Royal College of
Obstetricians and Gynaecologists

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Green-top Guideline No. 41

May 2012

The Initial Management of Chronic Pelvic Pain

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This is the second edition of this guideline. The first edition was published in 2005 under the same title.

1. Purpose and scope

The purpose of this guideline is to provide an evidence-based summary for the generalist to facilitate appropriate investigation and management of women presenting for the first time with chronic pelvic pain.

2. Background and introduction

Chronic pelvic pain can be defined as intermittent or constant pain in the lower abdomen or pelvis of a woman of at least 6 months in 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] and may significantly impact on a woman's ability to function.[2]

Living with any chronic pain carries a heavy economic and social burden. 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 provides 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.

3. 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 July 2011 was also carried out. The database was searched using the MeSH terms 'pelvic pain', 'dysmenorrhoea' and 'chronic disease' including all sub-headings. This was combined with a keywords search using the terms 'chronic pelvic pain' and 'dysmenorrhoea'.

The definitions of types of evidence used in this guideline are detailed in RCOG Clinical Governance Advice No. 1a–c.[3–5] 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'.

4. What are the possible aetiological factors in the genesis of 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. ✓

At the initial assessment, it may not be possible to identify confidently the cause of the pain. ✓

Pain is, by definition, a sensory and emotional experience associated with actual or potential tissue damage or described in those terms.[6] 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 psychological or that non-gynaecological symptoms will be considered irrelevant.

Careful scrutiny of the woman's history and physical findings will frequently reveal factors that may be contributing to the pain and can therefore be at least partially treated. Given the incomplete understanding of the genesis of pelvic pain, it may be necessary to keep an open mind about the cause and consider unusual diagnoses, such as hernias or retroperitoneal tumours, or consider causes which until recently might have been dismissed as rarities, such as musculoskeletal pain. It is important not to leave the woman with the feeling that nothing more can be done to help her.

4.1 Central and peripheral nervous system

Acute pain reflects fresh tissue damage and resolves as the tissues heal. In chronic pain, additional factors come into play and pain may persist long after the original tissue injury or 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.

Local factors, such as tumour necrosis factor alpha (TNF-α) and chemokines, may change peripheral nerve function and/or stimulate normally quiescent fibres, resulting in altered sensation over a wider area than that originally affected. A persistent barrage of pain may lead to changes within the central nervous system, which magnify the original signal.[7]

Descending information from the central nervous system, possibly influenced by previous experiences and current circumstances, may modify pain perception and visceral function. Alteration in visceral sensation and function, provoked by a variety of neurological factors, has been termed 'visceral hyperalgesia'. Nerve damage following surgery, trauma, inflammation, fibrosis or infection may play a part in this process.[8,9] 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.[10]

Possible contributory factors are separated out for the purposes of discussion but the problem must be seen as a whole by both the woman and her doctor.

4.2 Endometriosis and adenomyosis

Pelvic pain which varies markedly over the menstrual cycle is likely to be attributable to a hormonally driven condition such as endometriosis. **D**

Pelvic pain which varies markedly over the menstrual cycle is likely to be attributable to a hormonally driven condition such as endometriosis. The cardinal symptoms of dysmenorrhoea, dyspareunia and chronic pelvic pain are said to be characteristic of endometriosis or adenomyosis.[11] In a prospective study of 90 women undergoing laparoscopy or laparotomy, the combination of clinical examination and transvaginal ultrasound accurately identified ovarian endometriosis but not peritoneal disease. Symptoms alone were a poor predictor of finding endometriosis at surgery,[12] but a causal association between the disease and severe dysmenorrhoea probably exists.[13] In a recent case–control study comparing symptoms among 255 women undergoing hysterectomy, pain symptoms predicted a higher likelihood of adenomysosis and fibroids rather than fibroids alone being found on histology.[14] It is important that dysmenorrhoea in adolescents is not overlooked as adenomyosis and endometriosis certainly occurs in the group.[15]

Evidence level 2+ to 4

The existence of pelvic venous congestion as a cause of chronic pelvic pain remains controversial. A recent systematic review of diagnosis and management of this condition found no valid diagnostic tests, although ovarian suppression was effective in treating pelvic pain symptoms. In women suspected of having this condition, both progestins and gonadotrophin-releasing hormone (GnRH) agonists were shown in randomised controlled trials to effectively decrease pain during therapy, with GnRH agonists showing higher efficacy.[16]

Although many symptom complexes such as irritable bowel syndrome (IBS) and pain perception itself[17] may vary a little with the menstrual cycle (with 50% of women experiencing a worsening of their symptoms in association with their period[18]), strikingly cyclical pain is likely to be gynaecological in nature.

4.3 Adhesions

There is no evidence to support the division of fine adhesions in women with chronic pelvic pain. ✓

Division of dense vascular adhesion should be considered as this is associated with pain relief. ✓

Adhesions may be a cause of pain, particularly on organ distension or stretching. Dense vascular adhesions may cause chronic pelvic pain. However, adhesions may be asymptomatic. Evidence to demonstrate that adhesions cause pain or that laparoscopic division of adhesions relieves pain is lacking. However, in a randomised controlled trial, 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.[19] 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.[20]

Evidence level 1+

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 post-hysterectomy). Removal of all ovarian tissue or suppression using a GnRH analogue may relieve pain.

