

## Endometriosis: diagnosis and management

Endometriosis is characterised by the presence of endometrial-like tissue outside the uterine cavity, causing mainly cyclical symptoms and, often, reduced fertility. A clinical diagnosis can be made based on the patient's symptoms and evaluation of risk factors, although laparoscopy is required for definitive diagnosis. Medical management involves the hormonal suppression of endometriotic lesions, with analgesia as required. Surgical excision or ablation of endometriotic tissue is often necessary.

### KEY PRACTICE POINTS:

- Endometriosis is estimated to affect 10–15% of reproductive-age women and is a common cause of reduced fertility and pelvic pain
- Endometriosis can be classified as superficial peritoneal lesions, ovarian endometriomas (cysts filled with endometriosis) or deep infiltrating endometriosis. Rarely, endometriosis can occur outside of the pelvis.
- Risk factors for endometriosis include family history, short menstrual cycles (i.e. more frequent menstruation), longer-than-normal menstruation, early menarche, low body mass index, nulliparity
- The most common symptom of endometriosis is pelvic pain. Symptoms are usually cyclical and include dysmenorrhoea, dyspareunia, dysuria, dyschezia, bloating and abdominal pain. Some women may be asymptomatic; difficulty conceiving may be the first presentation with undiagnosed endometriosis.
- Clinical examination (pelvic and/or abdominal) is primarily for the purpose of differential diagnosis; many women with endometriosis have normal examination findings
- Transvaginal and/or abdominal ultrasound imaging is recommended. However, a normal ultrasound does not exclude a diagnosis of endometriosis.
- Hormonal treatment is often first-line for those with endometriosis who do not wish to conceive in the near future, and analgesics if required. Options include progestogen-only treatment (various formulations available) or combined oral oestrogen + progestogen treatment (i.e. a combined oral contraceptive).
- Surgical treatment may be indicated if hormonal treatment is ineffective, not tolerated, contraindicated or not wanted

## Endometriosis: a challenging diagnosis

Endometriosis is defined as an inflammatory disease characterised by lesions of endometrial-like tissue outside the uterus that is associated with pelvic pain and/or reduced fertility.<sup>1</sup> The condition generally has three distinct manifestations (also see: “The terminology of endometriosis”):<sup>2</sup>

- 1. Superficial peritoneal lesions** – endometrial lesions form on the peritoneum and may penetrate tissue up to 5 mm below the peritoneal surface
- 2. Ovarian endometriomas** – cystic masses caused by the growth of endometrial tissue within the ovary
- 3. Deep infiltrating endometriosis** – lesions penetrating tissue deeper than 5 mm below the peritoneal surface (e.g. uterosacral ligaments) or lesions that infiltrate the muscularis propria of organs near the uterus (e.g. bladder, intestine, ureter)

Although rare, endometriosis can also occur outside of the pelvis, e.g. pleura, diaphragm, umbilicus.<sup>2,3</sup>

The clinical presentation of women\* with endometriosis varies widely. Some may be completely asymptomatic (and therefore not aware of the condition) while others will have chronic pelvic pain, dysmenorrhoea, dyspareunia and dyschezia.<sup>4</sup> As endometriotic lesions are hormonally-responsive, symptoms will usually be cyclic, worsening at the time of menstruation. During periods of anovulation, such as pregnancy, lactation, menopause and hormone-induced amenorrhoea, symptoms are usually reduced or eliminated. Endometriosis can have a significant effect on female fertility, and many women with undiagnosed endometriosis may first present with difficulty conceiving.

Endometriosis is estimated to affect approximately 10–15% of women of reproductive-age, and as many as half of all women with reduced fertility and 70–90% of women with chronic pelvic pain.<sup>4</sup> The peak incidence of endometriosis is thought to be in women aged 25–35 years.<sup>5,6</sup> Endometriosis is less common in younger females and post-menopausal women.<sup>7</sup> Endometriosis is also possible in males taking high-dose oestrogen, although this is extremely rare.<sup>8</sup> The exact prevalence of endometriosis in New Zealand, overall and by ethnicity, is not known.

