

Permanent Sterilization

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OBJECTIVES

- Options
- Procedures
- Failure rate
- Risk
- Requirements

Benefits and Risks of Sterilization: ACOG Practice Bulletin 208, March 2019

- 220 million couples worldwide
- U.S. annually: 600,000 tubal occlusions
- 200,000 Vasectomies

Case Presentation

36 year old female G5P3013 presents at 18 weeks gestation, she is in her second monogamous relationship. She has used birth control pills and condoms for contraception. Now she is considering permanent sterilization.

What are her options?

Long Acting Reversible Contraceptives (LARC)

Intrauterine Devices

HORMONAL Levonorgestrel

Mirena - used for 8 years

Kyleena - used for 5 years

Liletta - used for 8 years

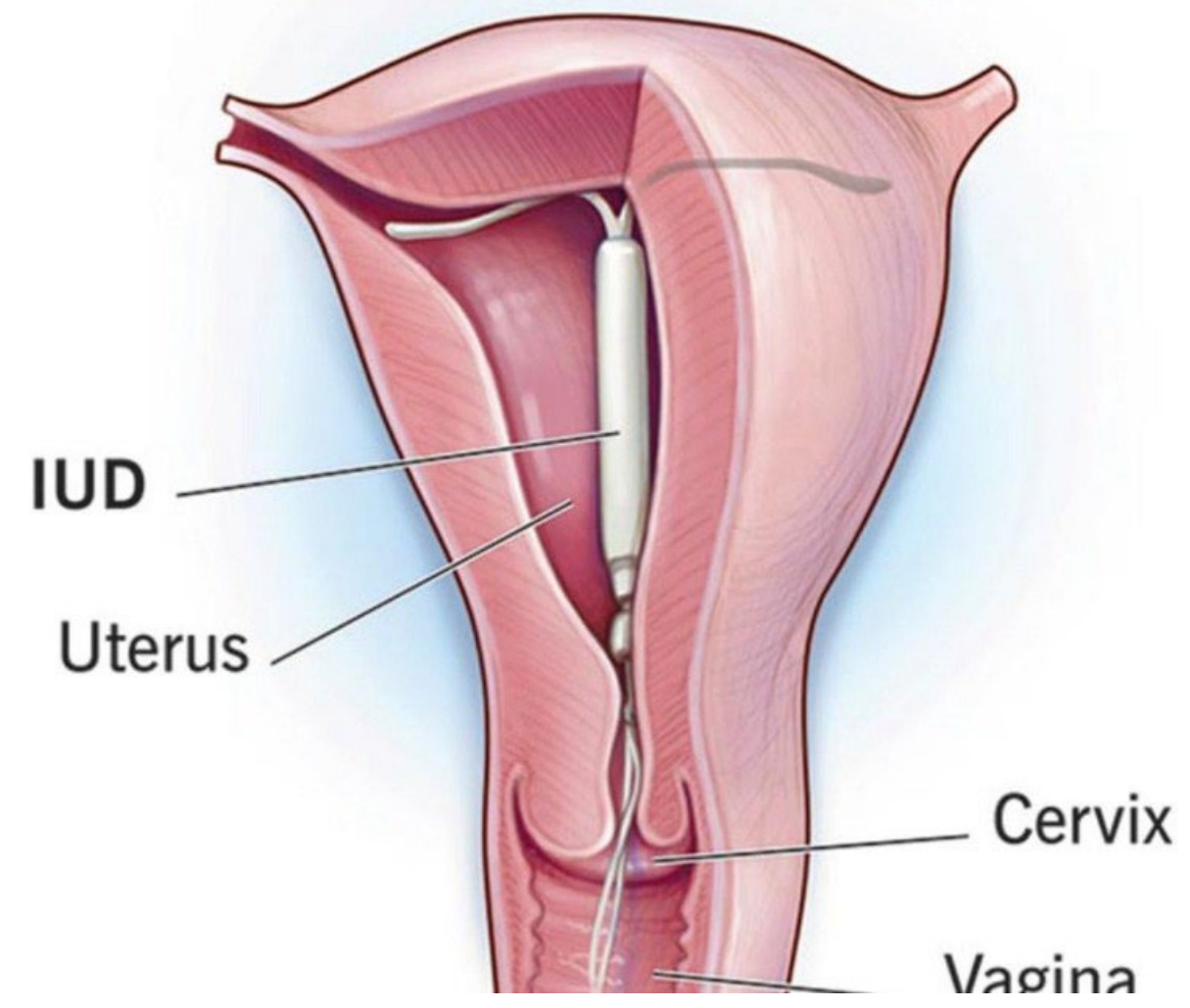
Skyla - used for 3 years

NON- HORMONAL

Paragard - used for 10 years. Copper

IMPLANT

- Nexplanon - used for 3 years - Etonogestrel implant



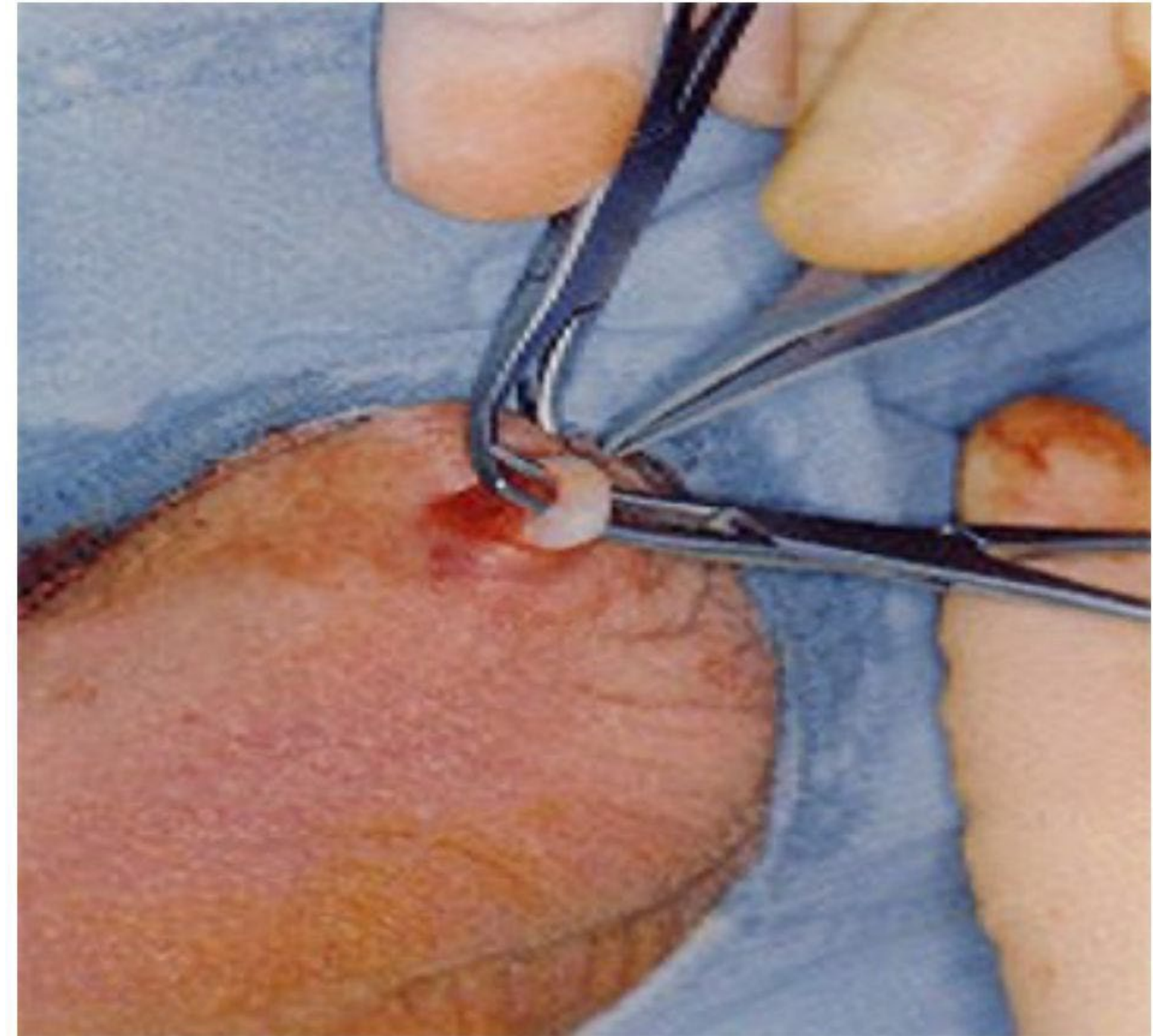
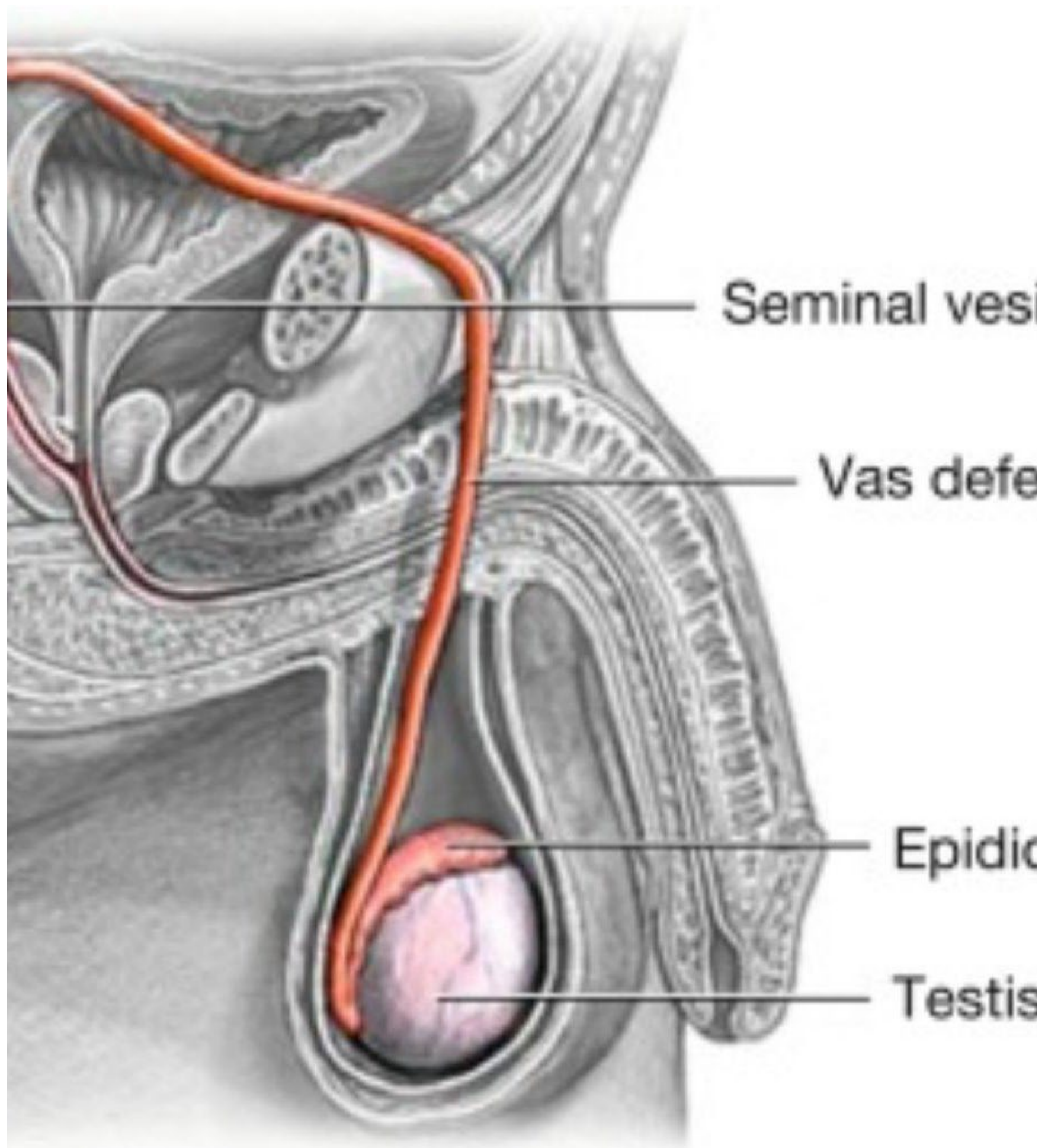
Vasectomies

