Injectable Contraceptives:
What Health Workers need to know
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Preface

Injectable contraceptives are approved for use in over 100 countries and have been used for many years by millions of women. They represent a safe and effective option for women seeking reversible contraceptive protection.

Injectable contraceptives are popular with many women because they are highly effective and do not require daily effort (like oral contraceptives) or use at the time of sexual intercourse (like barrier methods). Furthermore, some injectables can be used by women who cannot use methods that contain estrogen, including breastfeeding women. In some cultures, injectable contraceptives are favoured over other methods because they can be used without the knowledge of family and friends.

Health workers play an important role in helping their clients select appropriate contraceptive methods and understand the advantages and disadvantages of each method. This booklet provides an overview of injectable contraceptives and the major points health workers need to know:

- what injectable contraceptives are and how they work;
- the effectiveness of injectable contraceptives;
- client concerns about injectables;
- appropriate use of injectables;
- basic elements of high-quality injectable contraceptive services.


The World Health Organization is most grateful to the United Nations Population Fund (UNFPA) for its financial support towards the preparation and publication of this document.

All comments and queries should be addressed to Family Planning and Population, Division of Reproductive Health, World Health Organization, 1211 Geneva 27, Switzerland.
Injectable contraceptives are suitable for use by couples who wish to delay the next pregnancy, and by those who do not want any more children.
**Background Issues**

**What are injectable contraceptives?**

Injectable contraceptives contain hormonal drugs that provide women with safe, highly effective, and reversible contraceptive protection. Two types of injectable contraceptives are available:

1. *progestogen-only* formulations that contain a progestogen hormone and are effective for 2 or 3 months; and,
2. *combined* formulations that contain both a progestogen and an estrogen and are effective for 1 month (see Table 1).

*Progestogen-only* formulations consist of DMPA (depot medroxyprogesterone acetate) and NET-EN (norethisterone enanthate). DMPA is the injectable formulation most widely used worldwide. DMPA is injected every 3 months. NET-EN is injected every 2 months.

There are a number of *combined* formulations. The most extensively studied formulations are known by their brand names, Cyclofen and Mesigyna; both are monthly injectables. Cyclofen contains the same progestogen hormone as DMPA, and Mesigyna contains the same progestogen as NET-EN. Both Cyclofen and Mesigyna contain an added estrogen.

**How do injectable contraceptives work?**

Injectable contraceptives prevent pregnancy primarily by stopping ovulation and by thickening the cervical mucus, thus forming a barrier to sperm. They are administered by a deep intramuscular injection into the muscle of the arm or buttock and are effective immediately, provided they are taken at specified times (see page 12).

All injectable contraceptives are slowly absorbed into the bloodstream from the injection site, with the body maintaining a sufficient level of hormone to provide contraception for 1 to 3 months, depending on the type of injectable used.
There are several different types of injectable contraceptive; DMPA is the most widely used injectable contraceptive.

**How effective are injectable contraceptives?**

Injectable contraceptives, when properly used, are among the most effective reversible methods of contraception available. In WHO studies, first-year failure rates have been approximately:

- 0.1 percent for DMPA;
- 0.4 percent for NET-EN and Mesigyna; and,
- 0.2 percent for Cyclofen.[1]

In comparison with other reversible methods, injectables are comparable in effectiveness to Norplant implants and medicated intrauterine devices (IUDs), and are more effective than oral contraceptives (OCs) and barrier methods (see Table 2).

The effectiveness of injectable contraceptives depends on the timing of the first injection, following the recommended injection schedule, and using proper injection technique. These three concepts are discussed in more detail later in this booklet.
### Table 1. Selected Injectable Contraceptives

<table>
<thead>
<tr>
<th>Name</th>
<th>Active ingredients</th>
<th>Duration of effect</th>
<th>Common trade names</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depo-Provera (progestogen-only)</td>
<td>150 mg medroxyprogesterone acetate</td>
<td>90 days</td>
<td>Depo-Provera, Depo-Clinovir, Depo-Prodesone, Megenstron, and others</td>
</tr>
<tr>
<td>Noristerat, Norigest, Doryxas, and others</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Norgistat, and others</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Noristerat, Norigest, Doryxas, and others</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyclofen (combined)</td>
<td>200 mg norethisterone enanthate</td>
<td>60 days</td>
<td>Nelson, and others</td>
</tr>
<tr>
<td>Cyclofen, Cyclofenina, Cycloprovera, and others</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mesigyna (combined)</td>
<td>25 mg medroxyprogesterone acetate and 5 mg estradiol cypionate</td>
<td>30 days</td>
<td>Mesigyna, Norigynon</td>
</tr>
<tr>
<td>Mesigyna, and others</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 2. Typical Contraceptive Failure Rates

<table>
<thead>
<tr>
<th>Method</th>
<th>Failure Rate*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vasectomy</td>
<td>0.2%</td>
</tr>
<tr>
<td>Female Sterilization</td>
<td>0.4%</td>
</tr>
<tr>
<td>Injectable Contraceptives</td>
<td></td>
</tr>
<tr>
<td>Progestogen-only</td>
<td>0.1-0.4%</td>
</tr>
<tr>
<td>Combined</td>
<td>0.2-0.4%</td>
</tr>
<tr>
<td>Implants</td>
<td>0.4%</td>
</tr>
<tr>
<td>Intrauterine Devices</td>
<td></td>
</tr>
<tr>
<td>Medicated</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Inert</td>
<td>3%</td>
</tr>
<tr>
<td>Oral Contraceptives</td>
<td>1-8%</td>
</tr>
<tr>
<td>Progestogen-only Minipills</td>
<td>3-10%</td>
</tr>
<tr>
<td>Condoms</td>
<td>12%</td>
</tr>
<tr>
<td>Vaginal Spermicides</td>
<td>21%</td>
</tr>
<tr>
<td>Other Vaginal Barrier Methods</td>
<td>18-28%</td>
</tr>
<tr>
<td>Withdrawal</td>
<td>18%</td>
</tr>
<tr>
<td>Natural Family Planning</td>
<td>20%</td>
</tr>
</tbody>
</table>

Client Concerns

What side effects are associated with injectable contraceptives?

