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Intrauterine Devices:

What Health Workers need to know



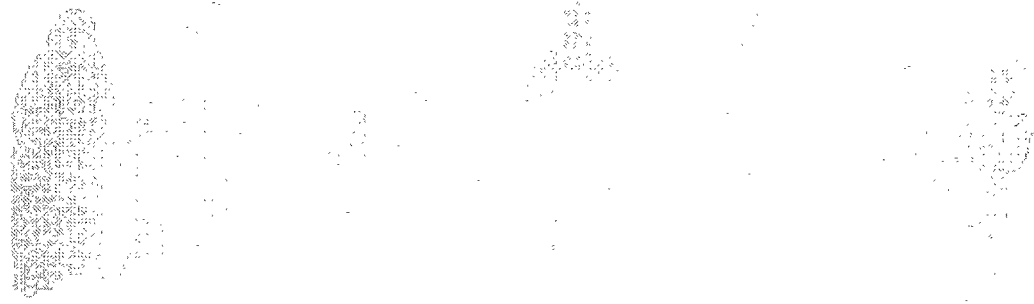
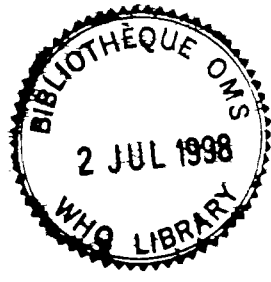
Family Planning and Population
World Health Organization



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Introduction

Intrauterine devices (IUDs) are an effective, safe, and convenient contraceptive option for many women. They are the most commonly used reversible method of contraception worldwide, with about 100 million current users. IUDs can be particularly appropriate for women who: want to delay pregnancy two or more years; have completed their families but are not ready to choose sterilization; are at low risk for sexually transmitted diseases (STDs); are breastfeeding; have difficulty using other reversible methods; prefer a method that does not require taking action daily or before sexual intercourse.

High-quality IUD services ensure that: clients receive complete information and counselling about the method; clients are appropriately screened and examined to rule out risk of STDs or other contraindications; providers are adequately trained in insertion and removal and infection prevention techniques.

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

- what IUDs are and how they work;
- IUD effectiveness;
- client concerns about IUDs;
- appropriate use of IUDs;
- basic elements of high-quality IUD services.

Although three types of IUDs are available (copper-bearing IUDs, hormone-releasing IUDs, and inert IUDs), information in this booklet focuses primarily on copper-bearing IUDs due to their widespread availability and high effectiveness.

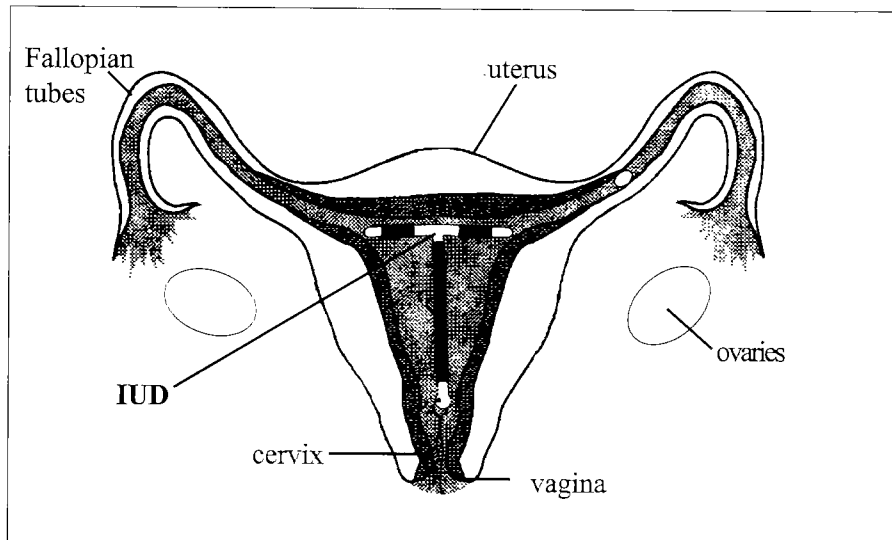
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Background Issues

What is an IUD?

The intrauterine device (IUD) is a small, flexible device that is inserted into a woman's uterus to prevent pregnancy.



An IUD inserted in the uterus provides safe, effective, convenient, long-term contraception for a woman at low-risk of STDs.

What are the most common types of IUDs available?

IUDs come in many shapes and sizes (see Table 1). IUDs produced in the 1960s were made of polyethylene, a kind of plastic, or stainless steel. Both plastic and stainless steel IUDs are “inert,” meaning they do not release any active substances. Although increasingly uncommon, inert IUDs are still available in some countries, such as China, Indonesia, Pakistan, and Turkey. Over the past three decades, they have been largely replaced by newer devices such as those that have small amounts of copper attached to the inert IUD frame. Other newer devices contain a hormone that is slowly released through the plastic.

The World Health Organization (WHO) no longer recommends insertion of inert IUDs, because copper-bearing and hormone-releasing IUDs are more effective. Women who currently use an inert IUD do not need to have the device removed, however, unless they want to discontinue use or are having a problem with it.

Hormone-releasing IUDs are not yet commonly found in family planning programmes. They are registered for use in only a few countries and are more expensive than copper-bearing IUDs.