\* The term “women” is used to describe the patient population who are most likely to present with endometriosis, however, we acknowledge that this may not reflect the identity of the patient; adolescents, transgender boys or men, and non-binary individuals may present with endometriosis.

### Risk-factors for endometriosis

Risk factors for endometriosis include:<sup>2,4</sup>

- A first-degree female relative (mother or sister) with endometriosis
- Shorter-than-normal menstrual cycle (< 27 days)
- Longer-than-normal menstruation (> five days)
- Low body-mass index
- Early menarche
- Nulliparity
- Müllerian anomalies – abnormal anatomy that arises during the formation of parts of the female reproductive organs
- Outflow obstructions, e.g. cervical stenosis, a transverse vaginal septum or an imperforate hymen

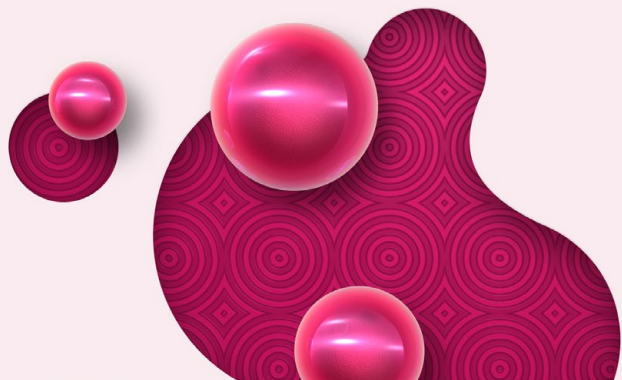
## The terminology of endometriosis

**Endometriotic lesion** – Lesions that occur when endometrial-like tissue exists outside of the uterus. Bleeding may occur from these lesions at the time of menstruation.

**Endometrioma** – An oestrogen-dependent lesion that is usually enlarged and filled with old blood. When they occur in the ovaries they are often referred to as chocolate cysts.

**Endometriotic adhesion** – Internal scar tissue that can bind organs and tissues together, causing dislocation and pain. The fallopian tubes, uterus, ovaries, bowel and bladder are the most commonly affected tissues.

**Endometrial stromal nodule** – An uncommon, non-infiltrative, confined growth of endometrial stromal cells, which can develop into a rare type of cancer; an endometrial stromal sarcoma, which frequently metastasises.



## The cause of endometriosis is unknown

The pathology of endometriosis is not well understood. Retrograde menstruation, where menstrual fluid flows back up the fallopian tubes and into the peritoneal cavity, is one proposed mechanism.<sup>4</sup> Endometrial cells are thought to move with the fluid, possibly through the lymphatic and vascular network. The cells deposit in various tissues, seeding and developing into endometriotic lesions and endometriomas. When this occurs, internal bleeding and inflammation can lead to fibrosis and adhesion development, which in turn contributes to the symptoms and the physical distortion of pelvic anatomy that is seen in women with more severe endometriosis. However, retrograde menstruation is estimated to occur in approximately 90% of women, while only a small proportion will go on to develop endometriosis.<sup>4</sup> Therefore, other factors, such as hormonal, inflammatory or immunologic factors may determine whether lesions implant and persist in the pelvic cavity.<sup>4</sup>

Other postulated mechanisms include endometriosis lesions arising from Müllerian remnants that did not properly differentiate or migrate during fetal development, or from circulating blood cells that differentiate into endometrium-like tissue.<sup>4</sup>

