.

Although some primary care clinicians may choose to refer these patients directly to a gynecologist, many diagnostic eliminations can be completed by the general practitioner. First, the clinician should complete a thorough review to rule out conditions such as ruptured ovarian cyst, ectopic pregnancy, appendicitis, GI disorders, urologic or neurologic conditions, musculoskeletal disorders, psychological issues, and domestic violence.

## Knowing when to refer

If the patient has suffered CPP of at least 3 to 6 months’ duration, and has been unresponsive to a trial of nonsteroidal anti-inflammatory drugs (NSAIDs) and/or oral contraceptives, a diagnosis of endometriosis should be suspected and referral to a gynecologist would be appropriate.

Thorough rectal examination and pelvic examination of the uterus, ovaries, fallopian tubes, and cervix are essential. If possible, the examination should be performed during early menses when endometrial lesions are likely to be



## Endometriosis

The most common locations for endometriotic lesions are the outside and anterior of the uterus, the roof of the bladder, the peritoneal folds, the cul-de-sac, and the anterior rectum.

at their largest and most tender (**FIGURE**). An axis deviation of the uterus is an anatomic sign that endometriosis may be retracting a ligament, causing the uterus to tilt.

During the rectal examination, the physician will test for focal tenderness at the uterosacral ligaments, cardinal ligaments, and rectovaginal septum. Focal tenderness is associated with a 97% chance that a lesion exists in the area that will be visible during laparoscopy and a 66% chance that the lesion is related to endometriosis.<sup>5</sup>

The physician should test for adnexal and uterine tenderness, looking for retroflexion of the uterus, limited uterine mobility, pelvic masses, and uterosacral ligaments that may be indurated or nodular. The rectovaginal examination should focus on uterosacral, cul-de-sac, and septal nodules.

Imaging studies can be extremely helpful during the workup for CPP. Pelvic ultrasound can detect ovarian endometriomas with a high level of sensitivity and specificity and, when performed transrectally, has been used with some success to diagnose rectovaginal endometriosis.<sup>6,7</sup> Magnetic resonance imaging (MRI) also shows a high level of sensitivity. However, neither MRI nor ultrasonography can detect peritoneal endometrial implants.<sup>8</sup> If the ultrasound shows any abnormality, a laparoscopy should be recommended.

## Case presentation

**A 28-year-old woman (gravida 0, para 0) presents with chronic pelvic pain of 7 years' duration. The pain is most severe during menses, and its frequency has increased during the past several months. Pain is now constant throughout the menstrual cycle.**

Six months ago, the patient's primary care clinician had begun treatment with cyclic oral contraceptives. However, they had no impact on her pain when duration and intensity began to increase. She had also been taking nonsteroidal anti-inflammatory drugs, which somewhat alleviated dysmenorrhea but not nonmenstrual pelvic pain.

Laparoscopic surgery was offered as both diagnosis

and treatment. At surgery, stage I endometriosis was detected. Multiple implants were noted in the cul-de-sac and on both ovaries. There were no adhesions. The lesions in the cul-de-sac were resected, and those on the ovaries were vaporized with a carbon dioxide laser. Visual inspection indicated that all lesions had been ablated successfully.

Following surgery, the patient returned for postoperative management. She was placed on a regimen of GnRHa therapy to lower the risk of recurrence. A dosage of 3.75 mg of leuprolide acetate for depot suspension was administered monthly for a 6-month treatment period, along with add-back therapy of 5 mg daily of norethindrone acetate to reduce potential hypoestrogenic side effects.

