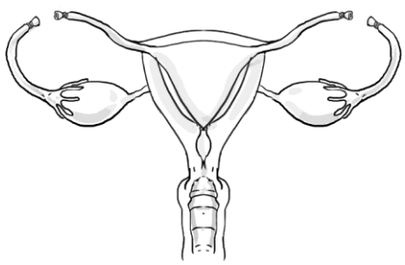
# Chapter 10:
# LONG-ACTING AND PERMANENT METHODS:
# Bilateral Tubal Ligation and Vasectomy

Long-acting and permanent methods are one of the most effective types of modern contraceptives. These safe and cost-effective methods are performed in health facilities by specially trained providers. Proper counseling must be conducted prior to the surgical procedures because these methods are considered permanent.

## FEMALE STERILIZATION: BILATERAL TUBAL LIGATION

### WHAT IS FEMALE VOLUNTARY SURGICAL CONTRACEPTION?



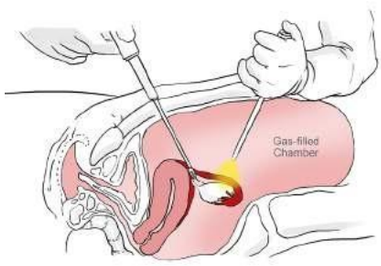
It is a safe and simple surgical procedure that provides permanent contraception for women who do not want more children. The procedure, also known as bilateral tubal ligation (BTL), involves cutting or blocking the two fallopian tubes. Although this section also presents endoscopic approaches to BTL, the standard procedure is minilaparotomy under local anesthesia with light sedation.

### WHAT ARE THE DIFFERENT METHODS OF FEMALE VOLUNTARY SURGICAL CONTRACEPTION?

#### Endoscopic methods

*Laparoscopic tubal ligation*

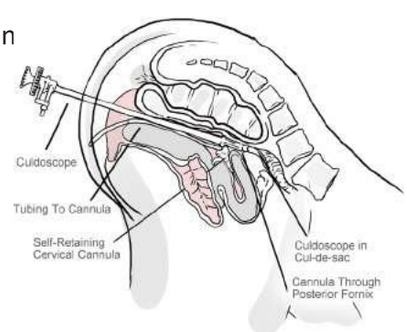
- One of the popular methods of BTL with a success rate for preventing pregnancy in more than 99 out of 100 women.
- Through the use of a specialized tool called a laparoscope, the doctor is able to view the insides of a woman's abdominal cavity and block both fallopian tubes, thus preventing pregnancy.
- With laparoscopic tubal ligation, a small incision or cut is made just below the umbilicus, through which a metallic tube called a trocar is inserted to access the abdominal cavity. Through the trocar, the laparoscope is inserted, thus enabling the insides of the abdomen to be viewed and the uterus and fallopian tubes to be identified. The fallopian tubes may then be blocked with Falope rings, clips, bands, and suture ligation; segmentally destroyed though electrocoagulation; or be partially or completely removed (salpingectomy).




- Although the most common types of anesthesia administered for laparoscopic BTL are spinal and general anesthesia, the preferred procedure in the country for keeping the client comfortable is local anesthesia with analgesia and sedation. Laparoscopic BTL is usually performed on an

*Culdoscopy*

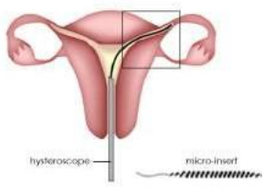
- A type of vaginal sterilization procedure. The vaginal approach of tubal ligation was once the preferred technique. However, this procedure



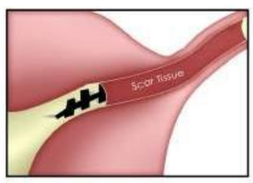
is associated with higher risks than laparoscopic tubal ligation surgery. Thus, surgeons have been favoring the transabdominal over the transvaginal approach.

