Providing Contraceptive Implants

Interim Version – Updated to Reflect 2015 World Health Organization Medical Eligibility Criteria

Reference Manual
Providing Contraceptive Implants

Reference Manual

Interim Version – Updated to Reflect 2015 World Health Organization Medical Eligibility Criteria
Jhpiego is an international, non-profit health organization affiliated with The Johns Hopkins University. For more than 40 years, Jhpiego has empowered frontline health workers by designing and implementing effective, low-cost, hands-on solutions to strengthen the delivery of health care services for women and their families. By putting evidence-based health innovations into everyday practice, Jhpiego works to break down barriers to high-quality health care for the world's most vulnerable populations.

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# ABBREVIATIONS AND ACRONYMS

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<th>Description</th>
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<tr>
<td>AIDS</td>
<td>Acquired Immune Deficiency Syndrome</td>
</tr>
<tr>
<td>ART</td>
<td>Antiretroviral Therapy</td>
</tr>
<tr>
<td>BSC+</td>
<td>Balanced Counseling Strategy Plus</td>
</tr>
<tr>
<td>BP</td>
<td>Blood Pressure</td>
</tr>
<tr>
<td>COC</td>
<td>Combined Oral Contraceptive</td>
</tr>
<tr>
<td>CVD</td>
<td>Cardiovascular Disease</td>
</tr>
<tr>
<td>EE</td>
<td>Ethinyl Estradiol</td>
</tr>
<tr>
<td>ETG</td>
<td>Etonogestrel</td>
</tr>
<tr>
<td>FEFO</td>
<td>First to Expire, First Out</td>
</tr>
<tr>
<td>FP</td>
<td>Family Planning</td>
</tr>
<tr>
<td>FSH</td>
<td>Follicle-Stimulating Hormone</td>
</tr>
<tr>
<td>GNID</td>
<td>Gram-Negative Intracellular Diplococci</td>
</tr>
<tr>
<td>GTI</td>
<td>Genital Tract Infection</td>
</tr>
<tr>
<td>H₂O₂</td>
<td>Hydrogen Peroxide</td>
</tr>
<tr>
<td>Hb</td>
<td>Hemoglobin</td>
</tr>
<tr>
<td>HBV</td>
<td>Hepatitis B Virus</td>
</tr>
<tr>
<td>Hct</td>
<td>Hematocrit</td>
</tr>
<tr>
<td>HIV</td>
<td>Human Immunodeficiency Virus</td>
</tr>
<tr>
<td>HLD</td>
<td>High-Level Disinfection</td>
</tr>
<tr>
<td>IP</td>
<td>Infection Prevention</td>
</tr>
<tr>
<td>LAM</td>
<td>Lactational Amenorrhea Method</td>
</tr>
<tr>
<td>LARC</td>
<td>Long-Acting, Reversible Contraceptive</td>
</tr>
<tr>
<td>LH</td>
<td>Luteinizing Hormone</td>
</tr>
<tr>
<td>LMIS</td>
<td>Logistics Management Information System</td>
</tr>
<tr>
<td>LMP</td>
<td>Last Menstrual Period</td>
</tr>
<tr>
<td>LNG</td>
<td>Levonorgestrel</td>
</tr>
<tr>
<td>LRP</td>
<td>Learning Resource Package</td>
</tr>
<tr>
<td>MEC</td>
<td>Medical Eligibility Criteria</td>
</tr>
<tr>
<td>Mg</td>
<td>Milligram</td>
</tr>
<tr>
<td>Mm</td>
<td>Millimeter</td>
</tr>
<tr>
<td>NNRTI</td>
<td>Non-Nucleoside/Nucleotide Reverse Transcriptase Inhibitor</td>
</tr>
<tr>
<td>NRTI</td>
<td>Nucleoside/Nucleotide Reverse Transcriptase Inhibitor</td>
</tr>
<tr>
<td>POC</td>
<td>Progestin-Only Contraceptive</td>
</tr>
<tr>
<td>POP</td>
<td>Progestin-Only Pill</td>
</tr>
<tr>
<td>PPFP</td>
<td>Postpartum Family Planning</td>
</tr>
<tr>
<td>SBM-R®</td>
<td>Standards-Based Management and Recognition</td>
</tr>
<tr>
<td>SHBG</td>
<td>Sex Hormone Binding Globulin</td>
</tr>
<tr>
<td>STI</td>
<td>Sexually Transmitted Infection</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
</tbody>
</table>
ACKNOWLEDGMENTS

This learning resource package (LRP) was developed by Jhpiego, an affiliate of Johns Hopkins University, to meet the growing need of family planning trainers and service providers for a consolidated source of concise, up-to-date information on contraceptive implants. Some of the material was adapted from prior publications by Jhpiego and a number of other organizations, including Bayer Pharma AG (Bayer) and Merck & Co, Inc. (MSD). Throughout this LRP, reference to non-Jhpiego documents is specifically cited within the text or acknowledged at the end of the manual, organized by chapter. Jhpiego would like to extend a special thank you to Bayer for access to its existing Jadelle training materials, MSD for access to selected Implanon materials, to John Snow, Inc. for their contributions to the commodities and logistics section, to FHI 360 for their pregnancy checklist and quick reference eligibility guide, and to Population Council for their balanced counseling strategy materials. Jhpiego would also like to extend appreciation to the World Health Organization for their globally recognized Medical Eligibility Criteria materials.

Gratitude is also extended to EngenderHealth and the following agencies for participating in a pre-publication technical review of this package: Clinton Health Access Initiative; John Snow, Inc.; Marie Stopes International; Population Services International; FHI 360; Abt Associates; Population Council; Pathfinder International; IntraHealth International; Management Sciences for Health; University Research Co., LLC; and the United States Agency for International Development.

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Finally, sincere thanks to the Jhpiego Publications staff who directed the assembly and production of this LRP.

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PREFACE

The purpose of this learning resource package (LRP) is to provide health workers with a consolidated source for essential information on safe use of contraceptive implants, specifically on Jadelle, Sino-implant (II), Implanon, and Implanon NXT (also known as Nexplanon). The material is arranged sequentially according to the usual way in which clients are cared for—starting with general information and counseling about implants, then insertion and management of side effects, then moving to removal (before ending with suggestions for organizing services). Key points are repeated in several sections to emphasize their importance.

The World Health Organization’s (WHO’s) recommendations on task-shifting for maternal and newborn health suggest that contraceptive implants can be safely administered by most health workers—from auxiliary nurses, to nurses and midwives, and up to clinicians and doctors.¹ Other cadres could be considered in the context of rigorous research.

The reference manual was designed for use alongside the “Providing Contraceptive Implants” Trainer’s Notebook and Learner’s Handbook. Please refer to these documents for more information on implementing trainings using this LRP.

This LRP was updated in 2015 to reflect revisions to WHO’s Medical Eligibility Criteria for Contraceptive Use, 5th Edition that have implications for contraceptive implant use.

The main objectives of this LRP are to enable and empower providers to:

1. Explain to a client how implants prevent pregnancy.
2. Inform a client about the most common side effects of two-rod and one-rod implants.
3. Screen clients requesting implants and determine whether further medical evaluation is needed.
4. Counsel a client interested in using implants as a contraceptive method.
5. Insert two-rod and one-rod implants through simulation using the training arm model before moving to clinical practice with clients.
6. Provide post-insertion counseling on care and follow-up.
7. Use recommended infection prevention practices that minimize the risk of post-insertion/post-removal infections and transmission of serious diseases.
8. Remove two-rod and one-rod implants through simulation using the training arm model before moving to clinical practice with clients.
9. Manage common side effects and other health problems and be able to explain when to remove implants.
10. Develop an action plan to implement high-quality contraceptive implant services at the learner’s facility.

¹ WHO defines auxiliary nurses as having some training in secondary school. A period of on-the-job training may be included, and sometimes formalized in apprenticeships. An auxiliary nurse has basic nursing skills and no training in nursing decision-making. However, in different countries the level of training may vary between a few months to 2–3 years.
CHAPTER 1: INTRODUCTION

BACKGROUND

Contraceptive implants are small, flexible rods placed just under the skin of the upper arm. This package covers a number of contraceptive implant products, specifically Jadelle, Sino-implant (II), Implanon, and Implanon NXT. For the purpose of clarity, from here forward, we will refer to them as one-rod or two-rod implants, naming products by brand name only where necessary to highlight a product distinction. The products can be classified as such:

- **One-rod:** Implanon
  - Implanon NXT (sometimes referred to as Nexplanon)

- **Two-rod:** Jadelle
  - Sino-implant (II)* (sometimes referred to as Zarin, Femplant, Trust, Simplant)

*Sino-implant (II) is registered in more than 20 countries; it is currently undergoing the WHO prequalification process.

As of March 2014, only Jadelle, Implanon, and Implanon NXT have received WHO pre-qualification, a distinction that guides international procurement agencies and countries for bulk purchasing. Please see Table 1.1 below for information regarding their respective registration statuses.

**Table 1-1. WHO Prequalified Products: Manufacturers and Registration Status, March 2014**

<table>
<thead>
<tr>
<th>Product</th>
<th>Manufacturer</th>
<th>Registration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jadelle</td>
<td>Bayer HealthCare</td>
<td>Registered in more than 50 countries.</td>
</tr>
<tr>
<td>Implanon</td>
<td>Merck/MSD</td>
<td>Registered in 73 countries.</td>
</tr>
<tr>
<td>Implanon NXT</td>
<td>Merck/MSD</td>
<td>Registered in 55 countries, with numerous additional registrations pending. Will progressively replace Implanon in all countries in the next few years.</td>
</tr>
</tbody>
</table>

This table was modified and updated from a document published by the Reproductive Health Supplies Coalition, accessible at: http://www.path.org/publications/files/RHSC_implants_br.pdf.

All contraceptive implants are highly effective and provide long-term pregnancy protection: for the two-rod implants, Jadelle provides 5 years of protection and Sino-implant (II) provides 4 years; the one-rod implants provide 3 years of protection. Implants can be removed by a trained provider at any time, with no delay in the return to fertility. Neither two-rod nor one-rod implants contain estrogen, and both types are therefore a viable option for breastfeeding women or others who cannot use methods that contain estrogen. They are suitable for breastfeeding and non-breastfeeding postpartum women (starting immediately after childbirth and anytime onwards), and are also a viable method for postabortion clients, adolescents, and youth. Both types of implants operate primarily by: 1) thickening cervical mucus, and 2) preventing ovulation. They are more than 99% effective, and provide a significant advantage to women in that little to no action is required of the woman once the implant is inserted.

Compared to other methods of hormonal contraception, contraceptive implants provide a different way to deliver the hormones (levonorgestrel [LNG] in two-rod, etonogestrel [ETG] in one-rod) into the body: the hormones pass continuously into the bloodstream through the walls of the implants at
a relatively constant rate. With two-rod implants, the LNG is maintained at an effective level for 4–5 years, regardless of the brand. Thus, a single insertion of this method replaces around 1,800 days of pill taking. With one-rod implants, ETG is maintained at an effective level for 3 years. After contraceptive implants are removed, the hormones’ levels drop quickly and normal fertility returns promptly. It’s important to note that neither LNG nor ETG is new to hormonal contraception. Both have been used widely in birth control pills, with LNG’s origins reaching back over 50 years. Jadelle levonorgestrel implants are manufactured by Bayer Schering Pharma AG under license from the Population Council, an international contraceptive research organization. Sino-implant (II) is manufactured by Shanghai Dahua Pharmaceuticals. Both Implanon and Implanon NXT are manufactured by Merck & Co, Inc.

Next, we’ll introduce each type of implant separately.
INTRODUCTION TO TWO-ROD IMPLANTS

A set of two-rod implants consists of two small, flexible rods that have a core consisting of an equal mixture of levonorgestrel and silicone elastomer. The rods are covered with thin-walled silicone tubing and are sealed at the ends with Silastic medical grade adhesive. Each rod is 43 millimeters (mm) long, 2.5 mm in diameter, and contains 75 mg LNG (see Figure 1-1).

Figure 1-1. Two-Rod Implant, Actual Size

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The rods are inserted just under the skin (subdermally) on the inner side of a woman’s upper arm (Figure 1-2) during a minor surgical procedure with local anesthetic.

Figure 1-2. Placement of Two-Rod Implants

©Bayer Pharma AG, Germany

The active contraceptive steroid in two-rod implants is the progestin levonorgestrel, a chemical derivative of 19-nortestosterone. Levonorgestrel has potent progesterone-like activity, weak androgenic properties, and no significant estrogen activity. The materials used in the production of two-rod implants are not new to medicine.
Packaging
The contraceptive is supplied as a set. One sealed, sterile plastic pouch contains two rods, each filled with 75 mg of levonorgestrel, for use in one woman. A separate package contains the disposable trocar for insertion of the implants.

Storage and Shelf Life
The sterile packs for two-rod implants should be stored away from excessive heat (temperatures higher than 30° C) and moisture. An unopened, undamaged sterile pack of two-rod implants, if properly stored, has a shelf life of 5 years. The last date for insertion (expiration date) is stamped on each box.  

Effective Life
If inserted any time before the expiration date (shelf life), a set of Jadelle rods is effective for 5 years, and a set of Sino-implant (II) rods is effective for 4 years. The rods should be removed by the end of the final year. If desired, a new set of rods may be inserted in the same location immediately following removal.  

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2 Shelf life is the length of time the commodity can be stored without becoming unfit for use.
3 Effective life measures the span of pharmacological effectiveness provided by the commodity.
One-rod implants consist of a single, rod-shaped implant, containing 68 mg etonogestrel, pre-loaded in the needle of a disposable applicator. Implanon NXT differs only slightly from its predecessor Implanon, in that it is radiopaque, and therefore identifiable via x-ray. The insertion trocars for Implanon and Implanon NXT are different, and thus insertion and other considerations related to their differences are highlighted throughout this document where warranted. **This is particularly true of the insertion chapter, where the two versions are separated out by their different insertion techniques.** Measurement and structure of the implant are detailed below in **Figure 1-3.** The placement of one-rod implants is presented in **Figure 1-4** below.

**Figure 1-3. Measurement and Structure of One-Rod Implants**

![Measurement and Structure of One-Rod Implants](image)

©Reproduced with the permission of Merck Sharp & Dohme B.V., a subsidiary of Merck & Co., Inc. Whitehouse Station, New Jersey, USA (hereinafter “Merck & Co., Inc., USA”). All rights reserved.

**Figure 1-4. Placement of One-Rod Implants**

![Placement of One-Rod Implants](image)

©Merck & Co., Inc., USA
Packaging

- **Implanon**: One Implanon package consists of a single implant containing 68 mg etonogestrel that is 4 cm in length and 2 mm in diameter, which is pre-loaded in the needle of a disposable applicator. The sterile applicator containing the implant is packed in a blister pack. (See Figure 1-5 below.)

**Figure 1-5. Implanon Applicator and Parts**

- **Implanon NXT**: One package consists of a single implant containing 68 mg etonogestrel and 15 mg of barium sulfate, which is 4 cm in length and 2 mm in diameter, and is pre-loaded in the needle of a disposable applicator. The sterile applicator containing the implant is packed in a blister pack. The applicator is pictured in Figure 1-6.
Storage and Shelf Life

Store one-rod implants at 25° C (77° F) and protect them from light. Avoid storing one-rod implants in direct sunlight or at temperatures above 30° C (86° F).

Effective Life

One-rod implants are long-acting (up to 3 years), reversible, hormonal contraceptive methods. The implant must be removed by the end of the third year and may be replaced by a new implant at the time of removal, if continued contraceptive protection is desired.
Mechanism of Action for Implants

Absorption
Post-insertion, the hormone levels in implants rise rapidly and are effective depending on timing of insertion per the woman’s menstrual cycle or use of contraception. While hormone levels drop throughout the implants’ span of use, the mean levels remain well above the suggested pregnancy threshold. These results suggest that Jadelle rods are effective for 5 years, Sino-implant (II) for 4 years, and both one-rod implants for 3 years.

Mechanism of Action
With all implants, pregnancy is prevented through a combination of mechanisms. The two primary means are:

- Production of thick cervical mucus, which prevents sperm penetration, and
- Inhibition of ovulation.

Effect on Cervical Mucus
Perhaps the most important contraceptive effect of contraceptive implants is the change they cause in the composition of the cervical mucus. Within 24–72 hours after insertion, the cervical mucus becomes thick, is decreased in amount, and limits the ability of sperm to pass through it. This effect is the same as that seen with progestin-only minipills and injectables as well as combined oral contraceptive pills (COCs). This action has been confirmed in laboratory tests (Croxatto et al. 1987).

Effect on Ovulation
The amount of hormone released from implants is sufficient to activate feedback mechanisms in the hypothalamus and anterior pituitary gland. The decrease in the secretion of follicle-stimulating hormone (FSH) and luteinizing hormone (LH) prevents or significantly reduces the LH surge that precedes ovulation (Alvarez et al. 1986).

How Ovulation Is Prevented
The small amount of hormone that is continuously released from the implants acts on specific areas of the brain (hypothalamus and anterior pituitary gland) to:

- Decrease the secretion of follicle-stimulating hormone (FSH) and luteinizing hormone (LH), and
- Block (or significantly reduce) the LH surge at mid-cycle.
Effect on Endometrium

Synthetic progestins block progesterone receptors (specific proteins located inside the uterine endometrial cells that bind progesterone). This action causes the endometrial cells, which line the uterine cavity, to have fewer glands and these function poorly (i.e., they do not have as much secretory activity). This added effect of the hormone is thought to further reduce the likelihood of successful implantation and may contribute to the contraceptive action of hormonal implants.

EFFECTIVENESS

Clinical experience with implants has been gained from many years of research and clinical evaluation worldwide. Contraceptive implants are more than 99% effective.

Weight and Effectiveness

While contraceptive user weight can indeed play a role in the method’s effectiveness, it’s crucial to highlight that even with reduced efficacy among overweight women in the final year, implants still provide better pregnancy protection than most other contraceptive methods, and under WHO’s Medical Eligibility Criteria (MEC) qualify as a “Category 1,” indicating that they are still recommended for use among women over 80 kg (see Chapter 3).

- For Jadelle users weighing 80 kg or more, effectiveness drops from .3 pregnancies per 100 users, to 1.1 pregnancies per 100 users. As such, to avoid pregnancy, you may recommend that the client return after 4 years (rather than 5) to replace her implant. It is important to understand, however, that:
  - The effect of weight on effectiveness of Sino-implant (II) has not been studied, but one can surmise, due to its composition’s similarity to Jadelle, that removal before the product’s 4-year effective life for users of 80 kg could be considered.
  - For one-rod implants, the clinical experience in heavier women in the third year of use is limited. Therefore, it cannot be excluded that the contraceptive effectiveness in these women during the third year of use may be lower than for women of normal weight. Providers may therefore consider earlier replacement of the implant in heavier women.

The effectiveness of a contraceptive method is an important factor, both for the individual (or couple) trying to choose a method and the service provider. For valid comparisons of effectiveness to be made among the most commonly used methods, failure rates must be presented not only for individuals using the method consistently and correctly, but also for typical users. With methods like contraceptive implants that do not require action by the user, there is essentially no difference between typical and theoretical use.

How effective are contraceptive implants?

- Less than 1 pregnancy per 100 women using implants over the first year (5 per 10,000 women). This means that 9,995 of every 10,000 women using implants will not get pregnant.
- A small risk of pregnancy remains beyond the first year of use and continues as long as the woman is using implants:
- Over 5 years of two-rod use, about 1 pregnancy per 100 women
- Over 3 years of one-rod use, about 1 pregnancy per 1,000 women

A comparison of various contraceptive methods’ effectiveness is provided in **Figure 1-7**.

**Figure 1-7. Comparing Effectiveness of Contraceptive Methods**

![Image of Figure 1-7](image-url)

*Source*: World Health Organization Department of Reproductive Health and Research (WHO/RHR) and Johns Hopkins Bloomberg School of Public Health Center for Communication Programs (CCP), Knowledge for Health Project 2011.

**Effect of Other Medications**

The efficacy of implants may be reduced in users who take certain medications that increase the production of the liver enzymes that break down the hormone released from the implants. (These drugs decrease the effectiveness of combined and progestin-only contraceptive pills as well.) The concerns of interaction with implants are minor, but providers should advise use of condoms for dual protection.
Some drugs that fall into this category include:

- **Anti-epilepsy (seizure disorder) drugs** such as barbiturates (phenobarbital), phenytoin (Dilantin®), and carbamazepine (Tegretol®), but not valproic acid;

- **Antibiotics** (only rifampin); and

- **Medications for HIV/AIDS**: Certain antiretroviral therapy (ART) medications (most likely protease inhibitors, the non-nucleoside reverse transcriptase inhibitors efavirenz and nevirapine, and cobicistat-boosted elvitegravir) may potentially reduce the effectiveness of COCs and possibly also of contraceptive implants. Women on ART should receive counseling on the potential reduced effectiveness of implants when used simultaneously with certain ART regimens. During counseling, the woman should be offered alternative methods for consideration. However, when the woman decides to initiate or continue with implants, it is recommended that she be counseled on the consistent use of condoms for dual protection and to compensate for any possible reduction in the effectiveness of the implants.

In the WHO’s MEC, clients on these medications who desire an implant are “Category 2,” indicating they generally can use the family planning (FP) method (WHO 2015). For more on medical eligibility, see Chapter 3.

**Continuation**

As shown in Table 1-1, the 5-year cumulative continuation rate studied for Jadelle is very favorable. Moreover, the first-year continuation rate for Jadelle is better than for other reversible methods.

<table>
<thead>
<tr>
<th>METHOD</th>
<th>CONTINUATION RATE (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 Year</td>
</tr>
<tr>
<td>Jadelle</td>
<td>89</td>
</tr>
<tr>
<td>Implanon</td>
<td>85</td>
</tr>
<tr>
<td>Oral contraceptive pills</td>
<td>73</td>
</tr>
<tr>
<td>IUD</td>
<td>73</td>
</tr>
<tr>
<td>Condom</td>
<td>64</td>
</tr>
</tbody>
</table>

**Pregnancy**

As noted above under “Effectiveness,” contraceptive implants are highly effective in preventing pregnancy, with less than one pregnancy per 100 users of the method. In addition, the use of implants does not increase the frequency of *ectopic pregnancy*. In a study involving 600 women who used Jadelle (two-rod) for 5 years, there was one ectopic pregnancy, yielding an ectopic pregnancy rate of 0.4 per 1,000 (Sivin et al. 1998). This rate is significantly below the ectopic pregnancy rate of 2.7–3.0 per 1,000 woman-years reported for non-contracepting women aged 15–44 (Franks et al. 1996).
If a woman does become pregnant with implants in place, however, it may be more likely to be an ectopic pregnancy. Any woman using implants who presents with symptoms of pregnancy, especially if she has lower abdominal pain, should be carefully evaluated to rule out the possibility of ectopic pregnancy.\(^4\)

Finally, in the clinical trials, no birth defects or pregnancy-related problems other than ectopic pregnancy were reported. Good evidence shows that implants will not cause birth defects and will not otherwise harm the fetus if a woman becomes pregnant while using implants or accidentally has implants inserted when she is already pregnant (WHO, *Family Planning: A Global Handbook for Providers*, 2011).

**RETURN OF FERTILITY**

Once implants are removed, blood levels of the progestin become undetectable within a few days. This results in a prompt return of fertility. Several studies have reported no long-term impact on future fertility.

**SIDE EFFECTS**

Nearly all implant users will experience one or more side effects, but they are not life-threatening. Unfortunately, despite the fact that most side effects are minor, they may be bothersome enough to prompt some users to stop using implants. As is the case with other contraceptive methods, thorough counseling of potential users before insertion has a major impact on user satisfaction and continuation rates. Careful explanation of the side effects before insertion of contraceptive implants, as well as reassurance that rarely do they represent a risk to the client’s health, helps in decreasing any concerns.

The most common side effect with contraceptive implants is a change in the menstrual bleeding pattern. Unlike oral contraceptives, which provide a predictable and adequate amount of estrogen, natural estradiol levels in contraceptive implant users are quite variable. As a consequence, the excellent cycle control (e.g., lack of breakthrough bleeding and spotting) typical for pill users does not occur with implants. Instead, among two-rod implant users, prolonged bleeding and irregular bleeding and spotting are common, especially during the first 6–9 months of use. For one-rod implant users, the bleeding pattern experienced during the first 3 months of use is broadly predictive of future bleeding patterns. One in five women reported amenorrhea, while another one in five reported frequent and/or prolonged bleeding. Menstrual bleeding changes are essentially universal, although the pattern in any individual woman cannot be predicted. Typical changes include lighter bleeding, fewer days of bleeding, irregular bleeding, and infrequent or no monthly bleeding (Respond Project 2013). One-rod users are more likely to have infrequent or no monthly bleeding than irregular bleeding (WHO/RHR and Johns Hopkins University Bloomberg School of Public Health Center for Communication Programs, Knowledge for Health Project 2011).

\(^4\) Symptoms of ectopic pregnancy may include spotting and lower abdominal cramping or pain, which usually begin shortly after the missed period.
Women’s Reaction to Menstrual Changes

Although most women experience some change in their menstrual bleeding pattern, studies show that the majority are willing to tolerate such changes. Thorough pre-insertion counseling about possible changes in menstrual bleeding patterns can improve continuation. For example, in a study of two groups of two-rod implants users, the group that received more counseling regarding this side effect had much higher continuation rates (Alvarez-Sanchez, Brache and Faundes 1988). And data from user satisfaction studies have shown that staff attitudes and knowledge about the method, positive clinic management practices, and the availability of “user-friendly” client information also help improve continuation (Darney et al. 1990a).

Other Side Effects

In addition to menstrual bleeding pattern changes, several other conditions have been reported. Most of these are similar to those seen with other progestin-only methods and are bothersome but not serious. Although some of these conditions may be linked directly to use of contraceptive implants, others may not. Below is a list of reported conditions associated with use of implants:

- Headaches
- Abdominal bleeding
- Acne (can improve or worsen)
- Weight change
- Breast tenderness
- Dizziness
- Mood changes
- Nausea

Some women complain of weight gain, likely caused by increase in appetite.

ADVERSE REACTIONS
Persistent Ovarian Follicles

Enlarged ovarian follicles sometimes have been reported in women using implants as well as those using other progestin-only contraceptives. Most women, however, are not aware of them, and they are discovered only incidentally on pelvic examination. Because they disappear on their own in the vast majority of women, treatment is not required unless they become symptomatic.

Reactions at the Insertion Site

If recommended infection prevention practices are followed, problems with healing of the insertion site are infrequent. Therefore, with adequate attention to pre-insertion skin preparation, use of aseptic technique, and correct placement of the rods, the risk of infection should be very low (see Chapter 4 for details). Some bruising and tenderness at the insertion site is common.
Expulsion of contraceptive implants is uncommon. This problem occurs most often when the rods are too close to the incision, or when infection is present (see Chapter 5 for details).

Because the incision is small, insertion does not leave a noticeable scar in most women. Correct positioning of the rods subdermally makes them barely visible. In some women, however, darkening of the skin over the insertion site occurs. Once inserted, they will not move around or break inside the arm.

**IMPLANTS AND HIV/AIDS**

Contraceptive implants do not protect against HIV acquisition, nor do they protect against genital tract infections (GTIs) and other sexually transmitted infections (STIs), including blood-borne hepatitis viruses. Clients at risk for STIs should be encouraged to use condoms in addition to their hormonal contraception method. This combination of barrier and hormonal contraception constitutes “dual protection” against unplanned pregnancy and STIs/HIV. Condoms should be consistently and correctly used, and it is important to involve the male partner and to have available female and male condoms of good quality. Some medications used for HIV/AIDS, most likely protease inhibitors, the non-nucleoside reverse transcriptase inhibitors efavirenz and nevirapine, and cobicistat-boosted elvitegravir, may also affect the effectiveness of contraceptive implants, and therefore a barrier method, for dual protection, should be recommended for those who use these medications. (Please see Chapter 3 for more details regarding treatments and their eligibility categorization for women using LNG or ETG implants.) Family planning counseling for clients who are either at risk for or have tested positive for HIV is important to help them understand the implications of contraceptive implant use on acquisition or treatment of HIV/AIDS, as well as the implications of some HIV/AIDS treatment on contraceptive implant efficacy.

Consider the February 2012 statement from WHO regarding another progestin-based method, the contraceptive injectable: “Some studies suggest that women using progestogen-only injectable contraception may be at increased risk of HIV acquisition, other studies do not show this association. A WHO expert group reviewed all the available evidence and agreed that the data were not sufficiently conclusive to change current guidance. However…women are strongly advised to also always use condoms, male or female, and other HIV preventive measures. Expansion of contraceptive method mix and further research on the relationship between hormonal contraception and HIV infection is essential. These recommendations will be continually reviewed in light of new evidence” (World Health Organization 2012).
CHAPTER 2: COUNSELING

BACKGROUND
Experience suggests that good, thorough counseling improves user satisfaction and increases the successful use of any contraceptive method. This is particularly important in the case of contraceptive implants because the woman depends entirely on the service provider for both insertion and removal. Effective counseling also allows the client (or couple) to arrive at an informed choice after having carefully considered the benefits and limitations of available methods. Effective counseling also helps to prevent clients from removing the implant due to misunderstandings surrounding side effects. For adolescents, targeted counseling, structured to focus on the most effective methods, then on to less effective methods, has been proven to improve the likelihood that they will choose and continue use of long-acting, reversible contraceptives (LARCs) (Secura et al. 2014).

There are many advantages to using a dedicated family planning counselor within a health facility. We acknowledge, however, that a dedicated counselor is not possible in many settings. Thus, a contraceptive implants service provider who is expected also to undertake the counseling can use the guidance here to learn this critical skill.

This chapter focuses on the following key components related to good counseling for two-rod and one-rod use:

- Client rights;
- Difference between health education and counseling;
- The benefits of counseling; and
- The steps in counseling.

Information regarding rumors and facts about implants is also provided. Finally, Appendix A presents guidelines for conducting family planning counseling that fully describe the following:

- How to help clients get the most out of counseling;
- The counseling process;
- How to hold a group discussion; and
- How to use the Balanced Counseling Strategy Plus (BCS+) (included as a resource to the learning package).

Using the information in this chapter, Appendix A, and in the resources section to these training materials (when accessing online) regarding the BCS+, a health care provider will be better able to counsel clients and adjust her/his counseling to each client’s needs.
CLIENT RIGHTS

All individuals of reproductive age have a right to information about family planning for themselves and their families, regardless of their ethnic origin, socioeconomic status, religion, marital status, or political beliefs.

There are various reasons individuals and couples decide to start, continue, or stop practicing family planning or contraception. Some may wish to delay the birth of their first child. Others may want to space the births of their children, and some may want to ensure that only a desired number of children are born. And some people may wish to use family planning services, not so much for protection from unplanned or unwanted pregnancy but for other reasons including achieving pregnancy or protecting their reproductive and sexual health.

