HEALTH HOLDING
HAFER ALBATIN HEALTH CLUSTER
MATERNITY AND CHILDREN HOSPITAL

Department:	Obstetrics and Gynecology (Ward)		
Document:	Departmental Policy and Procedure		
Title:	Female Reproductive Sterilization		
Applies To:	All Obstetrics and Gynecology Staff		
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1. PURPOSE:

1.1 To define tubal sterilization in order to clarify the indication, sterilization methods and medico-legal issue that should be followed at the time of request. This document sets out the criteria for eligibility, physical requirements, counselling, informed consent, preoperative, post-operative, and follow up procedure. It also highlights the salient steps of the surgical procedures.

2. DEFINITIONS:

2.1 **Female Reproductive Sterilization**- it is a safe surgical procedure that permanently prevents pregnancy.

3. POLICY:

3.1 Female sterilization usually involves blocking both fallopian tubes during laparotomy, minilaparotomy or more commonly by laparoscopy and in some patient by hysterectomy and bilateral oophorectomy.
3.2 Tubal sterilization is an elective, safe, high effective, convenient and permanent procedure.
3.3 Tubal sterilization indicated for:
- 3.3.1 Women who want a permanent method of contraception and are free of any gynecologic pathology that would otherwise dictate an alternative procedure.
- 3.3.2 For women in whom a pregnancy could represent a significant clinical and medical risk.

3.4 Contraindications:
- 3.4.1 Patient ambivalence regarding sterilization is an absolute contraindication.
- 3.4.2 Any gynecological malignancy or symptomatic gynecologic pathology (e.g. pelvic relaxation, uterine tumors, and ovarian tumors) in which a hysterectomy is indicated obviates the need for tubal occlusion.
- 3.4.3 The laparoscopic approach is relatively contraindicated in patients with a diaphragmatic hernia (through the foramen of morgani).
- 3.4.4 In the puerperium, postpone sterilization if maternal or infant complications exist.
- 3.4.5 The laparoscopic approach is also contraindicated in patients with severe cardiopulmonary disease or dysfunction.
- 3.4.6 The presence of morbid obesity and/ or a history of multiple abdominal surgeries with adhesion formation take the laparoscopic approach to sterilization out of the realm of elective, low risk surgery.

3.5 Counselling of both couple, they:
- 3.5.1 Should be aware of the nature of operation, alternatives, effectiveness, safety and complications, and is not intended to be reversible and cannot be guaranteed to prevent intrauterine or ectopic pregnancy or protect from viral sexually transmitted disease (STD).

3.6 Written Consent:
- 3.6.1 Both couples should have an understanding the procedure, as well as the benefits, alternatives and potential risks.
- 3.6.2 It is a permanent method of contraception.

3.6.3 The reasons of choosing sterilization.
3.6.4 Explanation of benefits and risk, options and determination of whether the person is competent to understand the information.
3.6.5 Type of anaesthesia (general or spinal or local).
3.6.6 The causes and probability of sterilization failure, including the chance of ectopic pregnancy.
3.6.7 The need to use condoms for protection against STD.
3.6.8 No consistent differences in menstrual cycle characteristics occur as result of tubal sterilization.
3.6.9 Couple must be counselled whenever required in the language that they understand.
3.6.10 It must be signed by:
3.6.10.1 Both couples.
3.6.10.2 Treating physician.
3.6.10.3 HOD.
3.6.10.4 Medical Director.

3.7 Timing of sterilization:
3.7.1 It can be performed postpartum, post abortion or in conjunction with another surgical procedure (e.g. CS or cholecystectomy).
3.7.2 Ideally post-partum procedure is performed immediately after delivery or within 24 hours. However at this period it is accompanied by a high incidence of regret. A pregnancy test must be performed before the operation to exclude the possibility of a pre-existing pregnancy. However, a negative test does not exclude the possibility of a luteal phase pregnancy.
3.7.3 Contraception should be used for at least one month before sterilization and continued until next menstrual cycle to decrease the occurrence of luteal phase pregnancies.
3.7.3.1 Sterilization with medical termination of pregnancy (MTP) can be performed concurrently.
3.7.3.2 Sterilization following spontaneous abortion can be performed provided the client fulfils the medical eligibility criteria.
3.7.3.3 Laparoscopic tubal ligation should not be done concurrently with second trimester abortion and in the post-partum period.

3.8 Medico legal issues:
3.8.1 A history should be taken and an examination should be performed on all women requesting tubal occlusion.
3.8.2 The operating physician will need to ensure that the counselling, information exchange, history and examination have been completed and be satisfied that the patient does not suffer from concurrent conditions which may require an additional or alternative procedure or precaution.
3.8.2.1 It is important to document operative findings carefully.
3.8.2.2 The tubes should be resected and sent to histopathological examination.