- A major advantage of a culdoscopy is that no abdominal incisions are made. Culdoscopy tends to be reserved for obese patients or for women with a retroverted uterus. This transvaginal procedure involves a small incision made through the vaginal wall. However, a culdoscopy may be difficult to perform because it requires a woman to be in a knee-to-chest position while under local anesthesia.
- During culdoscopy, an incision is made into the posterior vaginal fornix (the recess behind the cervix). A culdoscope, which is a type of endoscope with light that is used to visualize female pelvic organs, is inserted through the incision into the peritoneal cavity. The culdoscope aids the surgeon in locating the fallopian tubes. The fallopian tubes are pulled through the incision into the vagina. The culdoscope is removed, and the tubes are closed off (tied, clipped, or sealed shut) and put back into place. The incision is then stitched closed.
- A BTL by culdoscopy takes about 15 to 30 minutes and is performed as an outpatient procedure.

*Hysteroscopic tubal ligation*




- A transcervical sterilization device was approved by the U.S. Food and Drug Administration in 2002. This micro-insert is known as Essure. It is placed hysteroscopically to block the fallopian tubes from within the uterine cavity. The insert contains inner polyethylene terephthalate fibers to induce fibrotic reaction and is held in place by a flexible stainless steel inner coil and an outer nickel titanium alloy coil. The device is designed to stimulate tissue growth in and around the insert to form an occlusion of the fallopian tube lumen. The tissue barrier formed prevents sperm from reaching and fertilizing an ovulated egg. It usually takes three months before the tubes are considered effectively occluded with the completeness of the blockage, which is confirmed by a hysterosalpingogram.




- The short-term efficacy rate of this method is equal to or better than that of the other sterilization methods. However, the long-term efficacy rates are still unavailable. This method is not suitable for future reversal. This type of device is not yet commercially available in the Philippines.

## MINILAPAROTOMY UNDER LOCAL ANESTHESIA-BILATERAL TUBAL LIGATION

BTL by minilaparotomy under local anesthesia is the accepted standard procedure of the Department of Health (DOH). Local anesthesia is used because it is safe and allows the client to go home the same day. General anesthesia is riskier than the sterilization procedure itself. Correct use of local anesthesia removes the single greatest source of risk in female sterilization procedures, that is, general anesthesia. Moreover, women usually feel nauseous after general anesthesia (which does not occur as often after local anesthesia). However, when using local anesthesia with sedation, providers must take care not to overdose the client with the sedative.

Through a small incision in the client's abdomen, a segment of both fallopian tubes is cut off or blocked. With disruption in the continuity of the tubes, the woman's egg cannot meet the

## HOW EFFECTIVE IS FEMALE STERILIZATION?

Female sterilization is 99.5% effective with perfect and typical use.

## WHAT ARE THE ADVANTAGES OF FEMALE STERILIZATION?

- Permanent method of contraception. A single procedure leads to lifelong, safe, and very effective contraception.
- Does not involve hormones. No changes in libido (sexual desire), menstrual cycle, or breastfeeding ability.
- It is an outpatient procedure.
- Nothing to remember, no supplies needed, and no repeated clinic visits required.
- Results in increased sexual enjoyment, as the woman does not need to worry about pregnancy.
- No known long-term side effects or health risks.
- Can be performed immediately after a woman gives birth.
- Can be performed without any routine laboratory tests, blood tests, or cervical cancer screening

## WHAT ARE THE DISADVANTAGES OF FEMALE STERILIZATION?

- Uncommon complications of surgery :
  - Infection or bleeding at the incision site
  - Injury to internal organs
  - Anesthesia risks, which are uncommon with local anesthesia
- BTL is a permanent method of family planning (FP), and some women may regret the decision later. Reversal surgery is difficult, expensive, and unavailable in most areas. Successful reversal is not guaranteed. Clients who may want to become pregnant in the future should not choose this method. FP counseling is crucial.
- In rare cases when pregnancy occurs, it is more likely to be ectopic compared with pregnancies in women who have not undergone the procedure.
- The procedure requires an operating room set-up and should be performed by a trained provider.
- Physical activities, such as heavy work and lifting heavy objects, immediately after surgery are limited. The client may resume normal activities a week after the procedure.
- The method does not protect against STIs such as HIV/AIDS.
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## WHO CAN USE THIS METHOD?

