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## DIAGNOSIS AND MANAGEMENT OF **Chronic Pelvic Pain and Endometriosis**

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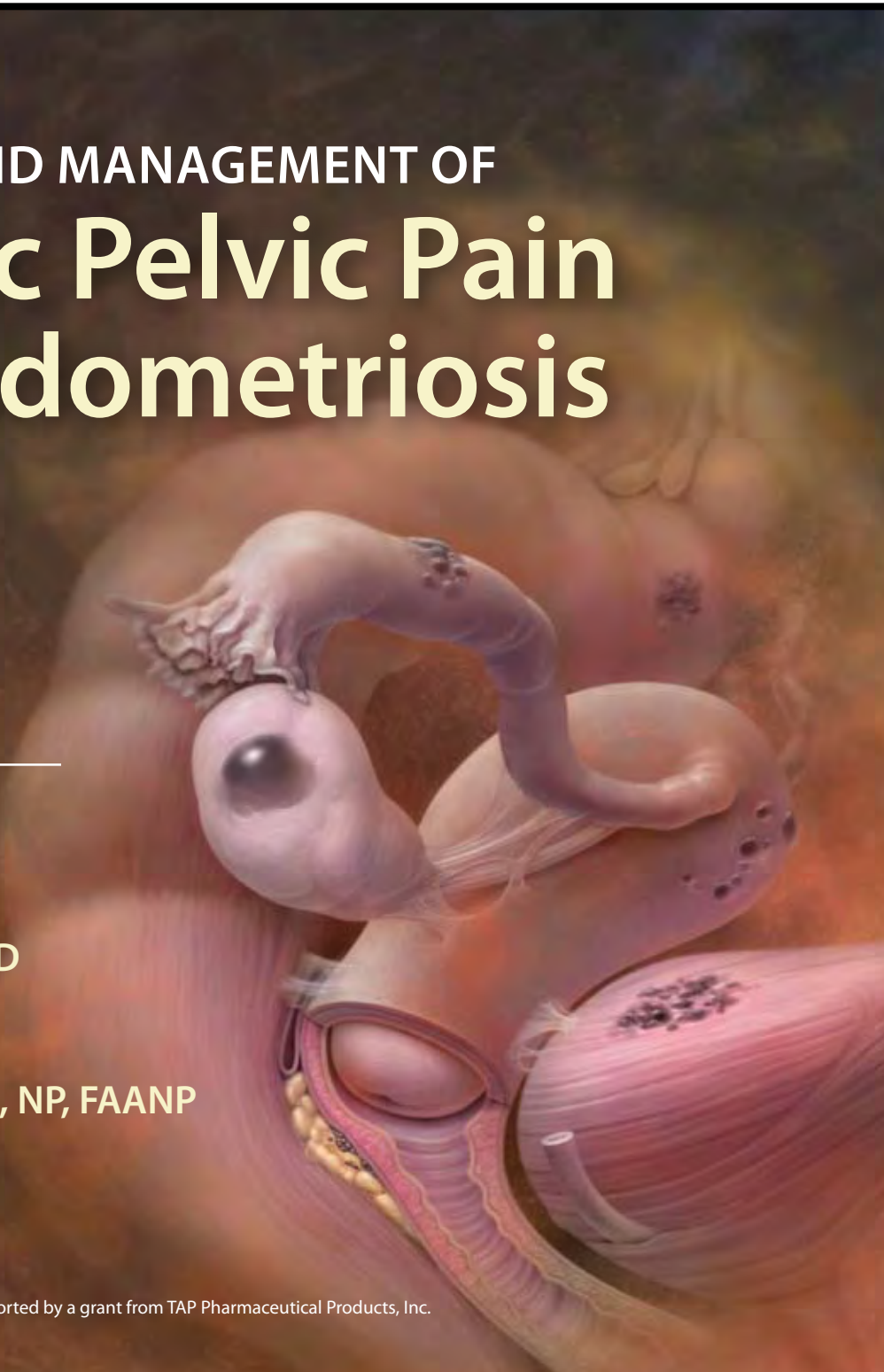
■ **Barbara S. Levy, MD**  
PROGRAM CHAIR

■ **Barbara S. Apgar, MD**

■ **Eric S. Surrey, MD**

■ **Susan Wysocki, RNC, NP, FAANP**

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# DIAGNOSIS AND MANAGEMENT

## Chronic Pelvic Pain and Endometriosis

**Barbara S. Levy, MD**  
Program Chair

Medical Director  
Women's Health Center  
Franciscan Health System  
Federal Way, Wash

**Barbara S. Apgar, MD**

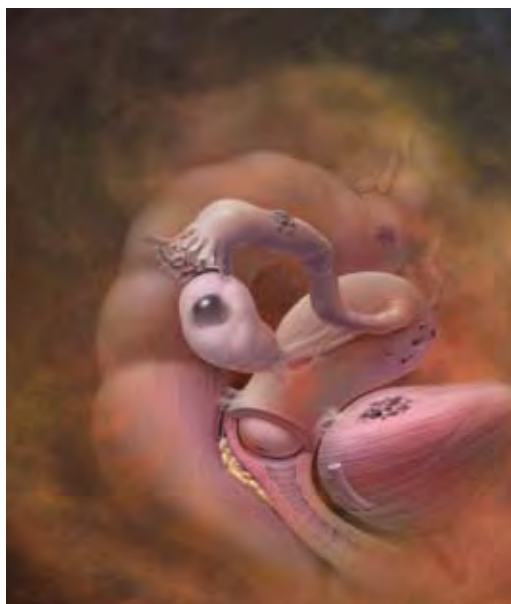
Professor, Department of Family Medicine  
University of Michigan  
Service Chief, Family Mother Baby Service  
C S Mott Children's Hospital  
Ann Arbor, Mich

**Eric S. Surrey, MD**

Medical Director  
Colorado Center for Reproductive Medicine  
Englewood, Colo

**Susan Wysocki, RNC, NP, FAANP**

President and Chief Executive Officer  
National Association of Nurse  
Practitioners in Women's Health  
Washington, DC



### Endometriosis and chronic pain: A multispecialty roundtable discussion

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- Barbara S. Apgar, MD
- Eric S. Surrey, MD
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**Release Date:** March 2007

**Expiration Date:** March 2009

#### Learning Objectives

After completing this activity, clinicians should be better able to:

- Assess appropriate goals in the management of patients who may have endometriosis
- Take a thorough history to identify endometriosis and distinguish it from other conditions
- Describe the traditional use of laparoscopy for diagnostic confirmation of endometriosis and the shortcomings associated with this intervention as both a diagnostic tool and a treatment option
- Discuss the utility of reaching a diagnosis of endometriosis, not by laparoscopy, but by positive patient response to medical treatments
- Counsel patients so that they have the information they need to select the best course of action to meet their individual needs in terms of both definitive and empirical diagnosis of endometriosis as well as disease management strategies for maximum pain relief

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#### Target Audience

Obstetricians/gynecologists, family physicians, nurse practitioners, physician assistants, and other clinicians who focus on women's health.

#### Disclosures

**Dr Apgar** has nothing to disclose.

**Ms Wysocki** reports that she serves on speakers' bureaus for Berlex, Duramed, Organon, Ortho-McNeil, and Wyeth.

**Dr Levy** is a consultant to Conceptus.

**Dr Surrey** receives research support from TAP Pharmaceuticals.

#### Off-Label Use Notice

Some of the agents discussed in this supplement for the management of pelvic pain, including gabapentin and tricyclic antidepressants, have not been approved by the FDA for that use.

#### Acknowledgement

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TAP PHARMACEUTICAL PRODUCTS INC.

# Endometriosis and chronic pain: A multispecialty roundtable discussion

**Obstetricians/gynecologists,  
a family physician, and a nurse  
practitioner provide clinical insights**

- Barbara S. Levy, MD
- Barbara S. Apgar, MD
- Eric S. Surrey, MD
- Susan Wysocki, RNC, NP, FAANP

**P**elvic endometriosis is associated with significant morbidity and decreased quality of life. The diagnosis of this condition is challenging: Symptoms vary considerably, often mimicking those of other medical conditions. Laparoscopic visualization is considered the primary vehicle for definitive diagnosis, although use of this procedure as a diagnostic and treatment tool remains controversial. At least a third of patients with pelvic pain have completely normal pelvic anatomy at laparoscopic evaluation. For many patients the degree of disease identified at laparoscopy does not seem to correlate with the amount of pain they experience. To some extent the clinically visualized findings may represent a “tip of the iceberg” phenomenon, in that deep, infiltrating endometriosis lesions may appear on the surface as minute fibrotic implants. In these cases, the extent of the disease cannot be determined by visual inspection. Additionally we must remember that laparoscopy can only tell us about structural abnormalities in the pelvis. It cannot identify pelvic floor muscular sources or functional organic sources of pain.<sup>1-4</sup>

Not surprisingly, many women who have endometriotic lesions excised by laparoscopy, or even by hysterectomy and bilateral salpingo-oophorectomy, experience recurrence of pain.<sup>5</sup>

Of particular concern to health-care providers is that patients often undergo repeat surgeries for relief of symptoms and may experience surgical complications—and still not obtain long-lasting pain relief. Symptoms may, in fact, become worse and lead to complicated medical regimens to manage pain.

