Royal College of Obstetricians and Gynaecologists

Setting standards to improve women's health

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THE INITIAL MANAGEMENT OF CHRONIC PELVIC PAIN

1. Introduction and background

Chronic pelvic pain can be defined as intermittent or constant pain in the lower abdomen or pelvis of at least 6 months' duration, not occurring exclusively with menstruation or intercourse and not associated with pregnancy. It is a symptom, not a diagnosis. Chronic pelvic pain presents in primary care as frequently as migraine or low back pain.[1]

Living with any chronic pain carries a heavy economic and social price. Aiming for accurate diagnosis and effective management from the first presentation may help to reduce the disruption of the woman's life and may avoid an endless succession of referrals, investigations and operations. This guideline aims to provide an evidence-based framework for the initial assessment of women with chronic pelvic pain. It is intended for the general gynaecologist but may be of use to the general practitioner in deciding when to refer and to whom.

2. Identification and assessment of evidence

The Cochrane Library and the Cochrane Register of Controlled Trials were searched for relevant randomised controlled trials, systematic reviews and meta-analyses. A search of Medline from 1966 to March 2004 was also carried out. The database was searched using the MeSH terms 'pelvic pain', 'dysmenorrhoea' and 'chronic disease', including all subheadings. This was combined with a keyword search using the terms 'chronic pelvic pain' and 'dysmenorrhoea'.

The definitions of types of evidence used in this guideline originate from the US Agency for Healthcare Research and Quality. Where possible, recommendations are based on, and explicitly linked to, the evidence that supports them although, unfortunately, little good-quality evidence exists. Areas lacking evidence are highlighted and annotated as 'good practice points'. These guidelines are therefore presented as an interpretation of current knowledge and opinion and are expected to require modification in the light of new information and understanding.

3. Possible aetiological factors in chronic pelvic pain

There is frequently more than one component to chronic pelvic pain. Assessment should aim to identify contributory factors rather than assign causality to a single pathology. ✓

Pain is defined by the International Association for the Study of Pain as 'an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage'.[2] The experience of pain will inevitably be affected by physical, psychological and social factors. The woman is often aware of these influences but may choose not to discuss them, fearing that her pain will be dismissed as 'all in her head' or that non-gynaecological symptoms will be considered irrelevant.

Acute pain reflects fresh tissue damage and resolves as the tissues heals. In chronic pain, additional factors come into play and pain may persist long after the original tissue injury or may exist in the absence of any such injury. Major changes are seen in both afferent and efferent nerve pathways in the central and peripheral nervous systems. Descending information from the central nervous system, shaped by previous experiences and current circumstances, may modify visceral function and pain perception, involving a wider area than that originally affected. Nerve damage following surgery, trauma, inflammation or infection may play a part in this process.[3,4] Pain as a result of changes in the nerve itself is termed neuropathic pain and is characteristically but not exclusively burning, aching or shooting in nature.

The concept of the biopsychosocial model describes this complex interplay of physical and psychosocial factors. Possible contributory factors are separated out for the purposes of discussion but the problem must be seen as a whole by both patient and doctor.

Pelvic pain which varies considerably over the menstrual cycle may be due to a variety of hormonally driven conditions.[5] **C**

The cardinal symptoms of dysmenorrhoea, dyspareunia and chronic pelvic pain are said to be characteristic of endometriosis. However, in a prospective study of 90 women undergoing laparoscopy or laparotomy, symptoms alone were a poor predictor of finding endometriosis at surgery.[6] The combination of clinical examination and transvaginal ultrasound accurately identified ovarian endometriosis but not peritoneal disease. Pelvic venous congestion has also been proposed as a cause of pelvic pain with menstrual exacerbation.[7]

Evidence level IIb–IV

Although many symptom complexes, such as irritable bowel syndrome, and pain perception[8] itself may vary a little with the menstrual cycle (with 50% of women experiencing a worsening of their symptoms in association with their period[9]), strikingly cyclical pain is usually gynaecological in nature.

