CONDITION

Premature ovarian failure

Premature ovarian failure is loss of normal ovarian function before age 40

WHAT IT IS
Reduced or irregular ovarian function before age 40

BODY SYSTEM
Reproductive and hormonal systems

MAIN SYMPTOMS
Irregular periods, hot flushes, vaginal dryness, difficulty becoming pregnant

WHAT CAUSES IT
Usually unknown, sometimes genetic, autoimmune, or treatment-related

HOW IT IS DIAGNOSED
Menstrual history and follicle-stimulating hormone blood tests

MAIN TREATMENT
Hormone replacement, symptom care, and fertility support

CAN IT BE CURED?
No - ovarian function cannot be reliably restored

IS IT AN EMERGENCY?
No - pregnancy pain or heavy bleeding needs urgent care

LONG-TERM OUTLOOK
Usually manageable with treatment and ongoing health checks

Overview

Premature ovarian failure means that the ovaries stop working normally before age 40. The ovaries may release eggs less often and produce lower amounts of hormones, especially oestrogen.

Healthcare professionals now usually call this premature ovarian insufficiency , or POI. The older word "failure" can be misleading because ovarian activity may continue from time to time. Some people have occasional periods or release an egg after diagnosis.

POI is different from natural menopause, which usually happens later in life. It is also different from early menopause, which occurs between ages 40 and 44.

Lower oestrogen can cause symptoms such as hot flushes and vaginal dryness. Over many years, it may also affect bone and heart health. POI can make pregnancy difficult, although it

does not always mean pregnancy is impossible.

The condition can have a major emotional effect. Some people experience grief, anxiety, changes in sexual confidence, or distress about fertility. These responses are understandable and are part of the condition's impact, not a personal failing.

Symptoms

The first sign is often a change in menstrual periods. Periods may become irregular, less frequent, or stop. If you use hormonal contraception, changes may be harder to notice because contraception can alter or stop bleeding.

Other possible symptoms include:

Symptoms differ from person to person. Some people have obvious menopause-like symptoms, while others have no symptoms apart from irregular periods or fertility problems.

Missing a period does not automatically mean you have POI. Pregnancy, stress, weight changes, intense exercise, thyroid conditions, polycystic ovary syndrome, medicines, and other health issues can also change menstrual cycles.

- Hot flushes and night sweats
- Vaginal dryness, discomfort during sex, or reduced sexual desire
- Sleep problems, tiredness, or difficulty concentrating
- Mood changes, anxiety, or low mood
- Difficulty becoming pregnant

Causes and risk factors

In many cases, no specific cause is found. This does not mean anything was missed or that something you did caused the condition.

Known causes and risk factors include genetic and chromosome differences. Turner syndrome, which involves a missing or altered X chromosome, can affect ovarian development. A change called an FMR1 premutation can also increase the chance of POI and may have implications for biological relatives.

Autoimmune conditions are another possible cause. In autoimmune conditions, the immune system mistakenly attacks part of the body. POI can occur alongside thyroid or adrenal gland conditions, although this is not the explanation in every case.

Cancer treatments can damage eggs or ovarian tissue. The risk depends on the type and amount of chemotherapy or radiotherapy and the area treated. Surgery that removes both ovaries causes immediate loss of ovarian function. Surgery involving one ovary or the surrounding pelvic area may sometimes reduce the remaining egg supply.

A family history of POI may increase the chance of developing it. Rare causes include certain metabolic conditions and infections.

Diagnosis

A healthcare professional will ask about your periods, symptoms, medicines, contraception, previous medical treatment, and family history. A pregnancy test is usually needed because pregnancy is a common reason for missed periods.

The main diagnostic blood test measures follicle-stimulating hormone , or FSH. FSH is made by the brain and signals the ovaries to work. When ovarian function is reduced, the FSH level often rises because the brain is sending a stronger signal.

Current international guidance supports a diagnosis in someone under 40 who has had irregular or absent periods for at least four months and has an FSH level in the diagnostic range. The test may be repeated after several weeks when the result or clinical picture is uncertain. Hormonal contraception and hormone therapy can affect periods and test results, so this needs to be considered.

An oestrogen test may support the diagnosis but does not confirm it by itself. Anti-Müllerian hormone , or AMH, estimates the remaining supply of developing egg follicles. It is not usually the main test for diagnosing POI.

Further tests may look for a cause or related health concerns. These can include chromosome analysis, FMR1 testing, thyroid tests, and tests for adrenal autoimmunity. A pelvic ultrasound may examine the uterus and ovaries, but a normal scan does not rule out POI.

A bone-density scan may be recommended to check bone strength, especially if low oestrogen may have been present for some time.

Treatment and management

Treatment cannot reliably restore the ovaries or their egg supply. Management aims to replace missing hormones, control symptoms, protect long-term health, and support fertility choices and emotional wellbeing.

Hormone replacement therapy, or HRT, usually provides oestrogen. If you have a uterus, a progestogen is also needed to protect its lining from becoming too thick. Some people use a combined hormonal contraceptive instead. The choice depends on factors such as symptoms, contraception needs, medical history, and personal preference.

For POI, hormone treatment is not only for hot flushes. It also helps protect bones and may support heart health while replacing hormones that would normally be present at this age. Guidelines generally advise continuing treatment until around the usual age of natural menopause, unless there is a medical reason not to. Treatment is then reviewed rather than stopped automatically.

Low-dose vaginal oestrogen, moisturisers, or lubricants may help vaginal dryness and pain during sex. Vaginal treatment can sometimes be used in addition to hormone therapy.