4.4 IBS and interstitial cystitis

Symptoms suggestive of IBS or interstitial cystitis are often present in women with chronic pelvic pain. These conditions may be a primary cause of chronic pelvic pain, a component of chronic pelvic pain or a secondary effect caused by efferent neurological dysfunction in the presence of chronic pain (see section 3.4). C

In a study of 798 women attending a gynaecology clinic, 50% of women referred because of pain had symptoms suggestive of IBS compared with 28% of women attending ear, nose and throat or dermatology clinics.[21] In three observational studies of women with chronic pelvic pain presenting to secondary care, 38–84% had symptoms suggestive of interstitial cystitis.[22–24]

Evidence level 2+

4.5 Musculoskeletal

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

Pain may arise from the joints in the pelvis or from damage to the muscles in the abdominal wall or pelvic floor. Pelvic organ prolapse may also be a source of pain.[25] Increasing interest is also being shown in trigger points – localised areas of deep tenderness in a tight band of muscle, the aetiology of which is not fully understood. It may relate to chronic contraction of the muscle, with the stimulus coming from misalignment of the pelvis or a discrete pain such as endometriosis. The pain from a trigger point may then become self-perpetuating.[26,27] Clear evidence regarding diagnostic tests and therapeutic options is lacking.

In a consecutive series of 26 women with laparoscopy-negative chronic pelvic pain undergoing magnetic resonance imaging (MRI), 20 were found to have injuries to the levator ani. In a pain-free control group undergoing MRI, none of the 20 nulliparous and two of the 32 multiparous women had such injuries.[28] Spasm of the muscles of the pelvic floor is proposed as a cause of pelvic pain which can be reduced by botulinum toxin injections.[29,30] A number of controlled and non-controlled observational studies have demonstrated a high prevalence of primary or secondary musculoskeletal abnormalities in women with chronic pelvic pain.[31–34]

Evidence level 1+ to 3

4.6 Nerve entrapment

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

D

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%.[35,36]

Evidence level 3/4

4.7 Psychological and social issues

Enquiry should be made regarding psychological and social issues which commonly occur in association with chronic pelvic pain; addressing these issues 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.[37] Similarly, women with chronic pelvic pain tend to suppress their unwanted thoughts and feelings either as a cause or consequence of their pain.[38]

Evidence level 1+/3

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.[39–42] However, using multiple regression analysis, it appears that child sexual abuse may be a marker for continuing abuse and the development of depression, anxiety or somatisation, which then predispose the individual to the development or presentation of chronic pelvic pain.[43,44] 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.[45] Interestingly, in a prospective study of young adults who had been abused there was no increase in medically unexplained symptoms (albeit the study subjects were only followed into their 20s) 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.[46]

Evidence level 3

In summary, it may be that, for some individuals, 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.

5. What should underline the initial assessment of chronic pelvic pain?

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. ✓

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 which elicit the patient's ideas will result in a better doctor–patient relationship and improved concordance with investigation and treatment.[47] Women with chronic pelvic pain want their experience to be heard and validated and they want to receive personal care to help them understand and manage their pain.[48–50]

Particularly if they have had negative experiences previously, women may need to be encouraged to talk about their symptoms and ideas, allowing them to influence and shape the doctor–patient relationship as a partnership. 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.[51]

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

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 was negative, attention was then given to psychological factors. In the integrated approach, equal attention was devoted to possible organic, psychological, dietary and environmental causes of the pain. In this group, laparoscopy was not routinely performed; a consultation with a physiotherapist was included and provocation tests were performed. After 1 year, the integrated approach group reported significantly greater pain relief than the standard treatment group.[52]

Evidence level 1+

In a meta-analysis of pain management in a related condition involving over 3000 women, 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.[53] When an interdisciplinary approach is adopted for the management of chronic pelvic pain, improvement is seen only when all components of the programme are in place.[54]

Evidence level 1+ to 3

In a 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 greater self-knowledge and to take more responsibility for, and control over, their own health.[55]

Evidence level 2+

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.

5.1 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. ✓

Symptoms alone may be used to diagnose IBS positively in this group (see Appendix 1). B

On taking the woman's history, special note should be taken of any 'red flag' symptoms (see Appendix 2) which may need further investigation and referral to a specialist. 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.

It may be helpful to establish the woman's level of function at the start of treatment (e.g. time off work, avoiding activities), both to monitor progress and to emphasise the value of functional goals. Asking which drugs have been used previously, and whether or not they helped, may be helpful both to aid diagnosis and to plan effective management.

Symptom-based diagnostic criteria can be used with confidence to make the diagnosis of IBS with a positive predictive value of 98%.[56,57] Long-term follow-up of women in whom a positive diagnosis of IBS is made suggests that the diagnosis is unlikely to be changed.[58]

Evidence level 2++ to 4

A number of 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.

If the history suggests to the woman and doctor that there is a specific 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, usually via the GP. ✓

5.2 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. ✓

The assessment should include abdominal and pelvic examination, looking particularly for focal tenderness, enlargement, distortion or tethering, or prolapse. Highly localised trigger points may be identified in the abdominal wall and/or pelvic floor. The sacroiliac joints or the symphysis pubis may also be tender, suggestive of a musculoskeletal origin to the pain.

