

# Implants

## Introduction

Hormonal implants are inserted under the skin of the woman's upper arm by a minor surgical procedure. They become effective within a short time (24 hours approximately) after insertion and protect the woman from pregnancy for a period of 3–7 years, depending upon their type. At the end of this period, the contraceptive effectiveness markedly decreases, and a pregnancy may occur in the absence of another contraceptive. The implants should, therefore, be removed, which again requires a minor surgical procedure.

## Types of Implants

### norplant<sup>®</sup>-6 Implants

Norplant-6 is a sub-dermal implant consisting of six small capsules containing a progestin hormone, a long-acting and reversible contraceptive method for women. Each capsule is 34 mm long and 2.4 mm wide, and has a silastic tube containing 36 mg of levonorgestrel. The levonorgestrel is released at the rate of approximately 85 mcg per 24 hours during the first few weeks of use, declining over the next 18 months to a constant rate of approximately 30–35 mcg per 24 hours. It is effective for 7 years.

### Implanon<sup>®</sup>

Implanon is a single-rod contraceptive implant (40 mm by 2 mm), which contains 68 mg of etonogestrel (ENG) dispersed in a membrane of ethylene

vinyl acetate. Implanon delivers ENG at a dose sufficient to suppress ovulation in every cycle throughout the 3 years of use.



## Policy

- Implants will be given to women who need a long-term method.
- Insertion and removal will be carried out only by doctors trained in the procedures.
- Centres staffed by appropriately trained doctors will be designated to provide these contraceptives.
- Implants will not be given to a woman who is pregnant or suspected to be pregnant.
- Implants can be inserted in breastfeeding women who are more than 6 weeks postpartum.
- Implants can be inserted within 3 weeks after delivery in women who are not breastfeeding.
- Implants may be inserted immediately after complete abortion.

## Standards

The following standards should be observed:

- All concerned paramedics should be trained in counselling techniques so that the client is able to make an informed choice.
- Implants should be given only to those women who want long-term protection from pregnancy.
- Implants should be removed after their effective period is over, i.e., 3–7 years after insertion.

## Mode of action

- Prevent ovulation.
- Thicken the cervical mucus, making it difficult for sperm to pass through.
- Suppress the endometrium, making it unsuitable for implantation of a fertilized ovum.

## Effectiveness

Implants are very effective, i.e., .05 pregnancy occurs per 100 women in first year of use (1 in every 2,000). Over 5 years, 1.6 pregnancies occur per 100 women (1 in every 62). Pregnancy rates have been slightly higher among women weighing more than 70 kilograms (about 150 lbs).

## Advantages

- Very effective, even in overweight women.
- Long-term pregnancy protection, but reversible. A single decision can lead to very effective contraception for up to 3–7 years.
- No need to do anything at the time of sexual intercourse.
- Increased sexual enjoyment because no need to worry about pregnancy.

- One-time activity.
- Effective within 24 hours after insertion.
- Fertility returns almost immediately after implants are removed.
- They do not affect the quantity and quality of breast milk.
- No oestrogen side effects.
- Help prevent iron deficiency anaemia.
- Help prevent ectopic pregnancies.
- May help prevent endometrial cancer.
- May make sickle cell crises less frequent and less painful.
- May reduce the risk of PID.

## Limitations

- The client cannot start or stop use on her own. Capsules must be inserted and removed by a specially trained health care provider.
- Minor surgical procedures are required to insert and remove capsules. Some women may not want anything inserted in their arms or may be bothered that implants may be seen or felt under the skin.
- Discomfort for several hours to 1 day after insertion for some women. Removal is sometimes painful and often more difficult than insertion.
- In very rare instances when pregnancy occurs, as many as one in every six pregnancies is ectopic.
- Do not protect against sexually transmitted infection (STIs), including HIV/ AIDS.

