

# **Fact Sheet**

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The Patient Education Website of the American Society for Reproductive Medicine

### **Noncontraceptive Benefits of Birth Control Pills**

Most women will use birth control pills at some time in their lives. But many women don't know that birth control pills also can be used to treat a variety of female problems and can have some surprising health benefits. Birth control pills are made of synthetic (laboratory derived) versions of the two ovarian hormones: progesterone and estradiol. Also, birth control pills can contain synthetic forms of both hormones or progesterone (progestin) only. Progestin-only pills are best for women who should not or do not want to take estrogen, but are not used as much because they have a higher rate of causing unpredictable vaginal bleeding for at least the first year.

To understand how birth control pills affect periods, it is helpful to understand how the normal menstrual cycle works. A menstrual period takes place when the uterus (womb) sheds its lining; this process is controlled by the hormones made by the ovary (estrogen and progesterone). A menstrual cycle begins with the first day of the period, lasts for about one month and is divided into two halves by ovulation (the release of an egg from the ovary). During the first half of the cycle, only estrogen is made. Under the influence of estrogen, the uterine lining grows to prepare for a potential pregnancy. During the second half of the cycle, after ovulation, progesterone is also made. Progesterone stops the lining from growing and prepares it for implantation of an embryo. If pregnancy does not occur, progesterone and estrogen levels fall, which triggers the shedding of the uterine lining and the next period begins.

#### Regulation of menstrual periods:

Most combination birth control pills contain three weeks of active pills (those that contain hormones) and one week of inactive placebo pills (those that do not contain hormones). The bleeding of the period occurs when the hormones are no longer taken during the week that the sugar or placebo pills are taken. A woman can increase the length of time between periods by taking active pills for more weeks. Some drug companies make pill packs that contain up to 3 months of continuous active pills. Women on these pills only have four periods a year, which can be convenient during such times as final exams, sports activities, or social events.

#### Treatment of irregular periods:

Birth control pills can be used to make irregular or unpredictable periods occur on a monthly basis. Women who have menstrual cycles longer than 35 days might not be making progesterone, which prevents the uterine lining from growing too much. Excess growth of the uterine lining can cause heavy bleeding or increase the risk for developing abnormal patterns of growth in the uterine lining, including cancer. The most common reason for irregular and infrequent periods is Polycystic Ovary Syndrome (PCOS). Because a birth control pill contains progesterone-like medication, it can help regulate the menstrual cycle and protect the lining of the uterus against pre-cancer or cancer.

#### Treatment of heavy periods (menorrhagia):

Birth control pills contain a progesterone-like hormone, which makes the lining of the uterus thinner and causes lighter bleeding episodes. In rare cases, some women may not experience bleeding during the period in which they take the placebo or sugar pills. Currently

marketed pills allow a woman to have a period every month, every 90 days, or once per year, as desired.

#### Treatment of painful periods (dysmenorrhea):

A chemical called prostaglandin is produced in the uterus at the time of the period, and can cause painful menstrual periods. Prostaglandin can cause contractions of the uterus that produce the menstrual cramping that most women experience. Women who produce high levels of prostaglandin have more intense contractions and more severe cramping. Birth control pills prevent ovulation which in turn reduces the amount of prostaglandin produced in the uterus. By doing so, birth control pills relieve menstrual cramping.

#### Treatment of endometriosis:

Another cause of painful menstrual cycles is endometriosis. When the tissue lining the uterus (endometrium) grows outside of the uterus it is called endometriosis. Just as progesterone limits the growth of the uterine lining, the progesterone-like hormones in birth control pills can limit or decrease the growth of endometriosis. Because of this, birth control pills can reduce the pain associated with endometriosis for many women.

## Treatment of premenstrual syndrome (PMS) and premenstrual dysphoric disorder (PMDD):

Many women who have PMS or PMDD report an improvement in their symptoms while they are taking birth control pills. It is thought that birth control pills prevent the symptoms of PMS and PMDD by stopping or preventing ovulation from taking place.

## Treatment for acne, hirsutism (excess hair) and alopecia (hair loss):

All birth control pills can improve acne and hair growth in the midline of the body (hirsutism) by reducing the levels of male hormones (androgens) produced by the ovary. All women make small amounts of androgens in the ovaries and adrenal glands. When these hormones are made in higher than normal amounts, or if a woman is sensitive to the androgens produced, she may start to grow hair above the lip, below the chin, between the breasts, between the belly button and pubic bone, or down the inner thigh. Birth control pills reduce production of male hormones and increase the production of the substances in the body that bind the androgens circulating in the bloodstream. Within six months of use, there is usually a reduction in the abnormal hair growth. However, when a woman has more excessive male hormone symptoms, she should see a gynecologist or primary care doctor. These symptoms may include male pattern baldness, smaller breast size, increased muscle mass, growth of the clitoris, or lowering of the pitch of the voice.

#### Other health benefits of birth control pills:

Women who have used birth control pills have been found to have fewer cases of anemia (low red blood cells), ovarian cancer, and uterine cancer. These beneficial effects occur because the birth control pill works by decreasing the number of ovulations, amount of menstrual blood flow, and frequency of periods.

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