6. What investigations should be undertaken?

6.1 Screening for infection

Suitable samples to screen for infection, particularly Chlamydia trachomatis and gonorrhoea, should be taken if there is any suspicion of pelvic inflammatory disease (PID). ✓

All sexually active women with chronic pelvic pain should be offered screening for sexually transmitted infections (STIs). D

A positive endocervical sample supports but does not prove the diagnosis of PID. The absence of a result positive for *Chlamydia trachomatis* or gonococcus does not rule out the diagnosis of PID.[59] Evidence level 4

If PID is suspected clinically, this condition is best managed in conjunction with a genitourinary medicine physician in order that up-to-date microbiological advice and contact tracing can be arranged. Sexually active women with chronic pelvic pain should be offered screening for STIs.[60] Evidence level 4

6.2 Transvaginal scanning (TVS) and MRI

TVS is an appropriate investigation to identify and assess adnexal masses. B

TVS and MRI are useful tests to diagnose adenomyosis. B

The role of MRI in diagnosing small deposits of endometriosis is uncertain. ✓

A systematic review of the value of TVS in the diagnosis of endometriosis found that endometriomas may be accurately distinguished from other adnexal masses.[61] Evidence level 2++

It is also useful in identifying structural abnormalities such as hydrosalpinges or fibroids, which may be relevant even if not the cause of the pain.

TVS is of little value for the positive identification of other causes of chronic pelvic pain, including peritoneal endometriosis. However, in a study of 120 consecutive women with chronic pelvic pain undergoing TVS prior to laparoscopy, the presence of soft markers such as tenderness or poor ovarian mobility improved the prelaparoscopy probability of identifying relevant pathology at laparoscopy from 58% to 73% (likelihood ratio [LR] 1.9, 95% CI 1.2–3.1). In the absence of soft markers, the prelaparoscopy likelihood of pathology fell to 20% (LR 0.18, 95% CI 0.09–0.34). TVS may therefore have a role in identifying those women who are less likely to obtain a positive diagnosis from a diagnostic laparoscopy.[62] Evidence level 2+

The sensitivities of MRI and TVS 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 TVS, were achieved in two prospective blinded studies of consecutive patients undergoing hysterectomy and in a systematic review, using histopathology as the gold standard.[63–66] A systematic review of 14 trials examining the diagnostic accuracy of TVS for diagnosing adenomyosis found a sensitivity of 82.5% and specificity of 84.6%.[64] Evidence level 1++/2++

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.[67] It may also reveal rare pathology. Evidence level 4

6.3 Diagnostic 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 investigation if other therapeutic interventions fail. D

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

Diagnostic laparoscopy is the only test capable of reliably 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 in 10 000, and a risk of injury to bowel, bladder or blood vessel of approximately 2.4 in 1000, of whom two-thirds will require laparotomy.[68–70]

Evidence level 3/4

Clearly, conditions such as IBS 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 underdiagnosed 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.[71]

Evidence level 4

One-third to one-half of diagnostic laparoscopies will be negative and much of the pathology identified is not necessarily the cause of pain.There may be adverse consequences of a negative laparoscopy. Many women may feel disappointed that no diagnosis has been made.[72] This set of events may lead to disengagement with the medical process.[49]

Evidence level 4

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 be performed only when the index of suspicion of adhesive disease or endometriosis requiring surgical intervention is high, or when the patient 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 anaesthetic.Although the technique seems to provide an opportunity to confirm particular lesions as the source of the patient's pain, it has not been widely adopted, and questions remain as to the acceptability, reproducibility and validity of this technique.[73] In a recent study of 43 women undergoing conscious pain mapping, 39 had a successful procedure, but in only seven was a different diagnosis or treatment suggested by the awake laparoscopy compared with one performed under general anaesthetic.[74]

Evidence level 2+/3

In a postal questionnaire study of 63 women following a diagnostic laparoscopy, their subsequent pain experience and quality of life were not affected by the result of the laparoscopy.[75] Similarly, 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.[76] Simply showing women a photograph of their pelvis does not seem to affect their health beliefs or their pain outcome.[77]

Evidence level 1+ to 3

6.4 CA125

Women reporting any of the following symptoms persistently or frequently (more than 12 times per month) – bloating, early satiety, pelvic pain or urinary urgency or frequency – should have a serum CA125 measurement taken. Particularly in women over the age of 50 years, any new IBS symptoms should prompt such action.[78]

7. What therapeutic options are available?

Women with cyclical pain should be offered a therapeutic trial using hormonal treatment for a period of 3–6 months before having a diagnostic laparoscopy. B

Women with IBS should be offered a trial with antispasmodics. A

Women with IBS should be encouraged to amend their diet to attempt to control symptoms. C

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. ✓

Ovarian suppression can be an effective treatment for cyclical pain associated with endometriosis. The effect can be achieved with the combined oral contraceptive, progestogens, danazol or GnRH analogues, all of which are equally effective but have differing adverse effect profiles.[67,79] The levonorgestrel-releasing intrauterine system (Mirena®; Bayer) could also be considered, even in adolescents.[80] Non-endometriosis-related cyclical pain also appears to be well controlled by these treatments.[81–83]