Medical treatments demonstrate efficacy similar to that of laparoscopy, and they are marked by similar rates of pain recurrence. It should be noted that endometriosis represents a condition that cannot be cured. Treatment must, therefore, involve multifaceted short- and long-term interventions to manage symptoms and patient quality of life.

In this roundtable discussion, gynecologic surgeons join a family physician and a nurse practitioner to discuss the challenges and the strategies for managing this patient population.

**TABLE 1**

**Key Points for Health-Care Providers**

While pelvic pain is the primary symptom of endometriosis, pain may manifest itself as back or groin pain, or symptoms related to bowels, bladder, legs, etc
Endometriosis is frequently misdiagnosed. Clinicians should take steps to distinguish endometriosis from conditions that are associated with chronic pelvic pain, such as fibromyalgia, depression, irritable bowel syndrome, and interstitial cystitis
Pelvic pain may be associated with chronic pelvic inflammatory disease, fibroid tumors, and ovarian cysts; these conditions should be ruled out <sup>7</sup>
Pain is most often associated with menstruation but may actually worsen at other times of the month or be noncyclic <sup>8</sup>
Laparoscopy is an appropriate diagnostic tool; however, implants are not always visualized. They may be located deep beneath the peritoneal surface, <sup>2</sup> be microscopic, <sup>9</sup> or have an atypical appearance <sup>10</sup>
Quality-of-life instruments to evaluate the effect of endometriosis may be of value to clinicians <sup>11,12</sup>

**Establishing treatment goals for the individual patient**

**Dr Levy:** Many types of patients have symptoms that may be related to pelvic endometriosis. We see these symptoms in patients ranging from a young woman, 15- to 16 years old, with severe dysmenorrhea to a woman who has had tubal sterilization, has stopped using oral contraceptives (OCs), and is now experiencing pain.

I would like to start with a basic question: Is making a diagnosis our first goal? Or should we focus on alleviating the patient’s symptoms? How should we manage patients who worry that their symptoms may signify life-threatening medical conditions?

**We need to base our goals on the patient’s concerns and also manage her expectations.**

**Dr Surrey:** We need to base our goals on the patient’s concerns. Most patients are primarily interested in pain relief. But they often worry about cancer, something that we clinicians may not think about because we know that this is extremely unlikely. Many patients are also very concerned about what the symptoms mean for their future fertility, particularly if they have never tried to conceive or may be planning to conceive.

**Dr Apgar:** As part of the patient assessment, I ask about the patient’s expectations. I want to be sure that she understands that I am listening to her and trying to relate to what she thinks and wants. It is essential to establish a rapport with patients who have chronic pain.

**Ms Wysocki:** If a woman feels that her needs are being addressed—even if we can’t resolve a problem quickly—she is reassured that we’re working as a team to solve her problem.

**Dr Surrey:** A great question to ask the patient is, “What are you afraid of that might be causing your pain?” This gives you a clue about the patient’s concerns. We also need to manage patient expectations and perceptions in other ways. Many of my patients have experienced pain for many years, or they experience a recurrence of pain that had resolved. They will tell me, “I have a cyst again,” or “My endometriosis is back.” They believe this, although it may not be.

**Dr Levy:** Those are excellent points. We have to manage patient symptoms and to help them find relief, while we educate them about their condition and its chronic nature. We need to carefully consider the patient’s expectations, which may differ from our own.

**Diagnostic challenges: patient history and physical examination**

**Dr Levy:** Dr Apgar, primary care providers probably see these patients long before we gynecologic surgeons do. What is your approach to establishing a diagnosis?

**Dr Apgar:** Primary care physicians tend to focus on evaluating symptoms in terms of the patient’s overall health status. My first goal is to take a good history to investigate conditions that may play a part in the etiology of pain, such as depression, irritable bowel syndrome, musculoskeletal pain, and even colon cancer (**TABLE 1**).

Then, I’ll ask the patient the following questions: “Are you experiencing chronic pain? Is the pain of recent onset? Is the pain related to diarrhea, constipation, or menstruation? Do you experience pain with or after intercourse?”

**Dr Surrey:** I too want information that may indicate what initiates the pain—eg, particular activities or dietary habits that could suggest irritable bowel syndrome or conditions not related to endometriosis.

I conduct a full physical examination because the source of pain may not be associated with the pelvic area (TABLE 2).

**Ms Wysocki:** Symptoms that may suggest endometriosis can also stem from causes as diverse as tubo-ovarian abscess and interstitial cystitis. To make matters more complex, endometriosis may exist in the presence of other conditions that cause pelvic pain. If, for instance, a patient has both endometriosis and interstitial cystitis, making a diagnosis will be very challenging.

In assessing contributing or alternative sources of pain, I use the Pelvic Pain and Urgency/Frequency Patient Symptom Scale (PUF) questionnaire<sup>6</sup> (TABLE 3). This instrument provides important insight into potential sources of pain. Although validated only for evaluation of interstitial cystitis, it is a useful tool to assess voiding symptoms and pain, including symptoms associated with sexual intercourse. The patient scores her symptoms according to their severity and impact on quality of life.

Additionally, particularly for adolescents and women under the age of 25, it's important to rule out chlamydial infection and other sexually transmitted diseases.

**Dr Appgar:** Pelvic inflammatory disease may be involved as well.

**Dr. Surrey:** Psychological issues may be associated with pelvic pain, although this is often a difficult area of discussion, particularly during the first visit. We know that physical abuse and substance abuse have been well correlated with chronic pelvic pain.<sup>12</sup>

**Dr Levy:** In my practice, the nurse—who is very skilled in assessing patient response—first asks questions about abuse. If the patient looks away or uses evasive body language, the nurse will put a notation on the history form. I will ask the question again in my dialogue with the patient.

I have found that women who have been sexually abused tend to show characteristic responses during the physical examination. They become very tense and shy away from touch, and their pelvic floor tightens and becomes rigid. If I see that response, I ask again, perhaps saying, “You seem very tense with the exam. I often see tenseness in women who had something happen to them. Did something happen to you?” At that point, they will often confirm that they have experienced abuse.

**Ms Wysocki:** Subtle hints often suggest experiences and

**TABLE 2**

### Initial Evaluation of Patient With Suspected Endometriosis

<p><b>Patient History</b></p> <ul style="list-style-type: none"> <li>• Review timing of onset of pain, or other factors that may provide diagnostic clues</li> <li>• Assess activities and behaviors that exacerbate or mitigate pain</li> </ul> <p><b>Physical examination</b></p> <ul style="list-style-type: none"> <li>• Evaluation of abdomen and pelvis</li> <li>• Single-digit examination concentrating on the pelvic floor musculature as a potential source of pain</li> <li>• Rectovaginal exam is critical to identify uterosacral nodules</li> <li>• Detailed musculoskeletal examination</li> <li>• Attempt to reproduce pain—examine the patient during menses to evaluate for nodularity</li> </ul>
<b>Complete blood count</b>
<b>Chlamydial and gonococcal testing</b>
<b>Ultrasound examination</b>
<b>Rule out interstitial cystitis, irritable bowel syndrome, and myofascial pain</b>

events that the patient cannot easily verbalize. I find that, if I make the patient feel safe in talking about these experiences, she may tell me about things that have happened that she hasn't talked about in 20 years.

**Dr Appgar:** It's not uncommon for patients to become emotional: You can see that they have really been thinking about and worrying about the pain a lot but not necessarily verbalizing their concerns.

**Dr Levy:** Identifying this background may help guide us in our treatment strategy for these patients. Women with a history of abuse will often require intense and multimodal management for their chronic pain. For these patients who have endometriosis, aggressive treatment for the medical condition may not be successful without concomitant counseling.