Disruption of menstrual bleeding patterns

Women using progestogen-only injectable contraceptives generally report experiencing one of two side effects:

- irregular menstrual bleeding patterns;
- amenorrhea (the absence of menstrual bleeding).

Over 90 percent of women using DMPA experience irregular and unpredictable menstrual bleeding or amenorrhea in their first year of use.[1]

With continued use of DMPA, bleeding becomes less and less frequent, and eventually over 60 percent of DMPA users experience prolonged amenorrhea.[2] NET-EN disrupts bleeding patterns somewhat less than DMPA.[2]

Because these two side effects are so common, health workers should counsel women who choose DMPA and NET-EN about what to expect. They should assure women that amenorrhea is likely and is not harmful. Women also should know to return to the clinic if their pattern of bleeding concerns them; in some cases the health care provider may want to test for anemia or rule out the possibility of pregnancy or infection.

Combined injectable formulations allow more regular menstrual bleeding than do DMPA and NET-EN. In WHO clinical trials, about 70 percent of Cyclofem and Mesigyna users reported regular bleeding patterns after one year[1] compared with about 8 percent of DMPA users.

Providers should inform women that combined injectables usually cause a bleeding episode similar to normal menstruation 10 to 20 days after the first injection. After that, bleeding episodes typically occur every 28 to 30 days, between injections.
Other reported side effects

In addition to menstrual disruption, other side effects have been reported by users of both progestogen-only[2,3] and combined formulations.[1,4] Most injectable users report weight gain: on average 1.5 to 2 kg in the first year for progestogen-only users[2,3] and 1 kg for combined injectable users.[1] A small proportion of users experience heavier menstrual bleeding, which could be significant for women who are malnourished or borderline anaemic. A small number of women have reported additional side effects, including headaches, dizziness, breast tenderness, body aches, nervousness, fatigue, and acne.

Although these side effects may be troublesome and are possibly unacceptable, there is no evidence that they are dangerous to health, and not all can be directly attributed to use of injectables.

The counselling a woman receives from her provider can have an important effect on a woman’s willingness to tolerate side effects. Health workers should not dismiss complaints about side effects,

Information on injectable contraceptives should highlight the advantages and disadvantages of using the method.
however. When a woman decides to discontinue injectables because of side effects, her health care provider should help her to find a more suitable contraceptive method.

**What are the possible health risks of injectable contraceptives?**

*Progestogen-only formulations*

Large studies carried out in many countries over the last thirty years have shown no long-term health risks for users of progestogen-only injectables.

DMPA—the most widely used injectable—has been the most extensively studied, particularly the possibility of relationships to risk of cancer, loss of bone density, and effects on fetal exposure. NET-EN has been less widely studied, but appears likely to have a similar low level of risk.

- **Cancer:** Clinical studies have found no association between DMPA use and cervical, ovarian, or liver cancers, and have confirmed a substantial protective effect against endometrial cancer. Studies have found no overall increase in risk of breast cancer. Although some studies have indicated a small increased risk of breast cancer in some younger women following initial exposure, the studies show no trend toward increased risk among more long-term users.

- **Bone density:** Researchers have questioned whether long-term DMPA use could reduce bone density, particularly in young adolescents. Findings to date suggest a relatively small and reversible effect, with no serious health risk for women of any age. At present, medical experts recommend no restriction on use of injectables by adolescents over age 16; for adolescents under age 16 the benefits of injectables are believed to generally outweigh the possible risks associated with their use.

- **Effect on fetal exposure:** There are no known adverse effects of fetal exposure to injectables. Studies of teenage children who
were exposed to DMPA in utero show no significant differences in health, growth, or sexual development compared to other children.[5,6] Progestogen-only injectables can be used by breastfeeding women at 6 weeks postpartum without adverse effects on nursing infants.

**Combined formulations**

Human use data on combined injectables are somewhat limited because they have not been used as long or as widely as progestogen-only injectables. Studies to date have raised no safety concerns regarding long-term health risks.[1]

Combined injectables (Cyclofem and Mesigyna) release a natural estrogen plus a progestogen. The estrogens in combined injectables have a shorter life-span and are less potent than those in combined oral contraceptives and consequently, side effects associated with their use may differ from those associated with combined oral contraceptive use.

Short-term studies of combined injectables have shown little effect on blood pressure, blood circulation and coagulation, lipid metabolism, and liver function in comparison with oral contraceptives.[7] Ongoing long-term studies will provide additional data about the health risks, if any, of combined injectables.

**What are the non-contraceptive benefits of injectable contraceptives?**

Injectables offer several health benefits in addition to preventing unwanted pregnancy and its associated health risks.

**Progestogen-only injectables:**

- decrease risk of endometrial cancer (based on findings for DMPA);
- decrease menstrual blood loss, which may help to prevent anaemia;
- reduce effects of sickle cell disease and catamenial epilepsy (based on findings for DMPA);
- decrease risk of vaginal yeast infections \(^{8,9}\) and pelvic inflammatory disease;\(^{10}\)
- decrease risk of ectopic pregnancy.

