Female Sterilization

- Female sterilization provides permanent contraception for women when the desired family size has been achieved.
- It is a safe and simple surgical procedure. It can usually be done with just local anaesthesia and light sedation. Proper infection prevention procedures are required.
- The two most common approaches are minilaparotomy and laparoscopy.

Mode of Action

The doctor makes a small incision in the woman's abdomen and blocks off or cuts the two fallopian tubes. These tubes carry eggs/ovum from the ovaries to the uterus. When the tubes are blocked, the woman's ovum cannot be fertilized by the sperm but she continues to have menstrual periods.

Effectiveness

Female sterilization is very effective and permanent. In the first year after the procedure, 0.5 pregnancies occur per 100 women (1 in every 200 women).

Within 10 years after the procedure, 1.8 pregnancies occur per 100 women (1 in every 55 women). Effectiveness depends partly on how the tubes are blocked, but all pregnancy rates are low.

Advantages

- Very effective.
- Permanent: A single procedure leads to life-long, safe, effective family planning.
- Nothing to remember, no supplies needed, and no repeated clinic visits required.
- No interference with sex; does not affect a woman's ability to have sex.
- Increased sexual enjoyment because no need to worry about pregnancy.
- No effect on breast milk.
- No known long-term side effects or health risks.
- Can be performed just after a woman gives birth.
- May help protect against ovarian cancer.

Limitations

- Requires minor surgery by a specially trained provider.
- Compared with vasectomy, female sterilization is:
- Slightly more risky
- Often more expensive
- Reversal surgery is difficult, expensive, and not available in most areas.
- Successful reversal is not guaranteed.
- No protection against sexually transmitted infections (STIs), including HIV/ AIDS.

Client Assessment as per World Health Organization Medical Eligibility Criteria for Female Sterilization

The questions on the following pages check whether the client has any known medical conditions that limit when, where, or how female sterilization should be performed. The checklist should be used after the client has decided not to have more children, and has chosen female sterilization. It is not meant to replace counselling. The questions on the checklist refer to known conditions. Generally, the health care provider can learn about these conditions by asking the client. The health care provider does not usually have to perform special laboratory tests to rule out these conditions. No medical condition prevents a client from having sterilization. Some conditions and circumstances call for delay, referral, or caution, however. These conditions are noted in the checklist. **Delay** means delay female sterilization. These conditions must be treated and resolved before female sterilization can be done. Temporary methods should be provided in the meantime. **Refer** means refer client to a centre where an experienced surgeon and staff can perform the procedure in a setting equipped with general anaesthesia and other medical support. Temporary methods should be provided. **Caution** means the procedure can be performed in a routine setting but with extra preparation and precautions, depending on the condition. If no conditions require delay or referral, female sterilization can be performed in these routine settings: **Minilaparotomy** can be done in RHS-A and RHS-B Centres where surgery can be performed. These include both static and mobile camp facilities that can refer clients for special care if needed. **Laparoscopy** requires a well-equipped centre, with highly trained staff, one where laparoscopy is performed regularly and an anaesthetist is available.

Voluntary Surgical Contraception

	Client Assessment as per World Health Organization Medical Eligibility Criteria for Female Sterilization
3.	Does the client have any lingering, chronic diseases or any other conditions? Which ones? **DELAY** female sterilization in case of: • Gall bladder disease with symptoms • Active viral hepatitis • Severe iron deficiency anaemia (haemoglobin less than 7 g/dl) • Acute lung disease (bronchitis or pneumonia) • Systemic infection or significant gastroenteritis • Abdominal skin infection • Abdominal surgery due to acute abdomen • Immobilization due to major surgery • Post-surgical wound infection • Current AIDS-related acute illness **REFER** her to a centre with experienced staff and equipment that can handle potential problems: • Severe cirrhosis of the liver • Diabetes for more than 20 years • Hyperthyroidism • Bleeding disorders • Chronic lung disease • Pelvic tuberculosis **CAUTION:** • Epilepsy or taking medicine for seizures (phenytoin, carbamezapine, barbiturates, primidone) • Taking the antibiotics rifampicin or griseofulvin • Diabetes without vascular disease • Hypothyroidism • Mild cirrhosis of the liver, liver tumours, or schistosomiasis with liver fibrosis • Moderate iron deficiency anaemia (haemoglobin 7–10 g/dl) • Sickle cell disease • Inherited anaemia (thalassaemia) • Kidney disease • Diaphragmatic hernia • Severe malnutrition • Obesity • Elective abdominal surgery at time sterilization is desired • Young age • Mental disorder

