ENDOMETRIOSIS

Superficial Peritoneal Endometriosis, Ovarian Endometrioma, Deep Infiltrating Endometriosis

A state in which pieces of the tissue alike to the lining of the uterus (endometrium) grow in other parts of the body.

⚠️ Diagnosis ⚠️ Female

Related Diagnoses:

- Menstrual cycle disorders
- Fallopian tube blockage
- Uterus carbonization
- Autoimmune disorders
- Hematosalpinx
- Adenomyosis
- Vaginismus
- Uterine fibroids
- Ovarian cancer
- Cervical stenosis
- Luteinised unruptured follicle syndrome
- Pelvic adhesions
- Tubal phimosis
- Hysterectomy
- Endometrioma
- Non-Hodgkin lymphoma
- Bilateral fallopian tube blockage
- Hyperestrogenism
- Unilateral fallopian tube blockage

ℹ️ About Endometriosis

Endometriosis is a common gynecologic disorder. The estimated frequency among women of reproductive age is 5%–10% and is particularly frequent among women with pelvic pain and infertility. Around 50% women with pelvic pain suffer from endometriosis. It most commonly affects women in their 20's and 30's. This disorder is classically defined as the presence of endometrial glands and stroma outside of the endometrial lining and uterine musculature. The exact etiology of endometriosis has yet to be elucidated. Mechanistic theories include: the reflux of endometrial tissue through the fallopian tubes at the time of menstruation, coelomic metaplasia, embryonic cell rests, and lymphatic and vascular dissemination.

The theory of retrograde menstruation (also called the implantation theory or transplantation theory) is the most widely accepted theory for the formation of ectopic endometrium in endometriosis. It suggests that during a woman's menstrual flow, some of the endometrial debris exits the uterus through the fallopian tubes and attaches itself to the peritoneal surface (the lining of the abdominal cavity) where it can proceed to invade the tissue as endometriosis. While most women may have some retrograde menstrual flow, typically their immune system is able to clear the debris and prevent implantation and growth of cells from this occurrence. However, in some patients, endometrial tissue transplanted by retrograde menstruation may be able to implant and establish itself as endometriosis. Factors that might cause the tissue to grow in some women but not in others need to be studied, and some of the possible causes below may provide some explanation, e.g., hereditary factors, toxins, or a compromised immune system. It can be argued that the uninterrupted occurrence of regular menstruation month after month for decades is a modern phenomenon, as in the past women had more frequent menstrual rest due to pregnancy and lactation. Retrograde menstruation alone is not able to explain all instances of endometriosis, and it needs additional factors such as genetic or immune differences to account for the fact that many women with retrograde menstruation do not have endometriosis. However, it is generally accepted that endometriosis has a multi-factorial etiology, including genetic, hormonal and immunological factors. Areas commonly affected by endometriosis include the surface of the ovaries and the pelvic peritoneum and can result in pelvic inflammation, adhesions, chronic pain and infertility. Endometrial cells in areas outside the uterus are also influenced by hormonal changes and respond in a way that is similar to the cells found inside the uterus. While endometriosis is a benign lesion, it shares several characteristics with invasive cancer. Similar to cancer, endometriosis has the capacity to invade and spread distanty. Endometriosis can attach to, invade and damage affected tissues. In addition, numerous studies indicate that women with endometriosis have an increased risk of developing epithelial ovarian cancer (EOC).

There is no cure for endometriosis, but it can be treated in a variety of ways, including pain medication, hormonal treatments, and surgery. Tentative evidence suggests that the use of combined oral contraceptives reduces the risk of developing endometriosis. Exercise and avoiding large amount of alcohol may also be preventative.
Types of endometriosis - Staging

Surgically, endometriosis can be staged I – IV (Revised Classification of the American Society of Reproductive Medicine). The process is a complex point system that assesses lesions and adhesions in the pelvic organs, but it is important to note staging assesses physical disease only, not the level of pain or infertility. A person with Stage I endometriosis may have little disease and severe pain, while a person with Stage IV endometriosis may have severe disease and no pain or vice versa. In principle the various stages show these findings:

**Stage I (Minimal)**

Findings restricted to only superficial lesions and possibly a few filmy adhesions (are fibrous bands that form between tissues and organs).