**Combined injectables:**
- promote menstrual regularity;
- decrease risk of ectopic pregnancy.

As use and study of combined injectables become more widespread, additional health benefits may become known.

**Will injectables protect against getting or passing on STDs/HIV?**

No. Injectable contraceptives do not protect women from sexually transmitted diseases (STDs), including HIV, the virus that causes AIDS. Moreover, injectables require the use of needles and syringes, which can pose an additional risk factor for disease transmission in settings where instruments are not adequately sterilized.

Infection control measures, critical for health workers who provide injectables, are discussed on page 24 and in Appendix 2.

Women who may be at risk of STDs/HIV include:
- women who have multiple sexual partners;
- women whose partners have multiple sexual partners.

In addition, women who are particularly at risk for HIV infection include:
- women who use unsterilized drug injection equipment (needles or syringes);
- women whose partners use unsterilized drug injection equipment.

All women and men who are at risk of STDs/HIV should receive information about STDs/HIV and counselling about strategies to lower their STD/HIV risk, including the use of latex condoms, even if they rely on injectables as their primary contraceptive method.
When does fertility return in injectable contraceptive users?

Once injected, injectable contraceptives are metabolized by the body over a period of 1 to 3 months, depending on the type of injectable used. Because of this, injectables generally involve a delay in return to fertility upon discontinuation.

Although some women conceive immediately after a missed DMPA injection, on average, fertility returns about 9 months after the last injection.

In NET-EN users, fertility returns on average about 8 months after the last injection.

Cyclofem and Mesigyna users can expect fertility to return on average about 2 to 3 months after the last injection.
Health workers should counsel injectable users not to expect an immediate return to fertility. They also should caution users not to rely on a delay for protection from pregnancy in the event of a late or missed injection.

**Do injectable contraceptives affect future fertility?**

**No.** Injectable contraceptives are fully reversible. They do not "build up" in the body or cause women to become infertile. Although injectable contraceptives generally involve a delay in return to fertility, conception rates among former injectable users after one year are comparable to users of other reversible methods.

There is no difference in the time it takes to return to fertility between women who have used injectable contraceptives for many years and women whose duration of use has been shorter.

**What are some misconceptions about injectables?**

Perceptions about injectable contraceptives vary widely by region. In some regions, injections are associated with safe, modern medicine and are viewed quite favourably. In other regions, misconceptions about injectables persist. Some common client concerns about injectables are addressed in the following section.

*Women using injectable contraceptives should be well informed about the possibility of menstrual bleeding disturbances.*
<table>
<thead>
<tr>
<th>Concern</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do injectable contraceptives cause infertility?</td>
<td>No. Although a woman’s return to fertility can be delayed after injectables are discontinued, injectables do not damage fertility.</td>
</tr>
<tr>
<td>Do injectable contraceptives increase cancer risks?</td>
<td>No. Overall increase in cancer risk has not been demonstrated in long-term, multicountry studies of injectable users.</td>
</tr>
<tr>
<td>When amenorrhea occurs, does menstrual blood build up in the body, leading to disease?</td>
<td>No. Amenorrhea is not a health risk. It does not cause blood to build up in the body.</td>
</tr>
<tr>
<td>Can injectable contraceptives transmit disease?</td>
<td>No. Injectable contraceptives are sterile preparations that are free from disease-causing agents. Contaminated needles and syringes used to administer injectables can transmit disease, however. Health workers need to ensure that injectables are administered safely and hygienically and that people’s fears about infection are addressed.</td>
</tr>
</tbody>
</table>
Appropriate Use

Are there women who should not use injectable contraceptives?

From a practical perspective, injectable contraceptives are not appropriate for women who cannot see a health worker for regular injections (every 1-3 months, depending on the formulation) or cannot accept changes in menstrual bleeding patterns.

From a medical perspective, injectable contraceptives are not appropriate for women who:

- are pregnant or want to become pregnant in the next 6 months;
- have current breast cancer;
- have unexplained vaginal bleeding.

In addition, combined injectable contraceptives are not appropriate for women who:

- have migraine headaches with focal neurologic symptoms (unable to speak for short intervals, blurred vision);
- are breastfeeding infants younger than 6 weeks of age;
- have severe hypertension (BP > 180/110) with or without vascular disease;
- have current or history of thromboembolic disorders or stroke;
- have current or history of ischemic heart disease or complicated valvular heart disease;
- have diabetes with vascular disease and/or of greater than 20 years duration;
- have active hepatitis;
- have malignant liver tumors; or
- are planning major surgery with prolonged immobilization.

There are several additional medical conditions for which the possible risks of injectable contraceptives usually outweigh the advantages of using this method (see Appendix 1). For women with these conditions, a doctor or nurse will need to be consulted to
determine whether use of injectables is advisable. The decision to use injectables will need to take into account such factors as availability and acceptability of other contraceptive methods, severity of the health condition, and arrangements for monitoring or clinical back-up services should they be necessary.

**How frequently do women need to have injections?**

Studies of injectables are ongoing to determine the degree of flexibility that can be allowed while maintaining maximum contraceptive effectiveness. Currently the recommended injection schedules are as follows:

- DMPA is given every 90 days plus or minus 14 days.
- NET-EN is given every 60 days plus or minus 14 days.
- Cyclofem is given every 30 days plus or minus 3 days.
- Mesigyna is given every 30 days plus or minus 3 days.

