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Patient information: Absent or irregular periods (Beyond the Basics)

OVERVIEW

Menstrual cycle disorders can cause a woman's periods to be absent or infrequent. Although some women do not mind missing their menstrual period, these changes should always be discussed with a healthcare provider because they can signal underlying medical conditions and potentially have long-term health consequences. A woman who misses more than three menstrual periods (either consecutively or over the course of a year) should see a healthcare provider.

Amenorrhea — Amenorrhea refers to the absence of menstrual periods, and is classified as either:

- Primary (when menstrual periods have not started by age 15)
- Secondary (when menstrual periods are absent for more than three to six months in a woman who previously had periods)

Oligomenorrhea — Oligomenorrhea is the medical term for infrequent menstrual periods (fewer than six to eight periods per year).

The causes, evaluation, and treatment of amenorrhea and oligomenorrhea are similar and will be discussed together.

CAUSES OF IRREGULAR PERIODS

The brain (including the hypothalamus and pituitary gland), ovaries, and uterus normally follow a sequence of events once per month that helps to prepare the body for pregnancy ([figure 1](#)). Two hormones, follicle stimulating hormone (FSH) and luteinizing hormone (LH), are made by the pituitary gland. Two other hormones, progesterone and estrogen, are made by the ovaries.

Menstrual cycle disorders can result from conditions that affect the hypothalamus, pituitary gland, ovaries, uterus, cervix, or vagina.

Primary amenorrhea — Some of the more common causes of primary amenorrhea include the following:

- Conditions that are present at birth, but may not be noticed until puberty. These conditions include genetic or chromosomal abnormalities and abnormalities of the reproductive organs (eg, if the uterus is not present or developed abnormally).
- All of the conditions that lead to secondary amenorrhea can also cause primary amenorrhea.

Secondary amenorrhea — Pregnancy is the most common of secondary amenorrhea. Other common causes include the following:

- Ovarian conditions, such as polycystic ovary syndrome and ovarian insufficiency (early menopause).
- Hypothalamic amenorrhea. This occurs when the hypothalamus slows or stops releasing GnRH (gonadotropin releasing hormone), a hormone that influences when a woman has a menstrual period.

Hypothalamic amenorrhea is associated with low body weight (defined as weighing 10 percent below ideal body weight) ([calculator 1](#) and [calculator 2](#)), a low percentage of body fat, eating disorders such as anorexia nervosa or bulimia nervosa, emotional stress, strenuous exercise, and some medical conditions or illnesses. However, in some cases, there is no obvious explanation for hypothalamic amenorrhea.

- Prolactin-secreting pituitary tumors are another common cause of secondary amenorrhea. (See ["Patient information: High prolactin levels and prolactinomas \(Beyond the Basics\)"](#).)

Oligomenorrhea — Many of the conditions that cause primary or secondary amenorrhea can also cause a woman to ovulate irregularly (oligomenorrhea). However, most women who develop infrequent periods have polycystic ovary syndrome (see ["Polycystic ovary syndrome"](#) below).

EVALUATION OF IRREGULAR PERIODS

The evaluation of amenorrhea/oligomenorrhea includes a complete medical history and physical examination.

History — There are often clues about the cause of amenorrhea in a woman's personal and family medical history. A woman should mention if she had any health problems during infancy or childhood, when her first period started (if there was a first period) and how frequently periods have occurred since. If known, the woman should also mention if there is any family history of irregular menstrual periods.

Other important points include the presence of discharge from the breasts, hot flashes, adult acne, facial or chest hair, and headaches or impaired vision. The clinician will also ask about any medications, herbs, and vitamins used, recent stress, recent gynecologic procedures, changes in weight, diet, or exercise patterns, and illnesses.

Physical examination — During the physical examination, the provider will examine the face, neck, breasts, and abdomen. A pelvic examination will also be performed.

Testing — Depending upon the individual, the clinician may order blood tests. Because pregnancy is the most common cause of secondary amenorrhea, a pregnancy test is usually

recommended for women whose menstrual periods have stopped. Blood tests to measure hormone levels will also be ordered.

In selected cases, a magnetic resonance imaging (MRI) test may be done to determine if there are hypothalamic or pituitary gland abnormalities in the brain ([figure 2](#)). Occasionally, in women with a suspected chromosomal abnormality, a chromosome analysis may be recommended. A pelvic ultrasound may be recommended to identify abnormalities of the uterus, cervix, and vagina.

