Consensus Guidelines for the Management of Chronic Pelvic Pain

This guideline was developed by the Chronic Pelvic Pain Working Group and approved by the Executive and Council of the Society of Obstetricians and Gynaecologists of Canada.

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Abstract

Objective: To improve the understanding of chronic pelvic pain (CPP) and to provide evidence-based guidelines of value to primary care health professionals, general obstetricians and gynaecologists, and those who specialize in chronic pain.

Burden of Suffering: CPP is a common, debilitating condition affecting women. It accounts for substantial personal suffering and health care expenditure for interventions, including multiple consultations and medical and surgical therapies. Because the underlying pathophysiology of this complex condition is poorly understood, these treatments have met with variable success rates.

Outcomes: Effectiveness of diagnostic and therapeutic options, including assessment of myofascial dysfunction, multidisciplinary care, a rehabilitation model that emphasizes achieving higher function with some pain rather than a cure, and appropriate use of opiates for the chronic pain state.

Evidence: Medline and the Cochrane Database from 1982 to 2004 were searched for articles in English on subjects related to CPP, including acute care management, myofascial dysfunction, and medical and surgical therapeutic options. The committee reviewed the literature and available data from a needs assessment of subjects with CPP, using a consensus approach to develop recommendations.

Values: The quality of the evidence was rated using the criteria described in the Report of the Canadian Task Force on the Periodic Health Examination. Recommendations for practice were ranked according to the method described in that report (Table 1).

Recommendations: The recommendations are directed to the following areas: (a) an understanding of the needs of women with CPP; (b) general clinical assessment; (c) practical assessment of pain levels; (d) myofascial pain; (e) medications and surgical procedures; (f) principles of opiate management; (g) increased use of magnetic resonance imaging (MRI); (h) documentation of the surgically observed extent of disease; (i) alternative therapies; (j) access to multidisciplinary care models that have components of physical therapy (such as exercise and posture) and psychology (such as cognitive-behavioural therapy), along with other medical disciplines, such as gynaecology and anesthesia; (k) increased attention to CPP in the training of health care professionals; and (l) increased attention to CPP in formal, high-calibre research. The committee recommends that provincial ministries of health pursue the creation of multidisciplinary teams to manage the condition.

Chapter 2: Scope, Definition, and Causes of Chronic Pelvic Pain
1. Because of the complex nature and multifactorial development of its common state, CPP should be increasingly incorporated into the educational curricula of health professionals (medical students, residents, nurses, physiotherapists, specialists) (III-B).

Chapter 3: History-taking, Physical Examination, and Psychological Assessment
1. Thorough history-taking that generates trust between caregiver and patient and a pain-focused physical examination should be part of the complete evaluation of the patient with CPP (III-B).
2. Clinical measurement of pain level could be done at each visit for CPP (II-B).

Key Words: Pelvic pain, myofascial pain syndromes, endometriosis, endosalpingiosis, adenomyosis, pelvic peritoneal defects, pelvic inflammatory disease, adhesions, ovarian cysts, residual ovary syndrome, ovarian remnant syndrome, pelvic congestion syndrome, hysterectomy, uterine fibroids, adnexal torsion, diagnostic imaging, laparoscopy, hormonal treatment, complementary therapies

These guidelines reflect emerging clinical and scientific advances as of the date issued and are subject to change. The information should not be construed as dictating an exclusive course of treatment or procedure to be followed. Local institutions can dictate amendments to these opinions. They should be well documented if modified at the local level. None of these contents may be reproduced in any form without prior written permission of the SOGC.
PERIPHERAL NERVES

Pain sensation begins with the stimulation of a nociceptor, or nerve ending, and resultant activation of a sensory nerve. A signal passes through the lightly myelinated A delta fibres, which are responsible for the appreciation of cold and mechanical stimuli that produce stinging, sharp, fast pain. Also stimulated are the C fibres, which are associated with mechanical and thermal stimuli and transmit warm pain. Specialized bodies are responsible for the appreciation of texture (Meissner’s corpuscles), vibration, tickle, and deep pressure (pacinian corpuscles) and for proprioception (Ruffini’s corpuscles). The peripheral nerves use L-glutamate, substance P, and calcitonin G-related peptide as neurotransmitters. Release of chemicals (such as potassium, bradykinin, and arachidonic acid) from inflammatory processes is an endogenous source of pain sensation.

Therapy directed to the peripheral nerves involves the use of prostaglandin inhibitors, such as nonsteroidal anti-inflammatory drugs and acetylsalicylic acid, as well as disruptors of sodium channel activity, such as carbamazepine.

CENTRAL NERVOUS SYSTEM

Stimuli travelling to the spinal cord pass through the cord’s dorsal roots, which contain the nuclei of the sensory nerves from both the soma and the viscera. These nerves convey stimuli to the spinothalamic tract of the spinal cord through an important synapse governed by a complex array of neurotransmitter messages that involve the N-methyl-D-aspartate (NMDA) receptor.
When stimuli through the sensory nerves become very intense, a process called “winding up” can develop, generating a great deal of electrical activity in this receptor.\(^7,8\) One of the main roles of the brain in the response to pain is the generation of inhibitory signals, which descend through the cord to prevent some inappropriate actions. The winding-up process may damage some of these inhibitory impulses. Another phenomenon that may occur is more diffuse dispersal of the message within the cord, such that the subject appreciates the pain over several dermatomes and not simply the one at which the signal originated. Longer duration of the pain signal is responsible for neuroplasticity, the permanent alteration of neuronal function in the spinal cord that results in allodynia (pain from stimuli that are not normally painful), hyperalgesia (excessive sensitivity to pain), and other types of inappropriate pain.

**THERAPY**

Therapy at the level of the cord is directed to the NMDA receptor. Novel neuroleptics, such as gabapentin, inhibit excessive stimulation of the secondary neurons in the spinal cord, as do carbamazepine, phenytoin, and clonazepam. Modulation of gamma-aminobutyric acid (GABA) receptors may be inhibited by electric stimulation.

Therapy directed at the central processes of central inhibition include the use of opiates that act on the dorsal horns of the spinal cord and agents that increase the inhibition of serotonin uptake, thereby increasing its availability (paroxetine and amitriptyline). This is an area of intense research activity.

**REFERENCES**


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**Table 1. Criteria for quality of evidence assessment and classification of recommendations**

<table>
<thead>
<tr>
<th>Level of evidence*</th>
<th>Classification of recommendations†</th>
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<tbody>
<tr>
<td>I: Evidence obtained from at least one properly designed randomized controlled trial.</td>
<td>A. There is good evidence to support the recommendation for use of a diagnostic test, treatment, or intervention.</td>
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<tr>
<td>II-1: Evidence from well-designed controlled trials without randomization.</td>
<td>B. There is fair evidence to support the recommendation for use of a diagnostic test, treatment, or intervention.</td>
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<td>II-2: Evidence from well-designed cohort (prospective or retrospective) or case-control studies, preferably from more than one centre or research group.</td>
<td>C. There is insufficient evidence to support the recommendation for use of a diagnostic test, treatment, or intervention.</td>
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<td>II-3: Evidence from comparisons between times or places with or without the intervention. Dramatic results from uncontrolled experiments (such as the results of treatment with penicillin in the 1940s) could also be included in this category.</td>
<td>D. There is fair evidence not to support the recommendation for a diagnostic test, treatment, or intervention.</td>
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<td>III: Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees.</td>
<td>E. There is good evidence not to support the recommendation for use of a diagnostic test, treatment, or intervention.</td>
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*The quality of evidence reported in these guidelines has been adapted from the Evaluation of Evidence criteria described in the Canadian Task Force on the Periodic Health Exam.\(^9\)

†Recommendations included in these guidelines have been adapted from the Classification of Recommendations criteria described in the Canadian Task Force on the Periodic Health Exam.\(^9\)
CHAPTER 2: SCOPE, DEFINITION, AND CAUSES OF CHRONIC PELVIC PAIN

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SCOPE

Chronic pelvic pain (CPP) in women is one of the most common and difficult problems encountered by health care providers. CPP accounts for about 1 in 10 outpatient gynecology visits and is the indication for an estimated 15% to 40% of laparoscopies and 12% of hysterectomies in the United States. The true incidence and prevalence, as well as the socioeconomic impact, of the problem are unknown. In a Gallup poll of 5325 US women, 16% reported problems with pelvic pain: because of CPP, 11% limited their home activity, 11.9% limited their sexual activity, 15.8% took medication, and 3.9% missed at least 1 day of work per month.

DEFINITION

Various definitions of CPP have been used, but most investigators consider a minimum duration of 6 months to define the pain as chronic. However, because of the delay in seeking help and then getting appropriate referrals, there has been a trend toward using 3 months instead. Either way, these cut-off points are arbitrary and lack empiric validation.

Chronic pain syndrome usually encompasses the following clinical characteristics:

- duration of 6 months or longer;
- incomplete relief with most treatments;
- significantly impaired function at home or work;
- signs of depression, such as early awakening, weight loss, or anorexia; and
- altered family roles.

Individual response to chronic pain varies tremendously. Whereas some women with CPP suffer for much longer than 6 months without exhibiting the affective and behavioural changes of a chronic pain syndrome, others exhibit a full-blown chronic pain syndrome fairly quickly. This speaks to the complexity of the problem and the multiple contributing factors. If interacting physical and psychological factors are present early in the clinical course of a pain problem, attribution of cause and effect can be difficult. Also, pain intensity is often not proportional to tissue damage. When multiple factors are present, treatment of only some of them will lead to incomplete relief and frustration for both patient and clinician.

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<table>
<thead>
<tr>
<th>Gynaecologic</th>
<th>Urologic</th>
<th>Gastrointestinal</th>
<th>Musculoskeletal</th>
<th>Psychological</th>
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<tr>
<td>Endometriosis</td>
<td>Interstitial cystitis</td>
<td>Irritable bowel syndrome</td>
<td>Myofascial pain (trigger points)</td>
<td>Depression</td>
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<td>Endosalpingiosis</td>
<td>Urethral syndrome</td>
<td>Chronic appendicitis</td>
<td>Pelvic floor myalgia and spasms</td>
<td>Physical or sexual abuse (previous or current)</td>
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<td>Adenomyosis</td>
<td>Chronic urinary tract infection</td>
<td>Constipation</td>
<td>Nerve entrapment syndromes</td>
<td>Sleep disturbance</td>
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<td>Pelvic adhesions</td>
<td>Bladder stones</td>
<td>Inflammatory bowel disease</td>
<td>Mechanical low back pain</td>
<td>Psychological stress (marital, work)</td>
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<td>Chronic pelvic infections</td>
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<td>Disc disease</td>
<td>Substance abuse (alcohol, narcotics, other drugs)</td>
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<td>Ovarian cysts</td>
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<td>Hernias</td>
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<td>Residual ovary syndrome</td>
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<td>Ovarian remnant syndrome</td>
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<td>Post-hysterectomy pain</td>
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<td>Pelvic congestion syndrome</td>
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<td>Fibroids</td>
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<tr>
<td>Vulvodynia*</td>
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*Not dealt with in this consensus guideline.
CAUSES

There are many recognized causes of CPP; the Table 2.1 lists those that are common. Many gynaecologic pathological conditions (adhesions, endometriosis, etc.) are more frequent in women with CPP, but the development of a chronic pain syndrome is often multifactorial. Clinical evaluation must therefore be thorough from a medical, surgical, and psychological standpoint. Organic and physiological changes affecting the reproductive tract, surrounding viscera, and musculoskeletal system can coexist and must be recognized. In addition, depression, sleep disturbance, and sexual dysfunction often become part of the picture and complicate treatment. For example, a patient may first experience pain and deep dyspareunia from endometriosis, next have secondary vaginismus and vestibulitis, then exhibit abdominal trigger points and irritable bowel symptoms, and finally become depressed and disabled. All these components of the patient’s pain must be treated concurrently. If the initial pain symptoms had been treated adequately, the patient’s problem might not have progressed to a chronic pain syndrome.

A useful model for understanding CPP is Steege’s integrated model, which includes the following elements:
- biological events sufficient to initiate nociception
- alterations of lifestyle and relationships over time
- anxiety and affective disorders and
- circular interaction (“vicious cycle”) among these elements.

There is evidence that a multidisciplinary approach to management (see Chapter 11 in Part two in the next issue) is more effective.

Recommendation

Because of the complex nature and multifactorial development of its common state, CPP should be increasingly incorporated into the educational curricula of health professionals (medical students, residents, nurses, physiotherapists, specialists) (III-B).

REFERENCES


CHAPTER 3: HISTORY-TAKING, PHYSICAL EXAMINATION, AND PSYCHOLOGICAL ASSESSMENT

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HISTORY-TAKING

Nowhere is the history more important than in assessing patients with chronic pain. It is crucial to get a detailed chronologic history of the problem, with careful attention to aggravating and alleviating factors, as well as results of previous attempts at treatment. It is useful to get a sense of what the patient thinks is contributing to her pain, as often she will have insight into her condition and fears that need to be addressed. The clinician should elicit symptoms denoting possible involvement of the gastrointestinal system, urinary tract, musculoskeletal system, and pelvic floor musculature and assess for psychological factors. Most important, the clinician should establish the current impact of the pain on the patient’s quality of life and the amount of medication used; these factors, followed over time, can be used as indicators of response to treatment.

A detailed questionnaire can be given to the patient before her visit to facilitate history-taking and make it more thorough and efficient. The pain questionnaire designed by the International Pelvic Pain Society (www.pelvicpain.org/pdf/FRM_Pain_Questionnaire.pdf) is a useful resource and will allow data collection through a centralized database in the future.

During the initial interview, it is important to convey interest, to listen with attention, and to validate the patient’s experience. Unfortunately, patients who have had pain for many years often feel dismissed by physicians frustrated at their inability to cure. These physicians apply the Cartesian model; that is, if no visible pathological condition is found, the problem must be psychological. As detailed in Chapter 2, a biopsychosocial evaluation, which acknowledges the possibility of multiple contributing factors, is more appropriate. When the patient feels that her experience of the pain is believed and that the clinician will do his or her best to help, a good therapeutic relationship can be established, which
will lead to better compliance with the proposed treatment plan and perhaps to acceptance by the patient of more realistic goals of treatment, such as improved function and quality of life, as opposed to complete resolution of pain.

**PHYSICAL EXAMINATION**

The physical examination of a patient with CPP is very different from a routine gynaecologic examination. It may be necessary to defer the examination to the second visit because of time or the patient’s distress after recounting her history. It is important to convey to the patient that she will control the timing of the examination and may elect to terminate it at any time.

If the pain is intermittent, it is best to examine the patient when she is in pain. The goal of the examination is to look for pathological conditions but also to reproduce the patient’s usual pain to help identify physical contributors. The examiner should elicit feedback from the patient, preferably using a numeric scale to determine whether the pain is the same as or different from her usual chronic pain, documenting the score for each tender area. The examiner should also give feedback to the patient about what is being looked for and what pelvic structures seem to be painful.

The following sequence of examination is important. The bimanual exam should be done last, as it is the most threatening, often the most painful, and the least discriminatory part of the examination.

**General Demeanour, Mobility, and Posture**

These can be observed the moment the patient walks into the office and while she sits recounting her history. Be aware of an abnormal gait, guarding, and careful positioning.

**Back**

Look for scoliosis, sacroiliac tenderness, trigger points, and pelvic asymmetry (gluteal fold out of alignment with the line between the thighs). (See Chapter 7 in Part two in the next issue for details on musculoskeletal examination.)