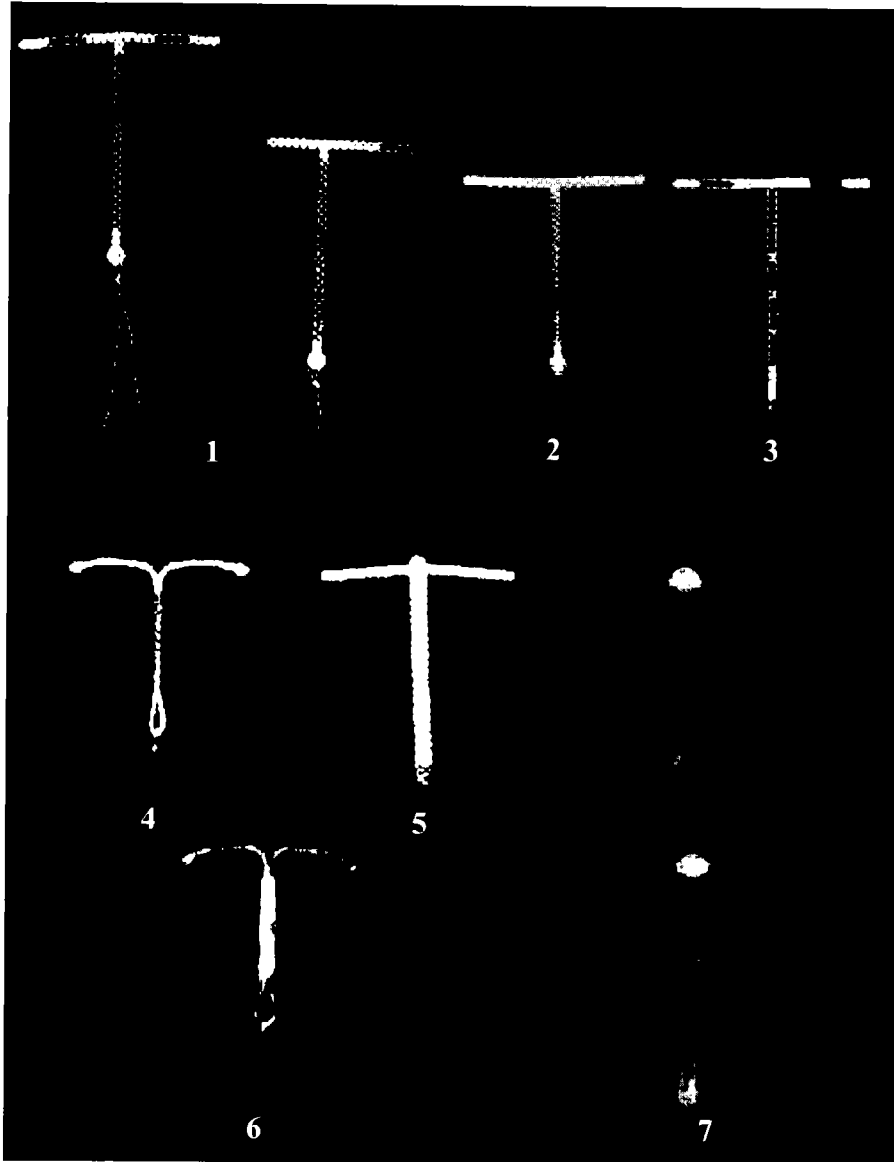
Table 1. Types of IUDs

Type of IUD	Description	Examples
Copper-bearing IUDs (medicated)	T-shaped devices made of polyethylene plastic, with copper collars and/or copper wire attached to the frame.	Copper T 380A Copper T 220C Copper T 200B Multiload 375 Multiload 250 Nova T
Hormone-releasing IUDs* (medicated)	T-shaped devices made of polyethylene or other plastic that contain a small amount of hormone that is released over time.	Progestasert Mirena (LNG-20)
Inert IUDs**	Devices made of plastic or stainless steel that come in various shapes and sizes.	Lippes Loop Stainless steel rings*** Uterine cavity-shaped devices***

* Not yet widely available.

** Insertion of these devices no longer recommended by WHO due to availability of more effective IUDs.

*** Some inert IUDs have been modified by addition of copper wire.



IUDs come in many shapes and sizes. 1) TCU-380 A and TCU-380 Slimline; 2) TCU-200 and TCU-200B; 3) TCU-220C; 4) Nova T and CuNova T; 5) Progestasert Intrauterine Progesterone Contraceptive System, 6) Levonorgestrel (LNG-20) Intrauterine System; 7) Multiload-250 (MLCu-250) (top) and Multiload-375 (MLCu-375) (bottom)

How do IUDs work?

For a long time researchers did not know exactly how IUDs worked. Recent studies suggest that IUDs prevent pregnancy primarily by preventing the sperm from fertilizing the egg (see Table 2).[2,3,4]

Table 2. Mechanisms of Action

Mechanism of Action	Copper-Bearing IUD	Hormone Releasing IUD
Interferes with ability of sperm to pass through uterine cavity	X	X
Interferes with sperm/egg fertilization process in the Fallopian tube before ovum reaches the uterine cavity	X	X
Inhibits implantation (in the event that a fertilized egg enters the uterus) by causing local inflammatory response in uterine lining	X	X
Interferes with sperm movement by thickening cervical mucus		X
May interfere with implantation in the unlikely case that fertilization occurs by producing endometrial changes		X

How effective are IUDs?

The IUD is one of the most effective methods of contraception. First-year pregnancy rates for the copper-bearing devices are less than 1 percent. Pregnancy rates for the inert devices are around 3 percent per year.

In general use, the Copper T 380A and the other newer IUDs—the Copper T 220C, the Multiload 375, the Nova T, and the LNG-20 IUD—are more effective than oral contraceptives and barrier methods and about as effective as injectables, implants, and voluntary sterilization (see Table 3).

The IUDs with the largest surface areas of copper (such as the Copper T 380A, the Multiload 375, and the Copper T 220C) are more effective than devices with less copper (such as the Copper T 200B and Multiload 250). Of these copper-bearing devices, the Copper T 380A is the most effective in clinical studies. Recent studies indicate that the LNG-20 IUD may be even more effective than the Copper T 380A.

Table 3. Typical Contraceptive Failure Rates

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

*Typical first-year failure rate.

Source: *Contraceptive method mix: guidelines for policy and service delivery*.
Geneva: World Health Organization, 1994.