Evidence level 1+ to 4

In a randomised controlled trial, 100 women with clinically suspected endometriosis received either a GnRH analogue or placebo without a pretreatment laparoscopy. After 12 weeks, the treatment group had significantly less pain than women taking placebo.[84] This trial is the only study in which the effectiveness of this treatment approach has been evaluated. However, there is a growing consensus which supports this strategy.[11,84–86] An economic evaluation of the use of GnRH analogues as empirical treatment for cyclical pain prior to laparoscopy demonstrated improved patient and physician satisfaction at reduced cost.[87]

Evidence level 1+ to 4

For further advice on the management of IBS, please see NICE clinical guideline 61.[88]

A systematic review has concluded that smooth-muscle relaxants such as mebeverine hydrochloride are beneficial in the treatment of IBS where abdominal pain is a prominent feature.The efficacy of bulking agents has not been established but they are commonly used.[57,89]

Evidence level 1++/4

In a study of 200 women suffering from IBS 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.[90]

Evidence level 3

Dietary manipulation may therefore be worth considering for an individual woman but evidence is lacking.

Regular non-steroidal 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.[91] Adjuvant treatments such as amitriptyline or gabapentin may be useful in the treatment of neuropathic pain.[92] For further information on the management of neuropathic pain, please see NICE clinical guideline 96.[93] 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. Laparoscopic uterosacral nerve ablation (LUNA) is ineffective in the management of chronic pelvic pain.[94,95]

Voluntary organisations such as Endometriosis UK can be an important source of information and support for some patients. A list of such organisations is given in section 10. Self-management techniques as suggested by the Department of Health's Expert Patient Initiative may also be of value to some women.

8. Summary

Chronic pelvic pain is common, affecting perhaps one in six of the adult female population.[96] 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 IBS 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 ovarian suppression may be more helpful than a diagnostic laparoscopy. Other conditions such as IBS 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.

9. Suggested audit topics

- What proportion of sexually active women with chronic pelvic pain are tested for STIs?
- What proportion of women have an ultrasound scan performed prior to diagnostic laparoscopy?
- What proportion of women with cyclical chronic pelvic pain are offered a therapeutic trial of hormonal treatment for 3–6 months before having a diagnostic laparoscopy?

10. Organisations providing further information and/or support

- Endometriosis UK [www.endometriosis-uk.org]
- IBS Network [www.theibsnetwork.org]
- Cystitis and Overactive Bladder foundation [www.cobfoundation.org]
- Women's Health [www.womens-health.co.uk] or [womenshealth.gov]
- Pelvic Pain Support Network [www.pelvicpain.org.uk]
- Department of Health Expert Patient Initiative [www.expertpatients.co.uk/]

References

1. Zondervan KT, Yudkin PL, Vessey MP, Dawes MG, Barlow DH, Kennedy SH. Prevalence and incidence of chronic pelvic pain in primary care: evidence from a national general practice database. *Br J Obstet Gynaecol* 1999;106:1149–55.
2. Grace V, Zondervan K. Chronic pelvic pain in women in New Zealand: comparative well-being, comorbidity, and impact on work and other activities. *Health Care Women Int* 2006;27:585–99.
3. Royal College of Obstetricians and Gynaecologists. *Development of RCOG Green-top Guidelines: Policies and Processes.* Clinical Governance Advice No. 1a. London: RCOG; 2006 [www.rcog.org.uk/green-top-development].
4. Royal College of Obstetricians and Gynaecologists. *Development of RCOG Green-top Guidelines: Producing a Scope.* Clinical Governance Advice No. 1b. London: RCOG; 2006 [www.rcog.org.uk/womens-health/clinical-guidance/development-rcog-green-top-guidelines-producing-scope].
5. Royal College of Obstetricians and Gynaecologists. *Development of RCOG Green-top Guidelines: Producing a Clinical Practice Guideline.* Clinical Governance Advice No. 1c. London: RCOG; 2006 [www.rcog.org.uk/womens-health/clinical-guidance/development-rcog-green-top-guide lines-producing-clinical-practice-gu].
6. Merskey H, Bogduk N (editors); International Association for the Study of Pain Task Force on Taxonomy. *Classification of Chronic Pain*. Second edition. Seattle: IASP Press; 1994.
7. Malykhina AP. Neural mechanisms of pelvic organ cross-sensitization. *Neuroscience* 2007;149:660–72.
8. McMahon SB, Dmitrieva N, Koltzenburg M. Visceral pain. *Br J Anaesthesia* 1995;75:132–44.
9. Wesselmann U. Neurogenic inflammation and chronic pelvic pain. *World J Urol* 2001;19:180–5.
10. Baranowski AP. Chronic pelvic pain. *Best Pract Res Cli Gastroenterol* 2009;23:593–610.