**Abdomen**

With the patient supine, look for skin lesions or hypersensitivity, especially around scars. Examine all quadrants of the abdomen for trigger points: vigorous pain responses to light localized pressure, occasionally paired with a muscle twitch. Do the head-raise test: if pain is lessened with head-raising (and resultant tensing of the rectus muscles), then it is likely intraperitoneal, as the rectus protects the peritoneum from stretch; if, however, the pain is worsened or unrelieved by head-raising, then an abdominal wall source should be suspected.

**Vulva**

The patient is placed in the lithotomy position and may be offered a mirror to participate in the examination and gain more information about her body. A cotton swab is used to perform a sensory examination and to identify areas of tenderness. Particular attention should be given to identifying vulvar vestibulitis, as it is common in CPP patients. This condition causes introital discomfort with intercourse and is often felt as a tearing and burning sensation.

**Single-Digit Vaginal Examination**

Insert one finger into the introitus and have the patient contract and relax her perineal floor around the finger to assess tone and muscle control and whether vaginismus is present. Palpate the levator ani and coccygeus muscles and their attachments. Palpate the vaginal side walls, looking for reflex sympathetic hypersensitivity. Palpate the levator muscles. Palpate the pyriformis and obturator muscles (see Chapter 7 in Part two in the next issue for details on musculoskeletal examination). Palpate the urethra and bladder base. Gently touch the cervix and then the uterosacral ligaments, searching for nodularity and localized tenderness. Gently move the cervix, looking for uterine mobility and motion tenderness. Palpate the adnexal areas for ovarian tenderness and the internal inguinal ring for inguinal tenderness.

**Bimanual Examination**

This may not be possible and should not be attempted in the presence of severe vaginismus. Perform the exam as gently as possible to delineate the uterus and adnexae, looking for mobility, tenderness, and masses. The presence of abdominal wall trigger points may render the exam difficult and confusing; freezing the trigger points with local anesthetic before performing the bimanual exam can help isolate tender areas. If cul-de-sac disease is palpated, a rectovaginal exam should be done to determine its extent.

**Speculum Examination**

This may not be possible if the patient has considerable vaginismus. Use a small speculum. Look at the cervix, vaginal fornices, and vaginal walls. Cervical lesions, mucosal lesions, infections, and endometriosis implants can be identified. Use a long cotton swab to palpate the cervix and vaginal fornices, looking for localized tenderness. Post-hysterectomy dyspareunia may arise from localized lesions or nerve entrapment at the vaginal vault: palpating the vault with a long cotton swab may assist in identifying focal sources of pain.
Modern definitions of pain acknowledge both sensory and affective aspects of the experience. Furthermore, particularly when moderate or severe, CPP can have a negative impact on the woman’s capacity to function in family, sexual, social, and occupational roles. This condition is called chronic pain syndrome. Thorough evaluation of the woman experiencing CPP must include an assessment of her emotional experience and other aspects of the chronic pain syndrome.

A psychosocial assessment conducted by a health psychologist or psychiatrist consists of an extensive interview and an evaluation of the woman’s response to standardized pain and psychological tests that assess disability associated with pain (Figure 3.1 illustrates one such test, the Functional Pelvic Pain Scale), emotional distress, and quality of life.

The domains covered in a psychosocial assessment include: (a) the woman’s understanding of pain generators; (b) the impact of the pain on functional roles (e.g., disability in family, sexual, work, and recreational activities) and emotional functioning (e.g., anxiety about pain and depression secondary to pain); (c) the woman’s pain coping style (e.g., ignoring the pain, becoming inactive, or going to the emergency department for injections); (d) pain modulators (e.g., stress, which exacerbates pain); (e) the woman’s perception of the meaning of her pain with regard to her current and future life experience; (f) the quality of the woman’s relationships with health care providers; (g) the woman’s mental health history (past and current), especially clinical psychopathological disorders (e.g., major depressive disorder), abuse and neglect (sexual, physical, or emotional), and substance use or abuse; and (h) current psychosocial stress and social support, including the woman’s strengths.

The data generated by the psychological assessment are useful for determining appropriate psychosocial interventions directed towards alleviating the psychological and behavioural sequelae of chronic pain through lifestyle modification and alterations in pain coping style. If relevant, interventions may be aimed at treating secondary or primary mental health disorders and reducing psychosocial stress, which may moderate the pain experience. For patients with moderate to severe pain, these interventions are typically critical components of a comprehensive health care plan.

Clearly, gynaecologists and family physicians cannot be expected to conduct a thorough psychosocial assessment. However, they have an important role in identifying patients who will likely benefit from psychosocial assessment and treatment. Women who are identified as experiencing considerable psychosocial impact from their CPP can be referred to a mental health practitioner with training and experience in working with patients experiencing the psychosocial sequelae of chronic health conditions.

The following screening questions can be used in the office to identify women who would benefit from further assessment:

**Figure 3.1 Functional Pelvic Pain Scale Instructions:** Please fill out this form by placing an X in the box that best describes your pain when it is the WORST, even if it occurs at different times of your cycle. If any of these functions do not apply to you, please write N/A (not applicable) in the box beside that function.

<table>
<thead>
<tr>
<th>Function</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<tbody>
<tr>
<td></td>
<td>No pain; normal function</td>
<td>Some pain; with function</td>
<td>Moderate pain; with function</td>
<td>Severe pain; with function</td>
<td>Cannot function because of pain</td>
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<td>Bladder</td>
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<td>Sleeping</td>
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Department of Obstetrics and Gynaecology, Foothills Provincial General Hospital, University of Calgary, Calgary AB, 1994
psychological evaluation. Each question is followed by an explanation and suggestions for how the information can be evaluated.

**Main Concern**
What concerns you most about the pain?
*Rationale:* This open-ended question often elicits the woman's perception about what is most distressing about the pain, and interventions can be tailored accordingly.

**Understanding of Pain and Treatment Expectations**
What do you believe to be the cause of your pain? Do you feel that anything has been overlooked? What do you hope to gain as a result of treatment?
*Rationale:* Women with CPP may have misconceptions and fears concerning the cause of the pain (e.g., cancer), which in turn increase distress. They benefit from an accurate, physical-based understanding of pain generators (e.g., disease and myofascial trigger points). In contrast, psychological or psychogenic explanations for the pain often cause more distress and create fear that the pain will not be appropriately investigated or treated. Patient expectations for treatment outcome (i.e., cure or elimination) may not be realistic and may contribute to the viewing of treatment as unsuccessful.

**Pain Impact**
How has your pain affected your ability to function day to day? Has pain affected your daily activities, work, relationships, sleep, or sexual functioning?
*Rationale:* This question elicits the impacts of pain. As appropriate, interventions can be focused on reducing the impacts as well as the underlying condition. Moreover, the acknowledgement that the pain has affected the woman's quality of life can often contribute to increased rapport and decreased distress.

**Mood Disorders**
How has the pain affected your mood? Are you feeling irritable or depressed? Are you feeling anxious or tense?
*Rationale:* Depression is the most common emotional consequence of chronic pain. Office screening for clinical depression is often required. Clinical depression develops in 25% to 50% of patients with chronic pain and if left untreated may become an obstacle to alleviation of the pain.

**Current Stress**
How much stress do you have in your life? Very little, a moderate amount, or a high or severe level? If the level is high or severe, how do you feel that you are coping with pain and stress?
*Rationale:* CPP can be considered a source of chronic stress, adding to other sources of stress, from daily hassles to major life events, and taxing a woman's coping resources. Improved stress management can facilitate pain coping. If the stress level is high or severe and coping is poor, consider a mental health consultation.

**Abuse History**
Although abuse is rarely a cause of pelvic pain, a history of abuse often makes it more difficult for a woman to deal with pelvic pain. Have you ever been a victim of physical, sexual, or emotional abuse? If you have, please explain. Are you currently being abused? Are you concerned about your safety or the safety of your children? (Explore safety concerns and take action as appropriate.)
*Rationale:* Screening for past and current abuse is viewed as routine in general practice. According to general population studies, one would expect 25% to 50% of women with CPP to have abuse histories. Untreated or unresolved abuse may affect overall health and interfere with the patient's coping with pain. Contrary to popular belief, research has not substantiated a psychological causal link between abuse and chronic pelvic pain.

**Support System**
Who is there to support you as you cope with your pain (stress and abuse)?
*Rationale:* Women with social support cope more effectively with chronic pain. Consider referring isolated women with major problems to appropriate community resources.

**Individual or Couple Counselling**
Are you interested in counselling for pain coping skills, depression, stress management, or unresolved abuse?
*Rationale:* Counselling by the appropriate health care provider (a pain specialist with mental health training) is an adjunct to rather than a replacement for medical management of CPP. As well, the promotion of a multidisciplinary approach to management expands treatment options and creates more realistic expectations for outcome (i.e., reduced pain, improved coping, and improved quality of life).

**SUMMARY STATEMENTS**
1. Cognitive-behavioural therapies are the treatment of choice for helping women develop effective pain coping strategies (II-3).
2. Current evidence indicates that multidisciplinary management of CPP is the most effective treatment approach for women with chronic pain syndrome (I).
Recommendations

1. Thorough history-taking that generates trust between caregiver and patient and a pain-focused physical examination should be part of the complete evaluation of the patient with CPP (III-B).

2. Clinical measurement of pain level could be done at each visit for CPP (II-B).

3. The patient can be asked two questions that are simple and effective: “On a scale of 0 to 10, 0 being no pain and 10 being the worst pain imaginable, how is your pain today and how was your pain 2 weeks ago?” It is important to provide a reference for 10 such as “pain that is so bad that you cannot care for your children, who are in imminent danger” (II-B).

4. The physical examination can be conducted differently in these patients, with special attention placed on individual pelvic structures, to help differentiate sources of pain. Identifying a focal area of tenderness can help target specific therapy (II-B).

5. Owing to the high prevalence of mental health and other significant psychological coexisting problems and sequelae of CPP, gynaecologists and family physicians should routinely screen patients for chronic pain syndrome and refer as appropriate (II-2A).

6. Access to multidisciplinary chronic pain management should be available for women with CPP within the publicly funded health care system in each province and territory of Canada (III-B).

REFERENCES


Forty percent of diagnostic laparoscopies are done for CPP, and 40% of these reveal nothing abnormal. Of those revealing abnormalities, 85% show endometriosis or adhesions. Negative results of laparoscopy do not exclude disease or mean there is no organic basis for the patient’s pain.

In a retrospective controlled study of 100 women with CPP undergoing laparoscopy, Kresch and colleagues found adhesions and endometriosis to be the most common abnormalities, detected in 51% and 32% of the women, respectively. In the control group of 100 women undergoing tubal ligation and without a history of pelvic pain, adhesions were noted in 14%, but these differed from the adhesions in the CPP patients in that they were generally fine and did not restrict organ mobility. Adhesions in the CPP group were denser, tighter, and associated with restricted mobility of the involved organs.

Findings on physical examination are not reliable predictors of laparoscopic findings. Up to 50% of patients with negative results of physical examination have abnormal laparoscopic findings. In a review of 11 studies of laparoscopic findings in women with CPP, Howard found that 28% of women without CPP had abnormal laparoscopic findings adhesions and endometriosis being the most common, at 17% and 5%, respectively.

What is Adequate Laparoscopy?

After laparoscopic entry, a thorough, standardized examination is performed. A panoramic view of the pelvis, with the patient in the Trendelenburg position and the uterus anteverted, allows a general survey. A manipulating instrument is inserted, and the bowel, appendix, liver, diaphragm, and upper abdomen are inspected. The manipulating instrument is then used to mobilize pelvic structures to visualize all peritoneal surfaces, the ovaries and ovarian fossae, and the cul-de-sac of Douglas, as well as the anterior cul-de-sac. The instrument is used to probe areas of tenderness reported by the patient on pelvic examination, as well as adhesions and pelvic deformity.

Surgeons should be aware of the varied appearances of endometriosis, atypical lesions being more common in younger patients. Biopsy for histologic confirmation is recommended. Palpation of scar tissue with the probe may reveal endometrial nodules underneath. Peritoneal windows may have endometrial implants at their base.

The diagnosis of pelvic venous congestion may be obscured by Trendelenburg positioning. Dense adhesions distorting the anatomy may be responsible for CPP, especially if they correlate with pelvic tenderness on preoperative pelvic examination.

Videolaparoscopy or photography should be considered to document abnormality or normality, which provides useful feedback to the patient and a permanent record.

Laparoscopic Pain Mapping

Laparoscopic pain mapping, or patient-assisted laparoscopy (PAL), is a technique involving conscious sedation and local analgesia that is used to identify sources of CPP by reproducing the patient’s symptoms with probing or traction of pelvic tissues. Howard found no difference in outcome between 50 patients treated after laparoscopic pain mapping and a historical cohort of 65 patients who underwent traditional laparoscopy and treatment. Most reports have been of small groups of patients and have not reported outcomes 6 to 12 months after surgery. No randomized trials have compared pain mapping with standard laparoscopy. PAL remains an experimental procedure.

SUMMARY STATEMENTS

1. Permanent documentation of laparoscopic findings is highly desirable (III).

2. Increased use of MRI in the evaluation of CPP should be expected (III).

Recommendation

Patient-assisted laparoscopy should be subjected to clinical trial (III-C).

REFERENCES


CHAPTER 5: SOURCES OF CHRONIC PELVIC PAIN

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Various abnormalities may lead to chronic pelvic pain (CPP); however, not all women with these conditions will exhibit CPP.

ENDOMETRIOSIS

A detailed consensus statement on endometriosis was published by the Society of Obstetricians and Gynaecologists of Canada (SOGC) in 1999.1

Endometriosis is a condition of unknown etiology and pathogenesis. It is defined clinically as the presence of endometrium outside of the endometrial cavity. Both endometrial glands and stroma have to be present for a histologic diagnosis of endometriosis.

Current etiologic theories suggest genetic and environmental interaction, as in many chronic conditions, including adenomyosis. A search is under way for genetic pleomorphisms that might increase the risk of the disease. Possibly the immune system is altered in some way, perhaps by exposure to environmental toxins, to permit persistence of endometriotic implants in the peritoneal lining.

The incidence of endometriosis in the general population is thought to be 1% to 7%.2 In women undergoing laparoscopy for CPP, the prevalence of endometriosis is more than 30%.3 Accrual of such data is difficult, as they are derived from selected populations of subjects with access to laparoscopy for several unrelated reasons (e.g., pain, infertility, and tubal ligation). In one of the largest studies on the incidence of the disease, most of the risk factors identified were not modifiable (e.g., age at menarche and frequent menses).4 One protective modifiable risk factor was prior use of oral contraceptives.

Although the data suggest an association between endometriosis and CPP, it is difficult to prove that endometriosis causes the pain. There is evidence that the incidence of endometriosis in asymptomatic women is much higher than previously thought, perhaps as high as 45%.5 The pain is thought to be due to inflammation, but the process is not fully understood. The severity of endometriosis does not necessarily correlate with the severity of the pain.6

Endometriosis-associated CPP may be managed with an estrogen–progestin combination, a progestin alone, danazol, or a gonadotropin-releasing hormone (GnRH) agonist, with or without nonsteroidal anti-inflammatory drugs.7–10

In a randomized controlled trial of laparoscopic management with laser treatment, adhesiolysis, and uterine nerve transection compared with expectant management after diagnostic laparoscopy, operative treatment was significantly more effective than expectant management in reducing symptoms, as assessed subjectively and from pain scores 6 months postoperatively.11

There is no consensus on the merits of preoperative versus postoperative medical treatment of CPP. Some theoretical advantages of preoperative treatment include decreased inflammation in the endometriotic implants and decreased pelvic vascularity. Disadvantages may include increased difficulty in diagnosis of the endometriosis and high costs of the medications and their side effects.