**Stage II (Mild)**

In addition, some deep lesions are present in the cul-de-sac (recto-uterine pouch - the extension of the peritoneal cavity between the rectum and the posterior wall of the uterus in the female human body).

**Stage III (Moderate)**

As above, plus presence of endometriomas on the ovary and more adhesions.

**Stage IV (Severe)**

As above, plus large endometriomas, extensive adhesions.

Even though the endometrioma of the ovary reacts poorly to hormone therapy, nowadays smaller endometriomas (approximately 2-3cm) are not removed surgically to avoid unnecessarily reducing the ovarian reserve.

A larger endometrioma, for example 40-50mm, can be surgically removed if it would constitute an obstacle to the egg collection included in the IVF program.

Ovarian stimulation does not aggravate the course of the endometriosis.

Eliminate the endometrioma with caution in order not to significantly reduce the ovarian reserve.

The worst is repeatedly interfering with the woman’s organism and repeatedly operating the consequences of endometriosis.

**Associated diseases**

Current research has demonstrated an association between endometriosis and certain types of cancers, notably some types of ovarian cancer, non-Hodgkin’s lymphoma and brain cancer. Despite similarities in their name and location, endometriosis bears no relationship to endometrial cancer. Endometriosis often also coexists with leiomyoma or adenomyosis, as well as autoimmune disorders.

**Complications**

Complications of endometriosis include internal scarring, adhesions, many adhesions are called frozen pelvis.

Infertility can be related to scar formation and anatomical distortions due to the endometriosis. It is a mechanical factor. However, endometriosis may also interfere in more subtle ways by biochemical factor. It means cytokines and other chemical agents may be released that interfere with reproduction (low fertilization of oocytes, decreased endometrial receptivity, decreased embryo nidability). Ovarian endometriosis (cysts) can be complicated by its rupture or torsion around own axis. Cysts significantly reduce ovarian tissue - functional parenchyma. Bowel and ureteral obstruction resulting from pelvic adhesions.

**Risk factors**

The following factors may place you at greater risk for developing endometriosis:

- early onset of menstruation
- not having had children
- family history of endometriosis
- short menstrual cycles
- low body mass index (BMI)
- sedentary lifestyle
- age (women between the ages of 25 – 40)

Impact on fertility

Endometriosis can cause infertility. In endometriosis, there is a risk of female infertility of up to 30% to 50%. The abnormal growth of endometrial tissue with each female hormonal cycle causes adhesions and scars from forming in the organs where it is. This, in the case of the female reproductive organs can be fatal for the smooth passage of the ovum to the uterus.

The mechanisms by which endometriosis may cause infertility is not clearly understood, particularly when the extent of endometriosis is low.

Still possible mechanisms include:
- Anatomical distortions and adhesions (the fibrous bands that form between tissues and organs following recovery from an injury)
- The release of factors from endometriotic cysts which are detrimental to gametes or embryos. An endometriotic cyst contains free iron, reactive oxygen species, proteolytic enzymes and inflammatory molecules. Follicular density in tissue surrounding the endometriotic cyst has been consistently shown to be significantly lower than in healthy ovaries, and to a degree that does not appear to be caused merely by the stretching of surrounding tissues owing to the presence of a cyst.

The other way around, endometriosis may more likely develop in women who fail to conceive for other reasons and thus be a secondary phenomenon. For this reason it is preferable to speak of "endometriosis-associated infertility" rather than any definite "infertility caused by endometriosis" by the same reason that association does not imply causation.

Only surgical treatment has been shown to improve the fertility of patients whose infertility was thought to be due to endometriosis. One study has shown that surgical treatment of endometriosis approximately doubles the fecundity (pregnancy rate).

In younger women with unfulfilled reproductive potential, surgical treatment attempts to remove endometrial tissue and preserving the ovaries without damaging normal tissue.

It is recommended that the small cysts do not operate at all to reduce the valuable ovarian parenchyma.