Client Assessment as per World Health Organization Medical Eligibility Criteria for Female Sterilization
Ask the client the questions below. If the client answers “no” to all of the questions, then the female sterilization procedure can be performed in a routine setting without delay. If the answer is “yes” to a question below, follow the instructions. 1. Does the client have any gynaecological/obstetric conditions or problems (female conditions), such as pregnancy, infection, or cancer? DELAY female sterilization and treat if appropriate or refer in case of: • Pregnancy • Postpartum or after second-trimester abortion (7–42 days) • Serious postpartum or postabortion complications (such as infection or haemorrhage) except uterine rupture or perforation (see below) • Unexplained vaginal bleeding that suggests a serious condition • Pre-eclampsia/eclampsia • Pelvic inflammatory disease (PID) within the past 3 months • Current STIs • Pelvic cancers • Malignant trophoblastic disease **REFER** her to a centre with experienced staff and equipment that can handle potential problems: • Fixed uterus due to previous surgery or infection • Endometriosis • Hernia (umbilical or abdominal wall) • Postpartum uterine rupture or perforation or postabortion uterine perforation **CAUTION:** • Past PID since last pregnancy • Current breast cancer • Uterine fibroids • Previous abdominal or pelvic surgery 2. Does the client have any cardiovascular conditions, such as heart problems, stroke, high blood pressure, or diabetes? **DELAY** female sterilization: • Acute heart disease. Deep vein thrombosis or pulmonary embolism. **REFER** to a centre with experienced staff and equipment that can handle potential problems: • Moderate or severe high blood pressure (160/100 mm Hg or higher) • Vascular disease • Complicated valvular heart disease **CAUTION:** • Mild high blood pressure (140/90 mm Hg–159/99 mm Hg) • History of high blood pressure that can be evaluated and adequately controlled • Past stroke or heart disease

Client Assessment as per World Health Organization Medical Eligibility Criteria for Female Sterilization
Be sure to explain the health benefits and risks and side effects of the method that the client will use. Also point out any conditions that would make the method inadvisable. In general, most clients who want sterilization can have safe and effective procedures in routine settings. With proper counselling and informed consent, sterilization can be used in any circumstances by female clients who: • Just gave birth (within 7 days) • Are breastfeeding Also, clients with the following conditions can have sterilization in a routine setting in any circumstances: • Past ectopic pregnancy • Benign ovarian tumours • Irregular or heavy vaginal bleeding patterns, painful menstruation • Vaginitis without purulent cervicitis • Varicose veins • HIV-positive or high risk of HIV or other STIs • Uncomplicated schistosomiasis • Malaria • Tuberculosis (non-pelvic)

Before the procedure, the client should:

- Not eat or drink anything for 8 hours before surgery, except for clear liquids, which the client can take until 3 hours before surgery.
- Not take any medication for 24 hours before surgery. The morning dose of medicine for hypertensive or diabetes can be taken with doctor's advice.
- Bathe thoroughly, especially belly, genital area, and upper legs.
- Wear clean, loose-fitting clothing.
- Not wear nail polish or jewellery.
- Bring a friend or relative to accompany her home afterwards.

Method of Use

The client can have a female sterilization procedure at any time when the desired family size is achieved:

- If it is certain that she is not pregnant.
- Immediately after childbirth, ideally within 48 hours postpartum but allowable within 7 days after delivery (minilaparotomy procedure only).
- At any time 6 weeks or more after childbirth if it is reasonably certain she is not pregnant.
- At any time after an uncomplicated abortion or miscarriage that is of approximately 12 weeks or less gestational age. In pregnancies that are over 12 weeks of gestational age, the procedure can be safely performed within

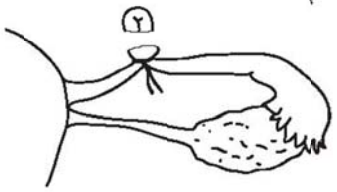
the first 48 hours after pregnancy termination if there are no associated complications, or after 6 weeks.

- Any other time, but not between 7 days and 6 weeks postpartum.

Techniques of Female Sterilization

To perform female sterilization, training and practice under direct supervision are required. All health care providers should understand these procedures and be able to discuss them with clients.