There have been at least three randomized, placebo-controlled clinical trials of surgical therapy followed by medical management.10,12,13 Although it is not clear from these studies whether postoperative medical therapy is efficacious, there is some evidence that 6 months of postoperative treatment with GnRH analogues, danazol, or medroxyprogesterone acetate lowers pain levels at 6 months but possibly not at 12 months.

Finally, if fertility is not desired, in the face of failed medical and conservative surgical therapy, hysterectomy with or without oophorectomy may be considered in accordance with the SOGC practice guidelines.14 According to the Canadian Hospital Morbidity File of Statistics Canada, there were 120,854 hysterectomies performed during 1988 and 1989; the listed indications included fibroids (in 37.3% of cases), menstrual disorder (in 17.7%), endometriosis (in 15.7%), prolapse (in 11.4%), other (in 9.1%), and cancer (in 8.7%).15

Hysterectomy with bilateral oophorectomy is generally regarded as the most effective procedure for the treatment of CPP associated with endometriosis. However, after such radical surgery, one study found a 3% rate of recurrence of endometriosis.16 Possible mechanisms include residual ovarian tissue or exogenous stimulation by hormones. Another study found a recurrence rate of 3.5% (0.9% per year) among 115 women randomly assigned to receive hormone replacement therapy (HRT) after bilateral salpingo-oophorectomy (BSO) with or without hysterectomy but no recurrence among 57 women assigned to not receive HRT after BSO.17 Among the women receiving HRT, the recurrence rates were higher among those with peritoneal involvement greater than 3 cm (2.4% per year vs.
and incomplete excision (22% among the 9 women who underwent BSO with or without subtotal hysterectomy vs. 2% among the 106 who underwent BSO and hysterectomy). The relative risk was 11.8 (confidence interval [CI] 1.4–15.6, \( P = 0.03 \)).

A retrospective study reported that 18 (62%) of 29 women had recurrent pain and 9 (31%) required re-operation after hysterectomy with retention of the ovaries.18

In addition to a woman’s desire to maintain fertility, her age, the severity of her symptoms, and the site of major endometriotic involvement must be evaluated when considering definitive surgery as an option for pain management.

### ENDOSALPINGIOSIS

Endosalpingiosis first described by Sampson19 in 1927, is the presence of ectopic fallopian tube-like ciliated epithelium without stroma. As with endometriosis, the histogenesis is unknown. Possible mechanisms include coelomic metaplasia or implantation of tubal epithelial tissue. The distribution and gross appearance of the lesions of endosalpingiosis are the same as those of endometriosis. Several case studies have reported that endosalpingiosis may be associated with CPP.

A prospective study of 1107 consecutive women undergoing laparoscopy over a year for a variety of indications found histologically proven endosalpingiosis in 7.6%, endometriosis in 27.5%, and both in 4.4%.20 Endosalpingiosis was found in 7.9% of the women with pelvic pain, 7.3% of those without pelvic pain, 11.7% of those with infertility, and 8.3% of those without symptoms who were undergoing sterilization. The authors concluded that, in contrast to endometriosis, endosalpingiosis plays only a minor role in infertility and lower abdominal pain.

Another study of 16 women with endosalpingiosis who presented with a variety of symptoms, including pelvic pain (in 5) and no pelvic pain (in 5), determined that endosalpingiosis seems to be an incidental finding associated with other pelvic problems rather than a frequent cause of pelvic pain.21

### ADENOMYOSIS

Adenomyosis is a condition of unknown etiology and pathogenesis. It is defined histologically as the presence of endometrial glands and stroma deep within the myometrium. The uterus is usually enlarged and diffusely boggy to palpation. The adenomyotic foci may be diffusely distributed or be well localized, forming adenomyomas (nodules of hypertrophic myometrium and ectopic endometrium). The reported incidence of adenomyosis ranges from 5% to 70%.22 Most cases occur in parous women in the fourth and fifth decades of life.23 Not all women with adenomyosis are symptomatic. Symptoms may include pelvic pain, dysmenorrhea, and menorrhagia.

Transvaginal sonography may aid in the diagnosis of adenomyosis.24 The sensitivity and specificity of prehysterectomy ultrasonography varied from 52% to 89% and from 50% to 99%, respectively, in 6 series (43 to 405 women).25

Several studies have shown magnetic resonance imaging (MRI) to be an excellent, minimally invasive tool for diagnosing adenomyosis,26 with sensitivity and specificity ranging from 86% to 100% in symptomatic women.27 One recent, prospective, double-blind study of 119 consecutive patients undergoing hysterectomy showed endovaginal ultrasonography to be as accurate as MRI in the diagnosis of uterine adenomyosis.28

Treatment options include danazol and GnRH agonists. Adenomyotic foci have been shown to contain progesterone and estrogen receptors and may undergo decidualization when exposed to progesterone; symptoms may then become more apparent.29 Progestogenic agents alone or in combination with estrogen may therefore not be effective. Adenomyosis in women with infertility can be treated with a variety of medications.24

In one study of 15 women with MRI-diagnosed adenomyosis (and concurrent fibroids in 12), 12 of 13 patients reported improvement in quality of life after uterine artery embolization.30

Surgery is still the main method of diagnosing and managing adenomyosis. Hysteroscopy is the gold standard for relief of symptoms. However, there may be a role for hysteroscopic endometrial resection if the adenomyosis has been confirmed to involve mostly the superficial 3 mm of the myometrium.

For a recent review of adenomyosis, see the article by Matalliotakis and colleagues.31

### PELVIC PERITONEAL DEFECTS (POCKETS)

A defect, or a pocket, in the pelvic peritoneal floor was first illustrated by Sampson19 in 1927 as he was describing endometriotic implants in the peritoneal cavity. In 1981, Chatman32 reported peritoneal defects in 25 (4%) of 635 consecutive patients undergoing diagnostic laparoscopy, 75% for CPP and 25% for infertility, among whom endometriosis was found in 192 women (30%). The frequency of peritoneal defects in women with CPP was 7%.

In 7 (28%) of the 25 women, the defect was the only finding, but 17 (68%) had associated pelvic endometriosis.
In a follow-up study of an additional 309 patients undergoing laparoscopy for CPP, infertility, or both, Chatman and Smith found that 53 patients had pelvic peritoneal defects, 9 having more than one defect, and 42 (79%) also having endometriosis. Of the 309 women, 148 had endometriosis. The authors concluded that, when such defects are found at laparoscopy, the presence of endometriosis should be investigated thoroughly.

The defects have been postulated to result from peritoneal irritation or invasion by endometriotic tissue, with resultant scarring and retraction of the peritoneum. Batt and Smith postulated that peritoneal pockets and associated endometriosis localized to the posterior pelvis may represent a congenital form of endometriosis that is due to rudimentary duplication of the müllerian system during embryogenesis. Redwine reported that almost one-fifth of 132 women with endometriosis had peritoneal pockets. Two-thirds of the defects had endometriotic tissue around the rim or inside, but since one-third lacked associated endometriosis, and since fibrosis was not present as a possible cause, endometriosis did not seem to have been the likely primary cause. Redwine postulated that such peritoneal invaginations and endometriosis may be ontologically related to a separate developmental factor.

Vilos and Vilos excised 140 pelvic peritoneal pockets ranging from 0.5 to 6 cm wide or deep from 106 women 15 to 50 years of age who had CPP. Of the pockets, 46% were below the uterosacral ligaments (right, 40; left, 25), 41% above the uterosacral ligaments and medial to the ureters (right, 20; left, 38), 6% lateral to the ureters (right, 6; left, 2), 3% in the rectovaginal septum, and 3% anterior to the broad ligament (right, 3; left, 1). Associated pelvic endometriosis was seen in 85% of patients. Histologic examination of the pockets revealed endometriosis in 39%, chronic inflammation in 20%, endosalpingiosis in 12%, calcification in 4%, and no abnormalities in 25%. Excision and suturing of the defects provided immediate relief of CPP in some 75 women. The authors postulated that the pockets were herniations of the pelvic peritoneum over pelvic floor spaces and were related to the inflammatory effects of the various conditions.

In a follow-up study of 2115 women with CPP, Vilos and associates reported on 25 women who also complained of cyclic pain radiating to the leg (right leg in 15 women, left leg in 9 women, and both legs in 1 woman), pain over the buttocks and paresthesia of the thighs, knees, or both, exacerbated during menses. Laparoscopic findings were endometriosis nodules in 5 patients, peritoneal pockets, endometriosis, or both in 19 patients, and inflammatory peritoneum in 1 patient. Associated pelvic endometriosis was identified and confirmed in 17 women (68%); no additional lesions were found in the other 8 (32%). After excision of the 15 pockets, histologic examination showed endometriosis in 9 (60%), endosalpingiosis in 2 (13%), chronic inflammation in 1 (7%), and normal tissue in 3 (20%). After laparoscopic excision, sciatic symptoms were eliminated in 19, were lessened in 4, and remained the same in 2; symptoms recurred in 3 patients after 2 years. The authors concluded that cyclic leg pain is associated with pelvic peritoneal pockets, endometriosis nodules, or surface endometriosis of the posterolateral pelvic peritoneum. They hypothesized that the pain was likely referred from the pelvic peritoneum rather than due to direct irritation of the lumbar plexus of the sciatic nerve.

ADHESIONS

Intraperitoneal adhesions are caused mainly by surgery and to a lesser extent by endometriosis and abdominal and pelvic inflammation or infection. The financial impact of adhesions is enormous. In the United States, adhesiolysis was responsible for 303,836 hospitalizations during 1994, primarily for procedures on the digestive and female reproductive systems, which accounted for 846,415 days of patient care and $1.3 billion in hospitalization and surgery expenditures.

Adhesions are found in 25% to 50% of women with CPP, but their role as a cause of CPP remains controversial. Diamond and Freeman reviewed four uncontrolled, cohort studies involving 269 women and 4 men and found rates of 69% to 82% for relief or reduction of chronic pain after adhesiolysis. One study randomly assigned 48 women with CPP and laparoscopically diagnosed pelvic adhesions to adhesiolysis by laparotomy (n = 24) or “wait-and-see” management (n = 24). Adhesiolysis proved to be of no more benefit than the wait-and-see approach. Only the 15 women with severe multiple vascularized adhesions involving the serosa of the small bowel or, to a lesser extent, the colon benefitted from adhesiolysis (P < 0.01). The authors concluded that adhesiolysis is not indicated for the treatment of pelvic pain in women with mild or moderate pelvic adhesions but that it may benefit women with severe adhesions involving the intestinal tract.

A recent multicentre, blinded, randomized trial of laparoscopic adhesiolysis versus diagnostic laparoscopy alone in 87 women and 13 men with chronic abdominal pain found that at 12 months after randomization, 27% of patients in the adhesiolysis group (n = 52) and 27% of the controls (n = 48) reported resolution or substantial reduction of pain. There were no complications in the diagnostic laparoscopy group, but 5 of the 52 patients in the adhesiolysis group had complications (some had more than one
complication): small bowel perforation in 2 patients and hemorrhage during surgery (necessitating blood transfusion), abdominal abscess, rectovaginal fistula, and protracted paralytic ileus after surgery in 1 patient each. The authors concluded that laparoscopic adhesiolysis cannot be recommended as a treatment for adhesions in patients with chronic abdominal pain.

A recent publication reviewed the relation between adhesions and pelvic pain and the effectiveness of adhesiolysis in pain control. The most common laparoscopic findings in patients with or without pelvic pain were endometriosis and adhesions. Multiple adhesiolysis techniques were used, and outcomes of surgery ranged from no pain relief to relief in 90% of patients. The authors concluded that a correlation between pelvic pain and adhesions remains uncertain. Adhesiolysis has not been shown to be effective in achieving pain control in randomized clinical studies.

**PELVIC INFLAMMATORY DISEASE (PID)**

PID is a common condition that carries several long-term sequelae, one of which is CPP. CPP has been reported to occur in 18% to 33% of women after an episode of PID, regardless of mode of antibiotic therapy. The corresponding figure was 5% in a control series of women who had never had PID. Although pelvic adhesions after PID are thought to be the cause of CPP, the exact etiology remains unknown. One study showed a reduction in physical and mental health among women with CPP after PID. Women with CPP were less likely to be black (P < 0.001) and more likely to report a history of PID (P < 0.004), a greater number of previous PID episodes (P < 0.001), and continued pelvic pain at 30 days (P < 0.001). CPP was associated with greater age (P = 0.079), being married (P = 0.084), lesser education (P = 0.074), and 3 or more days between the onset of PID symptoms and treatment (P = 0.182). CPP was associated with lower physical (P < 0.001) and mental health composite scores (P < 0.001) 5 days after enrolment.

Among 684 sexually active women with PID followed up for a mean of 35 months, self-reported persistent and consistent condom use was associated with lower rates of PID sequelae. After adjustment for covariates, the relative risk for condom users versus nonusers was 0.5 (95% CI 0.3–0.9) for recurrent PID, 0.7 (95% CI 0.5–1.2) for CPP, and 0.4 (95% CI 0.2–0.2) for infertility.

**OVARIAN CYSTS**

Unilateral CPP is often attributed to ovarian cysts, if present. Chronic ovarian cysts, however, do not usually produce pain. Although small studies have shown successful treatment of CPP in patients with ovarian cysts, no randomized clinical trials have addressed this issue.

**RESIDUAL OVARY SYNDROME (ORS)**

ORS is the persistence of functional ovarian tissue after the intended removal of the ovary. The true incidence of ORS is not known. The condition is often not suspected in women with CPP who have had oophorectomies. The syndrome arises from unintentional, incomplete dissection and removal of the ovary during a difficult or emergency oophorectomy or implantation and growth of displaced ovarian tissue in the abdomen or pelvic cavity during oophorectomy. The condition is often encountered in patients with severe endometriosis and pelvic adhesions or similar conditions associated with severe pelvic adhesions.

In a cohort study of 119 women presenting with CPP who had previously undergone oophorectomy, ovarian remnants were found in 18%. Five years after removal of the ovarian remnants, 80% of women reported complete resolution of the CPP. Women with ovarian remnants may present with CPP, sometimes cyclical, or a pelvic mass. The absence of vasomotor symptoms should make one suspicious of ORS in a woman with CPP who has previously undergone bilateral oophorectomy. On vaginal examination, a tender lateral pelvic cyst may be palpated. Premenopausal levels of follicle-stimulating hormone and estradiol, along with the ultrasonographic detection of a pelvic cystic structure, are helpful in diagnosis.

Treatment of ORS may be attempted with agents such as GnRH analogues with add-back therapy. There are no reports of large series addressing this issue. The main...
management option at present is surgical excision of the ovarian remnant with a retroperitoneal approach, wide local excision, and lysis of adhesions. The risks of ureteric and bowel injury should be discussed with the patient preoperatively.

PELVIC CONGESTION SYNDROME

For more than half a century, dilated pelvic veins have been observed in some women with CPP. Symptoms may include a dull aching pain as well as menstrual disorders. Vulvar varicosities may be associated. Pelvic venography, Doppler ultrasonography, and MRI have been used to diagnose pelvic congestion syndrome. A recent study of asymptomatic kidney donors showed a 38% incidence of pelvic congestion syndrome, diagnosed by MRI detection of dilated pelvic veins. Hysterectomy as a management option for pelvic congestion syndrome has fallen out of favour. Although there have been case reports of ovarian vein ligations and percutaneous embolizations, no controlled clinical trials have evaluated the safety and long-term effectiveness of these approaches.

POST-HYSTERECTOMY CPP

CPP has been listed as the principal preoperative indication for 10% to 12% of hysterectomies in the United States and Canada. Stoval et al. evaluated 99 women with CPP of unknown etiology after excluding endometriosis and adhesions. Histopathologic analysis of surgical specimens revealed adenomyosis in 20% of patients, fibroids in 12%, and both in 2%. At an average follow-up of 22 months, 22% of the women reported persistent pelvic pain.