- Outpatient procedure
- Local anesthesia
- Not immediately effective: an alternative form of contraception must be used.
- Most men are azoospermic at 3 months on sperm analysis
- 98-99% are azoospermic at 6 months

Are Vasecomies Reversible?

- Yes, they can be reversible. The vas deferens can be reunited.

Isolating the vas during vasectomy



A loop of vas deferens is brought up through the wound, divided, and a segment removed.

Questions about Vasectomies?

What forms of female
sterilization are available?

Timing for Bilateral Tubal Ligation (BTL)

POSTPARTUM

Immediately after postpartum or 6 weeks after delivery

INTERVAL

If not pregnant it can be done 30 days after signing the PM 330 form (consent form)

CONSENT FORM
 PM 330

NOTICE: YOUR DECISION AT ANY TIME NOT TO BE STERILIZED WILL NOT RESULT IN THE WITHDRAWAL OR WITHHOLDING OF ANY BENEFITS PROVIDED BY PROGRAMS OR PROJECTS RECEIVING FEDERAL FUNDS.

■ CONSENT TO STERILIZATION ■

I have asked for and received information about sterilization from Eisner Pediatric and Family Medical Center-Lynwood. When I first asked for the information, I was told that the decision to be sterilized is completely up to me. I was told that I could decide not to be sterilized. If I decide not to be sterilized, my decision will not affect my right to future care or treatment. I will not lose any help or benefits from programs receiving Federal funds, such as A.F.D.C. or Medicaid that I am now getting or for which I may become eligible.

I UNDERSTAND THAT THE STERILIZATION MUST BE CONSIDERED PERMANENT AND NOT REVERSIBLE. I HAVE DECIDED THAT I DO NOT WANT TO BECOME PREGNANT, BEAR CHILDREN OR FATHER CHILDREN.

I was told about those temporary methods of birth control that are available and could be provided to me which will allow me to bear or father a child in the future. I have rejected these alternatives and chosen to be sterilized.

