

Does Emergency Contraception Cause Abortion?

HIGHLIGHTS

- EC is not medication abortion; it cannot disrupt an established pregnancy and poses no harm to the fetus.
- EC's principal mechanism of action is to prevent pregnancy in the same way as routine methods of hormonal contraception: by interfering with ovulation and fertilization.
- Confusion about EC's mechanism of action can deter women from using it, and language conflating EC with abortion could be used to restrict access.
- Increased use of EC has the potential to reduce rates of unintended pregnancy and subsequently, the need for abortion.

When Does Pregnancy Begin?

The establishment of a pregnancy occurs over several days and involves a series of steps.¹ First, in the process of ovulation, a woman's ovary must release an egg, which remains viable for 12 to 24 hours. Next, sperm, which can remain viable in a woman's reproductive tract for up to 72 hours, must travel to the fallopian tube and penetrate the egg, known as fertilization. Finally, the fertilized egg must be transported to the uterus, where it must implant in the uterine lining. As many as 50 percent of fertilized eggs fail to implant.^{2,3} Implantation occurs approximately six to seven days after fertilization.

Pregnancy begins *after* implantation. This medically accepted definition is endorsed by the American College of Obstetricians and Gynecologists, the U.S. Department of Health and Human Services (HHS), the Food and Drug Administration (FDA), the National Library of Medicine, and the National Institutes of Health.⁴⁻⁶ For example, in its *Code of Federal Regulations*, HHS states that "Pregnancy encompasses the period of time from implantation until delivery."⁷ In addition, the FDA follows this definition in its approval process for new contraceptives, including emergency contraception (EC).^{6,8} However, it is important to note that individuals may have varying definitions of when pregnancy begins.

How Does EC Prevent Pregnancy?

The process by which a drug achieves a particular effect on the body is known as its mechanism of action. EC has three possible mechanisms of action, depending on when in a woman's menstrual cycle it is taken.^{6,9-12} EC may prevent pregnancy by:

1. **Preventing ovulation:** If taken during the first half of the menstrual cycle, EC may prevent the release of the egg from the ovary.
2. **Preventing fertilization:** EC may thicken the cervical mucus, trapping the sperm before it reaches the egg. It may also slow the transport of the sperm and/or the egg in the fallopian tubes and obstruct fertilization.
3. **Preventing implantation:** If fertilization has already occurred, EC may disrupt the transport of the fertilized egg to the uterus or alter the lining of the uterus, averting implantation.



Bixby Center
for Global
Reproductive
Health



University of California San Francisco

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The most recent research suggests that Plan B® – the single-hormone (levonorgestrel) method of EC available in the U.S. – works primarily by interfering with ovulation. Animal studies found that Plan B® inhibits or delays ovulation; however, if fertilization has occurred, Plan B® can no longer prevent pregnancy (i.e., by disrupting implantation).^{13, 14} Moreover, a study of Plan B® in women found that the drug works by suppressing the hormonal surge necessary for ovulation to occur; thus, it is only effective if taken before ovulation.¹⁵ The study indicates that Plan B®'s failure rate can be attributed to instances in which it is taken after ovulation, at which point it is no longer effective.¹

There is less clinical evidence to support the third mechanism of action – prevention of implantation – for Plan B®.^{9, 16} Studies of combined-hormone (Yuzpe regimen) EC also indicate that inhibiting implantation is unlikely to be the primary mechanism of action.¹⁷

EC works in the same way as routine methods of hormonal contraception, including birth control pills and the contraceptive injection, implant, patch, and ring.^{18, 19} In addition, the contraceptive protections afforded by breastfeeding share the same mechanism of action as EC.²⁰