Client Concerns

What side effects are associated with IUD use?

Some women report experiencing side effects while using IUDs. The most commonly reported side effects with use are:

- pain on insertion;
- increased bleeding and pain during menstruation;
- cramping and spotting between menstrual cycles.

About 10-20 percent of IUD users report these side effects. In fact, bleeding and pain during menstruation are the most common medical reasons women give for having an IUD removed. Removal rates due to side effects often are higher for Lippes Loop and other inert devices than for copper-bearing IUDs. Women who have had children and older women often have lower rates of removal due to bleeding and pain. Cramping and spotting between menstrual cycles often becomes less bothersome by the third menstrual cycle.

On the other hand, the levonorgestrel-releasing IUD causes an important decrease in the amount of menstrual blood loss. In some cases amenorrhoea may actually occur. This device may also cause mild hormonal related side effects.



While these side effects may be inconvenient or unacceptable to the user, they generally do not pose a risk to her health. Each woman must decide for herself if the side effects she experiences are acceptable. This may often be influenced by her overall health, her reproductive goals, her relationship with her partner, and her cultural situation.

The quality of counselling and support a woman receives before, during, and after IUD insertion can have an important effect on a woman's willingness to tolerate side effects.

What health risks are associated with IUD use?

IUD use carries some health risks. These risks can be minimized by carefully screening clients to make sure they are not at risk of STDs and by using proper infection control and insertion techniques.

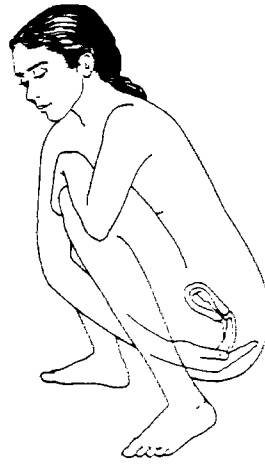
- *Excessive bleeding* that causes or worsens anaemia. WHO estimates that nearly 45 percent of women in developing countries are anaemic and many more women suffer from marginal levels of blood iron. Because IUDs can increase menstrual bleeding, a woman's overall health status and blood iron levels should be evaluated during the IUD screening process. On the other hand, pregnancy and childbirth also can lead to anaemia, so the potential risk of anaemia due to increased bleeding with IUD use should be weighed against the protection from pregnancy that the IUD offers if no other suitable method is available. Hormone-releasing IUDs typically decrease menstrual bleeding and therefore may be particularly helpful to women with or at risk of anaemia.
- *Pelvic inflammatory disease (PID)*. PID is a very serious condition that occurs when bacteria from the vagina or cervix infect the uterus and/or fallopian tubes. Although the IUD itself does not cause PID, the risk of PID among IUD users is increased at certain times (just after insertion) and among certain women (those at risk of STDs). Overall, the risk of PID among properly screened IUD users is low.

A WHO review of 12 studies involving nearly 23,000 IUD users worldwide found an overall rate of PID among IUD users of 1.6 cases per 1,000 woman-years of use.[5] The risk is increased during the first 20 days after insertion (9.7 cases per 1,000 woman-years of use). This is because bacteria can be introduced into the uterus if the woman has an untreated infection at the time of insertion or the provider fails to use proper infection prevention measures (for instance, failure to use sterile instruments). After the first 20 days of use, the risk is low and steady (1.6 cases per 1,000 woman-years of use).

IUD users at risk of STDs also are at increased risk of PID. For this reason, women who are at risk of STDs should not use an IUD unless other methods are not available or acceptable. IUD users at low risk of STDs have little or no increased risk of PID.[6,7]. (A possible protective effect against PID has been reported for the levonorgestrel-releasing IUD.[7]).

- *Expulsion of the IUD.* Undetected partial or complete expulsion of the IUD can lead to unplanned pregnancy. Expulsion rates vary from less than 1 percent to more than 7 percent in the first year of use, depending on the type of device, the timing of insertion, the skill of the provider, and the woman.[8] Younger women and women who have never had children are more likely to expel IUDs. Women who have painful menses or a very heavy volume of menstrual flow also may be more likely to expel IUDs. Most expulsions occur during the first three months after insertion. Providers should teach IUD users how to check regularly for the IUD strings to ensure that the device remains properly positioned, especially during the early months of use.
- *Perforation of the uterus.* Perforation of the uterus can occur during the IUD insertion procedure if the IUD or the inserter tube accidentally pierces the uterine wall. Perforation is a very rare event (occurring in fewer than 0.1 percent of IUD users) and is related to the type of IUD, insertion technique, and skill of the provider. A perforation may go unnoticed at the time of

Women should check IUD strings frequently in the first month after insertion, and after each menses thereafter.



Source: PATH

insertion. Warning signs of a suspected perforation include pain, abdominal tenderness, and/or heavy bleeding. Consequences of perforation can include pelvic infection, pain, pregnancy, or bowel obstruction.

What if a woman becomes pregnant with an IUD in place?

Although the IUD is very effective at preventing pregnancy, potentially dangerous complications can result if a woman becomes pregnant while using an IUD. Medical attention is always needed. As soon as the pregnancy is confirmed, the IUD should be removed, if possible, to reduce the risk of pelvic infection and miscarriage, the most frequent complication of pregnancy with an IUD in place. If removal is not possible, the woman should be told of the increased risks of infection, miscarriage, and premature labor and she should be closely monitored.

A woman who becomes pregnant with an IUD in place also should be examined for ectopic pregnancy, a rare but very serious condition. Overall, women using an IUD are about half as likely to develop an ectopic pregnancy as women who become pregnant because they are not using any method of contraception.^[6,8,9] But, it

is possible and must therefore be excluded. The two most effective IUDs, the Copper T 380A and the Multiload 375, have the lowest ectopic pregnancy rates.