Hillis and colleagues reported on a prospective cohort study of 279 women from the Collaborative Review of Sterilization Study (CREST) who underwent non-emergency hysterectomy for the relief of CPP. After 1 year, 74% of the women reported complete resolution of pain, 21% reported decreased but continued pain, and 5% reported unchanged or increased pain. The probability of persistent pain was higher among women less than 30 years old, those with no identified pelvic disease, those who were economically disadvantaged, those with more than two pregnancies, and those with a history of PID. For each of these subgroups, 30% to 40% continued to have pelvic pain. Unilateral or bilateral salpingo-oophorectomy was not found to play a role.

A separate set of 97 women with dysmenorrhea as their primary complaint reported resolution (95%), reduction (4%), or no change (1%) in their dysmenorrhea 1 year after hysterectomy.

POST-HYSTERECTOMY ENDOMETRIOSIS

Among women with a previous hysterectomy and BSO (for different conditions), when laparoscopy was performed because of CPP, endometriosis was found in 34%.

PELVIC PAIN IN THE ABSENCE OF GENITAL PELVIC ORGANS

Behera and associates evaluated laparoscopically 115 women, 22 to 68 years old, with chronic pain after hysterectomy and BSO. Findings at laparoscopy were adhesions in 107 patients, adnexal remnants in 32 (ovarian in 26 and tubal in 6), abnormal appendix in 19, and abnormal peritoneum in 14. Four peritoneal biopsies revealed endometriosis. Six appendices showed disease: endometriosis in two, chronic inflammation in one, and obliterated lumen in three. Of the 104 patients who were followed up for 1 to 12 years, 61 (59%) reported a reduction in pain and the other 43 no change in pain. Reduced pain was reported by 70% of those with ovarian remnants, 62% of those with endometriosis, 52% of those with adhesiolysis, and 50% of those with appendectomy.

UTERINE FIBROIDS

Uterine fibroids (leiomyomas) are benign monoclonal tumours derived from the smooth muscle of the uterus. These tumours may be due to genetic pleiomorphisms, with a genetic–environmental interaction. They may be submucosal, intramural, subserosal, or pedunculated. A detailed clinical practice guideline on uterine myomas was published in the Journal of Obstetrics and Gynaecology Canada in 2003. Although dysmenorrhea and pelvic pressure symptoms may be due to the fibroids, other conditions, such as endometriosis, adenomyosis, irritable bowel syndrome, and interstitial cystitis, should be suspected when patients present with pain as the main symptom.

Pain associated with uterine fibroids may present as dysmenorrhea, pressure symptoms, or both. Resection of submucosal uterine fibroids associated with menorrhagia and dysmenorrhea, as well as myomectomy or hysterectomy for large, symptomatic uterine fibroids, may reduce the chronic pain. However, no clinical trials have specifically assessed surgical intervention for uterine fibroids as therapy for CPP.

The Maine Women’s Health Study, a prospective cohort study of 418 women undergoing hysterectomy, found that 35% of the procedures were performed for uterine fibroids. Hysterectomy was highly effective for the relief of symptoms and was associated with a marked improvement in quality of life.
ADNEXAL TORSION

Adnexal torsion may produce pain by mechanical, hypoxic, or chemical tissue changes. Unilateral CPP is often attributed to ovarian cysts, if present. Chronic ovarian cysts, however, do not usually produce pain. Although small studies have shown successful treatment of CPP in patients with ovarian cysts, no randomized clinical trials have addressed this issue.

Recommendations

1. Hysterectomy for endometriosis or adenomyosis with ovarian conservation can be an acceptable alternative. The patient should be informed of the possible consequences (residual ovarian syndrome, persistent pain, and reactivation of endometriosis) (II-2A).

2. Ovarian cystectomy, rather than oophorectomy, should be an individual decision, based on the patient’s age and wishes, fertility issues, and surgical feasibility (II-3B).

3. The management of symptomatic uterine fibroids should follow the clinical practice guidelines of the Society of Obstetricians and Gynaecologists of Canada (II-3B).

4. The management of adnexal torsion should be determined according to the patient’s age and wishes, fertility issues, and surgical judgment (II-3B).

5. Since the rate of recurrence of endometriosis with hormone replacement therapy (HRT) in women undergoing hysterectomy plus bilateral salpingo-oophorectomy (BSO) is very low, HRT should not be contraindicated (I-B).

6. In women with an intact uterus, when total hysterectomy has not been performed because of technical difficulties, the recurrence of endometriosis contraindicates the use of HRT (I-B).

7. Hysterectomy can be indicated in the presence of severe symptoms with failure of other treatment when fertility is no longer desired (I-B).

8. Pelvic peritoneal defects (pockets) are frequently associated with endometriosis and should be treated surgically (II-B).

9. Endosalpingiosis is an incidental histologic finding and does not appear to require specific treatment (II-2B).

10. Current evidence does not support routine adhesiolysis for chronic pelvic pain. However, diagnostic laparoscopy remains of value (I-B).

REFERENCES


CHAPTER 6: UROLOGIC AND GASTROINTESTINAL CAUSES OF CHRONIC PELVIC PAIN

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Chronic pelvic pain (CPP) is a complex syndrome that involves biologic and psychosocial phenomena. This chapter will focus on urologic and gastrointestinal causes (Table 6.1), particularly the two most frequently found in women with CPP.

**INTERSTITIAL CYSTITIS (IC)**

IC is a poorly understood chronic inflammatory condition of the bladder whose study is complex and frustrating. Its causes are unknown, its pathophysiology remains uncertain, and the efficacy of treatment regimens is questionable. The prevalence of IC in the United States is 10 to 67/100 000; women predominate 10 to 1.1–3 Possible causes include infection, lymphatic or vascular obstruction, immunologic deficiencies, glycosaminoglycan layer deficiency, presence of a toxic urogenous substance, neural factors, and primary mast cell disorder.4

**Characteristics and Clinical Significance**

Most patients present with pelvic pain and irritative voiding symptoms, such as frequency, urgency, and nocturia. Patients void 8 to 15 times per day, with an average volume of 70 to 90 mL. Voiding can occur once or twice per night. Pain can radiate to any location in the pelvis, in the suprapubic area, to the perineum, vulva, vagina or low back, and even to the medial thighs. Pain can increase during or after sexual intercourse. Symptoms fluctuate during the menstrual cycle, with a premenstrual flare, in 18% of women with IC.5 Patients often have overlapping symptoms related to the pelvic organs—urologic, gastrointestinal, gynaecologic, and pelvic floor. Up to 75% of patients with CPP who visit gynaecologists have urologic symptoms.

In one retrospective study of 60 women with CPP,7 the patients were noted to have presented with dyspareunia and dysmenorrhea, along with CPP, with or without urinary symptoms. Pelvic, uterine, and bladder tenderness were noted on physical examination. Laparoscopy, cystoscopy, and hydrodistention of the bladder were performed in each patient. Of the 60 women, 58 (97%) had IC, according to the guidelines of the US National Institutes of Health (NIH). Of the 48 (80%) who had biopsy-confirmed active endometriosis, 47 (98%) had IC. Endometriosis is commonly associated with CPP but is not always responsible for the pain. In this study, 78% of the patients had both endometriosis and IC. The decision to perform cystoscopy should not be based on symptoms alone, because 25% of women with IC would have been missed.

In another study, 45 women scheduled to undergo laparoscopy for CPP were recruited and screened for IC with the Interstitial Cystitis Symptom Index and Problem Index.8,9 Cystoscopy with hydrodistention of the bladder was performed at the time of laparoscopy. The prevalence of IC was 38%. Of the 21 women with endometriosis 7 (33%) had IC; of the 10 with adhesions, 4 (40%) had IC; and of the 14 with normal results of laparoscopy, 6 (43%) had IC. The presence of IC did not necessarily correlate with the laparoscopic findings. It is therefore not possible to suggest that cystoscopy is necessary only if the results of laparoscopy are negative or to suggest that cystoscopy is unnecessary if endometriosis or other pelvic disorders are found (III-C).

**Diagnosis**

The diagnostic criteria and tests for IC are controversial; Table 6.2 outlines some of those currently recommended. Since the criteria of the NIH and the National Institute of Diabetes and Digestive and Kidney Diseases are too restrictive for clinical use, symptom-based clinical diagnosis has become increasingly popular. Microscopic hematuria and infections should be ruled out with urinalysis and urine culture. If cystoscopy is performed, glomerulation, submucosal hemorrhage, and terminal hematuria may be found. Hydrodistention at the time of cystoscopy is therapeutic in 20% to 30% of patients, who experience relief for 3 to 6 months.10,11 Cystoscopic findings may help with prognosis, because patients with ulcers and significantly reduced bladder capacity do not respond as favourably to treatment.10,12 The intravesical potassium chloride (KCl) sensitivity test is a minimally invasive diagnostic test for IC that can be done in the office. It may identify a subgroup of IC patients with epithelial permeability dysfunction and
may predict the response to pentosan polysulfate sodium (Elmiron). Only 66% to 75% of IC patients will have a positive KCl test result. False-positive results can occur with detrusor instability, radiation damage, and bacterial cystitis.

**Treatment**

Treatment options for IC include systemic agents, instillation therapy, and surgical management. Pentosan polysulfate sodium is widely used and probably works by repairing the altered permeability of the bladder surface. Only 28% to 32% of patients will have improvement with this therapy.

One study evaluated retrospectively the use of gonadotropin-releasing hormone (GnRH) analogues or oral contraceptives (OCs) in the treatment of IC with premenstrual flare of symptoms. Of 23 women with known IC who had irritable bladder symptoms that fluctuated with the menstrual cycle, 15 chose to undergo laparoscopy, repeat cystoscopy, and hydrodistention. They were then offered a 6-month course of treatment with either GnRH analogues or OCs. Symptoms were markedly reduced during therapy in eight of the nine women treated with GnRH analogues but relapsed in five after the treatment was stopped. Of the six women treated with OCs, five improved during treatment. The five women without endometriosis improved with hormonal treatment.

**Summary**

IC should always be considered in the differential diagnostic of CPP, especially in women presenting with bladder or pelvic pain or dyspareunia, even if the symptoms increase in the premenstrual period. Gynaecologists, urologists, and family physicians should work together to increase their diagnostic accuracy with this unusual condition. Gynaecologic teaching traditionally does not focus on syndromes originating from the bladder. Urologic and gastrointestinal training has not focused on pelvic pain syndromes. IC patients frequently end up in the gynaecologist’s office, which helps to explain the usual delay in diagnosis of IC of more than 5 years.

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### Table 6.2 Current diagnostic criteria and tests for IC

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<th>Clinical</th>
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<td>Pain and bladder irritability</td>
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<td>Exclusion of infection and cancer</td>
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<td>Diagnostic symptom scores (e.g., on indexes of O’Leary et al.)</td>
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<th>Clinical and cystoscopic (NIH-NIDDK criteria)</th>
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<tr>
<td>Ulcer, non-ulcer IC</td>
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<tr>
<td>Performed with general or spinal anesthesia</td>
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<td>60% rate of underdiagnosis</td>
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<tr>
<td>Useful in prognosis</td>
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<th>Bladder biopsy</th>
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<tr>
<td>Country- and region-specific</td>
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<tr>
<td>Low diagnostic rate</td>
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<tr>
<td>Morbidity</td>
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<td>Treatment predictor</td>
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<tr>
<th>Urodynamics</th>
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<tr>
<td>No need for complex UDS</td>
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<td>Sensory or motor instability</td>
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<th>Potassium chloride sensitivity test</th>
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<tr>
<td>25% rate of underdiagnosis</td>
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<tr>
<td>High false-positive and false-negative rates</td>
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<td>Potentially painful</td>
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<th>Urinary markers</th>
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<td>Glycoprotein-51 and antiproliferative factor</td>
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<td>Potentially useful</td>
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NIH: National Institutes of Health; NIDDK: National Institute of Diabetes and Digestive and Kidney Diseases
IRRITABLE BOWEL SYNDROME (IBS)

IBS affects up to 15% of adults, twice as many women as men. Patients present with abdominal pain and discomfort, bloating, and disturbed bowel habits (diarrhea, constipation, or both). The multifactorial pathophysiology includes altered bowel motility, visceral hypersensitivity, and psychosocial factors.

Characteristics and Clinical Significance

Symptoms suggesting IBS exist in 50% to 80% of patients presenting with CPP. Many women with IBS consult a gynaecologist rather than a gastroenterologist. Gynaecologic disease can also be misdiagnosed as IBS, which indicates an overlap between gynaecologic and gastrointestinal symptoms. In fact, IBS can be associated with dyspareunia, and bowel symptoms worsen during menstruation in 50% of women. There is also an increased prevalence of IBS in women referred for menorrhagia and intermenstrual bleeding. In a study of 728 women referred to a gynaecology clinic, the prevalence of IBS was 37%, compared with 28% in a control group. Of 71 women with CPP presenting to a gynaecologic clinic, 52% had symptoms suggesting IBS. A clear gynaecologic diagnosis was reached in only 8% of those with IBS-type symptoms, compared with 44% of those without such symptoms. After 1 year, 65% of the women with IBS-type symptoms were still symptomatic, compared with 32% of those who had presented without such symptoms. In another study, IBS was diagnosed in 48% of women undergoing diagnostic laparoscopy for CPP, 40% of women undergoing elective hysterectomy, and 32% of age-matched controls. CPP was often the only pre-hysterectomy diagnosis in the IBS patients, and women with IBS were much less likely to have reduced symptoms 1 year after laparoscopy or hysterectomy. Women with severe constipation can also experience CPP, and many undergo unnecessary gynaecologic surgery without pain relief before seeing a gastroenterologist.

Diagnosis

The Rome II criteria are currently the standard for clinical diagnosis of IBS. In the preceding year, the patient should have had more than 12 weeks of abdominal discomfort or pain and at least two of the following:
- pain or discomfort that is relieved after defecation,
- association of the onset of pain or discomfort with a change in stool frequency, and
- association of the onset of pain or discomfort with a change in stool appearance.

The following symptoms can also be associated with IBS but are not necessary for diagnosis:
- abnormal stool frequency (fewer than three bowel movements per week or more than three per day),
- abnormal stool form,
- abnormal stool passage (straining, urgency, or the feeling of incomplete evacuation), and
- passage of mucus.

In the presence of bloating or a feeling of abdominal distension, organic disease must be excluded. For patients over the age of 45 years or with rectal bleeding, weight loss, anaemia, or a family history of colorectal cancer, colonoscopy or sigmoidoscopy with a barium enema and a flexible instrument should be performed. For patients under the age of 40 and a negative history, evaluation should include sigmoidoscopy with a flexible instrument. Initial laboratory investigation should probably include a complete blood count, measurement of thyroid-stimulating hormone levels, and liver function tests.

Treatment

Dietary manipulation may be of benefit in some patients. Elimination of dietary lactose, sorbitol, and fructose may be of value. About 40% of patients with IBS have lactose intolerance. Caffeinated products, carbonated products, and gas-producing foods should be avoided, because they may contribute to bloating. Smoking and gum chewing lead to more swallowing of air and may increase gas or bloating. Excessive alcohol consumption may lead to increased rectal urgency.

The medical management of IBS is based on the patient’s symptoms. If pain is the predominant symptom, antispasmodic agents or tricyclic compounds may be helpful. Constipated patients benefit from increased dietary fibre along with osmotic laxatives, if needed. Many patients have increased gas when they increase their intake of dietary fibre, and about 15% cannot tolerate fibre therapy. Long-term use of stimulant laxatives should be discouraged. Diarrhea can sometimes be managed with increased dietary fibre and with antidiarrheal agents as needed. Loperamide (Imodium) is the most commonly used agent. Serotonin receptor agonists stimulate colonic motility and may diminish visceral hypersensitivity. Peppermint oil, a major constituent of several over-the-counter remedies for IBS, appears, from several randomized clinical trials, to be effective. It decreases abdominal distension, reduces stool frequency, decreases borborygmi, and reduces flatulence. A double-blind, placebo-controlled, randomized study reported a significant reduction in abdominal pain and nausea in premenopausal women with functional bowel disease treated with GnRH analogues. GnRH analogues may help minimize long-term use of...
other prescription medications, many of which provide only small improvement over placebo.