**Dr Appgar:** Certainly, when both conditions coexist, management becomes much more challenging.

### Useful diagnostic studies

**Dr Levy:** In the patient with suspected endometriosis, even after we've taken the history and done a thorough physical examination, many questions will remain unanswered. In women with low-stage endometriosis, we probably will find little evidence unless we examine her

**TABLE 3**

**The Pelvic Pain and Urinary/Frequency (PUF) Patient Symptom Scale**

Please circle the answer that best describes how you feel for each question.

	0	1	2	3	4	Symptom Score	Bother Score
<b>1. How many times do you go to the bathroom during the day?</b>	3–6	7–10	11–14	5–19	20+		
<b>2a. How many times do you go to the bathroom at night?</b>	0	1	2	3	4+		
<b>2b. If you get up at night to go to the bathroom, does it bother you?</b>	Never	Mildly	Moderate	Severe			
<b>3. Are you currently sexually active?</b>	Yes	No					
<b>4a. If you are sexually active, do you now or have you ever had pain or symptoms during or after sexual intercourse?</b>	Never	Occasionally	Usually	Always			
<b>4b. If you have pain, does it make you avoid sexual intercourse?</b>	Never	Occasionally	Usually	Always			
<b>5. Do you have pain associated with your bladder or in your pelvis (vagina, lower abdomen, urethra, or perineum)?</b>	Never	Occasionally	Usually	Always			
<b>6. Do you have an urgency after going to the bathroom?</b>	Never	Occasionally	Usually	Always			
<b>7a. If you have pain, is it usually...</b>	Mild	Moderate	Severe				
<b>7b. Does your pain bother you?</b>	Never	Occasionally	Usually	Always			
<b>8a. If you have urgency, is it usually...</b>	Mild	Moderate	Severe				
<b>8b. Does your urgency bother you?</b>	Never	Occasionally	Usually	Always			
Symptom Score (1, 2a, 4a, 5, 6, 7a, 8a) =							
Bother Score (2b, 4b, 7b, 8b) =							
<b>Total Score (Symptom Score + Bother Score) =</b>							

Parsons CL, et al. *Urology*. 2002;60:573-8.

during her menstrual period. What further diagnostic studies should we perform?

**Dr Surrey:** Pelvic and rectovaginal examinations are critical. The latter is the only way to palpate the posterior aspect of the uterus and the uterosacral ligaments. Ultrasonography, although not useful in the diagnosis of endometriosis, can evaluate pelvic masses. It is important to note that a pelvic ultrasonographic examination performed with a vaginal probe is much more sensitive than when performed with an abdominal probe.

**Dr Appgar:** I find it valuable to perform a sonogram on any patient who has a mass, as well as on obese patients. In these patients, it is difficult to feel the uterosacral ligaments during a physical examination. Typically, both transvaginal and abdominal sonograms are performed on a patient who has a mass. This way, we can be certain that the mass is characterized well and that additional disease in the abdomen, if present, is identified.

**Dr Levy:** Ultrasonography is also very helpful—as is the rectovaginal examination—in a woman with a very rigid pelvic floor. Results of ultrasonography will be normal in the vast majority of women, and this is a source of reassurance to them.

**Dr Surrey:** Certainly, a young patient with chronic pelvic pain, an ovarian mass, pelvic tenderness, and uterosacral ligament nodularity is likely to have endometriosis. Surgical intervention would be much more logical for that type of patient compared with a patient in whom a sonogram reveals no abnormalities.

A complete blood count, urinalysis, and cervical cultures are also indicated. I see no benefit to imaging studies with magnetic resonance imaging (MRI) or computed tomography (CT) in most cases; the likelihood of a positive yield is quite low.

**Dr Levy:** With imaging, the worst case is that you find a small abnormality that is of no consequence, but you

still have to perform other studies or tests to rule out pathology. This frequently adds to our patients' angst and distress and further convinces them that something medically dangerous is causing their pain.

**Dr Surrey:** The classic diagnosis with an MRI that is performed mid-cycle is a finding of a 2-cm cystic structure on the ovary. The MRI report states "cannot rule out ovarian cancer." This is very worrisome to the patient, but in this circumstance, the cystic structure may be nothing more than a preovulatory follicle.

**Dr Levy:** This is particularly problematic in a patient who is concerned about her symptoms. We want to reassure her that she does not have significant disease: The last thing we want to do is take the normal physiologic structure and deem it pathologic.

### Laparoscopy: A valuable tool for diagnosis and treatment?

**Dr Levy:** How do you decide if laparoscopy should be performed?

**Ms Wysocki:** As a nurse practitioner, I don't perform laparoscopy, so I refer a patient for the procedure only if I cannot identify another cause of the pain, if medical management is ineffective, or if the pain worsens.

**Dr Apgar:** A key tactic in counseling is asking patients what they really want. Do they think the surgical approach is best? Or a medical approach? I think we will do our patients a service if we lead them toward medical therapy versus surgical intervention, but, first, we need to ask them what they want and to discuss the options with them so that they will understand why we have developed our point of view.

If we begin with medical therapy and obtain pain relief from this approach, patients will be reassured. They often associate pain with cancer, or pain with serious illness. If the pain is relieved, we can have a better conversation with our patients about why we endorse the use of medical agents. We can position our treatment as not only an empiric test but also a therapeutic regimen.

**Dr Levy:** It is sometimes difficult for patients to accept the concept of treatment to resolve symptoms without a diagnosis. Many people believe that they need a diagnosis; the pain must have a definitive name or a label. Fortunately, we have data from Ling<sup>14</sup> and oth-

ers<sup>15</sup> to reassure patients that we can make a diagnosis based on initial symptoms and anticipate a response to medical therapy without the need for laparoscopic confirmation.

As we have discussed, laparoscopic investigation may not reveal all endometrial lesions. Even if the peritoneum appears normal, endometriosis may be present. As a scientist, this makes me wonder if everyone wouldn't show endometriotic lesions, if we looked carefully enough. It may be that some women are more symptomatic, possibly as a result of cytokine release and other factors.

**Dr Surrey:** Whether or not to perform laparoscopy is an evolving consideration, based on ongoing investigations in the medical literature. The classic paradigm has always been to consider laparoscopy. But we have to ask: Will laparoscopy be beneficial? Data show that

**It is important to emphasize to the patient that ultrasonography does not diagnose endometriosis but does evaluate pelvic masses.**

the predictive value of laparoscopy is limited.<sup>10,16</sup> Additionally, even if laparoscopy reveals endometriosis, we have only an assumption that the lesions are the source of pain. Excision may not ameliorate the symptoms.

**Dr Levy:** You raise important points: When pelvic pain is associated with minimal or mild endometriosis, the relationship between pain and endometriosis is unclear. Many preliminary options are available in lieu of surgery. It is, in many ways, distressing that we've been trained to use laparoscopy as a diagnostic tool, and we've made assumptions that endometriosis, if we see it, is the cause of the patient's discomfort.

When we pass those assumptions to the patient, we may also inadvertently encourage the patient to return for repeated surgeries when surgical intervention provides only brief intervals of pain relief. We need to remember that alleviation of pain may also stem from the placebo effect of the surgery or from the depolarization of muscles. Improvement after surgery may not be related to the surgery itself.

**Dr Surrey:** We don't have enough data to state that surgical procedures are inappropriate, but we do need to

look critically at how we recommend surgery. Surgery is a valuable diagnostic tool. But it is important to inform the patient about the meaning of a diagnosis of endometriosis. The excised lesions may not have been the source of pain. We can let the patient know that, at least, laparoscopy provides verification that the pelvis is normal and she has no mechanical defects that will affect her ability to become pregnant.

**Dr Levy:** Our job as physicians is “First, do no harm.” We must remember that laparoscopy is still surgery, albeit a minimally invasive procedure. No surgery is without risk. If we can avoid surgery, and manage patients safely and effectively by using medical treatments, we will provide most patients with a better approach.

**Dr Surrey:** Generally the worst effects from medical agents are side effects or lack of efficacy. The worst-

### Patients who regard laparoscopy as a cure may find themselves in a dangerous cycle in which they undergo repeated laparoscopies in the elusive search for the cure.

case scenario in a surgical procedure is much more significant.

**Dr Appgar:** Patients who regard laparoscopy as a cure may find themselves in a dangerous cycle in which they undergo repeated laparoscopies in the elusive search for the cure. For patients who have had prior surgeries, I discuss the shortcomings of laparoscopic intervention. I also want to know if she is “shopping” for another procedure, believing that this is her only recourse for relief. In some ways, endometriosis is unique: We know that, with laparoscopy, not all endometrial lesions are visualized and, conversely, some lesions look like endometrial implants but are not. This scenario differs from that involved in the diagnosis of other types of lesions, such as melanoma: Once you see a lesion with characteristic features, you have a reasonable level of confidence regarding your assessment of the extent of disease.