In helping individuals and couples achieve their ideal family size, the health care provider must be sensitive to the client’s needs and must treat her/him with dignity and respect. Over the years, the following aspects of quality care have come to be known as client rights:

- All persons have a right to decide freely whether or not to practice family planning.
- Family planning programs should assist people in the practice of informed, free choice by providing unbiased information, education, and counseling, as well as an adequate range of contraceptive methods.
- A client should be able to obtain the method s/he has decided to use, provided the method is available and there are no reasons why s/he should not use it.
- Because a client’s concept of acceptability and appropriateness changes with circumstances, s/he has the right to decide when to start, stop, or switch methods.
- Clients have the right to discuss their concerns in an environment in which they feel confident. This includes being sure that conversations with counselors or service providers will not be listened to by other people.
- When a client is undergoing a physical examination, it should be carried out in an environment in which the right to bodily privacy is respected. The client’s right to privacy also includes the following aspects related to quality of services:
  - When receiving counseling or undergoing a physical examination, the client should be informed about the role of each person in the room (e.g., service providers, individuals undergoing training, supervisors, instructors, researchers, etc.).
  - A client should know in advance the type of physical examination that is going to be done and has the right to refuse any particular type of examination if s/he does not feel comfortable with it.
- Clients should feel comfortable when receiving family planning services. To a certain extent this is related to the adequacy of service delivery facilities (e.g., proper ventilation, lighting, seating, and toilet facilities). In addition, the time clients spend receiving requested services should be reasonable.
A client’s access to other services should not depend on the continuation or refusal of contraceptive services.

Finally, clients have the right to express their views about the services received. Opinions on the quality of services, either thanks or complaint, together with suggestions for changes in service provision, should be viewed positively in a program’s ongoing effort to monitor, evaluate, and improve its services.5

TIPS ON EFFECTIVE COUNSELING

- Clients may become embarrassed when discussing contraceptive methods. Try to set the tone of the visit in a low-key, non-pressured manner. Assure the client (or couple) that the conversation is confidential.
- Encourage the client to express her views by listening attentively and using nonverbal gestures, such as nodding, to encourage discussion.
- Be patient and never put pressure on the client to finish speaking.
- Use open-ended questions that require more than "yes" or "no" answers to increase the amount of information the woman gives to you.
- Be sensitive to any cultural and religious considerations and respect the client’s views.
- Repeat the most important information and instructions.
- Give the client written information (if available and appropriate) to remind her of instructions.
- Finally, ask the client to repeat back to you the key points to assure her understanding.

Providers are encouraged to use the Balanced Counseling Strategy Plus materials developed by the Population Council. These are included as a resource to this LRP.

BENEFITS OF COUNSELING

For the Client

- Counseling results in the woman arriving at a free and informed decision. She feels in control of her choice of a contraceptive implant and does not feel she has been pressured into accepting a method of contraception with which she is not comfortable.
- The woman knows exactly what to expect with implants. She understands all the advantages it offers and will be prepared for any side effects that may develop.
- She knows whom to ask for advice if she feels concerned about anything at any time.
- She knows she can have the rod(s) removed at any time she wishes and when she should have them removed.
- She knows where she can go to have the rod(s) removed.

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5 Adapted from: Huezo and Briggs 1992.
For the Service Provider

- Women who receive quality counseling are more likely to continue using implants and have fewer return visits, making counseling a cost-effective and time-saving element of contraceptive implant provision for health workers.

- Good counseling can help to enhance client/user satisfaction and spread the word about the service provider and/or facility.

THE ROLE OF HEALTH EDUCATION

Health education prior to a decision about contraceptives available in a country is intended to familiarize the clients with all contraceptive methods. This can be done in a group setting where the health worker provides information on all methods. It is not designed to ask personal information about the clients. Clients should be encouraged to ask questions about various methods. Health education is not family planning counseling.

CONDUCTING INDIVIDUAL COUNSELING

Individual counseling, which should take place in private, is an interactive encounter in which the health worker and client discuss the client’s questions, needs, and options. The BCS+ enables the health care worker to focus on the client’s needs. This is important because the client has the opportunity to discuss her contraceptive needs and options fully. The health worker must listen carefully to the client and not just repeat the health education. At this time, the client can:

- Be helped to choose a suitable method for her needs at this time;
- Receive further explanation about how to use the method safely, effectively, and with satisfaction; and
- Discuss personal issues and needs with regard to family planning.

Remember: The more thoroughly a prospective implant user is counseled about menstrual bleeding changes, the less likely it is that this side effect will lead to her becoming unhappy with the method and requesting removal. Other key points to highlight include:

- Implants do not affect the future of a woman’s fertility: Several studies have reported no long-term effects on a woman’s fertility, regardless of age or parity (i.e., young women with no previous pregnancies can safely use implants). Once the rods are removed, the contraceptive effect from the hormones in the implants is gone within a few days. Return to previous fertility usually is prompt. This feature is particularly relevant for youth and adolescents, who may be especially concerned about their ability to conceive in the future.

- Rods can be felt and sometimes seen: Since the incision is small (2 mm), insertion does not leave a noticeable scar. The rods are not visible in most women but can be felt under the skin. When they are visible, the outline of the rods resembles veins underneath the skin. In some women the scar may be darker (hyperpigmentation). This usually disappears following removal of the rods. Most people cannot tell when women are using implants secretly.
COUNSELING CONSIDERATIONS FOR DIFFERENT CLIENT GROUPS

Clients who are living with HIV/AIDS can safely use implants and while on ART, though some medications used for HIV/AIDS, most likely protease inhibitors, the non-nucleoside reverse transcriptase inhibitors efavirenz and nevirapine, and cobicistat-boosted elvitegravir, may also affect the effectiveness of contraceptive implants (see Chapter 3 for more exhaustive list). Therefore a barrier method, for dual protection, should be recommended for use by those who use these medications. Family planning counseling for clients who are either at risk for or have tested positive for HIV is important to help them understand the implications of contraceptive implant use on acquisition or treatment of HIV/AIDS, as well as the implications of some HIV/AIDS treatment on contraceptive implant efficacy. Implants do not protect women from becoming infected with HIV or prevent clients with HIV/AIDS from infecting others. **Condom use is the only way to prevent becoming infected or infecting others.**

Postpartum and postabortion women can safely use contraceptive implants. The implant(s) can be inserted immediately after the obstetric event, including among breastfeeding women.

<table>
<thead>
<tr>
<th>TIPS FOR COUNSELING POSTPARTUM WOMEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>• During antenatal care, a woman can be counseled on all immediate postpartum family planning (PPFP) methods available at her expected place of delivery. Uptake of PPFP will likely be higher when counseling is initiated antenatally.</td>
</tr>
<tr>
<td>• For clients who have not been counseled on PPFP during antenatal care or who didn’t select a method at that time, they can be counseling during early labor (but NOT during active labor).</td>
</tr>
<tr>
<td>• Due to the recent shift in WHO’s MEC, a new opportunity to expand method choice for breastfeeding women in the immediate postpartum period exists. Beginning immediately postpartum, and onwards, breastfeeding women can safely use one- and two-rod implants (Category 2).</td>
</tr>
<tr>
<td>• Even among clients electing for immediate postpartum LARC, the 3- to 5-year effectiveness of implants vs. the 10-year effectiveness of the IUD may factor into their decision.</td>
</tr>
</tbody>
</table>

Adolescents can safely use implants without effect on future fertility. For adolescents who request implants and accept probable menstrual bleeding changes, implants may be a method of choice since there is no need to take pills daily or return for injections. Dual protection is advised to prevent STIs and HIV. The box below provides further considerations for counseling this client group.
COUNSELING CONSIDERATIONS FOR ADOLESCENTS AND YOUTH

- Adolescent clients are often first-time users of contraceptives, so take time to educate them about contraceptive methods.
- Emphasize the importance of dual protection for both pregnancy prevention and HIV/STI prevention.
- Give clear guidance on the side effects they might experience, and what to do if they are experienced. Ensure adolescent clients have a clear understanding of where to go if they experience issues or would like the implant(s) removed. They may not feel comfortable asking friends and family where to go for follow-up.
- Reassure adolescent clients about the safety and efficacy of the method they have chosen. For non-permanent methods, let them know they can return to fertility shortly after ending the method.
- Address any cultural issues, including myths, misconceptions, and stigma associated with contraceptive use.
- Targeted counseling, structured to focus on the most effective methods, then on to less effective methods, has been proven to increase the likelihood that adolescents will choose and continue to use LARCs.
- Present adolescent clients with their rights and let them know how their rights are protected. For example, inform them that accessing contraceptive services is confidential.
- Use a nonjudgmental approach to counseling and support of contraceptive use, regardless of the client’s age or marital status.

STEPS IN COUNSELING FOR IMPLANTS

Health Education:

- Provide general education about family planning, usually in a group setting, and allow the client to ask questions.
- Provide information about all contraceptive choices available and the benefits and limitations of each. Explain the difference between reversible and permanent contraception.
- Correct false rumors or misinformation.

Individual Counseling:

There are four stages to counseling: Pre-choice, method choice, post-choice, and systematic screening for other services. What is contained below is lightly modified from the BCS+, which is included in full as a resource to this LRP and accessible online via the resource section at www.popcouncil.org.

Pre-Choice Stage:

- Welcome the client, introduce yourself, and obtain basic information (name, address, age, etc.). Maintain a cordial relationship.
- Inform the client that there will be an opportunity to address other health needs after family planning needs are addressed.
- Ask the client about current family size, desire to have more children, and current contraceptive practices. Counsel the client on Healthy Timing and Spacing of Pregnancy using the counseling card.
Rule out pregnancy using the pregnancy checklist card with six questions (also found in Appendix B).

Display all of the method cards. Ask the client if she/he wants a particular method. Ask the client if she has a particular method in mind. If no, go to the next bullet. If yes, ask her what method, confirm that her knowledge about the method is correct, and ask her if she would like information about other methods. Ask all of the following questions. Set aside method cards based on the client’s responses.

Next, say to the client, “We will narrow down the number of methods that might be best for you by asking you six questions. Then, I will discuss the key features of each method with you. This will help us to find the right method for your needs.”

“Do you wish to have children in the future?” (If yes, remove sterilization cards and explain why to client.)

“Are you breastfeeding an infant less than 6 months old?” (If no, remove the lactational amenorrhea method [LAM] card; if yes, remove the combined oral contraception card and explain to the client what you are doing.)

“Does your partner support you in family planning?” (If not, then remove condoms and the Standard Days Method® because they require partner participation. Invite the partner to come to the clinic to address concerns or questions about FP.)

“Do you have any medical conditions?” “Are you taking any medications?” (Check to see if the client has any medical conditions that would prevent her from using a method, based on the summary of WHO MEC in these training materials (Chapter 3 and Appendix C) and remove those methods.

“Are there any methods that you do not want to use or have not tolerated in the past?” (Verify the client’s concerns or provide correct information if she has misconceptions. If her concerns are not based on misconceptions, remove those methods.)

Ask the client to look at the remaining cards. The back of each card on the lower left-hand side describes the number of women out of 100 who would become pregnant using this method. For example, with contraceptive implants, the number is less than one.

Method Choice Stage:

Briefly review the methods on the cards that are remaining and explain their effectiveness. Describe the five to seven features of the method that are on the right-hand side of the card.

Ask the client to arrange the cards from the most effective to the least, based on the number on the lower left side (the lower the number, the more effective the method).

Ask the client if she has any questions and then ask her to choose the method most convenient for her.

Using the method-specific brochure, check whether the client has any conditions for which the method is not advised. If she does, repeat the method choice steps until a method is chosen.
Post-Choice Stage:
- If the client chooses contraceptive implants, use the method brochure as a counseling tool to describe the method.
- Clearly discuss the benefits of the method, emphasizing the following points:
  - It is very effective.
  - It is easy to use.
  - It provides continuous protection for up to 5 years (or 4 years if Sino-implant (II), or 3 years if a one-rod implant).
  - It is convenient, comfortable, and reversible.
- Explain common side effects, especially changes in the menstrual bleeding pattern, and be sure that the client understood fully the impact on changes in her daily routine.
- Make sure there is no medical condition that would be a problem or require more frequent follow-up.
- Make sure the client has made a definite decision.
- Explain that contraceptive implants do not provide protection against STIs, including hepatitis B virus (HBV) and HIV/AIDS. If the client is at risk for STIs, she should also use a condom.

Systematic Screening for Other Services Stage:
- Using information collected previously, determine the client’s need for postpartum, newborn, and infant care or well-child services:
  - If the client reported giving birth recently, review the Promoting Healthy Postpartum Period card and Promoting Newborn and Infant Health card with the client. Provide or refer her for services, if needed.
  - For clients with children under 5 years of age, ask if the children have been taken to well-child services. Provide or refer for immunizations and growth monitoring services, if needed.
- Ask the client when she had her last screening for cervical cancer (via visual inspection with acetic acid or Lugol’s iodine, or Pap smear):
  - If her last screening was more than 3 years ago or she doesn’t know, ask if she would like to have a screening today. Provide or refer for services.
  - If her last screening was less than 3 years ago, continue with next question.
- Discuss STI/HIV transmission and prevention and dual protection with the client using the counseling cards. Explain that condoms should always be used to prevent STI and HIV transmission. Offer condoms and instruct her in correct and consistent use.
- Conduct STI and HIV risk assessment using the counseling card. If symptoms are identified, treat her/him syndromically.
Ask the client whether she knows her HIV status:
- If the client knows she is living with HIV:
  - Review Positive Health, Dignity, and Prevention counseling card with the client.
  - Refer the client to a center for wellness care and treatment.
- If the client knows she is HIV-negative:
  - Discuss a time frame for repeat testing.
- If the client does not know her status:
  - Discuss HIV counseling and testing with the client, using the counseling card.
  - Offer or initiate testing with the client, according to national protocols.
  - Counsel the client on the test results. If the client is living with HIV, review Positive Health, Dignity, and Prevention counseling card and refer the client to the center for wellness care and treatment.

Give follow-up instructions, a condom brochure, and the brochure for the method chosen. Set a date for the next visit.

If the client has chosen to receive a contraceptive implant during this visit, move forward with preparations to provide the implant.

**Counseling at the Time of Service Provision:**

Counseling is not complete once the method is chosen. Throughout the process of providing contraceptive implants, there are a number of times when counseling is used to ensure provision of high-quality of care and reinforce important messages. More details on these stages can be found in Chapter 5.

**Pre-Insertion:**
- Describe the insertion and removal procedures and what the woman should expect during and afterwards.
- Review client assessment data to determine if the client is an appropriate candidate for implants and/or if she has any problems that should be monitored more frequently while they are in place.

**Post-Insertion:**
- Give post-insertion counseling, including how she should care for the insertion site and what to do if she experiences any problems or side effects. Special emphasis should be given to menstrual bleeding changes.
- Provide information on warning signs for medical problems and the need to return to the clinic immediately should any occur.
- Assure the client that she can return to the same clinic at any time to receive advice and medical attention and, if desired, to have the rod(s) removed.
Tell the client to return for a follow-up visit per national guidelines for an incision check and the location(s) of where she should go to have the rod(s) removed.

Have the client repeat all instructions back to you.

Answer any remaining client questions and check whether the client is satisfied.

Inquire about problems and respond to concerns about side effects or any problems.

Reassure the client that the rod(s) can be removed at any time if desired.

Review the warning signs that indicate the need to return to the clinic.

Repeat instructions regarding the need for removal and replacement (if desired) with a new set after 5 years for Jadelle, 4 years for Sino-implant (II), and 3 years for one-rod implants.

GENERAL CONSIDERATIONS WHEN COUNSELING FOR IMPLANTS

To help clients better understand and remember the most important facts about contraceptive implants, be sure to explain them clearly and simply, and repeat them several times. Important facts about implants are summarized in Table 2-1 and answers to some common questions can be found in Chapter 7.

Table 2-1. Summary Facts about Contraceptive Implants

<table>
<thead>
<tr>
<th>WHO CAN USE CONTRACEPTIVE IMPLANTS?</th>
<th>Contraceptive implants are NOT appropriate for women (including adolescents and youth) who:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contraceptive implants are appropriate for women (including adolescents and youth) who:</td>
<td>• Are considering having children within the next 6 months</td>
</tr>
<tr>
<td>• Want highly effective, reversible contraception that does not require daily action</td>
<td>• May have little tolerance for menstrual bleeding irregularities (counseling will help identify or overcome this concern)</td>
</tr>
<tr>
<td>• Are delaying the start of their family, have completed their family, or want children in a year or two</td>
<td>• Express serious concern about the insertion or removal procedure (again, counseling will help overcome this)</td>
</tr>
<tr>
<td>• Are postabortion, or are postpartum (regardless of breastfeeding)</td>
<td>• Can tolerate menstrual changes</td>
</tr>
</tbody>
</table>
## Benefits and Limitations of Contraceptive Implants

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highly effective (fewer than 1 pregnancy per 100 women in the first year of use)</td>
<td>Changes in menstrual bleeding pattern are common (counseling should prepare the woman adequately for this).</td>
</tr>
<tr>
<td>Long-term method</td>
<td>Insertion and removal are minor surgical procedures and therefore may be associated with bruising (discoloration of the arm), infection, or bleeding.</td>
</tr>
<tr>
<td>No daily action required</td>
<td>A woman cannot discontinue the method on her own (counseling should, however, prepare her for this).</td>
</tr>
<tr>
<td>Easy to use and require no further action other than follow-up visits and return for removal; do not interfere with normal daily activities</td>
<td>The outline of the rod(s) may be visible under the skin of some women, especially when the skin is stretched.</td>
</tr>
<tr>
<td>Comfortable—once the insertion site has fully healed (about 1 week), the rods should not cause any pain and are not noticeable in most women</td>
<td>Contraceptive implants do not protect a woman from GTIs and other STIs, including HBV and HIV/AIDS.</td>
</tr>
<tr>
<td>One of the lowest doses of any hormonal contraceptive and contains no estrogen</td>
<td></td>
</tr>
<tr>
<td>Few serious side effects</td>
<td></td>
</tr>
</tbody>
</table>

## Counseling about Contraceptive Implants Should Cover the Following Points:

- A reasonable certainty that the client is not pregnant
- A quick overview on how contraceptive implants prevent pregnancy and efficacy
- Method benefits include:
  - It has a long effective life (whether 5 years for Jadelle, 4 years for Sino-implant (II), or 3 years for one-rod implants).
  - It is very effective. Less than one woman in 100 will become pregnant while using contraceptive implants.
  - It is suitable for nearly all women.
  - It is easy to use.
  - It is convenient, comfortable, and reversible.
  - It is easy to insert and remove.
  - It allows immediate return to fertility after removal.
  - Side effects resolve immediately after removal.
  - Complications are few.
  - Continuation rates are high.
- Common side effects (particularly those related to changes in the menstrual bleeding pattern) include:
  - Changes in menstrual bleeding patterns:
    - In the first several months:
      - Lighter bleeding and fewer days of bleeding
      - Irregular bleeding
      - Infrequent bleeding
      - No monthly bleeding
    - After about 1 year:
      - Lighter bleeding and fewer days of bleeding
      - Irregular bleeding
      - Infrequent bleeding
  - Headaches
Providing Contraceptive Implants

- Abdominal bleeding
- Acne (can improve or worsen)
- Weight change
- Breast tenderness
- Dizziness
- Mood changes
- Nausea
- How the rods are inserted and removed, how long each procedure takes, and what discomfort to expect
- The importance of inserting the rod(s) when it is reasonably certain the client is not pregnant (e.g., days 1–7 of her menstrual cycle—see Chapter 3) and which backup contraceptive method to use if insertion is delayed
- Freedom of the client to discontinue the method whenever desired
- Where she can go for removal
- That there is no delay in return of fertility after removal of the rods
- That this method does not provide protection against STIs

ADDRESSING RUMORS AND MISCONCEPTIONS

Correcting false rumors and misinformation is an important job of health care providers. When talking to the client about rumors and misinformation, do not just say that what she has heard is not true. Always politely explain or show her why it is not true and explain what is true. Be careful not to embarrass the client because she has a mistaken idea or belief. The following are some of the more common mistaken ideas:

**False Rumor:** Contraceptive implants weaken the woman because they increase menstrual bleeding.
**Response:** Although bleeding may occur more frequently, the amount of blood loss is less because frequently the woman experiences spotting and not actual menstruation. In several studies, hemoglobin levels (a blood test measuring iron, a necessary element in blood) have increased with continued use.

**False Rumor:** Implants are not appropriate for adolescents.
**Response:** Adolescents can safely use implants without effect on future fertility. For adolescents who request implants and accept probable menstrual bleeding changes, implants may be a method of choice since there is no need to take pills daily or return for injections. Dual protection is advised to prevent STIs and HIV.

**False Rumor:** The rods can move around within her body.
**Response:** No, they remain under the skin in her arm, where they were placed, until they are removed. Each rod is surrounded by a small sheath of fibrous tissue that prevents it from moving.

**False Rumor:** Women living with HIV/AIDS cannot safely use implants because ART interferes with their efficacy.
**Response:** Women living with HIV/AIDS can safely use implants while on ART, though some medications used for HIV/AIDS, most likely protease inhibitors, the non-nucleoside reverse
transcriptase inhibitors efavirenz and nevirapine, and cobicistat-boosted elvitegravir, may potentially reduce the effectiveness of COCs and possibly also of contraceptive implants. Women on ART should receive counseling on the potential reduced effectiveness of implants when used simultaneously with certain ART regimens. During counseling, the woman should be offered alternative methods for consideration. However, when the woman decides to initiate or continue with implants, it is recommended that she be counseled on the consistent use of condoms to compensate for any possible reduction in the effectiveness of the implants.

**False Rumor:** Contraceptive implants will cause security scanners to sound.  
**Response:** Contraceptive implants are not metallic and will not be detected by a metal detector or magnetometer, the anti-theft scanner used for security screening.

**False Rumor:** The procedure for inserting the rods is painful.  
**Response:** No, because a local anesthetic is used, there will be little or no pain. There may be a slight stinging sensation when the local anesthetic is first injected. While there may be some pain after the anesthetic wears off, this is usually easily managed with aspirin or other analgesics.

**False Rumor:** The rods are implanted permanently.  
**Response:** No, they can be removed at any time the client wishes, and should be removed no later than 5 years for Jadelle, 4 years for Sino-implant (II), and 3 years for one-rod implants.

**False Rumor:** The rods never need to be replaced.  
**Response:** No, they should be replaced at the end of their effective life if the client wishes to continue using contraceptive implants.

Service providers must put the best interest of the client before any other concerns. It is both ethically and programmatically important that providers pay close attention to the needs of clients. Over the long term, programs are more likely to attract and keep clients when they offer services that meet clients’ needs (Gallen, Lettenmaier, and Green 1987).
CHAPTER 3: ELIGIBILITY AND CLIENT ASSESSMENT

BACKGROUND

Contraceptive implants are safe and suitable for nearly all women, regardless of whether they have or have not had children. Women who are married or unmarried, of any age (including adolescents and women over 40 years old) may also use contraceptive implants. Additionally, women can begin using implants:

- Without a pelvic examination
- Without any blood tests or other routine laboratory tests
- Without cervical cancer screening
- Without a breast examination

Contraceptive implants are suitable for women who:

- Are not having monthly bleeding at the time, if it is reasonably certain they are not pregnant (see Appendix B for the pregnancy checklist).
- Are immediately postpartum (whether breastfeeding or not).
- Have just had an abortion, miscarriage, or ectopic pregnancy.
- Smoke cigarettes, regardless of woman’s age or number of cigarettes.
- Have anemia now or in the past.
- Have varicose veins.
- Are infected with HIV, whether or not on ART.

Contraceptive implants should not be used by women who:

- Currently have breast cancer.

THE WORLD HEALTH ORGANIZATION MEDICAL ELIGIBILITY CRITERIA

The WHO has developed and published a classification system regarding the suitability of different contraceptive methods amidst an individual’s other conditions, called the “Medical Eligibility Criteria for Contraceptive Use.” The conditions considered in this publication include both a woman’s biologic characteristics such as age or reproductive history, and any known, pre-existing medical condition(s) such as diabetes or hypertension. In the WHO system, the presence of a specific condition affecting eligibility for using a contraceptive method falls into one of four categories:
Categories 1 and 4 are self-explanatory—they outright recommend use or non-use. Categories 2 and 3 can seem slightly more complicated, but a provider who has been trained and is experienced in providing family planning can use clinical judgment to determine whether or not contraceptive implants are a safe choice for the client. Category 2 indicates the method can generally be used, but careful follow-up may be required. Category 3 indicates that use of the method requires careful clinical judgment and access to clinical services. For a woman whose eligibility falls under Category 3, the severity of the condition and the availability, practicality, and acceptability of alternative methods should be taken into account. For a method/condition classified as Category 3, use of that method is not usually recommended unless other more appropriate methods are not available or acceptable.

Where resources for clinical judgment are limited, such as in community-based services, the four-category classification framework can be simplified into two categories. With this simplification, a classification of Category 3 indicates that a woman is not medically eligible to use the method.

The only condition that prohibits a woman from using contraceptive implants at the Category 4 level is breast cancer. For the WHO quick reference medical eligibility chart, please see Appendix C.

[If a woman is known to be pregnant, do not insert an implant. However, WHO states that “the inadvertent use of implants during pregnancy has no known harm to the woman, the course of her pregnancy or the fetus.”]

**INDICATIONS FOR USE**

Contraceptive implants are appropriate for use among clients who wish to space or limit pregnancies. They are appropriate methods for a woman who:
<table>
<thead>
<tr>
<th>CONDITION</th>
<th>RATIONALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prefers an effective method that does not require taking contraceptive action daily or before sexual intercourse. (This includes women who have trouble using barrier methods or remembering to take a pill every day, or are unable to return regularly for injections.)</td>
<td>Implants can be removed at any time. If the client desires to prevent pregnancy, she could be a candidate for implants and elect to remove the implant whenever she desires to become pregnant.</td>
</tr>
<tr>
<td>Prefers a long-term method that does not require taking contraceptive action daily or before sexual intercourse. (This includes women who have trouble using barrier methods or remembering to take a pill every day, or are unable to return for injections.)</td>
<td>Once implants are inserted, the client does not need to do anything except return to the clinic for follow-up visits and have the rods removed or replaced at the end of their effective life.</td>
</tr>
<tr>
<td>Has never had children and may or may not wish to conceive in the future.</td>
<td>Implants do not affect future fertility and are safe for women of all ages.</td>
</tr>
<tr>
<td>Has the number of children she wants but does not want a permanent method (voluntary sterilization) at this time.</td>
<td>Contraceptive implants can be used indefinitely (replacing the implant with another at the end of its effective life), provided the client develops no serious medical problems and replaces it on schedule.</td>
</tr>
<tr>
<td>Is postpartum whether breastfeeding or not.</td>
<td>Breastfeeding is not negatively affected by the use of progestins, and the hormones in contraceptive implants, when delivered through breast milk, have not been shown to cause any clinically important effects on infant health or growth. Contraceptive implants may be used safely by breastfeeding and non-breastfeeding women immediately postpartum.</td>
</tr>
<tr>
<td>Is postabortal</td>
<td>Contraceptive implants may be used safely immediate postabortion.</td>
</tr>
<tr>
<td>Has moderate to severe menstrual cramping.</td>
<td>Progestins, such as the hormones in contraceptive implants, reduce the frequency and intensity of menstrual cramping.</td>
</tr>
<tr>
<td>Smokes (any age, any amount).</td>
<td>Because small amounts of progestins such as those in contraceptive implants have no effect on cardiovascular or blood clotting problems, implants can be used by women who smoke.</td>
</tr>
</tbody>
</table>

**Implants and ART**

Some medications used for HIV/AIDS, most likely protease inhibitors, the non-nucleoside reverse transcriptase inhibitors efavirenz and nevirapine, and cobicistat-boosted elvitegravir, may affect the effectiveness of contraceptive implants, and therefore a barrier method for dual protection should be recommended for those who use these medications. Family planning counseling for clients who are either at risk for or have tested positive for HIV is important to help them understand the implications of some HIV/AIDS treatment on contraceptive implant efficacy. For women living with HIV using ART, WHO provides the following guidance regarding ART and implants use (WHO 2015):
Nucleoside/nucleotide reverse transcriptase inhibitors (NRTIs):
- Abacavir (ABC)
- Tenofovir (TDF)
- Zidovudine (AZT)
- Lamivudine (3TC)
- Didanosine (DDI)
- Emtricitabine (FTC)
- Stavudine (D4T)

Women using NRTI can use one- and two-rod implants without restriction (Category 1)

Non-nucleoside/nucleotide reverse transcriptase inhibitors (NNRTIs) containing efavirenz or nevirapine-containing ART:
- Efavirenz (EFV)
- Nevirapine (NVP)

Women using NNRTIs containing either efavirenz or nevirapine can generally use one- and two-rod implants (Category 2)

NNRTIs containing etravirine and rilpivirine:
- Etravirine (ETR)
- Rilpivirine (RPV)

Women using the newer NNRTIs containing etravirine and rilpivirine can use one- and two-rod implants without restriction (Category 1)

Protease inhibitors (e.g., ritonavir and ARVs boosted with ritonavir):
- Ritonavir-boosted atazanavir (ATV/r)
- Ritonavir-boosted lopinavir (LPV/r)
- Ritonavir-boosted darunavir (DRV/r)
- Ritonavir (RTV)

Women using protease inhibitors (e.g., ritonavir and ARVs boosted with ritonavir) can generally use one- and two-rod implants (Category 2)

Raltegravir (integrase inhibitor):
- Raltegravir (RAL)

Women using the integrase inhibitor raltegravir can use one- and two-rod implants without restriction (Category 1)

For women with HIV/AIDS and tuberculosis, the implication is that the treatment regime they are on is a factor to consider when counseling women who are interested in implants. It has a potential for interaction affecting the effectiveness of the implant. The provider will need to help the client choose the appropriate method, and if the method chosen remains implant, then dual protection should be encouraged.

In summary, the eligibility criteria for use of implants in this chapter are intended to show that almost all women inclusive of adolescents and women living with HIV can use contraceptive implants if they choose to. Use of the “Quick Reference Chart for WHO Medical Eligibility Criteria for Contraceptive Use” job aid will serve as a quick reminder. To access the quick reference chart, please see Appendix C.

CLIENT ASSESSMENT

Because implants contain only a progestin (LNG or ETG), they do not have estrogen-related side effects. As a consequence, there are fewer precautions for their use. While contraceptive implants may be an appropriate contraceptive method for nearly all women, clinic staff need to know how to assess potential users who:

- May need additional evaluation before they can use contraceptive implants, or
- Have medical conditions that may require more frequent follow-up care.
**Remember**: An added benefit of client assessment is that it helps distinguish those women who will be more likely to use implants successfully.

In assessing potential clients, clinic staff should:

- Ask clients about their intentions to conceive, and when.
- Check clients for any condition that may be a precaution for contraceptive implant use.
- Evaluate clients by medical history and, if there are special problems, examine them and refer to appropriate medical services or provide treatment.
- Make sure that potential clients have been counseled about the method; its benefits, limitations, and side effects (especially changes in the menstrual bleeding pattern); as well as about other contraceptives before selecting contraceptive implants.
- Make sure that they understand what to expect during the insertion.
- Make sure they understand when, where, and why contraceptive implant rods should be removed.

Conditions about which clients should be asked and that may limit or delay starting use of implants include:

- Unexplained vaginal bleeding (i.e., between menses or after intercourse);
- Jaundice (i.e., symptomatic viral hepatitis or cirrhosis);
- Cancer of the breast (current or past) or suspicious breast lumps; and
- Pregnancy (known or suspected).