Combining psychological treatment with medical therapy improves the clinical response over that with medical therapy only. One study determined that 21% of women under 40 with IBS had undergone a hysterectomy, whereas the national average rate was 6%. Whether this represents inaccurate diagnosis by gynaecologists, the presence of multiple disorders in women with IBS, or an etiologic link between gynaecologic disorders and IBS is not clear.

**SUMMARY STATEMENTS**

1. Urinary and gastrointestinal symptoms are often present in women with CPP (II-2).
2. IC is a common cause of CPP and often coexists with endometriosis (III).
3. IBS can coexist with other pelvic diseases or be the sole cause of CPP in women (II-2).
4. Diagnosing IC or IBS in women with CPP will improve management (III).

**Recommendations**

1. Cystoscopy by trained specialists, with or without diagnostic laparoscopy, should be considered when interstitial cystitis (IC) is suspected (III-B).
2. Women with chronic pelvic pain will require detailed gynaecologic, urologic, gastroenterologic, and psychological assessment. Appropriate evaluation can lead to optimal treatment and decrease the rate of inappropriate interventions (III-B).

**REFERENCES**

Consensus Guidelines for the Management of Chronic Pelvic Pain

This guideline was developed by the Chronic Pelvic Pain Working Group and approved by the Executive and Council of the Society of Obstetricians and Gynaecologists of Canada.

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Abstract

Objective: To improve the understanding of chronic pelvic pain (CPP) and to provide evidence-based guidelines of value to primary care health professionals, general obstetricians and gynaecologists, and those who specialize in chronic pain.

Burden of Suffering: CPP is a common, debilitating condition affecting women. It accounts for substantial personal suffering and health care expenditure for interventions, including multiple consultations and medical and surgical therapies. Because the underlying pathophysiology of this complex condition is poorly understood, these treatments have met with variable success rates.

Outcomes: Effectiveness of diagnostic and therapeutic options, including assessment of myofascial dysfunction, multidisciplinary care, a rehabilitation model that emphasizes achieving higher function with some pain rather than a cure, and appropriate use of opioids for the chronic pain state.

Evidence: Medline and the Cochrane Database from 1982 to 2004 were searched for articles in English on subjects related to CPP, including acute care management, myofascial dysfunction, and medical and surgical therapeutic options. The committee reviewed the literature and available data from a needs assessment of subjects with CPP, using a consensus approach to develop recommendations.

Values: The quality of the evidence was rated using the criteria described in the Report of the Canadian Task Force on the Periodic Health Examination. Recommendations for practice were ranked according to the method described in that report (Table 1).

Recommendations: The recommendations are directed to the following areas: (a) an understanding of the needs of women with CPP; (b) general clinical assessment; (c) practical assessment of pain levels; (d) myofascial pain; (e) medications and surgical procedures; (f) principles of opiate management; (g) increased use of magnetic resonance imaging (MRI); (h) documentation of the surgically observed extent of disease; (i) alternative therapies; (j) access to multidisciplinary care models that have components of physical therapy (such as exercise and posture) and psychology (such as cognitive-behavioural therapy), along with other medical disciplines, such as gynaecology and anesthesia; (k) increased attention to CPP in the training of health care professionals; and (l) increased attention to CPP in formal, high-calibre research. The committee recommends that provincial ministries of health pursue the creation of multidisciplinary teams to manage the condition.

Chapter 7: Myofascial Dysfunction
1. Health care providers should become more aware of myofascial dysfunction as a cause of chronic pelvic pain (CPP) and the available treatment options (IIB).
2. Patients should participate in the management of CPP due to myofascial dysfunction by actively using a home stretching and exercise program (IIB).

Chapter 8: Medical Therapy—Evidence on Effectiveness
1. Opioid therapy can be considered for pain control under adequate supervision (II-3B).
2. Hormonal treatment of chronic pelvic pain of gynaecologic origin, including oral contraceptives, progestins, danazol, and gonadotropin-releasing hormone agonists, has been studied.
extensively and should be considered as the first line for many women, especially those with endometriosis (I and II-A).

3. Adjuvant medications, such as antidepressants and antibiotics, can be of supporting help in specific situations (II-B).

Chapter 9: Surgery—Evidence on Effectiveness

1. The lack of robust clinical trials of the surgical management of chronic pelvic pain should be addressed. The use of alternative epidemiologic models, including case-controlled and cohort-controlled trials, should be considered (III-A).

2. Further delineation of the role of appendectomy and of presacral neurectomy appears warranted in the management of endometriosis-related pain (III-A).

Chapter 11: Multidisciplinary Chronic Pain Management

1. Multidisciplinary chronic pain management should be available for women with chronic pelvic pain within the publicly funded health care system in each province and territory of Canada (III-B).

CHAPTER 7: MYOFASCIAL DYSFUNCTION

Robert Gerwin, MD, FAANCS; Paul Martyn, MB BS(Hons), FRCOG, FRCSC; John F. Jarrell, MD, FRCSC, MSc, CSPQ

1. Multidisciplinary chronic pain management should be available for women with chronic pelvic pain within the publicly funded health care system in each province and territory of Canada (III-B).

Chapter 14: Future Directions

1. The curriculum for professional development should be expanded to include theory and techniques in the management of myofascial dysfunction (A).

2. Research into CPP should be encouraged, particularly in the areas of the impact of CPP on the use of health services, the pathophysiology of myofascial dysfunction, and gene therapy. Because randomized trials for qualitative outcomes are exceedingly difficult, alternative robust models, such as case-controlled or cohort-controlled trials, should be pursued (A).

3. Methods of improving interaction with patients should be explored. They might include formal contractual approaches to managing pain with opiates and efforts to better appreciate the patient’s perceived needs (A).


INTRODUCTION

The diagnosis of myofascial abdominal and pelvic pain is commonly overlooked by the general gynaecologist. Reiter and Gambone1 reported on 122 patients with chronic pelvic pain (CPP) who had been referred to a multidisciplinary clinic after negative results of laparoscopy and underwent a thorough medical and psychological evaluation and follow-up for a minimum of 6 months after completion of therapy. Myofascial pain was the most common somatic diagnosis, accounting for 30% of such diagnoses. In most of these cases, the pain was in lower abdominal scars and responded well to trigger-point injection and, in 3 cases, scar revision. Gastrointestinal disorders were found in 14% and genitourinary disorders in 11% of all 122 patients.

PATHOPHYSIOLOGICAL ASPECTS

In the neuromuscular stage, muscle hyperactivity and irritability are sustained by mechanical and postural stressors and prolonged contraction of muscle. Injury or microtrauma releases free calcium within muscle. Conscious awareness of pain provokes muscle guarding and splinting.

In the musculodystrophic stage, after sustained contractile activity the muscle attempts to adapt by increasing metabolic activity, which results in localized fibrosis.2

Travell and Simons3 defined a myofascial trigger point as a focus of hyperirritability in a muscle or its fascia causing pain symptoms. It refers pain in a pattern specific to that muscle. An active trigger point is always tender, prevents muscle lengthening, refers pain on direct compression, mediates a local twitch response and often produces specific referred autonomic phenomena generally in its pain reference zone.

Trigger points are thought to occur in a muscle in response to acute or chronic stress caused by many factors, including chronic microtrauma, sleep disorders, fatigue, macrotrauma, systemic influences, and psychosocial stress. They may also be due to nerve entrapment, particularly when a Pfannenstiel incision was previously made in the distribution of the first to third lumbar nerves, where the ilioinguinal and iliohypogastric nerves are involved. They can occur in the abdominal rectus and oblique muscles, hip flexors (including the iliacus and psoas), adductor group, piriformis, gluteals, and pelvic floor musculature, referring pain in and around the abdominal wall and pelvis.3 When a trigger point on the abdominal wall is palpated, the patient may respond with a jump or a local twitch. In Carnett’s test, the area of abdominal tenderness is palpated while the patient voluntarily contracts her abdominal muscles by raising her head or legs. An increase in the pain indicates a myofascial origin, whereas a decrease indicates an intraperitoneal disorder.

MYOFASCIAL PELVIC PAIN

Hypertonus of the levator ani group of muscles (pelvic floor tension myalgia) produces pain poorly localized to the perivaginal and perirectal areas. Pain may also be felt in the abdominal lower quadrants, suprapubic areas, coccyx, and posterior thigh. Piriformis syndrome is a similar problem in the adjacent piriformis muscle. These disorders involve a high resting tone in the muscles and fascia that attach to the bony pelvis.
Interstitial cystitis (IC), vulvodynia, and urethral syndrome associated with pelvic floor tension myalgia may contribute to the pain associated with these conditions. Dyspareunia is common in patients with IC.

Weiss recently reported successful outcomes in 52 patients using manual physical therapy to treat IC and urethral syndrome. The rationale was that pelvic floor myofascial trigger points are not only a source of pain and voiding symptoms but also a trigger for neurogenic bladder symptoms. Moderate to marked improvement occurred in 35 (83%) of the 42 patients with urethral syndrome and 7 of the 10 patients with IC. Electromyography demonstrated a decrease in pelvic floor resting tone. Symptoms had been present for 6 to 14 years.

Scars in the abdominal wall may cause abdominal or pelvic pain and in such cases usually demonstrate limited mobility. Similarly, perineal scars can affect sexual function if not sufficiently mobile. Reactive muscle contraction can produce vaginismus.

Myofascial pelvic pain may develop over time in response to pain caused by gynaecologic disease or as a direct result of faulty body mechanics or other problems. Differentiating the cause of the pelvic pain is often difficult for the gynaecologist and is best approached in conjunction with a physical therapist.

**TREATMENT OVERVIEW**

Patient education on pelvic floor function is vital to successful physical therapy. Physiological quieting and general relaxation with the use of biofeedback are taught to patients.

Manual soft tissue release is essential to reduce pelvic floor resting tone and tension. Acupuncture may also be helpful. It is important to inactivate trigger points to restore muscle to its normal resting length before strengthening. Trigger points can be injected with local anesthetic, dry-needled, massaged, or sprayed with a coolant such as ethylchloride and then actively stretched, a technique that has been reported to be effective. Physical therapists may use other modalities, such as high-voltage galvanic stimulation, ultrasound, heat, and ice. Therapeutic exercises are used to correct muscle weakness, tightness, and spasms.

**OFFICE APPROACH TO MYOFASCIAL SOURCES OF GYNAECOLOGIC PAIN**

Gynaecologic pain, or pain of pelvic origin, can arise from visceral organs in the pelvis, the muscular body wall (including the abdomen and low back muscles), the muscles of the hip region and upper thigh, and the lumbosacral nerves (nerve roots and peripheral nerves). Visceral pain has a wide variety of causes, both pathological (e.g., those associated with tissue damage or inflammation) and nonpathological (e.g., distention or increased capsular pressure). Pain in

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**Table 1. Criteria for quality of evidence assessment and classification of recommendations**

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<tr>
<th>Level of evidence*</th>
<th>Classification of recommendations†</th>
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<tr>
<td>I: Evidence obtained from at least one properly designed randomized controlled trial.</td>
<td>A. There is good evidence to support the recommendation for use of a diagnostic test, treatment, or intervention.</td>
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<tr>
<td>II-1: Evidence from well-designed controlled trials without randomization.</td>
<td>B. There is fair evidence to support the recommendation for use of a diagnostic test, treatment, or intervention.</td>
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<td>II-2: Evidence from well-designed cohort (prospective or retrospective) or case-control studies, preferably from more than one centre or research group.</td>
<td>C. There is insufficient evidence to support the recommendation for use of a diagnostic test, treatment, or intervention.</td>
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<td>II-3: Evidence from comparisons between times or places with or without the intervention. Dramatic results from uncontrolled experiments (such as the results of treatment with penicillin in the 1940s) could also be included in this category.</td>
<td>D. There is fair evidence not to support the recommendation for a diagnostic test, treatment, or intervention.</td>
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<td>III: Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees.</td>
<td>E. There is good evidence not to support the recommendation for use of a diagnostic test, treatment, or intervention.</td>
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*The quality of evidence reported in these guidelines has been adapted from the Evaluation of Evidence criteria described in the Canadian Task Force on the Periodic Health Exam.†Recommendations included in these guidelines have been adapted from the Classification of Recommendations criteria described in the Canadian Task Force on the Periodic Health Exam.
muscules, whether those of the body wall (e.g., abdominal or low back muscles) or of the hips and extremities (e.g., gluteal and adductor muscles) is associated with discrete bands of muscle hardness and tenerness (myofascial trigger points).

Visceral and myofascial sources of pain can refer pain elsewhere. In particular, visceral pain can cause pain to be felt in the body wall and hip region, and myofascial trigger points can cause pain to be felt as deep pain, as if coming from the viscera. Myofascial trigger points are also associated with visceral organ dysfunction, such as irritable bladder syndrome and irritable bowel syndrome. Conditions such as IC associated with urinary frequency and pain can be worsened by myofascial trigger points in the abdomen, hip region, and pelvic floor. These trigger points can also cause pain that is felt to be coming from pelvic organs and can be indistinguishable from the pain of endometriosis.

Myofascial trigger points are caused by muscle stress or overuse and are most likely associated with local ischemia, which promotes both the contracted, hard band of the trigger point and the release of vasoactive substances that cause vasodilation and neurogenic edema and activate peripheral nerve nociceptive receptors, causing pain. Trigger points are identified by physical examination. Treatment of the muscular or myofascial component of pelvic pain syndromes is accomplished by inactivating the trigger point through manual means, as in physical therapy, or by needling or injection of local anesthetic into the trigger point. Identification and correction of predisposing, initiating, and perpetuating factors associated with the pain syndrome, whether muscular or visceral, is necessary to complete treatment and reduce or eliminate the likelihood of recurrence.

The gynaecologist can evaluate the abdomen for tenderness and myofascial trigger points, particularly looking for those that reproduce the patient’s pain. The same can be done with the pelvic floor muscles, including the obturator, piriformis, and levator ani muscles. The muscle examination can be done at the time of the pelvic examination or in conjunction with it. A careful examination to exclude abdominal wall hernias must be performed, and the clinician must bear in mind that myofascial pain may coexist with other pelvic disorders. The interested and knowledgeable gynaecologist can extend the examination, as needed, using the following multiple-level examination protocol, a screening examination for mechanical causes of pelvic-region pain. The protocol guides the examiner through the examination process and instructs him or her in the treatment or correction of the low back and pelvic structural dysfunctions that often accompany visceral pelvic pain problems. The protocol assumes that a neurologic examination for disorders of the ilioinguinal, iliohypogastric, genitofemoral, and pudendal nerves has been conducted.

**Examination for Hip and Pelvic-Region Function and Symmetry**

1. Evaluate the patient while she is walking for scoliosis and for foot and knee abnormalities, such as excessive foot pronation, leg and foot rotation, and knee deformities.

2. Evaluate the patient while she is standing for shoulder height and iliac crest asymmetry. If the ipsilateral shoulder and iliac crest are both high, there is S-shaped scoliosis. If the contralateral iliac crest and shoulder are high, there is C-shaped scoliosis. In either case, the clinician must determine whether the scoliosis is caused by a fixed structural abnormality or a correctable functional abnormality.