**Ms Wysocki:** When patients have had surgical intervention and experience recurrences of pain, I reevaluate the original diagnosis and the genesis of pain.

### Future fertility and endometriosis

**Dr Levy:** Young patients with pelvic pain often worry about future fertility. When we do make a diagnosis of endometriosis, a patient or her mother may search the Internet and learn about the rare but potentially severe effects. How do you address these concerns?

**Dr Surrey:** For a patient who is not trying to become pregnant immediately and has no mechanical problems, masses, or adhesions, I review the literature with her. The evidence is relatively clear: Women with endometriosis are not infertile, but they may be “subfertile,” meaning that it may be more difficult for them to become pregnant.<sup>17,18</sup> For this type of patient, it is important that she not defer pregnancy if she is interested in conceiving. And she should not delay consultation with a fertility specialist if, for example, she is younger than age 39 and has been trying unsuccessfully to become pregnant for 10 to 12 months.

**Dr Levy:** It is important to address this issue with young women; they worry greatly about future fertility.

**Dr Surrey:** I think the key is to let the patient know that it is a potential problem. This is very different from allowing the patient to believe that there is a real and insurmountable problem.

**Dr Levy:** What about the patient with a true problem? For instance, we recently treated an 18-year-old woman who was admitted to the emergency room with severe pelvic pain and ruptured endometrioma. Laparoscopy revealed “peppered” endometriosis throughout the pelvis. How would you counsel that young woman with respect to preserving fertility?

**Dr Surrey:** I would review the potential risk for compromised fertility, although we cannot assume that she will be infertile. I would add that no data suggest that long-term medical suppression of endometriosis will affect fertility although these medical treatments may be very effective for pain.

**Dr Appgar:** Patients panic easily in this setting. We must give them a balanced view, and we must deliver our message with empathy to validate that we, as health-care providers, are concerned about this issue, as well.

### Patients who may wish to become pregnant: Surgical vs medical intervention

**Dr Levy:** Is there evidence that surgical management of ear-

ly-stage endometriosis in young women who may wish to become pregnant is beneficial?

**Dr Surrey:** Two studies have evaluated the issue of surgical treatment of patients with endometriosis who are trying to conceive. One was from the Canadian Collaborative Group on Endometriosis,<sup>19</sup> a prospective randomized trial of infertile women diagnosed with minimal to mild endometriosis by laparoscopy. The participants were randomized to purely diagnostic laparoscopy or surgical ablation.

The pregnancy rate was higher, and pregnancies occurred more rapidly, in women who had had surgical treatment of the disease. Still, the monthly fecundity rate for women who had surgical ablation remained less than 5%, although that was double the rate of women who had had only diagnostic surgery. A similar trial in Italy<sup>20</sup> did not show better outcomes with surgery. If there is a benefit associated with surgery, it is limited.

With regard to medical management, no studies suggest that pharmacologic agents used to treat endometriosis improve pregnancy rates in unassisted conception. Patients should be informed that there is a body of evidence, including 3 prospective randomized trials, suggesting that a 3-month pre-cycle course of a gonadotropin-releasing hormone (GnRH) agonist improves pregnancy rates in women with endometriosis who subsequently undergo in vitro fertilization.<sup>21,22</sup> It remains unclear whether all patients with endometriosis would benefit from this approach or whether the benefits accrue to a subset of women. The question is being investigated.

**Dr Levy:** So much research in basic science is being conducted with respect to intraperitoneal levels of prostaglandins and chemical substrates that we could talk about the potential effects of treatment in terms of the “bottom line” that is so important to our patients: Suppressing the endometrial tissue for a short time certainly will affect levels of the proteins and other substances that may impair fertility. Unfortunately, we still don’t understand why endometriosis is associated with infertility, absent mechanical factors.

**Dr Surrey:** We have a host of theories but no definitive answer. For the patient who is not trying to get pregnant, GnRH agonists suppress menses and result in documented regression and pain relief. There are few data in terms of long-term management after GnRH

agonist or other definitive medical therapy in the symptomatic patient. Whatever approach is used thereafter becomes empiric therapy. The logic for this use certainly exists; we need a multifaceted approach to treating the patient.

**Dr Appgar:** From a primary-care perspective, if a patient desires to become pregnant in the near future, I am inclined to refer her for surgery. If her primary goal is to relieve pain, I tend to start her on a medical regimen.

**Dr Levy:** That makes absolute sense given our current data. The issues of long-term management of pain and improvement of pregnancy rates for patients with endometriosis are very complex; there is so much that we do not know about the relationship between endometriosis and pregnancy that we probably can’t answer the patient with endometriosis who asks, “Can I get pregnant?” We can talk about mechanical problems related to endometriosis.

**Women with endometriosis are not infertile, but they may be “subfertile,” meaning that it will be more difficult for them to become pregnant.**

### Medical treatment options for pain relief

**Dr Levy:** What might be a typical course of treatment for pain relief?

**Dr Surrey:** If a patient has a normal examination, with the exception of tenderness, and I have a high clinical suspicion of endometriosis, I will probably recommend a simple course of empiric therapy with nonsteroidal anti-inflammatory drugs (NSAIDs) or continuous OCs, which will also rule out dysmenorrhea as a source of the problems.

**Ms Wysocki:** I consider a basic framework of treatment designed not only to treat the symptoms of pain but also to rule out other conditions. NSAIDs, continuous OCs, and depot medroxyprogesterone acetate (DMPA) are helpful in these respects. DMPA will also help eliminate dysmenorrhea as the cause of the problem.

Subcutaneous administration of DMPA has been approved for the treatment of endometriosis. However, this will not be a good choice for a patient who may wish to become pregnant within the next year or 2. In regard to the issues of fertility that often ac-

company endometriosis, one should keep in mind that DMPA is associated with a delay in return to fertility. Women who have used DMPA may not become pregnant until 10 to 11 months after the drug is discontinued. Clearly, when we consider this agent, we need to review thoroughly the woman's childbearing plans with her.

If delayed return to fertility is not a consideration, DMPA is a good choice, as it does not require that the patient remember to take medication on a daily basis.

**Dr Surrey:** Although these agents represent the standard

### A short trial of GnRH agonists can help patients “get ahead of the curve” and thus facilitate future pain management.

first-line treatments, it is important to keep in mind research<sup>23</sup> regarding GnRH agonist therapy for patients who fail these approaches.

Ling and colleagues<sup>8</sup> described the results of a multicenter trial enrolling women who had clinically suspected endometriosis, meaning that the physicians felt that the women were likely to have endometriosis. Study participants had normal results on pelvic examinations, with the exception of slight tenderness. They also had a normal complete blood count, ultrasound examination, and cervical cultures. The patients failed to respond to NSAIDs, cyclical OCs, and a course of empiric antibiotics. As an aside, I would caution clinicians against empiric use of antibiotics without evidence of infection.

In the Ling study, 100 patients were randomized to 3 months of a GnRH agonist, 3.75 mg/mo, or placebo. Patients underwent laparoscopy within 4 weeks of completion of therapy. Women who received GnRH agonist had significant improvement in pain scores, with less improvement reported in the placebo group. What is most interesting is that, among both groups, 87% (active treatment) and 78% (placebo) had laparoscopically confirmed endometriosis after 12 weeks of treatment. The one weakness of the trial was that laparoscopy was not performed prior to the initiation of the study; however, that protocol would have been challenging.

**Dr Levy:** Yes, in early trials of GnRH agonists, it was difficult to convince patients to undergo 2 or 3 laparos-

copies, performed at yearly intervals. The important point of Ling's paper—as we have been discussing—is that a good, thorough history and examination, followed by failure of first-line therapy, can guide us to treat the vast majority of patients effectively with the short-term use of GnRH agonists. Coupled with long-term strategies for pain management, the literature suggests we can avoid laparoscopic surgery in many cases.

**Ms Wysocki:** If patients fail to respond to NSAIDs or continuous OCs, or if the use of OCs is contraindicated because of medical history or smoking, a short-term trial of GnRH agonists can be very helpful. I also believe that GnRH agonists help patients “get ahead of the curve” and thus facilitate future pain management.

**Dr Levy:** Let's say we've treated a patient who has failed NSAIDs and OC therapy with a 6-month course of a GnRH agonist, which constitutes standard therapy. She has had an excellent response in terms of alleviation of pain symptoms and quality of life. We know endometriosis isn't a disease that can be cured and that pain is likely to return. What is the next step?