- Female sterilization is safe for all women. Women can have BTL even during monthly bleeding, as long as she is reasonably certain that she is not pregnant.
- No medical conditions prevent a woman from using female sterilization. However, some client conditions may limit when, where, or how the female sterilization procedure should be performed. The WHO Medical Eligibility Criteria (MEC) provide evidence-based recommendations based on clients' conditions and characteristics (see Table 21 of Appendix E, p. 333). The service provider is encouraged to use these tools as a guide in determining the suitability of clients to the female sterilization procedure.

Table 21. MEC categories for female sterilization

Accept the method in the following situations:

- Women who may or may not have given birth
- Breastfeeding women
- Less than 7 days postpartum OR more than 42 days postpartum
- Mild pre-eclampsia
- Uncomplicated abortion
- Past ectopic pregnancy
- Women who smoke at any age
- Past medical or family history of DVT/PE
- Surgery without prolonged immobilization
- History of cholestasis
- Migraine or non-migrainous type of headache
- Chronic or carrier viral hepatitis
- Women with gestational trophoblastic disease but decreased or undetectable beta-hCG levels
- Diagnosed with benign ovarian tumor, cervical ectropion, or cervical intraepithelial neoplasia
- Undiagnosed breast mass
- History of benign breast disease
- History of breast cancer with no evidence of disease in the last 5 years
- History of PID and with subsequent pregnancy
- Family history of cancer
- Other STIs (excluding gonorrhea, chlamydial, and HIV) and vaginitis
- High risk of HIV
- HIV-infected
- Uncomplicated schistosomiasis
- Non-pelvic tuberculosis
- Malaria
- History of gestational diabetes
- Asymptomatic gallbladder disease
- Benign liver tumors such as focal nodular hyperplasia
- Symptomatic gallbladder disease that has been treated
- Known thrombogenic mutations, superficial venous thrombosis, or hyperlipidemias
- Women with irregular vaginal bleeding patterns
- Mild liver cirrhosis
- Diagnosed with simple goiter
- Sterilization concurrent with cesarean section

**Use caution in the following situations:**

- Young age
- Body mass index of more than or equal to 30 kg/$m^2$
- Adequately controlled hypertension
- Have increased blood pressure (systolic of 140 mm Hg to 159 mm Hg or diastolic of 90 mm Hg to 99 mm Hg)
- History of stroke or ischemic heart disease
- Uncomplicated valvular heart disease
- Diagnosed with systemic lupus erythematosus
- Diagnosed with epilepsy or depressive disorders
- Current breast cancer
- Uterine fibroids
- History of PID and WITHOUT subsequent pregnancy
- Schistosomiasis with liver fibrosis
- Diabetes with non-vascular diseases
- Hypothyroidism
- Liver tumors such as hepatocellular adenoma or malignant hepatoma
- Thalassemia or sickle cell disease
- Iron-deficiency anemia with hemoglobin level between 7 g/dL to 10 g/dL
- Diaphragmatic hernia
- Kidney disease
- Severe nutritional deficiencies
- Previous abdominal or pelvic surgery
- Elective sterilization concurrent with abdominal surgery

## WHO CANNOT USE THIS METHOD?

**Delay use in the following situations:**

- Currently pregnant
- Women who are 7 to 42 days postpartum
- Postpartum women with
  - Severe pre-eclampsia or eclampsia
  - Prolonged rupture of membranes, 24 hours or more
  - Puerperal sepsis, intrapartum or puerperal fever
  - Severe antepartum or postpartum hemorrhage
  - Severe trauma to the genital tract
- Post-abortal sepsis or fever, hemorrhage, or severe trauma or hematoma along the genital tract
- Acute DVT/PE
- Major surgery with prolonged immobilization
- Current ischemic heart disease
- Unexplained vaginal bleeding prior to evaluation
- Women with gestational trophoblastic disease, cervical cancer, endometrial cancer, or ovarian cancer
- Current PID
- Current purulent cervicitis, chlamydial infection, or gonorrhea
- Current symptomatic gall bladder disease
- Acute or flare viral hepatitis
- Iron-deficiency anemia
- Local infection
- Acute respiratory diseases such as bronchitis or pneumonia
- Systemic infection or gastroenteritis
- Sterilization concurrent with abdominal surgery without previous counseling or due to infectious condition

