



# Emergency Contraception

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## CME Activity

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**Learning Objectives:** On completion of this article, you should be able to (1) list currently available emergency contraception methods, (2) discuss mechanisms of action, adverse effect profile, and availability of emergency contraception, and (3) discuss the relative efficacy of each method in women of varying body mass indices.

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## Abstract

Emergency contraception (EC) may help prevent pregnancy in various circumstances, such as contraceptive method failure, unprotected sexual intercourse, or sexual assault, yet it remains underused. There are 4 approved EC options in the United States. Although ulipristal acetate requires a provider's prescription, oral levonorgestrel (LNG) is available over the counter for women of all ages. The most effective method of EC is the copper intrauterine device, which can be left in place for up to 10 years for efficacious, cost-effective, hormone-free, and convenient long-term primary contraception. Ulipristal acetate tends to be more efficacious in pregnancy prevention than is LNG, especially when taken later than 72 hours postcoitus. The mechanism of action of oral EC is delay of ovulation, and current evidence reveals that it is ineffective postovulation. Women who weigh more than 75 kg or have a body mass index greater than 25 kg/m<sup>2</sup> may have a higher risk of unintended pregnancy when using oral LNG EC; therefore, ulipristal acetate or copper intrauterine devices are preferable in this setting. Providers are often unaware of the range of EC options or are unsure of how to counsel patients regarding the access and use of EC. This article critically reviews current EC literature, summarizes recommendations, and provides guidance for counseling women about EC. Useful tips for health care providers are provided, with a focus on special populations, including breastfeeding women and those transitioning to long-term contraception after EC use. When treating women of reproductive age, clinicians should be prepared to counsel them about EC options, provide EC appropriately, and, if needed, refer for EC in a timely manner.

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Half of pregnancies in the United States are unintended.<sup>1</sup> Therefore, it is important that women have access to a full range of contraceptive methods, including emergency contraception (EC). Major gynecologic, pediatric, and primary care organizations recommend counseling women at risk of unintended pregnancy about EC.<sup>2-6</sup> In the United States, 4 methods are available, including the copper intrauterine device (IUD) and 3 oral methods: levonorgestrel (LNG) 1.5 mg (a progestin-only pill), ulipristal acetate (UPA) 30 mg (a selective progestin receptor modulator), and the Yuzpe regimen (high-dose combined estrogen and progestin oral contraceptives). All EC options can be used within 5 days of intercourse with varying efficacy. Table 1 reviews the different EC options available in the United States. Women of reproductive age seek contraceptive counseling from various providers, including those in primary care and emergency medicine, who need to be facile in prescribing oral EC and referring women for a copper IUD in a timely manner.<sup>7-9</sup> Providers should educate patients about contraception, including EC, in routine health visits. Table 2 provides recommendations on how providers may incorporate EC into a routine visit.

## EFFICACY

The copper IUD is the most effective form of EC, with nearly 100% reported efficacy,<sup>10</sup> though head-to-head EC comparisons are lacking.<sup>11</sup> If desired, the copper IUD may then be kept in place for up to 10 years as a long-acting reversible contraceptive (LARC), given its record of safety, convenience, and cost-effectiveness.<sup>12</sup> One study<sup>13</sup> reported that more than 80% of women using the copper IUD as EC subsequently kept it as primary contraception.

Among the oral methods, UPA is the most effective. A randomized controlled trial comparing UPA 30 mg and LNG 1.5 mg found that women treated with UPA had approximately half the number of pregnancies as compared with those treated with LNG (odds ratio [OR], 0.58; 95% CI, 0.33-0.99).<sup>14</sup> Interestingly, in the 1696 women studied, UPA and LNG were similarly effective when used within 72 hours postcoitus with 15 pregnancies in the UPA group and 22 in the LNG group (OR, 0.68; 95% CI, 0.35-1.31). However, beyond 72 hours postcoitus, UPA was more effective at preventing

pregnancy, with no pregnancies in the UPA group as compared with 3 in LNG users.<sup>14</sup> If UPA is unavailable, LNG is a good alternative because it does not require a prescription. When LNG 1.5 mg is used within 72 hours postcoitus, it prevents at least half of pregnancies that would have occurred without its use.<sup>15</sup>

The Yuzpe regimen of multiple combined oral contraceptive pills is considered the least effective EC method and is associated with an increased risk of adverse effects, such as nausea, as compared with LNG EC.<sup>16</sup> It consists of 2 doses, 12 hours apart, of 100 µg of ethinyl estradiol plus 0.5 to 1.0 mg of LNG. Because norgestrel contains 2 progestin isomers, one of which is LNG, it may also be used in the Yuzpe regimen at a dose of 1.0 mg of norgestrel with the same dose of ethinyl estradiol. An analysis of 2 randomized controlled trials revealed a substantially lower risk of pregnancy in LNG users than in those taking the Yuzpe regimen (prevented fraction, 0.51; 95% CI, 0.17-0.69).<sup>17</sup> However, the Yuzpe regimen may still have a role in limited resource settings in which the more effective EC methods cannot be easily obtained, or for women with ready access to combined oral contraceptives. Women who have had intercourse near the time of ovulation are at higher risk of pregnancy and should be especially encouraged to use more effective EC methods.<sup>18</sup>

## BARRIERS TO USE

Since LNG EC became available over the counter in 2014, this method is more easily available to many women. Nonetheless, some women are unaware of EC availability without a prescription and this, as well as cost, represents ongoing barriers to wider use. In addition, many providers have limited knowledge about EC. In a 2016 study<sup>19</sup> of providers practicing at larger academic institutions, only 13% of emergency medicine, 17% of internal medicine, 23% of pediatric, 26% of family medicine, and 52% of reproductive health care providers reported awareness of UPA as EC. The percentage of providers across specialties who prescribed UPA was even lower: 3% in internal medicine and emergency medicine, 4% to 5% in pediatrics and family medicine, and 14% in reproductive health. The most effective methods, the copper IUD and UPA, can be obtained only via a clinician, and some women may not feel comfortable requesting EC. Thus, it is important that clinicians



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