**Dr Surrey:** GnRH agonists are associated with side effects that are primarily caused by the drug's hypoestrogenic effects. The good news is that we can use add-back therapy, prescribing a small dose of a progestin compound to eliminate vasomotor symptoms and bone mineral density (BMD) loss, while maintaining GnRH agonist efficacy. The US Food and Drug Administration (FDA) has approved norethindrone acetate, 5 mg/d, for retreatment courses of GnRH up to a total of 12 months' use.<sup>23</sup>

In the presence of normal bone density, which can easily be evaluated by dual energy x-ray scanning, a second course of an agonist is perfectly reasonable and has been approved by the FDA as long as an appropriate add-back agent has been used to prevent bone mineral density loss. Although any bone loss associated with short courses of agonist therapy is reversible, this may be of greater concern with treatment beyond 6 months.<sup>23,24</sup> Other agents have also been evaluated in shorter clinical trials to prevent bone loss, including conjugated equine estrogen, alendronate, and parathyroid hormone.

For the patient who responds well to a GnRH agonist one option is to continue therapy. Another option,

at the end of the 6-month course, is to assess the patient's primary concerns, beyond pain relief. If she wants to become pregnant, the continued use of the agonist is not beneficial: She will not be able to conceive while using this agent. For the woman who does not want to become pregnant, it may be useful to try to resume OC use as maintenance therapy for alleviation of pain.

**Dr Apgar:** If we look toward long-term pain relief, we know that at least half of the patients who have surgery will have pain recurrence within 1 or 2 years. What is the outcome regarding pain recurrence?

**Dr Surrey:** Waller and Shaw<sup>25</sup> looked at outcomes after 6 months of GnRH agonist use. In following recurrences for 5 years, they found a 50% recurrence after the first 2 to 3 years, which is almost identical to the results from surgery. It is important to inform the patient of the potential for symptom recurrence regardless of the form of therapy so that an appropriate treatment plan can be formulated. It is difficult for patients to understand the chronic nature of this condition. It rarely is a disease that we cure completely, meaning symptoms never recur.

**Dr Levy:** Some interesting short-term data from Europe report on the transvaginal administration of very small doses of danazol, 50 to 100 mg.<sup>26</sup> High doses of danazol, 800 mg/d, have been efficacious in suppressing endometriosis, but I have found very few women willing to tolerate the weight gain, acne, and hirsutism that result from this dosage.

**Dr Surrey:** There are also data from Japan regarding vaginal administration of danazol. In one trial, administration successfully restored absent endometrial integrin expression. However, the subsequent pregnancy rate was not evaluated. Danazol has also been embedded in an IUD as a treatment for patients who have pelvic pain associated with endometriosis.<sup>27,28</sup>

### Should surgical interventions be repeated?

**Dr Levy:** Repeated surgical intervention can cause a great deal of harm. We have seen patients who have had 5 and 6 laparoscopies. With each operative intervention, more adhesions and structural damage occur, even in the best of surgical hands. We create tissue damage whenever we operate on patients. The first lapa-

roscopic examination may be necessary in some cases, but repeat laparoscopies really should be avoided. I believe that we gynecologists have, to some degree, created the problem of repeated surgeries. We have considered laparoscopy as the optimal treatment for this disease process and thereby raised false hopes in our patients. Long-term studies have not shown laparoscopy to be the ultimate answer.

**Dr Surrey:** I don't think we can say laparoscopy is an inappropriate treatment, simply because we don't have sufficient data to support that statement. But this is an evolving area, and the patient needs to be well informed about all options.

**Dr Levy:** We have to keep our surgical egos in check and acknowledge that surgery has a limited role in the management of pain. Laparoscopy is a great diagnostic tool and is very helpful as a single surgical encoun-

### Interesting short-term data from Europe report on the transvaginal administration of very small amounts of danazol, 50 to 100 mg.

ter to make a diagnosis and to excise lesions. Surgery is not an appropriate repetitive treatment strategy.

**Dr Apgar:** Putting the laparoscope away may help patients achieve a better recovery, if they can recognize and understand that more surgeries are not going to help. If we refer the patient for additional surgeries, we may give her the idea that another surgical procedure will result in pain relief. We also risk creating more significant chronic pain syndrome. Patients may believe that they will be taken seriously only if they complain about pain. Escalating pain may be a sign of emotional rather than physical pain and thus will not respond to surgical intervention.

**Dr Surrey:** We need to use our clinical judgment and discuss with the patient that the likelihood is very low of uncovering something missed in the prior surgery. I look at medical care as a risk-to-benefit analysis. We have to weigh the risks of another surgery versus the benefits that will be gained.

I tell the patient that the risk of the surgery is not insignificant, and that the likelihood of surgical benefit

is low. If the first surgery didn't accomplish the goals, it is not logical that the outcome will be better at the next intervention. One of the main complications of laparoscopy is "polylaparoscopy"—patients have a fifth and sixth surgery because they think that the next surgeon will be a better surgeon than were the last 4 or 5. Hysterectomy performed in a young patient with persistent pelvic pain might also be viewed as a form of treatment failure.

**Dr Levy:** But this issue is very challenging when a patient with chronic pain believes that a surgery resulted in improvements. I agree with Dr Apgar that we also see this with different kinds of pain and pain surgery, such as surgery for back pain. The patient wants us to cut out pain. I frequently tell my patients that you can't cut out the pain. I use the phantom limb example: People who have had an amputation continue to have significant pain in the limb that has been removed. The organic pain resides in the brain. The nerves and

**We can't say that laparoscopy is an inappropriate treatment, simply because we don't have data to support that statement.**

the fibers and connections are not necessarily in the pelvis; they are in a part of the brain and in the brain's wiring. We need to address the pathophysiology of chronic pain in determining our long-term management strategies.

### Patient counseling in long-term pain relief

**Dr Apgar:** I readily suggest counseling for a patient who is likely to experience long-term pain issues, using a multidisciplinary approach. In this setting, the patient does not lose contact with her primary care provider, who may be managing successive pain complaints.

I try to avoid setting the stage for fragmented care: if the management of the patient cannot be coordinated, the patient becomes frustrated and the emotional component of pain may predominate, adding other issues to the original complaint.

For patients whose pain is intolerable, other types of intervention may be appropriate, such as group

therapy or behavioral counseling. My goal is to help keep the patient from initiating a chronic dependence on pain medication. Once this occurs, treatment becomes very challenging.

**Dr Levy:** The entire issue of pain represents a clinically challenging psychological problem. Pain is wired into the brain's limbic system. When patients experience extensive pain, they just want relief. When they obtain relief from pain following surgery, they believe that the surgery was responsible for the improvement. When a patient who has ongoing or recurrent pain believes that another surgery will resolve the pain, it is difficult to explain that another surgery is not in her best interest. How do you communicate this to your patients?

**Dr Apgar:** I think it's important to set up the parameters from the start. In primary care, we see so much chronic pelvic pain or other types of pain, such as back pain and headaches, that symptoms are often very difficult to distinguish. When a 6-month course of GnRH agonists or a 1-year course of OC administration does not seem to be effective, the typical course is to consider stronger pain medications. However, once you prescribe narcotics, patients become incapacitated very quickly.

**Ms Wysocki:** This is an excellent point. It is important to keep in mind that chronic pelvic pain syndromes can become more complex. Pelvic pain from endometriosis can extend to other areas, perhaps manifesting as vulvar pain. We need to really focus on intervening and managing pain to avoid a chronic pain syndrome, and on helping the patient to maintain quality of life with the ability to perform the normal activities of daily living.

**Dr Surrey:** We also need to emphasize the importance of the patient playing a critical role in her own care. We haven't reached a consensus about how the long-term management of this disease or how pelvic pain, in general, should be treated. We should never forget that for the patient the first concern is to make sure that the cause of the pain is not dangerous to her health or future fertility and, second, to get rid of the pain. It is important to understand the patient's expectations and to make sure that she understands the options for treatment and their limitations and that you, as a clinician, have a long-term plan that can take advantage of a multidisciplinary approach, if necessary.

## Conclusion

**Dr Levy:** I agree. We have a range of short- and long-term interventions that we can use strategically to improve our patient's quality of life. In summary, we need to thoroughly review the patient history, to understand the patient's expectations and desires, and to work collaboratively with the patient to establish a long-term and realistic treatment protocol. The patient needs to understand the available options and her own role in the treatment process. As we have discussed, a primary goal is to avoid initiating a chronic pain syndrome that is characterized by multiple, unsuccessful surgeries and by the use of narcotics. Multimodal therapy incorporating physical therapy, psychological counseling, and medical management may be most helpful in achieving long-term success and pain control in patients with chronic pain. Each patient presents a unique set of historical and physical triggers that may point the clinician into one of several areas of noninvasive treatment.