It is thought that adhesions may be a cause of pain, particularly on organ distension or stretching. Dense vascular adhesions are likely to be a cause of chronic pelvic pain, as dividing them appears to relieve pain. However, adhesions may be asymptomatic. **C**

Evidence to demonstrate that adhesions cause pain or that laparoscopic division of adhesions relieves pain is lacking. However, in a randomised controlled trial in 1999, 48 women with chronic pelvic pain underwent laparotomy with or without division of adhesions. Although, overall, there was no difference between the two groups, a subset analysis showed that division of dense, vascular adhesions produced significant pain relief.[10] In a 2003 study of 100 women, no difference in pain scores was found between a group undergoing laparoscopic adhesiolysis and those having laparoscopy alone[11]

Evidence level Ib

Adhesions may be caused by endometriosis, previous surgery or previous infection. Two distinct forms of adhesive disease are recognised: residual ovary syndrome (a small amount of ovarian tissue inadvertently left behind following oophorectomy which may become buried in adhesions) and trapped ovary syndrome (in which a retained ovary becomes buried in dense adhesions following hysterectomy). Removal of all ovarian tissue or suppression using a GnRH agonist may relieve pain.

Symptoms suggestive of irritable bowel syndrome or interstitial cystitis are often present in women with chronic pelvic pain. These conditions may be a primary cause or a component of chronic pelvic pain. **B**

In a study of 798 women attending a gynaecology clinic, 50% of those referred because of pain had symptoms suggestive of irritable bowel syndrome compared with 28% of women attending ear, nose and throat or dermatology clinics.[12] In three observational studies of women with chronic

Evidence level III

pelvic pain presenting to secondary care, 38–84% had symptoms suggestive of interstitial cystitis.[13–15]

Evidence level III

Musculoskeletal pain may be a primary source of pelvic pain or an additional component resulting from postural changes.

B

In the only published study of its type, a retrospective, observational analysis of 132 non-consecutive patients with chronic pelvic pain found that 75% had musculoskeletal abnormalities.[16]

Evidence level III

Nerve entrapment in scar tissue, fascia or a narrow foramen may result in pain and dysfunction in the distribution of that nerve.

C

The incidence of nerve entrapment (defined as highly localised, sharp, stabbing or aching pain, exacerbated by particular movements and persisting beyond 5 weeks or occurring after a pain-free interval) after one Pfannenstiel incision is 3.7%.[17,18]

Evidence level III–IV

Addressing psychological and social issues which commonly occur in association with chronic pelvic pain may be important in resolving symptoms.

B

Depression and sleep disorders are common in women with chronic pain. This may be a consequence rather than a cause of their pain but specific treatment may improve the woman's ability to function.[19]

Evidence level III

The relationship between chronic pelvic pain and sexual or physical abuse is complex. Studies are difficult to interpret because many have a retrospective design and are performed in secondary care. In this secondary care population it appears that women with chronic pain in general are more likely to report physical or sexual abuse as children than pain-free women. Those who experience chronic pelvic pain specifically are more likely to report sexual abuse than women with another chronic pain complaint.[20–23] However, using multiple regression analysis, it appears that child sexual abuse may be a marker for continuing abuse and development of depression, anxiety or somatisation, which then predispose the individual to the development or presentation of chronic pelvic pain.[24,25] In a primary care population, 26% of women reported child sexual abuse and 28% reported adult sexual abuse but only those reporting both were more likely to have increased pain symptoms (dysmenorrhoea, dyspareunia or chronic pelvic pain) than women reporting no abuse.[26] In a prospective study of young adults who had been abused, there was no increase in medically unexplained symptoms (albeit they were only followed into their twenties), compared with those not known to have been abused, but those who did have unexplained symptoms were more likely to report their history of abuse.[27]

In summary, it may be that, for some individuals but probably not all, child sexual abuse may initiate a cascade of events or reactions which make an individual more vulnerable to the development of chronic pelvic pain as an adult. Women who continue to be abused are particularly at risk

Evidence level III

4. Assessment

4.1 Approach

Many women present because they want an explanation for their pain. Often, they already have a theory or a concern about the origin of the pain. These ideas should ideally be discussed in the initial consultation.