### Client assessment as per World Health Organization medical Eligibility Criteria for Implants

ask the client the questions given below. If she answers “no” to all of the questions, then she can use implants if she wants. If the client answers “yes” to a question below, follow the instructions. 1. Is the client breastfeeding a baby less than 6 weeks old? start using implants beginning 6 weeks after childbirth. If a client is fully or almost fully breastfeeding, she is protected from pregnancy for 6 months after childbirth or until her menstrual period returns, whichever comes first. the client must begin contraception at once to avoid pregnancy. Encourage her to continue breastfeeding. 2. Does the client have serious problems with her blood vessels? If so, what problems? Do not provide implants if she reports blood clots (except superficial clots). Help the client choose another effective method. 3. Does the client have jaundice, cirrhosis of the liver, a liver infection, or tumour? perform a physical examination or refer. If the client has serious active liver disease (jaundice, painful or enlarged liver, viral hepatitis, liver tumour), do not insert implants. Refer for care. Help her choose a method without hormones. 4. Does the client have or has she ever had breast cancer? Do not provide implants. Help the client choose a method without hormones. 5. Does the client have vaginal bleeding that is unusual for her? If the client is suffering from unexplained vaginal bleeding that suggests pregnancy or an underlying medical condition, do not provide implants. assess and treat any underlying condition, as appropriate, or refer. Help the client choose a method without hormones to use until the problem is assessed. then the client can start using implants. 6. Is the client taking medicine for seizures? Is she taking rifampicin or griseofulvin? If the client is taking phenytoin, carbamazepine, barbiturates, or primidone for seizures, or rifampicin or griseofulvin, provide condoms to use along with implants if she is on short-term treatment. If the client is on long-term treatment, help the client choose another effective method. 7. Does the client think she is pregnant? ask if the client is pregnant. If she is in doubt, give her condoms to use until reasonably sure that she is not pregnant. then she can start implants. Be sure to explain the health benefits, risks, and side effects of the method that the client will use. also, point out any conditions that would make the method inadvisable when relevant to the client.

## Indications


Nearly all women can use implants safely and effectively, including women who:

- Breastfeed
- Smoke cigarettes
- Are of any age

## Implants

- Are 6 weeks after childbirth
- Are overweight or underweight
- Just had abortion or miscarriage
- Have benign breast disease
- Have controlled hypertension
- Have iron deficiency anaemia
- Have varicose veins
- Have valvular heart disease
- Have controlled diabetes
- Have thyroid disease
- Have irregular or painful menstrual periods
- Have pelvic inflammatory disease (PID)
- Have benign ovarian tumours or uterine fibroids
- Have endometriosis
- Have STIs
- Have tuberculosis (unless taking rifampicin)

## When to start

- Any time it is reasonably certain that the client is not pregnant. If she is not at risk of pregnancy (for example, has not had sex since her last menstrual period), she may start using implants at any time she wants.
- If inserted during the first 7 days after menstrual bleeding starts, no backup method is needed for extra protection.
- If she is starting on or after day eight of her menstrual period, she should use condoms or spermicide or avoid sex for the next 7 days after insertion.
-  Immediately, or in the first 7 days after first- or second-trimester miscarriage or abortion. Switching from a non-hormonal method:
- If it is more than 7 days after the start of her monthly bleeding (more than 5 days for Implanon), she can have implants inserted at any time it is reasonably certain she is not pregnant. She will need a backup method for the first 7 days after insertion.
- If she is switching from an IUCD, she can have implants inserted immediately.

Switching from a hormonal method:

- Immediately, if she has been using the hormonal method consistently and correctly or if it is otherwise reasonably certain she is not pregnant. No need to wait for her next monthly bleeding. No need for a backup method.
- If she is switching from injectables, she can have implants inserted when the repeat injection would have been given. No need for a backup method.

## Equipment and supplies needed for norplant Insertion

1. Local anaesthetic
2. Diluent
3. Disposable syringe
4. Antiseptic
5. Surgical gloves
6. Roll bandage
7. Saniplast
8. Antibiotics
9. Analgesics
10. Implant kit:
  - Surgical knife handle and blade
  - Trocar and cannula
  - Kidney tray
  - Bowl
  - Mosquito forceps
  - Dissecting forceps
  - Sponge-holding forceps
  - Norplant sheet
- 11. Autoclave drum

## Technique for Insertion of norplant-6 Rods

Norplant implants insertion requires training and practice under direct supervision. Therefore, the following description should be considered a summary of the procedure rather than detailed instructions on how to insert the implants. All service providers should be able to tell their clients about insertion of Norplant implants:

1. The health care provider (trained doctor) uses proper infection prevention procedures.

## Implants

- 1 The client receives an injection of local anaesthetic under the skin to prevent pain in her arm.
- 2 The health care provider makes a small incision in the skin on the inside of the upper arm. The health care provider inserts the capsules just under the skin. This makes the capsules easier to remove later.
- 3 After all six capsules are inserted, the health care provider closes the incision with an adhesive bandage. Stitches are not needed. The incision is covered with sterilized gauze and wrapped with the bandage.