The use of medical suppression after surgery for minimal/mild endometriosis has not shown benefits for patients with infertility. It is advisable to stimulate the patient immediately after the chirurgical exercise in the IVF treatment program. Ovarian stimulation does not aggravate the course of the endometriosis. Use of fertility medication that stimulates ovulation (clomiphene citrate, gonadotropins) combined with intrauterine insemination (IUI) enhances fertility in these patients.

Prevention

Limited evidence indicates that the use of combined oral contraceptives is associated with a reduced risk of endometriosis.

Symptoms

- Abdominal pain, fatigue and mood change beginning 1-2 days before menstruation and continuing for duration
- Cyclical pelvic pain and/or low back pain (unilateral or bilateral), constant pelvic pain (more serious stage)
- Infertility - often first diagnosed in women who are seeking treatment for infertility
- History of ectopic pregnancy or miscarriage
- Dysmenorhea (painful menstruation) - commonly identified as the chief complaint if implants are located over the uterosacral ligaments
- Dyspareunia (painful intercourse) - local adhesions may be irritated by penile penetration
- Painful defecation - adhesions may be present over the large bowel. As fecal matter moves through the intestines these adhesions can be stretched causing local irritation.
- Low-grade fever
- diarrhea, constipation, rectal bleeding
- referred pain to the low back/sacral groin, posterior leg, upper abdomen, or lower abdominal suprapubic areas
- menorrhagia/menometrorrhagia - excessive or occasional heavy periods may be experienced, along with bleeding between periods

### Therapies

#### Self therapy

If a woman increases her level of physical activity daily, the amount of pain related with endometriosis may decrease. Medical researchers are uncertain as to the cause of this relationship and have noted that increased exercise does not reduce pain in all women. As in the case of any chronic condition, lifestyle changes like regular movement and consumption of a healthy diet are recommended.

As surgical and hormonal treatment of endometriosis have unpleasant side effects and high rates of relapse, many patients began to explore more natural and traditional remedies. In China, treatment of endometriosis using Chinese herbal medicine is routine to alleviate pain, promote fertility, and prevent relapse. However, due to the limited amount intervention studies reported, more rigorous researches are required to accurately assess the type, dose and potential role of Chinese herbal medicine in treating endometriosis.

#### Conventional medicine

Long-term medical treatment is usually needed in most women. Unfortunately, in most cases, pain symptoms recur between 6 months and 12 months once treatment is stopped. Current treatment of endometriosis is mainly based on surgery (Laparoscopic procedure with laser and/or electrocautery to ablate the lesions and lyse the adhesions, removal of endometriomas, hysterectomy and oophorectomy to prevent cycling) and ovarian suppressive agents (oral contraceptives, progestins, GnRHa agonist and androgenic agents).

#### Pharmacotherapy

**Non-steroidal anti-inflammatory agents**

With attention to inflammatory nature of endometriosis, for decades non-steroidal anti-inflammatory agents (NSAIDs) such as naproxen and ibuprofen have been administrated for pain control, in endometriosis. These drugs have been reduced prostaglandins (PGs) production, the main stimulator factor in peritoneal nerves and decrease the nociceptor input messenger from the peritoneal endometriotic implants into central nervous system.

**Hormones**

Hormonal treatments currently available are effective in the relief of pain associated to endometriosis. Among new hormonal drugs, association to aromatase inhibitors could be effective in the treatment of women who do not respond to conventional therapies. GnRHa antagonists are expected to be as effective as GnRHa agonists, but with easier administration (oral).

1. Continuous oral contraceptive pills – are effective in relieving endometriosis associated pelvic pain, suppress Luteinizing hormone (LH) and Follicle-stimulating hormone (FSH) and prevent ovulation
2. Medroxyprogesterone injections (Depo-Provera) – similar to oral contraceptive
3. Danazol – a derivative of the synthetic steroid ethisterone that suppresses the production of gonadotropins and has some weak androgenic effects. Although effective for endometriosis, its
use is limited by its masculinizing side-effects. Its role as a treatment for endometriosis has been largely replaced by the GnRH agonists.