Important Information for Clients

Women who use IUDs should be told about the signs of ectopic pregnancy. The symptoms include abdominal pain, dark and scanty vaginal bleeding, bleeding between periods, or amenorrhoea (lack of menstrual bleeding).

A woman who experiences these signs should return for follow-up care immediately. If an IUD user conceives or shows symptoms of pregnancy, health care providers should always check for ectopic pregnancy.

Will IUDs protect against getting or passing on STDs/HIV?

No. IUDs do not protect women from getting or passing on any STD infection, including HIV, the virus that causes AIDS.

Because the consequences of STDs/HIV can be severe among IUD users, IUDs are not recommended for use by women at risk of STD/HIV infection unless other methods are not available or acceptable. Women at risk of STDs/HIV include:

- Women who have multiple sex partners;
- Women whose partners have multiple sex partners.

In addition, women who are at particular risk of HIV include:

- Women who use unsterilized drug injection equipment (needles or syringes);
- Women whose partners use unsterilized drug injection equipment.

All women who are at risk of STDs/HIV should receive information about STDs including HIV and counselling about strategies to lower their STD/HIV risk, including the use of condoms.

Does the IUD affect a woman's partner?

A woman's partner should not be affected by her use of the IUD. Occasionally, some men complain that they can feel the tip of the IUD strings during sexual intercourse. If a woman reports that her partner is bothered by the strings, the provider can shorten the length of the strings (women should not attempt to shorten the strings themselves). If the woman still reports partner discomfort, the provider can remove the IUD and replace it with a new IUD and cut the strings at a longer length than on the original IUD.

When does fertility return after IUD removal?

A woman's fertility returns to normal very soon after the IUD is removed. Studies have shown that most women who discontinue IUD use to become pregnant conceive as rapidly as women who have never used contraception. In one study 80 percent of women conceived within one year and 90 percent conceived within two years.[11]

What are some misconceptions about IUDs?

The IUD's reputation has suffered from many misconceptions and myths. Many of these stem from experience with a particular inert IUD that is no longer available. Family planning and health workers can help counter these misperceptions by listening to and responding to the concerns and questions of users, their partners, and the community at large, using up-to-date and accurate information. Some common client concerns about IUDs are addressed on the following page.



Concern	Response
Do IUDs cause abortion?	No. IUDs prevent pregnancy from occurring. Research suggests that IUDs work primarily by interfering with the sperm and the egg <u>prior to fertilization</u> . Hormone-releasing IUDs also prevent sperm from passing through the cervical mucus. In some cases, IUDs may also prevent implantation of a fertilized egg.
Do IUDs travel inside a woman's body?	In very rare instances, when there has been a complete perforation of the uterus, the IUD can move to the abdominal cavity where it will stay until it is removed. In the vast majority of cases, the IUD remains within the uterus.
If a woman gets pregnant while using an IUD, will it cause the baby to be deformed?	No. Studies of women who have conceived either with the IUD in place or after IUD removal have not shown any increase in the risk of malformation. Because women who become pregnant with an IUD in place face a higher risk of spontaneous abortion and infection, it is important that the IUD be removed as soon as pregnancy is detected.
Will an IUD cause a woman to develop cancer?	No. There is no evidence that IUDs increase the risk of uterine, cervical, or other cancers.
Do IUDs cause infection inside a woman's body?	IUDs do carry a small risk of infection, which is highest just after insertion and among women at risk of STDs. After the first 20 days of IUD use, the risk of infection is very low among women who are properly screened for IUD use. Many rumours about IUDs and infection risk are based on an IUD that is no longer available which was made using multifilament strings that allowed bacteria to enter the uterus. Newer IUDs are made with monofilament strings that prevent this.
Should Copper IUDs that are discoloured in the package be used?	The copper on IUDs sometimes changes colour in the package as it oxidizes (reacts to air). The device can still be used. As long as the IUD package has not been broken or torn open and it is not past the expiration date printed on the packaging, the IUD is safe to use.

Appropriate Use

Are there women who should not use an IUD?

While IUDs are safe and appropriate for many women, they are generally not appropriate for women with certain risk factors, such as high risk of STDs. Proper client screening to assess a woman's medical history and risk of STDs helps minimize the health risks of using IUDs. In general, IUDs should not be used by women who:

- are pregnant or think they are pregnant;
- have a childbirth or abortion-related uterine infection;
- have unexplained, suspicious vaginal bleeding;
- have cervical, endometrial, or ovarian cancer;
- have pelvic tuberculosis;
- have had a PID or an STD in the last three months or are at risk of getting an STD;
- have anatomical abnormalities incompatible with IUD insertion;
- have gestational trophoblastic disease.

For the levonorgestrel-releasing IUD, women with cancer of the breast should not use LNG-IUD.

Other medical conditions exist for which the possible risks of IUD use may outweigh the advantages of using this method. For women with the following conditions, a doctor, nurse, or trained health care provider should be consulted to determine whether the use of IUDs is advisable.

- Postpartum 48 hours - 4 weeks;
- with benign gestational trophoblastic disease;
- with increased risk of STDs/HIV; and
- are HIV-positive.

For the levonorgestrel-releasing IUD the following conditions also require careful consideration:

- active viral hepatitis;
- severe cirrhosis;
- benign and malignant tumours.

(see Appendix for the medical eligibility criteria for initiating use of copper-bearing IUDs).

How long can an IUD be used?

The recommended number of years that an IUD can be used varies by the type of device and country regulations. It is based on the demonstrated use-life and the approved use-life of the device. The shelf-life refers to the length of time an IUD can be stored before use. Each of these terms is described below.

Demonstrated use-life. This concept refers to the length of time an IUD can be used effectively. It varies by device type and is based on the results of long-term clinical trials.

