



Robert L. Barbieri, MD
Editor-in-Chief

A new long-term progestin contraceptive has arrived

"Insert-it-and-forget-it" Implanon works well—and for 3 years. Bleeding may be a disincentive to use.

The facts on family planning clearly show that we need to do more in the United States to reduce the high rate of unintended pregnancy. In fact, some surveys report that the United States has the greatest rate of unintended pregnancy of all developed countries.

Many economic analyses indicate that every \$1 that is spent on family planning in this country saves \$3 or \$4 in pregnancy-related and neonatal care for unintended pregnancies. Legislators and leaders of the American College of Obstetricians and Gynecologists, recognizing the importance of preventing unintended pregnancy, have jointly proposed a multipronged strategy to reduce unintended pregnancy in the United States (see "We begin by strengthening family planning..." page 14). These health-system efforts will be most effective if they are combined with the development and deployment of more long-term contraceptive methods that do not require daily active use by the patient.¹

A new long-term option is approved

Among the most effective long-term reversible contraceptives are intrauterine devices (IUDs) and long-term progestin contraceptives. As I noted in the Editorial in the April 2007 issue of *OBG MANAGEMENT*,² use of the IUD in the United States lags behind that in all other developed countries; that lag is likely

a contributor to the high rate of unintended pregnancy in this country.

Recently, the US Food and Drug Administration approved an implantable contraceptive, sold under the brand name Implanon. This single-rod device, 4 cm long and 0.2 cm in diameter, contains a core of 68 mg of etonogestrel (3-keto-desogestrel) within a membrane of ethylene vinyl acetate. It is inserted under the skin of the arm and is effective for as long as 3 years.

The contraceptive effect of Implanon is established within 24 hours after insertion; ovulation and fertility return within 1 month after the implant is removed.³ The Pearl Index for Implanon is approximately 0.38 pregnancies for every 100 women-years of use, which means that it is a highly effective reversible contraceptive.⁴

Training is required

ObGyns are now completing intensive training programs to learn how to insert and remove Implanon rods. These programs are designed to ensure that all clinicians who offer the system to their patients complete a standardized curriculum and practice insertion and removal of Implanon, using a lifelike simulator, before they are certified to do so. Including simulator training in the curriculum is one of the first examples of nationwide use of a standardized simulation training exercise to advance clinical skills in obstetrics and gynecology.

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FAST TRACK

The contraceptive effect of Implanon is established within 24 hours after it is inserted under the skin of the arm

We begin by strengthening family planning...

A strategy to reduce unintended pregnancy should be multi-pronged. Working together, leaders of ACOG and members of the US Congress have urged that such a strategy should:

- increase funding for family planning programs
- expand family planning services for low-income women
- ensure access to prescription contraceptives through equitable coverage of contraceptives in health plans
- improve awareness among patients and providers about emergency contraception options
- provide compassionate assistance for victims of rape, including access to emergency contraception
- reduce pregnancy among adolescents by expanding pregnancy prevention programs that focus on this vulnerable group
- provide comprehensive sex education
- ensure the medical accuracy of information in federally funded sex, contraception, and sexually transmitted infection education programs (currently, provided for by US Senate Bill 21 and US HR Bill 819).

FAST TRACK

You will need to be certified to insert and remove Implanon, which requires an intensive training program

I completed Implanon training recently, and found that the objectives of the curriculum were well met by the experience. I was impressed that simulation training was part of the program.

Technically praiseworthy

Implanon is designed to be inserted subdermally so that it is palpable after insertion. The device and applicator are beautifully engineered, I found, and the insertion device is well-balanced and fits comfortably in the hand. The needle is designed to smoothly penetrate the skin and subcutaneous tissues. In a review of comparative studies of Implanon and the older Norplant implantable contraceptive, Implanon was more quickly inserted (1.1 min versus 4.3 min, respectively) and removed (2.6 min versus 10.2 min).⁵ Complications associated with removal were more common with Norplant (4.8%) than with Implanon (0.2%).

After insertion, the Implanon rod is almost always palpable just below the skin along the inner aspect of the upper

arm. If the rod is not palpable, it can be located using an ultrasound transducer operating at 10 to 15 MHz⁶ or by magnetic resonance imaging.

Timing of insertion and removal

The timing of insertion of Implanon is based on the patient's menstrual cycle and current contraceptive method:

- For a woman who is not using a hormonal contraceptive, insertion should take place during the first 5 days of menses.
- For a woman who is actively using a cyclic hormonal contraceptive, the device should be inserted during the hormone-free interval.
- For a woman on a continuous hormonal contraceptive, Implanon can be inserted at any time.
- After pregnancy, the device can be inserted 3 or 4 weeks after delivery.

The Implanon rod can be removed at any time. It must be removed after 3 years of use.

The Implanon rod was originally studied in women who weighed no more than 130% of their ideal body weight. The effectiveness of Implanon in obese women has not been thoroughly assessed in a large population study.

Side effects: Principally, bleeding

Implanon is not associated with loss of bone mineral density (BMD). In one study that compared the BMD of Implanon users with that of IUD users, no decrease was noted in the BMD of either group over a 2-year period.⁷ Preservation of BMD may be due, in part, to the observation that women who use Implanon appear to have a greater circulating estradiol concentration than women using depot medroxyprogesterone acetate.⁸

Frequent or unpredictable bleeding (or both) is the major side effect of Implanon. In one study of 324 women who used Implanon, continuation rates were 75%, 59%, and 47% at 1 year, 2 years, and 2

What is **your** preference in practice?

Will you make Implanon part of your practice?

- Yes—I have taken the training program and am certified to insert the device
- Yes—I plan to be trained to insert Implanon
- No—I do not plan to be trained to insert Implanon

What are your plans? Declare your intent at www.obgmanagement.com

Read what your peers plan to do, in INSTANT POLL results in an upcoming issue

FAST TRACK

Trials will determine whether doxycycline can reduce abnormal uterine bleeding associated with Implanon

years-9 months, respectively. Of women who discontinued Implanon, 91% did so because of frequent or unpredictable bleeding or both.⁹ In another study, the continuation rate was 66% at 1 year.¹⁰

Women using Implanon who have higher circulating estradiol levels and ovarian follicle activity may be at greater risk of abnormal patterns of bleeding.¹¹ In a preliminary report, women with prolonged bleeding in association with Implanon were randomized to various treatment regimens, among which were doxycycline, 100 mg twice daily for 5 days, or placebo. Doxycycline treatment significantly reduced prolonged bleeding compared with placebo (4.8 days [95% confidence interval (CI), 3.9 to 5.8 days] versus 7.5 days [95% CI, 6.1 to 9.1 days], respectively).¹² Women using progestin contraceptives who have abnormal uterine bleeding have elevated levels of endometrial enzymes, such as matrix metalloproteinases and neutrophil elastase, that prevent epithelial tissue repair. Doxycycline may inhibit these

enzyme systems and enhance repair of endometrial epithelial tissue. Whether doxycycline will become a widely used treatment for prolonged bleeding associated with Implanon remains to be determined in additional clinical trials.

The bonus of being out of sight, out of mind

Long-term reversible contraceptives allow the patient to “insert it and forget it.” This feature significantly increases the contraceptive efficacy of the method and, theoretically, offers an opportunity to reduce the epidemic of unintended pregnancy in the United States. ■



obg@dowdenhealth.com

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