**Special consideration should be undertaken prior to surgery in the following conditions:**

- Postpartum or post-abortion uterine rupture or perforation
- Multiple risk factors for arterial cardiovascular disease such as old age, smoking, diabetes, and hypertension
- Have high blood pressure (systolic of more than or equal to 160 mm Hg or diastolic of more than or equal to 100 mm Hg)
- Hypertension with vascular disease
- Diagnosed with DVT/PE and on anticoagulant therapy
- Complicated valvular heart disease
- Diagnosed with systemic lupus erythematosus
- Endometriosis
- Women with AIDS
- Pelvic tuberculosis
- Diabetes with nephropathy, retinopathy, neuropathy, or other vascular diseases
- Hyperthyroidism
- Severe liver cirrhosis
- Coagulation disorders
- Chronic respiratory diseases such as asthma, bronchitis, emphysema, or lung infection
- Fixed uterus due to previous surgery or infection
- Abdominal wall or umbilical hernia

## WHAT ARE THE STEPS IN CONDUCTING A FEMALE STERILIZATION PROCEDURE?

### Timing of the procedure

A client can undergo female sterilization

- At any time that she is reasonably certain that she is not pregnant, except between seven days and six weeks after childbirth.
- Immediately after childbirth or within seven days if she has made a voluntary, informed choice in advance.
- Six weeks or more after childbirth if she abstains from unprotected sex or correctly uses a reliable method of contraception.
- Immediately after an abortion (within 48 hours).

### Before the procedure

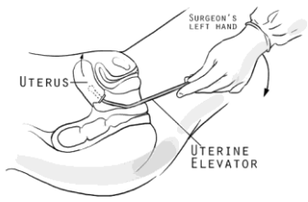
Instruct the client to

- Not eat any solid food for at least six hours before surgery, but the client may drink clear fluids up to two hours before the operation.
- Bathe thoroughly and clean the belly, genital area, and inner thighs well before going to the health facility.
- Wear clean, loose-fitting clothing.
- Not wear jewelry or nail polish.
- Bring a friend or relative to help her go home after the procedure. Ensure informed consent by

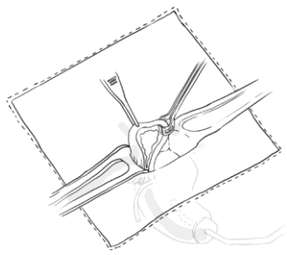
- Reinforcing counseling to avoid regret and emphasizing that BTL is a permanent method.
- Explaining to the client the six elements of informed consent written on the Informed Consent Form.
- Checking that the Informed Consent Form is signed correctly by the client. Assess client's suitability for the procedure by
- Reviewing her medical history (FP Form 1) to learn about her past and current health conditions, including the medications taken within 24 hours.
- Checking the client's conditions in accordance with the WHO MEC recommendations.
- Performing physical and pelvic examinations.

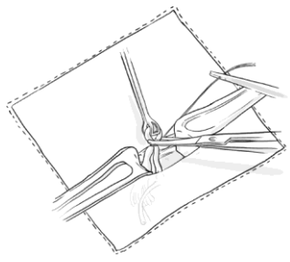
Prepare the client for the procedure (e.g., empty the bladder, change to hospital gown, remove nail polish and false teeth, if any).

## Actual procedure




1. Observe proper infection prevention practices at all times.
2. Perform a pelvic examination to reconfirm earlier findings and to assess the condition of the uterus and its mobility.
3. Give the client IV fluids.
4. Insert the uterine elevator for interval cases to manipulate the uterus. This step is not performed for women who have just given birth.
5. Slowly administer intravenous sedative and analgesia.
6. Administer local anesthetic to intended incision site: two finger breadths from the upper border of the pubic bone for interval cases and just below the navel for postpartum women.
7. Make a small horizontal incision (2 cm to 5 cm) in the anesthetized area.
8. When the abdomen is opened, depress the uterine elevator to raise the uterus for easy identification of the fallopian tubes.
9. Tie and cut each tube.
10. Close the incision with stitches, apply antiseptic, and cover the wound with bandage.
11. Transfer the client to the recovery area.