3. Assess posterior superior iliac spine (PSIS) symmetry. If one PSIS is higher than the other, there is either a tilt of the pelvis due to real or pseudo-inequality in leg length or pelvic torsion, similar to asymmetry in iliac-crest height.

4. Assess anterior superior iliac spine (ASIS) symmetry. If one ASIS is higher than the other, there is either pelvic tilt or torsion. If the PSIS and the ASIS are both high on one side, there is real or pseudo-inequality in leg length. If the contralateral PSIS and ASIS are high, there is pelvic torsion.

5. Perform a standing forward-flexion test, palpating the PSISs, to determine if they move symmetrically or if one moves more rostrally than the other. The one that moves is “hypermobile” and the one that does not move as well is “fixed” or “hypomobile”. If the PSISs do not move symmetrically, there is torsion of the pelvis during flexion. Torsion can be seen with any restriction or imbalance of the pelvis, including leg-length inequality, iliac bone rotation, and sacroiliac joint hypomobility. The examination sequence is intended to distinguish between these possibilities.

6. Perform a sitting forward-flexion test. If there is scoliosis when the patient is sitting, there is pelvic height asymmetry, or shortening of one of the muscles that bends the spine (quadratus lumborum or iliopsoas). Palpate the PSISs as the patient bends forward. The PSISs should move symmetrically. If they do but there was an abnormal result in the standing forward-flexion test, then the abnormality is caused by iliac bone rotation (pelvic torsion). Sitting stabilizes the iliac bone so that it will not rotate when the body flexes while sitting. If the PSISs move asymmetrically, then there is sacroiliac joint hypomobility.
7. If there is evidence of iliac bone rotation, correct it. The side that is ipsilateral to the rising or rostrally moving PSIS is anteriorly rotated and needs to be posteriorly rotated. This can be done with muscle energy techniques, using the gluteus maximus to posteriorly rotate the iliac bone and the rectus femoris to anteriorly rotate the iliac bone.

8. To check the abnormality in a second examination position, have the patient lie supine and stand at the foot of the examination table. With the patient straight, check the anterior and posterior heights of the ASISs to determine if one side is high, which would indicate anterior or posterior rotation of the pelvis (which accompanies anterior or posterior rotation of the sacrum). Assess the positions of the medial malleoli relative to each other. They should be level. If not, note which one is higher (and thus which leg is functionally shorter). The patient then sits, the legs sliding downward with the anterior rotation of the pelvis. Note if one side moves further down than the other. They should move equally. If not, there is pelvic rotation. The side that moves further is anteriorly rotating. In general, there is agreement between the results of the forward-flexion tests and the supine-to-sitting test. Correct rotation as described for the iliac bone.

9. Assess levels of the inferior lateral angle of the sacrum for tilt. Assess the angle for anterior or posterior displacement. A sacral tilt will increase pressure on the ipsilateral sacroiliac joint.

10. Assess function of the gluteus medius muscle with the Trendelenburg test. A drop of the hip on the side opposite to the standing leg means that the gluteus medius is weak, either actually or functionally. Examine the gluteus medius for trigger points. If present, they should be treated and the Trendelenburg test repeated to see if the result becomes normal.

11. Evaluate the pubic symphysis for tenderness and symmetry. If abnormal, the symphysis should be mobilized by activating the adductor muscles. The patient is supine, feet together, and hips and knees flexed. The knees are abducted 45° to 60°. Standing at the patient’s side, place a forearm between the patient’s knees, your hand on the far knee and your elbow against the near knee. Ask the patient to adduct the knees against your forearm, which causes the adductor muscles to pull on the pubic ramus, widening the pubic symphysis. Do this at the same time as the sacroiliac flare described in step 13.

12. The patient is now prone. Standing at the patient’s side, examine the sacrum for movement of the sacroiliac joint. The sacrum rotates about a diagonal line that runs from one superior aspect of the joint to the opposite inferior lateral angle. Depress one inferior lateral angle while palpating the contralateral superior aspect of the joint. The sacrum should rock across the diagonal axis. If not, it must be mobilized.

13. Before mobilizing the sacrum, flare the sacroiliac joints by having the patient lie supine, knees and hips flexed and feet together. The thighs are abducted 45° to 60°. Place your hands on the outside (lateral aspect) of each knee. Ask the patient to abduct the thighs against your hands. This places a laterally directed force on the iliac bones.

14. To mobilize the sacrum, place the hypermobile side superiorly while the patient lies in the lateral decubitus position. The legs are flexed at the hip and at the knee. If the hypermobile side is posteriorly rotated (the sacral sulcus on the hypermobile side being more shallow than on the freely moving side), it must be rotated anteriorly. To accomplish this, bring the upper shoulder forward during mobilization of the sacroiliac joint. If the hypermobile side is anteriorly rotated (the sacral sulcus on the hypermobile side being deeper than the freely moving joint), place the upper shoulder posteriorly during mobilization. Correction of anterior or posterior rotation is accomplished by creating the opposite condition (posterior rotation when the side is anterior, anterior rotation when the side is posterior). Now, have the patient bring her knees to the edge of the table, ankles and feet together, and bring the ankles and feet off the side of the table. Stand in front of the patient at the side of the table so that the patient’s knees are stabilized by your left hand under the thigh, just above the knee. Place your right hand on top of both of the patient’s ankles and rotate the legs downward together slowly (over 5 to 10 seconds) until a barrier is reached. Have the patient use the Lewit technique of post-isometric contraction and relaxation to facilitate stretch and mobilization. Repeat this sequence until full motion is achieved. This action lifts the superior iliac bone away from the sacrum, to increase the joint space and achieve mobility.

**Muscle Examination for Myofascial Trigger Points**

Record the areas of tenderness and the referred-pain pattern of myofascial trigger points on a body diagram.

**Level 1**

The patient lies supine, with the knees bent and supported on a pillow to relax the abdomen. Palpate the abdominal wall, including the insertions of the abdominal muscles at the costal margins, at the iliac crest, and at the pubic bones, to assess tenderness and tightness of the abdominal wall. Palpate in both diagonal directions to detect tight linear...
bands of contracted muscle in the external and internal oblique abdominal muscles, as well as vertically to detect tight bands of contracted muscle in the horizontal fibres of the transverse abdominal muscle. Palpate the rectus abdominus muscle across the fibres (i.e., with a transverse motion of the fingers) to detect tight, contracted bands of muscle. Assess tenderness of the abdominal wall throughout the examination. The patient then distends the abdominal wall, lifting it away from the contents of the abdominal cavity. The patient should be able to maintain the distention while breathing and talking. Palpate the abdominal wall again for tenderness (which will be from the abdominal wall and not from the internal organs) and discrete areas of hardness.

Palpate the adductor muscles of the medial thigh for bands of tight muscle and tenderness. Compress any tender spot firmly for 5 to 10 seconds to elicit referred pain, which might be felt in the groin, inner aspect of the thigh, or (in the case of the adductor magnus muscle) deeply, but poorly localized, in the pelvis.

The patient now turns to the lateral decubitus position, the head and arm supported by pillows. Position the superior leg behind the lower leg to drop the pelvis and increase the space between the rib cage and the iliac crest to facilitate palpation of the quadratus lumborum muscle. The lateral border of this muscle is between the 12th rib and the iliac crest, directly above the transverse processes of the lumbar spine, into which the muscle inserts medially. Note any tight bands and tenderness in this muscle.

Palpate the lumbar paraspinal muscles for linear bands of hardness or tautness, and note the patterns of any referred pain.

Palpate the three gluteal muscles (maximus, medius, and minimus), the piriformis, and the tensor fascia lata muscles for discrete bands of hardness or tautness and tenderness, and note the patterns of any referred pain.

**Level 2**

The patient lies supine, with the knee ipsilateral to the side being examined bent to relax the abdomen. Stand at the patient’s side, the fingertips of the palpating hand lateral to the border of the rectus abdominus muscle, from the level of the umbilicus caudally. Place the other hand over the examining hand and guide the examining fingers so that the fingertips are pointing to the psoas muscle. Move the hand slowly into the abdomen, over six breaths from the patient, to move aside the bowel. The fingers will come to rest on the psoas muscle. Confirm location by moving the ipsilateral knee a few inches toward the chest to contract the psoas. Assess the muscle for tenderness. The examining technique can also be used for manual treatment of the muscle.

Examine the obturator internus with the patient supine and the legs flexed at the hips and knees, feet together, the legs falling away to the side. Palpate the muscle posterior (dorsal) to the adductor brevis, where it inserts onto the femur. Palpate the pectineus muscle for groin pain, as it lies underneath the femoral neurovascular bundle. Palpate the muscle medially and superiorly to the femoral artery.

**Level 3**

Examine the levator ani muscle per rectum, sweeping the examining finger from anterior to posterior on each side, noting any tenderness and horizontal bands of tightness or hardness.

Examine the piriformis and obturator internus muscles for tenderness and discrete bands of tightness rectally or vaginally.

Reproduction of all or part of the patient’s pain is sought when examining the pelvic and abdominal regions for tenderness and muscle hardness.

**TREATMENT OF MYOFASCIAL TRIGGER POINTS**

**Injections**

Inactivation of a trigger point by injection appears to result from the mechanical action of the needle at the trigger point, since it can be accomplished by dry needling without local anesthesia or the use of other materials. Local anesthesia is more comfortable for many patients and results in a longer-lasting reduction in trigger-point pain.7-8

A local twitch response or a report of referred pain indicates that the trigger zone has been entered. A small amount of anesthetic, usually 0.1 or 0.2 mL, is injected into the trigger zone. The needle is withdrawn to just below the skin and its angle changed; the needle is then passed through the muscle to another trigger zone. A conical volume of muscle can thus be examined for active trigger points without withdrawal of the needle through the skin. The trigger zone is explored in this manner until no further local twitch responses are obtained. At this point, the taut band is usually gone, and the spontaneous pain of the trigger point has subsided.

Historically, procaine has been used for this purpose, although lidocaine is also commonly used today. Procaine, in a dilute solution of 0.5%, has a short half-life, which is an advantage if the anesthetic solution spreads between tissue planes and produces a nerve block. When diluted to 0.25% in water, lidocaine has been shown to produce the least pain after injection, although when diluted in normal saline it works well enough, with minimal pain after injection.
Glucocorticosteroids and ketorolac have also been used, but they have not been the subject of controlled studies comparing their effectiveness against that of either local anesthesia or dry needling. Steroids have the disadvantage of being locally myotoxic, and repeated administration can produce all of the associated unwanted side effects. Saline or dry needling can be performed on persons allergic to local anesthetics. A systematic review of the literature found no advantage to the addition of any substance, whether steroids, ketorolac, or vitamin B12, which is sometimes added to the mix.9

Botulinum toxin has been successful in trigger-point inactivation.10–12 It is of particular interest in the treatment of myofascial pain syndromes, including myogenic headaches or headaches of muscular origin, because it has a direct effect on pain mechanisms as well as on muscle contraction.13

There is no limit to the number of trigger-point injections that can be given. Common sense and patient comfort dictate restraint. Nevertheless, a sufficient number of muscles in the region must be treated to resolve a regional myofascial pain syndrome and allow effective stretching. Five to ten trigger-point sites can readily be treated per session, and some skilled physicians will treat considerably more in one session. Repeat injections into the same area are best done after an interval of a week to allow the muscle to recover. Complications are infrequent and include bleeding, pain, and, rarely, anaphylaxis if local anesthetics are used. Inadequate attention to postinjection aspects of treatment leads to failure to relieve pain.

Gunn and colleagues14,15 reported on a method of trigger-point inactivation called intramuscular stimulation (IMS). IMS involves insertion of the needle directly into the trigger point and is a form of dry needling. It may be combined with electrical stimulation through the needle (percutaneous electroneurostimulation). None of these techniques has been subjected to clinical trials for effectiveness.

The abdominal contents can be avoided by depressing the abdominal wall with a tongue blade or the finger, so that the needle can be inserted laterally into the wall trigger point without risking injection through the wall into the bowel. Trigger points in the lateral abdominal wall can be needled or injected by grasping the wall musculature between the index and long fingers and the thumb to move the bowel out of the way and then injecting the grasped muscle with the needle, perpendicular to the plane of the muscle.

The piriformis muscle can be injected from the outside (percutaneously), after identifying the muscle by palpation, between the superior trochanteric insertion of the muscle and the sacral origin of the muscle below the PSIS.

The obturator internus can be injected from outside the pelvis or through the vagina. Rhonda Kotarinos, a Chicago physical therapist, uses a metal flute to guide the needle to the muscle trigger point when her gynecologic colleagues inject trigger points through the vagina.

The levator ani muscle can be injected by inserting the needle lateral and a little ventral to the coccyx, one finger of the other hand in the rectum at the trigger point guiding the needle.

**Physical Therapy**

The goal of physical therapy for myofascial pain syndrome is to restore function to the affected person. Dysfunction is the result of pain that interferes with use of a body part or with sleep. Dysfunction therefore results from the manifestations of the trigger point; namely, tenderness, shortening of the muscle, with resultant limited or painful range of motion, and weakness. Referred pain falls into the category of pain-associated limitations, except that trigger points can be found in the zone of referred pain.

Physical therapy, or, more properly, manual therapy, is directed toward decrease of pain and restoration of a normal, pain-free range of motion. Referred pain will decrease with this treatment, but trigger points in the referred-pain zone must also be treated directly.

A treatment protocol that we have found to be effective has been adapted from the work of Dejong6 of Switzerland and Travell and Simons3 of the United States. The techniques have been influenced by the work of Gunn14 of Canada and Lewit6 of Czechoslovakia.

The protocol involves the decrease or elimination of pain by direct finger pressure on the trigger zone; that is, the tender part of the hard or taut band of muscle. Decrease in pain usually occurs within 15 to 20 seconds, and relaxation of the taut band usually occurs within 1 minute of compression. Compression is followed by a firm stretch of the local segment of muscle: a finger is run along the taut band for about 1 to 2 inches for about 3 to 5 repeats. Mobilization of the fascia is done next, with strong, firm pressure on the muscle directed through the referred-pain pattern. These therapeutic stretches of each muscle treated are performed to lengthen the shortened bands of contracted or hard muscle. The stretches are muscle-specific and must be done with knowledge of the functional anatomy of the muscle. Stretching must be limited in hypermobile women.

Concurrently, the patient is taught a home-treatment program.

Most muscles can be treated outside of the internal pelvis. However, stretching the levator ani can be very helpful to some patients and requires a stretch per rectum. The
piriformis muscle can be stretched via the pelvic approach but also can be treated outside the pelvis.

This program is continued until pain is reduced and range of motion is improved, at which time strengthening and core or lumbar stabilization can be introduced.

Other physical therapy modalities can supplement this protocol. Few studies have been published on the effectiveness of specific treatment techniques in myofascial pain syndromes, and fewer have been controlled or randomized. The reported outcome, however, is that ultrasound, massage, stretching, and heat can all be helpful in reducing pain and restoring function. Relaxation techniques and then manual stretching of the rectal sphincter and levator ani can be very helpful in persons with pelvic pain. Distension of the bladder can be very effective in reducing urinary frequency in persons with irritable bladder syndrome.

Rolfing and other techniques have their advocates and can also be effective. Rolfing is defined as creating a holistic system of soft tissue manipulation and movement education that organizes the whole body in gravity. It is named after Ida Rolf, who first described the technique.16

Part of a physical therapy program is the identification and treatment of structural abnormalities, such as pelvic asymmetry and scoliosis.

In a word, physical therapy can be effective when carried out about twice weekly, until the myofascial syndrome has begun to resolve. A home program is essential. Treatment can be brief for acute syndromes but can continue for months for CPP.