4. PROCEDURE:

4.1 A history should be taken and an examination should be performed on all women requesting tubal occlusion.
4.2 The operating doctor will need to ensure that the counselling, information exchange, history and examination have been completed and be satisfied that the patient does not suffer from concurrent conditions which may require an additional or alternative procedure or precaution.
4.3 Patient preparation:
4.3.1 The bladder must be emptied before the surgery.
4.3.2 Intravenous infusion preoperatively should be setup.
4.4 Analgesia and anesthesia:
4.4.1 Fentanyl and atropine intravenous injection provide adequate analgesia and sedation.

4.4.2 Local anesthesia can be given.
4.4.3 For anxious patients Midazolam can be added.
4.4.4 General anesthesia also can be used.

4.5 Patient position:
4.5.1 Supine position
4.5.2 Lithotomy position
4.5.3 Knee chest position

4.6 Sterilization methods: tubal sterilization are typically performed by:
4.6.1 Minilaparotomy: A modified Pomeroy procedure rather than Filshie clip application may be preferable for post-partum sterilisation performed by mini-laparotomy or at the time of caesarean section, as this leads to lower failure rates.
4.6.1.1 General, regional or local anesthesia all provide adequate anesthesia.
4.6.1.2 Tissue specimen is removed which provide histologic documentation of complete transaction of fallopian tubes.
4.6.1.3 It is also useful if the surgeon is not trained in laparoscopy or when the patient is obese or when there is severe tubal adhesion.

4.6.2 Pomeroy method:
4.6.2.1 Suprapubic, a colpotomy or sub-umbilical incision.
4.6.2.2 The fallopian tube is identified and grasped in the isthmic portion with a Babcock clamp.
4.6.2.3 The knuckle of tube is then double ligated with 0 or 2.0 plain catgut suture.
4.6.2.4 The mesosalpinx is puncture by Metzenbaum Scissors within the knuckle.
4.6.2.5 The ligated segment of the fallopian tube is then excised.
4.6.2.6 Hemostasis should be secured.
4.6.2.7 The same procedure is completed on the contralateral side.

4.6.3 Irving method:
4.6.3.1 It has an extremely low failure rate.
4.6.3.2 It is generally associated with greater intraoperative blood loss.
4.6.3.3 The fallopian tube is grasped with a Babcock clamp.
4.6.3.4 A hemostat is passed through a vascular portion of the mesosalphinx near the ampullary isthmic junction.
4.6.3.5 2-0 synthetic absorbable sutures are passed through this opening and tube is doubly ligated.
4.6.3.6 A hemostat is then used to pierce a hole approximately 1 cm deep in the posterior myometrium.
4.6.3.7 The sutures attached to proximal tubal segment are threaded into a curved needle and passed via a grooved needle guide through the base of the myometrial whole to exist the uterine surface 1-2cm apart.
4.6.3.8 These two sutures are tied together and the total stump is buried in the uterine muscularis.
4.6.3.9 An absorbable suture can be used to re approximate the uterine serosa.
4.6.3.10 Same procedure is completed on the contralateral side.

4.6.4 Uchida method:
4.6.4.1 The most complete of tubal sterilization.
4.6.4.2 It has an extremely low failure rate.
4.6.4.3 The fallopian tube is grasped with a Babcock clamp.
4.6.4.4 25 gauge needles are used to inject saline in to the subserosal layer in an area approximately 2 cm distal to the uterine cornu.
4.6.4.5 The tubal serosa is incised longitudinally to free 2-3cm segment of serosa.
4.6.4.6 Plain 0 or 2-0 absorbable suture are passed under the freed segment of the tube and tied at both ends of the isolated tubal segment.
4.6.4.7 Both sutures are held with hemostasis while the isolated tubal segment is excised and inspected to make certain that the tubal lumen has been interrupted. Then the specimen is sent for histologic confirmation.

4.6.4.8 The proximal suture is then cut to allow the tube to retract into the mesosalphinx and tension is placed on the distal segment to elevate it above the mesosalpinx. A 3-0 synthetic absorbable suture is used to reapproximate the serosa so that the proximal stump is buried within the mesosalpinx and the distal stump is exteriorized. The distal tube and fimbria can also be excised, if desired.

4.6.4.9 Pitfalls: The most common complication is bleeding. Retraction of the distal segment can occur and can be prevented by placing traction on the distal segment, or by placing a suture around the distal tubal stump and attaching it to the serosa before closure of the serosa is completed.

4.6.5 The Madlener technique: Crushes a loop of the ampullary portion of the tube with a hemostat. The tube is then ligated with non-absorbable suture material without excision of a tubal segment. The failure rate of this technique is higher as a result of fistula formation beneath the permanent suture material; therefore the Madlener approach should not be employed.

4.6.6 The Oxford technique: Divides the fallopian tube at the ampullary isthmic junction and carries the proximal segment under the round ligament where it is secured. The distal tube is then tied on the opposite side of the round ligament.