Absence of a history of any of the conditions mentioned above is sufficient to permit provision of implants without further evaluation.

When conducting the client assessment, service providers may find it helpful to use a checklist so that no important information is left out. An **Implants Screening Checklist** is presented in **Appendix B**, and covers the conditions, including pregnancy, which may limit or delay a client’s use of contraceptive implants.

**Women who weigh more than 80 kg** should be advised that during the last year of use, the effectiveness of implants drops slightly (to 94%\(^6\) for Jadelle). Clients are encouraged to either come in a year earlier for removal or use a back-up method for the last year of use.

Although clients with any of the following conditions may use implants, they may require more frequent or special follow-up for their medical condition:

- Diabetes

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\(^6\) World Health Organization Department of Reproductive Health and Research (WHO/RHR) and Johns Hopkins Bloomberg School of Public Health/Center for Communication Programs (CCP), Knowledge for Health Project 2011.
- Hypertension
- Severe vascular or migraine headaches

The findings from the client assessment determine whether a physical examination is necessary (i.e., if the client’s response suggests a precaution for use of contraceptive implants, a brief physical examination or further questioning may be necessary).

Start asking the client questions about how to be reasonably sure she is not pregnant. If her responses indicate that she may be pregnant, offer a pregnancy test if available. If the client is thought to be more than 6 weeks from her last menstrual period (LMP) and there is not a pregnancy test, consider a pelvic exam to rule out pregnancy.

**Pregnancy testing** is unnecessary except in cases where it is difficult to confirm pregnancy by pelvic exam (i.e., 6 weeks or less from the LMP) or the results of the pelvic examination are equivocal. In these situations a sensitive urine pregnancy test may be helpful, if readily available and affordable. In these cases, if pregnancy testing is not available, counsel the client to use a temporary contraceptive method or abstain from intercourse until her menses occurs or the possibility of pregnancy is confirmed.
CHAPTER 4: INFECTION PREVENTION

BACKGROUND

The two primary objectives of infection prevention (IP) in family planning facilities are:

- To prevent infections when providing subdermal implants
- To minimize the risk of transmitting blood-borne viral infections (including HBV and HIV) to clients, service providers, and other staff, including cleaning and housekeeping personnel

Aseptic technique and gentle touch must be followed during implant insertion and removal to prevent infections. Infections at the incision site are usually minor, however, they can lead to client dissatisfaction and are one of the reasons for early removal. Infection also may result in spontaneous expulsion of the implant rods.

To reduce the risk of infection, contaminated waste must be properly disposed of and instruments and other items should be decontaminated, thoroughly cleaned, and sterilized by autoclaving (high-pressure steam) or dry heat. If sterilization is not possible, high-level disinfection (by boiling, steaming, or soaking in disinfectant) is the only acceptable alternative.

The IP practices described in this chapter are intended for use in all types of medical and health care facilities—from large urban hospitals to small rural clinics. They are designed to minimize costs and the need for expensive and often fragile equipment, while at the same time assuring a high degree of safety. The content is applicable to all implants including one-rod and two-rod versions.

TERMS

Microorganisms are the causative agents of infection. They include bacteria, viruses, fungi, and parasites. For IP purposes, bacteria can be further divided into three categories: vegetative (staphylococcus), mycobacteria (tuberculosis), and endospores (tetanus), which are the most difficult to kill.

The terms asepsis, antisepsis, decontamination, cleaning, disinfection, and sterilization often are confusing. For the purpose of this manual, the following definitions will be used:

- **Asepsis** and aseptic technique are general terms used to describe the combination of efforts made to prevent entry of microorganisms into any area of the body where they are likely to cause infection. The goal of asepsis is to reduce to a safe level, or eliminate, the number of microorganisms on both animate (living) surfaces (skin and tissue) and inanimate objects (surgical instruments and other items).

- **Antisepsis** is the prevention of infection by killing or inhibiting the growth of microorganisms on skin and other body tissues using a chemical agent (antiseptic).

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1 Adapted from: Tietjen, Cronin, and McIntosh 1992.
Decontamination is the process that makes objects safer to be handled by staff before cleaning (i.e., reduces, but does not eliminate, the number of microorganisms on instruments and other items). Objects to be decontaminated include large surfaces (e.g., pelvic examination or operating tables) and surgical instruments, gloves, and other items contaminated with blood or body fluids.

Cleaning is the process that physically removes all visible blood, body fluids, or any other foreign material such as dust or dirt from skin or inanimate objects.

Disinfection is the process that eliminates most, but not all, disease-causing microorganisms from inanimate objects.

High-level disinfection (HLD) by boiling, steaming, or the use of chemicals eliminates all microorganisms except some bacterial endospores from inanimate objects.

Sterilization is the process that eliminates all microorganisms (bacteria, viruses, fungi, and parasites) including bacterial endospores from inanimate objects.

STANDARD PRECAUTIONS
Standard Precautions are guidelines designed to create barriers between microorganisms and an individual to prevent the spread of infection (i.e., the barrier serves to break the disease transmission cycle). They apply to all clients, patients, and staff at health facilities.

PROTECTIVE BARRIERS AND HANDWASHING
Placing a physical, mechanical, or chemical “barrier” between microorganisms and an individual, whether a client or health care worker, is an effective means of preventing the spread of disease (i.e., the barrier serves to break the disease transmission cycle). The following actions create protective barriers for infection prevention:

- Handwashing;
- Wearing gloves (both hands) either for surgery or when handling contaminated waste materials or soiled instruments;
- Wearing appropriate attire (e.g., protective goggles, face mask, or apron) when contact with blood or body fluids is possible;
- Using antiseptic solutions to prepare the skin prior to inserting or removing implants;
- Using safe work practices such as not recapping or bending needles, safely handling surgical instruments, and properly disposing of waste materials; and
- Processing surgical instruments, gloves, and other items after use by decontamination, cleaning, and either sterilization or HLD.

Handwashing and Gloves
Thorough handwashing and use of protective gloves are key components in minimizing the spread of disease and maintaining an infection-free environment (Garner and Favero 1986). In addition,
understanding when sterile or high-level disinfected surgical gloves are required and, equally important, when they are not, can reduce costs while maintaining safety for both clients and staff.

**Handwashing may be the single most important procedure in preventing infection.** The vigorous rubbing together of all surfaces of lathered hands mechanically removes and inactivates most organisms. To encourage handwashing, program managers should make every effort to provide soap and a continual supply of clean water, either from a tap or bucket, and single use towels. Do not use shared towels to dry hands. When no visible blood or mucus is on the hands, an alcoholic handrub may be used and is as effective as handwashing (see textbox).

Experience has shown that the most effective way to increase handwashing is to have physicians or other respected individuals (role models) consistently wash their hands and encourage others to do the same.

**When to Wash Hands**

Handwashing is indicated **before**:

- Examining (direct contact with) a client; and
- Putting on the appropriate type of gloves for inserting or removing implants (see Table 4.1 for specific types of gloves).

Handwashing is indicated **after**:

- Any situation in which hands may be contaminated, such as:
  - Handling soiled instruments and other items; or
  - Touching mucous membranes, blood, or other body fluids (secretions or excretions); and
  - Removing gloves.

Microorganisms grow and multiply in moisture and in standing water. Therefore:

- If bar soap is used, provide small bars and soap racks that drain.
- Avoid dipping hands repeatedly into basins containing standing water. Even with the addition of antiseptic agents such as Dettol® or Savlon®, microorganisms can survive and multiply in these solutions.
- Choose from several options when running water is not available:
  - Use a bucket with a tap that can be turned off to lather hands and turned on again for rinsing, or a bucket and pitcher.
  - Use an alcoholic handrub that does not require water.
**Note:** A nonirritating alcohol solution can be made by adding either glycerine, propylene glycol, or Sorbitol* to the alcohol (2 ml in 100 ml 60–90% alcohol solution) (Garner and Favero 1986). Use 3–5 ml for each application and rub the solution over the hands for about 2 minutes, using a total of 6–10 ml per scrub (Larson et al. 1990; Rotter, Koller, and Wewalka 1980).

- Dry hands with a clean, dry towel or air dry; shared towels quickly become contaminated.
  (Carrying one’s own small towel or handkerchief is a good way to avoid using dirty towels.)
- Collect used water in a basin and discard in a toilet or latrine if a drain is not available.

**When to Wear Gloves**

Gloves should be worn by all staff prior to contact with blood and body fluids from any client. Wear gloves when:

- Performing a procedure, such as inserting or removing implants, in the clinic;
- Handling soiled instruments, gloves, and other items; and
- Disposing of contaminated waste items (cotton, gauze, or dressings).

A separate pair of gloves must be used for each client to avoid cross-contamination.

**Which Gloves to Use**

The glove requirements for providing contraceptive implants are presented in **Table 4-1**.

<table>
<thead>
<tr>
<th>TASK OR ACTIVITY</th>
<th>ARE GLOVES NEEDED?</th>
<th>PREFERRED GLOVES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pelvic examination (if necessary)</td>
<td>Yes</td>
<td>Exam*</td>
</tr>
<tr>
<td>Implant insertion and removal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two-rod Insertion</td>
<td>Yes</td>
<td>Sterile Surgicalb</td>
</tr>
<tr>
<td>One-rod Insertion</td>
<td></td>
<td>Exam</td>
</tr>
<tr>
<td>Removal (one-rod and two-rod)</td>
<td></td>
<td>Sterile Surgical</td>
</tr>
<tr>
<td>Handling and cleaning instruments</td>
<td>Yes</td>
<td>Utility</td>
</tr>
<tr>
<td>Handling contaminated waste</td>
<td>Yes</td>
<td>Utility</td>
</tr>
<tr>
<td>Cleaning blood or body fluid spills</td>
<td>Yes</td>
<td>Utility</td>
</tr>
</tbody>
</table>

* This includes new, “never used” individual or bulk-packaged gloves (as long as boxes are stored correctly).

b When sterilization equipment (autoclave) is not available, HLD is the only acceptable alternative.

**Client and Staff Attire**

Because insertion and removal of contraceptive implants are minor surgical procedures (i.e., only a small skin incision is required and only superficial tissues entered):

- Clients can wear their own clothing, provided it is clean.
- Staff, including the health workers, do not have to wear a cap, mask, or gown.
SETTING UP IMPLANT INSERTION AND REMOVAL SERVICE AND MAINTAINING ASEPSIS

Any outpatient clinic or minor surgery room is a suitable area for insertion or removal of implant rods. If possible, the room should be located away from heavily used areas of the clinic or hospital and should:

- Have adequate lighting;
- Have tile or concrete floors to make cleaning easier;
- Be kept free of dust and insects; and
- Be well-ventilated. (If windows need to be open for ventilation, they should have tight-fitting screens.)

There should be adequate handwashing facilities including a supply of clean water (i.e., clear, not cloudy or with sediment) and a toilet or latrine nearby.

Antisepsis

Although skin cannot be sterilized, preparation of the insertion/removal site using antiseptic preparation minimizes the number of microorganisms on the client’s skin. When the skin is visibly dirty, a pre-insertion/removal cleaning with soap and water is an additional step to take prior to preparing the skin with antiseptic. Both steps are important in reducing the risk of infection following insertion or removal of contraceptive implants.

Infection following minor surgical procedures, such as contraceptive implant insertion or removal, may be caused by microorganisms from the skin of the client or from the hands of the health care provider (Larson et al. 1990). Preparing the client’s skin with antiseptic solution helps prevent infection at the operative site.

Remember: With appropriate IP practices, the rate of infection following both insertion and removal of contraceptive implants is low—less than 1% (Diaz et al. 1991). The use of prophylactic antibiotics is not recommended (Siswosudarmo 1992).

Selection of Antiseptics

Antiseptics do not have the same killing power as the chemicals used for HLD. Thus, antiseptic solutions never should be used to high-level disinfect objects such as instruments or surgical gloves.

Many chemicals qualify as safe antiseptics. The following antiseptics are commonly available in different parts of the world:

- Alcohols (60–90% ethyl, isopropyl or “methylated spirit”)
- Chlorhexidine gluconate (4%) (e.g., Hibiclens®, Hibiscrub®, Hibitane®)
- Chlorhexidine gluconate and cetrimide, various concentrations (e.g., Savlon)
- Iodine (1–3%); aqueous iodine and alcohol-containing (tincture of iodine) products
- Iodophors, various concentrations (e.g., Betadine®)
- Parachlorometaxylenol (PCMX or chloroxylenol), various concentrations (e.g., Dettol)

Avoiding Injuries from Needle Sticks and Sharps
Accidental needle sticks and sharp injuries will occur.
- **Surgeons and assistants** are most often stuck by needles and other sharps such as the trocar or scalpel blades during implant procedures.
- **Cleaning staff** are most often stuck by needles when processing soiled instruments.
- **Housekeeping staff** are most often stuck by needles and other sharps when disposing of waste material.

Safety Tips When Using Hypodermic Needles and Syringes
- Use each needle and syringe only once.
- Do not disassemble needle and syringe after use.
- Do not recap, bend, or break needles prior to disposal. When it is absolutely necessary to recap a needle, use the “one-handed” recap technique as illustrated in **Figure 4-1**:  
  - First, place the cap on a hard, flat surface; then remove hand.
  - Next, with one hand, hold the syringe and use the needle to “scoop up” the cap.
  - Finally, when the cap covers the needle completely, hold the needle at the base near the hub and use the other hand to secure the cap on the needle.
- Dispose of needle and syringe in a puncture-proof, safe container box.

**Figure 4-1. One-Handed Recap Method**

How to Withdraw Medication from a Sterile Multidose Bottle
- Wipe the top of the bottle with a cotton swab soaked in 60–90% alcohol or other locally available disinfectant. Allow to dry.
- Use new disposable needle and syringe every time.

Never use a syringe for more than one injection. Studies have shown that changing **only** the needle, not the syringe, between clients can result in transmission of HBV, and presumably HIV/AIDS.
- Attach needle to syringe by holding the hub (base) of the needle and the barrel of the syringe.
- Turn the bottle containing the drug upside-down and draw the fluid into syringe using the same needle you will use for the injection.
- Withdraw needle from bottle.

Do not leave a needle inserted in the rubber stopper of a multiple dose bottle. This practice is dangerous because it provides a direct route for bacteria to enter the drug bottle and contaminate the fluid between each use.

INSTRUMENT PROCESSING

In working to create an infection-free environment, it is important that the rationale and limitations for each of the following recommended IP processes be clearly understood by clinic staff at all levels—from service providers to cleaning and maintenance staff.

After completing either insertion or removal, and while still wearing gloves, dispose of contaminated objects (gauze, cotton, and other waste items) in a leak-proof container or plastic bag. (Do not allow waste items to touch the outside of the container or bag.)

As illustrated in Figure 4-2, decontamination is the first step in processing soiled surgical instruments and other items. For example, soaking contaminated items briefly in 0.5% chlorine solution rapidly kills HBV and HIV, thereby making instruments and other items safer to be handled during cleaning. Larger surfaces such as examination and operating tables, laboratory bench tops, and other equipment that may have come in contact with blood or other body fluids also should be decontaminated. Wiping them down with a suitable disinfectant (e.g., 0.5% chlorine or 1–2% phenol) is a practical, inexpensive way to decontaminate these items.
After instruments and other items have been decontaminated, they need to be cleaned and then final processed by either sterilization or HLD. The effectiveness of each of these processes for killing or removing microorganisms is listed in Table 4-2.

**Remember**: For either sterilization or HLD to be effective, decontamination and thorough cleaning of instruments and other items must be done first.
Table 4-2. Effectiveness of Methods for Processing Instruments

<table>
<thead>
<tr>
<th>METHOD</th>
<th>EFFECTIVENESS IN KILLING OR REMOVING MICROORGANISMS</th>
<th>END POINT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decontamination</td>
<td>Kills HBV and HIV and most microorganisms</td>
<td>10 minute soak</td>
</tr>
<tr>
<td>Cleaning (water only)</td>
<td>Up to 50%</td>
<td>Until visibly clean</td>
</tr>
<tr>
<td>Cleaning (detergent and rinsing with water)</td>
<td>Up to 80%</td>
<td>Until visibly clean</td>
</tr>
<tr>
<td>Sterilization</td>
<td>100%</td>
<td>Autoclave, dry heat, or chemical for recommended time</td>
</tr>
<tr>
<td>High-Level Disinfection</td>
<td>95% (does not inactivate some endospores)</td>
<td>Boiling, steaming, or chemical for 20 minutes</td>
</tr>
</tbody>
</table>

As outlined in Table 4-3, the method used for final processing (i.e., either sterilization or HLD) usually depends on whether the instruments and other items will touch only intact (unbroken) skin, intact mucous membranes or broken skin, or tissue beneath the skin, which normally is sterile.

Table 4-3. Final Processing (Sterilization and HLD) for Instruments, Gloves and Other Items

<table>
<thead>
<tr>
<th>TISSUE</th>
<th>FINAL PROCESSING</th>
<th>EXAMPLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intact mucous membranes or broken skin</td>
<td>High-level disinfection destroys all microorganisms except some endospores.(^a) (HLD should be preceded by decontamination and cleaning.)</td>
<td>Surgical instruments such as scalpel handle, forceps, and scissors for insertion/removal of implants.</td>
</tr>
<tr>
<td>Tissue beneath the skin, which normally is sterile</td>
<td>Sterilization destroys all microorganisms, including endospores. (Sterilization should be preceded by decontamination and cleaning.)</td>
<td></td>
</tr>
</tbody>
</table>

\(^a\) Bacterial endospores are forms of bacteria that are very difficult to kill because of their coating; types of bacteria that can produce endospores include the bacteria causing tetanus (Clostridia tetani) and gangrene (Clostridia sp.). Bacterial endospores can be killed reliably only by sterilization.

When is HLD an acceptable alternative?

Most authorities recommend that the final step in processing instruments and other items used for insertion and removal of contraceptive implants be sterilization. When correctly performed, sterilization is the safest and most effective method for processing these items. If sterilization equipment (autoclave or dry heat sterilizer) is neither available nor suitable, then HLD is the only acceptable alternative.

See Appendices D and E for detailed information on processing surgical instruments and other items.
WASTE DISPOSAL

Medical waste may be non-contaminated or contaminated. Non-contaminated waste (e.g., paper from offices, boxes) poses no infectious risk and can be disposed of according to local guidelines. Proper handling of contaminated waste (blood- or body fluid-contaminated items) is required to minimize the spread of infection to clinic personnel and to the local community. Proper handling means:

- Wearing utility gloves
- Transporting solid contaminated waste to the disposal site in covered containers
- Disposing of all sharp items in puncture-resistant safe containers
- Carefully pouring liquid waste down a utility drain or flushable toilet or latrine
- Burning or burying contaminated solid waste
- Washing hands, gloves, and containers after disposal of infectious waste

IP TIPS FOR IMPLANT INSERTION AND REMOVAL

To minimize the client’s risk of infection after insertion or removal, clinic staff should strive to maintain an infection-free environment. To do this, the clinician should:

- Have the client wash her entire arm thoroughly with soap and water and rinse well to be sure all traces of soap have been removed. (Residual soap decreases the effectiveness of some antiseptics.) This step is particularly important when client hygiene is poor.
- Wash hands thoroughly with soap and water. For insertion or removal of implants, a brief handwashing with plain soap for about 10–15 seconds followed by rinsing in a stream of clean water is sufficient. Alternatively, use an alcoholic handrub and rub for 15–30 seconds. The use of alcohol handrub may be preferred in a high-volume insertion situation. In such situations, hand washing with soap and water after every 10th insertion and alcohol handrub in between cases is an acceptable hand preparation practice.
- To prepare for infiltration, prepare syringe prior to putting on gloves if working alone. After infiltrating, drop syringe into the safety box.
- Put appropriate type of gloves on both hands (see Table 4-1). (A separate pair of gloves must be worn for each client to avoid cross-contamination.)
- Prep the insertion or removal site with an antiseptic by holding the cotton or gauze swab with a sterile or high-level disinfected sponge forceps. (If the swab is held with a gloved hand, care must be taken not to contaminate the glove by touching any unprepped skin.)
- A surgical linen such as an eye sheet maybe draped over the insertion/removal site to minimize touching unprepped skin.
After inserting or removing implant rods and before removing gloves, decontaminate instruments by placing them in a container filled with 0.5% chlorine solution. Following insertion, place the trocar with plunger in the safety box—dried blood makes them difficult to separate later. Soak for 10 minutes; then rinse immediately with clean water to avoid discoloration or corrosion of metal items.

**Remember:** As rods are removed, decontaminate them by placing them in a small bowl containing 0.5% chlorine solution.

- The surgical drape (if used) must be washed before reuse. After using, place in a dry, covered container and remove to the designated area for washing.
- While still wearing gloves, dispose of contaminated objects (gauze, cotton, and other waste items) in an appropriately marked leak-proof container with a tight-fitting lid or a plastic bag. Needles and syringes should be disposed of in a puncture-proof container.
- Immerse both gloved hands in 0.5% chlorine solution. Remove gloves by turning inside out. Dispose of gloves by placing in a leak-proof container or plastic bag.
- After completing the procedure, wash hands thoroughly with soap and water and dry with a clean, dry cloth or air dry. Alternatively, an alcohol handrub is also acceptable.

**MAINTAINING SAFE WORK ENVIRONMENT**

Maintaining a safe, infection-free environment is an ongoing process that requires frequent retraining and close supervision of clinic staff. With diligent application of recommended IP practices, infections following insertion and removal of implants and transmission of blood-borne viral diseases can be avoided. The practices and processes described in this chapter, however, must be conscientiously applied before, during, and after each procedure. **Failure to follow the recommended IP practices can have negative consequence for the safety of the procedure.**
CHAPTER 5: IMPLANT INSERTION

NOTE: THIS CHAPTER CONTAINS INFORMATION ON INSERTION FOR ONE-ROD AND TWO-ROD IMPLANTS.

Implanon and Implanon NXT are discussed separately due to their different insertion mechanisms.

PLEASE ENSURE THAT YOU ARE USING THE INSTRUCTIONS FOR THE CORRECT PRODUCT.

BACKGROUND

Insertion of contraceptive implants takes little time. An experienced health care provider can insert a set of two-rod implants in 3–5 minutes and one-rod in 1–2 minutes.

**Remember:** While insertion can be quick, it is imperative that correct insertion happen—with the rod(s) inserted just beneath the skin (subdermally) to make removals relatively trouble-free.

*Most problems associated with removal have been due to improper or careless insertion;* therefore, only health care providers trained in both insertion and removal should perform these procedures. To further minimize post-insertion problems (e.g., infection or spontaneous expulsion), all phases of the insertion process must be performed carefully and gently, using recommended infection prevention practices (see Chapter 4).

The material presented in this chapter is intended to reinforce practical training and to serve as a ready reference for any problems or questions. It cannot substitute for actual practice, which is absolutely necessary if a clinician is to become proficient in insertion of two-rod implants, Implanon, and Implanon NXT.

TIMELINE FOR INSERTION

**Interval Implant Insertion**

Contraceptive implants can be inserted for almost all women at the first clinic visit. To minimize the risk of problems, an assessment of the woman’s health should be conducted (see Chapter 3 and Appendix B) and good counseling to ensure that the client is aware of side effects (see Chapter 2).

Implants may be inserted at any time during the menstrual cycle when it is reasonably certain that the client is not pregnant or at risk of being pregnant.

If the client has been using no contraception, consider advising the couple to use a backup method or refraining from sexual intercourse for 7 days when insertion is done after 5 days since the start of menstrual bleeding for one-rod implants, and after 7 days since the start of menstrual bleeding for two-rod implants. If the client is using another contraceptive method and wants to switch to
implants, the best time to do so is shown in Table 5-1. Inserting the rods at these recommended times will minimize the possibility of pregnancy.

Table 5-1. Current Contraceptive Users: Optimal Times for Switching to Two-Rod or One-Rod

<table>
<thead>
<tr>
<th>CURRENT METHOD</th>
<th>WHEN TO INSERT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Having menstrual cycles or switching from a nonhormonal method</td>
<td>• If she is starting within 7 days after the start of her monthly bleeding for two-rod, or 5 days after for one-rod, no need for a backup method.</td>
</tr>
<tr>
<td></td>
<td>• If it is more than 7 days after the start of her monthly bleeding for two-rod, or more than 5 days after for one-rod, she can have implants inserted any time it is reasonably certain she is not pregnant. She will need a backup method for the first 7 days after insertion.</td>
</tr>
<tr>
<td></td>
<td>• If she is switching from an IUD, she can have implants inserted immediately (see below).</td>
</tr>
<tr>
<td>Switching from a hormonal method</td>
<td>• 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.</td>
</tr>
<tr>
<td></td>
<td>• 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.</td>
</tr>
<tr>
<td></td>
<td>• If she is switching from an IUD, she can have implants inserted immediately (see below).</td>
</tr>
<tr>
<td>Switching from Copper or Levonorgestrel IUD</td>
<td>• If starting during the first 7 days of monthly bleeding, insert implant now and remove the IUD. No need for a backup method.</td>
</tr>
<tr>
<td></td>
<td>• If starting after the first 7 days of monthly bleeding and she has had sex since her last monthly bleeding, start the implant now. It is recommended that the IUD be kept in place until her next monthly bleeding.</td>
</tr>
<tr>
<td></td>
<td>• If starting after the first 7 days of monthly bleeding and she has not had sex since her last monthly bleeding, the IUD can stay in place and be removed during her next monthly bleeding, or the IUD can be removed and she can use a backup method for the next 7 days.</td>
</tr>
</tbody>
</table>

Adapted from: World Health Organization Department of Reproductive Health and Research (WHO/RHR) and Johns Hopkins Bloomberg School of Public Health/Center for Communication Programs (CCP), Knowledge for Health Project 2011.

Postpartum and Postabortion Implant Insertion

- Contraceptive implants can be used in postabortion family planning, and can be inserted anytime after early termination of pregnancy, whether spontaneous or elective.
- Contraceptive implants are a safe method of postpartum family planning, and can be inserted anytime postpartum, including immediately after childbirth and onwards. This is true for breastfeeding and non-breastfeeding women.

PREPARATION FOR IMPLANT INSERTION

After you have greeted the client, determined she wants an implant, ruled out pregnancy, and explained the procedure, it is important that the instruments and commodities have been sterilized or high-level disinfected (see Chapter 4 and Appendices D and E for infection prevention).
Check to ensure the implants are packaged and sealed as expected. Two-rod implants are packed in sterile pouches, and their disposable insertion trocars are packed in a separate sterile pack designed for one-time use. One-rod implants come preloaded in the trocar and thus are packaged together. In summary:

- Two-rod implants: two packages
- One-rod implants: one package

The following box lists the instruments and supplies necessary for implant insertion:

<table>
<thead>
<tr>
<th>INSTRUMENTS AND SUPPLIES NEEDED FOR INSERTION OF BOTH PRODUCTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Non-sterile supplies:</strong></td>
</tr>
<tr>
<td>• Examining table for the woman to lie on</td>
</tr>
<tr>
<td>• Soap for washing the arm</td>
</tr>
<tr>
<td>• Ballpoint pen or marker</td>
</tr>
<tr>
<td>• Antiseptic solution</td>
</tr>
<tr>
<td>• Local anesthetic (1% concentration without epinephrine)</td>
</tr>
<tr>
<td><strong>Sterile instruments and supplies:</strong></td>
</tr>
<tr>
<td>• One bowl for the antiseptic soaked cotton balls</td>
</tr>
<tr>
<td>• Syringe (5 or 10 ml) and 5 cm (2-inch)-long needle (22-gauge)</td>
</tr>
<tr>
<td>• Ordinary Band-Aid® or gauze with surgical tape</td>
</tr>
<tr>
<td>• Gauze and compresses</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Instruments and supplies for one-rod insertion</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Exam gloves</td>
</tr>
<tr>
<td>• Rod loaded in trocar in sterile package</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Instruments and supplies for two-rod insertion</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Surgical gloves</td>
</tr>
<tr>
<td>• Sterile (or clean) dry surgical drape (or alternatively inside of glove package)</td>
</tr>
<tr>
<td>• Set of two rods in sterile pouch; separate sealed packaged containing disposable trocar</td>
</tr>
</tbody>
</table>

**INSERTION INSTRUCTIONS**

What follows in the remainder of Chapter 5 are detailed instructions to insert the various implant products. Please ensure that you are reading the instructions for the implant you will insert. You will find insertion checklists that lay out the specific steps of implants insertion in a checklist format in Appendix F.
Location of Implants

The rods should be inserted beneath the skin on the inner aspect of the upper arm (Figure 5-1) about 8 cm from the elbow fold. (Usually the arm that the woman uses less should be selected.) Use a pen/marker to identify where the implant rods will go and an end point to guide the insertion.

Figure 5-1. Jadelle Insertion Site

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Figure 5-2 shows a cross-section of the upper arm and identifies where the nerve-bundle, major muscles, and vein are. The implant is placed correctly in this figure, well away from major blood vessels, muscles, and nerves.

Figure 5-2. Cross-Section through the Left Upper Arm (middle third)

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Step-by-Step Instructions for Insertion of Two-Rod Implants

1. Getting Ready

STEP 1.1: Greet the client, rule out pregnancy, determine that the client wants an implant, is aware of common side effects, accepts them, and has no medical condition that makes implants an inappropriate method per WHO MEC.
**STEP 1.2:** Explain the insertion technique and provide an opportunity to answer questions that the client may have.

**STEP 1.3:** Check to be sure the client has washed her entire arm with soap and water and rinsed it thoroughly, being sure to remove all traces of soap. (Residual soap decreases the effectiveness of some antiseptics.) This step is particularly important when client hygiene is poor.

**STEP 1.4:** Help position client on the table. Her arm should be well-supported and able to be comfortably extended straight or slightly bent, as the clinician prefers.

**STEP 1.5:** Determine the optimal insertion area by measuring 8 cm (3 inches) above the elbow fold. Mark where the incision will be made and the points for the upper end of each rod. (If an antiseptic containing alcohol will be used to prep the arm, a pen with permanent ink must be used.) The rods should be inserted beneath the skin on the inner aspect of the upper arm (Figure 5-3) about 8 cm from the elbow fold. Usually the arm that the woman uses less should be selected.

![Figure 5-3. Two-Rod Insertion Site](https://via.placeholder.com/150)

**STEP 1.6:** Prepare an instrument tray and open the sterile instrument pack or high-level disinfected container without touching the instruments and other items.

**STEP 1.7:** Carefully open the sterile pouch containing the rods by pulling apart the sheets of the pouch and allowing the two rods to fall into a sterile bowl or onto a sterile tray. If a sterile bowl or tray is not available, the rods can be dropped into a high-level disinfected bowl or onto the tray containing the instruments.

**Note:** Contact with cotton or other cloth makes the rods more reactive (i.e., more apt to cause adhesions or scarring because minute particles of the cotton adhere to the rods).

**Note:** If a rod falls on the floor, it is contaminated. Open a new package and continue with the procedure. (Never attempt to sterilize or high-level disinfect contaminated rods.)