If a woman is late for an injection, the health worker must be reasonably sure she is not pregnant before giving the next injection.

*A health care provider can be reasonably sure a woman is not pregnant if she has no symptoms or signs of pregnancy and she:* [11]

- has not had intercourse since last normal menses, or
- has been correctly and consistently using another reliable method, or
- is within the first 7 days of a normal menstrual cycle (for progestogen-only injectables), or
- is within the first 5 days of a normal menstrual cycle (for combined injectables), or
- is within 4 weeks postpartum (for non-lactating women), or
- is within the first 7 days post-abortion, or
- is fully breastfeeding, amenorrheic, and less than 6 months postpartum.

*Good record keeping is vital to ensuring that each injectable user’s injection schedule is recorded, understood, and adhered to.*
| What is the essential information required to start using injectable contraceptives? |
|--------------------------------------------------|---------------------------------|
| **Progestogen-Only Injectables**  
DMPA and NET-EN | **Combined Injectables**  
Cyclofen and Mesigyna |
| **Efficacy** | High for both injectables. No significant difference  
| | High for both injectables. No significant difference |
| **Mode of Action** | Prevention of ovulation and changes in the cervical mucus are the most important.  
| | Primarily by preventing ovulation. Changes in the cervical mucus also important. |
| **Injection Intervals.** | DMPA - every 3 months (90 days)  
NET-EN - every 2 months (60 days).  
| | Every month (30 days) |
| **When can the initial injection be given** | During the first 7 days of the menstrual cycle.  
Injectables will be immediately effective.  
Immediately after an abortion.  
At other times in a menstrual cycle as long as the possibility of pregnancy is ruled out.  
At 6 weeks post partum.  
| | During the first 5 days of the menstrual cycle.  
Injectables will be immediately effective.  
Immediately after an abortion.  
At other times in a menstrual cycle as long as the possibility of pregnancy is ruled out.  
At 6 months post partum. |
| **Starting injections late in the menstrual cycle.** | If injection is started after day 7 of the menstrual cycle, rule out the possibility of pregnancy and advise the use of a back up contraceptive method for 7 days.  
| | If injection is started after day 5 of the menstrual cycle, rule out the possibility of pregnancy and advise the use of a back up contraceptive method for 7 days. |
| **Margin for the follow-up re-injection** | DMPA and NET-EN up to 2 weeks (14 days) early or late.  
| | Up to 3 days early or late. |
| **Eligibility** | Suitable for women with risk factors for estrogen.  
| | Less suitable for women with risk factors for estrogen |
| **Bleeding** | Irregular bleeding and amenorrhoea are common  
| | Usually good cycle control |
| **Breastfeeding** | Suitable for women who are breast feeding at 6 weeks post partum.  
| | Not suitable for women who are fully breast feeding until 6 months post partum. |
Providing Services

Who can provide injectable contraceptives?

The availability of injectables through a range of providers and distribution systems can greatly increase convenience, acceptability, and continued use of this method. Injectable contraceptives can be safely administered by a variety of health workers, including nurses, midwives, pharmacists, and community distributors:

- provided they are appropriately trained and supervised;
- can adhere to standard infection control procedures (see page 24 and Appendix 2);
- have access to adequate clinical services in the event that clients experience any health complications.
- have a consistent supply of injectable formulations and supplies.

Provider training should include not only safe injection procedures, but also how to screen clients to assess their suitability for this method and how to adequately counsel clients about side effects and when to return for injections. All aspects of service provision should be supervised.

Appropriate training and supervision are important elements of service delivery.
Consistent supply is important

Consistent supply of injectable formulations and equipment is a key element of quality service provision and important for the continuation of the method.

Each administration of an injectable contraceptive requires:
- one dose of the appropriate injectable contraceptive;
- a clean swab and skin antiseptic to clean the injection site before administering the contraceptive;
- a sterile (or high-level disinfected) syringe;
- a sterile (or high-level disinfected) 21-23 gauge needle (oil-based formulations such as NET-EN and Mesigyna require a wider-bore needle than aqueous formulations, such as DMPA and Cyclofem).

In programmes where multiple formulations are available (e.g., 1-month, 2-month, 3-month injectables), health workers must take special care to ensure that consistent supply of each formulation is available and that each client’s formulation and injection schedule is recorded, communicated, and adhered to.

Storage

Injectable contraceptives should be stored upright at room temperature, away from excessive heat or moisture.

Ensuring consistent supplies of injectables is a key element of quality services.
What pre-injection measures are needed?

Before providing an injectable contraceptive, a health worker should rule out the possibility of pregnancy and determine if there are any other health conditions that require medical attention and/or prohibit the use of injectables; for example, current breast cancer (see Appendix 1).

Many other medical procedures (such as pelvic examinations, measurement of weight and blood pressure, and screening for STDs and cervical cancer) are an important part of good preventive health care, but are not required for the safe use of injectable contraceptives. However, counselling is essential in all circumstances for the use of this method. Counselling issues are discussed on page 26.

Are there special injection techniques for administering contraceptive injectables?

Injectable contraceptives are administered using deep intramuscular injection techniques. Careful attention to the following items can help to ensure the safety and effectiveness of the method:

- Health workers should examine all injection components prior to administering each injection for signs of nonsterility, damage, or product expiration.

- The injection should be given into muscle (arm or buttock; the choice is best left to the client). The injection site should not be massaged afterwards, since this may accelerate absorption of the drug.