Hormone replacement does not provide reliable contraception. Because ovarian activity can occasionally return, pregnancy may still occur. If you do not want to become pregnant, discuss suitable contraception.

No medicine has been shown to restart ovarian function reliably. If you want to have a child, a fertility specialist can explain the available options. Pregnancy using donated eggs with in vitro fertilisation is an established option. Depending on the circumstances, other routes may include previously frozen eggs or embryos, donor embryos, adoption, or choosing not to pursue parenthood.

Emotional and sexual support can also be part of care. Counselling, fertility support groups, or specialist sexual health care may help if the diagnosis affects relationships, mood, or body image.

Complications

Long-term low oestrogen can reduce bone density. This may lead to osteoporosis , meaning bones become weaker and more likely to break. Hormone treatment, weight-bearing activity, adequate calcium and vitamin D, and avoiding smoking can help support bone health.

POI is also associated with a higher long-term risk of heart and blood-vessel problems. Blood pressure, cholesterol, smoking, physical activity, and other heart-health factors may be reviewed during routine care.

Difficulty becoming pregnant is a common and often distressing complication. Fertility can be unpredictable because occasional ovulation may happen without warning.

Vaginal dryness and changes in sexual desire can affect comfort and relationships. Anxiety, depression, grief, and reduced self-esteem may also occur. These concerns deserve the same

attention as physical symptoms.

Some people have an associated autoimmune or genetic condition. Follow-up may therefore include thyroid monitoring or other tests based on the suspected cause.

Prevention

Most cases of premature ovarian insufficiency cannot be prevented. This is especially true when the cause is genetic, autoimmune, or unknown.

If chemotherapy, radiotherapy, or ovarian surgery is planned, ask whether it could affect fertility before treatment begins. When time and health allow, fertility-preservation options may include freezing eggs, embryos, or ovarian tissue. These methods are not suitable or successful in every situation.

Protecting ovarian tissue during radiotherapy may sometimes be possible. The cancer treatment team and a fertility specialist can explain what applies to a particular treatment plan.

Not smoking supports general, bone, and heart health, but it cannot guarantee that POI will be prevented.

Living with it and what to expect

POI is usually a long-term condition, but its activity may be uneven. Periods can sometimes return, and symptoms may improve or worsen over time. A returning period does not necessarily mean the condition has resolved.

Hormone treatment often reduces hot flushes, sleep disruption, and vaginal symptoms. It may take time to find a form of treatment that feels comfortable. Side effects, bleeding patterns, and changing health needs can be reviewed without assuming that you must tolerate a treatment that does not suit you.

Routine follow-up usually includes discussion of symptoms, medication, bleeding, contraception, fertility plans, sexual health, mood, and bone and heart health. Blood pressure and other risk factors may be checked. Bone-density monitoring is based on the first scan, treatment use, and individual risk.

Life with POI can still include work, exercise, relationships, sex, and parenthood. The condition does not define your identity or femininity. However, uncertainty about fertility and future health may remain difficult, and support may be useful at different stages rather than only at diagnosis.

Around the usual age of natural menopause, hormone treatment should be reassessed. The balance of benefits and risks changes with age, so ongoing treatment is a shared decision.

When to get medical help

Arrange a routine appointment if you are under 40 and your periods have become irregular or stopped for several months, especially if you also have hot flushes, vaginal dryness, or difficulty becoming pregnant. Seek review sooner if the change followed cancer treatment or pelvic surgery.

Contact a healthcare professional promptly if you have unexpected or persistent bleeding, new pelvic pain, troubling treatment side effects, or symptoms of a thyroid or adrenal condition. Severe weakness, repeated vomiting, marked dizziness, or faintness need urgent assessment.

POI itself is not usually an emergency. Get urgent or emergency help if you have:

Pain or bleeding during pregnancy can have several causes, including an ectopic pregnancy, in which a pregnancy develops outside the uterus.

- A positive pregnancy test with one-sided pelvic pain, shoulder pain, bleeding, dizziness, or fainting
- Very heavy vaginal bleeding, especially with weakness or faintness
- Sudden severe abdominal or pelvic pain
- Thoughts of harming yourself or feeling unable to stay safe

Common questions

Is premature ovarian failure the same as menopause?

Not exactly. Natural menopause means periods have permanently stopped because ovarian activity has ended. With POI, ovarian activity can be intermittent, so occasional periods and ovulation may still occur.

Can my periods come back?

They can return temporarily or irregularly. This does not reliably predict future ovarian activity, fertility, or whether hormone treatment is still needed.

Can I get pregnant naturally?

Pregnancy without fertility treatment is possible because occasional ovulation can happen. It

is not predictable, however, and many people need fertility support. Hormone replacement is not contraception.

Can stress cause premature ovarian failure?

Stress can delay or stop periods, but it is not considered a usual cause of POI. Other explanations for missed periods should be checked before a diagnosis is made.

Does POI mean I have no eggs left?

Not necessarily. Some follicles may remain, but they may not develop or release eggs normally. Current tests cannot reliably predict whether or when ovulation will occur.

Will I need hormone therapy for life?

Not always. Treatment is commonly continued until around the usual age of natural menopause, provided it remains suitable. At that point, its benefits and risks are reviewed based on symptoms, health, and preferences.

Sources

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- National Institute for Health and Care Excellence: Menopause-identification and management, guideline NG23 , updated 2024
- American College of Obstetricians and Gynecologists: Hormone Therapy in Primary Ovarian Insufficiency, Committee Opinion No. 698 , 2017
- NHS: Early or premature menopause , patient information