2. Pre-Insertion Tasks

**STEP 2.1:** Wash hands thoroughly with soap and water and dry them with a clean, dry cloth or air dry. For insertion or removal of two-rod contraceptives, a brief handwashing with plain soap for about 10–15 seconds followed by rinsing in a stream of water is sufficient.
STEP 2.2: Apply antiseptic solution to the incision area two times. Use the tissue forceps to hold a cotton or gauze swab soaked with antiseptic. Begin by wiping at the insertion site and move outward in a circular motion for 8–13 cm (3–5 inches). If an iodophor (e.g., Betadine) is used, allow to air dry for about 2 minutes before proceeding. (Iodophors require up to 2 minutes contact time to release free iodine.) Wipe off excess antiseptic only if necessary to see the template marks.

STEP 2.3: If a sterile surgical drape with a hole in it (“eye sheet”) is available, it should be used to cover the arm. The hole should be large enough to expose the area where the rods will be inserted. A second option is to cover the arm just below the insertion area with the sterile side of the sterile glove package or a clean cloth (Figure 5-4). (Alternatively, a decontaminated, washed, and machine- or air-dried drape or cloth can be used.)

Figure 5-4. Covering the Arm

STEP 2.4: After verbally checking again to be sure the client is not allergic to the local anesthetic agent or related drugs, fill a syringe with about 2 ml of local anesthetic (1% without epinephrine). This is enough to numb the area while inserting the two rods. Explain to the client that the injection of the anesthetic will be slightly painful but that she shouldn’t feel any pain while the two-rod implants are being inserted.

STEP 2.5: Insert the needle just under the skin at the incision site (point closest to the elbow). Inject a very small amount of anesthetic to raise a small wheal (raised area). Then, without removing the needle, gently advance it under the skin for about 4–5 cm (2 inches) where the two rods will be inserted (Figure 5-5). This will raise the skin up from the underlying soft tissue. If the needle is less than 2 inches long, push the hub of the needle against the skin so that the tip of the needle reaches between the marks on the skin nearest the shoulder. Pull back on the plunger to be sure the needle is not in a blood vessel. As you withdraw the needle, slowly inject 1 ml of local anesthetic in a track. About 1 ml (cc) is needed for the track.
Place the needle in a safety box to prevent accidental needle sticks.

**Note:** To prevent local anesthetic toxicity, the total dose should not exceed 10 ml (10 grams/liter) of a 1% local anesthetic **without** epinephrine.

**STEP 2.6:** Put sterile gloves on both hands. (A separate pair of gloves must be worn for each client to avoid cross-contamination.) Gently massage the area injected to spread the anesthesia around; this will increase its effectiveness.

**Note:** Do not use powder with gloves. The tiny powder granules may fall into the insertion site and cause scarring (fibrous reaction). If gloves are powdered, wipe powder off gloved fingers with sterile gauze soaked in sterile or boiled water.

**STEP 2.7:** Arrange instruments and supplies so that they are easily accessible. **Make sure there are two rods and that they are separated.** If they are stuck together, separate them with gloved fingers.

3. Inserting the Rods

Before starting, gently touch the incision site with the tip of the forceps to be sure the anesthetic is working. If the client can feel the forceps, wait 2 more minutes and retest the incision site.

**STEP 3.1:** The disposable trocar has 2 ring marks (**Figure 5-6**) and a plunger. The first ring mark that is nearest to the trocar tip is used as a marker for how much of the trocar should be left under the skin following the insertion of each rod. The second ring mark that is closest to the hub indicates how far the trocar should be introduced before loading each rod into the trocar.

**STEP 3.2:** Use the disposable trocar with the bevel on the tip facing upward, and using gentle pressure, insert directly through the skin to the superficial subdermal layer.
STEP 3.3: Insert the trocar and plunger through the incision at a shallow angle of about 20–30 degrees from the skin surface with the beveled tip of the trocar facing up. Move the trocar forward, stopping as soon as the tip is completely beneath the dermis (2–3 mm past the end of the bevel) (Figure 5-7, upper). Never force the trocar. If you meet resistance, try another angle.

STEP 3.4: To keep the rods on a superficial plane, tilt the trocar upward while tenting the skin. Slowly and smoothly advance the trocar and plunger toward one of the marks on the skin (Figure 5-7, lower). The trocar should be positioned shallow enough so that it can be felt with a finger. It should visibly raise (tent) the skin at all times. The trocar will move easily if it is in a proper, shallow plane.

Note: To avoid contaminating the trocar when inserting and pulling back on it, try not to touch it with your gloved fingers, especially the part of the barrel that goes under the skin.

Remember: It is important that the rods be placed subdermally. Deep placement will make removal much more difficult and may injure blood vessel or nerves.
STEP 3.5: When the trocar has been advanced as far as the mark nearest the hub, remove the plunger from the trocar.

STEP 3.6: Load the first rod into the trocar. Use either the gloved thumb and forefinger of one hand or a forceps to pick up the rod and insert it in the trocar. Keep the other hand cupped under the trocar in order to catch the rod if it falls (Figure 5-8).

**Note:** If the rod is picked up by hand, be sure the gloves are free of powder.

*Figure 5-8. Loading the Rod*

Slide the rod into the top of the trocar and reinsert the plunger (Figure 5-9).

*Figure 5-9. Inserting the Plunger*

STEP 3.7: Use the plunger to gently advance the rod toward the tip of the trocar until you feel resistance—but never push down or force the plunger. It is used only to stabilize the rods while you withdraw the trocar. (Resistance should be felt when the plunger is inserted about halfway into the trocar.) Because the rods are soft, they will bend if pushed too hard with the plunger.
STEP 3.8: Hold the plunger firmly in place with one hand to stabilize it. **NEVER PUSH DOWN ON THE PLUNGER.** Check to be sure the trocar is still inserted to the mark nearest the hub. Then, with the thumb and forefinger, withdraw/slide the barrel of the trocar back out of the incision **until** the first ring mark, which is nearest to the tip, **just clears** the incision, and the hub touches the handle of the plunger (**Figure 5-10**). It is important to keep the plunger steady so as not to push the rod into the tissue.

**Figure 5-10. Sliding the Trocar Back**

![Figure 5-10](image)

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STEP 3.9: When the hub of the trocar touches the handle of the plunger, the mark nearest the tip should be visible in the incision and the rod should now be lying beneath the skin, **free of the trocar** (**Figure 5-11**).

**Figure 5-11. Releasing the Rod**

![Figure 5-11](image)

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STEP 3.10: **Without completely removing the trocar,** move the tip of the trocar laterally away from the end of the first rod (**Figure 5-12**) to be sure the end is completely free.
Note: To minimize tissue trauma, decrease the chance of infection, and shorten insertion time, do not remove the trocar from the incision.

Then redirect the trocar about 15°, following the “V” shape marked on the arm. Next, fix the position of the first rod by placing the forefinger of the free hand over the end of the first rod (Figure 5-13). Then slowly advance the trocar along the side of this finger toward the mark nearest the hub. Doing this will ensure a suitable distance between the rods and will keep the sharp tip of the trocar from cutting the first rod.

STEP 3.11: Palpate the ends of the rods nearest the shoulder to be sure the rods are placed correctly.
**STEP 3.12:** In order to minimize the risk of spontaneous expulsion of a rod, palpate the incision area to be sure that the ends of the rods are about 5 mm away from it. The ends of the rods closest to the incision should be no farther apart than the width of a rod, 2–3 mm.

**STEP 3.13:** Carefully withdraw the trocar and press down on the incision with a gauzed finger for a minute or so to stop any bleeding. Remove the drape. Clean the area around the insertion site with a small amount of sterile or high-level disinfected water or alcohol (“spirits”) applied to a cotton or gauze swab.
Location of Implants

The rod should be inserted beneath the skin on the inner aspect of the upper arm (Figure 5-14) about 8 cm from the elbow fold. (Usually the arm that the woman uses less should be selected.)

Figure 5-14. One-Rod Implant Insertion Site

Figure 5-15 shows a cross-section of the upper arm and identifies where the nerve-bundle, major muscles, and vein are. The implant is placed correctly in this figure, well away from major blood vessels, muscles, and nerves.

Figure 5-15. Transverse Section through the Left Upper Arm (middle third)

Step-by-Step Instructions for Implanon Insertion

1. Getting Ready

STEP 1.1: Greet the client, rule out pregnancy, determine that the client wants an implant, is aware of common side effects, accepts them, and has no medical condition that makes implants an inappropriate method per WHO MEC.
STEP 1.2: Explain the insertion technique and provide an opportunity to answer questions that the client may have.

STEP 1.3: Check to be sure the client has washed her entire arm with soap and water and rinsed it thoroughly, being sure to remove all traces of soap. (Residual soap decreases the effectiveness of some antiseptics.)

STEP 1.4: Help position client on the table. Have the woman lie on her back on the examination table with her non-dominant arm flexed at the elbow and externally rotated so that her wrist is parallel to her ear or her hand is positioned next to her head (Figure 5-16). Her arm should be well-supported and able to be comfortably extended straight or slightly bent, as the clinician prefers.

Figure 5-16. Client Positioning

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STEP 1.5: Determine the optimal insertion area by measuring 8 cm–10 cm (3–4 inches) above the elbow fold. Mark where the incision will be made and the points for the upper end of the rod. (If an antiseptic containing alcohol will be used to prep the arm, a pen with permanent ink must be used.)

STEP 1.6: Prepare an instrument tray. Use clean linen to cover the tray. Assemble the syringe and needle, bowl with antiseptic and cotton balls or gauze, the adhesive tape, and pressure bandage. Check and prepare the local anesthetic bottle or vial. Take out the Implanon package from its box and set it on the tray for ready access.

Note: Contact with cotton or other cloth makes the rods more reactive (i.e., more apt to cause adhesions or scarring because minute particles of the cotton adhere to the rods).

Note: If a rod falls on the floor, it is contaminated. Open a new package and continue with the procedure. (Never attempt to sterilize or high-level disinfect contaminated rods.)

2. Pre-Insertion Tasks

STEP 2.1: Wash hands thoroughly with soap and water and dry them with a clean, dry cloth or air dry. For insertion or removal of contraceptive implants, a brief handwashing with plain soap for about 10–15 seconds followed by rinsing in a stream of water is sufficient.
STEP 2.2: Apply antiseptic solution to the incision area two times. Use the tissue forceps to hold a cotton or gauze swab soaked with antiseptic. (If prepping is done with a gloved hand, care must be taken not to contaminate the glove by touching any unprepped skin.) Begin by wiping at the insertion site and move outward in a circular motion for 8–13 cm (3–5 inches). If an iodophor (e.g., Betadine) is used, allow to air dry for about 2 minutes before proceeding. (Iodophors require up to 2 minutes contact time to release free iodine.) Wipe off excess antiseptic only if necessary to see the template marks.

STEP 2.3: After verbally checking again to be sure the client is not allergic to the local anesthetic agent or related drugs, fill a syringe with about 1.5 ml of local anesthetic (1% without epinephrine). This is enough to numb the area while inserting the rod. Explain to the client that the injection of the anesthetic will be slightly painful but that she shouldn’t feel any pain while Implanon is being inserted.

STEP 2.4: Insert the needle just under the skin at the incision site (point closest to the elbow). Inject a very small amount of anesthetic to raise a small wheal (raised area). Then, without removing the needle, gently advance it under the skin for about 4–5 cm (2 inches) along the track where the rod will be inserted (Figure 5-17). This will raise the skin up from the underlying soft tissue. If the needle is less than 2 inches long, push the hub of the needle against the skin so that the tip of the needle reaches between the marks on the skin nearest the shoulder. Pull back on the plunger to be sure the needle is not in a blood vessel. As you withdraw the needle, slowly inject the remaining local anesthetic in a track.

Figure 5-17. Injecting the Anesthetic

Place the needle in a safety box to prevent accidental needle sticks. Finally, gently rub the area injected to spread the anesthesia around; this will increase its effectiveness.

Note: To prevent local anesthetic toxicity, the total dose should not exceed 10 ml (10 grams/liter) of a 1% local anesthetic without epinephrine.

STEP 2.5: Put clean examination gloves on both hands. (A separate pair of gloves must be worn for each client to avoid cross-contamination.)
Note: Do not use powder with gloves. The tiny powder granules may fall into the insertion site and cause scarring (fibrous reaction). If gloves are powdered, wipe powder off gloved fingers with sterile gauze soaked in sterile or boiled water.

STEP 2.6: Arrange instruments and supplies so that they are easily accessible. Make sure that the Implanon package is intact and the tip of the rod is not protruding out of the trocar. After inspection, open and remove the sterile preloaded disposable Implanon applicator. If sterility is in question, open another pack.

3. Inserting the Rod

Before starting, gently touch the incision site with the tip of the forceps to be sure the anesthetic is working. If the client can feel sharp pain from the forceps, wait 2 more minutes and retest the incision site.

STEP 3.1: Remove the sterile, disposable applicator carrying Implanon from its blister and visually verify the presence of the implant inside the needle tip. Following visual confirmation, the implant should be lowered back into the needle by tapping it back into the needle tip.

Note: The implant can fall out of the needle prior to insertion. To prevent the implant from dropping out, always hold the applicator tip in the upward position.

Note: If performing a reinsertion, please note that each reinsertion will move up the arm and may get too close to the armpit—switch arms after a two reinsertions of Implanon.

STEP 3.2: With your free hand, stretch the skin around the insertion site with thumb and index finger (Figure 5-18).

Figure 5-18. Stretching Skin around Insertion Site

STEP 3.3: Puncture the skin with the tip of the needle slightly angled (not greater than 20°) (Figure 5-19). Then release the skin.
STEP 3.4: Lower the applicator to a horizontal position. Lift the skin with the tip of the needle, but keep the needle in the subdermal connective tissue (Figure 5-20). Gently insert, while lifting the skin, the needle to its full length without using force to ensure superficial insertion (Figure 5-21).

STEP 3.5: Keep the applicator parallel to the surface of the skin and break the seal of the obturator (Figure 5-22). Then turn the obturator 90° (Figure 5-23).
**STEP 3.6:** Fix the obturator with one hand parallel to the arm and, with the other hand, slowly retract the cannula (needle) out of the arm (Figure 5-24). **Never** push against the obturator.

*Figure 5-24. Retracting the Cannula*

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**STEP 3.7:** Check the needle for the absence of the implant. After retraction of the cannula, the grooved tip of the obturator should be visible (Figure 5-25).

*Figure 5-25. Checking for Absence of the Implant in the Trocar*

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**STEP 3.8:** Always verify the presence of the implant in the woman’s arm immediately after insertion by palpation. By palpating both ends of the implant, you should be able to confirm the presence of the 4 cm rod.

**Note:** At this point, and before covering the incision site, ask the client to feel the rod upper end and the length of the rod, taking care not to touch the point of insertion. Reassure the client that the implant is in place.

**Note:** In cases where the implant cannot be palpated or when the presence of the implant is doubtful, other methods such as ultrasound visualization must be applied to confirm its presence.
Location of Implants

The rod should be inserted beneath the skin on the inner aspect of the upper arm (Figure 5-26) about 8 cm from the elbow fold. (Usually the arm that the woman uses less should be selected.)

Figure 5-26. Implanon NXT Implant Insertion Site

Figure 5-27 shows a cross-section of the upper arm and identifies where the nerve-bundle, major muscles, and vein are. The implant is placed correctly in this figure, well away from major blood vessels, muscles, and nerves.

Figure 5-27. Transverse Section through the Left Upper Arm (middle third)

Step-by-Step Instructions for Insertion of Implanon NXT

1. Getting Ready

STEP 1.1: Greet the client, rule out pregnancy, determine that the client wants an implant, is aware of common side effects, accepts them, and has no medical condition that makes implants an inappropriate method per WHO MEC.
STEP 1.2: Explain the insertion technique and provide an opportunity to answer questions that the client may have.

STEP 1.3: Check to be sure the client has washed her entire arm with soap and water and rinsed it thoroughly, being sure to remove all traces of soap. (Residual soap decreases the effectiveness of some antiseptics.) This step is particularly important when client hygiene is poor.

STEP 1.4: Help position client on the table. Have the woman lie on her back on the examination table with her non-dominant arm flexed at the elbow and externally rotated so that her wrist is parallel to her ear or her hand is positioned next to her head (Figure 5-28). Her arm should be well-supported and able to be comfortably extended straight or slightly bent, as the clinician prefers.

Figure 5-28. Client Placement

STEP 1.5: Determine the optimal insertion area by measuring 8–10 cm (3–4 inches) above the elbow fold or median epicondyle of the humerus. Mark where the incision will be made and the points for the upper end of each rod. (If an antiseptic containing alcohol will be used to prep the arm, a pen with permanent ink must be used.)

STEP 1.6: Prepare an instrument tray. Use clean linen to cover the tray. Assemble the syringe and needle, bowl with antiseptic and cotton balls or gauze, the adhesive tape, and pressure bandage. Check and prepare the local anesthetic bottle or vial. Take out the Implanon NXT package from its box and set it on the tray for ready access.

2. Pre-Insertion Tasks

STEP 2.1: Wash hands thoroughly with soap and water and dry them with a clean, dry cloth or air dry. For insertion or removal of an Implanon NXT rod, a brief handwashing with plain soap for about 10–15 seconds followed by rinsing in a stream of water is sufficient.

STEP 2.2: Apply antiseptic solution to the incision area two times. Use the tissue forceps to hold a cotton or gauze swab soaked with antiseptic. Begin by wiping at the insertion site and move outward in a circular motion for 8–13 cm (3–5 inches). If an iodophor (e.g., Betadine) is used, allow to air dry.
dry for about 2 minutes before proceeding. (Iodophors require up to 2 minutes contact time to release free iodine.) Wipe off excess antiseptic only if necessary to see the template marks.

**STEP 2.3:** After verbally checking again to be sure the client is not allergic to the local anesthetic agent or related drugs, fill a syringe with about 1.5 ml of local anesthetic (1% without epinephrine). This is enough to numb the area while inserting Implanon NXT. Explain to the client that the injection of the anesthetic will be slightly painful but that she shouldn’t feel any pain while Implanon NXT rod is being inserted.

**STEP 2.4:** Insert the needle just under the skin at the incision site (point closest to the elbow). Inject a very small amount of anesthetic to raise a small wheal (raised area). Then, without removing the needle, gently advance it under the skin for about 4–5 cm (2 inches) along the track where the rod will be inserted (Figure 5-29). This will raise the skin up from the underlying soft tissue. If the needle is less than 2 inches long, push the hub of the needle against the skin so that the tip of the needle reaches between the marks on the skin nearest the shoulder. Pull back on the plunger to be sure the needle is not in a blood vessel. As you withdraw the needle, slowly inject the remaining local anesthetic in a track.

![Injecting the Anesthetic](image)

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Place the needle in a safety box to prevent accidental needle sticks. Finally, gently rub the area injected to spread the anesthesia around; this will increase its effectiveness.

**Note:** To prevent local anesthetic toxicity, the total dose should not exceed 10 ml (10 grams/liter) of a 1% local anesthetic without epinephrine.

**STEP 2.5:** Put clean examination gloves on both hands. (A separate pair of gloves must be worn for each client to avoid cross-contamination.)

**Note:** Do not use powder with gloves. The tiny powder granules may fall into the insertion site and cause scarring (fibrous reaction). If gloves are powdered, wipe powder off gloved fingers with sterile gauze soaked in sterile or boiled water.

**STEP 2.6:** Arrange instruments and supplies so that they are easily accessible. Make sure that the Implanon NXT package is intact and the tip of the rod is not protruding out of the trocar.
After inspection, open and remove the sterile preloaded disposable Implanon NXT applicator. If sterility is in question, open another pack.

3. Inserting the Rod

Before starting, gently touch the incision site with the tip of the forceps to be sure the anesthetic is working. If the client can feel sharp pain from the forceps, wait 2 more minutes and retest the incision site.

STEP 3.1: Hold the applicator just above the needle at the textured surface area. Remove the transparent protection cap by sliding it horizontally in the direction of the arrow away from the needle (Figure 5-30). If the cap does not come off easily, the applicator should not be used. You can see the white-colored implant by looking into the tip of the needle. Do not touch the purple slider until you have fully inserted the needle subdermally, as it will retract the needle and prematurely release the implant from the applicator.

Figure 5-30. Preparing the Trocar

STEP 3.2: With your free hand, stretch the skin around the insertion site with thumb and index finger (Figure 5-31).

Figure 5-31. Stretching the Skin
STEP 3.3: Puncture the skin with the tip of the needle angled about 30° (Figure 5-32).

Figure 5-32. Puncture Angle

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STEP 3.4: Lower the applicator to a horizontal position. While lifting or tenting the skin with the tip of the needle (Figure 5-33), slide the needle to its full length. You may feel slight resistance but do not exert excessive force. If the needle is not inserted to its full length, the implant will not be inserted properly.

Figure 5-33. Tenting the Skin and Inserting the Needle

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Remember: It is important that the rod be placed subdermally. Deep placement will make removal much more difficult.

You can best see movement of the needle if you are seated and are looking at the applicator from the side and NOT from above. In this position, you can clearly see the insertion site and the movement of the needle just under the skin.

Note: To avoid contaminating the trocar when inserting and pulling back on it, try not to touch it with your gloved fingers, especially the part of the barrel that goes under the skin.

STEP 3.5: Keep the applicator in the same position with the needle inserted to its full length. If needed, you may use your free hand to stabilize or keep the applicator in the same position during the following procedure. Unlock the purple slider by pushing it slightly down. Move the slider fully
back until it stops (Figure 5-34). The implant is now in its final subdermal position, and the needle is locked inside the body of the applicator. The applicator can now be removed.

**Note:** If the applicator is not kept in the same position during this procedure or if the purple slider is not completely moved to the back, the implant will not be inserted properly.

**Figure 5-34. Releasing and Removing the Applicator/Trocar**

STEP 3.6: Always verify the presence of the implant in the woman’s arm immediately after insertion by palpation. By palpating both ends of the implant, you should be able to confirm the presence of the rod (Figure 5-35).

**Note:** At this point, and after covering the incision site, ask the client to feel the rod upper end and the length of the rod, taking care not to touch the point of insertion. Reassure the client that the implant is in place.

**Figure 5-35. Palpating the Rod after Insertion**

STEP 3.7: The applicator is for single use only and should be disposed in accordance with the IP practices for handling of hazardous waste.
Covering the Incision

- Bring the edges of the incision together and use surgical tape to close the incision. Apply a Band-Aid or sterile gauze and tape to cover the incision. **Sutures are not necessary and may increase scarring.**

- Check for any bleeding. Cover the insertion area with a dry piece of gauze (pressure dressing) and wrap gauze snugly around the arm to be sure there is no bleeding and to minimize the bruising (subcutaneous bleeding).

Waste Disposal and Decontamination

- Before removing gloves, place instruments into a container filled with 0.5% chlorine solution for decontamination. (See Appendix D for how to make a solution from commercially available household bleach.) Dispose of the needle and syringe by placing them in a puncture-proof container.

- If a cloth surgical drape was used (for two-rod insertion), it must be washed and sterilized before reuse. Place the drape in a **dry**, covered container and remove to the designated washing area.

- While still wearing gloves, place all contaminated objects (gauze, cotton, and other waste items) in a properly marked, leak-proof container with a tight-fitting lid or in a plastic bag.

- Dispose of gloves, place in a leak-proof container or plastic bag.

- Wash hands thoroughly with soap and water and dry with a clean, dry cloth or air dry.

- All waste material should be disposed of by burning or burying.

Client Care

- Complete the user card and give it to the client to keep. Also, complete the patient chart label and affix it to the woman’s medical record.

- Place a note in the client’s record indicating the location of the rod(s), type of rod(s), and duration of contraceptive effect (3, 4, or 5 years) and specifying any unusual events that may have occurred during insertion. A simple drawing showing the approximate location of the rods in the client’s arm is helpful.

- Instruct the client regarding wound care (see below) and make a return visit appointment, if needed.

- Observe the client for at least 15–20 minutes. Check for bleeding from the incision and ask her how she feels before sending her home. She should be given written, post-insertion care instructions if available and appropriate.
Client Instructions for Insertion Site

- Keep the area around the insertion site dry and clean for at least 48 hours. The incision could become infected if the area gets wet while bathing.

- Leave the gauze pressure bandage in place for 48 hours and the Band-Aid or surgical tape in place until the incision heals (normally 3–5 days).

- There may be bruising, swelling, or tenderness at the insertion site for a few days. This is normal.

- Pain at the insertion site may require a mild analgesic (e.g., paracetamol or ibuprofen).

- Routine work can be done immediately. Avoid bumping the area, carrying heavy loads, or applying unusual pressure to the site.

- After healing, the area can be touched and washed with normal pressure.

- If the incision site becomes inflamed (red with increased heat or tenderness) or there is pus at the site, return to the clinic.

- Inform the client how soon the method is effective:
  - Implants become effective within 24 hours after insertion. If they are not inserted by the seventh day of the menstrual period for two-rod implants, or the fifth day of the menstrual cycle for one-rod implants, use of a backup contraceptive method for 7 days is recommended.
  - Implants lose effectiveness sooner for women weighing 80 kg or more. For these women, they are slightly less effective in their final year of use, and women seeking continued protection should visit the health facility for a replacement implant. Women weighing 80 kg or more should be encouraged to return a year earlier or use a back-up method.

- Discuss what to do if there are changes in menstrual periods or other minor side effects.

- Advise the client on how to protect against STIs, including the AIDS virus.

The client should also be given specific information such as:

- The name of the service center or clinic where she received the implant
- The number of rods inserted
- How long the contraceptive implant is effective
- When and where to return for removal (the latest time for removal should be after 3, 4, or 5 years, depending on the particular implant). The client should return to the service delivery site if she:
  - Thinks she might be pregnant;
  - Wants the implant removed for any reason;
  - Wants to have a baby;
  - Has any problems with the method that worry her;
  - Wants to switch to another contraceptive method;
- Is moving and needs the address of a clinic in her new area that provides contraceptive implant services; or
- Has started any new medications that might decrease the effectiveness of her implant (e.g., rifampin and most anti-epileptic drugs).

When possible, the client should return to the same clinic or service center where the contraceptive implants were inserted if she has any worries or questions about the method or if she has any of the following warning signs:

- Delayed menstrual period (> 6 weeks) after several months of regular cycles (may be a sign of pregnancy)
- Severe lower abdominal pain (may be a symptom of ectopic pregnancy)
- Heavy bleeding (twice as long or twice as much as normal)
- Pus or bleeding at the insertion site
- Expulsion of a rod
- Migraine (vascular) headaches, repeated very painful headaches, or blurred vision
- Unilateral leg pain or swelling, sudden severe pain in the chest, or breathlessness (may be a symptom of thrombosis)

Finally, at any follow-up care visit, she should be told that she can return anytime there is a problem or she has questions.
CHAPTER 6: FOLLOW-UP CARE

BACKGROUND

Long-term success, as defined by satisfied clients and high continuation rates, will occur only if clinic staff recognize the importance of providing follow-up care (including counseling) and prompt management of side effects as well as other problems, should they occur.

Most clients will not experience problems following insertion of contraceptive implants.

Do women need to return for a follow-up visit after having contraceptive implants inserted?

There is no need for the client to return for follow-up, unless she has a complaint or experiences a problem. More information on supporting continuing users can be found at the end of this chapter.

Do other drugs interact with the hormones in contraceptive implants?

Certain drugs increase the ability of the liver to break down the hormone, thereby making the method less effective in preventing pregnancy. Such drugs include: rifampin, used to treat tuberculosis; griseofulvin7; and drugs used for epilepsy (seizure disorders) such as barbiturates (e.g., phenobarbital), phenytoin (e.g., Dilantin), and carbamazepine (e.g., Tegretol), but not valproic acid (Angle, Huff, and Lea 1991).

Remember: Counsel the woman to tell the health care provider that she is using implants whenever a new drug is given to her.

Should a woman be concerned if her menstrual period is delayed?

Although contraceptive implants are highly effective, pregnancies occur occasionally. If a woman’s period is delayed (> 6 weeks) after an interval of regular cycles, she should be evaluated for pregnancy (see Chapter 7). If she is not pregnant, counsel her that there is no harm to her health if she doesn’t get her menstrual period (i.e., there is no “buildup” of blood in the uterus) and that not having menses will have no harmful effect on her future fertility.

Should a woman with prolonged bleeding (with or without anemia) have the implant removed?

Not usually. If the woman wants to continue using a two-rod or one-rod contraceptive, she should be checked to be sure there are no other causes for the bleeding. Following this, the first approach should be counseling and reassurance that prolonged spotting or moderate bleeding (equivalent to normal menstruation but longer in duration) is common and expected during implant use. If reassurance is not sufficient for the woman, use of a low-dose COC or ibuprofen can be tried. (See Chapters 1 and 7 for additional information and detailed instructions.)

For anemia, give nutritional advice on the need to increase iron intake. Use oral iron treatment (one tablet containing at least 100 mg of elemental iron, FeSO₄, daily for 1–3 months) if hemoglobin is ≤ 9 g/dl or hematocrit ≤ 27.

7 Because griseofulvin, which increases progestin metabolism, usually is used only for a short period of time (2–4 weeks), women taking it for fungal infections can use contraceptive implants. They should use a backup method while taking griseofulvin and until the start of the next menstrual period after stopping the antibiotic.
What are the warning signs of problems?
The client should return to the clinic if she has any of the following problems:

- Delayed menstrual period after several months of regular cycles (may be a sign of pregnancy)
- Severe lower abdominal pain (may be a symptom of ectopic pregnancy)
- Heavy bleeding (twice as long or twice as much as normal)
- Pus or bleeding at the insertion site
- Expulsion of a rod
- Migraine (vascular) headaches, repeated very painful headaches, or blurred vision

When should two-rod implants be removed?
Two-rod implants should be removed by the end of 5 years if Jadelle, or by the end of 4 years if Sino-implant (II). The rods can, however, be removed any time before then if the user wishes to stop the method for either a personal or medical reason. The rods should be removed by a service provider trained in removal. If the client wants to continue using contraceptive implants, she may receive a new set of rods in the same arm immediately after the old set is removed. Clients weighing over 80 kg may wish to have their implants removed a year early because the implant may lose effectiveness earlier for them.

When should one-rod implants be removed?
One-rod implants should be removed by the end of 3 years. The implant can, however, be removed before 3 years if the user wishes to stop the method for either a personal or medical reason. The rod should be removed by a service provider trained in removal. If the client wants to continue using contraceptive implants, she may receive a new rod in the same arm immediately after the old set is removed.

Where should the client go to have the rods removed?
The client should return to the same clinic where the rods were inserted, or to another clinic where contraceptive implants are provided. The counselor should be sure the client knows that she has access to removal. If removals are not done every day, the clinic should post a schedule of the regular days of the week when removals are performed.

What should a woman do if she cannot or does not want to have the implant removed at the end of its effective life?
Because of the increased risk of intrauterine and ectopic pregnancy, every effort should be made to help convince the woman to have the rods removed. In the interim, the woman should use a reliable contraceptive method (COCs, injectables, or an IUD) until the rods can be removed.

What happens if contraceptive implant rods are left in for too long?
The effectiveness of two-rod implants may decrease somewhat after 5 years and, therefore, the chance of becoming pregnant (either intrauterine or ectopic) may increase. Likewise, the effectiveness of one-rod implants may decrease after 3 years, and the chance of pregnancy may
increase. If the implant is left longer than the recommended length of time, those women who do become pregnant are more likely to have an ectopic pregnancy.