Demonstrated Use-Life of Selected IUDs^[8]

Copper T 380A	13 years
Copper T 220C	13 years
Copper T 200 B	6 years
Multiload 375	5 years
Nova T	5 years
LNG-20	5 years
Lippes Loop	more than 10 years

Approved use-life. Some countries specify an approved use-life for IUDs that is less than the demonstrated use-life. The regulatory authority in each country determines the approved use-life when the IUD is registered for use. It is important for family planning providers to adhere to the approved use-life of the IUDs they insert.

Shelf-life. The recommended shelf-life indicates how long an IUD can be stored prior to insertion. The shelf-life is determined by the manufacturer or the packaging facility and relates to the length of time the package can remain free from contamination. The shelf-life of IUDs packaged in sterile wrappers is usually printed on the package or box.

What if the IUD package is damaged?

If the IUD sterile package has been torn or opened, or if there is any reason to suspect that the IUD is not sterile, the IUD should not be used. Attempting to disinfect a contaminated IUD by soaking it in a high-level chemical disinfectant is not recommended.[12]

When can an IUD be inserted?

In general, an IUD can be inserted:

- at any time during the menstrual cycle if the woman is not pregnant, but preferably during or immediately after menstruation;
- within the first 48 hours postpartum, but special training is required to perform the insertion of an IUD at this time;
- from 4 weeks postpartum;
- after spontaneous or induced first trimester abortion, provided there is no evidence of infection (fever, tenderness in the uterus, pus or foul-smelling discharge).

For women receiving IUDs during a regular menstrual cycle, there are two advantages of performing insertion toward the end of menstruation.

1. There is little likelihood that the woman will be pregnant.
2. Bleeding and cramping may be less noticeable at this time and, therefore, less likely to cause anxiety.

Breastfeeding women can be especially good candidates for an IUD. In several studies, breastfeeding women who had IUDs inserted experienced less pain during IUD insertion and there were fewer removals in the first six months for pain and bleeding-related problems than in women who were not breastfeeding.[6]

However, IUDs may also be inserted at the user's convenience at any time during the menstrual cycle, if it can be reasonably established that she is not pregnant.

Do antibiotics reduce the risk of infection?

Two large clinical studies showed no significant benefit of providing routine antibiotic prophylaxis around the time of insertion. Client selection, careful aseptic technique, insertion skills, screening and appropriate treatment for prevalent STDs are likely to be more effective in the prevention of pelvic inflammatory disease with IUD insertion.[13] However, antibiotics should be given before IUD insertion to women at high risk of endocarditis (an inflammation of the membrane lining of the heart).[14]

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 her normal menses, or
- is within 4 weeks postpartum (for non-lactating women), or
- is within the first 7 days post-abortion, or
- is fully breastfeeding, amenorrhoeic, and less than 6 months postpartum.

Providing Services

Who can insert an IUD?

An IUD must be inserted and removed by a trained provider. This could be a physician, nurse, midwife, or other health worker who is appropriately trained in insertion and removal techniques and in infection prevention measures.

Studies show no difference in complication rates between insertions performed by doctors and by other trained providers. IUDs can be provided through a variety of facilities as long as the following basic requirements are met:

- staff are trained in infection control, are technically competent and know how to apply counselling skills;
- the facility has access to STD testing and treatment services, if necessary;
- an efficient, long-term follow-up system is available.

What information and counselling do clients need?

Health workers should help clients learn about their contraceptive options and help them to make a voluntary, informed choice from the methods available.

Voluntary, 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.

A good counselor 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 signs of complications;
- let clients make their own decisions.

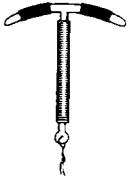


For IUD users, it is important that health workers help clients understand:

- the type of IUD to be inserted;
- the effective lifespan of the device;
- the IUD insertion and removal process;
- possible side effects;
- warning signs of complications, such as pelvic tenderness or unexplained bleeding;
- where emergency care can be obtained if necessary;
- how to check the IUD strings.

Explaining procedures and possible side effects to the woman helps create a comfortable atmosphere where the woman knows what to expect and feels that her needs are respected. Ideally, the client should be provided with simple instructional materials to take home

and always be given a written record of the type of IUD inserted and the date on which it was inserted. The provider should tell the woman that she can return to the clinic at any time if she has questions or concerns about her IUD or if she wishes to use a different method.

<p>YOUR IUD IS A TCu-380A</p> 	<p>WARNING SIGNS FOR IUD USERS</p> <p>You should see a health worker immediately if you have:</p> <ul style="list-style-type: none"> • Period late (pregnancy), abnormal spotting or bleeding • Abdominal pain, pain with intercourse • Infection (such as gonorrhoea), abnormal discharge • Not feeling well, fever, chills • Strings missing, shorter or longer
<p>User's name: _____</p> <p>Please come for your next visit on: _____ / _____ / _____ / _____ / _____ / _____</p> <p style="text-align: center;">Family planning clinic</p>	
<p>Date IUD inserted: _____</p> <p>Return for IUD removal on: _____</p>	

Information Card

An IUD information card should be given to every woman who has an IUD inserted.

What kind of assessment do clients need?

An important component of the provision of IUD services is assessing the client to determine whether an IUD is an appropriate contraceptive method for her. Medical assessment of potential IUD users should include a brief family history, a limited physical examination and a complete pelvic examination. When facilities are available and if indicated by the medical history, simple laboratory tests such as, haemoglobin, vaginal and cervical smears and urinalysis can be undertaken. The assessment must exclude the possibility of the client having a reproductive tract infection.

How is the client assessed?

(i) **Assess the family and reproductive history by discussing with the client:**

- age;
- menstrual history, pain, amount and duration of bleeding and the date of the last menstrual period;
- number of times pregnant, the outcome of pregnancy and the desire for more children;
- past pelvic inflammatory disease or ectopic pregnancy;
- mid-line, right or left lower abdominal pain, which may be worse on walking or after intercourse;
- postpartum or post-abortion endometritis; and
- cervical or uterine malignancy.