## Making a diagnosis of endometriosis

Diagnostic laparoscopy is required to make a definitive diagnosis of endometriosis, this is only indicated, however, if surgical treatment is to occur concurrently.<sup>4,9</sup> Therefore, health professionals often rely on a presumptive diagnosis, based on history, symptoms and risk factors, to guide management decisions. Timely diagnosis and initiation of medical management of endometriosis is important in reducing avoidable pain and discomfort, improving quality of life and managing fertility. However, diagnosis can be challenging as symptoms are often non-specific, clinical signs on examination are limited, laboratory testing is not helpful and imaging is often of only limited benefit.<sup>2,4</sup> On average, a delay of seven years between the development of symptoms and diagnosis of endometriosis has been reported, which impacts significantly on the patient's quality of life.<sup>4</sup>


## Symptoms are non-specific and common

Approximately one-third of women with endometriosis will be asymptomatic. The most common symptomatic presentation is cyclical pelvic pain.<sup>2</sup> Other common symptoms include:<sup>4,9,10</sup>

- Severe dysmenorrhoea
- Lower abdominal or back pain
- Dyspareunia
- Dysuria
- Dyschezia
- Visceral pain during exercise
- Heavy menstruation or pre-menstrual spotting (may also indicate co-existing adenomyosis – see sidebar next page)
- Bloating
- Lethargy
- Constipation
- Reduced fertility

Rarely, endometriotic lesions can occur outside of the abdominal cavity, such as in the lungs, and can cause pain and other symptoms, e.g. pneumothorax or haemoptysis, coinciding with the menstrual cycle.<sup>3</sup> Bowel obstruction secondary to endometriotic adhesions can also occur.

Acute exacerbations of pain, fever, or very rarely, ascites may occur due to chemical peritonitis following leakage of blood from an endometrioma.<sup>3</sup>

 **Best practice tip:** If endometriosis is suspected but there is insufficient time in the consultation to conduct a full history and examination, arrange a follow up appointment and provide the patient with a pelvic pain questionnaire/menstrual diary to fill out and bring with them. An example diary is available from: <https://www.healthinfo.org.nz/patientinfo/45856.pdf>



## Clinical examination may be helpful to rule out other conditions

Although women with endometriosis may have normal examination findings, abdominal and pelvic examination should be offered if endometriosis is suspected, primarily for the purpose of differential diagnosis (see below). Diffuse pelvic or posterior fornix tenderness, palpable pelvic masses, or visible vaginal endometriotic lesions are sometimes present in women with endometriosis.<sup>9</sup> Pelvic examination may not be appropriate for those who have never been sexually active.

## Laboratory tests and imaging are of limited benefit

There is no laboratory test that can reliably identify endometriosis.<sup>4</sup> Investigation of full blood count, ferritin, thyroid stimulating hormone, urine pregnancy test, urinalysis, C-reactive protein and renal function may be useful in the differential diagnosis. Vaginal and endocervical swabs may be indicated if the history suggests potential risk of a sexually transmitted infection (STI).

Pelvic ultrasound imaging that includes a transvaginal ultrasound (if the patient consents) is recommended.<sup>10</sup> However, a normal ultrasound does not exclude a diagnosis of endometriosis as lesions may not be visible on the scan, depending on the stage of disease.<sup>10</sup>

## Differential diagnoses


Women with endometriosis often present with diverse, non-specific symptoms, and other possible diagnoses should always be considered.

Acute symptoms caused by STIs, urinary tract infections and pelvic inflammatory disease often mimic endometriosis, however, given the chronic nature of endometriosis, it is likely that these conditions can be ruled out early.

Some long-term conditions have symptoms that overlap or co-exist with endometriosis and it can be more difficult to rule these out. Differential diagnoses that should be considered in

women with pelvic pain include diverticulitis, irritable bowel syndrome, uterine fibroids, urinary tract stones and interstitial cystitis.<sup>11, 12</sup>

Generally, presentation and patient history will shift the balance of probabilities for a diagnosis, e.g. uterine fibroids are more common in an older age-group. However, some conditions will be nearly impossible to rule out until laparoscopy is performed (e.g. adenomyosis – see: “Consider adenomyosis in women presenting with endometriosis symptoms”) or a therapeutic trial of treatment is undertaken. Always consider the possibility of other co-existing pathologies including pelvic infection and bowel conditions. In addition, in a small number of women, uterine and Müllerian abnormalities, both of which can be risk-factors for endometriosis, may be present and complicate diagnosis and treatment.