**How long does removal take?**
The removal process usually takes 5–10 minutes, but may take longer if the rod(s) were not inserted correctly or are difficult to locate.

**FOLLOW-UP CARE**
The client does not need to return until the implant reaches the end of its effective life, unless she has decided to have the rods removed because she:

- Thinks she might be pregnant;
- Wants the implant removed for any reason;
- Wants to have a baby;
- Has any problems with the method that worry her;
- Wants to switch to another contraceptive method; or
- Has started any new medication that might decrease the effectiveness of the implants.

**In summary:**
As mentioned earlier, successful programs require well-trained staff who exhibit:

- Good clinical judgment in selecting acceptors;
- Care, sensitivity, and thoroughness in informing the user about common side effects and other problems;
- Skill in inserting and removing implants;
- Knowledge of and ability to recognize real or potential problems; and
- Capability to take appropriate clinical action in response to these problems, including knowing when (and where) to refer clients with serious problems.

**HELPING CONTINUING USERS**
As mentioned above, if clients are properly counseled and they know what to expect, the chances are good that they will use the contraceptive method for a longer time. It is important to ask the clients questions to see if they have understood the instructions and also to answer their questions. It should not be assumed that the clients understand everything they are told or that they do not have concerns when they remain silent.

Although no routine return visit is required until it is time to remove the implants, it may be necessary to see the client from time to time so she can have periodic health checkups or report on her experience with contraceptive implants. Particular attention should be paid to the client with prolonged bleeding (with or without anemia) because this may affect her daily life and increase the
chances of requests for removal. A thorough evaluation of the bleeding and treatment is important to the continuous use of contraceptive implants.

During an opportune visit, the following questions may asked: if the client is satisfied with the method; if there are concerns about bleeding changes; and if there are new health problems. Examples of new health problems that may require contraceptive implants to be switched with other contraceptive methods are unexplained vaginal bleeding and migraine headaches with aura.

Remember to review the client’s long-term plan including whether or not she wants to become pregnant in the future. A significant gain in weight may indicate that her implants should be replaced a year early.
CHAPTER 7: MANAGEMENT OF BLEEDING PROBLEMS AND OTHER SIDE EFFECTS

BACKGROUND
The most frequently reported side effect of contraceptive implants is a change in the menstrual bleeding pattern. Because the changes vary widely, the kind of change a particular client may experience cannot be predicted. If increased frequency of bleeding occurs, the quantity of blood lost is rarely enough to cause anemia, but there have been a few cases that required treatment with iron tablets. Fortunately, these bleeding problems gradually diminish over time, becoming less frequent and bothersome after 9–12 months.

Despite the fact that medical treatment for prolonged or irregular bleeding usually is not necessary, the inconvenience caused by more or less continual bleeding or spotting interferes with the daily and sexual life of women. Any treatment that can quickly and reliably stop the bleeding contributes to comfort and satisfaction of contraceptive implant users. Therefore, service providers should be sensitive to the importance of treating this problem if counseling and reassurance are not sufficient.

MANAGEMENT OF VAGINAL BLEEDING PROBLEMS
Irregular bleeding and prolonged spotting or bleeding (8 days or more) are common and expected in contraceptive implant users—over 65% experienced this during the first year. In addition, moderate menstrual bleeding more than twice as long as a normal menses occurs in 20–30% of implants users during the first 3–6 months. For a woman with prolonged spotting or moderate bleeding, the first approach should be counseling and reassurance. It should be explained that in the absence of other causes (e.g., cervicitis or cervical polyp), this type of bleeding is not harmful, even if prolonged for several weeks. Furthermore, these prolonged bleeding or spotting episodes typically become lighter and shorter in succeeding months.

If, after reassurance, the woman is still unhappy with the irregular bleeding, but wants to continue using implants, a short course (1–3 cycles) of COCs may be tried using:

- A low-dose COC (30–35 μg EE) once daily for 21 days

If COCs are not appropriate for personal or medical reasons, try:

- Ibuprofen (or another NSAID) up to 800 mg three times daily for 5 days

COCs control or stop bleeding by rebuilding the endometrium while ibuprofen, which blocks prostaglandin synthesis, decreases uterine contractions and blood flow to the endometrium. COCs, which also contain a progestin, are preferred over estrogens (either 20–50 μg EE or 1.25 mg conjugated estrogens) because they are more effective.

Heavy bleeding (twice as long or twice as much as normal) is very uncommon with contraceptive implants but usually can be managed with low-dose COCs (with or without ibuprofen).
If the bleeding is not reduced in 3–5 days or is much heavier (1–2 pads or cloths per hour):

- Determine whether there are other causes for the uterine bleeding.
- Give 2 low-dose COC pills per day for the remainder of the cycle (at least 3–7 days), followed by 1 cycle (1 pill per day) of COCs.
- Alternatively (if available), give a 50 μg EE-containing COC or 1.25 mg conjugated estrogen (Premarin) for 14–21 days.

**Note:** Check to be sure vaginal bleeding has decreased within 3 days.

If COCs or estrogens fail to correct the bleeding problem, the implants may need to be removed for medical reasons (excessive bleeding) or due to the client’s wishes.

Do not perform a dilation and curettage procedure unless another medical condition (e.g., endometrial polyp or incomplete abortion) is suspected. (If uterine evacuation is necessary, manual vacuum aspiration, not a dilation and curettage procedure, is the preferred method for emptying the uterine cavity.)

For anemia, give nutritional advice on the need to increase iron intake. Use oral iron treatment (one tablet containing at least 100 mg elemental iron, FeSO₄, daily for 1–3 months) if hemoglobin ≤ 9 g/dl or hematocrit ≤ 27.

**MANAGEMENT OF OTHER HEALTH PROBLEMS**

Clients may present with health problems that may or may not be method-related. The assessment and management of these problems are presented below.

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>ASSESSMENT</th>
<th>MANAGEMENT</th>
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<tbody>
<tr>
<td>Acne</td>
<td>Ask how and how often she cleans her face. Ask if she is currently under great stress.</td>
<td>In some women, use of implants can make acne worse. Recommend cleaning face twice a day and avoiding use of heavy facial creams. Counsel as appropriate. If condition is not tolerable, help client choose another (non-hormonal) method.</td>
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<td>PROBLEM</td>
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<td>Breast fullness or tenderness (mastalgia)</td>
<td>Check breasts for:</td>
<td>If physical examination shows lump or discharge suspicious for cancer (e.g., firm, non-tender, or fixed and does not change during menstrual cycle), refer to appropriate source for diagnosis. If no abnormality, reassure.</td>
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<td>• Lumps or cysts, and</td>
<td>If breast(s) is not infected, recommend a bra that provides additional support.</td>
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<td>• Discharge or galactorrhea (leakage of milk-like fluid), if not breastfeeding.</td>
<td>If breast infection, use warm compresses, advise to continue breastfeeding, and give antibiotics as appropriate.</td>
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<td>If she is breastfeeding and breast(s) is tender, examine for breast infection.</td>
<td>For any of the above conditions, do not remove rods/capsules unless client requests it after counseling.</td>
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<td>Chest pain (especially if it occurs with exercise)</td>
<td>Assess for possible cardiovascular disease (CVD). Also, check:</td>
<td>If evidence for CVD, refer for further evaluation. Low-dose progestins do not increase the risk of CVD; therefore, removal of implants is not necessary unless the client requests it.</td>
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<td>• Blood pressure (BP)</td>
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<td>• Heart for irregular beats (arrhythmias)</td>
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<tr>
<td>Depression (mood changes or loss of libido)</td>
<td>Discuss changes in mood or libido.</td>
<td>Depression or loss of libido may be associated with progestins; therefore, if the client thinks her depression has worsened while using implants, help her choose another method.</td>
</tr>
<tr>
<td>Excess hair growth (hirsutism) or hair loss</td>
<td>Review history, before and after insertion.</td>
<td>Pre-existing conditions such as excess facial or body hair might be worsened by use of implants. Changes usually are not excessive, may improve over time, and do not require rod/capsule removal unless client requests it after counseling.</td>
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<tr>
<td>Headache (especially with blurred vision)</td>
<td>Ask if there has been a change in pattern or severity of headaches since insertion of implants. Perform physical examination, measure BP. Examine as appropriate: • Eyes (fundoscopic) • Neurologic system</td>
<td>If headaches are mild, treat with analgesics and reassure. Re-evaluate after 1 month if mild headaches persist. If headaches have changed since starting implants (e.g., numbness or tingling accompanied by loss of speech, visual changes, or blurred vision), remove implants and help client choose another (non-hormonal) method.</td>
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<td>High BP (&gt; 160/100 mm Hg)</td>
<td>Ask if this is the first time anyone has told her that she has high BP.</td>
<td>Counsel client that a mild increase in BP (&lt; 160/100) does not require removal of implants unless she requests it. If requested, help the client choose another method. In addition, tell her that high BP usually goes away within 1–3 months. Take BP monthly to be sure it returns to normal. If after 3 months it has not returned to normal, refer for further evaluation.</td>
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<td></td>
<td>Ideally, ask the client to return in 24 hours and repeat BP reading.</td>
<td>If BP &gt; 160/100 or she has arterial vascular problems (e.g., heart attack, stroke, kidney failure, or retinopathy), the implants should be removed. Help her choose another method.</td>
</tr>
<tr>
<td></td>
<td>If unable to return, ask client to lie down and rest in a quiet area and then reassess BP in 30 minutes.</td>
<td></td>
</tr>
<tr>
<td>Rod/capsule coming out</td>
<td>Check for partial or complete expulsion of rod/capsule(s).</td>
<td>Remove partially expelled rod/capsule(s). Check to determine if remaining rod/capsule is in place.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>If area of insertion is not infected (no pain, heat, and redness), replace rod/capsule(s).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>If area of insertion is infected:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Remove remaining rod/capsules,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Insert a new set in the other arm, or</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Help the client choose another method.</td>
</tr>
<tr>
<td>Infection at insertion site</td>
<td>Check area of insertion for infection (pain, heat, and redness), pus, or abscess.</td>
<td>If infection (not abscess), wash area with soap and water and give appropriate oral antibiotic for 7 days.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Do not remove rods/capsules. Ask client to return after 1 week. If no improvement, remove rods/capsules and insert a new set in the other arm or help client choose another method.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>If abscess:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Prep with antiseptic.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Incise and drain.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Remove rods/capsules.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Perform daily wound care.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Give oral antibiotics for 7 days.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Insert new set in the other arm or help client choose another method.</td>
</tr>
<tr>
<td>PROBLEM</td>
<td>ASSESSMENT</td>
<td>MANAGEMENT</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>“Missing” rods/capsules</td>
<td>Usually due to rods/capsules being inserted too deep (not palpable) or, rarely, a rod/capsule spontaneously expelled and forgotten by the client.</td>
<td>Can be detected by sonography (or for Implanon NXT, by x-ray). If regular sonography is used, the focal length needs to be increased to about 15 cm to focus accurately. Rods/capsules are best seen in cross-section (transverse) as a shadow (echo-free area) underneath each rod/capsule. If both rods or all capsules are present, note this in the client’s chart. If removal will be difficult, an expert implants removal should be consulted.</td>
</tr>
<tr>
<td>Jaundice</td>
<td>Acute jaundice occurring after insertion is not method-related. Check for:</td>
<td>Limited studies suggest no significant elevation of liver enzymes. Further medical evaluation is recommended to rule out liver and/or gallbladder disease.</td>
</tr>
<tr>
<td></td>
<td>• Active liver disease (hepatitis)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Gall bladder disease</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Benign or malignant liver tumors</td>
<td></td>
</tr>
<tr>
<td>Nausea/Dizziness/</td>
<td>Check for pregnancy by checking symptoms, performing a pelvic examination</td>
<td>If not pregnant, reassure that this is not a serious problem(s) and usually disappears with time.</td>
</tr>
<tr>
<td>Vomiting</td>
<td>(speculum and bimanual), and a pregnancy test (if indicated and available).</td>
<td></td>
</tr>
<tr>
<td>Thromboembolic</td>
<td>Assess for active blood clotting problem.</td>
<td>Levonorgestrel implants do not increase the risk of blood clotting problems; therefore, remove rods/capsules only at client’s request. If there is strong evidence of blood clotting disorder, refer for further evaluation.</td>
</tr>
<tr>
<td>disorders (including</td>
<td></td>
<td></td>
</tr>
<tr>
<td>blood clots in legs,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>lungs, or eyes)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2 If using ultrasound or x-ray as a guide, remove the rod/capsules you could not palpate first so the other rod/capsules can be used as landmark(s).
CHAPTER 8: IMPLANT REMOVAL

BACKGROUND

Removal of contraceptive implants can be done at any time in the menstrual cycle. As has been stressed throughout other sections of this manual, correct insertion—with the implant rods placed subdermally and properly spaced—makes the removal procedure much easier.

While various levels of health workers (physicians, nurses, and midwives, etc.) can be trained to insert and remove contraceptive implants, a health worker skilled in removal should be consulted if difficulty in removing the rods is anticipated (difficulty in removing rods can be anticipated if the rods are not easily palpable, and likely inserted too deep). Health workers need to work gently, carefully, and patiently when removing the rods. As with insertion, use of the recommended infection prevention practices (see Chapter 4) is essential to minimize post-removal infections as well as the risk of disease transmission.

The material presented in this chapter is intended to reinforce practical training and to serve as a ready reference for any problems or questions. It cannot substitute for actual practice, which is absolutely necessary if a clinician is to become proficient in removing contraceptive implants.

WHEN TO REMOVE IMPLANTS AND COUNSELING

Before removing the rods, talk with the client about her reason for removal and answer any questions. Ask the client about her present reproductive goals (e.g., Does she want to continue spacing or limiting births? Is she hoping to become pregnant again?). If she wants to continue family planning, ask if she wants another contraceptive implant. Briefly describe the removal process and what she can expect both during the removal and afterward. See Chapter 2 for more guidance on counseling.

PREPARATION FOR REMOVAL

It is important that the instruments and other items have been sterilized or high-level disinfected (see Chapter 4 and Appendices D and E).

The following items are needed for removal (also pictured in Figure 8-1):
1. Examining table for the woman to lie on (optional)
2. Arm support or side table
3. Soap for washing the arm
4. Ballpoint pen or marker
5. Sterile (or clean), dry surgical drape
6. One bowl for antiseptic solution
7. Pair of sterile surgical gloves
8. Antiseptic solution
9. Local anesthetic (1% concentration without epinephrine)
10. Sterile syringe (5 or 10 ml) and 2.5–4 cm long needle (22-gauge)
11. Scalpel with #11 blade
12. 1 curved mosquito forceps and 1 Crile forceps
13. 1 tissue forceps (optional)
14. Ordinary Band-Aid or sterile gauze with surgical tape
15. Epinephrine for anaphylactic shock (readily available for emergency use)

**Figure 8-1. Equipment for Removal**

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**REMOVAL TECHNIQUE**

An easy removal depends on correct insertion. Routinely, removals take slightly longer than insertions—usually from 5–10 minutes. If the rod(s) are placed correctly—subdermally in the middle third of the upper arm—they will be easier to remove. If they are placed too deep (in the fascia muscle), removal could be difficult and could potentially damage the nerves or blood vessels in the neurovascular compartment.

Locate the rod(s) first with ungloved fingers. Mark the position of each rod with a marking pen. (When tissue swells after infiltration of the local anesthetic, these marks help identify the location of the rods.) Then, the client’s arm is swabbed with an antiseptic before the local anesthetic is injected. The anesthetic should be injected under the ends of the rods nearest the incision site; anesthetic applied over the rods makes them difficult to feel (palpate).

**Note:** If the rod(s) cannot be palpated, a provider inexperienced in removal should not begin the procedure. An experienced provider should be consulted.
REMOVAL PROCEDURE
Step-by-Step Instructions for Removal of Implant Rod(s)

1. Getting Ready

STEP 1.1: Before starting the procedure, check to be certain the client is not allergic to antiseptic solutions or local anesthetics.

STEP 1.2: Check to be sure the client has washed her entire arm with soap and water, and rinsed it thoroughly, being sure to remove all traces of soap. (Residual soap decreases the effectiveness of some antiseptics.) This step is particularly important when client hygiene is poor.

STEP 1.3: Help position the client on the table. Ask her to lie down on the table so that the arm with the rods rests on the table or arm support. Her arm should be well-supported and able to be comfortably extended straight or slightly bent, as the clinician prefers.

STEP 1.4: Place a clean, dry cloth under her arm.

STEP 1.5: Wash hands with soap and water and dry with clean towel or use alcohol rub.

STEP 1.6: Prepare the instrument tray by carefully opening the Implant Removal Kit. Arrange the instruments. Check that local anesthetic is 1% without epinephrine.

STEP 1.7: Locate the rod(s) by palpation (Figure 8-2). To gauge where to make the incision, palpate the ends of the rod(s) with bare (ungloved) fingers.

Figure 8-2. Location by Palpitation for One- or Two-Rod Implants

Tip: To make locating the rods easier, moisten fingertips with a small amount of soapy water or antiseptic solution. Doing this decreases friction between the clinician’s fingertips and the client’s skin and allows the rods to be more easily felt.
STEP 1.8: Confirm the position of each rod by making a mark at both ends of the rod(s) using a ballpoint or marking pen (Figure 8-3). If an antiseptic containing alcohol will be used to prep the arm, a pen with permanent ink must be used.

Figure 8-3. Marking the Skin over the Rod(s) for One- or Two-Rod implants

©Bayer Pharma AG, Germany

2. Removing the Implant(s)

STEP 2.1: Prepare the removal site with antiseptic by wiping in circular motion two times. Let dry for about 2 minutes. Where the incision will be made, drape with clean or sterile surgical drape such as an “eye sheet” or alternatively place a clean drape over the lower part of the arm.

STEP 2.2: At the marked incision site, anesthetize the area with up to 1 ml of 1% lidocaine at the marked site where the incision will be made (Figure 8-4). Be sure to inject the local anesthetic under the implant to keep it close to the skin surface.

Figure 8-4. Administration of Anesthetic

©Merck & Co., Inc., USA

STEP 2.3: Push down the proximal end of the implant (Figure 8-5) to stabilize it; a bulge may appear indicating the distal end of the implant. Starting at the distal tip of the implant, make a longitudinal incision of 2 mm long toward the elbow and deep enough to expose the rod. Note: Before making an incision, check that the anesthetic has taken effect by testing with a forceps tip.
STEP 2.4: Gently push the implant toward the incision until the tip is visible. Grasp the implant with forceps (preferably curved mosquito forceps) and gently remove the implant (Figure 8-6).

Figure 8-5. Stabilizing the Implant

©Merck & Co., Inc., USA

STEP 2.5: If the implant is encapsulated, use the forceps to gently grasp and stabilize the exposed but encapsulated rod, then make a small incision into the tissue sheath to expose the tip of the rod. With another set of curved mosquito forceps, grasp and gently remove the implant after releasing the first stabilizing forceps (Figures 8-7 and 8-8).

Figure 8-6. Grasping the Implant

©Merck & Co., Inc., USA

Figures 8-7 and 8-8. Incision and Removal of Implant

©Merck & Co., Inc., USA
©Merck & Co., Inc., USA
STEP 2.6: If the tip of the implant does not become visible in the incision, gently insert a forceps tip into the incision (Figure 8-9). Flip the forceps over into your other hand (Figure 8-10).

Figures 8-9 and 8-10. Insertion of Forceps

©Merck & Co., Inc., USA ©Merck & Co., Inc., USA

STEP 2.7: With a second pair of forceps, carefully dissect the tissue around the implant and grasp the implant (Figure 8-11). The implant can then be removed.

Figure 8-11. Dissecting Tissue and Grasping Implant

©Merck & Co., Inc., USA

STEP 2.8: Confirm that the entire implant, which is 4.0/4.3 cm long, has been removed by measuring its length. If a partial implant (less than 4.0/4.3 cm) is removed, the remaining piece should be removed.

STEP 2.9: If removing two-rod implants, repeat the procedure for the second rod.

If the client desires to continue contracepting with implants, see section below titled “Follow-On Contraception.” If not, continue on with the next section for “Covering the Incision.”

Covering the Incision

- Press down on the incision with a gauzed finger for a minute or so to stop any bleeding. Remove the drape.

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8 Two-rod implants are 4.3 cm, one-rod implants are 4 cm.
If the client does not want another implant, clean the area around the incision site with a small amount of sterile or high-level disinfected water or alcohol (“spirits”) applied to a cotton or gauze swab. Use gauze-covered fingers to hold the edges of the incision together briefly (10–15 seconds). This will help reduce bleeding from the incision.

Bring the edges of the incision together and close with a Band-Aid or surgical tape with sterile gauze or cotton. Sutures are not necessary and may increase scarring.

Check for any bleeding. Cover the insertion area with a dry piece of gauze (pressure dressing) and wrap gauze snugly around the arm to be sure there is no bleeding and to minimize the bruising (subcutaneous bleeding).

Waste Disposal and Decontamination

Before removing gloves, place instruments into a container filled with 0.5% chlorine solution for decontamination (see Appendix D for how to make a solution from household bleach). Fill syringe (with needle attached) with 0.5% chlorine solution and either place in solution or dispose of needle and syringe by placing in a puncture-proof container. Soak for 10 minutes. After soaking, rinse metal items immediately with clean water to avoid discoloration or corrosion.

If the scalpel blade will be discarded, remove the scalpel from the chlorine solution. Then take the blade off the scalpel using forceps and place it in a puncture-proof container.

The surgical drape (if used) must be washed and sterilized before reuse. Place in a dry, covered container and remove to the designated washing area.

While still wearing gloves, place all contaminated objects (gauze, cotton, and other waste items) in a properly marked, leak-proof container with a tight-fitting lid or in a plastic bag.

Immerse both gloved hands in 0.5% chlorine solution. Remove gloves by turning inside out.

If disposing of gloves, place in a leak-proof container or plastic bag.

If reusing surgical gloves, submerge them in the 0.5% chlorine solution for 10 minutes for decontamination.

Wash hands thoroughly with soap and water and dry with a clean, dry cloth or air dry.

All waste material should be disposed of by burning or burying.

Client Care

Place a note in the client’s record indicating the date of removal and specifying any unusual events that may have occurred during removal.

Instruct the client regarding wound care (see below) and make a return visit appointment, if needed.

Observe the client for at least 15–20 minutes. Check for excessive bleeding from the incision and ask how she feels before sending her home. She should be given written, post-removal care instructions if available and appropriate.
TIPS FOR SUCCESSFUL REMOVAL

- An easy removal depends on correct insertion. If the implant was placed correctly, it will be easier to remove. If placed too deep, problems can occur.

- Routine removals should take only slightly longer than insertions—usually from 5–10 minutes.

- Palpate the area to identify the location of each rod and mark the position of both rods with a pen.

- Use recommended infection prevention practices to avoid infections.

- Inject small amounts of the local anesthetic (usually not more than 1 ml total) under the rod ends nearest the original incision site. If anesthetic is applied over the rods, it will obscure them and make removal more difficult.

- If the rod(s) are positioned correctly, only one small incision (up to 4 mm) should be necessary for removal of both rods.

- If removing two-rod implants, remove the rod that is nearer the point of the incision or closer to the surface of the skin first.

- Add incremental amounts of anesthetic only under the rod ends.

- Control bleeding by applying pressure.

- If removal of one or both rods is difficult (i.e., the rod are not removed in 30 minutes), please see text below to address difficult removals.

- Finally, and most important, the clinician should work gently, carefully, and patiently to avoid injuring the client’s arm.

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Rods That Are Difficult to Remove

Occasionally the rods cannot be removed readily at the first visit. If removal of either rod is difficult (i.e., both rods are not removed within 30 minutes), it may be better to stop the procedure for the client’s comfort. In the event that one rod is left in the arm, the client should be provided with a backup contraceptive method. She should be asked to return when the area is fully healed (in about 4–6 weeks) and a second attempt can be made. Usually the remaining rod will be readily located and removed at the second visit.

**Remember:** The client should be given a backup contraceptive method to use while waiting to have the remaining rod removed if she does not wish to become pregnant.

Rods That Cannot Be Palpated

There are two ways to locate rods that have been inserted too deep to feel with the fingers: x-ray and ultrasound. By using a radiopaque object to mark the original incision site, the rods, which are also radiopaque, usually can be detected by x-ray (set at 50–55 kilovolts and 4–5 milliamperes, exposure time 0.03 seconds). Their depth usually cannot be determined by a single x-ray. Thus, further examination may be required to establish their exact location. With ultrasound, the image caused by the rods also can be detected (i.e., a shadow—echo-free area—will be present under each rod). Special adjustments (positioning of the ultrasound probe) may be necessary to focus the ultrasound image.

Rods That Are Broken

Removal of the rods is more difficult if they are broken during attempts to get them out. Once the rod is damaged, it may break again with each attempt to grasp it with the two-rod-holding or curved forceps.
Rarely, removal of a broken rod may require an additional incision at the proximal end of the rod (end nearer the shoulder) so that the remaining piece can be removed more easily. Because two-rod contraceptives are highly elastic and do not immediately return to their original length after being stretched, it may be difficult to determine if all pieces of a broken rod have been removed.

To remove remaining pieces of a broken rod through the original incision:
- Repalpate the arm to locate the missing piece(s),
- Inject more anesthesia if necessary, and
- Grasp the end of the rod with curved (mosquito or Crile) forceps and gently bring it into the incision.

**CLIENT INSTRUCTIONS FOR WOUND CARE AT HOME**

- Keep the area around the insertion site dry and clean for at least 48 hours. The incision could become infected if the area gets wet while the client is bathing.
- Leave the gauze pressure bandage in place for 48 hours and the Band-Aid or surgical tape in place until the incision heals (about 3–5 days).
- There may be bruising, swelling, or tenderness at the insertion site for a few days. This is normal.
- Routine work can be done immediately. Avoid bumping the area, carrying heavy loads, or applying unusual pressure to the site.
- After healing, the area can be touched and washed with normal pressure.

**Note:** Giving antibiotics before or after removal does not reduce the risk of infection and is not necessary.

- If signs of infection develop, such as inflammation (redness plus heat and increased tenderness) or pus at the site, or persistent arm pain for several days, return to the clinic.
- The fibrous tissue envelopes that surrounded the rods (tracks where the rods were located) may be felt for some time. This sensation will disappear within a few months.

If infection occurs, treat infections with appropriate therapy for local wound infections (see Chapter 6).

**FOLLOW-ON CONTRACEPTION**

If the client wants to continue using contraceptive implants, a new implant can be inserted at the time the current one is removed. The rod(s) may be placed through the incision used for removal and inserted in the same general direction as the previous set or rotated slightly to the left or right.

In the unlikely event that the removal site is unsuitable, or at the client’s request, the new set can be inserted in the other arm.
It’s important to consider infection prevention when removing and inserting follow-on implants. To reduce the risk of infection, after completing the removal procedure—including decontaminating instruments, gloves, and other items and disposing of waste materials:

- Cover the incision with a sterile gauze pad;
- Remove gloves and wash hands thoroughly with soap and water;
- Put on a new pair of sterile or high-level disinfected gloves;
- Prep the incision area again; and
- Put a drape on the arm (if required).

**Note:** Hands should be washed after removing gloves because the gloves may have invisible holes or tears. In this instance, washing hands protects the provider from any contact with blood.

Because the local anesthetic for removal is injected only in the incision area (i.e., under the ends of the rods), additional anesthetic is needed for an insertion. (See *Chapter 5*.)
CHAPTER 9: ORGANIZATION AND MANAGEMENT FOR HIGH-QUALITY SERVICES

BACKGROUND

Family planning services in many low-resource countries provide mostly short-term contraceptive methods including condoms, pills, and injectables. Long-acting and permanent contraceptives are often under-utilized and facilities may find introduction of these methods a daunting undertaking. Yet, contraceptive implants are often a great fit for women hoping to limit or space their pregnancies. If a facility is committed to introducing and sustaining high-quality contraceptive implant services, it will generate satisfied clients. The key elements of quality services for contraceptive methods in general also apply to implants. The training of providers in counseling, insertion, and removal of contraceptive implants, as well as the availability of commodities, is critical to the provision of high-quality services. These components need to be packaged into a service delivery model that meets a client’s needs and providers’ expectations. Effective service delivery models for the provision of implants can include routine provision through: private sector providers; the public sector; mobile outreach days; and, where applicable, Community Health Extension Workers.

Contraceptive implants can be provided in a number of settings, including at static facility sites and in mobile settings. In any setting, basic systems for service delivery must be strengthened to serve as a platform for the provision of quality services. It is important to ensure that the infrastructure is adequate, the human resources are appropriate and adequate, and that equipment, commodities, and supplies are always available. One critical element in setting up a family planning service is the monitoring of the activities. A forum should be established for providers, trainers, supervisors, and managers to interact. Regular supervision is essential in strengthening monitoring and evaluation and improving the quality of services provided. Managers should ensure that providers are involved in the exercise of recording product use and reordering contraceptive commodities and supplies needed for services. Therefore, managers should be involved in any training on implant provision and then supported to incorporate implant provision considerations into planning and monitoring.

Program managers should ensure that providers use a client-centered approach including proper counseling and management of side effects, especially bleeding. It is also important to ensure that providers are not overworked, and managers should support task shifting if it is the government’s policy.

ENSURING HIGH QUALITY OF FAMILY PLANNING SERVICES

The quality of family planning service provision is founded on considering the needs of clients, ensuring that a broad range of family planning methods is available, and providing complete and accurate information about all methods offered. Having these elements in place will empower the client to make an informed choice. Providers should be well-trained to provide the FP methods safely and effectively after counseling their clients. The assessment of family planning service quality should also include qualitative indicators of coverage, frequency, duration of services, and client satisfaction (gathered through exit interviews).
Key Elements of Quality Care

The quality and availability of FP services depend upon up-to-date, evidence-based national policies, guidelines, and standards. These policies, guidelines, and standards serve as tools for health care providers to offer consistently high-quality, client-sensitive professional services. In addition, the delivery of high-quality FP services requires a stable infrastructure that supports pre-service education and in-service training for routine public sector service provision. These systems, in turn, produce and sustain a strong health workforce. Emphasis on quality under other service delivery settings (via private sector providers, mobile settings, etc.) is also very important. In any setting, high-quality service respects the clients’ rights to information, access to service, and informed choice. The service should also guarantee safety, privacy, confidentiality, and continuity of care. Another key element of quality in the provision of contraceptive implant services is the clients’ access to removal of the implants when they desire it.

<table>
<thead>
<tr>
<th>Key considerations for training private sector providers:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Training should include a refresher on all methods to correct existing knowledge gaps and support high-quality counseling and strengthen the ability to provide a broad range of methods.</td>
</tr>
<tr>
<td>- Training should also cover IUD provision (for reasons covered above).</td>
</tr>
<tr>
<td>- Ensuring a sufficient caseload for training is crucial. Community demand generation to support ongoing caseloads helps increase provider confidence and competence.</td>
</tr>
<tr>
<td>- Providers should be left with the materials needed to provide services for long-acting and reversible contraceptive methods. Even a short time gap between training and provision of materials results in loss of confidence in providing services.</td>
</tr>
<tr>
<td>- Use of provider champions (those with high caseloads and competence) to support other private providers through peer networks is helpful—franchise network arrangements can support this.</td>
</tr>
</tbody>
</table>

Process for Implementing Quality Assurance

Once standards of care are developed, they must be implemented in a streamlined, systematic way—which involves identifying gaps between actual and desired performance and devising detailed action plans to address the gaps. The progress in closing these gaps is measured to guide the improvement process toward these standards, and their achievement should be rewarded.