I understand that I will be sterilized by an operation known as a

The discomforts, risks and benefits associated with the operation have been explained to me. All of my questions have been answered to my satisfaction.

I understand that the operation will not be done until at least thirty days after I sign this form. I understand that I can change my mind at any time and that my decision at any time not to be sterilized will not result in the withholding of any benefits or medical services provided by federally funded programs.

I am at least 21 years of age and was born on

I,

Last

hereby consent of my own free will to be sterilized by

by a

method called

My consent expires 180 days from the date of my signature below.

I also consent to the release of this form and other medical records about the operation to:

- Representatives of the Department of Health and Human Services.
- Employees of programs or projects funded by that Department but only for determining if Federal laws were observed.

I have received a copy of this form.

Date:

Signature of individual to be sterilized

■ INTERPRETER'S STATEMENT ■

If an interpreter is provided to assist the individual to be sterilized: I have translated the information and advice presented orally to the individual to be sterilized by the person obtaining this consent. I have also read him/her the consent

form in
 language and explained its contents to him/her. To the best of my knowledge and belief he/she understood this explanation.

Date:

Signature of Interpreter

■ STATEMENT OF PERSON OBTAINING CONSENT ■

Before
 signed the

consent form, I explained to him/her the nature of the sterilization

operation
 the fact that it

is intended to be a final and irreversible procedure and the discomforts, risks, and benefits associated with it.

I counseled the individual to be sterilized that alternative methods of birth control are available which are temporary. I explained that sterilization is different because it is permanent.

I informed the individual to be sterilized that his/her consent can be withdrawn at anytime and that he/she will not lose any health services or any benefits provided by Federal funds.

To the best of my knowledge and belief the individual to be sterilized is at least 21 years old and appears mentally competent. He/She knowingly and voluntarily requested to be sterilized and appears to understand the nature and consequences of the procedure.

Date:

Signature of person obtaining consent

Eisner Pediatric and Family Medical Center-Lynwood

Name of Facility where patient was counseled

3680 E. Imperial Hwy. Ste. 200
 Lynwood
 CA
 90262

Address of Facility where patient was counseled
 City
 State
 Zip Code

■ PHYSICIAN'S STATEMENT ■

Shortly before I performed a sterilization operation upon

on

I explained to him/her the nature of the

sterilization operation

the fact that it is intended to be final and irreversible procedure and the discomforts, risks and benefits associated with it.

I counseled the individual to be sterilized that alternative methods of birth control are available which are temporary. I explained that sterilization is different because it is permanent.

I informed the individual to be sterilized that his/her consent can be withdrawn at any time and that he/she will not lose any health services or benefits provided by Federal funds.

To the best of my knowledge and belief the individual to be sterilized is at least 21 years old and appears mentally competent. He/She knowingly and voluntarily requested to be sterilized and appeared to understand the nature and consequences of the procedure.

(Instructions for use of Alternative Final Paragraphs: Use the first paragraph below except in the case of premature delivery or emergency abdominal surgery when the sterilization is performed less than 30 days after the date of the individual's signature on the consent form. In those cases, the second paragraph below must be used. Cross out the paragraph below which is not used.

(1) At least thirty days have passed between the date of the individual's signature on this consent form and the date the sterilization was performed.

(2) This sterilization was performed less than 30 days but more than 72 hours after the date of the individual's signature on this consent form because of the following circumstances (check applicable box below and fill in information requested.)

A
 Premature delivery date:
 Individual's expected date

of delivery:
 (Must be 30 days from date of patient's signature).

B
 Emergency abdominal surgery; describe circumstances:

Date:

Signature of Physician performing surgery

Regrets/Considerations

- Young age, common in women less than age 30
- Lack of information of alternative methods
- Making a decision under pressure
- Unstable relationship
- Low parity

Logistics to Consider

State Laws: California requires age 21 for sterilization. Some states have limits to consent for sterilization when seeking an abortion.

PM 330 Form: Needs to have been signed for at least 30 days, the consent is valid up to 6 months.

Ethical considerations:

- Disabled
- Mentally challenged individuals Increase risk of an ectopic pregnancy
- Does not prevent HIV or other sexually transmitted diseases

Are Tubal Ligations Reversible?

- Depends on the type of procedure and how much healthy tube is left.