- Because DMPA is an aqueous suspension, a DMPA vial must be shaken vigorously before it is loaded into the syringe, to resuspend any active ingredient in the bottom of the vial. The syringe should then be checked to ensure that it contains the correct dosage. Vials may contain 1, 3, 5, or 10 ml of a solution containing either 50 mg or 150 mg of drug per ml. Dosage is 150 mg.
- **Cyclofem**, an aqueous suspension similar to DMPA, also must be shaken vigorously before use. Each 0.5 ml vial contains one dose (25 mg of DMPA/5 mg of an estrogen).

- **NET-EN** is an oil-based solution that needs special care to ensure that all the solution is both loaded and injected without leakage. Warming the vial to body temperature makes it easier to draw into the syringe. Each 1 ml vial contains one 200 mg dose.

- Since **Mesigyna** is an oil-based solution similar to NET-EN, the same attention to leakage applies. Each 1 ml vial contains one dose (50 mg NET-EN/5 mg of an estrogen).

**What infection control measures are needed?**

Hygienic surroundings are important to the administration of injectable contraceptives. Non sterile injections can cause infections and transmit disease including those caused by HIV and Hepatitis B viruses. All needles and syringes should be sterile or high-level disinfected, with single-use, disposable equipment used wherever possible. Instrument supply tables should be decontaminated by wiping down with 0.5% chlorine solution (see Appendix 2 for infection control procedures).

Health workers should take the following steps to prevent infections:

- Wash hands before and after each injection. (Gloves are not necessary for administering injections.)

- Wash the injection site with soap and water if needed and wipe with an antiseptic solution. Use a circular motion starting at the center of the injection site.

- Use sterile needles and equipment, preferably single-use disposables; if reusable needles and syringes are used, they should be sterilized or high-level disinfected before each use.

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1 High-level disinfection by boiling is recommended if sterilization is not possible.
Keep multidose vials sterile. To avoid contaminating multidose vials:
- discard any partly used vials at the end of each clinic session;
- do not leave a needle in the multidose vial stopper.

Process used injection equipment properly:
- place used disposable syringes and needles in a puncture proof container;
- do not recap, bend or break needles before disposal;
- do not re-use disposable syringes and needles;
- burn or bury the container;
- reusable needles and syringes should be taken apart, decontaminated, cleaned, and sterilized or high-level disinfected.

Dispose of waste items such as used swabs and gauze in a leak-proof container with a lid, or in a plastic bag, separate from other rubbish.

Note: Disposable syringes and needles should never be used more than once. They are made of less durable plastic than reusables and are dangerous if resterilized and reused.

For each injection, both the syringe and the needle used must be sterile or high-level disinfected.
What information and counselling do clients need?

Health workers should help clients learn about their contraceptive options and help them to make an informed choice from the methods available. Informed choice implies an understanding not only of the effectiveness of the method, but also of the risks involved and the alternative choices available.

Clients who receive good counselling and access to follow-up care are likely to use their chosen contraceptive method longer and more effectively.

For injectable contraceptive users, it is important that health workers help clients understand:

- side effects (especially menstrual irregularity and amenorrhea);
- when to return for repeat injections;
- the need to return or consult a health worker if problems arise;
- the likelihood of delayed return to fertility following discontinuation of the method;
- the need to use latex condoms if there is any risk of exposure to STDs/HIV.

**A good counsellor should:**

- ask questions about the client’s reproductive intentions and life situation (for instance, STD risk or partner relations);
- listen attentively and encourage the client to ask questions;
- answer questions objectively; avoid promoting specific methods;
- emphasize important information on side effects and danger signs of complications;
- let clients make their own decisions.

Ideally, clients should be provided with simple instructional materials to take home. Health workers should tell a woman that she can return at any time if she has questions or concerns about injectables or if she wishes to use a different method.
What follow-up care and information is necessary?

Health care providers should inform clients when to return for their next injection and, if possible, use a reminder system; for example, a calendar, appointment card or instruction sheet on which the next injection date is marked. Health care providers also should stress the importance of receiving repeat injections on the scheduled dates to ensure effectiveness.

Any woman who reports prolonged or heavy bleeding may need to be evaluated for anemia. Heavy bleeding is uncommon, and prolonged bleeding is seldom heavy enough to be a threat to health. Anaemia treatments include nutritional advice or an appropriate dosage of oral iron tablets. Treatments for heavy bleeding include non-aspirin anti-inflammatory drugs such as ibuprofen, short-term use of combined oral contraceptives or estrogen, or early administration of the next injection (not sooner than 4 weeks after the previous injection)[1].

If annual examinations do not reveal any problems and the client is not experiencing unacceptable symptoms, injectable contraceptive use may be continued as long as desired.
Glossary

Amenorrhea. The absence of menstrual bleeding.

Anaemia. A condition in which the blood is deficient in red blood cells.

Contraindication. A health condition that makes a treatment or drug inadvisable.

Ectopic pregnancy. A pregnancy that occurs outside of the uterus, usually in one of the Fallopian tubes; ectopic pregnancy can be fatal if not detected early.

Endospore. A reproductive body existing within certain bacteria.

Formulation. The combination of different hormones in different types of injectable contraceptives.

HIV. Human immunodeficiency virus, the virus that causes AIDS.

High-level disinfection. A process that destroys all viruses, bacteria, parasites, and some endospores (Appendix 2 describes the high-level disinfection process).

Hormonal contraceptives. Contraceptives that contain synthetic hormones such as progesterone and estrogen; hormonal methods include oral contraceptives, injectables, implants, and some IUDs.

Hygienic. Sanitary, healthful.

Metabolized. Processed by the body.