✓

It has been shown that consultations that elicit the woman's own ideas will result in a better doctor–patient relationship and improved concordance with investigation and treatment.[28]

Adequate time should be allowed for the initial assessment of women with chronic pelvic pain. They need to feel that they have been able to tell their story and that they have been listened to and believed. ✓

Particularly if they have had negative experiences previously, women may need to be encouraged to talk about their symptoms and ideas. In a study of 105 consecutive referrals to a university gynaecology clinic, a favourable patient rating at the initial consultation was associated with complete recovery at follow up.[29]

4.2 History

The initial history should include questions about the pattern of the pain and its association with other problems, such as psychological, bladder and bowel symptoms, and the effect of movement and posture on the pain. ✓

'Red flag' symptoms, meaning symptoms which are suggestive of life-threatening disease, should be excluded and managed as appropriate (see Appendix 1 for examples). If the situation allows, it may be helpful to ask directly about past or present sexual assault, particularly intimate partner violence. The doctor must be prepared to listen and accept these experiences as stated and know where to access specialist support.

Completing a daily pain diary for two to three menstrual cycles may help the woman and the doctor identify provoking factors or temporal associations. The information may be useful in understanding the cause of the pain.

Symptoms alone may be used to diagnose irritable bowel syndrome positively in this age group[30,31] B

Symptom-based diagnostic criteria can be used with confidence to make the diagnosis of irritable bowel syndrome with a positive predictive value of 98% (see Appendix 2). Long-term follow up of women in whom a positive diagnosis of irritable bowel syndrome is made suggests that the diagnosis is unlikely to be changed.[32]

Evidence level III

Several validated symptom-based tools are also available for the detection of psychological comorbidity. However, simply enquiring generally about things at home and symptoms such as sleep or appetite disturbance and tearfulness may be enough.

4.3 Examination

The examination is most usefully undertaken when there is time to explore the woman's fears and anxieties. The examiner should be prepared for new information to be revealed at this point. ✓

Suitable samples to screen for infection, particularly chlamydia and gonorrhoea, should be taken if there is any suspicion of pelvic inflammatory disease (PID). Ideally, all sexually active women below the age of 25 years who are being examined should be offered opportunistic screening for chlamydia.[33] C

A positive result from the cervix supports but does not prove the diagnosis of PID. The absence of infection does not rule out the diagnosis of PID.[34] If PID is suspected clinically, this condition is best managed by a genitourinary medicine physician in order that up-to-date microbiological advice and contact tracing can be arranged.

Evidence level IV

4.4 Initial management

The multifactorial nature of chronic pelvic pain should be discussed and explored from the start. The aim should be to develop a partnership between clinician and patient to plan a management programme. A

In the only study of its kind, 106 women with chronic pelvic pain were randomised to an integrated approach or standard treatment, which involved exclusion of organic causes followed by a laparoscopy. If the laparoscopy gave a negative result, attention was then given to psychological factors. In the other group, an integrated approach was adopted from the outset and a laparoscopy was performed only if it was indicated at a later stage. After 1 year, the integrated approach group reported significantly greater pain relief than the standard treatment group.[35]

Evidence level Ib

In a meta-analysis of pain management in a related condition involving over 3000 patients, a multidisciplinary approach to chronic back pain has been shown to be effective, both in reducing subjective pain measures and in improving work and social functioning.[36] When an interdisciplinary approach is adopted for the management of chronic pelvic pain, improvement is only seen when all components of the programme are in place.[37]

Evidence level Ia–IIb

In a qualitative and quantitative study of 53 women with chronic pelvic pain undergoing weekly psychological and physiotherapy-based treatment in small groups over 10 weeks, significant and sustained improvement was seen in pain scores, analgesia intake, use of health service resources and ability to work. Over the course of treatment, women seemed to develop self-knowledge and to take greater responsibility for, and control over, their own health.[38]

Evidence level IIb

Many women with chronic pelvic pain can be managed in primary care. General practitioners might consider referral when the pain has not been explained to the woman's satisfaction or when pain is inadequately controlled.