## After the procedure

- Observe the client for at least two hours. Discharge the client when her vital signs are stable and when she can tolerate food intake.
- Instruct the client to
  - Rest for one to two days and avoid heavy lifting for a week.
  - Keep the incision clean and dry for two days.
  - Avoid rubbing and scratching the incision for one week.
  - Take analgesic (paracetamol, mefenamic acid, ibuprofen) for pain.
  - Avoid sex until it is comfortable for her to do so, which is usually one week after the procedure.
- Provide client with written post-operative instructions.

## Follow-up

Instruct the client to return to the clinic

- For a follow-up visit seven days after the procedure to ensure that the wound is healing well.
- At any time she has questions or problems.

### WHAT ARE THE COMPLICATIONS?

Be aware of the warning signals and possible complications that may occur after the female sterilization procedure. Immediately refer the client to the appropriate health facility when she experiences any of the following:

- High fever (> 38 °C) in the first four weeks
- Pus or bleeding from the wound
- Pain, heat, swelling, or redness of the wound that worsens or does not subside
- Abdominal pain, cramping, or tenderness that worsens
- Fainting or extreme dizziness
- If the client thinks she might be pregnant with symptoms of
  - A missed period Nausea
  - Breast tenderness
- If she has signs of ectopic pregnancy, such as
  - Lower abdominal pain or tenderness on one side
  - Abnormal or unusual vaginal bleeding Faintness
  - (indicating shock)

## WHAT COUNSELING TIPS SHOULD BE PROVIDED TO A CLIENT?

Sterilization should not be offered only to women who have had a certain number of children or who have reached a certain age. Each woman must be allowed to decide whether she will want more children and whether or not to undergo sterilization.

Female sterilization is permanent. Thus, the FP counselor must ensure informed choice. A friendly counselor who listens to a woman's concerns, answers her questions, and gives clear, practical information about the procedure (especially its permanence) will help a woman make an informed choice. Informed choice results in a satisfied user without later regret.

Counseling must include the six elements of informed consent. When the client desires to undergo female sterilization, she signs an informed consent form that proves that the six elements have been discussed.

The six elements of informed consent are as follows:

- Temporary contraceptives are available to the client.
- Voluntary sterilization is a surgical procedure.
- The surgical procedure involves risks. Among the risks is the possibility that the procedure may fail.
- The effect of the procedure should be considered permanent.
- The procedure does not protect against sexually transmitted disease, including HIV/AIDS.
- The client can decide against the procedure at any time before the operation is performed without losing the right to medical health or other services or benefits.

In general, people who are most likely to regret sterilization are those who

- Are young
- Have few or no children
- Are not married
- Are having marital problems
- Have a partner who opposes sterilization
- Have just given birth or undergone an abortion, although these periods are convenient and safe for BTL. Women undergoing the procedure at these times may be more likely to regret doing so later. Thorough counseling during pregnancy, especially during antenatal visits, and a decision made before labor and delivery help avoid regrets.

Involving the client's spouse in counseling is helpful, as spousal consent is now being required by service providers. However, FP service providers should ensure that the decision to undergo sterilization is voluntarily made (not pressured or forced) by the client.

## WHAT ARE THE FACTS ABOUT FEMALE STERILIZATION?

Contrary to popular beliefs, female sterilization does NOT

- make women weak.
- cause lasting pain in back, uterus, or abdomen.
- remove a woman's uterus or lead to a need to have it removed.
- cause hormonal imbalances.
- cause heavier bleeding or irregular bleeding or otherwise change women's menstrual cycles.
- cause any changes in weight, appetite, or appearance.
- change women's sexual behavior or sex drive.
- increase the risk of ectopic pregnancy.
- cause prolonged soreness and weakness.

## KEY POINTS

- Bilateral tubal ligation
  - is a safe and simple surgical procedure.
  - provides permanent contraception for women who do not want more children.
  - can be performed in a number of ways, including through endoscopic procedures, but the DOH-approved standard is by minilaparotomy under local anesthesia.
  - can be performed at any time that the client is reasonably certain that she is not pregnant.
  - is safe for all women.
  - is permanent. Counselors must ensure informed, voluntary choice to avoid regrets.

- If no pre-existing medical conditions require special arrangements, minilaparotomy can be provided in maternity centers and basic health facilities where surgery can be performed. These facilitates include both permanent and temporary sites that can refer the client to a higher level of care in case of an emergency.