4. GnRH agonist (leuprolide, gosarelin) that will negatively feedback to reduce the GnRH secreted also leading to low estrogen, side effects include hot flushes, headaches, and osteoporosis.

**Surgical therapy**

1. Laparoscopic procedure with laser and/or electrocautery to ablate the lesions and lyse the adhesions
2. Removal of endometriomas
3. Hysterectomy and oophorectomy to prevent cycling

Laparoscopy is nowadays considered best way. Interdisciplinary cooperation with urologists and surgeons is often necessary in the case of urinary tract or intestinal lesions.

Procedures are classified as conservative when reproductive organs are retained, semi-conservative when ovarian function is allowed to continue and radical surgery.

Conservative therapy consists of the excision of the endometriosis bearing, adhesions, resection of endometriomas, and restoration of normal pelvic anatomy as much as is possible. Laparoscopy, besides being used for diagnosis, can also be an option for surgery. It's considered a "minimally invasive" surgery because the surgeon makes very small openings (incisions) at (or around) the belly button and lower portion of the belly. A thin telescope-like instrument (the laparoscope) is placed into one incision, which allows the doctor to look for endometriosis using a small camera attached to the laparoscope. Small instruments are inserted through the incisions to remove the tissue and adhesions. Because the incisions are very small, there will only be small scars on the skin after the procedure.

Semi-conservative therapy preserves a healthy appearing ovary, very important for women wishing to conceive, but also increases the risk of recurrence and should be performed by a skilled and qualified surgeon.

**Radical surgery**

Removing the uterus, both ovaries, if possible, all of the endometriosis deposits, including adhesion disruption. It is performed in women who do not plan for pregnancy.

Other options for patients with extreme pain, a presacral neurectomy may be indicated where the nerves to the uterus are cut. However, strong clinical evidence showed that presacral neurectomy is more effective in pain relief if the pelvic pain is midline concentrated, and not as effective if the pain extends to the left and right lower quadrants of the abdomen. This is because the nerves to be transected in the procedure are innervating the central or the midline region in the female pelvis. Furthermore, women who had presacral neurectomy have higher prevalence of chronic constipation not responding well to medication treatment because of the potential injury to the parasymathetic nerve in the vicinity during the procedure.

Surgical treatment of deeply infiltrating endometriosis with colorectal involvement belongs to the most difficult surgery, often inoperable matter.

Treatment should be considered individually, respecting the patient’s wishes. The most important is the so-called first operation, every other operation (reoperation) leads to a number of problems and is associated with higher morbidity of the patient.

**Assisted reproduction**

Controlled ovarian hyperstimulation, intrauterine insemination, or in vitro fertilization, are commonly used for endometriosis-associated infertility. Endometriosis impairs the efficacy of in vitro fertilization. IVF makes it possible to combine sperm and eggs in a laboratory and then place the resulting embryos into the woman’s uterus. The decision when to apply IVF in endometriosis-associated infertility cases takes into account the age of the patient, the severity of the endometriosis, the presence of other infertility factors, and the results and duration of past treatments.
Diagnoses

**Menstrual cycle disorders**
An abnormal condition in a woman’s menstrual cycle.
Learn more at: [www.fertilitypedia.org/therapy/diag/menstrual-cycle-disorders](http://www.fertilitypedia.org/therapy/diag/menstrual-cycle-disorders)

**Fallopian tube blockage**
An obstruction prevents the egg or sperm from traveling down the tube, thus making fertilization impossible.
Learn more at: [www.fertilitypedia.org/therapy/diag/fallopian-tube-blockage](http://www.fertilitypedia.org/therapy/diag/fallopian-tube-blockage)

**Autoimmune disorders**
A condition arising from an abnormal immune response to a normal body part.
Learn more at: [www.fertilitypedia.org/therapy/diag/autoimmune-disorders-1](http://www.fertilitypedia.org/therapy/diag/autoimmune-disorders-1)

**Hematosalpinx**
Hematosalpinx is a medical condition involving bleeding into the fallopian tube.
Learn more at: [www.fertilitypedia.org/therapy/diag/hematosalpinx](http://www.fertilitypedia.org/therapy/diag/hematosalpinx)