If the history suggests to patient and doctor that there is a non-gynaecological component to the pain, referral to the relevant healthcare professional such as gastroenterologist, urologist, genitourinary medicine physician, physiotherapist, psychologist or psychosexual counsellor should be considered.

✓

5. Investigations

5.1 Laparoscopy

Diagnostic laparoscopy has been regarded in the past as the 'gold standard' in the diagnosis of chronic pelvic pain. It may be better seen as a second line of investigation if other therapeutic interventions fail.

C

Diagnostic laparoscopy is the only test capable of diagnosing peritoneal endometriosis and adhesions. Gynaecologists have therefore seen it as an essential tool in the assessment of women with chronic pelvic pain. However, it carries significant risks: an estimated risk of death of approximately 1.0/10 000 and a risk of injury to bowel, bladder or blood vessel of approximately 2.4/1000, of whom two-thirds will require laparotomy.[39,40]

Evidence level III

Clearly, conditions such as irritable bowel syndrome and adenomyosis are not visible at laparoscopy but there is also a risk that some forms of endometriosis will be missed. Endometriosis is a disease with a large variety of appearances and many authorities consider that it is significantly under-diagnosed at laparoscopy. Some recommend that all suspicious areas should be biopsied. It is well known that the existing scoring systems do not correlate with severity of pain and that deeply infiltrating endometriosis, which is strongly correlated with pain, may be misinterpreted as minimal disease.[41]

Evidence level IV

The findings of one-third to one-half of diagnostic laparoscopies will be negative and much of the pathology identified is not necessarily the cause of pain. The consequences of a negative laparoscopy have not been well studied but many women feel let down and that their doctor now thinks that 'the problem is all in my head'.[42]

The risks and benefits of diagnostic laparoscopy and the possibility of negative findings should be discussed before the decision is made to perform a laparoscopy. Perhaps it should only be performed when the index of suspicion of adhesive disease or endometriosis requiring surgical intervention is high, or when the woman has specific concerns which could be addressed by diagnostic laparoscopy, such as the existence of endometriosis or adhesions potentially affecting her fertility.

Microlaparoscopy or 'conscious pain mapping' has been proposed as an alternative to diagnostic laparoscopy under general anaesthesia. Although the technique seems to provide an opportunity to confirm particular lesions as the source of the woman's pain, it has not been widely adopted in the UK and questions remain as to the acceptability, reproducibility and validity of this technique.[43,44]

Evidence level IV

Diagnostic laparoscopy may have a role in developing a woman's beliefs about her pain.

B

In a prospective study of 71 women undergoing laparoscopy for chronic pelvic pain, women were interviewed before and after their operation. The only factor identified through regression analysis which predicted an improvement in pain scores was a change in health beliefs as a result of having a laparoscopy. This finding applied to women with positive or negative findings at laparoscopy.[45] Simply showing women a photograph of their pelvis does not seem to affect their health beliefs nor their pain outcome.[46]

Evidence level IIb

5.2 Imaging

Transvaginal scanning is an appropriate investigation to screen for and assess adnexal masses.

B

A systematic review of the value of transvaginal scanning in the diagnosis of endometriosis found that endometriomas may be accurately distinguished from other adnexal masses with a positive likelihood ratio of 8–30.[47]

Evidence level Ib

Transvaginal scanning is of little value for the assessment of other causes of chronic pelvic pain, including peritoneal endometriosis.

Transvaginal scanning and magnetic resonance imaging (MRI) are useful tests to diagnose adenomyosis. The role of MRI in diagnosing small deposits of endometriosis is uncertain.