11. Scialli AR. Evaluating chronic pelvic pain. A consensus recommendation. Pelvic Pain Expert Working Group. *J Reprod Med* 1999;44:945–52.
12. Eskenazi B, Warner M, Bonsignore L, Olive D, Samuels S, Vercillini P. Validation study of nonsurgical diagnosis of endometriosis. *Fertil Steril* 2001;76:929–35.
13. Fauconnier A, Chapron C. Endometriosis and pelvic pain: epidemiological evidence of the relationship and implications. *Hum Reprod Update* 2005;11:595–606.
14. Taran FA, Weaver AL, Coddington CC, Stewart EA. Characteristics indicating adenomyosis coexisting with leiomyomas: a case–control study. *Hum Reprod* 2010;25:1177–82.
15. Dietrich JE. An update on adenomyosis in the adolescent. *Curr Opin Obstet Gynecol* 2010;22:388–92.
16. Giamberardino MA, Berkley KJ, Iezzi S, de Bigontina P, Vecchiet L. Pain threshold variations in somatic wall tissues as a function of menstrual cycle, segmental site and tissue depth in non-dysmenorrheic women, dysmenorrheic women and men. *Pain* 1997;71:187–97.
17. Moore J, Barlow D, Jewell D, Kennedy SH. Do gastrointestinal symptoms vary with the menstrual cycle? *Br J Obstet Gynaecol* 1998;105:1322–5.
18. Peters AA, Trimbos-Kemper GC, Admiraal C, Trimbos JB, Hermans J. A randomized clinical trial of the benefits of adhesiolysis in patients with intraperitoneal adhesions and chronic pelvic pain. *Br J Obstet Gynaecol* 1992;99:59–62.
19. Swank DJ, Swank-Bordewijk SC, Hop WC, Van Erp WF, Janssen IM, Bonjer HJ, et al. Laparoscopic adhesiolysis in patients with chronic abdominal pain: a blinded randomised controlled multi-centre trial. *Lancet* 2003;361:1247–51.
20. Prior A, Wilson K, Whorwell PJ, Faragher EB. Irritable bowel syndrome in the gynecological clinic. Survey of 798 new referrals. *Dig Dis Sci* 1989;34:1820–4.
21. Parsons CL, Dell J, Stanford EJ, Bullen M, Kahn BS, Willems JJ. The prevalence of interstitial cystitis in gynecologic patients with pelvic pain, as detected by intravesical potassium sensitivity. *Am J Obstet Gynecol* 2002;187:1395–400.
22. Clemons JL, Arya LA, Myers DL. Diagnosing interstitial cystitis in women with chronic pelvic pain. *Obstet Gynecol* 2002;100:337–41.
23. van Os-Bossagh P, Pols T, Hop WC, Bohnen AM, Vierhout ME, Drogendijk AC. Voiding symptoms in chronic pelvic pain (CPP). *Eur J Obstet Gynecol Reprod Biol* 2003;107:185–90.
24. Reddy J, Barber MD, Walters MD, Paraiso MF, Jelovsek JE. Lower abdominal and pelvic pain with advanced pelvic organ prolapse: a case–control study. *Am J Obstet Gynecol* 2011;204:537.e1–5.
25. Montenegro ML, Gomide LB, Mateus-Vasconcelos EL, Rosa-e-Silva JC, Candido-dos-Reis FJ, Nogueira AA, Poli-Neto OB. Abdominal myofascial pain syndrome must be considered in the differential diagnosis of chronic pelvic pain. *Eur J Obstet Gynecol Reprod Biol* 2009;147:21–4.
26. Lavell ED, Lavelle W, Smith HS. Myofascial trigger points. *Anesthesiol Clin* 2007;25:841–51, vii–ii.
27. Lucas N, Macaskill P, Irwig L, Moran R, Bogduk N. Reliability of physical examination for the diagnosis of myofascial trigger points: a systematic review of the literature. *Clin J Pain* 2009;25:80–9.
28. Quinn M. Injuries to the levator ani in unexplained, chronic pelvic pain. *J Obstet Gynaecol* 2007;27:828–31.
29. Abbott JA, Jarvis SK, Lyons SD, Thomson A, Vancaille TG. Botulinum toxin type A for chronic pain and pelvic floor spasm in women: a randomized controlled trial. *Obstet Gynecol* 2006;108:915–23.
30. Sinha D, Thomson AJ. Botulinum toxin for pelvic pain in women. *Womens Health (Lond Engl)* 2008;4:173–81.
31. King PM, Myers CA, Ling FW, Rosenthal RH. Musculoskeletal factors in chronic pelvic pain. *J Psychosom Obstet Gynaecol* 1991;12:87–98.
32. Montenegro ML, Vasconcelos EC, Candido Dos Reis FJ, Nogueira AA, Poli-Neto OB. Physical therapy in the management of women with chronic pelvic pain. *Int J Clin Pract* 2008;62:263–9.
33. Tu FF, As-Sanie S, Steege JF. Prevalence of pelvic musculoskeletal disorders in a female chronic pelvic pain clinic. *J Reprod Med* 2006;51:185–9.
34. Tu FF, Holt J, Gonzales J, Fitzgerald CM. Physical therapy evaluation of patients with chronic pelvic pain: a controlled study. *Am J Obstet Gynecol* 2008;198:272.e1–7.
35. Luijendijk RW, Jeekel J, Storm RK, Schutte PJ, Hop WC, Drogendijk AC, et al. The low transverse Pfannenstiel incision and the prevalence of incisional hernia and nerve entrapment. *Ann Surg* 1997;225:365–9.
36. Perry CP. Peripheral neuropathies causing chronic pelvic pain. *J Am Assoc Gynecol Laparosc* 2000;7:281–7.
37. McGowan LP, Clark-Carter DD, Pitts MK. Chronic pelvic pain: a meta-analytic review. *Psychol Health* 1998;13:937–51.
38. Thomas E, Moss-Morris R, Faquhar C. Coping with emotions and abuse history in women with chronic pelvic pain. *J Psychosom Res* 2006;60:109–12.
39. Collett BJ, Cordle CJ, Stewart CR, Jagger C. A comparative study of women with chronic pelvic pain, chronic nonpelvic pain and those with no history of pain attending general practitioners. *Br J Obstet Gynaecol* 1998;105:87–92.
40. Walling MK, Reiter RC, O'Hara MW, Milburn AK, Lilly G, Vincent SD. Abuse history and chronic pain in women: I. Prevalences of sexual abuse and physical abuse. *Obstet Gynecol* 1994;84:193–9.
41. Lampe A, Sölder E, Ennemoser A, Schubert C, Rumpold G, Söllner W. Chronic pelvic pain and previous sexual abuse. *Obstet Gynecol* 2000;96:929–33.
42. Lampe A, Doering S, Rumpold G, Sölder E, Krismer M, Kantner-Rumplmair W, et al. Chronic pain syndromes and their relation to childhood abuse and stressful life events. *J Psychsom Res* 2003;54:361–7.
43. Toomey TC, Seville JL, Mann JD, Abashian SW, Grant JR. Relationship of sexual and physical abuse to pain description, coping, psychological distress, and health-care utilization in a chronic pain sample. *Clin J Pain* 1995;11:307–15.
44. Walling MK, O'Hara MW, Reiter RC, Milburn AK, Lilly G, Vincent SD. Abuse history and chronic pain in women: II. A multivariate analysis of abuse and psychological morbidity. *Obstet Gynecol* 1994;84:200–6.
45. Jamieson DJ, Steege JF. The association of sexual abuse with pelvic pain complaints in a primary care population. *Am J Obstet Gynecol* 1997;177:1408–12.
46. Raphael KG, Widom CS, Lange G. Childhood victimization and pain in adulthood: a prospective investigation. *Pain* 2001;92:283–93.
47. Tu FF, Hahn D, Steege JF. Pelvic congestion syndrome-associated pelvic pain: a systematic review of diagnosis and management. *Obstet Gynecol Surv* 2010;65:332–40.
48. Silverman J, Kurtz S, Draper J. *Skills for communicating with patients*. Oxford: Radcliffe Medical Press (Oxford); 1998.
49. McGowan L, Luker K, Creed F, Chew-Graham CA. How do you explain a pain that can't be seen?: the narratives of women with chronic pelvic pain and their disengagement with the diagnostic cycle. *Br J Health Psychol* 2007;12:261–74.
50. Price J, Farmer G, Harris J, Hope T, Kennedy S, Mayou R, et al. Attitudes of women with chronic pelvic pain to the gynaecological consultation: a qualitative study. *BJOG* 2006;113:446–52.
51. Selfe SA, Matthews Z, Stones RW. Factors influencing outcome