**Sacroiliac Joint**

The sacroiliac joint and its relation to pelvic pain are of historical importance as well as interest. Pain emanating from the region of this joint was recognized in the late 19th century and has remained in the fields of osteopathy and chiropractic ever since. The sacroiliac joint lost its popularity in favour of disc surgery and is only now being evaluated in relation to CPP. This joint is included in the discussions of CPP because of the clinical presentation, which may mimic visceral problems, especially in the lower quadrants of the abdomen, and the recent availability of treatments that hold promise.

The sacroiliac joint is a large joint made of articular cartilage. In men, there are ridges that interlock and prevent movement of the joint. This interlocking is generally absent in women, who have a smooth articular surface that has been assumed to assist with mechanical changes associated with childbirth.

The sacroiliac joint braces the weight of the torso and conveys force outward toward the ilium. Movement in the joint spaces has been appreciated by experienced therapists, and recently, more thorough testing of this movement has begun. The joint is held in place by dense ligaments. Current observations indicate that forward movement of the pelvis in relation to the spine (nutation) is limited by the long dorsal ligament of the spine and the thoracolumbar fascia. The opposite movement, counternutation, in which the sacrum flexes on the vertebral column, is held in check by the sacrotuberous ligament. The role of these ligaments, regulating nutation (forward movement of the sacrum) and counternutation (backward movement of the sacrum), is considered important in sacroiliac stability.17,18 The actual mechanisms of pain in this joint remain poorly understood.

Clinically, pain emanating from the sacroiliac joint is appreciated in the posterior pelvis, with some radiation into the lateral aspect of the thigh. Some women experience abdominal pain in the right and left lower quadrants that is perhaps due to irritation of the psoas muscle, which courses along the anterior aspect of the joint.

Diagnosis of the sacroiliac problem is based on the appreciation of pain associated with strain induced in the region of the joint. A number of procedures are used in evaluating the joint, but their description is beyond the scope of this chapter. Although many of these functional tests have not been validated among therapists, it is generally recognized that individual therapists have particular skills in this area of investigation and are capable of evaluating pain from this site and establishing its relation to sacroiliac joint laxity. At present, there are no commonly used tests of sacroiliac stability other than clinical examination, although researchers are beginning to use ultrasound to detect movement in the joint.19,20

This pattern of pain is very common in women. There still is no clear understanding of the mechanics of the joint in relation to pain and joint mobility, although there have been investigations into the biomechanics of the joint.21 New approaches to the management of pain that are under increasing evaluation include prolotherapy,22 in which a sucrose solution is injected into the sacroiliac joint space or into multiple joint spaces in the vertebral column. The inflammation produced in the joint space results in restricted motion and reduced mobility. Although this therapy is becoming popular for pain in the lower back due to joint laxity, additional clinical trials into its use in the management of sacroiliac pain would be ideal.23

**SUMMARY STATEMENT**

Physical therapists are an important part of the health team in relation to CPP due to myofascial dysfunction (I).
Consensus Guidelines for the Management of Chronic Pelvic Pain

CHAPTER 8: MEDICAL THERAPY—EVIDENCE ON EFFECTIVENESS

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INTRODUCTION

In clinical practice, there are two approaches to the treatment of chronic pelvic pain (CPP). One is to treat the pain as a diagnosis and the other is to treat the disorders that cause or contribute to the pain.1 In many patients, effective medical therapy could be achieved by using both approaches.

Detailed treatment of CPP associated with endometriosis was outlined in the SOGC consensus guideline in 1999.2 A meta-analysis of interventions for CPP not associated with endometriosis, primary dysmenorrhea, chronic pelvic inflammatory disease (PID), or irritable bowel syndrome determined that medroxyprogesterone acetate (MPA) was associated with a reduction of pain during treatment. Counselling supported by ultrasound scanning was associated with reduced pain and improvement in mood. A multidisciplinary approach was beneficial for some outcome measures. Adhesiolysis was not associated with an improved outcome except where adhesions were severe.3 Treatment of chronic pain, which is different from acute pain, requires acceptance of the concept of managing rather than curing pain.

REFERENCES

Pharmacologic treatment of pain is based on the knowledge that different profiles and mechanisms for transmission of pain information are involved. After proper evaluation for possible causes of CPP, collection of adequate objective and subjective data, and determining that the pain could be related to or associated with endometriosis, most gynaecologists will choose a course of medical management, either empiric or specific, before further testing. This course could very well be both diagnostic and therapeutic.

**ANALGESICS**

These include acetylsalicylic acid, nonsteroidal anti-inflammatory drugs (NSAIDs), acetaminophen, narcotics, and medicinal marijuana. NSAIDs have been studied extensively in randomized controlled trials (RCTs) for dysmenorrhea and have proven efficacious. However, individual response varies widely, and it seems reasonable to try different compounds before abandoning or adding another therapy. Even if not specifically studied for noncyclic CPP, empiric use of NSAIDs is among the first-line treatments recommended in most publications.

Opioids are the main category of analgesics with central activity. Despite the paucity of data on their efficacy in chronic noncancer pain, chronic pain syndrome is frequently treated with opioids, alone or in combination with other drugs, in nonpalliative circumstances. Clinical experience in pain centres suggests that opiate therapy may allow the return of normal function without significant adverse effects in those in whom other treatments have failed. If there is no increase in function, opiate use should be reviewed. Hence, opioid maintenance therapy for CPP should be considered only after all reasonable attempts at pain control have failed and when persistent pain is the major impediment to improved function.

Successful pain management with opioids requires that adequate analgesia be achieved without excessive adverse effects (constipation, nausea, and vomiting). Although there may be individual variability in sensitivity to opioid side effects, there is little information in the literature suggesting that one opioid has a better or worse adverse effect profile than any other. Withdrawal symptoms can occur when therapy is stopped or after conversion from another opioid.

The advocated approach to the relief of moderate to severe chronic pain involves around-the-clock use of sustained-release opioids, the dose individually tailored according to response, with assessment of safety, compliance, and misuse. There should be detailed documentation in the patient’s chart that non-narcotic treatment has failed and that the patient has been counselled on potential risks. There should also be a written contract with the patient stating that the treating doctor is the sole provider of opioids and that the patient will actively participate in strategies to develop alternative pain therapies. Close and regular follow-up are essential, and most patients should be seen monthly. If inappropriate use, drug diversion, or hoarding occurs and control cannot be maintained, the opioid treatment should be stopped.

**HORMONAL AGENTS**

**Oral Contraceptives (OCs)**

Various low-dose OCs have proven successful in studies of the initial management of dysmenorrhea. These studies included patients not screened by laparoscopy, which suggests that patients with or without endometriosis were included. Only one report of an RCT of low-dose OCs for CPP and endometriosis has been published so far. In this 6-month trial comparing cyclic OCs with a gonadotropin-releasing hormone (GnRH) agonist in women with laparoscopically diagnosed endometriosis, OCs were found to be of similar efficacy in relieving dyspareunia and nonmenstrual pain but less effective than a GnRH agonist in relieving dysmenorrhea. Six months after discontinuation of treatment, original symptoms had recurred in all patients.

It is recommended that OCs be used in the early medical management of CPP. Continuous use may be beneficial in suppressing the possible pain associated with estrogen and progesterone withdrawal. Whether continuous OC use is more effective than cyclic use in CPP has not been evaluated in RCTs, but, with its low side-effect profile and risks, as well as high level of comfort, continuous monophasic treatment should be in the first line in most regimens.

**Progestins**

Progestins induce decidualization and acyclicity of endometrium and endometriotic tissue. Therefore, in patients with CPP suspected to be endometriosis-related, MPA has shown beneficial effects. In one 12-month trial, MPA depot (150 mg every 3 months) had effects equivalent to GnRH agonists. Oral MPA in a 50-mg daily dosage was effective in reducing pain scores at the end of therapy, but the benefit was not sustained. Since the introduction of the levonorgestrel-mediated intrauterine contraceptive device (IUD) (Mirena) in North America, we are awaiting studies on its possible beneficial effect on CPP in patients with suspected endometriosis. In one study, the use of this IUD alleviated pain and reduced the size of lesions in patients with endometriosis of the rectovaginal septum, and in a pilot study insertion of the IUD after laparoscopic surgery for symptomatic
endometriosis significantly reduced the medium-term risk of recurrence of moderate or severe dysmenorrhea.17

**Danazol**

Danazol, a synthetic androgen that inhibits ovarian steroidogenesis and the pulsatile release of pituitary gonadotropins, has been the gold standard for the evaluation of most other medical treatments.18 Danazol has been found to be more effective for pain relief than placebo in patients with a laparoscopic diagnosis of endometriosis19 and in patients who had not undergone surgery.19 At a dose of 400 to 800 mg/day, danazol is effective for CPP; it should be given for a minimum of 3 months before other medical options are considered.4 The use of a danazol-medicated IUD to treat endometriosis-related CPP is being evaluated.

**GnRH Agonists**

GnRH agonists induce a hypoestrogenic state by inhibiting ovarian steroidogenesis. Five generic compounds have been evaluated: goserelin, leuprolide, buserelin, nafarelin and tryptorelin. Each suppresses estradiol levels to the postmenopausal range.20 The suppression is more profound and constant with a monthly depot preparation.21 Most studies of GnRH agonists for endometriosis-related pain and CPP are comparing these agents with danazol, progestins, or OCs.6,7 Double-blind placebo-controlled studies have demonstrated that after 2 to 3 months of use of a GnRH agonist, pain was 80% to 100% relieved, whereas the results were inferior with the other medications or placebo.8,22 Empiric use of a GnRH agonist was evaluated in an RCT involving 100 women with noncyclic pain and clinically suspected endometriosis.23 After 12 weeks of therapy with depot leuprolide acetate (3.75 mg/month) the treatment group showed a significant reduction in pain scores, dysmenorrhea, and tenderness. Laparoscopy performed after completion of therapy showed less endometriosis in the group treated with the GnRH agonist than in the placebo group. Even patients with no visualized endometriosis responded favourably to treatment with a GnRH agonist.

Empiric use in selected patients could be considered, but even if a diagnostic/therapeutic modality has been found to be cost effective in the United States,24 the evidence is lacking, and the long-term outcomes are unknown. Although the efficacy of GnRH agonist regimens has been proven, the short- and long-term side effects remain to be elucidated. Vasomotor symptoms and osteopenia can now be controlled with add-back therapy. Many steroidal and nonsteroidal agents have been used that suppress vasomotor symptoms completely and protect against decreases in bone density without affecting pain relief. Therefore, when therapy with GnRH agonists is prolonged beyond 6 months, add-back therapy should be considered.25

**ANTIBIOTICS**

The value of antibiotics in the management of CPP is controversial. Most US management algorithms include antibiotics, but these agents are of value only if criteria for PID are present. The US Centers for Disease Control recommends treating suspected PID, even if cervical cultures are negative, to prevent complications such as infertility.26

**ANTIDEPRESSANTS**

Antidepressants have been used to treat numerous chronic pain syndromes. However, some studies on tricyclic antidepressants in women with CPP and normal results of laparoscopy have reported a decreased intensity and duration of pain.27 Since depression is more frequent in patients with CPP, antidepressant therapy and psychological support, in conjunction with other medical therapy, might improve clinical outcomes.27

**NEUROLYTIC THERAPY**

Neurolytic therapy may be done by injecting neurotoxic chemicals (phenol or alcohol) or using energy (heat, cold, or laser) in doses sufficient to destroy neural tissue. Although these therapies are most often used to treat a particular nerve dysfunction, they may also be used more centrally to try to decrease pain even if there is no specific diagnosis or specific nerve dysfunction.7

**TREATMENT OF SPECIFIC DISORDERS**

CPP often originates from a specific disorder. Interstitial cystitis, irritable bowel syndrome, adhesions, musculoskeletal diseases, endometriosis, and psychosocial problems are the most frequent. Most of these common diagnoses have been studied in reasonably good trials, and their treatment has been addressed elsewhere in this consensus guideline.

**SUMMARY**

Selection of a first-line medical therapeutic agent should be based on the nature of the pain, contraindications to medications, and desire for contraception. NSAIDs, OCs, or both should be tried early on, especially if the origin of the pain is suspected to be endometriotic. If therapy fails, second-line options, such as danazol, a progestin, or a GnRH agonist (with add-back therapy), have to be considered for a predetermined period. Empiric medical therapy could be cost-effective. If adequate pain relief is obtained, an appropriate maintenance regimen should be selected. Treatment failure should prompt review of diagnosis and treatment, in view of the multiple causes of CPP. Re-evaluation and treatment revision, including a surgical approach, should be considered.
CPP is a serious problem. Diagnosis and treatment can be complex. Medical therapy alone could be insufficient. Even if there is no cure, a combination of medical and surgical approaches might meet expectations in light of the multiple causes and contributing factors.

In summary, health care providers should be aiming towards the least complicated treatment that improves functional capacity despite the fact that chronic pain may continue.

**SUMMARY STATEMENTS**

1. Most commonly, treatment of CPP will require managing rather than curing pain (III).
2. Medical therapy alone may not be sufficient to alleviate pain in light of the complexity and the multiple causes of CPP (III).

**Recommendations**

1. Opioid therapy can be considered for pain control under adequate supervision (II-3B).
2. Hormonal treatment of chronic pelvic pain of gynecologic origin, including oral contraceptives, progestins, danazol, and gonadotropin-releasing hormone agonists, has been studied extensively and should be considered as the first line for many women, especially those with endometriosis (I and II-1A).
3. Adjuvant medications, such as antidepressants and antibiotics, can be of supporting help in specific situations (II-3B).

**REFERENCES**

SURGICAL MANAGEMENT OF PELVIC ADHESIONS

There is evidence from one Cochrane study\(^1\) that the surgical management of pelvic adhesions associated with endometriosis is effective in the management of pain for 6 months. The combined surgical approach of laparoscopic laser ablation, adhesiolysis, and uterine nerve ablation is likely to benefit patients with pelvic pain associated with minimal, mild, or moderate endometriosis. However, since only one trial was included in the analysis, this conclusion should be interpreted with caution.

Laparoscopic Adhesiolysis

Intra-abdominal and pelvic adhesions are causes of intestinal obstruction\(^2,3\) and infertility.\(^4\) As a cause of pelvic pain, their role is less clear. At the time of laparoscopy, intra-abdominal and pelvic adhesions can be found in approximately 25% of women with chronic pelvic pain (CPP).\(^5\) If adhesions cause CPP, then adhesiolysis should resolve the pain. A randomized trial of adhesiolysis by laparotomy versus no adhesiolysis, however, failed to show any significant reduction in pain in the group treated with adhesiolysis compared with the control group.\(^6\) The subgroup of women with severe adhesions showed a significant reduction in pain that was attributed to the adhesiolysis. A number of observational studies have also shown a significant reduction in pain among women with CPP after lysis of adhesions. These findings suggest that some adhesive disease may contribute to CPP.\(^7\)

Although some imaging techniques may facilitate the diagnosis of adhesive disease, the gold standard is laparoscopy. Laparoscopy is also the gold standard for the treatment of adhesive disease; its advantage is well documented. Patients undergoing laparoscopy for the surgical treatment of adhesive disease have often had prior abdominal and pelvic surgery, however, so the risk of bowel and omental injuries is significant.

Techniques to minimize the risk of such injuries include open laparoscopy and placement of a trocar-cannula in the left upper quadrant to allow insertion of the umbilical trocar under direct vision or to carry out periumbilical adhesiolysis before the trocar insertion. Adhesiolysis may be facilitated by laser, electrosurgical, or sharp scissors dissection. Hemostasis should be obtained, and any injuries to the bowel should be immediately repaired. Adhesion barriers to prevent reformation of adhesions should be considered.