 The Raising Awareness Tool for Endometriosis (RATE), a quick-to-use electronic resource for health professionals and patients to help identify and assess endometriosis and associated symptoms, is available from the Royal Australian and New Zealand College of Obstetricians and Gynaecologists: <https://rancog.edu.au/womens-health/patient-information-guides/other-useful-resources/rate>

## When should a patient be referred for further assessment?

The management of suspected endometriosis depends on the patient’s age, desire for fertility, the degree of pain and other symptoms, co-morbidities, the impact on their capacity to work and their quality of life. Generally, a three- to six-month therapeutic trial with hormonal treatment (see below) can be used to manage the symptoms and help strengthen a clinical diagnosis. However, this is not appropriate in many instances, e.g. women wishing to conceive in the near future, those who experience adverse effects with hormonal medicines, have contraindications to their use to or do not wish to use them.

## Consider adenomyosis in women presenting with endometriosis symptoms

Adenomyosis occurs when endometrial-like tissue, is present within the muscle layer of the uterus (as opposed to endometriosis which occurs outside the uterine cavity). Adenomyosis is a heterogeneous disease that may present in the myometrium as diffuse, focal or, rarely, cystic. It is usually found in women in an older age group and often after childbirth.<sup>13, 14</sup>

Adenomyosis can be symptomatically identical to endometriosis, but is often diagnosed by transvaginal ultrasound or MRI. Adenomyosis also commonly co-exists with endometriosis.<sup>2</sup> Endometriosis-like symptoms that continue after a normal laparoscopy may be indicative of undiagnosed adenomyosis.


Referral to secondary care for further assessment is recommended if:<sup>9,10</sup>

- A six-month trial treatment with analgesia and a hormonal medicine is unsuccessful
- The patient has persistent, constant pelvic pain, or significant bowel or bladder pain
- Abnormal findings on pelvic ultrasound
- A pelvic mass is found on examination
- There is a desire for fertility and conception has not occurred following six-months of regular intercourse. N.B. the wait time for a publicly funded appointment for fertility treatment (if eligible) may be up to 12 months.
- Inadequate or no improvement in symptoms following surgical treatment
- The patient has pain or other symptoms that require a significant amount of time off or inability to work or study

## Medical management of endometriosis

The aim of medical management is to control symptoms prior to, alongside or instead of surgical interventions. Medical management includes both hormonal and non-hormonal pharmacological treatments; hormonal treatment is based on hormonal suppression of endometriotic lesions and is particularly effective when amenorrhoea occurs via down-regulation of the hypothalamic-pituitary-ovarian axis.<sup>10, 15</sup> However, hormonal treatment may not prevent disease progression, and there are women for whom certain hormonal treatment will not be appropriate, e.g. current or recent history of breast cancer, history of liver tumours.<sup>10</sup>

Endometriosis is a chronic and often relapsing condition and long-term treatment is typically required. Approximately 50% of women will have a recurrence of symptoms within five years if medical management is stopped.<sup>16</sup> Menopause usually leads to a complete cessation of symptoms, even if menopausal hormone therapy is used, although recurrence has been reported in a small number of cases.<sup>17</sup>

 For further information on cautions and contraindications to hormonal treatments, see: [https://www.nzf.org.nz/nzf\\_3892](https://www.nzf.org.nz/nzf_3892) and [https://www.nzf.org.nz/nzf\\_4178](https://www.nzf.org.nz/nzf_4178)

### A step-wise treatment strategy

The first-line pharmacological treatment for females with endometriosis who do not wish to conceive in the near future is a hormonal medicine, and analgesics if required.<sup>10</sup>

**Progestogen-only treatment** (either a progestogen-only oral contraceptive or a progestin) is recommended first-line for suspected or confirmed endometriosis (see below for options).

