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# Q/ Are oral emergency contraceptives a safe & effective form of long-term birth control?

## EVIDENCE-BASED ANSWER

A/ **Yes,** but not as effective as some other methods. Annual pregnancy rates in women using pericoital levonorgestrel 150 mcg to 1 mg range from 4.9% to 8.9%; menstrual irregularity is the most common adverse effect (strength of recommendation [SOR]: **B**, Cochrane review of lower-quality trials).

In women younger than 35 years who have sexual intercourse 6 or fewer times per month, correct and consistent use of pericoital levonorgestrel 1.5 mg results in an annual pregnancy rate of 11% (SOR: **B**, one large prospective, open-label trial).

Pericoital contraception is less effective than long-acting reversible contraceptives (annual pregnancy rates of 0.05%-0.8%) or perfect use of combined oral contraceptives (0.3% annual pregnancy rate), but similar to, or better than, typical use of combined oral contraception (9%) and condoms (18%).

## Evidence summary

A systematic review of 22 trials (13 case series, 8 prospective, nonrandomized studies, and one randomized controlled trial; 12,407 patients) conducted in Europe, Asia, and the Americas evaluated the likelihood of pregnancy with repeated use of precoital and postcoital hormonal contraception.[1] Some trials used more than one dose or medication. Many had inadequate reporting of research methods. Results were reported using the Pearl Index (PI)—the number of pregnancies per 100 woman-years.

In 11 studies (2700 patients), women took 750 mcg of levonorgestrel from 24 hours before to 24 hours after intercourse for an average duration of 5 cycles or months. Coital frequency varied from 1 to 15 times per month. The PI ranged from 0 to 18.6, with a pooled PI of 5.4 (95% confidence interval [CI], 4.1-7.0). Three of the trials (915 patients), with research methods reported as good, had a pooled PI of 8.9 (95% CI, 5.1-14.4). No serious adverse effects were reported in 10 of the 11 studies, but menstrual irregularity was commonly observed. In one of the largest studies (1315 patients), only 3% of women discontinued treatment because of adverse effects.

Six other trials (5785 patients) of levonorgestrel taken at doses ranging from 150 mcg to 1 mg for a mean duration of 9.2 cycles reported PIs of 0 to 9. Breakthrough bleeding was the most common adverse event. When all 17 studies of levonorgestrel were combined, the PI was 4.9 (95% CI, 4.3-5.5). The remaining studies in the systematic review described medicines not commonly used for emergency contraception or not available in the United States.

### Other reported adverse effects: Headache, nausea, abdominal pain

A prospective, open-label study enrolled 321 women 18 to 45 years of age from Asia, Europe, and South America to evaluate the safety and efficacy of levonorgestrel 1.5 mg taken before or within 24 hours of intercourse as the

exclusive means of contraception.[2] Women who were lactating or recently postpartum were excluded; condoms were permitted for women who had concerns about risk of sexually transmitted illness. Data analysis included estimates of perfect use (consistent and correct use of levonorgestrel only) and typical use (use of other contraceptive methods in addition to levonorgestrel).

At baseline, weight, blood pressure, and hemoglobin were documented, and follow-up visits occurred at 2.5, 4.5, and 6.5 months. Pregnancy tests, blood pressure, and adverse effects were assessed at each visit; weight and hemoglobin were evaluated at the final visit. The primary outcome measure was the PI in women younger than 35 years who used only levonorgestrel for contraception.

In women younger than 35 years (208 patients), the PI was 11 (95% CI, 5.7-13.1) with perfect use and 10.3 (95% CI, 5.4-19.9) with typical use. In all ages 18 to 45 years, the PI was 7.1 (95% CI, 3.8-13.1) for typical use and 7.5 (95% CI, 4-13.9) for perfect use. Most women took 4 to 6 doses per month.

The most commonly reported adverse effects were headache (29%), nausea or abdominal pain (16%), influenza (11%), and acne or candidiasis (8%). Bleeding patterns varied with a tendency toward longer bleeding initially and lighter menstrual periods and less anemia in some patients at the end of the study.

## Recommendations

The Office of Population Research at Princeton University suggests that moderate repeat use of emergency contraceptives is unlikely to cause serious harm, but estimates that women using progestin-only emergency contraception on a regular basis would have a 20% chance of pregnancy in a year.[3]

The American College of Obstetricians and Gynecologists states that long-term use of emergency contraception is less effective than other methods and may result in higher hormone levels and more adverse effects than other established means.[4]

The International Consortium for Emergency Contraception concluded that there is no basis for limiting the number of times that emergency contraceptives may be used in a menstrual cycle, that emergency contraceptives are safe, and that, although they are less effective than other forms of long-term contraception, using them repeatedly is more effective than using no method.[5]

The Society of Obstetricians and Gynecologists of Canada states that emergency contraception is intended for occasional use as a backup method.[6] The Society also notes that repeat use isn't as effective as regular use of other forms of contraception.

The Faculty of Sexual & Reproductive Healthcare of the (British) Royal College of Obstetricians and Gynaecologists says that use of levonorgestrel can be considered even if previously used one or more times in a menstrual cycle (SOR: **D**, based on nonanalytical studies and expert opinion).[7] The organization also recommends that emergency contraceptive providers share with patients that oral emergency contraceptive methods should not be used for long-term contraception (SOR: Good Practice Point, based on clinical experience of the guideline development group).

The Guttmacher Institute reports that without contraception, approximately 85% of sexually active women become pregnant each year.[8] Long-acting reversible methods, such as implants and intrauterine devices, have annual pregnancy rates of 0.05% to 0.8%. With perfect (consistent and correct) use, combined oral contraceptives have a 0.3% annual pregnancy rate, but the rate rises to 9% with typical use. Condoms, when used perfectly, are associated with a 2% annual rate of pregnancy compared with an 18% rate with typical use. JFP

**Annual pregnancy rates in women using pericoital levonorgestrel 150 mcg to 1 mg range from 4.9% to 8.9%.**


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