

Chapter 22

Laparoscopic Tubal Sterilisation

Chapter 22 : Laparoscopic Tubal Sterilisation

Tubal sterilisation can be performed either just after a normal delivery (postpartum sterilisation), during a Caesarean section or when a woman is not pregnant (interval sterilisation). Most interval sterilisations are performed laparoscopically. Traditionally, this surgery is performed by making 2 or 3 incisions in the abdomen, one umbilical incision for insertion of the camera, and the other incisions with ports to place instruments to perform the surgery. The various techniques are as follows:

1) Laparoscopic Clip Application

There are 2 types of clips available in the market namely the Hulka-Clemens clip and the Filshie clip. This technique is usually performed using 2 incisions. The first incision is in the umbilicus to place a 5 mm telescope. The second is a 8 mm incision placed laterally to introduce the trocar for the clip applicator. Clips are placed on the isthmus part of both tubes. The clips apply pressure on the tube, resulting in complete tubal occlusion (closure) and eventual necrosis (g) at the clip site.

The advantages of this technique are;

1. there is no transection of tubes or its surrounding tissues so bleeding risk is reduced.
2. minimal time is required for its application.
3. only 4 mm of the tube is damaged by the clip so future tubal reversal (if requested) will be successful.

The disadvantage of this technique is that the clips are quite expensive. This technique is currently performed via a single incision through the umbilicus (see Chapter 19).

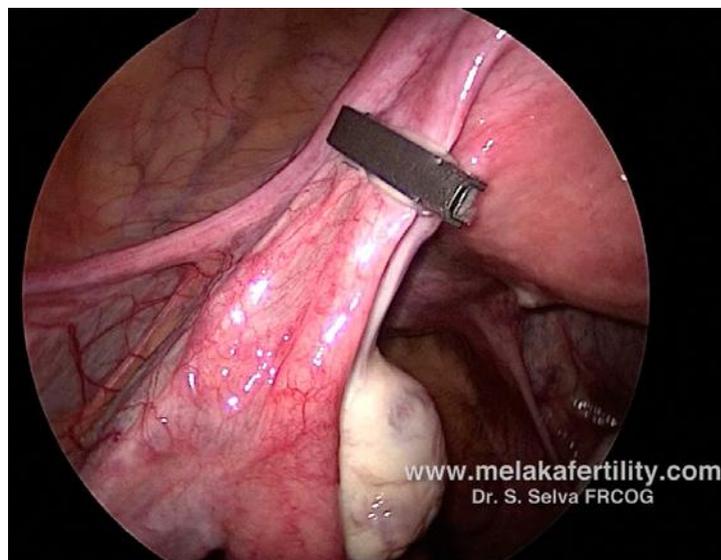


Figure 22.1 Filshie's clip application

2) Laparoscopic Fallope or Yoon rings insertion

In this technique a 2 -3 cm segment of the fallopian tube is drawn inside a narrow cone shaped applicator. The silastic ring (that has been stretched over the outside of the applicator) is then released into the tubal loop. As the ring contracts due to its elasticity, it constricts the base of the loop and blocks the fallopian tube. Deprived of its blood supply, the constricted loop is replaced with scar tissue, and the remaining healthy tubal segment separates, similar to the old Pomeroy tubal ligation method used by open technique. This surgery can be performed with 1 incision in the umbilicus. An operative laparoscope can be placed to visualise the pelvis and the applicator can be passed through the operative channel. The surgery can also be performed with 2 incisions, 1 in the umbilicus for the placement of the laparoscope while the other incision placed suprapubically or laterally to place the applicator. The disadvantage of this method is that there is a possibility of injury to the mesosalpinx causing haemorrhage. Rigid tubes or large tubes can also be divided by the applicator causing bleeding. This however can be controlled by bipolar coagulation. The amount of tissue damage is small allowing for tubal reversal.