The Minilaparotomy Procedure



Below is a description of the interval procedure, used more than 6 weeks after childbirth. The postpartum procedure, used less than 7 days after childbirth, is slightly different.

1 Use proper infection prevention procedures.

2 Ask questions about the client's past and current health, and perform a physical examination and a pelvic examination.

3 Give light sedation to relax the client.

4 Infiltrate local anaesthetic into the incision site just above the pubic hair line.

5 Make a small incision (2–5 cm) in the anaesthetized area and expose the abdominal cavity.

6 Raise and turn the uterus with the uterine elevator to bring each of the two fallopian tubes under the incision.

7 Tie and cut each tube.

8 Close the incision with stitches and cover with adhesive bandages.

The Laparoscopy Procedure

1 Use proper infection prevention procedures.

2 Ask questions about the client's past and current health, and perform a physical examination and a pelvic examination.

3 Give the client light sedation.

4 Infiltrate the local anaesthetic into the incision site just under the navel.

5 Insert a special needle into the abdomen and, through the needle, introduced gas to inflate the abdomen. This raises the wall of the abdomen away from the organs inside.

1 Make a small incision (about 2 cm) under the navel and insert the trocar.

2 Insert the laparoscope or laprocator through the trocar.

3 Apply the fallope ring or clip using the laprocator to close off the tubes. Each tube is closed with a clip or a ring

4 After the tubes are closed, remove the trocar and laparoscope. Let the gas come out of the abdomen.

5 Close the incision with stitches and cover it with adhesive bandages.

Anaesthesia

Local anaesthesia, used with or without mild sedation:

- Is safer than general, spinal, or epidural anaesthesia.
- Minimizes the length of the client's stay at the hospital.
- May involve use of many different anaesthetics and sedatives.
- May need to use additional sedation and/or analgesia; this should be adjusted according to the client's body weight.

For situations in which clients need general anaesthesia, see the section on Medical Eligibility Criteria for medical conditions requiring referral to a centre that can provide general anaesthesia.

After the Procedure

The client should:

- Rest for 2 or 3 days and avoid lifting heavy objects for 7 days.
- Keep the incision clean and dry for 2 or 3 days.
- Not rub or irritate the incision for 1 week.
- Take paracetamol or another safe, locally available pain relief medicine, if needed.
- Not have sex for at least 1 week.

Side Effects and Management

- Some discomfort is common after the operative procedure. This discomfort can be relieved with analgesics.
- In laparoscopic ligation, chest and shoulder pain may occur for 1 or 2 days because of trapped gas remaining in the abdominal cavity. This pain can be relieved with analgesics.
- Some women complain of heavy or irregular periods after TL. These are not related to the procedure. If the complaint is troublesome, the client should be referred to a gynaecologist.

Complications of Minilaparotomy

TL using minilaparotomy is a safe procedure, and complications are few. There may, however, be short-term (immediate) or long-term (delayed) complications as listed below.

- Possible short-term (immediate) complications are:
  - Drug reaction
  - Bleeding from the wound
  - Uterine perforation with the uterine elevator
  - Injury to mesosalpinx and broad ligament
  - Bladder or intestinal injury
  - Anaesthesia problems
  - Tears/transaction of the tubes
- Possible long-term (delayed) complications are:
  - Wound infection
  - Haematoma or abscess formation
  - Menstrual disorders
  - Ectopic pregnancy
  - Failure of sterilization (which is rare)

Complications of Laparoscopic Ligation

- Bleeding
- Visceral injuries
- Infection
- Gas insufflation such as gas embolism, subcutaneous emphysema, and respiratory or cardiac arrest
- Lacerations of large blood vessels or abdominal organs by trocar

Resuscitation and Emergency Management

Anaesthesia Problems

There is a small but definite risk of problems with the use of parenteral sedation and/or analgesia. Emergency drugs should be ready in case a reaction occurs. Adequate monitoring will lead to early recognition and prompt management of:

- Allergy to the local anaesthetic agent
- Reaction to pre-medication

Haemorrhage during Surgery and Early Post-Operative Period

Haemorrhage may occur with both minilaparotomy and laparoscopic ligation, and may be detected by closely monitoring the vital signs of the client during the pre- and post-operative periods. If haemorrhage occurs, do the following:

- Establish an intravenous line, preferably with a large-bore needle or branula.
- Introduce intravenous fluids or plasma expanders, if necessary.
- Send blood for grouping and cross-matching and transfuse blood, if necessary, after you receive the laboratory clearance for hepatitis and HIV.
- Take the client into the theatre for emergency surgery. Ensure that a sterile emergency laparotomy kit is available at all times (to meet such emergencies).
- ⑩ In case of bladder and bowel injury, call a surgeon.
- Uterine Perforation If perforation occurs during minilaparotomy:
- Change the position of the elevator and observe the client.
- If bleeding occurs, apply pressure with a hot-water sponge and use spongostan.
- Apply mattress stitches and, if bleeding does not stop, call a surgeon.