4.6.7 The Kroener technique (fimbriectomy): Involves grasping the fimbriated end of the fallopian tube with a Babcock clamp, clamping the mesosalpinx and outer third of the tube and doubly ligating it with synthetic absorbable suture. The tube is then excised to make certain that the entire fimbriated end of the tube (and a portion of ampulla) is removed. The most common complication is incomplete excision of the fimbriae, which can result in sterilization failure. This form of sterilization should not be used, as more effective alternatives are available.

4.6.8 The Aldridge Procedure: Buries, the fimbriated end of the tube in the broad ligament with a series of non-absorbable sutures that incorporate the serosal and muscular layers of the tube and ligament. The tube remains uninterrupted. In theory, reversal would simply require opening the broad ligament.

4.6.9 Laparoscopic sterilization: Laparoscopic sterilization is the most common surgical method for interval sterilization. Laparoscopic tubal occlusion should be performed as a day case whenever possible. Advantages include the opportunity to visually explore the abdomen for occult disease, a small incision and rapid recovery. The most commonly used methods of laparoscopic tubal occlusion are Falope ring or Hulka clip application and electrocoagulation. Severe cardiac or pulmonary disease, bleeding diathesis or adhesive disease and massive obesity are relative contraindications for a laparoscopic procedure; such patients should be disussed with an anesthesiologist before surgery.

An open or closed laparoscopy technique may be employed, neither is superior for routine procedures for all laparoscopic procedures, the woman is placed in the lithotomy position, the bladder emptied and a speculum inserted into a vagina. The cervix is cleaned with a prewarmed povidone-iodine solution. A Hulka uterine manipulator is inserted into the uterine cavity and attached to the anterior cervical lip. If the uterus is retroverted, the manipulator is placed along the uterine axis and then rotated 180 degrees.

4.6.9.1 Electrocoagulation- A heated needle connected to an electrical device is used to cauterize or burn the tubes. It is the most common method of tubal ligation.

4.6.9.2 Diathermy should not be used as the primary method of tubal occlusion because it increases the risk of subsequent ectopic pregnancy and is less easy to reverse than mechanical occlusive methods.

4.6.9.3 Falope ring- in this technique, an applicator is inserted through an incision above the bladder and a plastic ring is placed around a loop of the tube.

4.6.9.4 Hulka ring: The surgeon places a plastic clip across a tube held in place by a steel spring. The routine use of more than one Filshie clip is not recommended.

4.6.9.5 Silicone rubber bands: A band placed over a tube forms a mechanical block to sperm.

4.6.10 Hysteroscopic Sterilization: It is a minimally invasive hysteroscopic technique for non-reversible tubal occlusion. A narrow 4cm long coil (nickel titanium and stainless steel with a polyester fiber core) microinsert is inserted into the proximal portion of the fallopian tube hysteroscopically

under local anesthesia with or without conscious sedation. The device includes growth of the surrounding tissue into the coil, which leads to tubal occlusion over a three month period.

4.6.11 Contraindications to use include pregnancy within six weeks, active or contrast medium allergy, history of tubal surgery or hydrosalpinx and uterine abnormalities that impede visualization or access to tubal ostia.

4.6.12 Nonsteroidal premedication is recommended to reduce tubal spasm, as well as for analgesia. The procedure should be performed in the follicular phase, shortly after menses, when the endometrium is thin and pregnancy improbable. The average in office procedure time is 36 minutes. Complications are uncommon and include vasovagal reaction, vomiting, hypervolemia, vaginal bleeding, expulsion of the device and perforation.

4.6.13 One disadvantage compared to laparoscopic sterilization is that patients must use alternative contraception until a hysterosalpingogram performed three months post operatively confirms tubal occlusion. Reasons for failure included inability to visualise/ access the tubal ostia, expulsion, perforation and malplacement.

4.6.14 The clinician should discuss this possibility with the patient and consider consenting the patient for laparoscopic sterilization, which can be performed immediately after attempted essure placement if the procedure cannot be completed and is done in the appropriate surgical setting. Alternatively, another attempt at essure placement can be tried at a future time.

4.6.15 On the other hand, advantages of hysteroscopic compared to laparoscopic sterilization procedures include no need for neuroaxial or general anesthesia, no incision, lower cost and women spend less time in flu hospital, with better tolerance of the procedure and less post-operative pain.

5. MATERIALS AND EQUIPMENT:

N/A

6. RESPONSIBILITIES:

6.1 Physician
6.2 Nurses

7. APPENDICES:

N/A

8. REFERENCES:

8.1 Guidelines for Obstetrics &Gynecology, Ministry of Health, 2013.
8.2 https://www.slideshare.net/Harishanandakp/sterilization-59549504.

9. APPROVALS:

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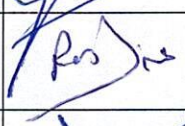
Reviewed by:	Mr. Sabah Turayhib Al - Harbi	Director of Nursing		January 13, 2025
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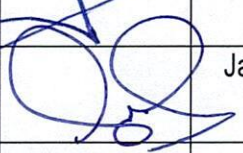
Reviewed by:	Mr. Abdulellah Ayed Al - Mutairi	QM&PS Director		January 15, 2025
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