## Technique for Removal of norplant-6 Rods

- The position of the client and aseptic procedures should be the same as for insertion.
- Locate the implant by palpation; mark the position with a ballpoint pen, if possible.
- Inject a small amount of a local anaesthetic under the proximal ends of the implants.
- Make a 4 mm incision with the scalpel close to the ends of the implants. Do not make a large incision.
- Using your fingers, push the implants gently towards the incision. When the tip of the implant is visible, grasp it with the mosquito forceps. Use the scalpel very gently to remove the tissue from the implant.
- Remove the implant from the incision with the second forceps.
- Count the implants to make sure that all six have been removed, and show these to the client.
- Cover the incision with sterilized gauze and wrap with a bandage.

## Technique for Insertion of Implanon Rod-1

Insertion takes about 10 minutes. Bruising or slight bleeding at the insertion site is normal and common during the first few days after insertion.

- Implanon is inserted at the inner side of the upper arm (the arm that the woman does not write with), with a specially designed applicator.
- The provider (trained doctor) uses proper infection prevention procedures.
- The woman receives an injection of local anaesthetic under the skin of her arm to prevent pain while the implant is being inserted. She stays fully awake throughout the procedure.
- The skin is stretched and the needle is inserted directly under the skin. Once the tip is under the skin, the needle is completely inserted in a movement parallel to the skin.

- After the Implanon is inserted, the provider applies sterile gauze with a pressure bandage to minimize bruising.
- Stitches are not needed. The incision is covered with a dry, sterilized gauze and the arm is wrapped with a bandage.

## Technique for Removal of Implanon Rod-1

The removal technique is similar to that for Norplant-6 rods given above.

## Newer Implants

### JaDEIIE® Implants General

#### Information

Jadelle is an implant system that provides effective, long-acting, reversible contraception for women. It contains synthetic progestin. Two thin, flexible rods made of silicone tubing and filled with levonorgestrel are inserted in a woman's upper arm. The cumulative pregnancy rate in clinical trials was 0.3 percent for 3 years and 1.1 percent for 5 years. Jadelle has a lower failure rate than the pill and most IUCDs. Its efficacy is comparable to that of surgical sterilization.



Jadelle should not be used by women who are pregnant or who have any of these contraindications: active thrombophlebitis or thromboembolic disorders, such as blood clots in the legs, lungs, or eyes; undiagnosed abnormal genital bleeding; acute liver disease; or known or suspected breast cancer. Women who have had previous blood clots or other thromboembolic disorders should consult with their health care providers about whether to use the method.

Because Jadelle has two rods, it is easier to insert and remove than Norplant. The rods are inserted under the skin of the inner side of the upper arm in a minor surgical procedure, a local anaesthetic is injected, and the clinician makes a small incision about 3 mm long, using either the disposable inserter or the trocar. The rods are placed subdermally in the shape of a V opening towards the shoulder. The rods should be inserted by health care providers who have received training in the procedure. Since the incision is small, most women do not have a noticeable scar.

#### side Effects and management

Most women using implants have some changes in their menstrual pattern such as spotting or irregular bleeding in between periods. Some may have scanty menses or amenorrhoea after about a year of use. Assure the client that these menstrual changes will not harm her and will settle in a few months.

Use the following guidelines to manage problems with implants.