While some patients may insist on laparoscopic confirmation, the procedure provides a relatively definitive diagnosis rate of 43% to 45%.<sup>9,10</sup> The patient should be informed that established practice today is to treat the condition empirically without surgical diagnostic confirmation due to its limitations.<sup>11</sup> In addition, successful diagnosis is closely linked to surgical expertise. In one study endometriosis was detected in only 28% of patients, whereas experienced laparoscopists found the condition in 70% of their cases.<sup>12,13</sup>

A finding of no focal tenderness in a patient with CPP suggests that the disease is in its early stages and infertility is not yet an issue. In this case, it is appropriate to inform the patient that it is safe and effective to empirically treat her for endometriosis even in the absence of surgical confirmation.

### Weighing the options for treatment

Hysterectomy is considered the only cure for endometriosis; however, it is clearly a last resort. Treatment generally progresses from simple pain relievers, to oral contraceptives, to medications that mimic pregnancy or menopause for women who don't wish to become pregnant. Many

women experience relief with a low dose of the testosterone derivative danazol (roughly 100 to 200 mg per day). The androgenic progesterone-related side effects with this therapy can include weight gain, acne, muscle cramps, unwanted hair growth, voice deepening, water retention, and, occasionally, liver problems, as the liver has to metabolize this drug.

The gonadotropin-releasing hormone agonist, GnRHa, temporarily lowers the levels of estrogen, reducing endometriotic growths and relieving symptoms. Drugs such as leuprolide acetate for depot suspension can be administered once every 3 months (11.25 mg) or once each month (3.75 mg) for a 6-month treatment period. Side effects may be those associated with menopause, including hot flashes and loss of bone density. Add-back therapy (norethindrone acetate 5 mg daily) can reduce the hypoestrogenic side effects of GnRH agonists. These treatments may also be used to inhibit recurrence following laparoscopic surgery to remove growths and lesions. Finally, since endometriosis includes a high rate of infertility, patients who wish to have children may be counseled regarding the risks of waiting. ■

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# Easing the way to menopause

KRISTEN GEORGI

The presentation of a patient for an assessment of menopause provides a unique opportunity for patient education, whether the reasons for the visit arise from the desire to alleviate vasomotor symptoms or a concern about risk factors accompanying the menopause transition.

“Early confirmation of menopause is important as it provides women with a sense of control and allows them to be proactive about countering the effects of menopause,” says Laura Corio, MD, an obstetrician/ gynecologist at Mt. Sinai Medical Center and author of *The Change Before The Change*. “By diagnosing the onset of menopause early, treatment can be sought for the relief of stressful symptoms. An early and accurate diagnosis can improve long-term health and offer peace of mind that symptoms, such as mood changes and feelings of anxiety, are associated with menopause and not a potential illness.”

Regardless of the issues that prompt the visit, assessment follows a standard course.<sup>1</sup> A detailed history and physical examination are conducted, along with laboratory studies that include baseline serum chemistry and hormonal evaluation. Levels of follicle stimulating hormone (FSH) are the key indicator in determining where the patient lies along the continuum of declining ovarian function.

During a woman’s late 30s, FSH begins to elevate as the level of inhibin declines. Several studies have demonstrated that inhibins decrease in reproductive aging and that the ovaries are the source of inhibin production.<sup>2-4</sup> One study documented the changes in inhibins and the increased release of FSH following surgical menopause.<sup>5</sup>

Measuring serum FSH levels is the traditional way to determine ovarian function. Blood is drawn during the follicular phase of the cycle at 2 or 3 days after the onset of bleeding in women who are experiencing cyclical or erratic menstrual bleeding. The FSH levels are considered to be increased when they exceed 10 to 12 mIU/mL. This increase can be intermittent in perimenopausal women. Menopause is described as FSH levels that are greater than 40mIU/mL.<sup>1</sup> Because results of FSH testing are usually available within 24 hours, a second visit is necessary to implement a treatment plan.

Measurements of urine FSH are closely correlated with serum FSH.<sup>6</sup> Testing is now available for office use that provides results of urine FSH levels within 3 minutes. This rapid response enables a clinician to open a discussion with a patient about the source of her symptoms and institute an appropriate course of therapy while she is still in the office. ■

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