General Surgical Risk for Tubal Ligations

- Blood loss
- Organ damage: bowel, bladder, and major vessel injuries
- Reaction to anesthesia
- Infection
- Luteal phase pregnancy
- Increase risks of an ectopic pregnancy

No clear association with

- Menstrual symptoms
- Dysmenorrhea
- Heavy uterine bleeding
- Impaired sexual function
- Ovarian reserve

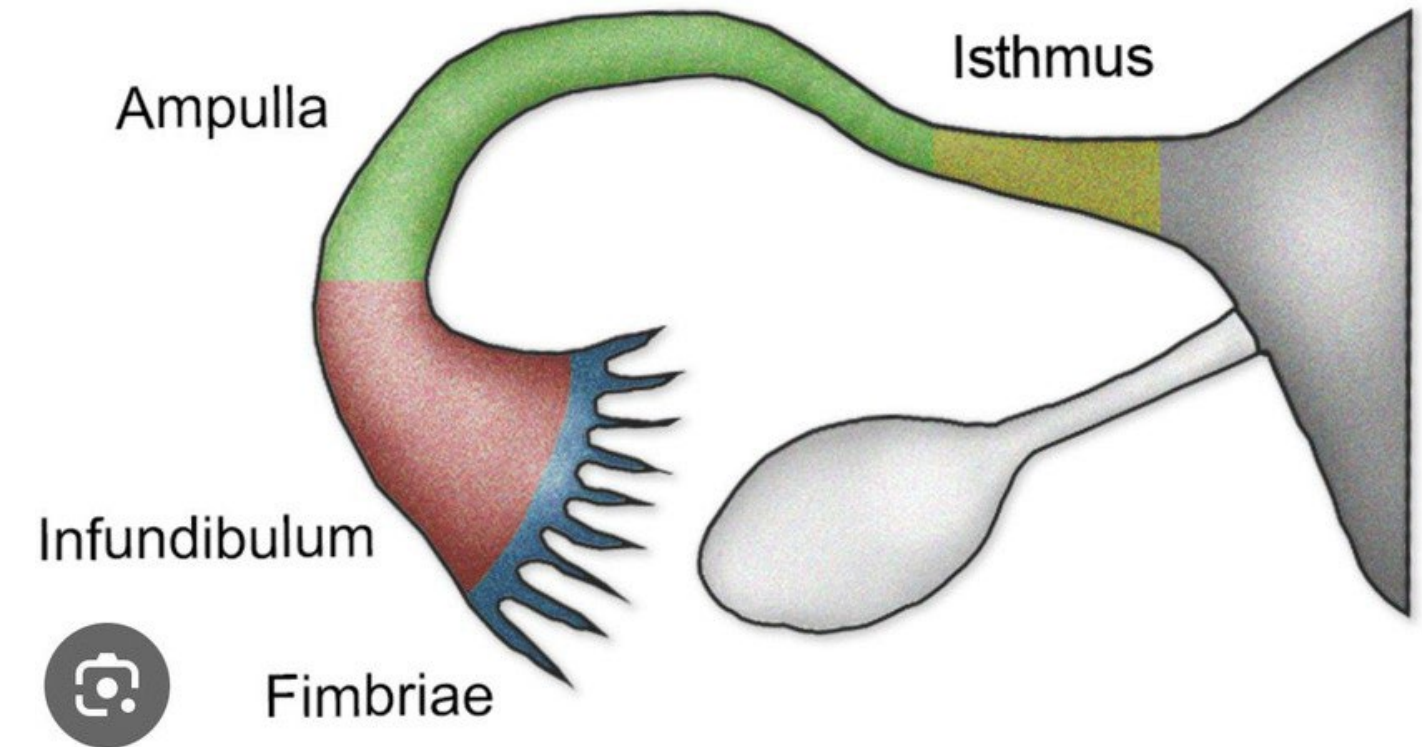
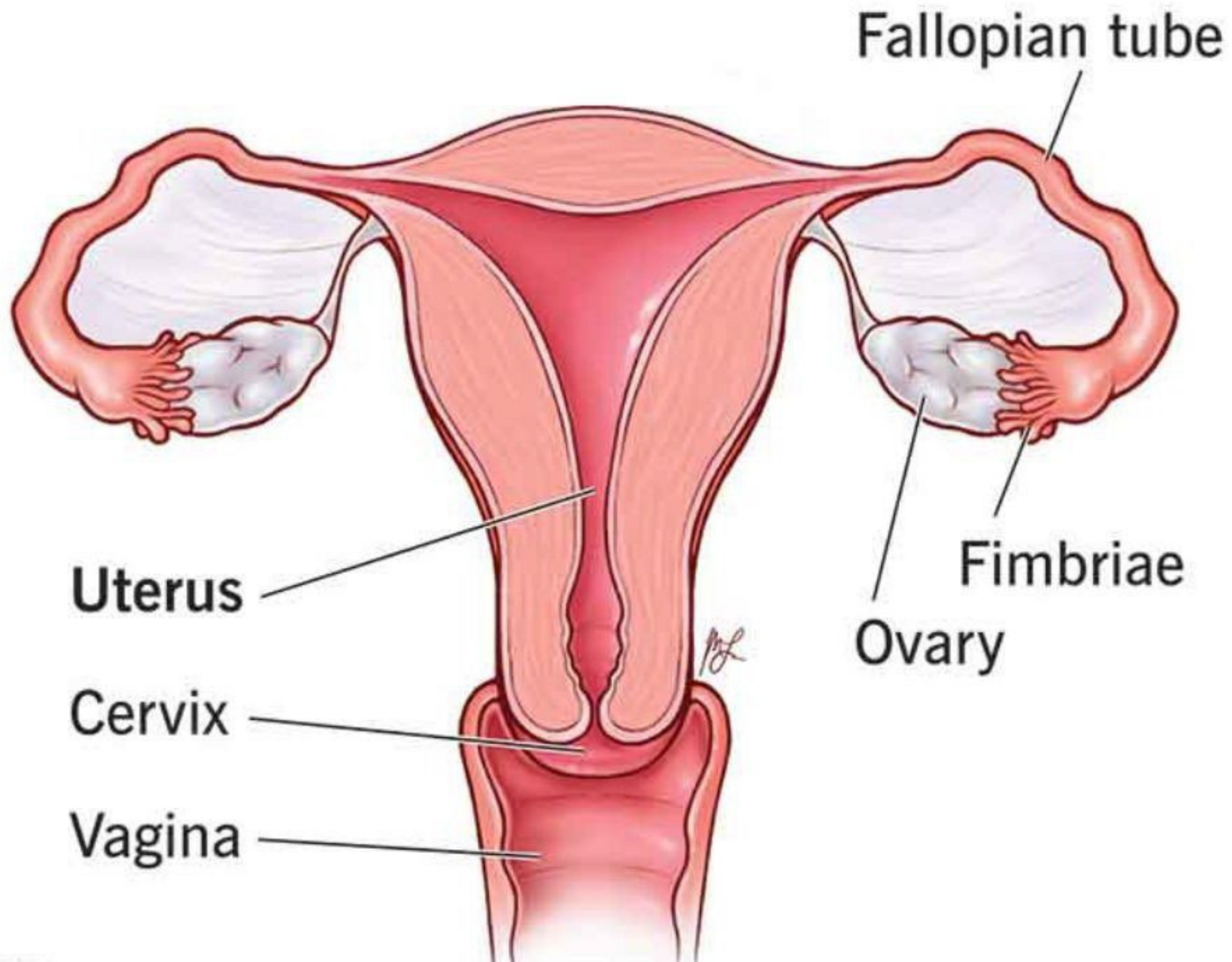
Surgical Techniques