**Adenomyosis**
Medical condition characterized by the presence of ectopic endometrial tissue within the myometrium.
Learn more at: [www.fertilitypedia.org/therapy/diag/adenomyosis](http://www.fertilitypedia.org/therapy/diag/adenomyosis)

**Vaginismus**
A physical or psychological condition in which woman cannot engage in any form of vaginal penetration.
Learn more at: [www.fertilitypedia.org/therapy/diag/vaginismus](http://www.fertilitypedia.org/therapy/diag/vaginismus)

**Uterine malformations**
A type of female genital malformation resulting from an abnormal development of the Müllerian duct(s) during embryogenesis.
Learn more at: [www.fertilitypedia.org/therapy/diag/uterine-malformations](http://www.fertilitypedia.org/therapy/diag/uterine-malformations)

**Uterus duplex**
Congenital uterine malformation where both Müllerian ducts develop but fail to fuse, thus the woman has a “double uterus”.
Learn more at: [www.fertilitypedia.org/therapy/diag/uterus-duplex](http://www.fertilitypedia.org/therapy/diag/uterus-duplex)

**Hydrosalpinx**
A hydrosalpinx is an abnormal pouch containing liquid in a fallopian tube.
Learn more at: [www.fertilitypedia.org/therapy/diag/hydrosalpinx](http://www.fertilitypedia.org/therapy/diag/hydrosalpinx)

**Pyosalpinx**
A distally blocked Fallopian tube filled with pus.
Learn more at: [www.fertilitypedia.org/therapy/diag/pyosalpinx-do-rf](http://www.fertilitypedia.org/therapy/diag/pyosalpinx-do-rf)

**Endometrial hyperplasia**
Thickening of the lining of the uterus.
Learn more at: [www.fertilitypedia.org/therapy/diag/endometrial-hyperplasia](http://www.fertilitypedia.org/therapy/diag/endometrial-hyperplasia)

**Uterine fibroids**
The most common benign smooth muscle tumors of the uterus encountered in women of reproductive age.
Learn more at: [www.fertilitypedia.org/therapy/diag/uterine-fibroids](http://www.fertilitypedia.org/therapy/diag/uterine-fibroids)

**Ovarian cancer**
A type of cancer in which abnormal cells begin to grow in one or both of a woman’s ovaries.
Learn more at: [www.fertilitypedia.org/therapy/diag/ovarian-cancer](http://www.fertilitypedia.org/therapy/diag/ovarian-cancer)
Cervical stenosis
Narrowing of cervix - the opening to the uterus.
Learn more at: www.fertilitypedia.org/therapy/diag/cervical-stenosis

Luteinised unruptured follicle syndrome
The luteinisation of ovulatory follicle without a release of an oocyte.
Learn more at: www.fertilitypedia.org/therapy/diag/luteinised-unruptured-follicle-syndrome

Pelvic adhesions
A form of abdominal adhesions in the pelvis.
Learn more at: www.fertilitypedia.org/therapy/diag/pelvic-adhesions

Tubal phimosis
The type of blockage that affects the part of the fallopian tube end towards the ovary.
Learn more at: www.fertilitypedia.org/therapy/diag/tubal-phimosis

Hysterectomy
A surgery performed to remove a woman's uterus.
Learn more at: www.fertilitypedia.org/therapy/diag/hysterectomy

Endometrioma
Benign ovarian cysts containing thick, old blood that appears as a brown fluid.
Learn more at: www.fertilitypedia.org/therapy/diag/endometrioma

Non-Hodgkin lymphoma
Type of cancer arising from the lymphoid tissue.
Learn more at: www.fertilitypedia.org/therapy/diag/non-hodgkin-lymphoma

Bilateral fallopian tube blockage
A blockage of both fallopian tubes.
Learn more at: www.fertilitypedia.org/therapy/diag/bilateral-fallopian-tube-blockage

Hyperestrogenism
An excessive amount of estrogenic activity in the body.
Learn more at: www.fertilitypedia.org/therapy/diag/hyperestrogenism