B

The sensitivity of MRI and transvaginal scanning for the diagnosis of adenomyosis are comparable in the best hands. Sensitivities of 70–78% and specificities of 86–93% for MRI, with figures of 65–68% and 65–98% for transvaginal scanning, were achieved in two prospective blinded studies of consecutive women undergoing hysterectomy, using histopathology as the gold standard.[48,49]

Evidence level IIb

While MRI lacks sensitivity in the detection of endometriotic deposits, it may be useful in the assessment of palpable nodules in the pelvis or when symptoms suggest the presence of rectovaginal disease.[50] It may also reveal rare pathology.

Evidence level III

6. Therapeutic options

Women with cyclical pain should be offered a therapeutic trial using the combined oral contraceptive pill or a gonadotrophin-releasing hormone (GNRH) agonist for a period of 3–6 months before having a diagnostic laparoscopy. The levonorgestrel-releasing intrauterine system could also be considered.

A

Ovarian suppression can be an effective treatment for pain associated with endometriosis. Response to ovarian suppression can therefore be a useful diagnostic tool. The effect can be

Evidence level Ib

achieved with the combined oral contraceptive, progestogens, danazol or GnRH agonist, all of which are equally effective but have differing adverse effect profiles.[50] Other proposed causes of cyclical pain, such as pelvic venous congestion, also appear to be well-controlled by ovarian suppression.[51]

Evidence level Ib

In a randomised controlled trial, 100 women with clinically suspected endometriosis received either a GnRH agonist or placebo without a pretreatment laparoscopy. After 12 weeks, the treatment group had significantly less pain than women taking placebo.[52] This trial is the only study in which the effectiveness of this treatment approach has been evaluated. However, there is a growing consensus supporting this strategy.[5,53,54] An economic evaluation of the use of GnRH agonists as empirical treatment for cyclical pain prior to laparoscopy demonstrated improved patient and physician satisfaction at reduced cost.[55]

Evidence level Ib–IV

Women with irritable bowel syndrome should be offered a trial of antispasmodics. **A**

A systematic review has concluded that smooth-muscle relaxants such as mebeverine are beneficial in the treatment of irritable bowel syndrome where abdominal pain is a prominent feature. The efficacy of bulking agents has not been established but they are commonly used.[35,56]

Evidence level Ia

Women with irritable bowel syndrome should try amending their diet to control symptoms. **B**

In a study of 200 irritable bowel syndrome sufferers using an exclusion diet, 36% were able to identify one or more dietary components, the avoidance of which led to sustained improvement in symptoms. The most commonly implicated foods were dairy products and grains.[57]

Evidence level IIb

Women should be offered appropriate analgesia to control their pain, even if no other therapeutic manoeuvres are yet to be initiated. If pain is not adequately controlled, consideration should be given to referral to a pain management team or a specialist pelvic pain clinic. ✓

Regular nonsteroidal anti-inflammatory drugs, with or without paracetamol, may be particularly useful in this context. Compound analgesics such as co-dydramol may be appropriate. For the general gynaecologist, it is probably unwise to prescribe opioids for regular use in women with chronic pelvic pain.[58] Amitriptyline or gabapentin may be useful agents for the treatment of neuropathic pain.[59] Non-pharmacological modalities such as transcutaneous nerve stimulation, acupuncture and other complementary therapies may be helpful for some women. Dietary modification may also relieve pain.

Voluntary organisations such as the National Endometriosis Society can be an important source of information and support for some women. A list of such organisations is given in Appendix 3. Self-management techniques as suggested by the Department of Health's Expert Patient Initiative may also be of value to some women.

7. Summary

Chronic pelvic pain is common affecting perhaps one in six of the adult female population.[60] Much remains unclear about its aetiology but chronic pelvic pain should be seen as a symptom with a number of contributory factors rather than as a diagnosis in itself. As with all chronic pain, it is important to consider psychological and social factors as well as physical causes of pain. Many non-gynaecological conditions, such as nerve entrapment or irritable bowel syndrome, may be relevant. Women often present because they seek an explanation for their pain.

The assessment process should allow enough time for the woman to be able to tell her story. This may be therapeutic in itself. A pain diary may be helpful in tracking symptoms or activities associated with the pain.