Overall, we should develop our strategies in an honest, humane, evidence-based fashion, and ensure that our patients understand the risks and benefits of all available options.

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► **CASE 1**

# Compromised fertility in a patient with chronic pelvic pain

Eric S. Surrey, MD

**Presentation of the case:** S.R. is a 34-year-old with severe pelvic pain and infertility. She has been attempting to conceive for the last 30 months and notes that her painful symptoms began within 6 months of discontinuing oral contraceptives.

**History:** The patient reports a 2-year history of progressively severe pelvic pain. Otherwise, her history is unremarkable.

**Examination:** With the exception of lower abdominal and moderate adnexal tenderness, no other abnormalities on physical, ultrasonographic, or laboratory examinations are noted. Results of semen analysis, ovarian reserve testing, and hysterosalpingography are all normal. S.R. has regular menses and an LH surge was documented by urinary testing.

## Patients with endometriosis can suffer not only from pelvic pain but also from compromised fertility.

**Course of treatment:** A decision is made to proceed with laparoscopy in light of S.R.'s history of pelvic pain and otherwise unexplained infertility. Surgical findings include normal-appearing patent fallopian tubes and pelvic architecture, with the exception of scattered superficial endometriotic implants on the pelvic side walls and uterosacral ligaments. The implants are ablated with a CO<sub>2</sub> laser.

**Discussion:** Patients with endometriosis can suffer not only from pelvic pain but also from compromised fertility. In addition, asymptomatic women with endometriosis may present only with infertility. Proposed mechanisms by which this disorder can impair conception include distortion of pelvic anatomy, inhibiting tubal access to the ovaries because of adhesions or tubal occlusion; an alteration in the immunochemistry

of the peritoneal cavity, which impairs sperm-oocyte interaction and early embryo development; and defects in implantation.

It is critical that a full evaluation, designed not only to diagnose the causes of pelvic pain but also to rule out other factors for infertility, be undertaken prior to considering surgical intervention in the woman with pelvic pain who also has been unable to conceive. At a minimum, the fertility evaluation should include an assessment of ovarian reserve (cycle day 3 serum FSH and estradiol levels), semen analysis, hysterosalpingography, documentation of ovulation, and baseline pelvic ultrasound examination.

Surgical ablation or excision of endometriotic implants may not only improve symptoms but may also enhance conception rates. For this to be accomplished, it is vital that anatomy be restored to normal and that great care be taken to handle tissue in a meticulous and atraumatic manner to avoid adhesion formation and loss of normal ovarian tissue. A randomized trial by Marcoux et al has demonstrated that pregnancy rates were significantly increased in the 6 months after surgical ablation of minimal to mild endometriosis. Nevertheless, the actual monthly rates reported were extremely low. It is important to note that this beneficial effect has not been confirmed in other similarly designed trials.

The postoperative management of patients with endometriosis whose primary goal is to conceive is not always the same as for those whose prime concern is the management of pelvic pain.

Unfortunately, many women present with both pain and infertility and may have to prioritize their goals of prolonging symptom relief or conceiving rapidly should surgery not completely eliminate symptoms. Postoperative medical therapy of symptomatic endometriosis patients with such agents as GnRH agonists is highly successful in prolonging pain relief and

decreasing pain recurrence. This approach has not, in general, been shown to improve pregnancy rates.

Postoperative approaches in the infertile patient with normal pelvic anatomy may include expectant management for a brief time period in younger women (<35 years) or the use of controlled ovarian hyperstimulation with intrauterine insemination. If these approaches are unsuccessful, in vitro fertilization (IVF) should be considered. Those patients with severe disease and distorted pelvic anatomy will benefit from proceeding directly to IVF, which has been shown to be the most effective approach to achieve pregnancy in women with endometriosis.

Investigators have suggested that use of a GnRH agonist may enhance fertility in women with endometriosis when this agent is administered in extended pre-cycle administration for a 2- to 3-month course prior to IVF initiation. Whether this approach would be beneficial for all such patients or only a prescreened subset is the subject of ongoing investigations.

It is critical that the physician and patient have an open discussion prior to initiating therapy so that a treatment plan can be formulated to best meet the patient's individual needs.

## Use of a GnRH agonist may enhance fertility in women with endometriosis.

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► **CASE 2**

## The complex nature of chronic pelvic pain

Barbara S. Levy, MD

**Presentation of the case:** M.A., a 31-year-old G2P2, has scheduled an appointment because she is concerned that “my endometriosis is back” and is experiencing incapacitating low pelvic pain. She is convinced that her endometriosis and adhesions have recurred, and requests a laparoscopic procedure that she believes is necessary to manage her pain.

**History:** She has had a history of severe dysmenorrhea since menarche and had her first laparoscopy at age 15. A few “powder burn” areas of endometriosis were identified and coagulated. Subsequently, M.A. was treated with oral contraceptives (OCs) on a cyclic basis and with nonsteroidal anti-inflammatory drugs (NSAIDs). She experienced pain relief for approximately 2 years before pain recurred, which she reported was as severe as that preceding her first laparoscopic procedure.

### The body is wired to feel pain in order to protect itself from harm, but chronic pain no longer serves that purpose.

M.A. had another laparoscopy at age 17 with minimal findings (ie, a few filmy adhesions); subsequently, her pain improved for only a year. She became pregnant and delivered her first child at age 19, and had another full-term pregnancy at age 21. With resumption of menses, the patient experienced severe pelvic pain and had her third laparoscopy at age 22. Once again, minimal findings were reported: Peritoneal biopsies were positive for endometriosis.

Because M.A. complained of intolerable symptoms associated with her menses, she underwent a hysterectomy with ovarian preservation at age 23. Her pain resolved for several years, but, beginning at age 29, she had recurrence of pelvic pain. M.A. underwent her fourth laparoscopy (ie, fifth operative intervention), at which time some adhesions were lysed; no pelvic endometriosis was identified. After 6 months, right-sided

pelvic pain recurred, and her fifth laparoscopic procedure was performed. A normal appendix, as well as a normal tube and ovary with a physiological cyst, were removed. M.A.’s pain improved for about a year.

Further discussion reveals a history of childhood sexual or physical abuse, as well as a history of other, multiple pain problems, such as irritable bowel syndrome and painful voiding.

**Examination:** Physical examination demonstrates significant pelvic floor muscle tension, and palpation of the levator ani muscles reproduces at least some of her pain. In addition, M.A. has diffuse discomfort during the examination, including pain with palpation of the bladder trigone and indentation of the peritoneum in the cul-de-sac. No nodularity is appreciated, and the normal-size left ovary is also tender. She is exhibiting signs and symptoms of visceral hypersensitivity.

**Course of treatment:** The approach to this patient must include long-term multidisciplinary interventions. No single intervention is likely to offer her long-term pain relief. In addition to medical treatment, M.A. will need ongoing support and counseling from her health-care providers to help her understand the complex nature of chronic pain. I explain to my patients that a chronic pain syndrome is similar to a computer program gone awry. The body is wired to feel pain in order to protect itself from harm, but chronic pain no longer serves that purpose. Thus, the strategy for management entails “rewiring” the computer (ie, the central nervous system) so the patient’s system no longer interprets normal physiologic functions and structures as pain.

To initiate treatment, M.A. is counseled regarding a range of strategies. Suppression of her monthly ovulation will likely reduce peritoneal stimulation and eliminate any cyclicality to her pain. An appropriate agent is prescribed.

Her clinician describes the importance of pelvic floor physical therapy and techniques. The potential

benefits of psychological counseling are discussed. M.A. will need help in dealing with her history of abuse. It is also likely that ongoing relationship issues related to her chronic pelvic pain have probably developed, and she will need help to address these. Local musculoskeletal relaxation techniques as well as massage and acupuncture may prove useful, and the patient receives education about these techniques. She is given appropriate referrals to help her build a team of professionals who can help her manage her pain effectively.

Neuromodulating medications such as tricyclic anti-depressants, gabapentin, or mixed serotonin/norepinephrine reuptake inhibitors may be very useful in the treatment strategy. These options are discussed with her as interventions that may be useful in the future. She is counseled that narcotics do not seem to be helpful in the long-term management of patients with her symptoms.