Unilateral fallopian tube blockage
A condition of blocked passage through one of the Fallopian tubes.
Learn more at: www.fertilitypedia.org/therapy/diag/unilateral-fallopian-tube-blockage

Organs

Fallopian tubes
Two very fine tubes that transport sperm toward the egg, and allow passage of the fertilized egg back to the uterus for implantation.
Learn more at: www.fertilitypedia.org/edu/organs/fallopian-tubes

Ovary
The ovum-producing organs of the internal female reproductive system
Learn more at: www.fertilitypedia.org/edu/organs/ovary

Urinary bladder
Hollow, expandable organ serving as a reservoir for urine prior to its expulsion from the body.
Learn more at: www.fertilitypedia.org/edu/organs/urinary-bladder
Uterus
The uterus is the largest and major organ of the female reproductive tract that is the site of fetal growth and is hormonally responsive.
Learn more at: www.fertilitypedia.org/edu/organs/uterus

Reproductive cells

Embryo
A multicellular diploid eukaryote in an early stage of embryogenesis, or development.
Learn more at: www.fertilitypedia.org/edu/reproductive-cells/embryo

Endometrial cell
Cells composing an inner layer of the uterine lining.
Learn more at: www.fertilitypedia.org/edu/reproductive-cells/endometrial-cell

Endometrium
The innermost layer of uterus forming the uterine lumen where the implantation of an oocyte happens.
Learn more at: www.fertilitypedia.org/edu/reproductive-cells/endometrium

Oocyte
A female germ cell involved in reproduction.
Learn more at: www.fertilitypedia.org/edu/reproductive-cells/oocyte

Biological control

Estrogen
The primary female sex hormone responsible for the development and regulation of the female reproductive system and secondary sex characteristics.
Learn more at: www.fertilitypedia.org/edu/biological-control/estrogen

Progesterone
Steroid hormone, secreted by the ovaries, whose function is to prepare the uterus for the implantation of a fertilized ovum and to maintain pregnancy.
Learn more at: www.fertilitypedia.org/edu/biological-control/progesterone

Reproductive functions

Fertilization
The fusion of an ovum with a sperm to initiate the development of a new individual organism.
Learn more at: www.fertilitypedia.org/edu/reproductive-functions/fertilization

Implantation
The very early stage of pregnancy at which the embryo adheres to the wall of the uterus.
Learn more at: www.fertilitypedia.org/edu/reproductive-functions/implantation

Menstruation
The periodic discharge of blood and mucosal tissue from the inner lining of the uterus through the vagina.
Learn more at: www.fertilitypedia.org/edu/reproductive-functions/menstruation

Oogenesis
The process of the maturation of the female gametes through the meiotic division.
Learn more at: www.fertilitypedia.org/edu/reproductive-functions/oogenesis
Ovulation
The release of egg(s) from the ovaries.
Learn more at: www.fertilitypedia.org/edu/reproductive-functions/ovulation

⚠️ Risk factors

Abnormal pasage of menstrual flow out of the body
Changes in menstruation resulting from increased volume, duration, or frequency.
Learn more at: www.fertilitypedia.org/therapy/rf/abnormal-passage-of-menstrual-flow-out-of-the-body

Closed hymen
A congenital disorder where a hymen without an opening completely obstructs the vagina and with negative impact on female fertility.
Learn more at: www.fertilitypedia.org/therapy/rf/closed-hymen

Early onset of menses
Occurrence of menstruation in 11 years or less.
Learn more at: www.fertilitypedia.org/therapy/rf/early-onset-of-menses

Ectopic pregnancy
A complication of pregnancy in which the embryo attaches outside the uterus.
Learn more at: www.fertilitypedia.org/therapy/rf/ectopic-pregnancy

Endometriotic cysts
The cysts formed after ectopic adhesion (attachment outside the uterus) of endometrial tissue interfering with conception and pregnancy.
Learn more at: www.fertilitypedia.org/therapy/rf/endometriotic-cysts

Family history
A higher risk of disease when multiple family members are affected.
Learn more at: www.fertilitypedia.org/therapy/rf/family-history

