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THE INTRAUTERINE DEVICE (IUD) FOR EMERGENCY CONTRACEPTION

Emergency contraception (EC) is a woman's only chance to prevent pregnancy after unprotected intercourse, when pre-coital contraception methods were not used or were forgotten, when a problem was experienced with a barrier method, or in cases of sexual assault. While emergency contraceptive pills (ECPs) are commonly used, a copper intrauterine device (IUD) placed after unprotected sex is the most effective form of EC. Although a copper IUD must be inserted by a trained clinician, the copper IUD has three main advantages over ECPs:

- IUDs are **much more effective** than ECPs at reducing a woman's chance of pregnancy after unprotected intercourse.
- IUDs can be inserted up to 5 days after unprotected intercourse with no reduction in effectiveness over time.
- IUDs can be left in place for as long as 12 or more years to provide reversible contraception that is as effective as sterilization.¹

IUDs have been safely used to prevent pregnancy by millions of women around the world, and have been used as emergency contraception for at least 35 years.² The effectiveness of using a levonorgestrel-releasing IUD (LNG IUD, "Mirena®") alone for EC has not been studied and is not recommended at this time.³

Clinical Considerations

How effective is the copper IUD for EC?

Pregnancy rates in the month following placement of a copper-bearing IUD for EC are very low. A systematic review of IUDs used as EC including 7,034 women found a pregnancy rate of less than 0.1%.⁴ So, if 1,000 women have a copper IUD inserted for EC, zero or 1 would be expected to become pregnant that month.⁵ Alternatively, for every 1,000 women who used ECPs after a contraceptive emergency at least 14 users of ulipristal acetate or 20 users of levonorgestrel would face an unintended pregnancy.^{6,7} Thus, the failure rates for ECPs are 14 to 20 times greater than for the copper IUD. ECP failure rates may be even higher for obese women while IUD EC failure rates should not be affected by weight.⁸

Although current labeling recommends copper T380 IUD use for 10 years, there is evidence of efficacy to 12 years and beyond.^{1,9} IUDs are one of the most effective long-term contraceptive methods; in the first year of use, less than 1 pregnancy will occur per 100 women using an IUD.¹⁰ Over 12 years of IUD use, the pregnancy rate is about 2 pregnancies per 100 women.¹¹ Women seeking EC who chose the copper IUD over ECPs are more likely to be using highly effective contraception and less likely to have a pregnancy 12 months later.^{12,13}

How does the IUD work as EC?

The copper-bearing IUD primarily works by inhibiting fertilization, although the mechanism of action when inserted post-coitally is less clear.¹⁴ These IUDs release copper particles that disrupt the sperm and ovum function before they meet and cause physiologic changes in the uterus and Fallopian tubes. Post-coital placement of an IUD for EC likely involves the same mechanisms of interference with fertilization, but may also prevent implantation of a fertilized egg.¹⁵

Are there side effects to using an IUD?

After insertion of a copper IUD, some women may experience irregular bleeding, cramps, pain and heavier menses for the first few months. Most women find that these symptoms diminish over time. In the first year of use, about 5% of women will experience an expulsion,^{16,17} and they must have an IUD replaced or use another form of contraception if they desire pregnancy prevention. Rarely (<1%) a woman can develop an infection¹⁸ or the uterus can be injured when the IUD is placed.¹⁹

Who can use an IUD?

Any woman who is not pregnant and wishes to avoid a pregnancy can use an IUD.

Can women at risk of STIs use IUDs?

The risk of infection following copper IUD insertion for EC is low. Women presenting for emergency contraception are likely to be at some risk for sexually transmitted infections (STIs) as they probably have not used barrier methods effectively. Clinicians should assess the individual's STI risk, and test as needed. Women diagnosed with gonorrhea or Chlamydia infections should be rapidly treated along with their partners, and tested for reinfection three months after treatment.

Current guidelines recommend against IUD insertion in women known to currently have pelvic inflammatory disease (PID), purulent cervicitis, active gonorrhea or Chlamydia infection.²⁰ However, IUD insertion in the presence of asymptomatic Chlamydia or gonorrhea can be considered safe, as research supports that it is the presence of infection, not the placement of an IUD, which increases risk of PID.²¹ The absolute risk of PID is low regardless of infection status, 0-5%,²² and is only elevated through the first 20 days after insertion.¹⁸ Use of a copper IUD is not associated with an increased risk of tubal infertility among women.²³

The judgment of the provider and the preference of the patient should guide clinical practice if an STI is present or suspected. Given the very low risk of PID, requiring two visits (one to test for STI and another to place the IUD) may place significant and unnecessary burdens of inconvenience and cost on the patient. Therefore, simultaneous STI testing and IUD insertion may be the optimal treatment plan for most patients presenting for an emergency IUD.