Her health-care provider reinforces the fact that the most effective interventions for her are medical, not surgical, and that a coordinated, multifaceted treatment plan will be most effective in alleviating her symptoms. She understands that she will need to collaborate closely with her health-care provider to work toward long-term pain relief.

**Discussion:** Unfortunately, this patient is not unique. Those of us with an interest in chronic pelvic pain see women like this on a daily basis. It is very likely that the endometriosis seen at the original laparoscopic pro-

cedure had little or nothing to do with this patient's current difficulties.

Patients with these characteristics require a great deal of counseling and ongoing education from their

**Neuromodulating medications such as tricyclic anti-depressants, gabapentin, or mixed serotonin/norepinephrine reuptake inhibitors may be very useful in the treatment strategy.**

health-care providers. They need to understand that many factors contribute to their pain problems. While endometriosis was found at the initial laparoscopic procedure, this patient's current condition is not related to endometriosis.

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► **CASE 3**

## An adolescent with chronic pelvic pain

Susan Wysocki, RNC, NP, FAANP

**Presentation of the case:** A.B. is a 14-year-old G0. She is brought to the office by her mother. A.B. says that she experiences severe cramping for 3 to 4 days each month, with pain located primarily in her lower abdomen, but sometimes causing aching in her thighs. Occasionally, the pain makes her nauseated. She is not sexually active and says she is not planning to become active any time soon.

During her periods, A.B. misses school and social events. She hopes to try out for cheerleading, but is

**A few months of OC therapy may be required for maximal effectiveness in decreasing dysmenorrhea.**

worried that she will be unable to participate if events are scheduled when she has her periods.

**History:** A.B.'s mother reports that her sister experienced similarly debilitating periods and spent years seeking pain relief before finally obtaining relief from her symptoms. A.B.'s menarche was at age 12. Her menses starts about every 29 days. Her bleeding has lessened since she first started having her periods, but the cramping has worsened. She has tried using heat, nonsteroidal anti-inflammatory drugs (NSAIDs), and over-the-counter "period" remedies. She says these agents help, but she still doesn't feel well enough to attend school or participate in extracurricular activities. Both A.B. and her mother say they will do anything to give her a more normal life.

**Examination:** Pelvic examination findings are essentially normal. No nodularity is noted, and there is no pain on motion of the cervix or any other acute tenderness. A Pap smear and gonorrhea and chlamydia testing are deferred because sexual debut has not occurred.

**Course of treatment:** The use of contraceptive agents for the treatment of endometriosis are discussed with A.B. and her mother, who is concerned about giving her daughter oral contraceptives (OCs) or depot medroxy-

progesterone acetate (DMPA) as "those products are for birth control." However, the therapeutic uses of these agents, as well as the therapeutic indication for DMPA SC, are discussed, after which the mother is more comfortable with having her daughter use these methods. A.B. says that she does not like injections and would rather take the pill, and a discussion about pill regimens follows.

A.B. is counseled that she can start on a pill regimen that will, over time, eliminate her menses, but that while her body is adjusting to the pills, she may have unscheduled bleeding episodes. Additional time is spent explaining that OCs can be given to eliminate menses, and that this is a normal occurrence when pills are provided in a continuous fashion.

It is also explained that a few months of OC therapy may be required for maximal effectiveness in decreasing dysmenorrhea. A.B. says that she will be comfortable with this, as long as sufficient improvements occur within a few months when the cheerleading tryouts begin.

An OC is prescribed to be taken continuously with no placebo week; a prescription of NSAIDs is also provided. A.B. is also counseled regarding the importance of compliance: taking pills every day and on time.

A.B. is scheduled for a return visit in 3 months to determine the effectiveness of symptom relief, as well as to learn if progression of possible underlying disease has occurred. Significantly, both OCs and DMPA may alleviate symptoms, but they will not eliminate disease. A.B. is told to call if she has questions before her scheduled appointment.

It is emphasized that the results of A.B.'s examination were normal at this time, but this does not necessarily exclude an underlying problem, such as endometriosis. The current treatment is a trial to determine if symptoms are alleviated. A.B. and her mother are informed that, if the treatment is not effective in treating symptoms, there may be a need for further tests, including a laparoscopy.

**Discussion:** Underdiagnosis of endometriosis or other causes of pelvic pain is common, particularly among adolescents. Many young women experience severe pain for many years, believing that the levels of pain they experience are normal or that the pain will lessen with childbearing.

For most adolescents, the initial diagnostic workup may not include a laparoscopy. However, measures to rule out anatomical problems, such as imperforate hymen, are important. In sexually active adolescents, pelvic inflammatory disease and sexually transmitted infections must be ruled out.

Initial treatment options should focus on alleviation of symptoms through the use of medical strategies agents that can be used for many years. For adolescents, treatment options include OCs, which have been

a standard, off-label treatment for many years, and DMPA. Recently, DMPA SC has been issued an indication for the treatment of endometriosis. A prescription of NSAIDs may also help.

**Underdiagnosis of endometriosis or other causes of pelvic pain is common, particularly among adolescents.**

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► **CASE 4**

## Challenges of fragmented care in long-term management of pelvic pain

Barbara S. Apgar, MD

**Presentation of the case:** P.J. is a 28-year-old G0 who first visited the family medicine clinic 3 years ago to establish care after relocating to a new geographic area. She also sought consultation regarding a current diagnosis of endometriosis and chronic pelvic pain. She had a history of stage I-II endometriosis for which she had undergone 3 laparoscopies, the last one a year ago when a right ovarian cyst was drained. P.J. continued to have daily pain (6/10 on a pain scale) located in her abdomen and back that required emergency department (ED) visits. She experiences significant dyspareunia, is unable to use vaginal tampons, and is anorgasmic.

### This case underscores the importance of a multidisciplinary approach to the management of chronic pelvic pain.

Her current medications include oral contraceptives (for pelvic pain); hydrocodone and acetaminophen daily; gabapentin, 300 mg bid; ibuprofen, 200 mg, up to 6 times daily; venlafaxine, 75 mg hs, for insomnia; and pamelor, 75 mg hs, for depression. Her mother and 2 sisters all have histories of endometriosis. Frequent back pain radiating down her leg results from a 10-year-old spinal cord injury. Depression persists. She denies a history of narcotic dependence.

**Examination:** Examination reveals significant mid and lower right and left quadrant myofascial restrictions, and significant pelvic spasms throughout the vaginal wall. No pelvic masses are found, but there is significant spasm of the anterior portion of the rectovaginal region. No vaginal nodularity is noted. Her uterus is small, anteverted, and nontender. Adnexa are nontender without masses.

**History:** The patient has had extreme dysmenorrhea since menarche at age 14. Taking conjugated estrogen and gonadotropin-releasing hormone (GnRH) agonists has not

alleviated her symptoms. Cervical intraepithelial neoplasia grade 1 was diagnosed 3 years ago, and follow-up cervical cytology a year ago showed low-grade intraepithelial lesion (LSIL). P.J. has no history of sexually transmitted infections or pelvic inflammatory disease.

**Course of treatment:** Physical therapy is recommended for the pelvic floor spasm, and acetaminophen with codeine is prescribed for pain.

When P.J. is seen for colposcopy 3 months later, her hydrocodone and acetaminophen prescription is refilled because of intolerance to acetaminophen and codeine. Colposcopy is normal, but cytology returns a LSIL. She has not initiated physical therapy, although subsequently she does so. She is referred for participation in a study of endometriosis-associated pain but does not meet inclusion criteria. During a subsequent 3-month visit, P.J. reports “excruciating pain,” and she returns to the pain clinic. At this time, she is taking trazodone, 50 mg hs; gabapentin, 2700 mg qd; oral contraceptives; and rosiglitazone, 4 mg qd. She had obtained a prescription for oxycodone, which is refilled, and acetaminophen is added.

Unable to obtain pain relief, with pain at 7/10, a fourth laparoscopy is performed, and a levonorgestrel-containing intrauterine contraceptive device (IUD) is placed. Lysis of adhesions on the posterior aspect of the uterus and of the rectosigmoid and excision of an endometriosis implant in the cul-de-sac are performed. Final histologic study reveals endometriosis. At P.J.’s first postoperative visit, her pain is 10/10, despite her pain medications. (The IUD is later removed because of irregular bleeding.)