Post-Operative Complications and Management

Infection TL may be followed by pelvic infection. The chances of infection increase if there is a history of previous sepsis after surgery, or if undiagnosed infection was present before surgery. Immediately refer to the doctor (preferably to the operating surgeon) any client complaining of fever, severe lower abdominal pain, or vaginal discharge. Wound infection may occur, but is usually not serious. The wound should be dressed daily, and if the discharge persists for more than 2 days, refer the client to a doctor.

Menstrual Changes In some cases, menstrual changes have been reported. Studies have shown that these changes could be due to a decline in the level of serum progesterone.

Other Problems

- Subsequent regret
- Psychological problems

Failure of Tubal Ligation All tubal occlusion methods have a failure rate, however slight, and the pregnancy that results carries a higher risk of being ectopic. Pregnancy after TL may occur when:

- The woman may have become pregnant in the same menstrual cycle in which the operation was carried out, i.e., she was already pregnant at the time of surgery.
- Structures other than the tubes were ligated.
- The fallopian ring was not applied properly.
- The cut ends of the tubes reconnected spontaneously.
- The uterine end of the tube developed a fistula with the peritoneal cavity, which may permit the sperms to pass.

If the client complains of amenorrhoea, send her for a pregnancy test. Be alert to the possibility of an ectopic pregnancy if the client complains of amenorrhoea, irregular vaginal bleeding, or lower abdominal pain, and refer her immediately to an appropriate medical facility for diagnosis and treatment.

Post-Operative Danger Signs

- Fever (greater than 100.4 ^{o}F or 39°C)
- Dizziness with fainting
- Abdominal pain that is persistent or increasing
- Bleeding or fluid oozing from the incision
- Signs of tetanus: Twitching of facial muscles, lockjaw, opisthotonu, etc.
- Abdominal distension associated with vomiting and failure to pass gas

Patients with these danger signs should be referred to the doctor immediately.

Counselling

Greet the client, ask her to sit down and make sure that she is comfortable. Now ask her some questions to confirm whether she needs permanent contraception.

Ask the client following questions:

- Do you want to have any more children in the future?
- If not, do you think you could change your mind later? What might change your mind? Suppose, God forbid, one of your children dies?
- Suppose you lose your spouse, and you marry again?
- Have you discussed sterilization with your spouse?
- Does your spouse want more children in the future?

- Do you think your spouse might change his or her mind later?
- Clients who cannot answer these questions may need encouragement to think further about their decisions regarding sterilization.

Special Care

In general, people most likely to regret sterilization have these characteristics:

- Young
- Few or no children
- Have not talked with their spouse about sterilization
- Spouse opposes sterilization
- Not married
- Have problems in their marriage

Also, for a woman, just after delivery or abortion is a convenient and safe time for voluntary sterilization, but women sterilized at this time are more likely to regret it later. Thorough counselling during pregnancy, and ensuring that the woman made her decision well before labour and delivery began, help avoid regrets.

A client should return to the clinic for any of these reasons:

- For a follow-up visit, within 7 days to have stitches removed.
- The client has questions or problems of any kind.
- ➉ Return at once if:
  - High fever (greater than 38°C) in the first week
  - Pus or bleeding from the wound
  - Pain, swelling, or redness of the wound
  - Abdominal pain, cramping, or tenderness
  - Fainting or dizziness
- The client suspects pregnancy.
- ➉ The client should come to the clinic at once if she has any of the following signs:
  - Lower abdominal pain or tenderness on one side
  - Abnormal or unusual vaginal bleeding
  - Faintness (indicating shock)

Note: Pregnancies among users of voluntary sterilization are rare. But when pregnancy occurs, it is more likely to be ectopic than the normal pregnancy. Ectopic pregnancy is life-threatening. It requires immediate treatment.