1. Electrocoagulation
2. Mechanical Devices
3. Partial / Complete Tubal Excision

Postpartum

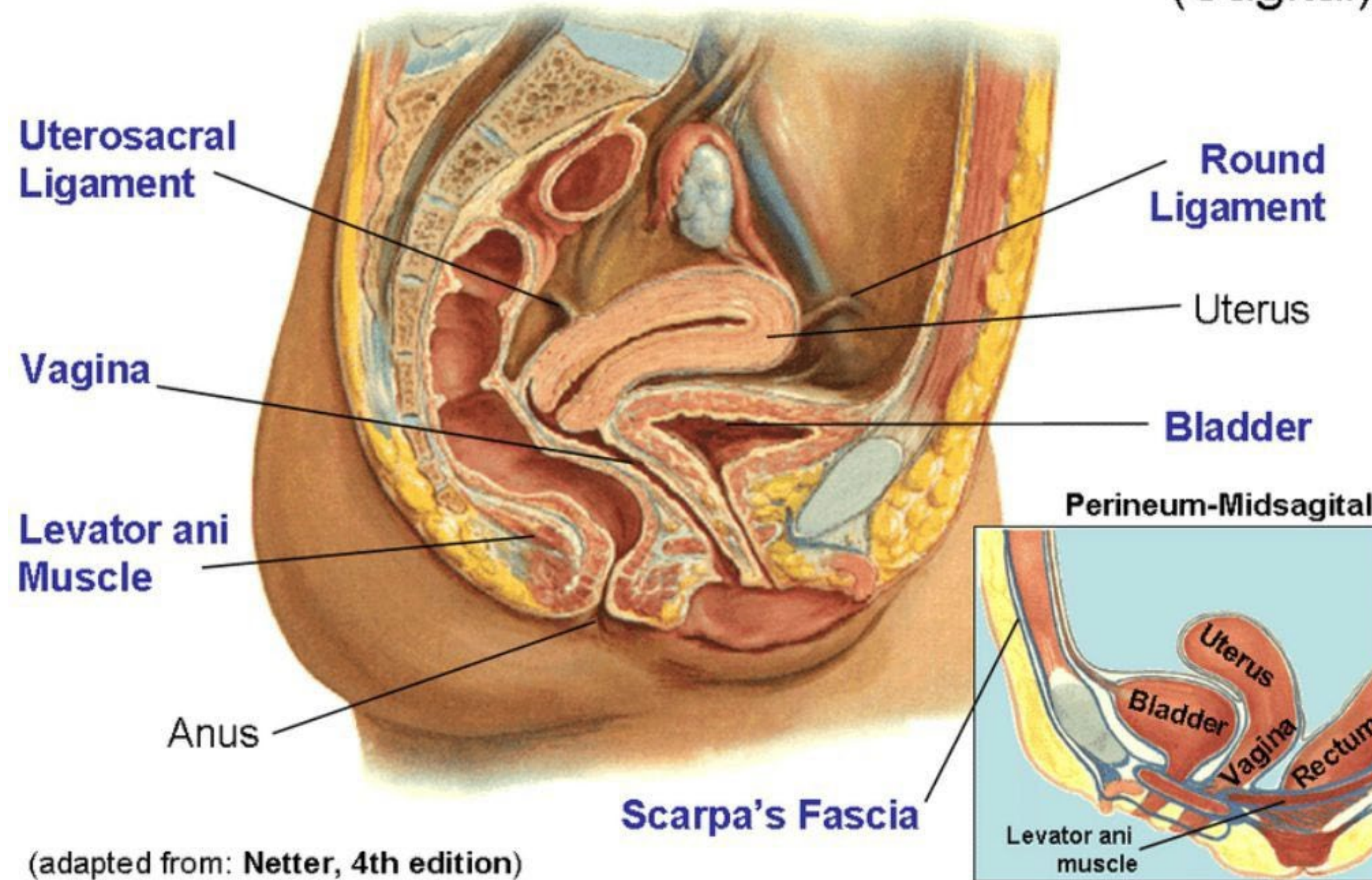
- Minilaparotomy: Small infraumbilical incision made and the tubes are exposed. Partial or complete removal of the fallopian tube.