Women who have been sexually assaulted may be at particular risk of STIs. Thus, screening should be done routinely at the time of IUD EC insertion for any women presenting for EC after rape.

Can women infected with HIV safely use IUDs?

Current evidence suggests that IUDs are a safe and effective contraceptive method for HIV-infected women who have consistent access to medical care.²⁴ Among women with HIV, disease progression is slower in copper IUD users compared to women using hormonal contraception.²⁵ When compared to uninfected IUD users, HIV-positive women are not at significantly increased risk of complications or cervical shedding of infectious cells and have been shown to safely use IUDs over a 2-year period.^{26,27} Overall, IUD use does not appear to make HIV positive women more infectious to their sexual partners.²⁷

Will IUDs affect future fertility?

The current evidence shows that a woman can become pregnant once the IUD is removed just as quickly as a woman who has never used an IUD.²⁸ Use of a copper IUD is not associated with an increased risk of tubal infertility among women.²³ Whether or not a woman has an IUD, if she develops PID and it is not treated, there is a chance that she will become infertile.²¹

Can the IUD be placed at any time during the menstrual cycle?

Current guidelines recommend inserting the copper IUD for EC within 5 days of unprotected intercourse.²⁹ However, with a negative urine pregnancy test at any time in the menstrual cycle the risk of pregnancy following insertion of the copper IUD for EC remains extremely low.⁵ Some providers place IUDs only during menses to facilitate ease of insertion and assure that the woman is not pregnant; however, this practice is not supported by evidence and absence of menses should not be a barrier to placement of an emergency IUD.^{15,30} An IUD can be placed any time in the cycle as long as pregnancy has been ruled out.

Can adolescents use IUDs?

IUDs are a safe and effective method of EC for adolescents and offer the added benefit of continued highly effective contraception. IUDs can be used by women who have not previously had a pregnancy.²⁰ IUDs may be a highly effective birth control method for adolescents given that adolescents have higher birth control continuation rates and lower unintended pregnancy rates with methods that do not require daily adherence or decisions at the time of intercourse.³¹ Providers should clearly explain to clients how to identify signs of expulsion and how to proceed if the IUD is no longer in place.

The American College of Obstetricians and Gynecologists (ACOG) encourages providers to consider the IUD as a first-line choice of contraception for adolescents.³² However, studies have shown that very few adolescents and young women use IUDs, many physicians do not offer the IUD to their younger patients, and knowledge of IUDs is low among adolescents and young women.^{33,34,35,36}

Service Delivery Considerations

Are potential EC users interested in the IUD?

Surveys of EC users demonstrate that for every 8 women who present for EC in a clinic setting one is interested in using the copper IUD for EC.^{37,38}

How can women obtain an IUD for EC?

For a number of reasons it is often more difficult for a woman to obtain an IUD than ECPs. In many countries, ECPs can be obtained directly from a pharmacy without a prescription. The IUD has significantly more service delivery requirements: it must be inserted by a trained health care provider in a clinic, which often requires making an appointment. Not all providers are trained in IUD insertion or aware of the possibility of using IUDs for EC. In addition, although it is not medically necessary, many providers require two or more visits for an IUD insertion.³⁹

What about the cost of using the IUD for EC?

While many countries have low-cost options to provide IUDs for EC, the cost of IUD insertion in some countries, including the United States, can be a major obstacle to women seeking EC (\$500-\$1000 in the US).⁴⁰ A survey of EC users determined that a major obstacle was the price of IUDs, which can have especially high out-of-pocket costs for uninsured women.³⁷ Even though the IUD is extremely cost-effective if placed for EC and used for more than 4 months,⁴¹ the upfront cost of IUD insertion may be prohibitive in some settings.

Conclusion

The copper IUD for EC is the most effective way to prevent pregnancy after unprotected intercourse and can protect a woman from unintended pregnancy for many years. Because of these advantages, the copper IUD should be regularly offered to women who seek EC.



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