Where pain is strikingly cyclical and no abnormality is palpable at vaginal examination, a therapeutic trial of a GnRH agonist may be more helpful than a diagnostic laparoscopy. Other conditions, such as irritable bowel syndrome, require specific treatment. Even if no explanation for the pain can be found initially, attempts should be made to treat the pain empirically and to develop a management plan in partnership with the woman.

8. Further reading

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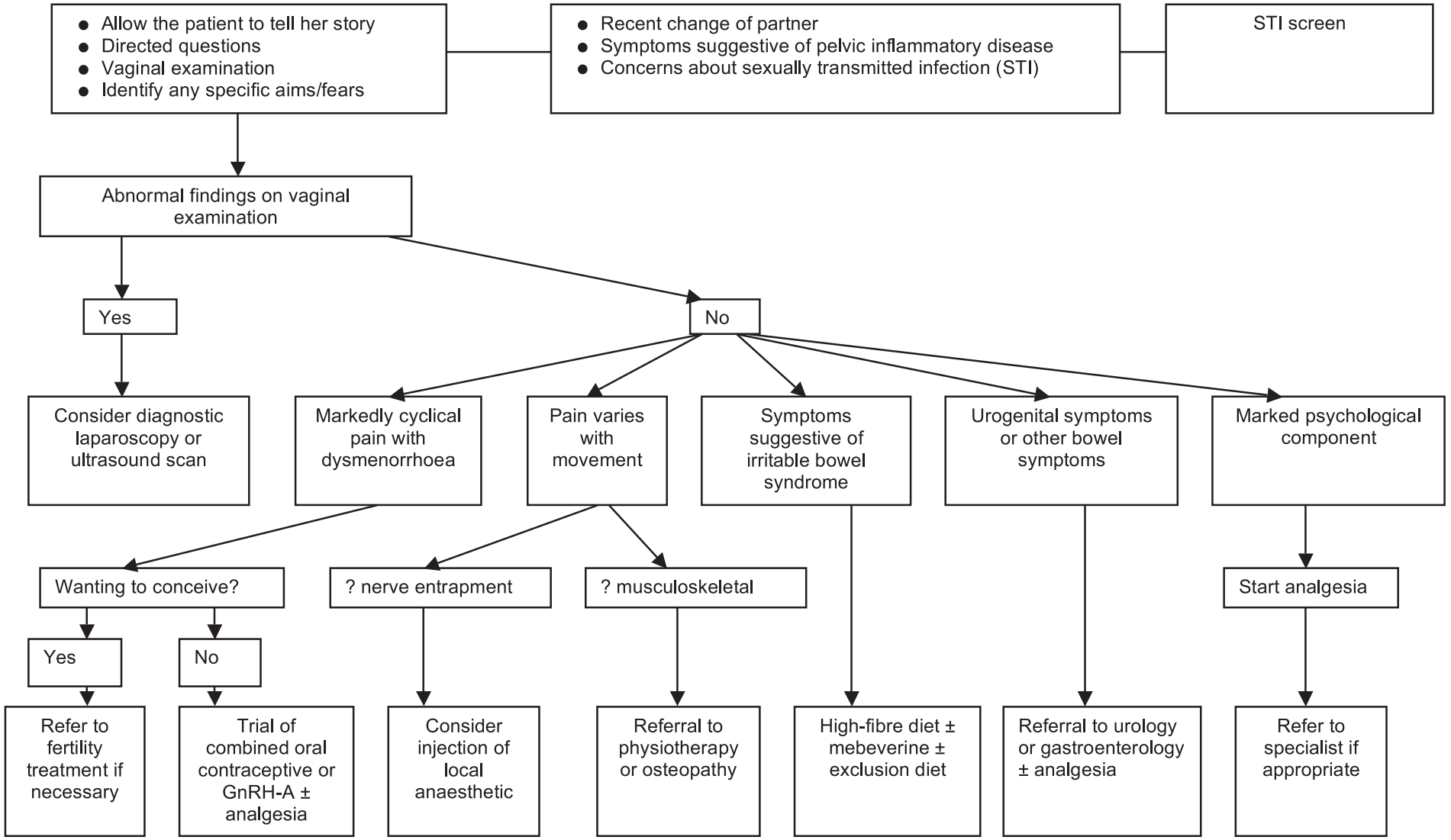
Flowchart for the suggested management of chronic pelvic pain



