

In clinical studies of the progestin-containing IUD, nearly 50 percent of the observed pregnancies were ectopic.⁷

Possible effects on libido

A study among healthy German female medical students found those using oral contraceptives had significantly decreased sexual desire compared to those not using hormonal contraceptives. This study confirmed the findings of a smaller U.S. based investigation.²¹

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The Couple to Couple League

P. O. Box 111184
Cincinnati OH 45211-1184
800-745-8252
www.ccli.org

20110215



Contraception

Hormonal Contraceptives



Today over 100 million women are using some form of hormonal contraceptive (most are on the Pill).¹ In the United States, 11 million women aged 15-44 are currently using the oral contraceptive pill; it is the most common form of birth control used in the U.S.² and it is also now commonly used to "treat" a variety of female cycle irregularities. This is despite the truth that these are the only medications designed to take a healthy, functioning system and make it dysfunctional. Yet even with their widespread use for over 50 years, controversy continues to surround hormonal contraceptives.

Are all hormonal contraceptives the same?

No. There are many different types and forms available and manufacturers continue to develop more every year. The formulations in use today all contain 3-5 times less drug than the original forms of the Pill, so generally today's formulations could be considered "low dose." Broadly speaking, hormonal contraceptives fall into two classes.

Combined estrogen/progestin preparations

These formulations use two types of artificial hormones — estrogen and progestin — to disrupt the normal healthy functioning of a woman's fertility cycle. There are literally dozens of formulations available today; some dispense a constant level of hormone throughout the cycle, and some use varying amounts of the hormones in bi-phasic or tri-phasic patterns. Furthermore, the type of progestin used can vary. The most common forms of these preparations are:

- Orally ingested pills taken daily (i.e., Lo/Ovral, Loestrin, Yaz, Seasonique)
- Patches changed weekly (i.e., Ortho Evra)
- Vaginal ring worn 3 weeks then left out for 1 week (i.e., Nuvaring)

Progestin-only preparations

These formulations do not contain any estrogen; rather, they have only one of several types of progestin. The most common forms of these preparations are:

- Orally ingested pills taken daily, often called the mini-pill (i.e., Micronor, Nor-QD, Nora-BE, Camila, Errin)

- Injections given every three months (i.e., Depo-Provera)
- Implants worn under the skin for three years (i.e., Implanon)
- Intrauterine devices worn up to three years (i.e., Mirena)

How do they work?

Hormonal contraceptives have three recognized mechanisms to disrupt a woman's fertility:³

- They prevent ovulation (the release of an egg from the ovary into the fallopian tube)
- They inhibit sperm migration by thickening and altering cervical mucus (making it harder for sperm and egg to meet)
- They prevent implantation of a fertilized egg into the endometrium (the lining of the uterus where the new life attaches and grows until birth)



In any given cycle, one or all of these mechanisms could be working to prevent a pregnancy. Which of these mechanisms is predominant is influenced by the type of hormonal contraceptive being used.

Combined preparations are the most effective at consistently suppressing ovulation, although in typical use an egg is released during a woman's cycle over 8 percent of the time.⁴ This is known as **breakthrough ovulation**.

Breakthrough ovulation occurs more frequently in women on progestin-only formulations, occurring in 30 percent to 65 percent of cycles.^{5,6} Progestin-only formulations are more sensitive to incorrect dosing (forgetting to take a pill, or taking it at a different time of the day), therefore in typical use ovulation likely occurs more frequently. With the progestin-

containing IUD, breakthrough ovulation becomes more common with long term use; 45 percent of cycles were ovulatory after 1 year, but after 4 years, ovulation was occurring in 75 percent of cycles.⁷

How frequently hormonal contraceptives prevent pregnancy by **inhibition of sperm migration** is not known; one study on the cervical mucus of women using Depo-Provera demonstrated sperm penetrating the mucus of 13 percent of the women.⁸ And because ectopic (tubal) pregnancies do occur in women using hormonal contraceptives, this indicates sufficient sperm migration occurs to allow fertilization of the egg at some frequency.⁹

Hormonal contraceptives consistently **alter the endometrium** in women using them. A normal healthy woman will have an endometrium between 5-9 millimeters thick during her time of peak fertility; women using hormonal contraceptives have an average endometrial thickness of about 1 millimeter.¹⁰ The composition of the endometrium may also be altered by hormonal contraceptives to make it less receptive to implantation of a fertilized egg.¹¹ For perspective, physicians using in vitro fertilization procedures prefer a woman receiving an artificially fertilized egg to have an endometrium 10-12 millimeters thick, which is 2-10 times thicker than the endometrial thickness of a woman using hormonal contraceptives.⁶

Is there an alternative?

› **For birth control purposes**, Natural Family Planning is a highly effective and completely safe alternative. Couples can learn to recognize the signs and symptoms of their normal healthy fertility cycle and use this information to either postpone or achieve pregnancy.