**Combined oestrogen + progestogen treatment** (i.e. a combined oral contraceptive [COC]) is an alternative first-line treatment if progestogen-only treatment is not tolerated or suitable (see below for options).<sup>10</sup>

**Other hormonal treatment options** include gonadotropin-releasing hormone (GnRH) analogues (e.g. goserelin, leuprorelin, buserelin) and androgenic medicines (e.g. danazol), which are used to induce a hypo-oestrogenic state. Adverse effects limit GnRH analogues to a second-line choice that is usually reserved for use in secondary care and androgenic medicines are now rarely used due to their adverse effects.<sup>15</sup> GnRH analogues are associated with several short-term adverse effects, mainly hypo-oestrogenic symptoms, including menopausal symptoms, loss of libido and emotional lability. Long-term adverse effects include bone-mineral density loss. Because of these adverse effects, “add-back” oestrogen-progestogen treatment is recommended if a GnRH analogue is continued for more than six months.<sup>2</sup>

### Pain management

A short-course, e.g. three months, of a non-steroidal anti-inflammatory drug (NSAID) or paracetamol, used as required alone or in combination, is recommended for endometriosis-related pain.<sup>9</sup> These can also be used as an adjunct to medical (hormonal) or surgical management options. NSAIDs in particular may be effective at reducing pain and inflammation associated with endometriosis, although evidence from clinical trials is limited and inconclusive.<sup>15, 18</sup> Regular use of opioids is not recommended due to the risks associated with long-term treatment, e.g. dependence, worsening of gastrointestinal symptoms.<sup>10, 19</sup>

If pain is not controlled and a neuropathic component is suspected, a trial of a neuromodulator, e.g. amitriptyline or gabapentin (unapproved indication), may be considered, although there is little evidence of benefit.<sup>20</sup> The adverse effects of these medicines limit their clinical usefulness and short cyclical doses to coincide with menses are not likely to be helpful.

Non-pharmacological treatments to manage pain and other symptoms should be recommended, e.g. a healthy diet, regular exercise and adequate sleep, transcutaneous electrical nerve stimulation (TENS),\* pain psychology and referral to specialist women’s health physiotherapy.<sup>10</sup>

If pain is unmanaged in primary care despite trialling pharmacological and non-pharmacological interventions, consider seeking advice from a pain clinic.

\* Evidence of benefit for women with deep endometriosis has been shown in a small randomised clinical trial<sup>21</sup>


## Progestogen-only treatment


High-dose oral progestogens (medroxyprogesterone acetate 30 mg daily or norethisterone 10–20 mg daily<sup>22</sup>) are commonly used to treat endometriosis and have been shown in randomised controlled trials to reduce endometriosis-related pelvic pain.<sup>10</sup> At these doses, progestogens suppress the hypothalamic-pituitary-ovarian axis to inhibit ovulation and reduce circulating oestrogen levels.<sup>10, 16</sup> Progestogens also have an additional, direct effect on the endometrium, causing atrophic change to both normal endometrium and endometriotic lesions.<sup>16</sup>


Progestogens are available in a variety of formulations, including oral medicines, implants, depot injections and intrauterine devices (Table 1). When prescribing progestogens for endometriosis:<sup>10</sup>

- Preferably prescribe at a sufficient dose to produce anovulation and therefore amenorrhoea or oligomenorrhoea
- Consider whether there is a need for contraception when discussing options
- Initiate on the first day of menses
- If troublesome bleeding occurs, try:

- Increasing the progestogen dose, e.g. doubling it, or changing the formulation
- Five-day course of oestrogen added to the progestogen treatment (e.g. estradiol valerate [Progynova] 1 mg, once daily)
- If hormone treatment is ineffective after a six-month trial, refer to secondary care

 **Best practice tip:** There is little difference in effectiveness between progestogen formulations, however, patients administered depot progestogen or high-dose oral progestogens may experience more adverse effects. Consider prescribing a progestogen-only oral contraceptive first-line. A trial of a levonorgestrel intrauterine system, i.e. Mirena or Jaydess, is also a reasonable option in some cases, although this may be less effective in women who continue to ovulate.