Uterus





Pelvic Viscera and Perinium: Female - Median section (Sagittal)



Pomeroy Procedure

Tied



Cut

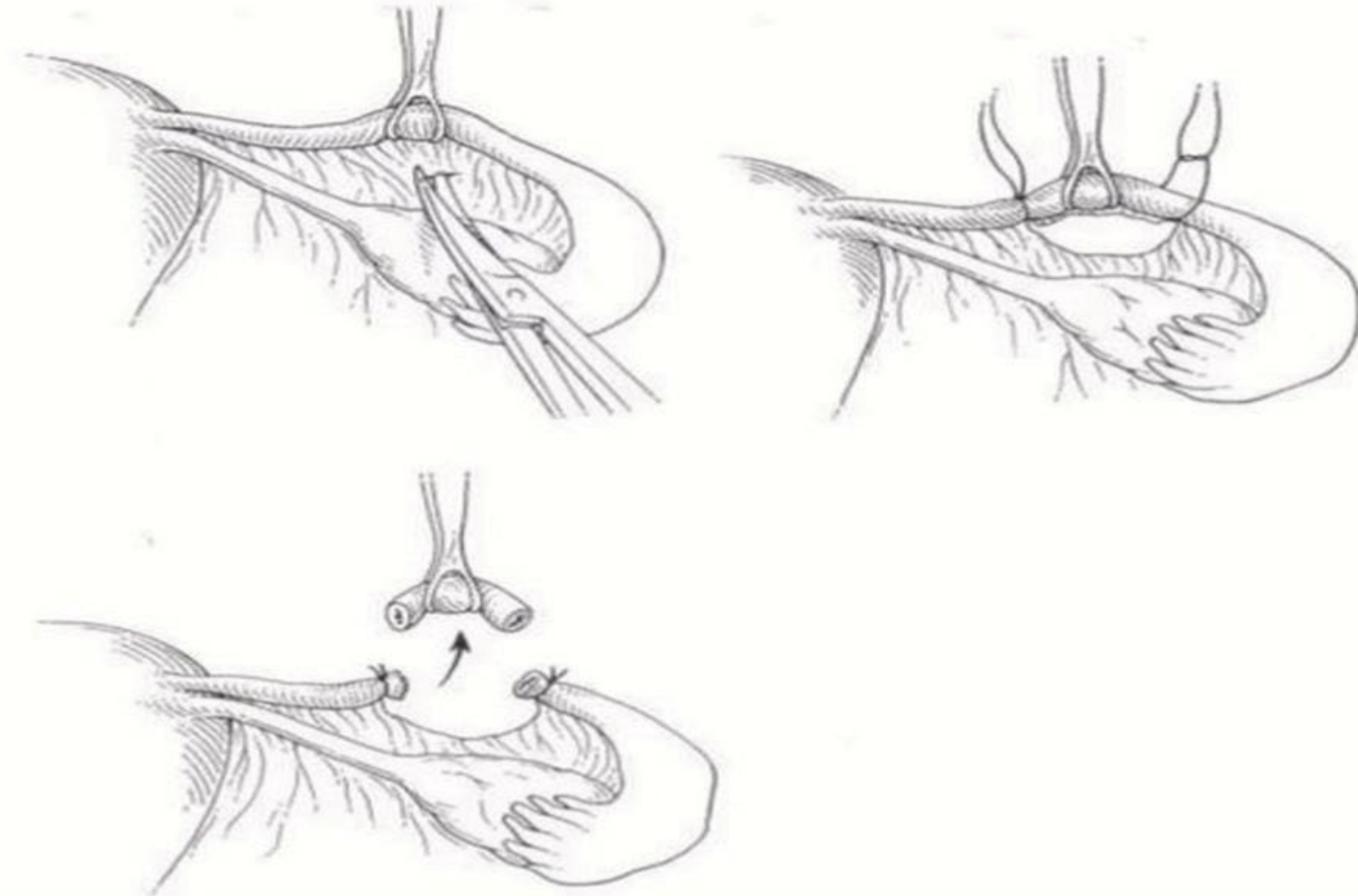


Final Result



PARKLAND PROCEDURE