TREATMENT OF IRREGULAR PERIODS

The goal of treatment is to correct the underlying condition. For a woman who is trying to become pregnant, restoring fertility may be another goal. (See ["Patient information: Ovulation induction with clomiphene \(Beyond the Basics\)"](#) and ["Patient information: Infertility treatment with gonadotropins \(Beyond the Basics\)"](#).)

Polycystic ovary syndrome — Polycystic ovary syndrome (PCOS) is a chronic condition that causes infrequent periods and an excess of androgens (male hormones). Most healthcare providers recommend treating PCOS to reestablish normal menstrual cycles and prevent long-term complications. PCOS is discussed in detail separately. (See ["Patient information: Polycystic ovary syndrome \(PCOS\) \(Beyond the Basics\)"](#).)

Hypothalamic amenorrhea — Women with hypothalamic amenorrhea are sometimes able to resume normal menstrual periods after making certain lifestyle changes, such as eating a higher-calorie diet, gaining weight, reducing the intensity or frequency of exercise, and reducing emotional stress.

- Low body weight and/or nutritional deficiencies — Women with eating disorders such as anorexia nervosa or bulimia often need specialized care. This usually includes nutrition counseling and work with eating disorder specialists.
- Strenuous exercise — Although exercise offers many health benefits, exercising frequently or excessively can lead to amenorrhea. Studies suggest that amenorrhea develops when a woman's caloric intake is less than she burns with exercise and other daily activities. Most women with amenorrhea associated with exercise have also lost weight (resulting in a weight less than 10 percent of the ideal body weight) ([calculator 1](#) and [calculator 2](#)).

For women with exercise-associated amenorrhea, treatments include increasing calorie intake and reducing the frequency and/or intensity of exercise. These measures are particularly important if a woman is trying to become pregnant. All women with amenorrhea should be sure to consume 1200 to 1500 mg of calcium daily (or take a calcium supplement) and a vitamin D supplement (400 int. units daily). (See ["Patient information: Calcium and vitamin D for bone health \(Beyond the Basics\)"](#).)

Some clinicians recommend estrogen and progestin hormone replacement (or a hormonal contraceptive, such as a birth control pill) for women with hypothalamic amenorrhea. These treatments can reduce the risk of developing osteoporosis later in life. (See ["Patient information:](#)

[Hormonal methods of birth control \(Beyond the Basics\)"](#) and ["Patient information: Osteoporosis prevention and treatment \(Beyond the Basics\)".](#))

Ovarian failure — Normally, a woman stops ovulating around the age of 50; this is called menopause. If a woman stops ovulating before age 40, this is called premature ovarian failure (or primary ovarian insufficiency). (See ["Patient information: Early menopause \(primary ovarian insufficiency\) \(Beyond the Basics\)".](#))

Being diagnosed with ovarian failure is usually unexpected and can be distressing, especially if the woman has not completed childbearing. In these situations, counseling with a social worker or psychotherapist may be of benefit. With most types of ovarian failure, pregnancy can be achieved using injectable fertility medications and donor eggs. (See ["Oocyte donation for assisted reproduction".](#))

Although ovarian failure cannot be cured, hormone therapy (HT) with estrogen and progesterone (or a hormonal contraceptive, such as a birth control pill) can help prevent or treat many of the symptoms and long-term consequences of menopause, such as hot flashes, vaginal dryness, and osteoporosis. HT has risks of its own in older women. However, a young (20- to 50-year-old) woman who takes HT does not have the same risks as a ≥ 50 -year-old woman who takes HT. Current practice is to provide hormone therapy for women with premature ovarian failure until age 50, the average age of menopause.