Pelvic inflammatory disease (PID). An infection that moves from the cervix into the uterus, Fallopian tubes, and ovaries. PID can lead to infertility.

Postpartum. After childbirth.

STDs. Sexually transmitted diseases; for example, chancroid, chlamydia, gonorrhea, hepatitis B, genital herpes, HIV, syphilis, trichomoniasis, and others.

Sterile. Free from microorganisms, including endospores.

Sterilization. A process that destroys all microorganisms, including endospores (Appendix 2 describes the process of sterilization).
References


Appendix 1

WHO Medical Eligibility Criteria

WHO medical eligibility criteria[7] have been developed to help health workers screen women appropriately for use of injectables and other contraceptives. These criteria are based on an assessment of research on method safety with respect to a potential user’s medical history and lifestyle. Eligibility criteria are organized in 4 classes:

Class 1—no restrictions to use
Class 2—advantages outweigh risks
Class 3—risks outweigh advantages
Class 4—use not permitted

For the most part, eligibility can be determined by taking a client’s medical history. Other physical examination or laboratory tests generally are not necessary.

Table 1[14] summarizes WHO eligibility criteria for progestogen-only contraceptives (which include not only DMPA and NET-EN, but also progestogen-only pills and implants); Table 2 summarizes criteria for combined injectable contraceptive formulations.
Appendix 1 - Table 1

WHO Medical Eligibility Criteria for Initiating Progestogen-only Contraceptive Use

Progestogen-only contraceptives are available as pills, injectables, and implants, and are appropriate for most women who want highly effective protection against pregnancy and can tolerate menstrual bleeding irregularities. Progestogen-only methods are appropriate for breastfeeding women and women who have some cardiovascular disorders or who smoke. Only a few gynaecologic conditions completely preclude use. Many conditions that were considered barriers to use are no longer considered risk factors for complications.

<table>
<thead>
<tr>
<th><strong>WHO Class 1: No restrictions on use</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Age ≥16 years</em></td>
</tr>
<tr>
<td><em>Smoking</em></td>
</tr>
<tr>
<td><em>Obesity</em></td>
</tr>
<tr>
<td><em>Gynaecologic/obstetric Conditions</em></td>
</tr>
<tr>
<td>History of pre-eclampsia</td>
</tr>
<tr>
<td>History of ectopic pregnancy*</td>
</tr>
<tr>
<td>Postpartum (nonbreastfeeding) or</td>
</tr>
<tr>
<td>postabortion</td>
</tr>
<tr>
<td>Breastfeeding (&gt;6 weeks postpartum)</td>
</tr>
<tr>
<td>Benign breast disease</td>
</tr>
<tr>
<td>Pregnancy-related jaundice/diabetes</td>
</tr>
<tr>
<td>Cervical ectropion/erosion</td>
</tr>
<tr>
<td>Uterine fibroids</td>
</tr>
<tr>
<td>Endometrial or ovarian cancer</td>
</tr>
<tr>
<td>PID (history or current)</td>
</tr>
<tr>
<td>Gestational trophoblastic disease</td>
</tr>
<tr>
<td><em>Cardiovascular Conditions</em></td>
</tr>
<tr>
<td>Thromboembolic disorders</td>
</tr>
<tr>
<td>Valvular heart disease</td>
</tr>
<tr>
<td>Mild (BP &lt;160/100) to moderate</td>
</tr>
<tr>
<td>(BP &lt;180/110) hypertension*</td>
</tr>
<tr>
<td><em>Chronic Diseases/Other Conditions</em></td>
</tr>
<tr>
<td>Gall bladder disease</td>
</tr>
<tr>
<td>Hepatitis (carrier, not active case)</td>
</tr>
<tr>
<td>Thyroid disease</td>
</tr>
<tr>
<td>Thalassaemia or sickle cell disease</td>
</tr>
<tr>
<td>Epilepsy</td>
</tr>
<tr>
<td>Schistosomiasis</td>
</tr>
<tr>
<td>Tuberculosis</td>
</tr>
<tr>
<td>Malaria</td>
</tr>
<tr>
<td>Iron deficiency anaemia</td>
</tr>
<tr>
<td><em>STD/HIV Risk (advise condom use)</em></td>
</tr>
<tr>
<td>Increased risk of STDs/HIV</td>
</tr>
<tr>
<td>HIV-positive or AIDS</td>
</tr>
</tbody>
</table>

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DLVP2477.PM5 3/96

## WHO Class 2: Advantages outweigh risks

- **Age <16 years**
- **Severe headaches (including migraine)**
- **Gynaecologic/Obstetric Conditions**
  - Irregular menstrual bleeding with or without heavy bleeding
  - Breast disease-undiagnosed mass
  - Cervical cancer or precancerous cervical lesions
- **Cardiovascular Conditions**
  - History of hypertension
  - Severe hypertension (BP >180/110) and/or hypertension with vascular disease
  - Ischemic heart disease and stroke
  - Known hyperlipidemias
- **Chronic Diseases/Other Conditions**
  - Diabetes
  - Past OC-related jaundice
  - Cirrhosis (mild)

## WHO Class 3: Risks outweigh advantages

- **Gynaecologic/Obstetric Conditions**
  - Breastfeeding (<6 weeks postpartum)
  - History of breast cancer
- **Chronic Diseases/Other Conditions**
  - Hepatitis (active)
  - Cirrhosis (severe)
  - Jaundice
  - Liver tumours (benign or malignant)
  - Use of certain antibiotics or antiseizure medications