Over the next 2 years, she is referred for pain management and narcotic withdrawal, but her chronic pain continues unabated at levels of 10/10 on pain scales. Discussion reveals that she has 4 physicians: a gynecolo-

gist who is managing pelvic pain; another gynecologist in the region; a rheumatologist, although she has no history of rheumatologic disorders; and a psychiatrist. A request is submitted to the state automated prescription system to obtain the history of her narcotic prescriptions over the past year. Presented with evidence of having filled 53 different narcotic prescriptions in 1 year, P.J. admits to addictive drug behavior. She is encouraged to go directly to rehabilitation but does not agree to this.

**Discussion:** This case illustrates the potential for fragmentation of care and underscores the importance of a multidisciplinary approach to the management of chronic pelvic pain. Mareta et al demonstrated that results obtained from this approach can be longer-lasting than those obtained by an individual practitioner.

The primary care practitioner to whom patients often present initially for chronic pelvic pain can introduce patients to consultants and help ensure that they not feel abandoned as “too challenging.” Within this multidisciplinary approach, the patient can understand that the objective is not cure of endometriosis or other pain-causing condition but that of control and management of pain. Clearly, for this patient, opioid management should have been monitored by 1 provider, who would be in charge of enforcing an opioid contract with the patient, see her before each prescription is refilled, and provide medications only in small quantities. Further, refills will not be given if the medication is “lost,” and the patient must agree to alternative strategies for managing her pain.

In this regard, it should be noted that chronic pelvic pain has much in common with other pain syndromes associated with depression, sexual dysfunction, and sleep disorders. A good history may uncover the interaction of pain and emotional factors, and should precede testing or intervention. The clinician should screen for psychological disorders including depression, which is highly prevalent in women with endometriosis-associated pain.

In a recent prospective cohort study by Lamvu et al of women treated for chronic pelvic pain, the most common diagnoses were irritable bowel syndrome, adhesions, pelvic floor musculoskeletal disorders, and endometriosis. After one year, the women experienced modest relief of pain and depression, regardless of whether their treatments were surgical or nonsurgical.

**Opioid management should have been monitored by 1 provider, who would be in charge of enforcing an opioid contract with the patient.**

It is generally believed that medical therapies should be exhausted before surgery is considered in women with endometriosis-associated pain. And, in the Lamvu study, it is notable that the most common cause of chronic pelvic pain was gastrointestinal (GI), not gynecologic. The clinical picture can be muddled further when the patient is using chronic narcotics that may have GI effects.

Despite 4 laparoscopies and GnRH agonist therapy, this patient’s pain was not resolved, and her narcotic use escalated. Including drug dependency and pelvic floor musculoskeletal disorders in the differential diagnosis of chronic pelvic pain may prevent years of surgeries that do not resolve the pain.

#### Suggested Reading

- Lamvu G, Williams R, Zolnoun D, et al. Long-term outcomes after surgical and nonsurgical management of chronic pelvic pain: One year after evaluation in a pelvic pain specialty clinic. *Am J Obstet Gynecol.* 2006;195:591-600.
- Leserman J, Zolnoun D, Meltzer-Brody S, et al. Identification of diagnostic subtypes of chronic pelvic pain and how subtypes differ in health status and trauma history. *Am J Obstet Gynecol.* 2006;195:554-561.
- Lorencatto C, Petta CA, Navarro MJ, et al. Depression in women with endometriosis with and without chronic pelvic pain. *Acta Obstet Gynecol Scand.* 2006;85:88-92.
- Mareta LD, Swanson DW, McHardy MJ. Three years follow-up of patients with chronic pelvic pain who were treated in a multidisciplinary pain management center. *Pain.* 1990;41:47-51.

## CE/CME POSTTEST Select the single-letter response that best completes each sentence or answers the question.

- Which of the following represent appropriate diagnostic studies for patients with suspected endometriosis?**
  - Pelvic examination
  - Rectovaginal examination
  - Ultrasonography
  - All of the above
- Which of the following statements are true?**
  - Laparoscopy does not always identify the extent of disease in patients with endometriosis
  - If one surgery relieves pain of endometriosis, additional surgeries should be recommended if painful symptoms return
  - Endometriosis can be definitively treated by available interventions
  - None of the above
- Symptoms of endometriosis may be mistaken for which of the following:**
  - Irritable bowel syndrome
  - Musculoskeletal pain
  - Interstitial cystitis
  - All of the above
- Laparoscopy is universally recommended as a diagnostic and treatment tool for patients with suspected endometriosis.**
  - True
  - False
- Which of the following are first-line treatments for endometriosis?**
  - Oral contraceptives
  - Depot medroxyprogesterone acetate
  - Nonsteroidal anti-inflammatory drugs
  - All of the above
- Gonadotropin-releasing hormone agonists with add-back therapy to protect against bone loss are approved for what duration of administration?**
  - 3 months
  - 6 months
  - 9 months
  - 12 months
- Patients with endometriosis may exhibit which of the following symptoms?**
  - Low back pain
  - Dyspareunia
  - Infertility
  - All of the above
- Gonadotropin-releasing hormone agonists improve pregnancy rates when administered on a 3-month cycle prior to in vitro fertilization.**
  - True
  - False
- Proposed mechanisms by which endometriosis may result in infertility include which of the following?**
  - Distortion of pelvic anatomy
  - Inhibition of tubal access to the ovaries
  - Alteration in the immunochemistry of the peritoneal cavity
  - All of the above
- Which of the following statements characterizes endometriosis as a medical condition?**
  - Effective treatment requires long-term pain management strategies
  - It is a condition that cannot be cured through medical or surgical interventions
  - The condition is underdiagnosed and undertreated
  - All of the above

## CE/CME REGISTRATION FORM (please print)

Activity release date: MARCH 1, 2007 • Activity expiration date: FEBRUARY 28, 2009

NAME (FIRST)	(LAST)	(DEGREE)
STREET ADDRESS		
CITY	STATE	ZIP
TELEPHONE	FAX	
E-MAIL		
AFFILIATION	SPECIALTY	
SIGNATURE		
ACTUAL TIME SPENT IN THIS ACTIVITY (HOURS) (MINUTES)		

Participants who answer 70% or more of the questions correctly will obtain credit. Please indicate the total time you spent on the educational activity.

**CE Program Evaluation Form.** Please circle the letter that best reflects your agreement with the statements below, using the following scale:

A. Strongly agree B. Agree C. Disagree D. Strongly disagree E. Does not apply

1. This activity has better enabled me to:	
1A. Assess appropriate goals in the management of patients who may have endometriosis	A B C D E
1B. Take a thorough history to identify endometriosis and distinguish it from other conditions	A B C D E
1C. Describe the traditional use of laparoscopy for diagnostic confirmation of endometriosis and the shortcomings associated with this intervention as both a diagnostic tool and a treatment option	A B C D E
1D. Discuss the utility of reaching a diagnosis of endometriosis, not by laparoscopy, but by positive patient response to medical treatments	A B C D E
1E. Counsel patients so that they have the information they need to select the best course of action to meet their individual needs in terms of both definitive and empirical diagnosis of endometriosis as well as disease management strategies for maximum pain relief	A B C D E
2. The quality of the educational process (method of presentation and information provided) was satisfactory and appropriate.	A B C D E
3. The educational activity has enhanced my professional effectiveness and improved my ability to:	
a. Treat/manage patients	A B C D E
b. Communicate with patients	A B C D E
c. Manage my medical practice	A B C D E
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6. I intend to change my clinical practice as a result of the information presented in this CE program.	A B C D E
7. I have learned facts that will strongly influence my practice.	A B C D E
8. The amount of new information I learned was:	A B C D E
A. Practically all new      D. 25% new	
B. 75% new                      E. Minimal	
C. 50% new	
9. The length of this course was:	A B C
A. About right      B. Too short      C. Too long	

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A. Strongly agree B. Agree C. Disagree D. Strongly disagree E. Does not apply

1. The activity objectives and needs assessments were fully met.	A B C D E
2. The quality of the educational process (method of presentation and information provided) was satisfactory and appropriate.	A B C D E
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A. Treat/manage patients	A B C D E
B. Communicate with patients	A B C D E
C. Manage my medical practice	A B C D E
4. The information presented was without promotional or commercial bias.	A B C D E
5. The program level was appropriate.	A B C D E
6. I intend to change my clinical practice as a result of the information presented in this CME program.	A B C D E
7. Suggestions regarding this material, or recommendations for future presentations: _____	
<b>For the Physician's Recognition Award, you can claim only the time you actually spent on this educational activity. This cannot exceed the 2.5 credits designated as the maximum allowable for this supplement.</b>	

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A SUPPLEMENT TO

# OBG MANAGEMENT

March 2007

DIAGNOSIS AND MANAGEMENT

## Chronic Pelvic Pain and Endometriosis