Uncontrolled studies have shown that laparoscopic adhesiolysis reduces pain perception in 60% to 90% of patients.\(^8\) However, many patients have laparoscopically confirmed adhesive disease without any perception of pain. Better-designed trials are needed to clarify the issue of adhesiolysis.

Appendectomy

In gynaecologic practice, the appendix has been an underappreciated source of CPP. Many women with CPP are found to have appendicopathy. Conversely, many women with chronic appendicopathy are found to have gynaecologic disorders when undergoing laparoscopic appendectomy.\(^9\) Appendiceal disease as a source of CPP may coexist with endometriosis. Approximately 20% of women with endometriosis have appendiceal disease.\(^10\) In patients with endometriosis who present with pelvic or abdominal pain (especially right lower quadrant pain), one should therefore consider non-gynaecologic sources of CPP, including chronic or recurrent appendicitis.\(^11,12\)

One study suggested that the amount of histopathologic abnormality exceeds visible disease of the appendix by 11%.\(^9\) Moreover, the investigators demonstrated that 34% of patients with reduced pain after appendectomy alone had no visible or histopathologic abnormalities. Two studies further suggested that prophylactic appendectomy may be beneficial in women with CPP as both a therapeutic and a preventive measure.\(^13,14\)

We reviewed six uncontrolled retrospective and prospective studies that all described laparoscopic appendectomy as advantageous in the treatment of CPP.\(^8,13,15–18\) Five of these studies reported relief of chronic pelvic or lower abdominal pain after appendectomy in 85% to 97% of women undergoing appendectomy alone or in conjunction with other surgical procedures. Adjunctive surgical treatments for CPP may include lysis of adhesions, resection of endometriosis, presacral neurectomy (PSN), laparoscopic uterine nerve ablation (LUNA), salpingo-oophorectomy, and hysterectomy. Since gynaecologic disease often accompanies appendiceal disease, it is difficult to demonstrate that disease of the appendix is responsible for the pain.

One recent retrospective study found that 12% of women undergoing diagnostic laparoscopy with appendectomy experienced relief of CPP in the absence of any other disorder.\(^9\) Appendectomy was the main procedure in 102 patients, of whom 92 (90%) reported relief of their pelvic pain.
pain. These results suggest that disease of the appendix may be a significant cause of CPP.

**PSN AND LUNA**

Adjunctive laparoscopic surgical procedures, including PSN and LUNA, can be technically demanding but continue to have a role in the management of CPP.19

Any surgical management of pelvic pain requires an understanding of the autonomic innervation of the pelvis. The disruption of afferent neural signals from the pelvic organs can reduce the perception of pain caused by endometriosis and other disorders.20

A prospective comparison of PSN and LUNA indicated that they were equally efficacious in the treatment of dysmenorrhea but that PSN had a more prolonged effect.21

A recent randomized, double-blind trial of conservative laparoscopic surgery with adjunctive PSN or LUNA in women with severe dysmenorrhea caused by endometriosis demonstrated more pronounced and prolonged pain relief with PSN than with LUNA.22

**SUMMARY STATEMENTS**

1. The qualitative evaluation of surgery in the management of CPP is limited in terms of randomized clinical trials (III).

2. Laparoscopy is the mainstay of diagnosis and surgical treatment of CPP. Careful judgement is important when repeat surgery is being considered (I and II).

**Recommendations**

1. The lack of robust clinical trials of the surgical management of chronic pelvic pain should be addressed. The use of alternative epidemiologic models, including case-controlled and cohort-controlled trials, should be considered (III-A).

2. Further delineation of the role of appendectomy and of presacral neurrectomy appears warranted in the management of endometriosis-related pain (III-A).

**REFERENCES**


CHAPTER 10: PSYCHOLOGICAL TREATMENT FOR CHRONIC PELVIC PAIN

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INTRODUCTION

Among the psychological treatments for chronic pain, cognitive-behavioural therapies (CBTs) are the most widely used and have the strongest empiric support. CBTs for chronic pain management address the multiple determinants of the chronic pain experience. This spectrum of treatment methods engages chronic pain sufferers in an exploration of their personal pain modulators. The treatment approach provides instruction in strategies and skills for controlling the modulators through the patient’s own efforts.

STRATEGIES

Treatment strategies included within the rubric of CBT include training in muscular relaxation, meditation, stress management techniques, recognizing and modifying negative or catastrophic cognitions or thoughts that amplify arousal and feelings of helplessness, lifestyle modification (including pacing of activities to avoid overexertion followed by exhaustion and physical de-conditioning), re-engagement in physically appropriate and personally fulfilling activities, and effective communication with family, friends, and health care providers.

To be successful, this treatment approach requires that patients come to understand their pain problem as being determined by psychological, social, and physical causes. Patients must also come to understand that reduction of pain and suffering is possible through their own efforts in addition to treatments such as medication and surgery.

Over the past 20 years, CBTs for chronic pain management have been extensively investigated for a variety of pain syndromes and have shown to be effective. CBT is typically provided in a group setting, with 8 to 12 patients and 1 or 2 therapists, typically psychologists or other care providers with a mental health background. Health care providers with a background in caring for people with psychological consequences of chronic pelvic disorders may also offer these treatments in community settings. CBTs are a typical component of services offered in multidisciplinary pain management programs.

In summary, CBTs have broad empiric support for their effectiveness in reducing perceived pain intensity and distress in populations with chronic pain. Preliminary data suggest that this approach is effective for women with CPP.

SUMMARY STATEMENT

CBTs are considered the treatment of choice for helping women develop effective pain coping strategies (I).

REFERENCES


CHAPTER 11: MULTIDISCIPLINARY CHRONIC PAIN MANAGEMENT

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DEFINITION

Multidisciplinary chronic pain management refers to assessment, treatment planning, and ongoing coordination of intervention provided by a team of health care providers from relevant medical specialties and allied health provider disciplines.

MANAGEMENT CENTRES

Multidisciplinary pain management is typically provided in a chronic pain clinic or centre wherein the providers are all located and routinely provide joint assessment and treatment services. A standardized classification of pain centres has been developed by the International Association for the
Study of Pain. The four types of centres include modality-oriented clinics, pain clinics, multidisciplinary pain clinics, and multidisciplinary pain centres. Modality-oriented clinics provide one or several specific interventions, with no emphasis on comprehensive or integrated care. Pain clinics specialize in a particular diagnosis or pain in a specific area of the body; care is typically delivered by a single physician. Multidisciplinary pain clinics are staffed by a spectrum of health care providers and provide comprehensive assessment and integrated, coordinated intervention through inpatient or outpatient facilities; the clinics are not engaged in professional training or research and are typically not associated with major educational or research institutions. Multidisciplinary pain centres provide clinical services similar to those of multidisciplinary pain clinics as well as clinical training and research.

**SCOPE OF CARE**

Multidisciplinary care is commonly tailored to the particular needs of the patient and may include a combination of medical and rehabilitative intervention focused on eliminating or modifying the biological pain generators, as well as psychological and psychosocial intervention focused on helping the client, and her important social and family contacts, adapt successfully to the changes in function and capacity engendered by the chronic pain state. Multidisciplinary pain centres extend their reach into the community through cultivating relationships with other specialist providers, the family physician, and relevant community agencies.

Multidisciplinary pain management for chronic pelvic pain (CPP) may involve treatment by physicians specializing in gynaecology, gastroenterology, physical medicine and rehabilitation, urology, anesthesiology, psychiatry, sleep medicine, and addictions. Other team members represent nursing, physiotherapy, occupational therapy, kinesiology, clinical nutrition, psychology, pharmacy, and social work. Treatment strategies include medical, surgical, and rehabilitative interventions directed to resolving the biological pain generators, as well as a variety of psychosocial and rehabilitation strategies directed towards improved coping, appropriate lifestyle changes, physical fitness, and fitness for work.1

**OUTCOMES RESEARCH**

Multidisciplinary chronic pain management has been the subject of extensive outcomes research for the past 25 years. Systematic reviews of this literature2-4 have confirmed the value of this treatment approach with regard to clinical outcomes for low back pain. A Cochrane systematic review of interventions for the treatment of CPP in women5 provided support for multidisciplinary management that was based on one randomized controlled trial.6 Systematic reviews of the economic outcomes of multidisciplinary chronic pain management have stressed the need for higher quality research.7

In summary, these data suggest that multidisciplinary chronic pain management provided by qualified teams of medical and rehabilitation specialists with tertiary-level knowledge of CPP is the ideal treatment approach for women with CPP.

**SUMMARY STATEMENT**

Current evidence indicates that tertiary-level multidisciplinary chronic pain management is the most effective treatment approach for women with CPP (I).

**Recommendation**

1. Multidisciplinary chronic pain management should be available for women with chronic pelvic pain within the publicly funded health care system in each province and territory of Canada (III-B).

**REFERENCES**

CHAPTER 12: COMPLEMENTARY AND ALTERNATIVE MEDICINE
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INTRODUCTION
The pathogenesis of chronic pelvic pain (CPP) remains poorly understood, and, therefore, treatment is often unsatisfactory. Consequently, complementary and alternative medicine (CAM) is increasingly of interest to both patients and health care providers. The Cochrane Collaboration now has more than 1750 completed Cochrane reviews, of which more than 100 relate to CAM. However, the literature specifically relating to CPP and CAM is limited. As with the literature from allopathic sources, the studies have been small, they might have been pilot studies that compared treatment modalities but could not always be double-blinded, and they might not have been fully randomized. Most studies to date have been concerned with dysmenorrhea (primary or secondary) or pelvic pain associated with pregnancy. There are no current references on the use of homeopathy for CPP.

TRANSCUTANEOUS ELECTRICAL NERVE STIMULATION AND ACUPUNCTURE
The Cochrane Collaboration has reviewed the use of TENS and acupuncture, when compared with one another, with placebo, with pharmacotherapy, and with no treatment. Nine RCTs were identified, and the review concluded that high-frequency TENS was effective in the treatment of dysmenorrhea. One methodologically sound trial of acupuncture also suggested benefit.

A case report on a 23-year-old primigravida with CPP at 27 weeks’ gestation documented that acupuncture significantly reduced the patient’s use of narcotics and allowed her to maintain normal activity. Several recent studies have also found benefit from acupuncture in back pain and in lumbar and pelvic pain in pregnancy. Further, acupuncture appears to be a durable therapy for symptom relief in men with chronic prostatitis and CPP syndrome. Acupuncture/acupressure has received approval from the Food and Drug Administration in the United States for use in the relief of chronic pain in oncology patients.

As a therapeutic modality, acupuncture has a long tradition in Chinese medicine for the treatment of gynaecologic and obstetric problems. There is, as yet, no comprehensive allopathic explanation for its clinical benefits, but proposed mechanisms include gate control of pain pathways, increased endogenous opioid release, and altered sympathetic tone.

PLANTS AND HERBAL AND DIETARY THERAPIES
Traditional healing provides for a large percentage of primary health care needs in many populations. One study screened plants used by South African Zulu traditional healers in the treatment of dysmenorrhea. Several plant extracts exhibited high inhibitory activity against cyclooxygenase and therefore the prostaglandin biosynthetic pathway responsible for painful uterine contractions. The Cochrane Review of herbal and dietary therapies for primary and secondary dysmenorrhea suggested that magnesium supplementation might help reduce symptoms.

SUMMARY
CPP is a frustrating and disabling condition, with as yet unclear neuroendocrine etiology. A multidisciplinary approach to diagnosis and care is currently recommended. For visceral-peritoneal pain, acupuncture is beneficial. Musculoskeletal sources of pain respond to physiotherapy and biofeedback training. Somatic-myofascial pain has been reduced with massage, ultrasound stimulation, TENS, and, especially, trigger-point injection and dry-needleling modalities. Grounding all treatment is the sincere acknowledgement of the complexity and authenticity of this chronic condition.

SUMMARY STATEMENT
Alternative therapies for chronic pelvic pain that have been found helpful include acupuncture, physiotherapy, and biofeedback training. Use of pelvic ultrasonography with explanation has been found to help. Massage, surface ultrasound stimulation, and TENS may also help relieve pain.

REFERENCES
6. Thomas M, Lundeberg T, Bjork G, Lundstrom-Lindstedt V. Pain and discomfort in primary dysmenorrhoea is reduced by preemptive


CHAPTER 13: PATIENT PERSPECTIVES
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PATIENTS’ NEEDS
A 2002 needs assessment survey by the Society of Obstetricians and Gynaecologists of Canada (SOGC) of subjects with chronic pelvic pain (CPP), undertaken using the principles of qualitative research, determined that the following were the most important needs of these patients:

• the need for the health care professional to legitimize the pain,
• the need for the patient to be heard during the patient contact visit,
• the need for the patient to receive support in numerous forms, and
• the need for the patient to take responsibility for a path towards health (III-B).

A LOOK INTO THE FUTURE
In the future, a woman with CPP will be recognized as having a condition that requires rehabilitation and not solely acute care management. She will be managed by a team of individuals who are aware of the principles of multidisciplinary care, including a physiotherapist, a psychologist, a primary care physician, and a gynaecologist. Such an approach will be funded by the local hospital or regional health authority on the basis of its effectiveness and cost efficiency.

Emphasis will be placed on achieving higher function in life with some pain rather than cure. The management of directed therapy will be based on treatments that have been subjected to clinical trial. There will be a permanent record of the findings at any previous laparoscopy that can be shared and compared over time. Health personnel involved in the patient’s management will have been trained in the specific areas of myofascial dysfunction and the appropriate clinical use of opiates in the chronic pain state.

In addition to participating in clinical trials of various therapies, the patient will become aware of newer approaches that may be of assistance through Internet access to the results of clinical trials. One of the main areas of development will be the use of gene therapy to overcome problems in spinal cord pathophysiology.

SUMMARY STATEMENT
Qualitative analysis of data on the needs of patients with CPP has revealed the following as the most important:

• the need for the health care professional to legitimize the pain,
• the need for the patient to be heard during the patient contact visit,
• the need for the patient to receive support in numerous forms, and
• the need for the patient to take responsibility for a path towards health. (III-B)
CHAPTER 14: FUTURE DIRECTIONS
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EDUCATION
A 2002 needs assessment survey by the Society of Obstetricians and Gynaecologists of Canada (SOGC) on the management of chronic pelvic pain (CPP) revealed a desire for more training in the recognition and management of CPP. SOGC members expressed the need to modify the approach to CPP and for help in diagnosing its causes.

The lack of knowledge in assessing CPP etiology is most evident in the identification of trigger points. The broad scope of CPP requires further education of medical students, residents, and health care providers. This means a complete reversal of attitude, from considering these patients hopeless and time-consuming to being genuinely concerned and seeing an opportunity to provide encouragement and hope.

Adult education has evolved from large-group lectures to small-group interactive sessions with hands-on participation. This approach to learning about CPP should be incorporated into our medical school and residency training programs. The issues raised in this consensus document could be addressed through postgraduate courses that teach identification of trigger points in the abdomen, back, and pelvis. CPP should be discussed at all continuing health education events, by means of case presentations and audience participation. Also, to help our members and the public understand and appreciate CPP, a patient information pamphlet should be produced and distributed.

RESEARCH
Research is needed to identify psychoneurologic dysfunctions that are responsible for CPP so that we can adequately treat and possibly cure the condition.

Recommendations
1. The curriculum for professional development should be expanded to include theory and techniques in the management of myofascial dysfunction (A).

2. Research into CPP should be encouraged, particularly in the areas of the impact of CPP on the use of health services, the pathophysiology of myofascial dysfunction, and gene therapy. Because randomized trials for qualitative outcomes are exceedingly difficult, alternative robust models, such as case-controlled or cohort-controlled trials, should be pursued (A).

3. Methods of improving interaction with patients should be explored. They might include formal contractual approaches to managing pain with opiates and efforts to better appreciate the patient’s perceived needs (A).