Contraceptive Procedures

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KEYWORDS

• Intrauterine device • Contraceptive implant • Levonorgestrel • Etonogestrel

KEY POINTS

- Long-acting reversible contraceptives (LARCs), such as intrauterine devices (IUDs), and implants, are among the most effective forms of contraception available. There are few contraindications to their use, and insertion and removal are straightforward procedures that are well tolerated in the outpatient office setting.
- The American College of Obstetrician and Gynecologists recognizes high upfront patient costs as a barrier to LARC use and advocates for coverage of all contraceptive methods by all insurance plans.
- In July 2011, the Institute of Medicine published an expert committee report on preventative services for women that should be considered in developing comprehensive health guidelines. It defined preventative services as "measures—including medications, procedures, devices, tests, education, and counseling—shown to improve well-being and/or decrease the likelihood or delay the onset of a targeted disease or condition."
- Among these services are the full range of US Food and Drug Administration-approved contraceptive devices. In August 2011, the Department of Health and Human Services incorporated these recommendations into preventative services covered by health plans under the Patient Protection and Affordable Care Act (ACA), without cost sharing by the patient.
- Although there are continuing legal battles over the ACA, it is hoped that with its full implementation over the coming years, women will have increased access to these safe, effective forms of birth control.

Although most women desire to control the size and spacing of their family, the rate of unintended pregnancy in the United States remains high. Approximately half of all pregnancies are unintended,[1] which is significantly higher than in many other developed countries.[2] Reducing unintended pregnancy is a national public health goal. The US Department of Health and Human Services' Healthy People 2020 campaign aims to reduce the rate of unintended pregnancy by 10% over the next several years,[3] and increased use of long-acting reversible contraceptives (LARCs) (intrauterine

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devices and implants) can help meet this goal. Fortunately the uptake of LARC devices is increasing, with almost 8% of women using an intrauterine device (IUD) and 1% using an implant.[4]

This article will cover indications and contraindications for IUD and implant use, techniques for insertion and removal, and management of complications.

INTRAUTERINE DEVICES

Multiple IUDs are used throughout the world, but only 3 intrauterine devices are available in the United States: the Copper 380A (ParaGard, Teva Woman's Health Inc., North Wales, Pennsylvania), a 13.5 mg levonorgestrel (LNG)-releasing system (Skyla, Bayer, Pittsburgh, Pennsylvania), and the 52 mg LNG-releasing system (Mirena, Bayer).

COPPER T 380A (TCU-380A) IUD

The TCu-380A is a T-shaped, 36 mm × 32 mm polyethylene device impregnated with barium sulfate to increase radiograph visibility. Copper wire is wound around the vertical stem, and the arms have tubular copper sleeves. A monofilament string is tied to the bottom of the stem to aid in device removal. The TCu-380A is highly effective, with a failure rate of 0.8% at 1 year.[5]

LNG INTRAUTERINE SYSTEMS

The LNG intrauterine systems are also T-shaped, barium-impregnated polyethylene devices with monofilament threads at the base; however, both devices contain a steroid reservoir that delivers LNG mainly to the endometrium and surrounding tissues. The 13.5 mg system (LNG-14) is 28 × 30 mm and initially releases approximately 14 μg LNG per day, which declines to 5 μg/d after 3 years.[6] The 52 mg system (LNG-20) is 32 × 32 mm and initially releases 20 μg of LNG per day; this rate is reduced by approximately 50% after 5 years.[7] Both devices are highly effective, with a failure rate of approximately 0.2% for Mirena[5] and 0.4% for Skyla.[6]

INDICATIONS/CONTRAINDICATIONS

Intrauterine devices are US Food and Drug Administration (FDA) approved for intrauterine contraception for 3 to 10 years, depending on the device. The ParaGard is approved for up to 10 years of continuous use and the Mirena for up to 5 years, but data demonstrate reasonable effectiveness as long as 12 and 7 years, respectively.[8–12] Skyla earned FDA approval in early 2013 and is indicated for the prevention of pregnancy for up to 3 years. Additionally, the copper IUD may be inserted as emergency contraception within 5 days of unprotected intercourse and may be left in for ongoing pregnancy prevention.[13] The effectiveness of using an LNG-releasing IUD for emergency contraception has not been studied and therefore is not recommended.

Mirena is also indicated for treatment of heavy menstrual bleeding for women who choose to use intrauterine contraception as their method for pregnancy prevention. Although off-label, it has been used for medical management of women with endometrial hyperplasia who desire to retain fertility or are poor surgical candidates.[14] Postmenopausal women on estrogen-containing hormone replacement therapy have also used this device for endometrial protection.

Although FDA labeling of contraceptives is often more restrictive than evidence-based guidance, there are few actual contraindications to IUD use. The World Health