Frequent menstrual cycles with duration > 8 days
Prolonged and also excessive uterine bleeding that occurs at irregular, frequent intervals.
Learn more at: www.fertilitypedia.org/therapy/rf/frequent-menstrual-cycles-with-duration-8-days

Miscarrage
Intrauterine death of an embryo or a fetus of less than 500g in mass or before 20 weeks of gestation.
Learn more at: www.fertilitypedia.org/therapy/rf/miscarrage

Pelvic Inflammatory Disease
Infection of the upper part of the female reproductive system and a common complication of some sexually transmitted diseases.
Learn more at: www.fertilitypedia.org/therapy/rf/pelvic-inflammatory-disease

Sedentary lifestyle
Type of lifestyle with no or irregular physical activity.
Learn more at: www.fertilitypedia.org/therapy/rf/sedentary-lifestyle

Toxin exposure
Toxins are small molecules, that are capable of causing disease on contact with or absorption by body tissues interacting with biologic macromolecules
Learn more at: www.fertilitypedia.org/therapy/rf/toxin-exposure

(symptoms)
Diarrhea
The condition of having at least three loose or liquid bowel movements each day.
Learn more at: www.fertilitypedia.org/edu/symptoms/diarrhea

Early puberty for girls
The onset of puberty before the average age in girls (8 years).
Learn more at: www.fertilitypedia.org/edu/symptoms/early-puberty-for-girls

Heavy or prolonged bleeding in menstrual period
Abnormally heavy or prolonged bleeding in menstrual periods.
Learn more at: www.fertilitypedia.org/edu/symptoms/heavy-or-prolonged-bleeding-in-menstrual-period-1

Irregular bleeding between the menstrual periods
Bleeding that occurs irregularly between the menstrual period.
Learn more at: www.fertilitypedia.org/edu/symptoms/irregular-bleeding-between-the-menstrual-periods-1

Lower back pain
A common painful disorder involving the muscles and bones of the back.
Learn more at: www.fertilitypedia.org/edu/symptoms/lower-back-pain

Painful defecation
The feel of pain during defecation.
Learn more at: www.fertilitypedia.org/edu/symptoms/painful-defecation

Painful menstruation
Dysmenorrhea is a pain during menstruation. It is the most common menstrual disorder.
Learn more at: www.fertilitypedia.org/edu/symptoms/painful-menstruation

Painful sexual intercourse
The painful feelings during sexual intercourse.
Learn more at: www.fertilitypedia.org/edu/symptoms/painful-sexual-intercourse

Rectal bleeding
The presence of blood in the faecal discharge.
Learn more at: www.fertilitypedia.org/edu/symptoms/rectal-bleeding

Retrograde menstruation
Retrograde flow of menstrual fluid through fallopian tubes into the pelvic cavity.
Learn more at: www.fertilitypedia.org/edu/symptoms/retrograde-menstruation

Underweight
A term describing a person whose body weight is considered too low to be healthy.
Learn more at: www.fertilitypedia.org/edu/symptoms/underweight

Therapies

Egg donation
Process by which a woman donates eggs for purposes of assisted reproduction or biomedical research.
Learn more at: www.fertilitypedia.org/edu/therapies/egg-donation

Hysterectomy
Surgical removal of the uterus.
Learn more at: www.fertilitypedia.org/edu/therapies/hysterectomy
ICSI
A micromanipulative fertilization technique in which a single sperm is injected directly into an egg.
Learn more at: www.fertilitypedia.org/edu/therapies/icsi

Laparoscopic treatment of endometriosis
Use of laparoscopic technique to remove foci of endometriosis.
Learn more at: www.fertilitypedia.org/edu/therapies/laparoscopic-treatment-of-endometriosis

Ovariectomy
Surgical removal of one or both ovaries.
Learn more at: www.fertilitypedia.org/edu/therapies/ovariectomy

Pharmacotherapy of endometriosis
Learn more at: www.fertilitypedia.org/edu/therapies/pharmacotherapy-of-endometriosis

