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## Menstruation – amenorrhoea

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### Summary

- Amenorrhoea is the absence of menstrual periods.
  - The most common cause is hormone disruption, which can be due to emotional stress, extreme weight loss, excessive exercise or certain reproductive disorders.
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Amenorrhoea is the absence of menstrual periods. Apart from during childhood, pregnancy, breastfeeding and menopause, the absence of periods may be caused by a problem with the reproductive system. One of the most common causes of amenorrhoea is when the body's hormones are disrupted.

The body's ability to make the female sex hormones oestrogen and progesterone can be affected by a range of factors, including certain reproductive disorders, losing or putting on weight, emotional stress or exercising too much.

### The menstrual cycle

Brain structures called the hypothalamus and pituitary gland control the menstrual cycle. The hypothalamus triggers the pituitary gland to make hormones that trigger the ovaries to make oestrogen and progesterone. These hormones make the lining of the uterus (womb) thicker to prepare the body for pregnancy.

If pregnancy does not happen, hormone levels drop and the lining of the uterus comes away. This is called a period or menstruation. The cycle then happens again and repeats itself until the menopause.

Disorders of the hypothalamus, pituitary gland or ovaries can affect menstruation, causing amenorrhoea.

### Primary and secondary amenorrhoea

Amenorrhoea is divided into two categories: primary and secondary amenorrhoea.

**Primary amenorrhoea** is when:

- periods have not started by 14 years and there are no signs of other sexual characteristics (such as developing breasts and pubic hair), or
- periods have not started by 16 years, even though other sexual characteristics have developed.

**Secondary amenorrhoea** is when periods have stopped for about three months or more.

### Causes of primary amenorrhoea

Primary amenorrhoea is usually due to a genetic or anatomical abnormality. However, everything that causes secondary amenorrhoea can present as primary amenorrhoea.

**Turner's syndrome** is the most common cause of primary amenorrhoea (43 per cent).

Other less common causes of primary amenorrhoea are:

- Müllerian agenesis (15 per cent of cases) – a lack of development of the vagina, with or without the uterus, which occurs in early development in the foetus
- delay of puberty (14 per cent) – this is more common in boys than girls and can be associated with chronic or acute illness
- **polycystic ovarian syndrome** (7 per cent)
- functional hypothalamic amenorrhoea (5 per cent).

Primary amenorrhoea is much less frequently caused by:

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- imperforate hymen – a congenital disorder in which a hymen has no opening and completely obstructs the vagina
- transverse vaginal septum – a birth defect that results in a wall of tissue running horizontally across the vagina, blocking all or part of it
- enzymes deficiencies
- high prolactin levels due to a pituitary tumour
- **congenital adrenal hyperplasia**
- **hypothyroidism**
- low energy availability (for example, due to decreased caloric intake, excessive energy use, eating disorders, excessive exercise, or being an elite athlete)
- stress.

### **Causes of secondary amenorrhoea**

A range of factors can affect how the hypothalamus works and cause amenorrhoea, including:

- emotional stress
- losing weight, eating disorders and nutritional deficiencies (such as can occur with coeliac disease)
- exercising too much (elite athletes)
- certain medication used to treat mental health conditions
- disorders of the endocrine system, such as hypothyroidism (having an underactive thyroid gland).

Other disorders that can cause amenorrhoea include:

- **polycystic ovarian syndrome** – the ovaries develop clusters of ovarian follicles, or eggs, which look like small cysts. Symptoms include irregular periods and added hair growth. Women with polycystic ovarian syndrome are more at risk of amenorrhoea when they put on weight
- hyperandrogenaemia – the body makes high levels of male sex hormones, which can affect the reproductive system. This can be caused by tumours of the ovary or adrenal gland, or certain conditions present at birth
- hyperprolactinaemia – the body makes high levels of the breastfeeding hormone prolactin. Levels rise because the pituitary gland may be overactive or there may be a tumour on the gland
- ovarian failure or **early menopause** (known as premature ovarian insufficiency) – low levels of oestrogen causing ovulation to stop, and stopping the menstrual cycle.

### **Diagnosis of cause of amenorrhoea**

For a doctor to diagnose the cause of amenorrhoea, various tests can be used, including:

- **pregnancy tests**, which can be either a urine or blood test
- physical examination to check overall health and see if other sexual characteristics, such as breast growth and pubic hair, have developed
- medical history, including gynaecological history and contraceptive methods used
- hormone tests to check how the hypothalamus, pituitary glands, ovaries and other glands, such as the thyroid and adrenal glands, are working
- an ultrasound of the reproductive system to check the size of organs, the presence of follicles and eggs in the ovaries, the presence of the uterus and an open vagina.

### **Treatment for amenorrhoea**

Treatment for amenorrhoea depends on the cause. If your amenorrhoea is due to the fact that you have lost a lot of weight or been exercising too much, treatment will include encouraging you to have a healthier body weight.

Other treatment options can include losing weight (if you are overweight) or managing any underlying medical disorder.

Hormone therapy, such as the combined oral contraceptive pill, will usually cause regular periods to return, but will not treat any underlying cause.

## Where to get help

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

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

Jean Hailes for Women's Health

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