(ii) Assess for reproductive tract infection by discussing with the client:

- whether she thinks she has a vaginal discharge;
- any abnormal vaginal bleeding over the last two menstrual cycles;
- a vaginal discharge or ulcers or skin lesions in the genital area over the last year.

and:

- the possibility of her having a reproductive tract infection;
- the possibility of her partner having other partners;
- her having more than one partner.

If the client answers yes to any of the above questions then she must be further evaluated for possible reproductive tract infections. An IUD should not be inserted if there is a possibility of a reproductive tract infection.

(iii) Do physical examination to assess for:

- lower abdominal pain or tenderness;
- masses or gross abnormalities;
- sores on the external genitalia or swelling in the groin;
- a purulent discharge, easily bleeding cervix or unrecognised vaginal discharge.

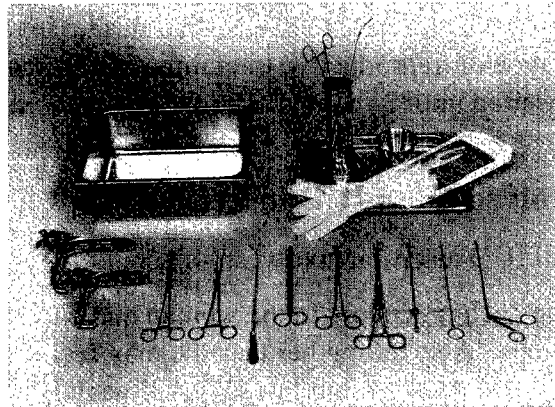
If the client is found to have any of the above, the decision to insert an IUD must be delayed. Either the woman should be managed syndromically for STDs or she must undergo further investigations to determine the type of reproductive tract infection she has. The IUD must not be inserted until 3 months after the infection has cleared up completely.

What is involved in an IUD insertion?

Successful IUD insertion involves:

- Explaining each procedure to the woman and encouraging her to ask questions. Also telling her that she may feel discomfort during some of the steps but that you will warn her in advance.

- Using infection prevention techniques to help minimize the chance of infection following insertion. Specific techniques involve using high-level disinfected or sterile instruments and supplies and cleaning the cervix with antiseptic solution prior to IUD insertion.[15]
- Examining the cervix and assessing the uterus by use of a speculum exam and a bimanual pelvic exam. The speculum exam allows the provider to check the cervix for signs of an STD or infection. The bimanual exam helps the provider determine the size and position of the uterus.
- Sounding the uterus. A uterine sound is a device used to measure the depth and direction of the uterus. Sounding the uterus is important to ensure correct placement of the IUD in the uterus. Correct placement of the IUD reduces the risk of perforating the uterus when the IUD is inserted and minimizes the chance of expulsion.
- Inserting the IUD following the manufacturer's instructions. Instructions for IUD insertion differ by device design. It is important to follow the appropriate instructions for the device being used. Following proper insertion procedures help to reduce the risk of side effects and complications.



What information and care is needed after IUD insertion?

Most women do not experience any problems immediately following IUD insertion. Sometimes however, women do have mild to moderate lower abdominal pain (cramping), nausea, and, rarely, fainting. For this reason, women are advised to stay at the clinic for about 15 to 30 minutes after the IUD is inserted to rest and receive instructions for follow-up care, including how to recognize the early warning signs of an IUD problem. Ideally, the woman should receive print materials that reinforce these instructions.

Before the woman leaves the clinic, the provider should give the woman a written record of the date and type of IUD inserted and instruct her to:

1. Return to the clinic in three to six weeks so the provider can check for menstrual problems, pain, signs of infection, possible pregnancy, or expulsion.
2. Regularly check the IUD strings. The woman should check for the IUD strings often during the first few months of use and after her monthly period thereafter. If the strings become longer or shorter, she should return to the clinic to have the IUD checked.
3. Know the five warning signs of IUD problems. Women who experience any of the following signs and symptoms should return to their provider for assistance:
 - late period (may indicate pregnancy) or abnormal spotting or bleeding;
 - abdominal pain or pain with intercourse;
 - infection exposure (any STD), abnormal discharge;
 - not feeling well, fever, chills;
 - strings missing, shorter or longer.
4. Request IUD removal from a trained provider. Clients should not attempt to remove IUDs themselves. Providers can help prevent self-removal by informing women of the availability of

removal services and honouring all requests for removal.

5. Return to the clinic to have the IUD checked when requested or whenever the client has questions or concerns.

What happens during IUD removal?

IUD removal is usually a routine and uncomplicated procedure. A trained health care provider pulls the strings slowly and gently with a forceps to remove the IUD. Removal can be done at any time during the menstrual cycle, but is usually easier during menses because the cervix is naturally softened.

A small percentage of IUD removals may be difficult. If the IUD cannot be removed easily, the woman should be referred to an experienced clinician who may dilate the cervix. Infection prevention techniques should also be practised during IUD removal.

A woman's request to have her IUD removed at any time, for any reason, should be honoured by the provider.

If the client is not experiencing unacceptable symptoms, IUD use may continue for as long as five to ten years, depending on the use-life of the particular device.



Simple written instructions can help women remember important information about their method.

After an IUD removal, when can another IUD be inserted?

Unless an IUD is being removed for a medical reason, a new IUD can be inserted immediately after removing the old one if the woman wishes.

When after menopause should an IUD be removed?

The IUD can be removed any time one year after a woman's last period. The woman can request the IUD be removed earlier if she experiences problems or concerns.[13]

Can IUDs be used as emergency contraceptives?

A copper-bearing IUD can be inserted within 5 days of unprotected intercourse as an emergency contraceptive. This method has been reported to be highly effective. Studies have demonstrated that after unprotected sexual intercourse, less than 1% of women became pregnant if they use a *copper-bearing* IUD as an emergency contraceptive.