High prolactin — Women with amenorrhea and hyperprolactinemia can usually have normal menstrual periods and become pregnant when treated with medications called dopamine agonists (bromocriptine and cabergoline are examples). This is discussed in detail separately. (See ["Patient information: High prolactin levels and prolactinomas \(Beyond the Basics\)".](#))

Hypothalamic or pituitary conditions — Some hypothalamic and pituitary gland conditions that cause amenorrhea, such as a congenital deficiency of gonadotropin-releasing hormone (GnRH), are irreversible. (See ["Congenital gonadotropin-releasing hormone deficiency \(idiopathic hypogonadotropic hypogonadism\)".](#))

However, women with these conditions can have menstrual periods and become pregnant when treated with injectable fertility medications. (See ["Patient information: Infertility treatment with gonadotropins \(Beyond the Basics\)".](#))

Endometrial adhesions (Asherman syndrome) — Some gynecologic procedures, such as a dilatation and curettage (D&C), can cause adhesions (a type of scar tissue), which damage the uterine lining. If adhesions are extensive, menstrual blood loss will be reduced or absent. A clinician may recommend surgery to remove the scarred tissue, followed by estrogen treatment to stimulate regrowth of the lining. (See ["Patient information: Dilation and curettage \(D and C\) \(Beyond the Basics\)".](#))

Anatomic problems — Surgery is often an effective treatment if amenorrhea is caused by a blockage in the reproductive tract. (See ["Diagnosis and management of congenital anomalies of the vagina".](#))

WHERE TO GET MORE INFORMATION

Your healthcare provider is the best source of information for questions and concerns related to your medical problem.

This article will be updated as needed on our web site (www.uptodate.com/patients). Related topics for patients, as well as selected articles written for healthcare professionals, are also available. Some of the most relevant are listed below.

Patient level information — UpToDate offers two types of patient education materials.

The Basics — The Basics patient education pieces answer the four or five key questions a patient might have about a given condition. These articles are best for patients who want a general overview and who prefer short, easy-to-read materials.

[Patient information: Absent or irregular periods \(The Basics\)](#)

[Patient information: Infertility in couples \(The Basics\)](#)

[Patient information: Hemochromatosis \(The Basics\)](#)

[Patient information: Pituitary adenoma \(The Basics\)](#)

Beyond the Basics — Beyond the Basics patient education pieces are longer, more sophisticated, and more detailed. These articles are best for patients who want in-depth information and are comfortable with some medical jargon.

[Patient information: High prolactin levels and prolactinomas \(Beyond the Basics\)](#)

[Patient information: Ovulation induction with clomiphene \(Beyond the Basics\)](#)

[Patient information: Infertility treatment with gonadotropins \(Beyond the Basics\)](#)

[Patient information: Early menopause \(primary ovarian insufficiency\) \(Beyond the Basics\)](#)

[Patient information: Polycystic ovary syndrome \(PCOS\) \(Beyond the Basics\)](#)

[Patient information: Calcium and vitamin D for bone health \(Beyond the Basics\)](#)

[Patient information: Hormonal methods of birth control \(Beyond the Basics\)](#)

[Patient information: Osteoporosis prevention and treatment \(Beyond the Basics\)](#)

[Patient information: Dilation and curettage \(D and C\) \(Beyond the Basics\)](#)

Professional level information — Professional level articles are designed to keep doctors and other health professionals up-to-date on the latest medical findings. These articles are thorough, long, and complex, and they contain multiple references to the research on which they are based. Professional level articles are best for people who are comfortable with a lot of medical terminology and who want to read the same materials their doctors are reading.

[Amenorrhea and infertility associated with exercise](#)

[Clinical features and diagnosis of polycystic ovary syndrome in adolescents](#)

[Etiology, diagnosis, and treatment of primary amenorrhea](#)

[Etiology, diagnosis, and treatment of secondary amenorrhea](#)

[Diagnosis and management of congenital anomalies of the vagina](#)

[Oocyte donation for assisted reproduction](#)

[Congenital gonadotropin-releasing hormone deficiency \(idiopathic hypogonadotropic hypogonadism\)](#)

The following organizations also provide reliable health information.

- National Library of Medicine
(www.nlm.nih.gov/medlineplus/healthtopics.html)
- The Hormone Foundation
(www.hormone.org)

[1-4]

Literature review current through: Oct 2013. | This topic last updated: Aug 24, 2012.

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References

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3. [Loucks AB, Vaitukaitis J, Cameron JL, et al. The reproductive system and exercise in women. Med Sci Sports Exerc 1992; 24:S288.](#)
4. [Warren MP, Voussoughian F, Geer EB, et al. Functional hypothalamic amenorrhea: hypoleptinemia and disordered eating. J Clin Endocrinol Metab 1999; 84:873.](#)