› **For cycle irregularities**, self-care for better fertility is often the best place to start. In many cases problems can be either eliminated or alleviated through better nutrition or body balance. Research shows

that nutrition and targeted vitamin and mineral supplementation can be used to improve:

- Premenstrual syndrome (PMS)
- Painful or heavy periods
- Acne
- Polycystic ovary syndrome (PCOS)

If self care is not enough, finding a physician trained in diagnosing and treating cycle abnormalities without the use of hormonal contraceptives can be an option.

Can hormonal contraceptives cause early abortions?

Yes. A new human life is formed when sperm and egg combine at the moment of fertilization. Even the then-president of the American College of Obstetrics & Gynecology said this in 1981 when testifying before the U.S. Senate on a proposed bill attempting to restrict Roe vs Wade:

“I believe that it is realistic to assume that the IUD and the low-dose oral contraceptive pills could be considered as abortifacients...”¹²

Unintended pregnancy rates from the use of hormonal contraceptives are lower than the known frequency of breakthrough ovulation so at least some of the time, pregnancy is prevented by a mechanism other than suppression of ovulation. Ectopic pregnancies occur in women using hormonal contraceptives, proving that inhibition of sperm migration is not completely effective as a primary or backup mechanism. (In clinical trials of Mirena, nearly half of the pregnancies that occurred were ectopic.⁷) Thus, the third mechanism of action of these drugs — prevention of implantation of the fertilized egg — must be effective in at least some cycles.

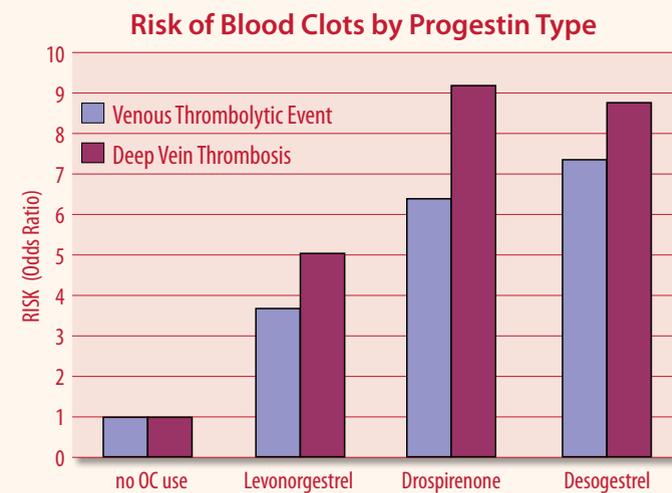
Are they Safe?

Discontinuing hormonal contraceptives due to side effects is common in U.S. women; 64 percent of women who stop taking the Pill do so because of side effects, and another 13 percent stop because of worries of side effects.² The most commonly reported side effects of hormonal contraception are headache, cramping, breast tenderness and bloating and/or swelling.

Beyond these complications, use of hormonal contraceptives brings increased risk of several serious complications.

Blood clots

Women who use hormonal contraception experience blood clots more frequently than women of comparable age who do not. The risk of these events varies according to the progestin used in the formulation; the most commonly used progestin in U.S. formulations (Levonorgestrel) increases the risk 5-fold compared to women not using hormonal contraceptives, while the newer progestins increased this risk 6-9 times depending on the specific type of clot.¹³



Stroke and heart attack

The risks of stroke and myocardial infarction (heart attack), extremely rare in young healthy women, are significantly increased among hormonal contraceptive users.¹ A recent study found oral contraceptive users are at 1.9 times higher risk of ischemic stroke compared to non-users of childbearing

age.¹⁴ Oral contraceptive users are also at double the risk of myocardial infarction compared to non-users.⁴

Smoking while taking hormonal contraceptives can dramatically increase the risk of serious complications; stroke risk is tripled in contraceptive users who smoke⁴ and use of combined hormonal contraceptives by women in their twenties who also smoked increases their risk of death by about 7 times.¹⁵

Cancer

In 2005 the research arm of the World Health Organization declared the combined hormonal contraceptive a human carcinogen. Use of hormonal contraceptives is associated with an increased risk of breast, cervix, and liver cancer.¹⁶

Recent studies among U.S. women have shown:

- Women who started using hormonal contraceptives before age 18 have a 90 percent increased risk of any breast cancer and a 370 percent increased risk for “triple negative” breast cancer (a particularly aggressive form responsible for about 10-17 percent of all cases in the U.S.).¹⁷
- Women who use hormonal contraceptives before their first birth are at 44 percent increased risk of breast cancer.¹⁸
- Women who use contraceptives 11 years or longer are at a 210 percent increased risk of breast cancer. For perspective, this same study found smoking, a well known carcinogen, increased breast cancer risk 25 percent in the same study population.¹⁹

In contrast, use of hormonal contraceptives does decrease the risk of ovarian and endometrial cancers. New cases of these cancers are 5-10 times less common in US women than breast cancer.⁴

Other known health risks

Progestin only preparations are associated with bleeding disturbances (increased or decreased monthly bleeds or irregular patterns of bleeding). The risk of ovarian cysts is higher with these formulations. Ten percent of pregnancies that occur in women using these formulations are ectopic (tubal) which itself is potentially life threatening if not treated.⁴