Who may need emergency contraceptives?

Emergency contraceptives are meant to be used after unprotected sexual intercourse, such as in the following situations:

- voluntary unprotected sexual intercourse;
- inconsistent or incorrect use of other contraceptive methods, or when there is an accidental failure of other contraceptive methods;
- missed contraceptive pills for more than 3 days;
- when a woman is a victim of sexual assault and has no contraceptive protection.

In addition to these general indications for using emergency contraceptives the IUD is especially indicated when:

- more than 72 hours have elapsed after unprotected intercourse, making emergency contraceptive pills a less effective option and,

- the client is considering using an IUD for continuous long term contraception.

It should however be kept in mind that the insertion of an IUD in a nulliparous woman may be more difficult and painful than in a parous woman and for this reason emergency contraceptive pills may be a better choice for them.

What information and care is needed for IUD insertion for emergency contraception?

The health care provider must undertake the same procedure of counselling, information, assessment according to the medical criteria and examination before inserting the IUD for emergency purposes.

The client should be advised to return during or soon after the next menstrual period. If the client does not wish to keep the IUD in, it can be removed and counselling can be offered on alternative contraceptive options. If the client wishes to keep the IUD for continuous contraception, the health care provider must check that the IUD is properly placed and provide information related to continuous use and follow-up.

Conditions requiring careful consideration

For a woman without a clinically obvious gynaecological infection, but at high risk of STDs (e.g. multiple sexual partners or victim of rape), emergency contraceptive pills are a better option than an IUD. If more than 72 hours have elapsed after the unprotected intercourse she can have an IUD inserted but she can be advised to switch to another method at her next menstrual period. If possible she should be tested for STDs before insertion of the IUD or given prophylactic antibiotics.

Glossary

Amenorrhoea. The absence of menstrual bleeding.

Anaemia. A condition in which the blood is deficient in red blood cells, also called poor blood or iron poor blood.

Aseptic. The absence of disease-causing bacteria and their toxins (see Septic below).

Bimanual examination. The clinician checks the structures of the pelvis and uterus by inserting gloved fingers of one hand into the vagina while pressing with the other hand on the lower abdominal wall.

Ectopic pregnancy. A serious, life-threatening condition in which a fertilized egg implants and starts to grow in the Fallopian tube instead of the uterus.

Endospore. A reproductive body existing within certain bacteria.

Expulsion. After the IUD is inserted, the uterus can sometimes push the device downward and cause a partial or complete movement of the device from the uterus into the vagina.

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

High-level disinfection. Use of heat or chemicals to destroy all viruses, bacteria, parasites, fungi and some endospores. For surgical metal instruments and reusable gloves, the recommended technique is boiling for 20 minutes; or, they can be soaked for 20 minutes in glutaraldehyde or 8% formaldehyde solution. Use immediately or store for up to one week in a clean, dry, high-level disinfected container with a tight-fitting lid or cover.

Inert. Containing or releasing no active substances.

Trophoblastic disease. A condition where tissue grows in the uterus, mimicking pregnancy, also called a molar pregnancy. Growths can be malignant or benign and usually need to be removed surgically.

Pelvic inflammatory disease (PID). An infection that moves from the cervix into the uterus, fallopian tubes and ovaries. PID can lead to infertility and ectopic pregnancy and chronic pelvic pain.

Septic. The presence of disease-causing bacteria or their toxins, resulting in infection, chills, and fever (see Aseptic above).

Speculum. An instrument inserted in the vagina that allows the clinician to see the cervix and vaginal walls.

STDs. Sexually transmitted diseases; chancroid, chlamydia, gonorrhoea, Hepatitis B, herpes, HIV, syphilis, trichomoniasis, and others.

Sterile. Free from microorganisms, including endospores.

Sterilization. A process that destroys all microorganisms, including endospores. Instruments and reusable gloves used for IUD insertion and removal can be sterilized by autoclaving at 121 degrees C and 106kPa pressure for 20 minutes if unwrapped and 30 minutes if wrapped.

Note: Dry heat sterilization at 170 degrees C for 60 minutes can be used only for metal or glass instruments.

Uterine sound. A long, slender measuring device inserted into the uterus to measure the depth and direction of the uterus.

References

- [1] World Health Organization. *Intrauterine devices. Technical and Managerial Guidelines for Services*. Geneva 1997.
- [2] World Health Organization. *Mechanism of actions, safety and efficacy of intrauterine devices*. Geneva: WHO 1987. (Technical Report Series 753).
- [3] Sivin I. *IUDs are contraceptives, not abortifacients: a comment on research and belief*. *Studies in Family Planning*, 20(6[1])355-359, 1989.
- [4] Croxatto H et al. *IUD mechanisms of action*. In: Bardin CW and Mishell DR Jr eds. *Proceedings from the 4th International Conference on IUDs*. Boston, Butterworth-Heinemann, 44-62, 1994.
- [5] Farley TM et al. *Intrauterine devices and pelvic inflammatory disease: an international perspective*. *The Lancet*, 339(8796):785-788, March 1992.
- [6] Chi I-cheng. *What we have learned from recent IUD studies: a researchers perspective*. *Contraception*, 48(2)81-108, August 1993.
- [7] McGregor JA and Hammill H. *Contraception and sexually transmitted diseases: Interactions and opportunities*. *American Journal of Obstetrics and Gynecology*, 168(6[2])2033-2041, June 1993.
- [7¹] Toivoney J et al. *Protective effect of intrauterine release of levonorgestrel on pelvic infection: three years' comparative experience of levonorgestrel and copper-releasing intrauterine devices*. *Obstetrics and Gynaecology* 77, 261-264, 1991.
- [8] *IUDs, an Update*. Population Reports. Series B(6), October 1995. Draft. Population Information Program, Center for Communication Programs.