Facilities may wish to implement Jhpiego’s Standards-Based Management and Recognition (SBM-R®) approach to quality improvement. SBM-R participants are encouraged to focus on simple interventions at first (“low-hanging fruit”) in order to achieve early results. This practice creates momentum for change and provides the team an opportunity to develop the change-management skills needed to address more complex problems.

In brief, the four steps of the SBM-R process are as follows:

- Setting objective performance standards for a defined service delivery process or specific content area—clear, simply worded standards with observable criteria are key to the success of SBM-R.
- Implementing the standards in a streamlined, systematic way—which involves identifying gaps between actual and desired performance and devising detailed action plans to address the gaps.
Measuring progress to guide the improvement process toward these standards—such ongoing measurements can serve to motivate the group or help inform improved action plans.

Rewarding achievement of standards through social/peer recognition mechanisms—this may be a public event or ceremony including symbolic rewards (e.g., certificates, plaques).

Experience has shown that results are best when SBM-R is coupled with creative management of the change process, as well as active involvement of providers, clients, and communities.

The Importance of Reporting

Monitoring and evaluation (M&E) of implants provision helps determine which approaches, sites, providers, and districts are performing effectively and which could benefit from refresher trainings, improved contraceptive supply, and improved supervision. The consistent feedback mechanism provided by effective M&E, including identifying gaps and successes, finding solutions, and replicating best practices, ensures that facilities or health managers can:

- Prioritize activities to ensure appropriate utilization of resources.
- Demonstrate the program’s effectiveness, coverage, and efficiency.
- Identify activities that can be scaled up.

Reporting implants use, in accordance with local record-keeping guidelines, is important for the success of a facility’s implants provision. In addition, facilities and managers should seriously consider reporting on reasons for implants removal. Whether a desired return to fertility, removal due to end of implant effective life, side effects, or otherwise, this information can suggest markedly different ways in which a facility or provider can improve their implant skills. For example, if a woman seeks removal due to negative side effects, this could mean that provider counseling skills need to be improved.

Data quality dimensions and their definitions:

**Accuracy:** (validity) – Data that are “correct” – data that measure what they are intended to measure, measure only the specific event they are intended to measure, and will capture changes.

**Reliability:** Data are reliable when they produce the same results when used more than once to measure the same event. The data are reliable because they are measured and collected consistently across providers and across sites.

**Precision/detail:** Data have sufficient detail and are operationally defined in clear terms.

**Timeliness:** Data are timely when they are up-to-date (current), and when the information is available on time and provides measurement at time intervals relevant and appropriate for program goals and activities (monthly reporting form, quarterly reports capturing data from previous months).

**Completeness:** The complete set of data from all units/eligible persons or sites is available and not just a fraction of the list.

**Feasibility:** Data are practical to collect and calculate.

**Integrity:** Data have integrity when the system used to generate them is protected from deliberate bias or manipulation for political or personal reasons.
SYSTEMICALLY ORGANIZING IMPLANTS SERVICES

Standard of Care
The evidence-based technical information and guidelines provided in this manual constitute an initial step for the development of standards for the provision of quality care. The guidelines are based on the WHO Medical Eligibility Criteria. Many low-resource countries have developed family planning service delivery policies and protocols. The policies address barriers such as age, parity, spousal consent, and marital status, although providers do not strictly adhere to them all the time. Contraceptive implants are included in some of the guidelines. The statements allow doctors, midwives, and nurses to provide implant services. A few countries have embraced task-shifting and allowed health extension workers also to provide contraceptive implants. The information in this reference manual should be adapted to meet the country’s needs and those of the clients. Contraceptive implant services can be provided at all levels of the health system, whether public or private, including mobile outreach to the community.

Facility
Any outpatient clinic or minor surgery room is a suitable area for insertion or removal of two-rod or one-rod implants. If possible, the room should be located away from heavily used areas of the clinic or hospital and should have the following:

- Adequate lighting
- Tile or concrete floors to make cleaning easier
- Sharps containers
- Freedom from dust and insects
- Good ventilation (If windows need to be open for ventilation, they should have tight-fitting screens.)
- A comfortable waiting room
- Adequate handwashing facilities including a supply of clean water
- A toilet or latrine
- A private space for counseling
- A cleaning area/utility room where instruments and reusable gloves can be cleaned and linen washed
- An area for sterilization (or high-level disinfection) instruments and other items and space for their storage
- A storage area for medical supplies; it should be cool, dry, secure, and well-ventilated
- An area for office work, maintenance and storage of records, and the storage of information materials

Providing Contraceptive Implants
- An effective referral system, particularly for women for whom pregnancy is contraindicated
- A space suitable for infection prevention practices, counseling, insertion and removal of contraceptive implants, and follow-up

Of course real-world field conditions can be very different, especially where resources are very limited. Many staff have devised creative ways to meet as many of these conditions as possible until more resources can be obtained. **It’s important to consider the quality of these items and service components, not just their presence.**

**Integration of Services**

The provision of contraceptive implant services should not be a stand-alone program but rather integrated within the existing family planning services and other areas in which it fits. If contraceptive implants are the prime contraceptive method being introduced, it is critical to ensure that other methods accompany the introduction of implants.

One of the core elements of high-quality family planning services is the provision of a balanced method mix of contraception options. It is also important to integrate the family planning services into other health services. Services commonly integrated with family planning include: postpartum care, postabortion care, cervical cancer screening, HIV counseling and testing, and child health care.

Program managers should ensure that there are no missed opportunities in taking family planning services to clients. For example, FP counseling should be integrated with antenatal care visits so as to capture the opportunity to speak to women who may soon be in need of spacing or limiting pregnancies. FP services can be integrated into postpartum care, including within the labor and delivery setting. For example, a woman can be provided a postpartum implant immediately after delivery. Where there are two separate providers of services (maternity and family planning), ensure that they are in sync with supporting PPFP and that FP commodities are located appropriately (e.g. within the labor and delivery suite in addition to their location within the FP room). Further into the postpartum period, managers may also see an opportunity to integrate FP service offerings with routine immunization settings, given that women often bring their infants for immunization at regular intervals after childbirth. In this scenario, it is again important that providers bee in sync with supporting PPFP.

**FOLLOW-UP, REFERRAL, AND RETURN FOR REMOVAL**

All clients who choose an FP method must be informed about the appropriate follow-up requirements and encouraged to return to the service provider if they have any concerns. Clients who require or choose a method that is not available at a facility must be advised where they can obtain the method. Providers should follow the established referral system.

The follow-up schedule depends on the clinic or program from which the woman receives two-rod or one-rod implants (also discussed in Chapter 6). Some clinics may ask the woman to return for periodic health checkups or to report on her experience with contraceptive implants. She should be encouraged to return to the clinic if she:

- Thinks she might be pregnant;
- Wants the two-rod or one-rod implants removed for any reason;
- Wants to have a baby;
- Has any problems with the method that worry her;
- Wants to switch to another contraceptive method;
- Is moving and needs the address of a clinic in her new area that provides two-rod or one-rod services; or
- Has started any new medications that might decrease the effectiveness of contraceptive implants (e.g., rifampin and most anti-epileptic drugs).

STAFFING

It is important to train a sufficient number of providers to ensure adequate delivery of routine services. The number will vary with the size of the facility. In some countries, there is a turnover of providers and this should be taken into consideration. Ensuring gender balance in staffing has been shown to increase the service uptake. A family planning service with adequate staff has the opportunity to establish flexible service hours and cope with heavy caseload. The various roles the staff can play include managing the clinic, conducting supervision, scheduling appointments, maintaining records, ensuring follow-up of clients, and collecting and reporting data. Depending on the size of the facility and the volume of clients, the number of staff may range from two to five persons.

IMPORTANCE OF DOCUMENTATION

Documentation is an important part of any contraceptive implants program. Tracking client use of contraceptive implants can assist in understanding the client landscape, identifying needs for follow-up, assessing current use of the method, and understanding what quantities need to be ordered for continued service delivery. Tracking the reasons for implants removal is particularly important, as there are a number of reasons a client may wish to remove the implants, each with differing implications for the facility or provider. For example, if clients are removing implants due to side effects, better counseling could be used to address their desire for removal.

Registers and logbooks will vary by location and facility. Please become familiar with the logbook used at your facility and ensure that you or the appropriate personnel are tracking contraceptive implants use as required.

COMMODITY

The UN Commission on Lifesaving Commodities for Woman and Children identified three underutilized contraceptive methods—long-acting implants, emergency contraception, and the female condom. The introduction of contraceptive implants in a country may require the registration of the product, and this may take a long time as some countries insist on conducting the quality control. In some instances, a waiver can be granted for WHO-authorized products (Jadelle, Implanon, Implanon NXT).
It is important to advocate and ensure that contraceptive implants are included in the national policies and in the budget lines for reproductive health commodities. It is essential to train managers in commodity management and the supply chain cycle of forecasting, procurement, and distribution. It is also important to train providers in ordering and monitoring of contraceptive commodities. At each level of the supply system, someone must be responsible for determining the quantity of supplies to be issued. Then, either the person at the lower or higher level makes the decision. When it is someone at the lower level, we mean that the personnel who receive the supplies are driving the stock. This is a “pull” system. The alternative, where a person at the higher level (for example, at the national level) sets the stocking decisions, is called a “push” system.

**RECORD KEEPING AND RESUPPLY**

One major challenge to family planning access is the lack of availability of contraceptive commodities, which in turn may be linked to recording keeping. The importance of good record keeping cannot be overstated. Data from the records will be useful for advocacy, accounting and transparency, forecasting, monitoring for program quality, and, most important, for knowing how much resupply is needed. Above all, data provide a way to control stock-outs. In case of two-rod and one-rod implants, good record keeping will provide information on management of adverse effects and appropriate time for removal.
APPENDIX A

FAMILY PLANNING COUNSELING GUIDELINES

Contents
Section One: Framework for Family Planning Counseling

   Helping Clients Get the Most from Counseling
   Who Should Counsel?
   Being a Good Counselor
   Counseling Process
   GATHER Counseling Technique
   Steps in Family Planning Counseling
   References

Section Two: How to Hold Group Discussions
SECTION ONE: FRAMEWORK FOR FAMILY PLANNING COUNSELING

HELPING CLIENTS GET THE MOST FROM COUNSELING

Counseling is a vital, though often poorly performed, component of family planning services that helps clients arrive at an informed choice of reproductive options, including pregnancy and contraceptive use. If the client chooses to use a contraceptive method, counseling also should help the client (or couple) select a method s/he is satisfied with and prepare her/him to use it safely and effectively.

Because information about how to use a contraceptive method may be new and sometimes difficult to understand, providers need to make it easy to remember. This can be a major challenge. Six key points in helping the client remember are:

- **Brevity**
  Ask the client what she already knows about family planning and specific contraceptive methods. This assists the provider in determining the information the client needs and ensures that the most important matters are emphasized.

- **First Things First**
  Give the most important instructions first, that is, what the client has to do to use the method effectively.

- **Simplicity**
  Use short sentences and simple words that clients understand. Avoid technical terms and scientific explanations.

- **Repetition**
  Repeat the most important information and instructions. Ask the client to repeat the instructions. If available (and appropriate), give the client printed material and remind her of the instructions.

- **Organization**
  Organize information into categories to make it easier to explain. Use memory aids such as acronyms to remind users of the important information they need to remember.

- **Specificity**
  Instructions should be specific and concrete rather than abstract and vague. For example, a vague instruction would be: “Jadelle is effective for several years.” The more helpful, specific instruction might be: “Jadelle is effective for up to 3 years. Then the rods should be removed. At the time of removal, either a new set can be inserted or another contraceptive method selected.”
WHO SHOULD COUNSEL?

Every health care worker who talks to women (or couples) about contraception should understand why counseling is important and the role it plays in increasing the user’s satisfaction with a family planning method. The provider’s sensitivity to the needs of clients is important, especially for provider-dependent methods such as contraceptive implants and IUDs. Because insertion and removal of these methods require medical personnel whose cultural backgrounds, social positions and, often, gender may distinguish them from their clients, special efforts must be made to ensure that clients make informed, free choices.

Even though only a few staff may be involved in providing family planning counseling, other staff probably will be curious about contraception. If they also are given information about available methods, they will be able to talk knowledgeably about family planning in the clinic and the community.

Remember: The more people who have accurate information about family planning methods, the less likely it is that incorrect rumors will develop and spread.

Good counseling of potential clients helps ensure that they will be satisfied and also reduces unnecessary returns to the clinic or discontinuation due to misunderstanding of the method. By taking the time to train staff to counsel effectively now, the program will benefit in the future.

BEING A GOOD COUNSELOR

A good counselor knows that it will take a few minutes to put the client (or couple) at ease so that she can talk about her beliefs and feelings about family planning. Taking time to do this will be cost-effective in the long run. For example, when counseling is done effectively, the client will be more satisfied with her choice and less likely to discontinue use after a short period of time.

A good counselor should provide information and reassurance to clients or couples so that they can make their own decisions about contraception and feel comfortable with their decisions. Sound knowledge and good communication skills are essential if the counselor is to discuss all available contraceptive methods adequately. These skills also help reduce method discontinuation due to ignorance or unnecessary anxiety.

The counselor must recognize the potential importance of the views of other members of a client’s family and should help the client deal with them. The counselor also should present the relevant information clearly and concisely. Overly technical information and academic language and jargon should be avoided. Questions, particularly about the negative aspects of the method, should be answered honestly.

A good family planning counselor:

- Encourages maximum participation and involvement by the client (or couple) and helps the client make her own decision.
Is an information giver, facilitator, and problem solver; suggests alternatives; helps the client to analyze and choose from known options; doesn’t prescribe solutions; and helps a client understand that she is making her own choice or decision.

Helps the client to reveal her personality and life situation rather than makes assumptions.

Determines the client’s fears, concerns, and other issues that could serve as barriers to effective learning.

**General Advice When Counseling**

- Clients may become embarrassed when discussing contraceptive methods. Try to set the tone of the visit in a low-key, non-pressured manner. Assure the client (or couple) that the conversation is confidential.
- Encourage the client to express her views by listening attentively and using nonverbal gestures, such as nodding, to encourage discussion.
- Be patient and never put pressure on the client to finish speaking.
- Use open-ended questions that require more than “yes” or “no” answers to increase the amount of information the woman gives to you.
- Be sensitive to any cultural and religious considerations and respect the client’s views.
- Repeat the most important information and instructions.
- Give the client written information (if available and appropriate) to remind her of instructions.
- Finally, ask the client to repeat back to you the key points to assure her understanding.

**Keys to Good Counseling**

A good counselor:
- Knows and respects the client’s rights.
- Listens attentively.
- Knows the benefits and limitations of all contraceptive methods.
- Encourages the client to ask questions and answers them objectively.
- Presents information in an unbiased, client-sensitive manner.
- Reinforces important information on side effects, warning signs, etc.
- Understands the cultural and emotional factors that affect a woman’s (or a couple’s) decision to use a particular family planning method.
- Lets the client or couple make their own decision.
- Recognizes when s/he cannot sufficiently help a client and refers the client to someone who can.
COUNSELING PROCESS

Counseling is an ongoing process that should be included in all aspects of family planning services. The medical and technical information important to effective counseling should not be presented and discussed at just one point in the provision of services. Rather, good counseling techniques should be applied and appropriate information provided and discussed in an interactive and culturally appropriate manner throughout the client’s visit.

Good counseling focuses on the individual’s needs and situation, and good counselors are willing to listen to the client’s questions and concerns. Counseling must be based on trust and respect between the client and the counselor.

Remember: All information exchanged in the counseling session should be treated confidentially.

Family planning counseling should enable a client to:

- Consider her reproductive goals;
- Make free, informed choices about family planning; and
- Understand how to use her method of choice safely and effectively.

Clients who have made an informed choice of a method are more likely to be satisfied with it. By talking about their positive experience, they become the most effective means of promoting it (Gallen, Lettenmaier, and Green 1987).

To counsel clients effectively, health care workers must be properly informed about the contraceptive methods offered and potential users must be able to make an informed choice from the methods available. Information should be given to aid client choice, not to persuade, press, or induce a person to use a particular method. Furthermore, the decision to refuse a method, like the decision to accept it, must be based on adequate information. This implies an understanding not only of the effectiveness of that method, but also of its limitations and the alternative choices available. To achieve this objective, all health care workers dealing with family planning clients should be trained in counseling techniques and develop good communication skills. In addition, appropriate educational materials must be produced for both literate and nonliterate clients (Gallen, Lettenmaier, and Green 1987).

In reviewing contraceptive alternatives with clients, all available methods should be discussed. Health care workers should be aware of a number of factors that may be important, depending on the method in question. These include:

- Reproductive goals of the woman (spacing or timing births);
- Subjective factors including the time, travel costs, pain, or discomfort likely to be experienced;
- Accessibility and availability of other products that may be needed to use the method;
- Benefits and limitations of the method;
- Reversibility;
Side effects and other problems; and

Need for protection against GTIs and other STIs, including HBV and HIV/AIDS.

GATHER COUNSELING TECHNIQUE

The GATHER system, outlined in Table A-1, is one method used to organize the elements of the counseling process (Gallen, Lettenmaier, and Green 1987; Lettenmaier and Gallen 1987). This acronym is designed to help staff remember important points in an effective counseling session. GATHER stands for:

G  Greet
A  Ask
T  Tell
H  Help
E  Explain
R  Return visit/Refer

Although GATHER is a useful technique for learning the elements of counseling, in practice counseling should be tailored to the individual circumstances and may follow a different sequence or technique.

Table A-1. The GATHER Technique

<table>
<thead>
<tr>
<th>STEPS</th>
<th>ACTIVITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>GREET the woman</td>
<td>Greet the woman (or couple) with a warm and personalized welcome. Spend a few minutes putting the woman at ease—this will encourage her to relax and reveal more information to you than she would if she were feeling tense and anxious. Many people, particularly the young, feel embarrassed about discussing their method of contraception.</td>
</tr>
<tr>
<td>ASK for information</td>
<td>Establish age, marital status, cultural orientation, and motivation for the visit without being judgmental or biased. Encourage the client to discuss any previous experiences of contraceptive methods. How did she find out about them? What did she particularly like or dislike about them? Collect basic medical information to ensure there are no reasons why she should not use a specific method.</td>
</tr>
<tr>
<td>TELL her about family planning</td>
<td>Be direct and specific and use simple words. Emphasize the most important points the woman needs to remember. Explain all available methods and how they are used. Use support materials such as pamphlets, brochures, and samples to emphasize points. Let her handle samples of different methods.</td>
</tr>
<tr>
<td>STEPS</td>
<td>ACTIVITIES</td>
</tr>
<tr>
<td>-------</td>
<td>------------</td>
</tr>
<tr>
<td>HELP her select a method</td>
<td>Inform the client of the characteristics, benefits, limitations, and side effects of each method. Explain that barrier methods may also be needed to protect against GTIs and other STIs, including HBV and HIV/AIDS. Do not decide for her; let the client choose the method. Give more details about the selected method and let the client repeat it back to you. After a method is selected, the service provider will confirm the suitability of the method by conducting the appropriate medical assessment. Once this is completed, the chosen contraceptive method is provided.</td>
</tr>
<tr>
<td>EXPLAIN how to use the method</td>
<td>Ask the client to repeat all instructions. Encourage her to ask questions or state any remaining concerns.</td>
</tr>
<tr>
<td>RETURN</td>
<td>Specific return visit instructions should be provided. Be sure the woman knows whom to contact if she has questions. Refer the client to an appropriate clinic for follow-up care as needed. For most women, a clinic near home is the best option.</td>
</tr>
</tbody>
</table>

Adapted from: Gallen, Lettenmaier, and Green 1987.

**STEPS IN FAMILY PLANNING COUNSELING**

In a practical sense, the elements of counseling fit into the three major phases of providing family planning services, namely: initial counseling at reception, individual counseling prior to service provision, and follow-up counseling. Counseling should, however, be part of every interaction with the client. Because information and counseling preferably may come from more than one source, clinic staff need to work as a team. In addition, staffing patterns as well as client load may require shifting counseling activities to other staff or locations to meet varying needs.

**Initial Counseling**

At the time of client reception, initial counseling (or education) may be provided by any clinic staff trained in family planning counseling. It is intended to provide the client with general information on all methods and other services offered by the clinic. Such education can be provided effectively in a group setting. Initial counseling helps the client identify an appropriate method for herself and her spouse. Counseling in waiting areas with individuals or groups provides:

- An explanation about what the client should expect during the clinic visit,
- Education about all available contraceptive methods,
- Information that can help clients decide which methods they are interested in,
- Education about the effectiveness of fully breastfeeding as a contraceptive method for clients up to 6 months postpartum, and
- Information that may help the client identify questions to ask the counselor on a one-to-one basis.

Guidelines for how to conduct group discussions can be found in Section Two of this Appendix.
Individual Counseling

Individual, method-specific counseling should take place in a private counseling area or an examination room. During this phase of counseling, the service provider should:

- Ask the client about her reproductive goals and assess her need for protection against GTIs and other STIs, including HBV and HIV/AIDS. This should help tailor the range of methods presented to her in more detail.
- Ask the client which method(s) interests her and what she knows about the method(s). This gives the service provider the opportunity to correct false rumors and misinformation, and to provide true information.
- Tell the client about and discuss in greater detail how the method(s) in which she is interested works, its effectiveness, benefits, and limitations.
- Help the client choose a method. Based on the client’s needs and history, the service provider should advise the client on the suitability of any method in which the client expresses an interest. This process leads to selection of a contraceptive.
- Advise the client on the possible need for further medical assessment depending on the method selected.

Note: At this time the service provider conducts any physical and laboratory investigations, if indicated, to confirm the suitability of the chosen contraceptive method.

After completing the client assessment, the selected contraceptive method is provided to the client. If it is not possible to start the method at this time, she should be given an alternative method or instructions on what to do in order not to become pregnant in the interim. If the method can be provided at this time, the service provider should:

- Explain simply and clearly how to use the method (or in the case of contraceptive implants or the IUD, explain how it will be inserted) and possible problems.

After Providing the Method:

- Discuss with the client the need for return visit(s). Depending on the method, emphasis should be placed on the continuing need for supplies and their availability, advice about side effects, detecting problems early (warning signs), and the availability of removal services for LNG implants and IUDs.
- Ask the client to repeat all instructions to be sure she understands them.

It is important for the service provider to recognize that:

- Clients are less likely to stop practicing family planning if they have frequent contact with providers.
- When appropriate reassurance is given, expected symptoms and minor side effects do not lead to discontinuation.
Frequent contact builds trust.

Regular return visits can allow providers to detect problems unnoticed by clients (e.g., early pregnancy).

**Follow-Up Counseling**

When clients return for follow-up visits, providers and counselors need to listen carefully and be prepared to answer any questions. Doing this can help a client accept any minor side effects or other problems that may occur.

The specific objectives of follow-up counseling are to:

- Review information provided previously.
- Find out whether the client is satisfied and wants to continue using the method.
- Make sure that the client is using the method correctly and repeat instructions for use, if appropriate.
- Talk to her about the need for protection against GTIs and other STIs, including HBV and HIV/AIDS.
- Answer the client’s questions.
- Reassure and treat minor side effects (if possible).
- Check for any medical problems and refer for evaluation if necessary.
- Help the client switch methods or stop a method if she desires.
SECTION TWO: HOW TO HOLD GROUP DISCUSSIONS

Hold group discussions to:

- Give information about family planning methods to more than one person at a time, which saves time.
- Help people share their own experiences and support one another in their family planning decisions.
- Give information that may provide answers to questions some people may be too shy to ask.

When to hold group discussions:

- While clients wait in clinics
- When community groups meet in schools, clubs, and other places

Suggestions for leading group discussions:

- Choose a quiet place with enough space. Avoid places where many people are coming and going.
- Limit groups to 10 or fewer if possible. It is desirable that someone not in the group look after the children.
- Seat group members in a circle and sit with them.
- Introduce yourself and explain the subject of the discussion.
- Help group members feel at ease. This may be done by playing a short game or by asking group members to introduce themselves.
- Start the discussion by presenting clear information. For example, if the purpose of the discussion is to talk about family planning methods, begin by briefly describing the methods.
- Use words that everyone in the group can understand.
- Show samples of family planning supplies when you talk about them. Let group members hold them and look at them.
- Use flipcharts, diagrams, or posters to help show important points.
- Ask many questions. Ask them in a gentle way. Encourage group members to talk with each other about the questions.
- Encourage group members to ask questions.
- Ask group members to tell about their own experiences with family planning.
- Summarize important points during the discussion and again at the end.
## Checklist for Screening Clients Who Want to Initiate Contraceptive Implants

To determine if the client is medically eligible to use implants, ask questions 1–6. As soon as the client answers YES to any question, stop, and follow the instructions after question 6.

<table>
<thead>
<tr>
<th>NO</th>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO</td>
<td>1. Have you ever been told you have breast cancer?</td>
<td>YES</td>
</tr>
<tr>
<td>NO</td>
<td>2. Do you currently have a blood clot in your legs or lungs?</td>
<td>YES</td>
</tr>
<tr>
<td>NO</td>
<td>3. Do you have a serious liver disease or jaundice (yellow skin or eyes)?</td>
<td>YES</td>
</tr>
<tr>
<td>NO</td>
<td>4. Have you ever been told that you have a rheumatic disease, such as lupus?</td>
<td>YES</td>
</tr>
<tr>
<td>NO</td>
<td>5. Do you have bleeding between menstrual periods, which is unusual for you, or bleeding after intercourse (sex)?</td>
<td>YES</td>
</tr>
<tr>
<td>NO</td>
<td>6. Are you currently breastfeeding a baby less than 6 weeks old?</td>
<td>YES</td>
</tr>
</tbody>
</table>

If the client answered NO to all of questions 1–6, she can use implants. Proceed to questions 7–12.

Ask questions 7–12 to be reasonably sure that the client is not pregnant. As soon as the client answers YES to any question, stop, and follow the instructions after question 12.

<table>
<thead>
<tr>
<th>YES</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>7. Did your last menstrual period start within the past 7 days?</td>
</tr>
<tr>
<td>YES</td>
<td>8. Did you have a baby less than 6 months ago, are you fully or nearly-fully breastfeeding, and have you had no menstrual period since then?</td>
</tr>
<tr>
<td>YES</td>
<td>9. Have you abstained from sexual intercourse since your last menstrual period or delivery?</td>
</tr>
<tr>
<td>YES</td>
<td>10. Have you had a baby in the last 4 weeks?</td>
</tr>
<tr>
<td>YES</td>
<td>11. Have you had a miscarriage or abortion in the last 7 days?</td>
</tr>
<tr>
<td>YES</td>
<td>12. Have you been using a reliable contraceptive method consistently and correctly?</td>
</tr>
</tbody>
</table>

If the client answered YES to at least one of questions 7–12 and she is free of signs or symptoms of pregnancy, you can be reasonably sure that she is not pregnant. The client can have implants inserted now.

- If the client began her last menstrual period within the past 7 days (5 days for Implanon), she can have implants inserted now. No additional contraceptive protection is needed.

If the client answered NO to all of questions 7–12, pregnancy cannot be ruled out. She must use a pregnancy test or wait until her next menstrual period to have implants inserted.

- Give her condoms to use in the meantime.

If the client began her last menstrual period more than 7 days ago (5 days for Implanon), she can have implants inserted now, but instruct her that she must use condoms or abstain from sex for the next 7 days. Give her condoms to use for the next 7 days.
FHI 360’s updated “Quick Reference Chart for the WHO Medical Eligibility Criteria for Contraceptive Use” will be inserted here once it has been amended to reflect the new 2015 Medical Eligibility Criteria.

Please check back occasionally at: http://reprolineplus.org/resources/implants-LRP for an updated reference manual containing this tool.
APPENDIX D

INFECTION PREVENTION PROCESSES FOR HANDLING SURGICAL INSTRUMENTS, GLOVES, AND OTHER ITEMS

The three basic steps for processing instruments, gloves, and other items or metal instruments used during contraceptive implant insertion and removal are:

- Decontamination,
- Cleaning, and either
- Sterilization or high-level disinfection (HLD).

Details on how to process instruments, gloves, and other items for reuse are provided in this appendix. (See Appendix E for the specific steps in decontaminating and cleaning instruments, needles and syringes, and linens.)

The sequence for performing each of these processes are summarized in Tables D-1 and D-2.

### Table D-1. Infection Prevention Guidelines for Processing Instruments, Gloves, and Other Items

| STEP 1: | After completing either insertion or removal of contraceptive implant rods, and while still wearing gloves, dispose of contaminated objects (gauze, cotton, and other waste items) in a properly marked leak-proof container (with a tight-fitting lid) or plastic bag. |
| STEP 2: | Fully submerge all metal instruments in a plastic container filled with a 0.5% chlorine solution for 10 minutes before allowing staff and cleaning personnel to handle or clean them. Before submerging assembled needles and syringes, fill with chlorine solution. (This step is necessary to help prevent transmission of HBV and HIV/AIDS to clinic staff.) |
| STEP 3: | If using disposable needles and syringes, remove from decontamination solution and place in a puncture-proof container. If reprocessing syringe only (the recommended practice) or both needle and syringe, flush solution from syringe. Carefully remove needle from syringe and either place the needle in a puncture-proof container for disposal or clean as described below. |
| STEP 4: | All surfaces (such as the procedure table or instrument stand) that could have been contaminated by blood or other body fluids also should be decontaminated by wiping down with chlorine solution. |
| STEP 5: | Immerse both gloved hands in the bucket containing 0.5% chlorine solution and then carefully remove gloves by turning them inside out. If disposing of gloves, place them in the leak-proof container or plastic bag. If the gloves will be reused, submerge them in the chlorine solution for 10 minutes for decontamination. |

## WASTE DISPOSAL AND DECONTAMINATION

### CLEANING AND RINSING

<table>
<thead>
<tr>
<th>STEP 6:</th>
<th>After decontamination, thoroughly clean instruments with water, liquid soap or detergent, and a soft brush, taking care to clean all teeth, joints, and surfaces. Rinse well after cleaning to remove all soap or detergent (some detergents can render chemical disinfectants inert). Dry instruments before further processing. Surgical drapes should be washed with liquid soap or detergent and water, rinsed with clean water and dried by air or machine.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>STEP 7:</th>
<th>Wash syringe (and needle) in soapy water and rinse (three times) with clean water. If processing needle, be sure to clean hub area of needle. Put syringe and needle back together and rinse by flushing (three times) with clean water. Detach needle from syringe and examine for damage. Dispose of damaged needles in puncture-proof container.</th>
</tr>
</thead>
</table>

### STERILIZATION

Instruments, surgical gloves, syringes (and needles if reused), and surgical drapes (if used) should be sterilized by autoclaving. If necessary, metal instruments and glass syringes can be sterilized using dry heat.