in consultations for chronic pelvic pain. *J Womens Health* 1998;7:1041–8.
52. Peters AA, van Dorst E, Jellis B, van Zuuren E, Hermans J, Trimbos JB. A randomized clinical trial to compare two different approaches in women with chronic pelvic pain. *Obstet Gynecol* 1991;77:740–4.
53. Flor H, Fydrich T, Turk DC. Efficacy of multidisciplinary pain treatment centers: a meta-analytic review. *Pain* 1992;49:221–30.
54. Kames LD, Rapkin AJ, Naliboff BD, Afifi S, Ferrer-Brechner T. Effectiveness of an interdisciplinary pain management program for the treatment of chronic pelvic pain. *Pain* 1990;41:41–6.
55. Albert H. Psychosomatic group treatment helps women with chronic pelvic pain. *J Psychosom Obstet Gynaecol* 1999;20:216–25.
56. Fass R, Longstreth GF, Pimentel M, Fullerton S, Russak SM, Chiou CF, et al. Evidence- and consensus-based practice guidelines for the diagnosis of irritable bowel syndrome. *Arch Intern Med* 2001;161:2081–8.
57. Spiller R, Aziz Q, Creed F, Emmanuel A, Houghton L, Hungin P, et al.; Clinical Services Committee of The British Society of Gastroenterology. Guidelines on the irritable bowel syndrome: mechanisms and practical management. *Gut* 2007;56:1770–98
58. Olden KW. Diagnosis of irritable bowel syndrome. *Gastroenterology* 2002;122:1701–14.
59. Royal College of Obstetricians and Gynaecologists. *Management of acute pelvic inflammatory disease*. Green-top Guideline No. 32. London: RCOG; 2008 [www.rcog.org.uk/womens-health/clinical-guidance/management-acute-pelvic-inflammatory-disease-32].
60. Scottish Intercollegiate Guidelines Network. *Management of genital Chlamydia trachomatis infection. A national clinical guideline*. Clinical Guideline no. 109. Edinburgh: SIGN; 2009 [http://www.sign.ac.uk/guidelines/fulltext/109/index.html].
61. Moore J, Copley S, Morris J, Lindsell D, Golding S, Kennedy S. A systematic review of the accuracy of ultrasound in the diagnosis of endometriosis. *Ultrasound Obstet Gynecol* 2002;20:630–4.
62. Okaro E, Condous G, Khalid A, Timmerman D, Ameye L, Huffel SV, et al. The use of ultrasound-based 'soft markers' for the prediction of pelvic pathology in women with chronic pelvic pain – can we reduce the need for laparoscopy? *BJOG* 2006;113:251–6.
63. Dueholm M, Lundorf E, Hansen ES, Sorensen JS, Ledertoug S, Olesen F. Magnetic resonance imaging and transvaginal ultrasonography for the diagnosis of adenomyosis. *Fertil Steril* 2001;76:588–94.
64. Bazot M, Cortez A, Darai E, Rouger J, Chopier J, Antoine JM, et al. Ultrasonography compared with magnetic resonance imaging for the diagnosis of adenomyosis: correlation with histopathology. *Hum Reprod* 2001;16:2427–33.
65. Champaneria R, Abedin P, Daniels J, Balogun M, Khan KS. Ultrasound scan and magnetic resonance imaging for the diagnosis of adenomyosis: systematic review comparing test accuracy. *Acta Obstet Gynecol Scand* 2010;89:1374–84.
66. Meredith SM, Sanchez-Ramos L, Kaunitz AM. Diagnostic accuracy of transvaginal sonography for the diagnosis of adenomyosis: systematic review and metaanalysis. *Am J Obstet Gynecol* 2009;201:107.e1–6.
67. Royal College of Obstetricians and Gynaecologists. *The investigation and management of endometriosis*. Green-top Guideline No. 24. London: RCOG; 2008 [http://www.rcog.org.uk/womens-health/clinical-guidance/ investigation-and-management-endometriosis-green-top-24].
68. Jansen FW, Kapiteyn K, Trimbos-Kemper T, Hermans J, Trimbos JB. Complications of laparoscopy: a prospective multicentre observational study. *Br J Obstet Gynaecol* 1997;104:595–600.
69. Chapron C, Querleu D, Bruhat M, Madelenat P, Fernandez H, Pierre F, et al. Surgical complications of diagnostic and operative gynaecological laparoscopy: a series of 29,966 cases. *Hum Reprod* 1998;13:867–72.
70. Royal College of Obstetricians and Gynaecologists. *Preventing entry-related gynaecological laparoscopic injuries*. Green-top Guideline No. 49. London: RCOG; 2008 [http://www.rcog.org.uk/womens-health/clinical-guidance/preventing-entry-related-gynaecological-laparoscopic-injuries-green-].
71. Howard FM. The role of laparoscopy as a diagnostic tool in chronic pelvic pain. *Baillieres Best Pract Res Clin Obstet Gynaecol* 2000;14:467–94.
72. Moore J, Ziebland S, Kennedy S. "People sometimes react funny if they're not told enough": women's views about the risks of diagnostic laparoscopy. *Health Expect* 2002;5:302–9.
73. Palter SF. Microlaparoscopy under local anesthesia and conscious pain mapping for the diagnosis and management of pelvic pain. *Curr Opin Obstet Gynecol* 1999;11:387–93.
74. Swanton A, Iyer L, Reginald PW. Diagnosis, treatment and follow up of women undergoing conscious pain mapping for chronic pelvic pain: a prospective cohort study. *BJOG* 2006;113:792–6.
75. Cox L, Ayers S, Nala K, Penny J. Chronic pelvic pain and quality of life after laparoscopy. *Eur J Obstet Gynecol Reprod Biol* 2007;132:214–9.
76. Elcombe S, Gath D, Day A. The psychological effects of laparoscopy on women with chronic pelvic pain. *Psychol Med* 1997;27:1041–50.
77. Onwude JL, Thornton JG, Morley S, Lilleymen J, Currie I, Lilford RJ. A randomised trial of photographic reinforcement during postoperative counselling after diagnostic laparoscopy for pelvic pain. *Eur J Obstet Gynecol Reprod Biol* 2004;112:89–94.
78. National Institute for Health and Clinical Excellence. *Ovarian cancer. The recognition and initial management of ovarian cancer.* NICE clinical guideline 122. London: NICE; 2011 [http://guidance.nice.org.uk/CG122/NICEGuidance/pdf/English].
79. Surrey ES. Gonadotropin-releasing hormone agonist and add-back therapy: what do the data show? *Curr Opin Obstet Gynecol* 2010;22:283–8.
80. Aslam N, Blunt S, Latthe P. Effectiveness and tolerability of levonorgestrel intrauterine system in adolescents. *J Obstet Gynaecol* 2010;30:489–91.
81. Soysal ME, Soysal S, Kubilay V, Ozer S. A randomized controlled trial of goserelin and medroxyprogesterone acetate in the treatment of pelvic congestion. *Hum Reprod* 2001;16:931–9.
82. Shokeir T, Amr M, Abdelshaheed M. The efficacy of Implanon for the treatment of chronic pelvic pain associated with pelvic congestion: 1-year randomized controlled pilot study. *Arch Gynecol Obstet* 2009;280:437–43.
83. Ling FW. Randomized controlled trial of depot leuprolide in patients with chronic pelvic pain and clinically suspected endometriosis. Pelvic Pain Study Group. *Obstet Gynecol* 1999;93:51–8.
84. Barbieri RL. Primary gonadotropin-releasing hormone agonist therapy for suspected endometriosis: a nonsurgical approach to the diagnosis and treatment of chronic pelvic pain. *Am J Manag Care* 1997;3:285–90.
85. Gambone JC, Mittman BS, Munro MG, Scialli AR, Winkel CA; Chronic Pelvic Pain/Endometriosis Working Group. Consensus statement for the management of chronic pelvic pain and endometriosis: proceedings of an expert-panel consensus process. *Fertil Steril* 2002;78:961–72.
86. ACOG Committee on Practice Bulletins–Gynecology. ACOG Practice Bulletin No. 51. Chronic pelvic pain. *Obstet Gynecol* 2004;103;589–605.
87. Kephart W. Evaluation of Lovelace Health Systems chronic pelvic pain protocol. *Am J Manage Care* 1999;5 Suppl 5:309–15.