## WHO Class 4: Do not use

- **Gynaecologic/Obstetric Conditions**
  - Pregnancy
  - Unexplained vaginal bleeding
  - Breast cancer (current)

---

1. Progestogen-only pills Class 2 due to higher pregnancy rate compared to other progestogen-only contraceptives.
2. DMPPA and NET-EN Class 2 due to concern about potential hypoestrogenic effect.
3. Progestogen-only pills Class 1 for migraine without focal neurologic symptoms because pills can be readily stopped.
4. DMPPA and NET-EN Class 3 for diabetes with vascular disease or duration >10 years.
5. DMPPA and NET-EN Class 2. Certain antibiotic drugs (rifampin and griseofulvin) and antiseizure drugs (phenytoin, carbamazepine, barbiturates, and primidone) are likely to reduce the efficacy of hormonal contraceptives.
6. Progestogen-only pills Class 3 because they can be readily stopped and because of lower overall hormone dose.
7. DMPPA and NET-EN Class 3 due to concerns about their effect on lipid metabolism/hypoestrogenic effect.
Appendix 1 - Table 2
WHO Medical Eligibility Criteria for Initiating Combined Injectable Contraceptive Use

Combined injectable contraceptives (Cyclofen™ and Mesigyna™) release a natural estrogen plus progestogen. The estrogens in combined injectable contraceptives have a shorter lifespan and are less potent than those in combined OCs and, consequently, side effects associated with their use may differ from those associated with combined OC use. Short-term studies have found little effect on blood pressure, lipid metabolism, and liver function compared to combined OCs.

<table>
<thead>
<tr>
<th>WHO Class 1: No restrictions on use</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Age: menarche to 40 years</td>
</tr>
<tr>
<td>* Obesity</td>
</tr>
<tr>
<td>* Mild headaches</td>
</tr>
<tr>
<td>* Gynaecologic/Obstetric Conditions</td>
</tr>
<tr>
<td>History of pre-eclampsia</td>
</tr>
<tr>
<td>History of ectopic pregnancy^</td>
</tr>
<tr>
<td>Postabortion</td>
</tr>
<tr>
<td>≥21 days postpartum</td>
</tr>
<tr>
<td>(nonbreastfeeding)</td>
</tr>
<tr>
<td>Irregular menstrual bleeding/</td>
</tr>
<tr>
<td>dysmenorrhoea</td>
</tr>
<tr>
<td>PID (history or current)^</td>
</tr>
<tr>
<td>Benign breast disease</td>
</tr>
<tr>
<td>Cervical ectropion/erosion</td>
</tr>
<tr>
<td>Uterine fibroids or endometriosis</td>
</tr>
<tr>
<td>Endometrial or ovarian cancer</td>
</tr>
<tr>
<td>Gestational trophoblast disease</td>
</tr>
<tr>
<td>History of pregnancy-related diabetes</td>
</tr>
<tr>
<td>Benign ovarian tumours</td>
</tr>
<tr>
<td>* Cardiovascular Conditions</td>
</tr>
<tr>
<td>Varicose veins</td>
</tr>
<tr>
<td>* Chronic Diseases/Other Conditions</td>
</tr>
<tr>
<td>Thyroid disease</td>
</tr>
<tr>
<td>Epilepsy</td>
</tr>
<tr>
<td>Hepatitis (carrier, not active case)</td>
</tr>
<tr>
<td>Schistosomiasis</td>
</tr>
<tr>
<td>Malaria</td>
</tr>
<tr>
<td>Iron deficiency anaemia</td>
</tr>
<tr>
<td>Tuberculosis</td>
</tr>
<tr>
<td>* STD/HIV Risk (advise condom use)</td>
</tr>
<tr>
<td>Increased risk of STDs/HIV</td>
</tr>
<tr>
<td>STDs (history or current)</td>
</tr>
<tr>
<td>HIV-positive or AIDS</td>
</tr>
</tbody>
</table>

^ Combined injectable contraceptives may provide protection against this condition.
^ BP should be monitored periodically.
^ Could be Class 2 in less severe cases.
* Certain antibiotic drugs (clindamycin and a griseofulvin) and antisione drugs (phenytoin, carbamazepine, barbiturate, and primadone) are likely to reduce the efficacy of hormonal contraceptives.
*^ Could be Class 3 depending on specific condition and severity.

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### WHO Class 2: Advantages outweigh risks

<table>
<thead>
<tr>
<th>Advantage</th>
<th>Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Age ≥40 years</td>
<td>* Cardiovascular Conditions</td>
</tr>
<tr>
<td>* Smoker &lt;35 years, light smoker ≥35 years</td>
<td>Uncomplicated valvular heart disease</td>
</tr>
<tr>
<td>* Headaches (including migraine without focal neurologic symptoms)</td>
<td>Mild hypertension (BP &lt;160/100)&lt;sup&gt;9&lt;/sup&gt;</td>
</tr>
<tr>
<td>* Gynaecologic/Obstetric Conditions</td>
<td>* Chronic Diseases/Other Conditions</td>
</tr>
<tr>
<td>Breastfeeding (≥6 months postpartum)</td>
<td>Thalassaemia</td>
</tr>
<tr>
<td>Breast disease-undiagnosed mass</td>
<td>Sickle cell disease</td>
</tr>
<tr>
<td>History of jaundice (pregnancy-, OC-, or combined injectable-related)</td>
<td>Insulin and non-insulin dependent diabetes (uncomplicated)</td>
</tr>
<tr>
<td>Cervical cancer or precancerous lesions</td>
<td>Current, medically or surgically treated, or asymptomatic gall bladder disease</td>
</tr>
<tr>
<td></td>
<td>Mild cirrhosis</td>
</tr>
</tbody>
</table>