APPENDIX 1: Suggested 'red flag' symptoms and signs

- Bleeding per rectum
- New bowel symptoms over 50
- New pain after the menopause
- Pelvic mass
- Suicidal ideation
- Excessive weight loss
- Irregular vaginal bleeding over 40
- Post coital bleeding

APPENDIX 2: Rome II criteria for the diagnosis of irritable bowel syndrome

At least 12 weeks of continuous or recurrent abdominal pain or discomfort associated with at least two of the following:

- pain relieved with defecation
- associated with a change in frequency of stool
- associated with appearance or form of stool.

Symptoms such as abdominal bloating and the passage of mucus are commonly present and are suggestive of irritable bowel syndrome. Extra-intestinal symptoms such as lethargy, backache, urinary frequency and dyspareunia may also occur in association with irritable bowel syndrome.

APPENDIX 3: Voluntary organisations

The Cystitis and Overactive Bladder Foundation
76 High Street
Stony Stratford
Buckinghamshire MK11 1AH
Telephone: +44 (0) 1908 569169

Irritable Bowel Syndrome Network
Northern General Hospital
Herries Road
Sheffield
S5 7AU
Telephone: +44 (0) 114 2611531

National Endometriosis Society
50 Westminster Palace Gardens
Artillery Row
London SW1P 1RR
Telephone: +44 (0)20 7222 2781

Women's Health
52 Featherstone Street
London EC1Y 8RT
Telephone: 0845 125 5254

APPENDIX 4: Clinical guidelines

Clinical guidelines are: 'systematically developed statements which assist clinicians and patients in making decisions about appropriate treatment for specific conditions'. Each guideline is systematically developed using a standardised methodology. Exact details of this process can be found in Clinical Governance Advice No. 1: *Guidance for the Development of RCOG Green-top Guidelines* (available on the RCOG website at www.rcog.org.uk/clingov1). These recommendations are not intended to dictate an exclusive course of management or treatment. They must be evaluated with reference to individual patient needs, resources and limitations unique to the institution and variations in local populations. It is hoped that this process of local ownership will help to incorporate these guidelines into routine practice. Attention is drawn to areas of clinical uncertainty where further research may be indicated.

The evidence used in this guideline was graded using the scheme below and the recommendations formulated in a similar fashion with a standardised grading scheme.

Classification of evidence levels

Ia	Evidence obtained from meta-analysis of randomised controlled trials.
Ib	Evidence obtained from at least one randomised controlled trial.
IIa	Evidence obtained from at least one well-designed controlled study without randomisation.
IIb	Evidence obtained from at least one other type of well-designed quasi-experimental study.
III	Evidence obtained from well-designed non-experimental descriptive studies, such as comparative studies, correlation studies and case studies.
IV	Evidence obtained from expert committee reports or opinions and/or clinical experience of respected authorities.

Grades of recommendations

A	Requires at least one randomised controlled trial as part of a body of literature of overall good quality and consistency addressing the specific recommendation. (Evidence levels Ia, Ib)
B	Requires the availability of well controlled clinical studies but no randomised clinical trials on the topic of recommendations. (Evidence levels IIa, IIb, III)
C	Requires evidence obtained from expert committee reports or opinions and/or clinical experiences of respected authorities. Indicates an absence of directly applicable clinical studies of good quality. (Evidence level IV)

Good practice point

✓	Recommended best practice based on the clinical experience of the guideline development group.

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The final version is the responsibility of the Guidelines and Audit Committee of the RCOG.

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unless otherwise indicated