**Steam sterilization:** 121° C (250° F) at 106 kPa (15 lb/in²) pressure for 20 minutes for unwrapped items; 30 minutes for wrapped items. Allow all items to dry thoroughly before removing.

**Dry heat:**
- 170° C (340° F) for 60 minutes (total cycle time—placing instruments in oven, heating to 170° C, timing for 1 hour, and then cooling—is from 2 to 2½ hours), or
- 160° C (320° F) for 2 hours (total cycle time is from 3 to 3½ hours).

**Note:** Dry heat sterilization (170° C for 60 minutes) can be used only for metal or glass instruments.

**Storage:** Unwrapped instruments must be used immediately or stored in dry, sterile containers (1 week only). Wrapped instruments, gloves and drapes can be stored for up to 1 week if the package remains dry and intact and for up to 1 month if sealed in a plastic bag.

### HIGH-LEVEL DISINFECTION

High-level disinfection by boiling, steaming, or using of chemicals is recommended if sterilization is not possible. Surgical (metal) instruments, syringes (and needles if reused), and surgical gloves should be steamed or boiled for 20 minutes and allowed to dry. Alternatively, instruments can be soaked for 20 minutes in 2–4% glutaraldehyde, 8% formaldehyde, or 0.1% chlorine solution prepared with boiled water, thoroughly rinsed in boiled water, and air dried. Use immediately or store for up to 1 week in a clean, dry, high-level disinfected container with a tight-fitting lid or cover.
Table D-2. Steps in Processing Surgical Instruments, Gloves, and Other Items

<table>
<thead>
<tr>
<th>INSTRUMENTS/ITEMS</th>
<th>PROCESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decontamination</td>
<td><strong>Decontamination</strong> is the first step in handling used items; it reduces risk of HBV and HIV/AIDS.</td>
</tr>
<tr>
<td>Cleaning</td>
<td><strong>Cleaning</strong> removes all visible blood, body fluids, and dirt.</td>
</tr>
<tr>
<td>Sterilization*</td>
<td><strong>Sterilization</strong> destroys all microorganisms, including endospores.</td>
</tr>
<tr>
<td>High-Level Disinfection</td>
<td><strong>High-Level Disinfection</strong> destroys all viruses, bacteria, parasites, fungi, and some endospores.</td>
</tr>
<tr>
<td>Procedure table top, or other large surface areas</td>
<td>Wipe off with 0.5% chlorine solution. Wipe with liquid soap or detergent and water if organic material remains after decontamination. Not necessary Not necessary</td>
</tr>
<tr>
<td>Surgical drapes</td>
<td>Wash with liquid soap or detergent and water. Rinse with clean water; air or machine dry. Autoclave at 121° C (250° F) and 106 kPa (15 lb/in²) for 30 minutes. Not practical</td>
</tr>
<tr>
<td>Surgical gloves</td>
<td>Soak in 0.5% chlorine solution for 10 minutes prior to cleaning. Rinse or wash immediately. Wash with liquid soap or detergent and water. Rinse with clean water; check for holes. If they will be sterilized, dry inside and out (air or towel dry) and package. Preferable: Autoclave at 121° C (250° F) and 106 kPa (15 lb/in²) for 30 minutes. Acceptable: Steam or boil as for surgical gloves. Chemically high-level disinfect by soaking for 20 minutes. Rinse well with boiled water and air dry before use or storage.</td>
</tr>
<tr>
<td>Surgical instruments</td>
<td>Soak in 0.5% chlorine solution for 10 minutes prior to cleaning. Rinse or wash immediately. Using a brush, wash with liquid soap or detergent and water. Rinse with clean water. If they will be sterilized, air or towel dry. Preferable: Dry heat for 1 hour after reaching 170° C (340° F), or Autoclave at 121° C (250° F) and 106 kPa (15 lb/in²) for 20 minutes if unwrapped, 30 minutes if wrapped. For sharp instruments: Dry heat for 2 hours after reaching 160° C (320° F). Acceptable: Steam or boil as for surgical gloves.</td>
</tr>
<tr>
<td>INSTRUMENTS/ITEMS</td>
<td>Decontamination is the first step in handling used items; it reduces risk of HBV and HIV/AIDS.</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Hypodermic needles and syringes</td>
<td>Fill assembled needle and syringe with 0.5% chlorine solution. Flush (x3) and either dispose of syringe, or soak for 10 minutes prior to cleaning. Rinse by flushing (x3) with clean water.</td>
</tr>
<tr>
<td>Storage containers for instruments</td>
<td>Soak in 0.5% chlorine solution for 10 minutes prior to cleaning. Rinse or wash immediately.</td>
</tr>
<tr>
<td>Contraceptive implant rods (never reuse)</td>
<td>Not necessary</td>
</tr>
</tbody>
</table>

*a* If unwrapped, use immediately; if wrapped, may be stored up to 1 week prior to use.

*b* Avoid prolonged exposure (> 20 minutes) to chlorine solution to minimize discoloration and corrosion of instruments and deterioration of rubber or cloth products.

*c* Instruments with cutting edges (e.g., scalpels and trocars) and needles should not be sterilized at temperatures above 160° C to avoid dulling them.

*Adapted from: Perkins 1983.*
DECONTAMINATION

Decontamination makes objects safer to be handled by staff before cleaning. It is the first step in handling soiled surgical instruments and other items. It is important to decontaminate instruments and items that may have been in contact with blood or body fluids. Immediately after use, place instruments and other items in a 0.5% chlorine solution for 10 minutes. This step rapidly inactivates HBV and HIV and makes items safer to handle by personnel who clean them.

Making Dilute Chlorine Solutions

The World Health Organization (WHO) recommends 0.5% chlorine solution for decontaminating instruments before cleaning or when potable water is not available for making the solution (WHO 1989). For HLD, a 0.1% solution is satisfactory, provided boiled water is used for dilution.

Table D-3 describes how to make 0.5% and 0.1% chlorine solutions using commercially available liquid bleach products. The general formula for making a dilute solution from a commercial preparation of any concentration is shown in Figure D-1.

Table D-3. Preparing Dilute Chlorine Solutions from Liquid Bleach (Sodium Hypochlorite Solution) for Decontamination and HLD

<table>
<thead>
<tr>
<th>TYPE OR BRAND OF BLEACH (COUNTRY)</th>
<th>CHLORINE % AVAILABLE</th>
<th>PARTS WATER TO 1 PART BLEACHa</th>
<th>0.5%</th>
<th>0.1%b</th>
</tr>
</thead>
<tbody>
<tr>
<td>JIK (Kenya), Robin Bleach (Nepal)</td>
<td>3.5%</td>
<td>6</td>
<td>34</td>
<td></td>
</tr>
<tr>
<td>Household bleach (USA, Indonesia), ACE (Turkey), Eau de Javal (France) (15 chlorum), Lejia (Peru)</td>
<td>5%</td>
<td>9</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td>Blanquedor, Cloro (Mexico)</td>
<td>6%</td>
<td>11</td>
<td>59</td>
<td></td>
</tr>
<tr>
<td>Lavandina (Bolivia)</td>
<td>8%</td>
<td>15</td>
<td>79</td>
<td></td>
</tr>
<tr>
<td>Chloros (UK)</td>
<td>10%</td>
<td>19</td>
<td>99</td>
<td></td>
</tr>
<tr>
<td>Chloros (UK), Extrait de Javel (France) (48° chlorum)c</td>
<td>15%</td>
<td>29</td>
<td>149</td>
<td></td>
</tr>
</tbody>
</table>

a Read as one part (e.g., cup or glass) concentrated bleach to x parts water (e.g., JIK (0.5% solution)—mix 1 cup bleach with 6 cups water for a total of 7 cups).
b Use boiled water when preparing a 0.1% chlorine solution for HLD because tap water contains microscopic organic matter that inactivates chlorine.
c In some countries, the concentration of sodium hypochlorite is expressed in chlorometric degrees (chlorum); one chlorum is approximately equivalent to 0.3% available chlorine.
Figure D-1. Formula for Making Dilute Chlorine Solution from Concentrated Solution

**STEPS**
- Determine concentration (% concentrate) of the chlorine solution you are using.
- Determine total parts water needed (use formula below or Table C-3).

\[
\text{Total Parts (TP) water} = \left[ \frac{\% \text{ Concentrate}}{\% \text{ Dilute}} \right] - 1
\]

- Mix 1 part bleach with the total parts water.

**Example:** Make a dilute solution (0.5%) from 5% concentrated solution.

**STEP 1:** Calculate TP water:

\[
\left[ \frac{5.0\%}{0.5\%} \right] - 1 = 10 - 1 = 9
\]

**STEP 2:** Take 1 part concentrated solution and add to 9 parts water.

The approximate amounts (grams) needed to make 0.5% and 0.1% chlorine-releasing solutions from several commercially available compounds (dry powders) are listed in Table D-4. The formula for making a dilute solution from a powder of any percent available chlorine is listed in Figure D-2.

**Table D-4. Preparing Dilute Chlorine Solution from Dry Powder**

<table>
<thead>
<tr>
<th>AVAILABLE CHLORINE REQUIRED</th>
<th>GRAMS PER LITER OF WATER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.5%</td>
</tr>
<tr>
<td>Calcium hypochlorite (70% available chlorine)</td>
<td>7.1</td>
</tr>
<tr>
<td>Calcium hypochlorite (35% available chlorine)</td>
<td>14.2</td>
</tr>
<tr>
<td>NaDCC (60% available chlorine)</td>
<td>8.3</td>
</tr>
<tr>
<td>Chloramine (25% available chlorine)</td>
<td>20</td>
</tr>
<tr>
<td>NaDCC-based tablets (1.5 g of available chlorine per tablet)</td>
<td>4 tablets/liter</td>
</tr>
</tbody>
</table>

\(^a\) Use **boiled** water when preparing a 0.1% chlorine solution for HLD because tap water contains microscopic organic matter that inactivates chlorine.

*Adapted from: World Health Organization 1989.*
Figure D-2. Formula for Making Dilute Chlorine Solution from Dry Powder

<table>
<thead>
<tr>
<th>STEPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Determine concentration (% concentrate) of the powder you are using.</td>
</tr>
<tr>
<td>• Determine grams bleach needed (use formula below or Table D-4).</td>
</tr>
<tr>
<td>• Mix measured amount of bleach powder with 1 liter of water.</td>
</tr>
</tbody>
</table>

**Example:** Make a dilute chlorine solution (0.5%) from a dry powder (35%).

**STEP 1:** Calculate grams/liter: \[
\frac{0.5\%}{35\%} \times 1000 = 14.2 \text{ g / L}
\]

**STEP 2:** Add 14.2 grams (0.14 g) to 1 liter of water.

If items cannot be cleaned immediately after decontamination, rinse with cool water to prevent discoloration and corrosion (rusting) and to remove visible organic material. Personnel should wear gloves while handling soiled instruments, even after decontamination. Inexpensive utility gloves work well for this.

Surfaces (especially procedure tables) that may have come in contact with body fluids should also be decontaminated. Wiping with a suitable disinfectant such as a 0.5% chlorine solution before reuse, when visibly contaminated, or at least daily, is an easy, inexpensive way to decontaminate large surfaces.

**CLEANING**

Cleaning is a crucial step in providing safe, infection-free equipment and instruments. A thorough cleaning with water and liquid soap or detergent physically removes organic material such as blood and body fluids. Dried organic material can trap microorganisms in a residue that protects them against sterilization or HLD. Organic matter also can partially inactivate disinfectants, rendering them less effective (Porter 1987).

Utility gloves should be worn while cleaning instruments and equipment. Discard gloves if torn or damaged; otherwise, clean and leave to dry at the end of the day for use the following day. In addition to wearing gloves, health care workers must take extreme care to prevent needle sticks or cuts.

If available, protective glasses, plastic visors, or goggles should be worn while cleaning instruments and other items. This protects staff from splashing contaminated water into their eyes.

Clean instruments with a brush (old toothbrushes work well) and soapy water. Give special attention to instruments with teeth, joints, or screws where organic material can collect. After cleaning, rinse items thoroughly with water to remove detergent residue that can interfere with chemical disinfection.
If either hypodermic syringes (or needles and syringes) are being reused, disassemble only after decontaminating; then wash with soapy water, paying special attention to the hub area. Rinse at least three times with clean water, expelling the water through the needle into another container so as not to contaminate the rinse water, and dry.

**STERILIZATION**

Instruments and other items, such as needles or scalpels, that come into direct contact with tissues beneath the skin, which normally are sterile, should be sterilized after first being decontaminated and thoroughly cleaned, rinsed and dried. The sterilization process destroys all microorganisms, including bacterial endospores. Bacterial endospores are particularly difficult to kill because of their tough coating. (Bacteria that form endospores include *clostridia tetani*, which causes tetanus.) Sterilization can be achieved by autoclave (high-pressure steam), dry heat, or chemicals (“cold sterilization”).

**Heat Sterilization**

High-pressure saturated steam (autoclaving) or dry heat (by hot air oven) are the most readily available methods used for sterilization. Steam sterilization generally is the method of choice for instruments and other items used in family planning and health care facilities. Where electricity is a problem, instruments can be sterilized in a nonelectric steam autoclave using kerosene as a heat source.

**Remember:** When instruments and equipment are steam sterilized, it is essential that steam reach all surfaces; autoclaving closed containers will sterilize only the outside of the containers!

**Dry-heat sterilizers** are good in humid climates but need a constant supply of electricity, making them impractical in many remote (rural) areas. Furthermore, dry-heat sterilization can be used only with glass or metal objects—other substances, such as plastic and rubber, will melt and could burn. (Needles and other instruments with cutting edges should be dry-heat sterilized at temperatures not higher than 160° C/320° F; otherwise, the sharpness of the cutting edges will be destroyed.) The standard conditions for sterilization by steam or dry heat are shown below.

**Standard Conditions for Heat Sterilization**

**Steam sterilization:** Temperature should be 121° C (250° F); pressure should be 106 kPa (15 lb/in²); 20 minutes for unwrapped items; 30 minutes for wrapped items. Allow all items to dry before removing.

**Note:** Pressure settings (kPa or lbs/in²) may vary slightly depending on sterilizer used. Whenever possible follow manufacturer’s recommendations.

**Dry heat:** 170° C (340° F) for 1 hour (total cycle time—placing instruments in oven, heating to 170° C timing for 1 hour, and then cooling—is from 2 to 2½ hours) or 160° C (320° F) for 2 hours (total cycle time is from 3 to 3½ hours).
Sterile instruments should be used immediately unless they:

- Have been wrapped in a double layer of muslin, paper, or other appropriate material prior to steam sterilization; or
- Can be stored in a dry, sterile container with a tight-fitting lid.

The material used for wrapping instruments must be porous enough to let steam through but tightly woven enough to protect against dust particles and microorganisms.

Wrapped sterile instruments have a shelf life of up to 1 week, but only if the packaging is kept dry and intact (Perkins 1983). Placing a wrapped pack in a sealed plastic bag will increase its shelf life to 1 month. All packs and sterile containers should be labeled with an expiration date.

**Chemical Sterilization**

An alternative to steam or dry-heat sterilization is chemical sterilization by soaking for 8 to 10 hours in a 2–4% glutaraldehyde or at least 24 hours in an 8% formaldehyde solution. Glutaraldehydes, such as Cidex®, often are in short supply and expensive, but they and formaldehyde are the only practical liquid sterilants usable for instruments, such as laparoscopes, which cannot be heated. Because glutaraldehydes and formaldehyde require special handling and leave a residue on treated instruments, rinsing with sterile water (which can be prepared only by autoclaving) is preferable. (Because boiling does not inactivate some endospores reliably, using boiled water can contaminate sterile instruments.)

Although formaldehyde is less expensive than glutaraldehyde, it is more irritating to the skin, eyes, and respiratory tract. When using either formaldehyde or glutaraldehyde, gloves should be worn, eyes should be protected, exposure time limited, and both chemicals used only in a well-ventilated area.

**Note:** Chemical sterilization of needles and syringes is not recommended because chemical residues may remain even with repeated rinsing with sterile water. These residues can interfere with the actions of the drug being injected.

**HIGH-LEVEL DISINFECTION**

When sterilization equipment is neither available nor suitable, HLD is the only acceptable alternative. High-level disinfection destroys all microorganisms, including viruses causing hepatitis B and AIDS, but does not reliably kill all bacterial endospores. High-level disinfection can be achieved by boiling in water, steaming, or soaking in chemical disinfectants such as 0.1% chlorine, 2–4% glutaraldehyde, or 8% formaldehyde. Because boiling and steaming require only inexpensive equipment, which usually is readily available, they are the preferred methods for small clinics or those located in remote areas. Regardless of the method selected, however, HLD is effective only when instruments and other items first are decontaminated and then thoroughly cleaned and rinsed before HLD.
Moist heat at 80° C kills essentially all bacteria, viruses, parasites, and fungi in 20 minutes. Unless the altitude of the health facility is over 5,500 meters (18,000 feet), it is not necessary to increase the steaming or boiling time (Favero 1985).

**High-Level Disinfection by Boiling**

Open or take apart all instruments and other items. Submerge in water and cover pan. Boil for 20 minutes. Timing should begin when the water is at a rolling (bubbling) boil and all items should be totally under the water. Nothing should be added to the container after the water begins to boil. After boiling for 20 minutes, remove boiled items using high-level disinfected forceps, place in a high-level disinfected container, and allow to cool and air dry.

Use instruments and other items immediately or leave in a covered, dry, high-level disinfected container. (The container used for drying the instruments can be used for storage only if there is no water in the bottom of the container.) Store for up to 1 week.

**Boiling Tips**

- Always steam or boil for 20 minutes using a pot with a lid.
- Start timing when the water begins to boil.
- Items should be covered completely with water.
- Do not add anything to the pot after the water begins to boil.

**High-Level Disinfection by Steaming**

Steaming surgical gloves has been used as the final step in processing gloves for many years in Indonesia and other parts of South East Asia. In 1994 a study by McIntosh et al. confirmed the effectiveness of this process.

In this study, the steamer used (Figure D-3) consisted of:

- A bottom pan (approximately 31 cm in diameter) for boiling water;
- One, two, or three circular pans with multiple, 0.5 cm (diameter) holes in their bottoms to permit the passage of steam up through them and water back down to the bottom pan; and
- A lid that fits on the top pan.

---

9 An IPAS report documented that the interior temperature of a plastic cannula floating on the surface of boiling water reaches a temperature of 96–98° C in less than a minute (IPAS 1993). For items that float (e.g., plastic syringes or MVA cannulae, surgical gloves, or rubber items), it is not absolutely necessary that they be fully covered by the water to achieve HLD.
Two types of tests were conducted to determine whether surgical gloves could be high-level disinfected using this process.

In the first set of experiments, a thermocouple was placed inside a glove in each of the three pans and the rate and extent of the temperature change recorded. As shown in Figure D-4, when from 5 to 15 pairs of surgical gloves were placed in each of the three pans, the temperature reached 96–98°C in less than 4 minutes in the bottom and middle pans and within 6 minutes in the upper pan. Thereafter the temperature remained constant throughout the remaining 20 minutes.

In the second set of experiments, batches of new surgical gloves were contaminated with Staphylococcus epidermidis, Staphylococcus aureus, Pseudomonas aeruginosa, and Candida albicans as well as Bacillus subtilis (heat-sensitive) and Bacillus stearothermophilus (heat-resistant) endospores. Next the gloves were placed in one of the three pans and steamed for 20 minutes. After this they were removed from the pans and incubated for 24 hours in sterile media and then plated on blood agar. In all cases (6, 15, and 30 gloves per pan), there was no growth of any microorganisms or B.
Providing Contraceptive Implants

subtilis endospores at 24 hours and, as expected, only a reduction in the number of B. stearothermophilus endospores.

Based on the results of these experiments, it would appear that steaming is effective in high-level disinfecting surgical gloves.

Use of Steaming for HLD: Advantages and Disadvantages

Steaming has several distinct advantages over boiling for the final processing of surgical gloves. Although boiling and steaming gloves are equally easy to do, drying boiled gloves is not practical (i.e., it is difficult to prevent contamination while they are air-drying, which takes up to 24 hours). With steaming, the gloves dry in less time (about 4 hours) and they are not contaminated while drying. Additional advantages are that steaming is less destructive and more cost-effective because it uses much less fuel than does boiling.

The major disadvantage of steaming is that if the steamers available locally are small, it is only practical to use them for small items (e.g., surgical gloves, MVA cannulae, and syringes). Large boiling pots are easier to use with metal instruments and require less attention to be sure that the boiling process is being done correctly.

High-Level Disinfection by Soaking in a Chemical Solution

At present, only four chemicals are approved worldwide for use as high-level disinfectants:

- Chlorine,
- Glutaraldehyde,
- Formaldehyde (formalin), and
- Hydrogen peroxide.

Although alcohols and iodophors are inexpensive and readily available, they are no longer classified as high-level disinfectants (Rutala 1993). Alcohols do not kill some viruses, and Pseudomonas species have been known to multiply in iodophors. These chemicals should be used for disinfection only when the high-level disinfectants listed above are not available or appropriate.

Table D-5 provides guidelines for preparing and using these chemical disinfectants.

Note: Chemical HLD of needles and syringes is not recommended because chemical residues may remain even after repeated rinsing with sterile water. These residues may interfere with the actions of the drug being injected.
Table D-5. Preparing and Using Chemical Disinfectants

<table>
<thead>
<tr>
<th>Disinfectant (common solution or brand)</th>
<th>Effective Concentration</th>
<th>How to Dilute</th>
<th>Skin Irritant</th>
<th>Eye Irritant</th>
<th>Respiratory Irritant</th>
<th>Corrosive</th>
<th>Leaves Residue</th>
<th>Time Needed for HLD</th>
<th>Time Needed for Sterilization</th>
<th>Activated Shelf Life&lt;sup&gt;a,b&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorine (3–15%)</td>
<td>0.1%</td>
<td>Dilution procedures vary&lt;sup&gt;c&lt;/sup&gt;</td>
<td>Yes (with prolonged contact)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes&lt;sup&gt;d&lt;/sup&gt;</td>
<td>Yes</td>
<td>20 minutes</td>
<td>Do not use</td>
<td>Change daily; sooner if cloudy</td>
</tr>
<tr>
<td>Formaldehyde (35–40%)</td>
<td>8%</td>
<td>1 part 35–40% solution to 4 parts boiled water</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>20 minutes</td>
<td>24 hours</td>
<td>Change every 14 days; sooner if cloudy</td>
</tr>
<tr>
<td>Glutaraldehyde (Cidex)</td>
<td>Varies (2–4%)</td>
<td>Varies: read instructions on container</td>
<td>Yes</td>
<td>Yes vapors</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>20 minutes at 25° C&lt;sup&gt;e&lt;/sup&gt;</td>
<td>10 hours for Cidex</td>
<td>Change every 14 days; sooner if cloudy</td>
</tr>
<tr>
<td>Hydrogen Peroxide (30%)</td>
<td>6%</td>
<td>1 part 30% solution to 4 parts boiled water</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>30 minutes</td>
<td>Do not use</td>
<td>Change daily; sooner if cloudy</td>
</tr>
</tbody>
</table>

**Chemicals for Disinfection** (alcohols and iodophors are not high-level disinfectants)

| Alcohol (ethyl or isopropyl)          | 60–90%                  | Use full strength | Yes (can dry skin) | Yes | No | No | No | Do not use | Do not use | Change weekly; daily if heavily used; sooner if cloudy |
| Iodophors (10% povidone iodine/PVI)  | Approximately 2.5%      | 1 part 10% PVI to 3 parts water | No | Yes | No | Yes | Yes | Do not use | Do not use | Change daily |

<sup>a</sup> All chemical disinfectants are heat- and light-sensitive and must be stored appropriately.

<sup>b</sup> Always check manufacturer’s instructions for when to discard.

<sup>c</sup> See Tables D-3 and D-4 for instructions on preparing chlorine solutions.

<sup>d</sup> Corrosive with prolonged (> 20 minutes) contact and/or concentrations ≥ 0.5% if not immediately rinsed with boiled water.

<sup>e</sup> Different commercial preparations of Cidex and other glutaraldehydes are effective at lower temperatures (20° C) and for a longer activated shelf life.

*Adapted from: Rutala 1993.*
The major advantages and disadvantages of each disinfectant are described below.

- **Chlorine solutions** (0.1%) are fast acting, very effective against HBV and HIV, inexpensive, and readily available.

  A major disadvantage is that concentrated chlorine solutions (≥ 0.5%) can discolor and corrode metals. Stainless steel instruments, however, can be soaked safely in a 0.1% chlorine solution (using a plastic container) for up to 20 minutes. Discoloration is a problem only where calcium (not sodium) hypochlorite powders are used. (Wiping instruments with vinegar, which is weakly acidic, will quickly remove the discoloration.) Also, corrosion will **not** be a problem if items are rinsed with boiled water and dried **promptly**.

  Because chlorine solutions lose their effectiveness with time, fresh solutions should be made at least daily or more often if the solution is visibly cloudy.

- **Formaldehyde** (8%) can be used as a chemical sterilant and also is an effective high-level disinfectant, but the vapors are very irritating. Care must be taken to protect both staff and clients from the fumes when mixing and using formaldehyde solutions. (Wear gloves, protect eyes from splashes, limit exposure time, and use only in well-ventilated areas.) **Do not dilute with chlorinated water as a dangerous gas (bis-chloromethyl-ether) can be produced.**

- **Glutaraldehydes** (2–4%), which can be used for chemical sterilization, are effective high-level disinfectants as well. Although less irritating than formaldehyde, they too should be used in well-ventilated areas following recommended precautions.

  **Remember:** Both glutaraldehyde and formaldehyde solutions leave a residue; therefore, instruments must be rinsed thoroughly with boiled water after HLD to remove any residue and prevent skin irritation.

- **Hydrogen peroxide** (H$_2$O$_2$), which must be diluted to a 6% solution, often is available locally and is less expensive than other chemical disinfectants. (The 3% H$_2$O$_2$ solutions used as antiseptics should not be used as disinfectants.) The major disadvantage of H$_2$O$_2$ is that it is highly corrosive. It should not be used to disinfect copper, aluminum, zinc, or brass. Because hydrogen peroxide loses potency rapidly when exposed to heat and light, it must be stored carefully.

  WHO does **not** recommend using H$_2$O$_2$ in hot (tropical) climates because of its instability in the presence of heat and light.
**Key Steps in Chemical High-Level Disinfection**

- Decontaminate instruments that have been in contact with tissue beneath the skin, which normally is sterile. Thoroughly clean and dry all instruments.
- Cover all items completely with correct dilution of high-level disinfectant that has been properly stored.
- Soak for 20 minutes.
- Remove using high-level disinfected forceps or gloves.
- Rinse well with boiled water and air dry.
- Use promptly or store for up to 1 week in a high-level disinfected, covered container.
  
  To prepare a high-level disinfected container, boil if small or (if large) fill a plastic container with 0.5% chlorine solution and soak for 20 minutes. (The chlorine solution can be transferred to a plastic container and reused.) Rinse the inside thoroughly with boiled water. Air dry before use.

**Storage of Disinfectants**

- Disinfectants should be stored in a cool, dark area.
- Never store chemicals in direct sunlight or in excessive heat (e.g., upper shelves in a tin-roofed building).

**Processing Used Chemical Containers**

Glass containers may be washed with soap and water, rinsed, dried, and reused. Alternatively, thoroughly rinse the container (at least two times) with water and dispose of by burying.

Plastic containers used for toxic substances such as glutaraldehydes or formaldehyde should be rinsed (at least two times) with water and disposed of by burning or burying.³

**Note:** Do not reuse plastic containers that originally held glutaraldehydes or formaldehyde.

**Products That Should Not Be Used as Disinfectants**

Many antiseptic solutions are used incorrectly as disinfectants. While antiseptics (sometimes called “skin disinfectants”) are adequate for cleaning skin before an injection or surgical procedure, they are not appropriate for disinfecting surgical instruments. They do not destroy bacteria, viruses, or endospores reliably. For example, Savlon (chlorhexidine gluconate with or without cetrimide), which is readily available worldwide, is a good antiseptic but is often mistakenly used as a disinfectant.

Antiseptics that should **not** be used as disinfectants are:

- Acridine derivatives (e.g., gentian or crystal violet)

³ To further prevent plastic containers from being reused, put a hole in each container before disposal so that it cannot be used to carry water or other liquids.

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- Cetrimide (e.g., Cetavlon®)
- Chlorhexidine gluconate (e.g., Hibiscrub, Hibtane)
- Chlorhexidine gluconate and cetramide in various concentrations (e.g., Savlon)
- Chlorinated lime and boric acid (e.g., Eusol®)
- Chloroxylenol (e.g., Dettol)
- Hexachlorophene (e.g., pHisoHex®) is not recommended for use as a disinfectant or antiseptic because it is readily absorbed through the skin and is neurotoxic.
- Mercury solutions (such as mercury laurel) cause birth defects and are too toxic to use as either disinfectants or antiseptics (Block 1991).

Other products frequently used to disinfect equipment are 1–2% phenol (e.g., Phenol®), 5% carbolic acid (e.g., Lysol®) and benzalkonium chloride, a quaternary ammonium compound (e.g., Zephiran®). These are low-level disinfectants and should be used only to decontaminate environmental surfaces (e.g., examination tables) when chlorine compounds are not available.
APPENDIX E

DECONTAMINATING AND CLEANING INSTRUMENTS, NEEDLES AND SYRINGES, AND LINENS

HOW TO DECONTAMINATE AND CLEAN SURGICAL (METAL) INSTRUMENTS

Decontamination

STEP 1: After use, immerse all instruments in a plastic container filled with 0.5% chlorine solution or other locally available disinfectant for 10 minutes for decontamination. (This step is necessary to help prevent transmission of HBV or HIV/AIDS to clinic staff.)

STEP 2: If the instruments and other items cannot be washed immediately, rinse the objects with water and towel dry to minimize possible corrosion (rusting) due to chlorine.

Cleaning

Remember: If available, wear utility gloves, eyewear, and a face mask. Do not use hot water because it coagulates protein, making blood and body fluids hard to remove.

STEP 3: Scrub instruments under surface of water to prevent splashing of infectious materials. Use a soft brush and liquid soap or detergent and water. Be sure to clean the teeth, joints, and screws—an old toothbrush works well.

STEP 4: Rinse again with clean water until no soap or detergent remains. Soap or detergent can interfere with the action of some chemical disinfectants.

STEP 5: Dry by air or with a clean towel. Water from wet instruments will dilute chemicals used for HLD, making them ineffective. Drying is not necessary for instruments that are to be boiled or steamed.

STEP 6: Proceed with sterilization (if available) or HLD by steaming, boiling, or soaking in a chemical disinfectant (see Appendix D).

HOW TO DECONTAMINATE, CLEAN, AND DISPOSE OF NEEDLES AND SYRINGES

The processing and disposal of needles and syringes constitute a special problem. Clearly, to minimize the risk of needle-stick injuries to staff and because they are difficult to clean and either sterilize or high-level disinfect satisfactorily, they (especially needles) should not be reused.

The use and especially the disposal of both needles and syringes, however, create logistical and infection prevention problems. For example, a clinic or health care facility using disposable needles and syringes must ensure that adequate supplies are available at all times. Without a continuous

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supply of needles and syringes, services for contraceptive implants and other surgical contraceptive methods, as well as other activities, will be disrupted.