### WHO Class 3: Risks outweigh advantages

<table>
<thead>
<tr>
<th>Advantage</th>
<th>Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Heavy smoker (≥20 cigarettes/day), age ≥35 years</td>
<td>* Cardiovascular Conditions</td>
</tr>
<tr>
<td>* Gynaecologic/Obstetric Conditions</td>
<td>History of hypertension or BP &lt;180/110</td>
</tr>
<tr>
<td>Breastfeeding (6 weeks-6 months postpartum)</td>
<td>Known hyperlipidemias:&lt;sup&gt;3&lt;/sup&gt;</td>
</tr>
<tr>
<td>&lt;21 days postpartum (nonbreastfeeding)</td>
<td>* Chronic Diseases/Other Conditions</td>
</tr>
<tr>
<td>Past breast cancer</td>
<td>Use of certain antibiotic or antiseizure medications&lt;sup&gt;*&lt;/sup&gt;</td>
</tr>
<tr>
<td>Unexplained vaginal bleeding</td>
<td>Severe cirrhosis</td>
</tr>
<tr>
<td></td>
<td>Liver tumours (benign)</td>
</tr>
</tbody>
</table>

### WHO Class 4: Do not use

<table>
<thead>
<tr>
<th>Advantage</th>
<th>Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Migraine headaches with focal neurologic symptoms</td>
<td>Current or history of ischemic or complicated valvular heart disease</td>
</tr>
<tr>
<td>* Gynaecologic/Obstetric Conditions</td>
<td>* Chronic Diseases/Other Conditions</td>
</tr>
<tr>
<td>Known or suspected pregnancy Breastfeeding (&lt;6 weeks postpartum)</td>
<td>Diabetes with certain vascular complications and/or &gt;20 years duration&lt;sup&gt;78&lt;/sup&gt;</td>
</tr>
<tr>
<td>Breast cancer (current)</td>
<td>Active hepatitis&lt;sup&gt;33&lt;/sup&gt;</td>
</tr>
<tr>
<td>* Cardiovascular Conditions</td>
<td>Liver tumours (malignant)</td>
</tr>
<tr>
<td>Severe hypertension (BP &gt;180/110) with or without vascular disease</td>
<td>Major surgery with prolonged immobilization</td>
</tr>
<tr>
<td>Current or history of thromboembolic disorders or stroke</td>
<td></td>
</tr>
</tbody>
</table>
Appendix 2

Infection Prevention Guidelines for Administration of Injectable Contraceptives[13]

Waste Disposal and Decontamination

Step 1. After completing the injection, 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. Place single-use needles and syringes in a puncture-proof container. Do not bend or break needles prior to disposal. Seal, burn or bury the container when three quarters full.

Step 3. Fully immerse all reusable needles and syringes in a plastic bucket containing 0.5% chlorine solution for 10 minutes before allowing staff and cleaning personnel to handle or clean them. Before immersing needles and syringes, fill with chlorine solution. (This pre-wash soak kills most microorganisms, including hepatitis B virus and HIV.)

Step 4. All surfaces (such as the procedure table or instrument stands) that could have been contaminated by blood and body fluid also should be decontaminated by wiping down with 0.5% chlorine solution.

Cleaning and Rinsing

After decontamination, disassemble needles and syringes and thoroughly clean with water, soap, and soft brush. Insert stylet or needle wire through the hub of the needle to ensure that the cannula is not obstructed. Next, reassemble and rinse at least three times with clean water, expelling the water through the needles into another container so as not to contaminate the rinse water. Flush needles with boiled or distilled water just prior to packing for steam sterilization. Dry before further processing.
Sterilization

Reusable needles and syringes should be sterilized by autoclaving or dry heat.

Standard Conditions for Heat Sterilization
Steam sterilization: 121°C (250°F) at 106kPa (15 lb/in²) pressure for 20 minutes for unwrapped needles and syringes; 30 minutes for wrapped items. Allow all items to dry thoroughly before using.

Dry heat: (glass or metal items only) 160°C (320°F) for 2 hours (total cycle time is from 3 to 3.5 hours). Needles should be sterilized at temperatures no higher than 160°C (320°F) because higher temperatures can dull sharp edges.

Storage: Wrapped needles and syringes can be stored for up to one week if the package remains dry and intact, one month if sealed in a plastic bag.

High-Level Disinfection

High-level disinfection by boiling is recommended if sterilization is not possible. Needles and syringes should be boiled for 20 minutes. Store for up to one week in a clean high-level disinfected container with a tight-fitting lid or cover. Avoid chemical disinfection of needles and syringes.

Source: Tietjen et al.[13]
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Name (surname, first): ___________________________ Date: ____________ Country: ____________
Organization: ___________________________ Responsibilities: ___________________________

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   a) Technical level of language:  □ Too complicated  □ Could be less technical  □ Easy to understand
   b) Was the presentation of information in the document easy to follow?  □ Yes  □ No (please indicate why) ___________________________

2. Please describe:
   a) How useful was the information in the document to you or to your organization's activities?
      □ Very useful  □ Quite useful  □ Somewhat useful  □ Not at all
   b) What did you like most about the document? ___________________________
   c) Was there anything you did not like about the document?  □ Yes  □ No  If yes, please describe: ___________________________
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      If yes, please describe: ___________________________

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1211 Geneva 27, Switzerland  Fax: 41-22-7914189

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