

Menstruation - athletic amenorrhoea

Amenorrhoea means the absence of menstrual periods. Women who are athletes or exercise excessively on a regular basis are at risk of developing athletic amenorrhoea.

Low body fat levels and exercise-related chemicals (such as beta endorphins and catecholamines) are thought to disrupt the functioning of the sex hormones oestrogen and progesterone. If left untreated, long-term complications include increased risk of broken bones and premature ageing.

For a doctor to diagnose athletic amenorrhoea, all other possible causes, such as certain reproductive disorders, need to be eliminated first. Treatment options include exercising less or, in some cases, starting hormone replacement therapy.

Symptoms

Symptoms of athletic amenorrhoea can include:

- No periods for at least three months
- Irregular and heavy periods that only happen four times or less per year.

High-risk sports

Athletic amenorrhoea is more common in women who are involved in certain sports and activities, including:

- Ballet
- Basketball
- Cycling
- Gymnastics
- Long distance running
- Swimming.

The menstrual cycle

Brain structures known as the hypothalamus and pituitary gland interact with each other to control the menstrual cycle. The pituitary gland produces chemicals that stimulate the ovaries to produce oestrogen and progesterone. These hormones thicken the lining of the uterus (womb) to prepare for a possible pregnancy.

When pregnancy doesn't happen, hormone levels drop and the lining of the uterus falls away. This is called a period, or menstruation. The cycle then repeats. Disorders of the hypothalamus, pituitary gland or ovaries can disrupt menstruation, causing amenorrhoea.

Causes of athletic amenorrhoea

The sex hormones can be disrupted by a range of factors, including:

- **Low body fat levels** – the female body won't menstruate below a certain percentage of body fat.
- **Exercise** – physical exertion prompts the release of certain exercise-related hormones, such as beta endorphins and catecholamines. High levels of these hormones are thought to interfere with the functioning of oestrogen and progesterone.
- **Emotional stress** – strong, debilitating emotions are known to affect the hypothalamus.

- **Disordered eating** – crash dieting and skipping meals can be signs of eating disorders and can lead to weight-related amenorrhoea.

Long-term complications

The long-term complications of untreated athletic amenorrhoea include:

- **Infertility** – a woman can't conceive when she is amenorrhoeic, but athletic amenorrhoea has no effect on long-term fertility once menstruation starts again.
- **High blood cholesterol levels** – caused by an oestrogen-related fall in the ratio of 'good' cholesterol (high density lipoprotein or HDL) to 'bad' cholesterol (low density lipoprotein or LDL).
- **Osteoporosis** – a disease characterised by brittle bones that break easily.
- **Premature ageing** – the skin loses its elasticity due to low levels of oestrogen.

Diagnosis

For a doctor to diagnose athletic amenorrhoea, all other possible causes such as certain reproductive disorders, need to be eliminated first. Tests can include:

- **Pregnancy tests** – either urine or blood tests.
- **Physical examination** – to determine overall health and the presence of other sexual characteristics such as breast development and pubic hair.
- **Medical history** – including gynaecological history and contraceptive methods.
- **Hormone tests** – to check the functioning of the hypothalamus, pituitary gland and ovaries.
- **Other scans** – including CT scans and ultrasounds of the reproductive system.

Treatment options

Treatment options for athletic amenorrhoea depend on the individual, but can include:

- Reducing the amount and intensity of exercise
- Increasing body fat levels by two or three kilograms
- Making dietary adjustments, such as increased calcium and additional daily kilojoules
- Taking calcium supplements to increase bone strength and prevent osteoporosis
- Starting the oral combined contraceptive pill or equivalent hormone replacement therapy if dietary changes and reduced exercise don't prompt spontaneous menstruation
- Seeking counselling for eating disorders.

Where to get help

- Your doctor
- Gynaecologist
- Family Planning Victoria Tel. 1800 013 952 or (03) 9257 0100.

Things to remember

- Amenorrhoea means the absence of menstrual periods.
- Women who are athletes or exercise excessively on a regular basis are at risk of developing athletic amenorrhoea.
- Causes are thought to include low body fat levels and the effects of exercise-related hormones on the menstrual cycle.

This page has been produced in consultation with, and approved by:

Family Planning Victoria

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