



Emergency (Post-coital) Contraception

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Emergency Contraception (EC)

- **Emergency Contraception** = Agents that prevent pregnancy after unprotected intercourse (UPI) or sub-optimally protected intercourse (e.g. condom breakage)
 - **Oral Medications**
 - Combination oral contraceptives (Yuzpe method)
 - Levonorgestrel 1.5 mg (Plan B One-Step)
 - Ulipristal acetate (Ella, EllaOne, Fibrystal)
 - **Intrauterine Devices (IUD)**
 - Copper IUD (Paragard)
 - LNG-IUD (Mirena, Liletta)

History of Emergency Contraception

Abbreviations: DES = Diethyl stilbestrol, EC = Emergency contraception, EE = Ethinyl estradiol, IUD = Intrauterine device, LNG = Levonorgestrel

- 1960s
 - Studies of use of **estrogens** (DES, EE) for 4 to 6 days after intercourse
- 1970s
 - Yuzpe et al. studied **estrogen-progestin combination**
 - 1979, Lippes et al. studied use of **copper IUD**
- 1990s
 - 1991, Glasier and Baird reported use of **selective progesterone receptor modulator (SPRM) mifepristone (RU-486)** for single dose EC
- 2000s
 - 2006, Creinin et al. reported use of **SPRM ulipristal acetate** for EC
- 2020s
 - 2021, Turok et al. reported non-inferiority of **levonorgestrel (LNG) IUD** compared to copper IUD

Comparison of Methods of Emergency Contraception (EC)

Abbreviations: BMI = body mass index, DVT = deep vein thrombosis, EC = Emergency contraception, EE = Ethinyl estradiol, IUD = Intrauterine device, LNG = Levonorgestrel, OTC = over-the-counter, PR = Pregnancy rate, UPI = Unprotected intercourse

Category	Agent	Trade Name	Mechanism of Action as EC	When Effective	Dose	Effectiveness (Pregnancy Rate = PR)	Contra-indications	Other Considerations
Oral Medications	Combination oral contraceptives (Yuzpe method)		Inhibits ovulation if taken before LH surge	Take within 72 hours of UPI	100 to 120 mcg EE and 0.5 to 0.6 mg LNG, repeat in 12 hours	At least 75% effective at preventing pregnancy	When estrogen contraindicated (migraine with aura, hypertension, liver disease, hx DVT, etc.), pregnancy	Nausea and vomiting common
	Levonorgestrel 1.5 mg	Plan B One-Step	Inhibits ovulation if taken before LH surge	Take within 72 hours of UPI (120 hours off-label)	1.5 mg once	Single cycle PR = 1.7 - 2.6%	Progestin-sensitive cancer, Hypersensitivity	Available OTC, effectiveness may be decreased with increased BMI (conflicting data), likely ineffective after bariatric surgery
	Ulipristal acetate	Ella, EllaOne, Fibrystal	Progestin agonist/antagonist ; inhibits or delays ovulation, inhibits follicle rupture, alters	Take within 5 days of UPI	30 mg once	Single cycle PR = 1.2 - 1.8%	Pregnancy, Hypersensitivity	Don't take progestin-containing contraceptives with or for 5 days after taking, likely ineffective after

Comparison of Methods of Emergency Contraception (EC)

Abbreviations: EC = Emergency contraception, IUD = Intrauterine device, LNG = Levonorgestrel, PR = Pregnancy rate, UPI = Unprotected intercourse

Category	Agent	Trade Name	Mechanism of Action as EC	When Effective	Dose	Effectiveness (Pregnancy Rate = PR)	Contra-indications	Other Considerations
Intrauterine Devices (IUD)	Copper 380 mm ² IUD	Paragard	Unclear; may prevent implantation	Place within 5 days of UPI (7 days per SOGC)		Most effective; First cycle PR = 0.1%	Active or recent cervical or upper genital tract infection, uterine anomaly, pregnancy	Ongoing contraception up to 12 years
	LNG 52 mg IUD	Mirena, Liletta	Unclear	Place within 5 days of UPI	52 mg	First cycle PR = 0.3%	Active or recent cervical or upper genital tract infection, uterine anomaly, pregnancy	Ongoing contraception up to 8 years; decreased menstrual bleeding and pain, endometrial protection

Recommendations with use of Emergency Contraception

- Anticipate **menses** within 3 weeks of initiating
- Take a **pregnancy test** if no menses within 3 weeks after initiating
- **Remove IUD** if pregnancy occurs after placement
- If oral method of EC employed, discuss options for **ongoing contraception**

Emergency Contraception– Access/Barriers to Obtaining

- Oral agents
 - Availability in pharmacies
 - Moore et al., 2019: Plan B not available in 31% of pharmacy encounters
 - 30% due to “low demand”, 21% “out of stock”
 - Cost (Plan B One-Step \$30 – 50 per pill; generics \$11 – 45 per pill)
- IUD
 - Requires visit to clinician
 - Cost of device and insertion fee if not covered by insurance

Emergency Contraception--Summary

- Methods of emergency (post-coital) contraception include **oral agents** (oral contraceptives, LNG, ulipristal acetate) and **IUDs** (copper and LNG)
- EC is **effective** (single or first cycle pregnancy rates range from 0.1% with copper IUD to 0.3% with LNG-IUD to 1 to 3% with oral LNG or ulipristal acetate)
- EC is **safe** (particularly non-estrogen methods)

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- UpToDate
- Micromedex