88. National Institute for Health and Clinical Excellence. *Irritable bowel syndrome in adults. Diagnosis and management of irritable bowel syndrome in primary care.* NICE clinical guideline 61. London: NICE; 2008 [http://www.nice.org.uk/guidance/CG61/NICEGuidance].
89. Jaiwala J, Imperiale TF, Kroenke K. Pharmacologic treatment of the irritable bowel syndrome: a systematic review of randomized, controlled trials. *Ann Intern Med* 2000;133:136–47.
90. Nanda R, James R, Smith H, Dudley CR, Jewell DP. Food intolerance and the irritable bowel syndrome. *Gut* 1989;30: 1099–104.
91. The British Pain Society. *Opioids for persistent pain: Good practice*. A consensus statement prepared on behalf of the British pain Society, the Faculty of Pain Medicine of the Royal College of Anaesthetists, the Royal College of General Practitioners and the Faculty of the Royal College of Psychiatrists. London: The British Pain Society; 2010 [http://www.britishpainsociety.org/book_opioid_main.pdf].
92. Wiffen P, Collins S, McQuay H, Carroll D, Jadad A, Moore A. Anticonvulsant drugs for acute and chronic pain. *Cochrane Database Syst Rev* 2005;(3):CD001133.
93. National Institute for Health and Clinical Excellence. *Neuropathic pain. The pharmacological management of neuropathic pain in adults in non-specialist settings*. NICE clinical guideline 96. London: NICE; 2010 [http://guidance.nice.org.uk/CG96/NICEguidance/pdf/English].
94. Daniels J, Gray R, Hills RK, Latthe P, Buckley L, Gupta J, et al.; LUNA Trial Collaboration. Laparoscopic uterosacral nerve ablation for alleviating chronic pelvic pain: a randomized controlled trial. *JAMA* 2009;302:955–61.
95. National Institute for Health and Clinical Excellence. *Laparoscopic uterine nerve ablation (LUNA) for chronic pelvic pain.* Interventional procedure guidance 234. London: NICE; 2007 [http://www.nice.org.uk/guidance/IPG234/Guidance/pdf].
96. Zondervan KT, Yudkin PL, Vessey MP, Jenkinson CP, Dawes MG, Barlow DH, et al. The community prevalence of chronic pelvic pain in women and associated illness behaviour. *Br J Gen Pract* 2001;51:541–7.

