

Hormonal Implants: New, Improved, and Potentially Popular

by Roy Jacobstein and John M. Pile

- Hormonal implants are a highly effective, very safe, convenient and simple form of contraception that is provided easily in an outpatient setting.
- Implants are small, thin, flexible rods or capsules made of soft plastic that are placed beneath the skin of a client's upper arm. A trained provider performs a minor surgical procedure under local anesthesia to insert or remove the rods.
- Two new implants, Jadelle® (a two-rod system effective for five years) and Implanon® (a one-rod system effective for three years), are even easier to insert and remove than the previously available implant, Norplant® (a six-capsule system effective for seven years).
- Hormonal implants are an excellent contraceptive option for women at all phases of their reproductive lives—those who want to delay, space, or limit births.
- Though implants are the most costly contraceptive method, their availability in programs reduces demand on health services because they are more effective and their continuation rates are higher than short-acting methods, such as pills and injectables.

Method-Specific Characteristics and Considerations

Effectiveness: Hormonal implants are highly effective, comparable to IUDs, female sterilization, and vasectomy. Risk of failure (pregnancy) in the first year of use is 0.05% (i.e., for every 2,000 women using implants, one becomes pregnant in the first year of use and 1,999 do not. Overall, in five years of Jadelle use, there is one pregnancy per 100 users; in three years of Implanon use, there is one pregnancy per 1,000 users; and in seven years of Norplant use, there is one pregnancy in 50 users.¹

Mechanism of Action: Implants contain progestin hormones, either levonorgestrel (Jadelle, 150 mg; Norplant, 216 mg) or etonorgestrel (Implanon, 68 mg). Implants release a small amount of hormone steadily into the blood. The hormone prevents pregnancy mainly by inhibiting ovulation; it also increases the thickness of cervical mucus, which inhibits sperm penetration.

Convenience: Implants can be inserted without a pelvic exam and without any blood tests or other routine laboratory tests. They can be inserted any time during a woman's menstrual cycle, so long as it is reasonably certain that she is not pregnant. No routine follow-up or other action by the client is needed. Implants can be removed any time a woman wishes to have them removed.

Insertion and Removal Times: An implant rod or capsule is the length of a matchstick. Implants can be quickly inserted or removed; the length of time needed depends on the number of rods or capsules and on the skill of the provider. Average insertion times are 1.1 minutes for Implanon, 2 minutes for Jadelle and 4.3 minutes for Norplant. Removal takes 2.5 times as long as insertion.

Return to Fertility: There is no delay in return to fertility upon removal of implants.

Safety: Implants are very safe. Complications are uncommon, but may include infection at the insertion site (3–7% of insertions), and difficult removal. Rarely, an implant may be expelled from the skin.

Side Effects: Changes in bleeding patterns are relatively common and may vary throughout the duration of use, although many bleeding disturbances diminish with continued use. Typical changes include lighter bleeding, fewer days of bleeding, irregular bleeding that lasts more than eight days, infrequent

¹ Due to earlier loss of effectiveness in especially heavy women, women weighing more than 80 kg may need Jadelle or Norplant replaced after four years of use; women weighing 70–79 kg may need Norplant implants replaced after five years of use.

bleeding, and no monthly bleeding. Other minor symptoms that may arise (less than 20–30%) include headache, abdominal pain, acne, weight change, breast tenderness, dizziness, mood changes, and nausea.

HIV/AIDS: Implants, like other hormonal contraceptives, do not protect against HIV (or other sexually transmitted infections). Being HIV-positive or having AIDS is not a contraindication to implant use.

Eligibility: Nearly all women can use implants, including those of any age, those who are married or unmarried, those who have or have not had children, and those who wish to space and those who wish to limit births. Implants can be inserted in women who have just had an abortion or miscarriage, who are breastfeeding (starting six weeks after childbirth), who are anemic, who smoke, or who are infected with HIV.

Service Program Considerations

Overview. Contraceptive implants have been approved for use in more than 80 countries and are being used by 7.1 million women worldwide. Because of their effectiveness and convenience, when implants are made available in family planning programs, they are popular. More than 1% of women use implants in Burkina Faso, Ghana, Haiti, Indonesia, and Kenya and in urban areas of Malawi, Nepal, Senegal, Uganda, and Zimbabwe. Higher usage of implants is limited in many countries by low availability due to high commodity/program costs.

Counseling and Continuation: Implant users discontinue at much lower rates than IUD and injectable users. Women having menstrual disturbances are more likely to discontinue. Effective counseling is critical to ensuring continued use of implants. Providing anticipatory guidance and advice about common changes in bleeding patterns and common side effects (such as headaches, abdominal pain, and breast tenderness) may be the most important help that a woman needs to keep using implants. Reassurance that such side effects may occur, and that they are easily treated and often transient is helpful. It is also important to assure a woman that though she does not *need* to come back, she can come back any time she wants (e.g., if she has problems or questions of any kind, if she wants another method, or if she thinks she might be pregnant, or wants to become pregnant).

Cost: The one factor that limits more widespread use of implants in programs is their relatively high commodity cost (~\$21 per implant in USAID-supported programs). Cost has many dimensions, however. A study in Mali found that Norplant's cost per couple-year of protection (CYP) approached the cost per CYP of oral contraceptives, IUDs, and injectables after four years of use. Also, although implants are more costly than shorter-term re-supply methods such as oral contraceptives and injectables, the availability of implants in programs reduces health system workload, and thus costs, because implants are more effective and have higher continuation rates. More unwanted pregnancies are averted, with their attendant costs in maternal mortality and morbidity.

Provider Cadre. A number of cadres of health professionals, including nurses, nurse-midwives, clinical officers and physicians, can safely provide implants. After 600 nurses were trained in Ghana and commodities were made available, 88,000 women chose Norplant, and prevalence of implant use rose more than 10-fold, from 0.1% in 1998 to 1.2% in 2006.

Service Provision: Implants must be provided by well-trained and well-supervised providers in properly equipped health facilities where attention is given to good surgical technique, infection prevention, and counseling. The fundamentals of care—safety, quality, and informed choice—must be ensured. There should be no unjustified policy or practice barriers to provision of implants (such as age and parity restrictions, marriage requirements, spousal or parental consent requirements, and/or provider bias).

References

1. World Health Organization. 2007. *Family Planning: a global handbook for providers*. Geneva.
2. Johns Hopkins Bloomberg School of Public Health. 2007. Implants: the next generation. *Population Reports*. Baltimore.