**Table 11-1. Hormonal Implants: Side Effects and Their Management**

side Effects	management
Pain in the arm for 1-2 days	<ul style="list-style-type: none"> <li>• Reassure client.</li> <li>• Give her tab paracetamol.</li> </ul>
Pain continues after 2-3 days with swelling of the insertion site	Give her appropriate antibiotic and analgesic and follow her.
Menstrual changes: spotting/slight bleeding between period	<ul style="list-style-type: none"> <li>• Reassure the client that it will be resolved on its own.</li> <li>• advise ibuprofen up to 800 mg (max) or ponstan 500 mg three times daily after meal for 5 days.</li> <li>• Give iron tab 1x3 for 1 month, or</li> <li>• Give COC pills 1 daily for 21 days.</li> <li>• If this does not help, provide: - 50 mcg of ethinyl estradiol daily for 21 days.</li> <li>• If bleeding continues to be heavy and the client is worried, remove the implants.</li> </ul>
Amenorrhoea after scanty menses	Reassure the client that it will not harm her (as it does not harm her when she is pregnant).
Amenorrhoea after regular cycles	<ul style="list-style-type: none"> <li>• Do a pregnancy test.</li> <li>• If not pregnant, reassure the client.</li> <li>• If pregnant, remove the implants.</li> </ul>
Weight gain	
less than 2 kg in 3 months	<ul style="list-style-type: none"> <li>• Reassure the client.</li> <li>• ask her to reduce food intake, especially fats and sweets.</li> </ul>
more than 2 kg in 3 months	Watch her weight for another 2-3 months on a reduced diet.
If client continues to gain weight	Remove the implants.
Depression or other mood changes	Refer client to a doctor.
Infection at the insertion site (pain, heat, and redness) but no abscess	<ul style="list-style-type: none"> <li>• Do not remove the implants.</li> <li>• Clean the infected area with soap and water or antiseptic.</li> <li>• Give an oral antibiotic for 7 days and ask the client to return in 1 week. If still not better, remove the implants or refer for removal.</li> </ul>
Infection with abscess	<ul style="list-style-type: none"> <li>• If significant skin infection is involved, give oral antibiotic for 7 days.</li> <li>• prepare the infected area with antiseptic, make an incision, and drain the pus.</li> <li>• Remove the implants or refer for removal.</li> <li>• treat the wound.</li> </ul>

# Method-specific Counselling

## Pre-procedure Counselling

After greeting the client and making her comfortable, ask questions to confirm that she needs a contraceptive for long-term use.

- Show the package containing the implants.
- ⑩ Give the following information regarding insertion and removal of the implants:
  - The incision for insertion of the capsules is very small.
  - She will not feel any pain because a local anaesthetic will be used.
  - The procedure is performed by a trained doctor and takes about 10 minutes.
  - Removal is also done by a trained doctor and takes a little more time than insertion.
  - Explain how the implants act as a contraceptive.
  - Tell about their advantages and limitations.
- Listen to her queries and answer them to her satisfaction.
- Dispel doubts or fears that she may have by discussing them and providing relevant information.

## Post-procedure Counselling

As detailed below, give all information to the client regarding the follow-up schedule, possible side effects and their management, warning signs, and the importance of getting the implants removed after the effective period is over.

Explain the Follow-Up schedule

- Ask the client to come for a check-up after 1 month and for removal of the implants at the end of their effective lifespan.
- Tell her that she can come at any time she feels there is a problem, or if she has any questions.
- Explain that it is important that she come to the same clinic for follow-up.
- Explain that implants can be removed at any time she wants.

## Implants

### Explain Warning signs

Tell the client to come to the clinic as soon as possible if any of the following problems occur: **D**= Delay in monthly periods **I**= Infection at insertion site **S**= Severe abdominal pain **C**= Capsule of the implant comes out of the skin **U**= Unusually heavy vaginal bleeding **S**= Soreness of the arm **S**= Severe headache or blurred vision

On the first visit, counsel the client along the following lines:

- Repeat the information about implants.
- Consider seriously any complaint or problems faced by the user, and make every attempt to take care of them. Treat minor complaints and refer her to the physician for any major ones.
- Reassure her that removal is available whenever she wants it.
- Ensure that she understands that the implants must be removed after the effective period is over.
- Advise her to return to the same centre for removal after this period, if possible. Otherwise, give her the name and address of another implants centre.

• Check the insertion site to see whether it has healed.

• ⑩ Check that the implants are in place. On the visit for removal of implants, do the following:

- Remove the implants.
- Insert a new set of implants if the client desires.

## Recordkeeping

Maintain the following minimum record for use in the clinic and for follow-up of the client:

- Daily clinic register: to register the client
- Client record card: enter information about age, parity, menstrual history, and findings of physical examination
- ⑩ Client card: give this to the client after entering the following information:
  - Name and location of clinic
  - Name of client and full address
  - Client registration number