Physical exercise
Physical exercise is any bodily activity that enhances or maintains physical fitness and overall health and wellness.
Learn more at: www.fertilitypedia.org/edu/therapies/physical-exercise-1

Presacral neurectomy
Surgery used to treat severe pelvic pain that does not respond to previous therapy.
Learn more at: www.fertilitypedia.org/edu/therapies/presacral-neurectomy

Sperm donation
The procedure in which a man (sperm donor) provides his sperm for fertility treatment.
Learn more at: www.fertilitypedia.org/edu/therapies/sperm-donation

Standard IVF
A process in which an egg is fertilised by sperm outside the body: in vitro. Own or donated gametes may be used.
Learn more at: www.fertilitypedia.org/edu/therapies/standard-ivf

Traditional Chinese medicine
A broad range of medicine practices sharing common concepts which have been developed in China and are based on a tradition of more than 2000 years.
Learn more at: www.fertilitypedia.org/edu/therapies/traditional-chinese-medicine

Gallery

**Endometriosis of the ovary**
Micrograph showing endometriosis (right) and ovarian stroma (left).

**Douglas-Endometriose**
Laparoscopic image of endometriotic lesions in the Pouch of Douglas and on the right sacrouterine ligament.
Transvaginal ultrasonography showing a endometrioma
Transvaginal ultrasonography showing a 67 x 40 mm endometrioma as distinguished from other types of ovarian cysts by a somewhat grainy and not completely anechoic content.

Endometriosis, abdominal wall
The specimen is a bloc of adipose tissue with a small ellipse of skin over it.

Endometriosis location
Drawing showing possible locations of endometriosis.

Micrograph of the wall of an endometrioma
Micrograph of the wall of an endometrioma. All features of endometriosis are present (endometrial glands, endometrial stroma and hemosiderin-laden macrophages).

Endometriosis

Peritoneal endometriosis
Laparoscopic image of endometriotic lesions at the peritoneum of the pelvic wall.
Locations of endometriosis
Figure showing possible locations of endometriosis.

Sources

“Endometriosis” —sourced from World Heritage Encyclopedia licensed under CC BY-SA 3.0

“Catamenial pneumothorax” —sourced from Wikipedia licensed under CC BY-SA 3.0

“Endometriosis of ovary” —sourced from World Heritage Encyclopedia licensed under CC BY-SA 3.0

“Endometriosis-Associated Ovarian Cancer: A Review of Pathogenesis” —by Worley et al. licensed under CC BY 3.0

“Adhesion (medicine)” —sourced from Wikipedia licensed under CC BY-SA 3.0

“Recto-uterine pouch” —sourced from Wikipedia licensed under CC BY-SA 3.0

“Endometriosis and Pregnancy” —sourced from Wikinoticia licensed under CC BY 3.0

“Endometriosis and infertility” —sourced from Wikipedia licensed under CC BY-SA 3.0

“Endometriosis: alternative methods of medical treatment” —by Muñoz-Hernando et al. licensed under CC BY-NC 3.0

“Danazol” —sourced from Wikipedia licensed under CC BY-SA 3.0

“Hormonal treatment for endometriosis associated pelvic pain” —by Wong and Lim licensed under CC BY 3.0

“Gonadotropin-releasing hormone agonist” —sourced from Wikipedia licensed under CC BY-SA 3.0

“Endometriosis” —sourced from World Heritage Encyclopedia licensed under CC BY-SA 3.0

“Endometriosis of the ovary” —sourced from Wikipedia licensed under CC BY-SA 3.0

“Endometriosis” —sourced from Wikipedia licensed under CC BY-SA 3.0

“Endometrioma” —sourced from Wikipedia licensed under CC0 1.0

“Endometriosis, abdominal wall” —sourced from Wikipedia licensed under CC BY-SA 3.0

“Endometriosis” —sourced from Wikipedia licensed under CC BY 3.0
“Endometrioma” — sourced from Wikipedia licensed under CC BY-SA 3.0

“Peritoneal endometriosis” — sourced from Wikipedia licensed under CCO 1.0

“Endometriosis locations” — sourced from Wikipedia licensed under CC BY-SA 3.0