 For further information on POPs, see: <https://bpac.org.nz/2019/contraception/oral-contraceptives.aspx>

 For further information on long-acting progestogen-only contraceptives, see: <https://bpac.org.nz/2019/contraception/long-acting.aspx>

**Table 1.** Progestogen treatments for endometriosis available in New Zealand.<sup>10,22</sup> N.B. Ongoing supply issues due to COVID-19 are affecting the availability of some medicines; check the PHARMAC website for the latest updates.

Route of administration	Medicine	Dose	Approved for contraception
Oral	Medroxyprogesterone acetate (Provera)	10 mg, three times daily for 90 consecutive days	No
	Norethisterone (Primolut)	5–10 mg, twice daily, for four to six months	No
	Cyproterone acetate [unapproved indication]	50 mg, once daily	No
	Norethisterone (Noriday)*	350 micrograms, once daily	Yes
	Levonorgestrel (Microlut)*	30 micrograms, once daily	Yes
	Desogestrel (Cerazette)*†	75 micrograms, once daily	Yes
Intramuscular injection	Medroxyprogesterone acetate (Depo-Provera)	150 mg, every three months**	Yes
Implant	Levonorgestrel (Jadelle)	2x75 mg rods	Yes
Intrauterine system	Levonorgestrel-IUS 52 mg (Mirena)	Average release of 15 micrograms/day over five years	Yes
	Levonorgestrel-IUS 13.5 mg (Jaydess)	Average release of 6 micrograms/day over three years	Yes

\* Variable inhibition of ovulation; desogestrel has a more predictable effect on inhibiting ovulation, however, this formulation is not funded<sup>23</sup>

† Not funded

\*\* The recommended dose for endometriosis is 50 mg weekly or 100 mg every two weeks for at least six months. New Zealand guidance recommends initiating at a lower dose (i.e. 150 mg, three monthly).<sup>10</sup> Consider increasing the dose if bleeding is troublesome<sup>10</sup> or symptoms are uncontrolled. N.B. Depo-Provera is available in 150 mg/mL vials.

## Endometriosis and fertility

The pathophysiology of reduced fertility in women with endometriosis is not well understood. Inflammation of the pelvic cavity, structural abnormalities, the presence of endometriomas of the ovaries and possible surgical damage following ovarian endometrioma excision, alterations of sperm-oocyte interaction, reduced endometrial receptivity and co-existing adenomyosis are all thought to be involved.<sup>2</sup>

It is not possible to differentiate between those women with endometriosis who will experience reduced fertility and those who will retain normal levels of fertility, even if a laparoscopy is performed. While caution should be taken when counselling patients, overall reassurance is appropriate for women with possible endometriosis with respect to their future fertility.

Surgery to ablate or excise endometriomas, adhesions and scar tissue is the most common treatment for women with endometriosis who wish to conceive.<sup>9,27</sup> Flushing of the uterus, fallopian tubes and ovaries with lipiodol (an oil soluble contrast medium) in women with endometriosis has been shown to increase the rate of pregnancy, and may be considered in the setting of a specialist fertility clinic.<sup>32</sup> Assisted fertility treatments are likely to be beneficial for most women with endometriosis who have reduced fertility.<sup>2</sup>

Traditionally, hormonal treatment was used in women with reduced fertility for a short period, e.g. six months, and then stopped, as it was thought that this created “rebound” fertility. However, there is no evidence of benefit; ovulation suppression may delay pregnancy and is not recommended.<sup>27</sup>