An even larger problem is how to dispose of used needles and syringes safely if they cannot be burned or buried. In many countries, boxes of used disposable needles and syringes can be found lying discarded outside health care facilities and hospitals. These used needles and syringes constitute an increasing health risk, especially to children and adults seeking items to play with, sell, or use.

An alternative to disposing of both needles and syringes would be to reprocess only syringes but not needles. The rationale for this is the following:

- Contaminated needles, not syringes, are primarily responsible for injuries (needle sticks) and the potential risk of acquiring a life-threatening disease.
- Needles are difficult to decontaminate, clean, and either sterilize or high-level disinfect; syringes are not.
- Plastic syringes, many of which are made of polyvinyl chloride (PVC), contribute heavily to environmental pollution when burned at high temperatures.

Although processing used needles represents an inappropriate reuse of disposables and is responsible for numerous infections (Phillips et al. 1971), in some circumstances (where resources are limited) it is the only available option.

**Instructions**

When available and affordable, disposable (plastic) sterile syringes and needles are recommended for all client care and surgical procedures. If disposables are being used, it is important to:

- Maintain adequate supplies.
- Decontaminate needles and syringes and discard them in a puncture-proof container immediately after use.
- Dispose of these containers by burning or burying them.

As mentioned above, if disposable needles and syringes will be reused, the safest approach is to process only syringes but not needles. For those situations where both needles and syringes must be reused, care must be taken to avoid accidental needle sticks to cleaning staff during processing. Instructions for disposing of the needle and syringe or reprocessing either the syringe alone or both items are given below.

**Disposal of Needle and Syringe**

**STEP 1:** Do not recap needle or disassemble needle and syringe.
STEP 2: Immediately after use, decontaminate needle and syringe:

- Hold the needle under the surface of a 0.5% chlorine solution, fill with solution, and push out (flush) three times, or
- Fill the syringe with a 0.5% chlorine solution and soak in solution for 10 minutes.

STEP 3: Place assembled needle and syringe into a puncture-proof container such as a heavy cardboard box, plastic bottle, or tin can with lid. (Old intravenous fluid bottles also may be used, but they can break.)

Remember: Do not recap needles prior to disposal.

Place the container close to the area where it will be used so that health care staff do not have to carry sharp items a long distance.

STEP 4: When the container is three-quarters full, seal and either burn or bury.

Disposal of Needle but Syringe Reused

STEP 1: Do not recap needle or disassemble needle and syringe.

STEP 2: Immediately after use, fill the syringe with a 0.5% chlorine solution by drawing it into the syringe through the needle.

STEP 3: Decontaminate assembled needle and syringe by placing in a 0.5% chlorine solution for 10 minutes.

STEP 4: Wearing utility gloves, remove from decontamination solution, push out (flush) solution from assembled needle and syringe and remove the needle from the syringe.

STEP 5: Dispose of needle in puncture-proof container. When the container is three-quarters full, seal and either burn or bury.

STEP 6: Wash syringe in soapy water and rinse at least three times with clean water.

STEP 7: Sterilize or high-level disinfect syringe (see Appendix D).

Reuse of Both Needle and Syringe

STEP 1: Do not recap needle or disassemble needle and syringe.

STEP 2: Immediately after use, fill the syringe with a 0.5% chlorine solution by drawing it into the syringe through the needle.

STEP 3: Decontaminate assembled needle and syringe by placing in a 0.5% chlorine solution for 10 minutes.
STEP 4: Wearing utility gloves, remove from decontamination solution and push out (flush) solution from assembled needle and syringe.

STEP 5: Take needle and syringe apart and clean with soapy water. (Be sure to clean hub area of the needle.) Insert stylet or needle wire through hub of needle to be sure it is not blocked.

STEP 6: Put syringe and needle back together. Rinse at least three times by filling with clean water and pushing out (flushing) water into another container so as not to contaminate the rinse water.

STEP 7: Detach needle from syringe.

STEP 8: Examine needle and syringe for:
- Bent needle tip or other damage,
- Needle hub fit to syringe, and
- Readable syringe markers (lines indicating volume—cc or ml).

STEP 9: Dispose of damaged needles and syringes in a puncture-proof container. When container is three-quarters full, seal and either burn or bury.

STEP 10: Sterilize or high-level disinfect needle and syringe (see Appendix D).

HOW TO CLEAN LINENS AND SURGICAL DRAPES
All linen items used in the direct care of a client must be thoroughly washed in water with liquid soap or detergent before reuse. Decontamination prior to washing is not necessary because repeated soaking of linens in chlorine solution will cause the fabric to deteriorate more quickly.

STEP 1: At the end of the insertion or removal procedure, and while still wearing gloves, lift and remove the surgical drape (if used) and carefully place in a container or plastic bag.

STEP 2: Wash the entire item in water with liquid soap or detergent to remove all contamination, even if invisible.

Remember: Never wash only the bloody or wet areas of linens or drapes.

STEP 3: Rinse with clean water.

STEP 4: Completely air or machine dry before further processing. (Air dry in direct sunlight, if possible, keeping the fabric off the ground, away from dust and moisture.)

STEP 5: After linens are totally dry, they should be checked for holes and very threadbare areas. If these are present, the item must be discarded or repaired before reuse. (If there are any holes or many

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2 If there are blood- or mucus-stained areas on the linens, wet with a small amount of 0.5% chlorine solution prior to taking them for washing.
repaired areas, the item should not be used as a drape. It can be cut into pieces to be used as cleaning rags.)

**Note:** If surgical drapes or surgical gowns are to be sterilized, do not iron. (Ironing dries out the material making autoclaving more difficult.)

**STEP 6:** If sterile linens are required, sterilize wrapped packs as discussed in *Appendix D*. If a **clean drape** is acceptable, the air-dried drape can be ironed before placing it on a shelf or in a container for storage. A clean drape should be used for procedures when sterile drapes are not available or necessary (e.g., LNG implants insertion and removal).

Sterile or clean linens should be stored in a clean, dry space that is mold-, dust-, and insect-free, preferably in a closed cabinet and not near sinks or areas that are frequently mopped. Air should circulate between the items in the storage area and the items should be rotated (first-in/first-out).
APPENDIX F

CHECKLIST FOR TWO-ROD IMPLANTS [JADELLE AND SINO-IMPLANT (II)]
COUNSELING AND CLINICAL SKILLS: INSERTION

Rate the performance of each step or task observed using the following rating scale:

Place a “Y” in the case box if step/task is performed satisfactorily, an “N” if it is not performed satisfactorily, or “X” if not observed.

**Satisfactory** Perform the step or task according to the standard procedure or guidelines

**Unsatisfactory** Unable to perform the step or task according to the standard procedure or guidelines

**Not Observed** Step, task, or skill not performed by the learner during evaluation by clinical trainer

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</tr>
</thead>
<tbody>
<tr>
<td><strong>STEP/TASK</strong></td>
</tr>
<tr>
<td><strong>PRE-INSERTION COUNSELING</strong></td>
</tr>
<tr>
<td>1. Greet the client respectfully and with kindness.</td>
</tr>
<tr>
<td>2. Rule out pregnancy by asking the six questions to be reasonably sure that the woman is not pregnant.</td>
</tr>
<tr>
<td>3. Display the Balanced Counseling cards, and if the client has already identified a method, provide focused counseling on that method. Otherwise, ask the following four questions and eliminate cards according to the client’s response:</td>
</tr>
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<td>- Does the client want more children in the future?</td>
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<tr>
<td>- Is she breastfeeding an infant &lt; 6 months?</td>
</tr>
<tr>
<td>- Will her partner use condoms?</td>
</tr>
<tr>
<td>- Has she not tolerated an FP method in the past?</td>
</tr>
<tr>
<td>4. Continue with Balanced Counseling, using the cards to:</td>
</tr>
<tr>
<td>- Give information about the methods on the cards that are left.</td>
</tr>
<tr>
<td>- Discuss side effects and efficacy.</td>
</tr>
<tr>
<td>- Help the client to choose a method.</td>
</tr>
<tr>
<td>- Confirm method choice.</td>
</tr>
<tr>
<td>5. Review medical eligibility:</td>
</tr>
<tr>
<td>- Read from the client brochure in language the client understands (e.g., “Method not advised if you ….”).</td>
</tr>
<tr>
<td>6. Review Client Screening Checklist to determine if two-rod implants are an appropriate choice for the client.</td>
</tr>
<tr>
<td>7. Perform (or refer for) further evaluation, if indicated.</td>
</tr>
<tr>
<td>8. Assess the woman’s knowledge about implants’ major side effects:</td>
</tr>
<tr>
<td>- Confirm that the client accepts possible menstrual changes with implants.</td>
</tr>
<tr>
<td>9. Describe insertion procedure and what to expect.</td>
</tr>
<tr>
<td><strong>INSERTION OF TWO-ROD IMPLANTS</strong></td>
</tr>
<tr>
<td><strong>Getting Ready</strong></td>
</tr>
<tr>
<td>1. Determine that required sterile or high-level disinfected instruments and two implant rods are present.</td>
</tr>
<tr>
<td>2. Wash hands thoroughly and dry them.</td>
</tr>
<tr>
<td>3. Check to be sure that the client has thoroughly washed and rinsed her entire arm.</td>
</tr>
<tr>
<td>4. Tell the client what is going to be done and encourage her to ask questions.</td>
</tr>
</tbody>
</table>
## Checklist for Two-Rod Implants [Jadelle and Sino-Implant (II)] Counseling and Clinical Skills: Insertion

<table>
<thead>
<tr>
<th>Step/Task</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. Position the woman’s arm and place a clean, dry cloth under her arm.</td>
<td></td>
</tr>
<tr>
<td>6. Mark position on arm for insertion of rods 6 cm to 8 cm above the elbow folder (this should form a “V” pattern).</td>
<td></td>
</tr>
<tr>
<td>7. Put on sterile pair of hand gloves.</td>
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</tr>
</tbody>
</table>

### Pre-Insertion Tasks

1. Set up sterile field and place implant rods and trocar on it.           |       |
2. Prep insertion site with antiseptic solution.                           |       |
3. Place sterile or high-level disinfected drape over arm (optional).      |       |
4. Inject 2 ml of 1% lidocaine applied just under the skin, raising a wheal at the insertion point and advancing up to 5 cm along the insertion track. Gently massage the area of infiltration. |       |
5. Advance needle about 4–5 cm and inject 1 ml of local anesthetic in each of two subdermal tracks. |       |
6. Check for anesthetic effect before making skin incision.                |       |

### Insertion

1. Insert trocar directly subdermally superficially.                       |       |
2. While tenting the skin, advance trocar and plunger to mark (1) nearest hub of trocar. |       |
3. Remove plunger and load first rod into trocar with gloved hand or forceps. |       |
4. Reinsert plunger and advance it until resistance is felt.               |       |
5. Hold plunger firmly in place with one hand and slide trocar out of incision until it reaches plunger handle. |       |
6. Withdraw trocar and plunger together until mark (2) nearest trocar tip, just clear of incision (do not remove trocar from skin). |       |
7. Move tip of trocar away from end of rod and hold rod out of the path of the trocar. |       |
8. Redirect trocar about 15° and advance trocar and plunger to mark (1).  |       |
9. Insert the second rod using the same technique.                         |       |
10. Palpate rods to check that two rods have been inserted in a V-distribution. |       |
11. Palpate incision to check that both rods are 5 mm clear of incision.  |       |
12. Remove trocar only after insertion of second rod.                     |       |
13. Optionally ask the client to palpate the two rods prior to dressing.  |       |

### Post-Insertion Tasks

1. Remove drape and wipe the client’s skin with alcohol.                   |       |
2. Bring edges of incision together and close it using surgical tape, then cover it with a Band-Aid or tape on a sterile gauze (2x2). |       |
3. Apply pressure dressing snugly.                                        |       |
4. Before removing gloves, dispose materials by:                         |       |
4.1 Placing used needle (without capping) and trocar in sharps container, and |       |
4.2 Placing waste materials in leak-proof container or plastic bag.     |       |
5. Remove gloves by turning inside out and place in leak-proof container or plastic bag. |       |
6. Wash hands thoroughly and dry them.                                   |       |
7. Complete client record, including drawing position of rods.            |       |
CHECKLIST FOR TWO-ROD IMPLANTS [JADELLE AND SINO-IMPLANT (II)] COUNSELING AND CLINICAL SKILLS: INSERTION

POST-INSERTION COUNSELING

1. Instruct the client regarding wound care and make return visit appointment, if necessary.
2. Discuss what to do if the client experiences any problems following insertion or side effects.
3. Assure the client that she can have rods removed at any time if she desires.
4. Ask the client to repeat instructions and answer the client’s questions.
5. Complete client card indicating which implant she received and by when she needs to return for removal.
6. Observe the client for at least 15–20 minutes before sending her home.

Comments:

Observation Summary (Tick as appropriate):

<table>
<thead>
<tr>
<th>Model practice satisfactory</th>
<th>Yes ___ No ___</th>
<th>Clinical practice satisfactory</th>
<th>Yes ___ No ___</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA _____________</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competent in two-rod implants</td>
<td>___________</td>
<td>Not competent in two-rod implants</td>
<td>___________</td>
</tr>
</tbody>
</table>

Action Plan – Check all that apply

- Could become competent with additional experience (more cases) supervised by a competent provider/trainer
- Follow-up visit in 3–6 months
- Other (specify)

Assessor’s name

Assessor’s signature          Date
CHECKLIST FOR ONE-ROD (IMPLANON) IMPLANTS COUNSELING AND CLINICAL SKILLS: INSERTION

Rate the performance of each step or task observed using the following rating scale:

Place a “Y” in the case box if step/task is performed satisfactorily, an “N” if it is not performed satisfactorily, or “X” if not observed.

Satisfactory Perform the step or task according to the standard procedure or guidelines

Unsatisfactory Unable to perform the step or task according to the standard procedure or guidelines

Not Observed Step, task, or skill not performed by the learner during evaluation by clinical trainer

| CHECKLIST FOR ONE-ROD (IMPLANON) IMPLANTS COUNSELING AND CLINICAL SKILLS: INSERTION |
|-----------------------------|---------------------------------|-----|
| STEP/TASK ACTIVITY           | STEPS                           | CASES |
| PRE-INSERTION COUNSELING    |                                 |      |
| 1. Greet the client respectfully and with kindness. | | |
| 2. Rule out pregnancy by asking the six questions to be reasonably sure that the woman is not pregnant. | | |
| 3. Display the Balanced Counseling cards, and if the client has already identified a method, provide focused counseling on that method. Otherwise, ask the following four questions and eliminate cards according to the client’s response: | |
| - Does the client want more children in the future? | | |
| - Is she breastfeeding an infant < 6 months? | | |
| - Will her partner use condoms? | | |
| - Has she not tolerated an FP method in the past? | | |
| 4. Continue with Balanced Counseling, using the cards to: | |
| - Give information about the methods on the cards that are left. | | |
| - Discuss side effects and efficacy. | | |
| - Help the client to choose a method. | | |
| - Confirm method choice. | | |
| 5. Review medical eligibility: | |
| - Read from the client brochure in language the client understands (e.g., “Method not advised if you ….”). | | |
| 6. Review Client Screening Checklist to determine if a one-rod implant is an appropriate choice for the client. | | |
| 7. Perform (or refer for) further evaluation, if indicated. | | |
| 8. Assess the woman’s knowledge about implants’ major side effects. | |
| - Confirm that the client accepts possible menstrual changes with implants. | | |
| 9. Describe insertion procedure and what to expect. | | |

INSERTION OF ONE-ROD IMPLANT

Getting Ready

1. Determine that required materials and the one-rod implant are present. | |
2. Wash hands thoroughly and dry them. | |
3. Check to be sure that the client has thoroughly washed and rinsed her arm. | |
4. Tell the client what is going to be done and encourage her to ask questions. | |
5. Position the woman’s arm and place a clean, dry cloth under her arm. | |
6. Mark position on arm for insertion of rod 6-8 cm above the elbow fold. | |
7. Put on a pair of clean examination gloves. | |
**CHECKLIST FOR ONE-ROD (IMPLANON) IMPLANTS COUNSELING AND CLINICAL SKILLS: INSERTION**

<table>
<thead>
<tr>
<th>STEP/TASK ACTIVITY</th>
<th>CASES</th>
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</table>

**Pre-Insertion Tasks**

1. Prep insertion site with antiseptic solution.

2. Inject 1 ml of 1% lidocaine applied just under the skin, raising a wheal at the insertion point and advancing up to 5 cm along the insertion track. Gently massage the area of infiltration.

3. Check for anesthetic effect before applying the sharp needle.

**Insertion**

1. Using no-touch technique, remove the sterile disposable one-rod implant applicator from its blister pack and remove the needle shield. (Make sure not to touch the part of the needle to be introduced into the body.)

2. Visually verify the presence of the implant inside the metal part of the needle.

3. Stretch the skin around the insertion site with thumb and index finger **or alternatively**, stretch the insertion site skin by slightly pulling with thumb.

4. Using the needle, puncture the skin at a 20° angle and insert only up to the bevel of the needle.

5. Release the skin. Lower the applicator to a horizontal position.

6. Gently advance, while lifting the skin, forming a tent, until inserting the full length of the needle without using force. Keep the applicator parallel to the surface of the skin.

7. Break the seal of applicator. Turn the obturator 90 degrees.

8. Fix the obturator with one hand against the arm and with the other hand slowly pull the needle out of the arm; never push against the obturator.

9. Remove the needle, and apply pressure to the opening site.

10. Palpate to check that the rod is in place. Optionally ask the client to palpate the implant prior to dressing.

**Post-Insertion Tasks**

1. Wipe the client’s skin with alcohol.

2. Bring edges of incision together and close it using surgical tape, then cover it with a Band-Aid or tape on a sterile gauze (2x2).

3. Apply pressure dressing snugly.

4. Before removing gloves, dispose materials by:
   - Placing used needle (without capping) and trocar in sharps container, and
   - Placing waste materials in leak-proof container or plastic bag.

5. Remove gloves by turning inside out and place in leak-proof container or plastic bag.

6. Wash hands thoroughly and dry them.

7. Complete client record, including drawing position of rod.

**POST-INSERTION COUNSELING**

1. Instruct the client regarding wound care and make return visit appointment, if necessary.

2. Discuss what to do if the client experiences any problems following insertion or side effects.

3. Assure the client that she can have implant removed at any time if she desires.

4. Ask the client to repeat instructions and answer client’s questions.

5. Complete client card indicating which implant she received and by when she needs to return for removal.

6. Observe the client for at least 15–20 minutes before sending her home.
Comments:

_____________________________________________________________________________________

_____________________________________________________________________________________

_____________________________________________________________________________________

_____________________________________________________________________________________

Observation Summary (*Tick as appropriate)*:

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Action Plan – Check all that apply

_____ Could become competent with additional experience (more cases) supervised by a competent provider/trainer

_____ Follow-up visit in 3–6 months

_____ Other (specify)

Assessor’s name

Assessor’s signature | Date
CHECKLIST FOR ONE-ROD (IMPLANON NXT) IMPLANTS COUNSELING AND CLINICAL SKILLS: INSERTION

Rate the performance of each step or task observed using the following rating scale:

- **Satisfactory** Perform the step or task according to the standard procedure or guidelines
- **Unsatisfactory** Unable to perform the step or task according to the standard procedure or guidelines
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| 4. Continue with Balanced Counseling, using the cards to:  
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  - Help the client to choose a method.  
  - Confirm method choice. |       |
| 5. Review medical eligibility:  
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| 6. Review Client Screening Checklist to determine if two-rod implants are an appropriate choice for the client. |       |
| 7. Perform (or refer for) further evaluation, if indicated. |       |
| 8. Assess the woman’s knowledge about implants’ major side effects.  
  - Confirm that the client accepts possible menstrual changes with implants. |       |
| 9. Describe the insertion procedure and what to expect. |       |

**INSERTION OF ONE-ROD IMPLANT**

**Getting Ready**

1. Determine that required materials and the one-rod implant are present.  
2. Wash hands thoroughly and dry them.  
3. Check to be sure that the client has thoroughly washed and rinsed her arm.  
4. Tell the client what is going to be done and encourage her to ask questions.  
5. Position the woman’s arm and place a clean, dry cloth under her arm.  
6. Mark position on arm for insertion of rod 6–8 cm above the elbow fold.  
7. Put on a pair of clean examination gloves.
### Checklist for One-Rod (Implanon NXT) Implants Counseling and Clinical Skills: Insertion

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</tr>
<tr>
<td>1. Using no-touch technique, remove the sterile disposable one-rod implant applicator from its blister pack and remove the needle shield. (Make sure not to touch the part of the needle to be introduced into the body.)</td>
<td></td>
</tr>
<tr>
<td>2. Hold the applicator just above the needle at the textured surface area and remove the transparent protection cap from the needle containing the implant.</td>
<td></td>
</tr>
<tr>
<td>3. Visually verify the presence of the implant inside the metal part of the needle.</td>
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</tr>
<tr>
<td>4. Stretch the skin around the insertion site with thumb and index finger, or alternatively, stretch the insertion site skin by slightly pulling with thumb.</td>
<td></td>
</tr>
<tr>
<td>5. Using the needle, puncture the skin at a 30° angle and insert only up to the bevel of the needle.</td>
<td></td>
</tr>
<tr>
<td>6. Lower the applicator to the horizontal position so that it is parallel to the surface of the skin while continuing to tent or lift the skin with the needle tip.</td>
<td></td>
</tr>
<tr>
<td>7. While lifting the skin with the tip of the needle, slide the needle to its full length toward the guide mark. Make sure that the entire length of the needle is inserted under the skin.</td>
<td></td>
</tr>
<tr>
<td>8. While keeping the applicator in the same position and the needle inserted to its full length with one hand, unlock the purple slider by pushing it slightly down using the other free hand.</td>
<td></td>
</tr>
<tr>
<td>9. Move the slider fully back until it stops, leaving the implant now in its final subdermal position and locking the needle inside the body of the applicator.</td>
<td></td>
</tr>
<tr>
<td>10. Remove the applicator.</td>
<td></td>
</tr>
<tr>
<td>11. Palpate to check that one rod is in place. Optionally ask the client to palpate the implant prior to dressing.</td>
<td></td>
</tr>
<tr>
<td><strong>Post-Insertion Tasks</strong></td>
<td></td>
</tr>
<tr>
<td>1. Wipe the client’s skin with alcohol.</td>
<td></td>
</tr>
<tr>
<td>2. Bring edges of incision together and close it using surgical tape, then cover it with a Band-Aid or tape on a sterile gauze (2x2).</td>
<td></td>
</tr>
<tr>
<td>3. Apply pressure dressing snugly.</td>
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<tr>
<td>4. Before removing gloves, dispose materials by:</td>
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</tr>
<tr>
<td>- Placing used needle (without capping) and trocar in sharps container, and</td>
<td></td>
</tr>
<tr>
<td>- Placing waste materials in leak-proof container or plastic bag.</td>
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<tr>
<td>5. Remove gloves by turning inside out and place in leak-proof container or plastic bag.</td>
<td></td>
</tr>
<tr>
<td>6. Wash hands thoroughly and dry them.</td>
<td></td>
</tr>
<tr>
<td>7. Complete client record, including drawing position of rod.</td>
<td></td>
</tr>
<tr>
<td><strong>Post-Insertion Counseling</strong></td>
<td></td>
</tr>
<tr>
<td>1. Instruct the client regarding wound care and make return visit appointment, if necessary.</td>
<td></td>
</tr>
<tr>
<td>2. Discuss what to do if the client experiences any problems following insertion or side effects.</td>
<td></td>
</tr>
<tr>
<td>3. Assure the client that she can have implant removed at any time if she desires.</td>
<td></td>
</tr>
<tr>
<td>4. Ask the client to repeat instructions and answer client’s questions.</td>
<td></td>
</tr>
</tbody>
</table>
## Checklist for One-Rod (Implanon NXT) Implants Counseling and Clinical Skills: Insertion

<table>
<thead>
<tr>
<th>STEP/TASK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. Complete client card indicating which implant she received and by when she needs to return for removal.</td>
<td></td>
</tr>
<tr>
<td>6. Observe the client for at least 15–20 minutes before sending her home.</td>
<td></td>
</tr>
</tbody>
</table>

### Comments:

_________________________________________________________________________
_________________________________________________________________________
_________________________________________________________________________

### Observation Summary (Tick as appropriate):

<table>
<thead>
<tr>
<th>Model practice satisfactory</th>
<th>Yes ___</th>
<th>No ____</th>
<th>Clinical practice satisfactory</th>
<th>Yes ___</th>
<th>No ____</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA ___</td>
<td></td>
<td></td>
<td>NA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competent in one-rod implants (Implanon NXT)</td>
<td></td>
<td></td>
<td>Not competent in one-rod implants (Implanon NXT)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Action Plan – Check all that apply**

- _____ Could become competent with additional experience (more cases) supervised by a competent provider/trainer
- _____ Follow-up visit in 3–6 months
- _____ Other (specify)

**Assessor’s name**

**Assessor’s signature**

**Date**
CHECKLIST FOR IMPLANT COUNSELING AND CLINICAL SKILLS: *REMOVAL*

Rate the performance of each step or task observed using the following rating scale:

- **Satisfactory** Perform the step or task according to the standard procedure or guidelines
- **Unsatisfactory** Unable to perform the step or task according to the standard procedure or guidelines
- **Not Observed** Step, task, or skill not performed by the learner during evaluation by clinical trainer

<table>
<thead>
<tr>
<th>STEP/TASK</th>
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<tr>
<td><strong>PRE-REMOVAL COUNSELING</strong></td>
<td></td>
</tr>
<tr>
<td>1. Greet the client respectfully and with kindness.</td>
<td></td>
</tr>
<tr>
<td>2. Listen carefully to the client’s response for reason for removal to determine if she wants another method, is hoping to get pregnant, or wants to replace her implant.</td>
<td></td>
</tr>
<tr>
<td>3. Confirm with the client what her intentions are. Provide FP counseling if appropriate.</td>
<td></td>
</tr>
<tr>
<td>4. Describe the removal procedure and what to expect. If she intends to have another implant, discuss with her where it will be inserted.</td>
<td></td>
</tr>
<tr>
<td>5. Ensure that the client is not allergic to the topical antiseptic or the local anesthetic that is available.</td>
<td></td>
</tr>
<tr>
<td><strong>REMOVAL OF IMPLANT ROD(S)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Getting Ready</strong></td>
<td></td>
</tr>
<tr>
<td>1. Determine that sterile instruments and other required materials for removal are available. Make sure a new implant is available if reinserting a new implant.</td>
<td></td>
</tr>
<tr>
<td>2. Check that the client has thoroughly washed and rinsed her arm.</td>
<td></td>
</tr>
<tr>
<td>3. Tell the client what is going to be done and encourage her to ask questions.</td>
<td></td>
</tr>
<tr>
<td>4. Position the woman’s arm and place a clean, dry cloth under her arm.</td>
<td></td>
</tr>
<tr>
<td>5. Palpate the rod(s) to determine point for removal.</td>
<td></td>
</tr>
<tr>
<td>6. With a waterproof marker, mark the client’s arm where the tip of the rod(s) is palpated.</td>
<td></td>
</tr>
<tr>
<td><strong>Pre-Removal Tasks</strong></td>
<td></td>
</tr>
<tr>
<td>1. Wash hands thoroughly and dry them.</td>
<td></td>
</tr>
<tr>
<td>2. Put sterile gloves on both hands.</td>
<td></td>
</tr>
<tr>
<td>3. Arrange instruments and supplies.</td>
<td></td>
</tr>
<tr>
<td>4. Prep removal site with antiseptic solution twice.</td>
<td></td>
</tr>
<tr>
<td>5. Inject small amount of local anesthetic (1% without epinephrine) at the incision site and under the end of the rod(s).</td>
<td></td>
</tr>
<tr>
<td>6. Check for anesthetic effect before making skin incision.</td>
<td></td>
</tr>
<tr>
<td><strong>Removal</strong></td>
<td></td>
</tr>
<tr>
<td>1. Push down the proximal end of the implant to stabilize it; a bulge may appear indicating the distal end of the implant.</td>
<td></td>
</tr>
<tr>
<td>2. Make a small (2 mm) incision below ends of rod(s).</td>
<td></td>
</tr>
<tr>
<td>3. Push end of rod toward the incision to remove it.</td>
<td></td>
</tr>
<tr>
<td>4. Grasp end of rod with curved (mosquito or Crile) forceps.</td>
<td></td>
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</table>
## Checklist for Implant Counseling and Clinical Skills: Removal

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<th>Step/Task</th>
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<tr>
<td>5. Clean off fibrous tissue sheath that covers tip of rod with sterile gauze (or scalpel—dull side).</td>
<td></td>
</tr>
<tr>
<td>6. Grasp exposed end of rod with second forceps, gently remove and inspect to ensure that the rod is intact before placing rod in bowl containing 0.5% chlorine solution for decontamination.</td>
<td></td>
</tr>
<tr>
<td>7. Ensure that the complete rod has been removed; show to the client.</td>
<td></td>
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<tr>
<td>8. If this is a two-rod system, repeat steps 1–7.</td>
<td></td>
</tr>
</tbody>
</table>

### Re-Inserting Implant (One or Two Rods)

1. The new implant rod(s) can be re-inserted along the same track as the recently removed implant (if the woman chose to have a new implant inserted).
2. Provide additional local anesthesia by infiltrating 1% lignocaine along the track(s) of the previously removed implant(s).
3. Wait for 1-2 minutes for the anesthetic to take effect.
4. Insert the one- or two-rod implant as per insertion steps (including post-insertion steps and post-insertion counseling).

### Post-Removal Tasks

1. Wipe the client’s skin with alcohol.
2. Bring edges of incision together and close it using surgical tape, then cover it with a Band-Aid or tape on a sterile gauze (2x2).
3. Apply pressure dressing snugly.
4. Before removing gloves, dispose materials by:
   - Placing used needle (without capping) and trocar in sharps container, and
   - Placing waste materials in leak-proof container or plastic bag.
5. Remove gloves by turning inside out and place in leak-proof container or plastic bag.
6. Wash hands thoroughly and dry them.
7. Complete client record.

### Post-Removal Counseling

1. Instruct the client regarding wound care and make return visit appointment, if needed.
2. Discuss what to do if any problems occur and answer any questions.
3. Counsel the client regarding new contraceptive method and provide one, if desired.
4. Observe the client for at least 15–20 minutes before sending her home.

Comments:
Observation Summary *(Tick as appropriate)*:

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<th></th>
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Action Plan – Check all that apply

- [ ] Could become competent with additional experience (more cases) supervised by a competent provider/trainer
- [ ] Follow-up visit in 3–6 months
- [ ] Other (specify)

Assessor’s name

Assessor’s signature  Date
REFERENCES

CHAPTER 1


Providing Contraceptive Implants


CHAPTER 2


CHAPTER 3


*Providing Contraceptive Implants*


**CHAPTER 4**


**CHAPTER 5**


**CHAPTER 6**


CHAPTER 7


CHAPTER 8


CHAPTER 9
Ahmed K et al. 2012. Contraceptive Commodities for Women’s Health. UNFPA.


APPENDIX A


APPENDIX D


APPENDIX E