APPENDIX 1: Rome III criteria for the diagnosis of IBS

Continuous or recurrent abdominal pain or discomfort on at least 3 days a month in the last 3 months, with the onset at least 6 months previously, associated with at least two of the following:

- improvement with defecation
- onset associated with a change in frequency of stool
- onset associated with a change in the form of stool.

Symptoms such as abdominal bloating and the passage of mucus are commonly present and are suggestive of IBS. Extraintestinal symptoms such as lethargy, back ache, urinary frequency and dyspareunia may also occur in association with IBS.

APPENDIX 2: 'Red flag' symptoms and signs

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

APPENDIX 3

Classification of evidence levels

1++	High-quality meta-analyses, systematic reviews of randomised controlled trials or randomised controlled trials with a very low risk of bias
1+	Well-conducted meta-analyses, systematic reviews of randomised controlled trials or randomised controlled trials with a low risk of bias
1–	Meta-analyses, systematic reviews of randomised controlled trials or randomised controlled trials with a high risk of bias
2++	High-quality systematic reviews of case–control or cohort studies or high-quality case–control or cohort studies with a very low risk of confounding, bias or chance and a high probability that the relationship is causal
2+	Well-conducted case–control or cohort studies with a low risk of confounding, bias or chance and a moderate probability that the relationship is causal
2-	Case–control or cohort studies with a high risk of confounding, bias or chance and a significant risk that the relationship is not causal
3	Non-analytical studies, e.g. case reports, case series
4	Expert opinion

Grades of recommendations

A	At least one meta-analysis, systematic review or randomised controlled trial rated as 1++ and directly applicable to the target population; or A systematic review of randomised controlled trials or a body of evidence consisting principally of studies rated as 1+ directly applicable to the target population and demonstrating overall consistency of results
B	A body of evidence including studies rated as 2++ directly applicable to the target population, and demonstrating overall consistency of results; or Extrapolated evidence from studies rated as 1++ or 1+
C	A body of evidence including studies rated as 2+ directly applicable to the target population and demonstrating overall consistency of results; or Extrapolated evidence from studies rated as 2++
D	Evidence level 3 or 4; or Extrapolated evidence from studies rated as 2+

Good practice point

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

This guideline was produced on behalf of the Guidelines Committee of the Royal College of Obstetricians and Gynaecologists by:

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Conflicts of interest: none declared.

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