Pregnancy is often considered as beneficial for women with endometriosis in terms of symptom management and disease progression. However, the limited evidence available suggests that this is not universal; some lesions may regress during pregnancy, while others may remain stable or even increase.<sup>33</sup> Pregnancy-associated amenorrhoea likely decreases the risk of new lesions forming.<sup>33</sup> Some women may experience complete resolution of endometriosis-associated pain, while others may have an increase, e.g. from endometrial lesions growing on the bladder, rectum or umbilicus.<sup>33</sup> Pregnancy may reduce the risk of endometriosis recurrence, although the data are limited and interpretation is complicated by the fact that endometriosis stage at diagnosis influences the likelihood of pregnancy.<sup>33</sup>


## Combined oral contraceptives

Combined oral contraceptives (COCs) are widely used to treat women with suspected endometriosis and are often used first-line, although they have not been approved for this indication and there is limited evidence of benefit.<sup>10, 15</sup> COCs prevent ovulation and endometrial proliferation.

The choice of COC should be based on any previous use by the patient. A reasonable option for a first-time COC user is 30–35 micrograms ethinylestradiol with either 150 micrograms levonorgestrel or 500 micrograms norethisterone. A lower dose of ethinylestradiol ( $\leq 30$  micrograms) is recommended for women aged  $> 40$  years.<sup>24</sup>

COCs should be used continuously or semi-continuously, e.g. three or six-month cycles, as monthly uterine bleeds are still likely to be painful, although less so than normal menstruation when not taking a COC.<sup>25</sup> Patients should be advised that this may result in irregular spotting and occasional breakthrough bleeding.

N.B. Ongoing supply issues due to COVID-19 are affecting the availability of some COCs; check the PHARMAC website for the latest updates (<https://pharmac.govt.nz/medicine-funding-and-supply/medicine-notice/oral-contraceptives/>).

 For further information on COCs, including cautions and contraindications to treatment, see: <https://bpac.org.nz/2019/contraception/oral-contraceptives.aspx>

## Surgical treatment

Surgical treatment can be effective for reducing pain and other symptoms, and may increase fertility in women with reduced fertility.<sup>2</sup> However, even when performed, recurrence rates of endometriosis can be high and further surgery required: 20–40% of women re-develop symptoms within five years of surgery, although rates vary by subtype.<sup>26</sup> Hormonal treatment, e.g. levonorgestrel-IUS, following surgery can reduce the risk of recurrence and need for further surgery.<sup>27</sup>

The success rate of surgical treatment of endometriosis depends on the severity of the condition, its location, and the type of the symptoms as well as the age of the patient (effectiveness is higher in older women, which is thought to be due to the natural decline in oestrogen production).<sup>28</sup>

Surgery for endometriosis is divided into two strategies:

**Conservative surgery** (or surgery with preservation of fertility) involves laparoscopy to ideally excise all visible lesions and restore pelvic anatomy. It is the more common surgical option, which significantly reduces pain in the majority of patients and has the ability to retain, and in some cases improve, fertility.<sup>2</sup> The rate of symptom recurrence is higher than with more aggressive, non-preservative techniques, however, the ability to maintain fertility outweighs this for many women.<sup>2</sup>

**Radical surgery** is limited to women with endometriosis who do not wish to conceive, and after all medical treatments have been unsuccessfully trialled. Often, conservative surgery will also have been undertaken previously. More aggressive surgical options include hysterectomy, bilateral salpingectomy (removal of the fallopian tubes) and bilateral oophorectomy (removal of the ovaries). The excision of all visible peritoneal lesions is the gold-standard in addition to hysterectomy. Patients undergoing radical surgery should be counselled about the possibility of symptoms persisting even after complete bilateral oophorectomy and hysterectomy, and the adverse effects associated with early, medically-induced menopause. Menopausal hormone therapy can be used to manage menopausal symptoms.<sup>27</sup> In general, conservation of normal ovaries is preferred. Endometriosis is associated with a small increase in the risk of ovarian cancer; bilateral salpingectomy can be offered to those who do not wish to conceive to reduce this risk by 30–60%.<sup>29,30</sup>

For further information on menopausal hormone therapy, see: <https://bpac.org.nz/2019/mht.aspx>

### Complications of endometriosis surgery

Common complications associated with endometriosis surgery include adhesion formation and decreased ovarian reserve post-surgery.