- [9] Sivin I. *Extrauterine pregnancies and intrauterine devices reassessed*. In: Bardin CW and Mishell DR Jr eds. *Proceedings from the 4th International Conference on IUDs*. Boston, Butterworth-Heinemann, 195-209, 1994.
- [10] Hatcher R et al. *Contraceptive Technology*, 16th revised edition. New York: Irvington Publishers Inc, 1994.
- [11] Skjeldestad FE. *Conception rates post IUD removal*. In: Bardin CW and Mishell DR Jr eds. *Proceedings from the 4th International Conference on IUDs*. Boston, Butterworth-Heinemann, 63-75, 1994.
- [12] McIntosh N et al. *IUD Guidelines for Family Planning Service Programs*. JHPIEGO Corporation. Baltimore, Maryland, 1992.
- [13] IPPF Medical Bulletin. *IMAP statement on intrauterine devices*. 29(6), December 1995.
- [14] World Health Organization. *Improving access to quality care in family planning: Medical Eligibility Criteria for Contraceptive Use*. Geneva, 1996. (Appendix)
- [15] Tietjen LG et al. *Infection Prevention Guidelines for Family Planning Service Programs*. Durant, Oklahoma, EMIS, 1992.
- [16] *Intrauterine Devices (IUDs)*. Contraceptive Technology Update Series. Family Health International, 1995.

Appendix 1

WHO Medical Eligibility Criteria

WHO medical eligibility criteria^[14] have been developed to help health workers screen women appropriately for use of IUDs 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 four classes:

- Class 1 — no restrictions to use
- Class 2 — advantages of using method outweigh the theoretical or proven risks
- Class 3 — theoretical or proven risks outweigh the advantages of using the method
- Class 4 — use of method presents unacceptable health risk.

For the most part, eligibility can be determined by taking a client's medical history and, in the case of IUDs, making observations during the pelvic exam. Other physical examination or laboratory tests generally are not necessary unless the woman shows signs of an STD.

Copper IUDs are appropriate for women at low risk of STDs who want highly effective, long-term contraception that does not require regular action. Many conditions that have been considered barriers to use are, no longer considered risk factors for complications. The key conditions which preclude women from IUD use are linked to risk of STDs and certain gynaecologic conditions. The WHO document from which this table is derived also includes eligibility criteria for the levonorgestrel-releasing IUD; because this device currently is available in only a few countries, it is not included here.

The following table summarizes eligibility criteria for copper-bearing IUDs.

Table 1 - Medical Eligibility Criteria for Initiating Copper-bearing IUD Use

WHO Category 1: NO RESTRICTIONS ON USE	
•	Age ⊕ 20
•	Parous
•	Smoking: all ages and light or heavy smoking
•	Obesity
•	Headaches (including migraine with or without focal neurological symptoms)
•	Gynaecologic/obstetric conditions
	- Breast-feeding
	- History of preeclampsia
	- Postpartum ⊕ 4 weeks
	- Postabortion, first trimester
	- Irregular menstrual patterns without heavy bleeding
	- Past pelvic inflammatory disease with subsequent pregnancy
	- Benign or malignant breast disease
	- Precancerous cervical lesions
	- Cervical ectropion
	- Benign ovarian tumours
	- Prior pelvic surgery
•	Cardiovascular conditions
	- Thromboembolic disorders
	- Uncomplicated valvular heart disease
	- Hypertension and vascular disease
	- Ischemic heart disease and stroke
•	Chronic disease/other conditions
	- Thyroid disease
	- Epilepsy
	- Diabetes
	- Liver tumours
	- Schistosomiasis (except urinary with anaemia)
	- Gallbladder disease
	- Jaundice (including pregnancy related)
	- Hepatitis (active or carrier)
	- Cirrhosis (mild or severe)
	- Malaria
	- Nonpelvic tuberculosis
	- Use of certain antibiotics or antiseizure drugs

WHO Category 2: ADVANTAGES OUTWEIGH RISKS

- **Age < 20 (concern about risk of expulsion in younger age groups/nulliparous women)**
- **Gynaecologic/obstetric conditions**
 - Nulliparity
 - Menstrual patterns with heavy or prolonged bleeding/severe dysmenorrhoea
 - Endometriosis
 - Past pelvic inflammatory disease without subsequent pregnancy
 - Uterine/cervical abnormalities (including fibroids) that do not distort uterus or interfere with IUD insertion
 - Postpartum < 48 hours
 - Postabortion, second trimester
- **Cardiovascular Conditions**
 - Complicated valvular heart disease¹
- **Chronic diseases/other conditions**
 - Thalassemia²
 - Sickle cell disease²
 - Iron deficiency anaemia²
- **STD/HIV risk (advise condom use)**
 - Vaginitis without cervical pus/discharge

WHO Category 3: RISKS OUTWEIGH ADVANTAGES

- **Gynaecologic/obstetric conditions**
 - Postpartum 48 hours-4 weeks³
 - Benign gestational trophoblastic disease
 - Increased risk of STDs/HIV (advise condom use)
 - HIV-positive or AIDS (advise condom use)

WHO Category 4 : DO NOT USE

- **Gynaecologic/obstetric conditions**
 - Pregnancy
 - Puerperal sepsis or postseptic abortion
 - Current pelvic inflammatory disease or within past three months
 - Uterine/cervical abnormality incompatible with IUD insertion
 - Unexplained vaginal bleeding
 - Malignant gestational trophoblastic disease
 - Cervical, endometrial, or ovarian cancer

- **Chronic diseases/other conditions**
 - Known pelvic tuberculosis

- **STD/HIV risk (advise condom use)**
 - Current STD or within past three months (advise condom use)

1. Prophylactic antibiotics are advised when IUDs are inserted in women with this condition.
2. Concern about increased blood loss in initial months of use.
3. Concern about uterine perforation during this period.

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