How do birth control pills work? [1]

Alice,

How do birth control pills work?

— Woman

Answer

Dear Woman,

Despite being small in size, birth control pills pack a punch in preventing pregnancy! This occurs through several mechanisms, mainly by stopping ovulation; when ovaries don't release eggs, sperm can't find and fertilize them to result in a pregnancy. Most birth control pills contain synthetic forms of one or more hormones: estrogen and progestin. These hormones stabilize natural hormone levels and prevent estrogen from peaking in the middle of the menstrual cycle. Without the estrogen bump, the pituitary gland doesn't release other hormones that normally cause the ovaries to release mature eggs. Specifically, synthetic estrogen works to stop the pituitary gland from producing follicle stimulating hormone (FSH) and luteinizing hormone (LH) in order to prevent ovulation. It also supports the uterine lining (endometrium) to prevent breakthrough bleeding mid-cycle. Meanwhile, synthetic progestin works to stop the pituitary gland from producing LH in order to prevent an egg from being released, make the uterine lining inhospitable to a fertilized egg, partially limit the sperm's ability to fertilize the egg, and thicken the cervical mucus to hinder sperm movement (although this effect may not be key to preventing pregnancy). Want to know more? Keep on reading!

There are two kinds of hormonal birth control pills. Different types of pills contain different amounts of progestin and estrogen. The first is called a combination pill, which contains both estrogen and progestin. One added benefit of combination pills is that users experience less breakthrough bleeding. Combination pills can be broken down into two categories, which differ in how frequently users have withdrawal bleeding (which mimics a menstrual period). Conventional pills generally have 21 or 24 active pills and seven or four inactive pills, respectively, creating packs of 28 pills. For continuous dosing or extended cycles pills, the packs can have 84 active pills with seven inactive pills or contain only active pills. With either form of pill, the inactive pills can trigger the withdrawal bleeding, and if the active pills were taken correctly and consistently,
pregnancy protection will still exist during this time. If using a formulation with only active pills, the bleeding may stop completely. On top of being separated into conventional and continuous, combination pills are also categorized by hormone dosage. The monophasic active pills contain the same amount of estrogen and progestin during the cycle. However, in multiphasic active pills, the amounts of estrogen and progestin change during the cycle. Of the multiphasic pills, biphasic pills have two different progesterone doses, one of which is increased halfway through the cycle, while triphasic pills gradually increase the dose of estrogen (and in some cases, progesterone) two times during the cycle.

The second kind of hormonal birth control pill is the progestin-only pill (also known as the minipill). The amount of progestin in the minipill is less than in the combined pill. It works by thickening the cervical mucus and thinning the endometrium. Sometimes it will suppress ovulation. The progestin-only pills come in 28 day pill packs. Each day is an active pill and doesn't contain any inactive pills. The progestin-only pills may cause some people to experiencing breakthrough bleeding between periods.

Both combination and progestin-only pills are available in several brands, and each has a slightly different blend of hormones. All birth control pills work most effectively when daily, but the consequences of not taking the pill at the same time every day differ based on pill type. Combination pills need to be taken every day but not necessarily at the same exact time every day. Minipills must be taken at the same time every day within a three hour window. Regardless of the kind, when you forget your pill (or take it three to four hours late or more), this causes a dip in your body's levels of the birth control hormones. To maximize pregnancy prevention potential and to minimize side effects, consider picking a time you're likely to remember – maybe first thing in the morning or right before bed – to take your pills every day. If you're concerned that you have missed a dose, it's wise to consult with a health care provider, as the correct course of action depends on the type and brand of birth control.

As if there aren’t already enough options to consider, hormonal birth control is also available in more than just pill form! The combination formula is available as a patch and a vaginal ring, while the progestin-only formula is available in intramuscular shots, an implant, and in intrauterine devices. Some may prefer these other forms of hormonal birth control because they can be taken less often (and consequently are easier to remember). However, for some people, hormonal birth control may not be an option due to various medical conditions or undesirable side effects. Figuring out what works best for a person may take some trial and error to determine what side effects are manageable and which aren't. Some folks need to try several out over time to find one that is agreeable to them, beyond just being effective.

For more information on how birth control pills work, check out the Go Ask Alice! Sexual and Reproductive Health [2] archives. You can also read more in the Contraception [3] section to learn more about different types of contraceptives. Your health care provider can also offer more information about different kinds of birth control, including which method might be best for your lifestyle and needs.

Take care,

Alice!
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Menstruation after stopping birth control pills [9]

Resources

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