Adhesions are thought to result from the inflammation of peritoneal surfaces, which may be increased by surgical intervention. Sequelae may include pain, structural changes to the pelvic and reproductive organs and much less commonly bowel obstruction.

Ablation of ovarian endometriomas is associated with decreased ovarian reserve, particularly in patients with bilateral cysts, and great care must be taken when using diathermy.<sup>2</sup> Even with conservative surgical interventions, 2.4% of women develop primary ovarian insufficiency (also known as primary/premature ovarian failure).<sup>31</sup>

Deep infiltrating endometriosis surgery can be associated with major complications including bowel injury, ureteric injury, post-operative infection, rectovaginal fistula, neurogenic bladder and bowel dysfunction.<sup>2</sup>

### Final thoughts

Ensuring that women with suspected endometriosis feel validated is one of the most important roles of primary care. Often patients will have endured endometriosis symptoms for many years, perhaps even considering them to be “normal” or feeling dismissed if they did seek help. Acknowledging the impact endometriosis has on the patient’s quality of life and providing psychological support, including referral if necessary, should be a focus of primary care clinicians, while management strategies are explored.

Information and support for patients is available from Endometriosis New Zealand: <https://nzendo.org.nz/>

For further information on the diagnosis and management of endometriosis, see: [www.health.govt.nz/system/files/documents/publications/diagnosis-and-management-of-endometriosis-in-new-zealand-mar2020\\_0.pdf](http://www.health.govt.nz/system/files/documents/publications/diagnosis-and-management-of-endometriosis-in-new-zealand-mar2020_0.pdf)

An eLearning module on endometriosis, covering symptoms, management and ‘whole-person’ care, is available from the Royal Australian and New Zealand College of Obstetricians and Gynaecologists: <https://www.climate.edu.au/mod/page/view.php?id=13314>

Patient information on endometriosis treatment options is available from:

- Health Navigator: [www.healthnavigator.org.nz/health-a-z/e/endometriosis-treatment/](http://www.healthnavigator.org.nz/health-a-z/e/endometriosis-treatment/)
- The Royal Women’s Hospital Australia: [www.thewomens.org.au/health-information/periods/endometriosis/treating-endometriosis](http://www.thewomens.org.au/health-information/periods/endometriosis/treating-endometriosis)
- National Institute for Health and Care Excellence: [www.nice.org.uk/guidance/ng73/resources/patient-decision-aid-hormone-treatment-for-endometriosis-symptoms-what-are-my-options-pdf-4595573197](http://www.nice.org.uk/guidance/ng73/resources/patient-decision-aid-hormone-treatment-for-endometriosis-symptoms-what-are-my-options-pdf-4595573197)

### Summary on managing suspected endometriosis in primary care:

1. Obtain a clinical history and exclude differential diagnosis as far as possible.
2. Perform an abdominal examination and, if appropriate, undertake a bimanual vaginal examination. If an abnormality is found on examination, request a pelvic ultrasound and refer to a gynaecologist.
3. If endometriosis is suspected, initiate NSAIDs (taken as required) and a hormonal medicine (e.g. POP or COC); consider other progestogens, but titrate the dose to avoid adverse effects. Refer women who wish to conceive to a gynaecologist.
4. Ideally, every patient with suspected endometriosis should have a pelvic ultrasound, including a transvaginal scan if they consent.
5. Refer to gynaecology if no significant improvement within six months, or sooner if the woman has significant anxiety and local referral pathway allows.



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