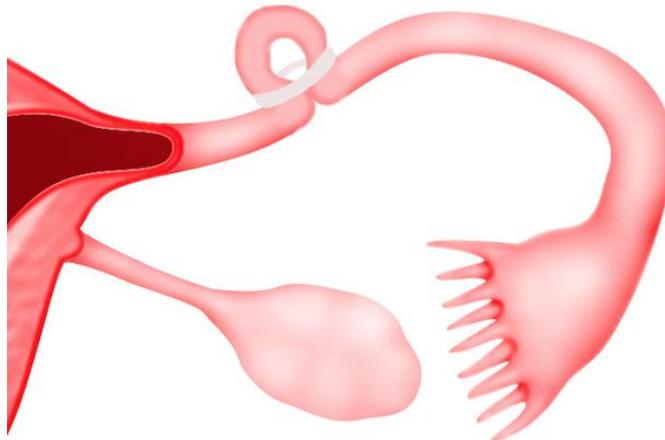


Figure 22.2 Fallope's ring

3) Laparoscopic Bipolar Electrocoagulation

This technique is usually performed with 2 or 3 incisions or a single incision technique. A 5 mm incision is placed in the umbilicus for the placement of a 5 mm trocar. Two other 5 mm trocars are placed in the abdomen, usually on either side. The tubes are then coagulated. This is usually done at the isthmus. About 3 cm of the tube must be coagulated. The coagulated tube then may or may not be transected and excised.

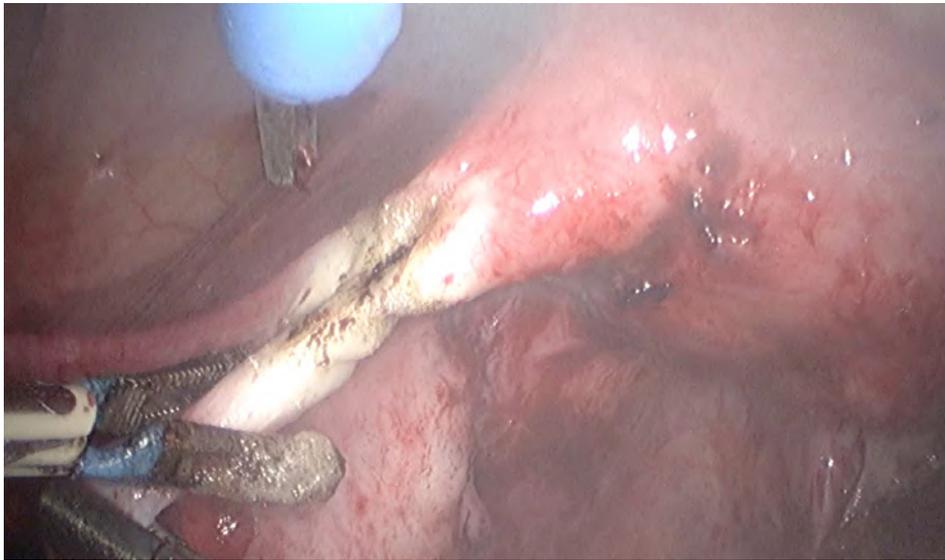


Figure 22.3 bipolar coagulation of left fallopian tube

4) Laparoscopic Unipolar Electrocoagulation

Just like the bipolar electrocoagulation, this surgery can be performed with 2 or 3 incisions (3 incisions if the tubes need to be transected and excised). After careful evaluation of the pelvis and the bowel pushed away, the tubes are held with a grasper attached to a monopolar electrocoagulation device and about 3 cm of the tube is coagulated. Due to lateral spread (the electrical current spreading outward from the coagulating forceps), more tube tend to be damaged in this technique. The coagulated tubes may or may not be transected or excised

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Watch Video 22.1

Laparoscopic sterilization

<https://vimeo.com/149484799>

Single Incision Laparoscopic Tubal Ligation

Laparoscopic tubal ligation can also be performed via a single incision technique. In this method, instead of making 2 more incisions to perform the surgery, a single incision is made in the umbilicus and 2 or 3 trocars are placed through this incision to perform the surgery.

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Watch Video 19.2

Single incision bilateral tubal ligation with Filshie's clip)

<http://vimeo.com/149741716>

Summary

Interval sterilisation is sterilisation done when the patient is not pregnant. This is usually done via the laparoscopic route. There are several techniques and this includes laparoscopic clip application, laparoscopic Fallope or Yoon rings insertion, laparoscopic bipolar electrocoagulation and laparoscopic unipolar electrocoagulation. These surgeries can also be performed via the single incision laparoscopic technique.