Table 1: Key Differences between Plan B® EC and Medication Abortion^{10, 25, 26}

Emergency Contraception		Medication Abortion
Plan B®	Brand name	Mifeprex®
1999	Year approved by FDA	2000
Up to 120 hours (five days) after unprotected sex	Window of use	Up to nine weeks (63 days) gestation (after pregnancy is confirmed by positive pregnancy test, examination, and/or ultrasound)
Levonorgestrel	Contains	Mifepristone
Progestin	Type of agent	Anti-progestin
Two doses of 0.75 mg levonorgestrel taken 12 hours apart (FDA-approved regimen) -or- 1.5 mg levonorgestrel (two 0.75 doses taken together) (evidence-based regimen)	Dose	600 mg mifepristone taken orally followed by 400 mcg misoprostol taken orally 48 hours later (FDA-approved regimen) -or- 200 mg mifepristone taken orally followed by 800 mcg misoprostol taken vaginally 24-72 hours later (evidence-based regimen)
Inhibits or delays ovulation, interferes with fertilization, potentially prevents implantation	Mechanism of action	Mifepristone blocks hormones necessary to maintain pregnancy; misoprostol causes uterus to contract and empty
Up to 89% effective at <i>preventing</i> pregnancy; the sooner it is taken after unprotected sex, the more effective it is	Efficacy	Up to 97% effective at <i>terminating</i> an established pregnancy

¹ For additional information about EC efficacy and failure rates, see the brief in this series titled: *Is Emergency Contraception Effective at Preventing Pregnancy?*

EC Is Not Medication Abortion

EC will not disrupt an established pregnancy.^{6, 21}

If EC fails to prevent pregnancy, there will be no harm^{II} to the woman or the fetus.²²⁻²⁴ Pregnancy is only listed as a contraindication to EC because it will not work in this circumstance.²²

EC is not the same as medication abortion (drug name: mifepristone; brand name: Mifeprex[®]), also known as “the abortion pill” or “RU-486” (see Table 1). EC contains progestins – synthetic versions of the hormone progesterone, which is produced by the ovaries and is necessary to establish and support a pregnancy.⁹ In contrast, mifepristone is an anti-progestin – it blocks the hormones needed to sustain a pregnancy after implantation.²⁵ Mifepristone is a safe, effective, non-surgical method of early abortion. In the U.S., it is used with the drug misoprostol – which causes the uterus to contract and expel its contents – to terminate an established pregnancy up to nine weeks’ gestation.²⁵

Conflating EC with Abortion Limits Access

Incorrect understanding about EC’s mechanism of action is prevalent. A study of EC knowledge found that among women who had heard of EC, nearly one-third mistakenly thought it caused abortion.²⁷ Inaccurate representations of EC in the mass media compound this problem. An analysis of newspaper coverage of EC between 1992 and 2002 found that nearly half (45 percent) of articles confused EC and abortion at least once.²⁸ Such confusion can deter women from using EC when needed. In the aforementioned EC knowledge study, women who recognized that EC was not abortion were more than twice as likely to be willing to use it.²⁷

Erroneous characterizations of EC’s mechanism of action are harmful in the public policy arena because a current movement to define pregnancy as beginning at fertilization makes it easier to conflate EC with abortion. At least 18 states have enacted laws stipulating that pregnancy begins at fertilization, or, more vaguely, at “conception.”³ Similarly, in 2006 South Dakota passed a law banning nearly all abortions in the state, in which it explicitly defined pregnancy as beginning at fertilization.²⁹ Such definitions could also be used to restrict access to EC and potentially to routine contraceptive methods as well. For example, in its measure to expand Medicaid eligibility for family planning services, Indiana sought to exclude methods “intended to terminate a pregnancy after fertilization.”³

EC Can Decrease the Need for Abortion

Scientific evidence about EC’s mechanism of action, supported by consensus within the medical community and numerous federal agencies, consistently indicates that EC does not cause abortion. To the contrary, EC can *reduce* the need for abortion. One study has estimated that in the U.S., 51,000 pregnancies that would have resulted in abortion were prevented by the use of EC in 2000.³⁰ It also suggested that 43 percent of the decrease in abortions between 1994 and 2000 (a decline of 110,000) could be attributed to increased use of EC during this period.³⁰ While half of all pregnancies in the U.S. are unintended, and 42 percent of these end in abortion, only four percent of sexually active women have ever used EC.^{31, 32} Ensuring that women have adequate knowledge of and access to EC can increase its use and has the potential to decrease rates of unintended pregnancy and abortion.

II For additional information about EC safety, see the brief in this series titled: *Is Emergency Contraception Safe?*

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