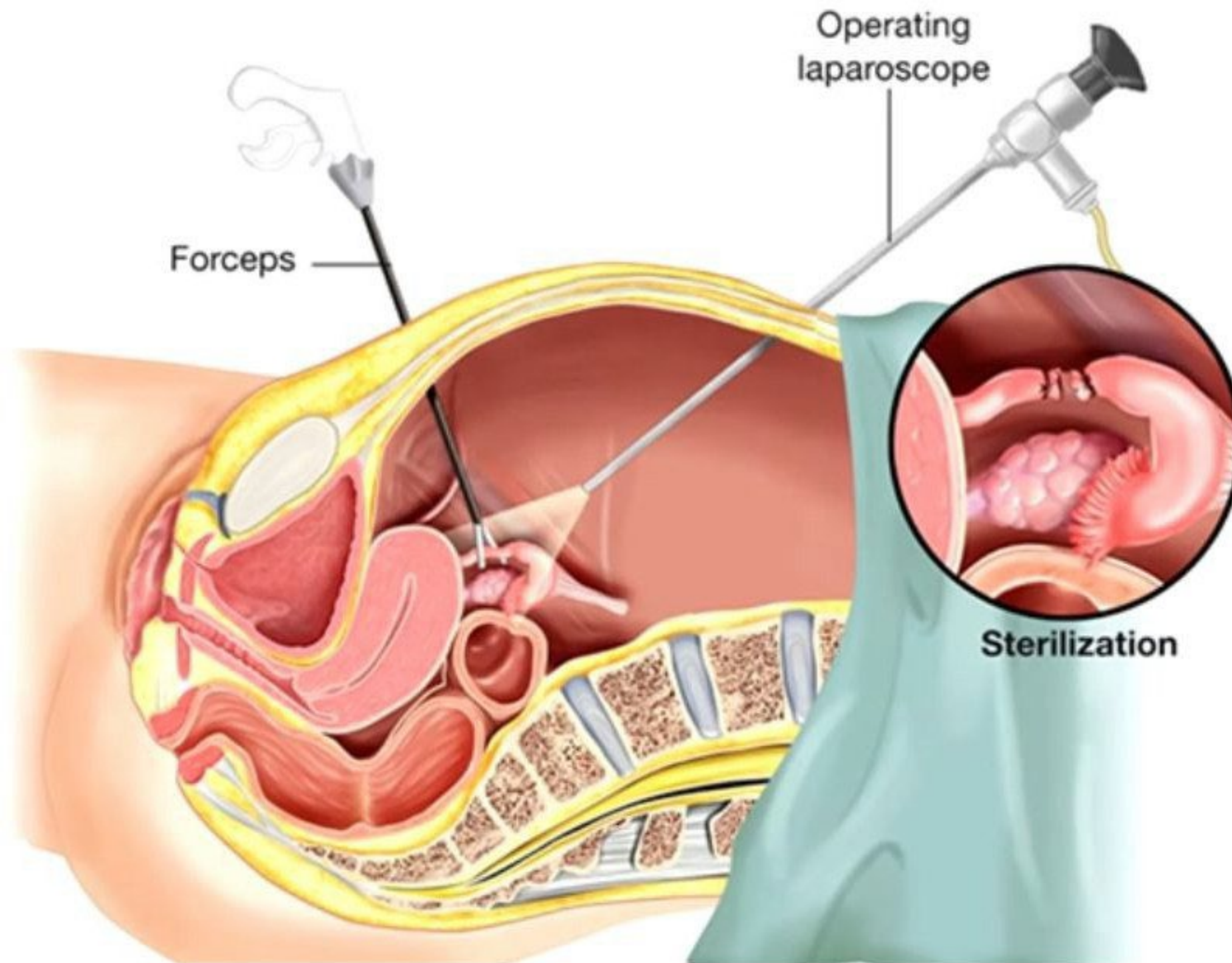
The *Parkland* method provides for immediate anatomic separation of the disconnected tubal segments unlike the Pomeroy technique.

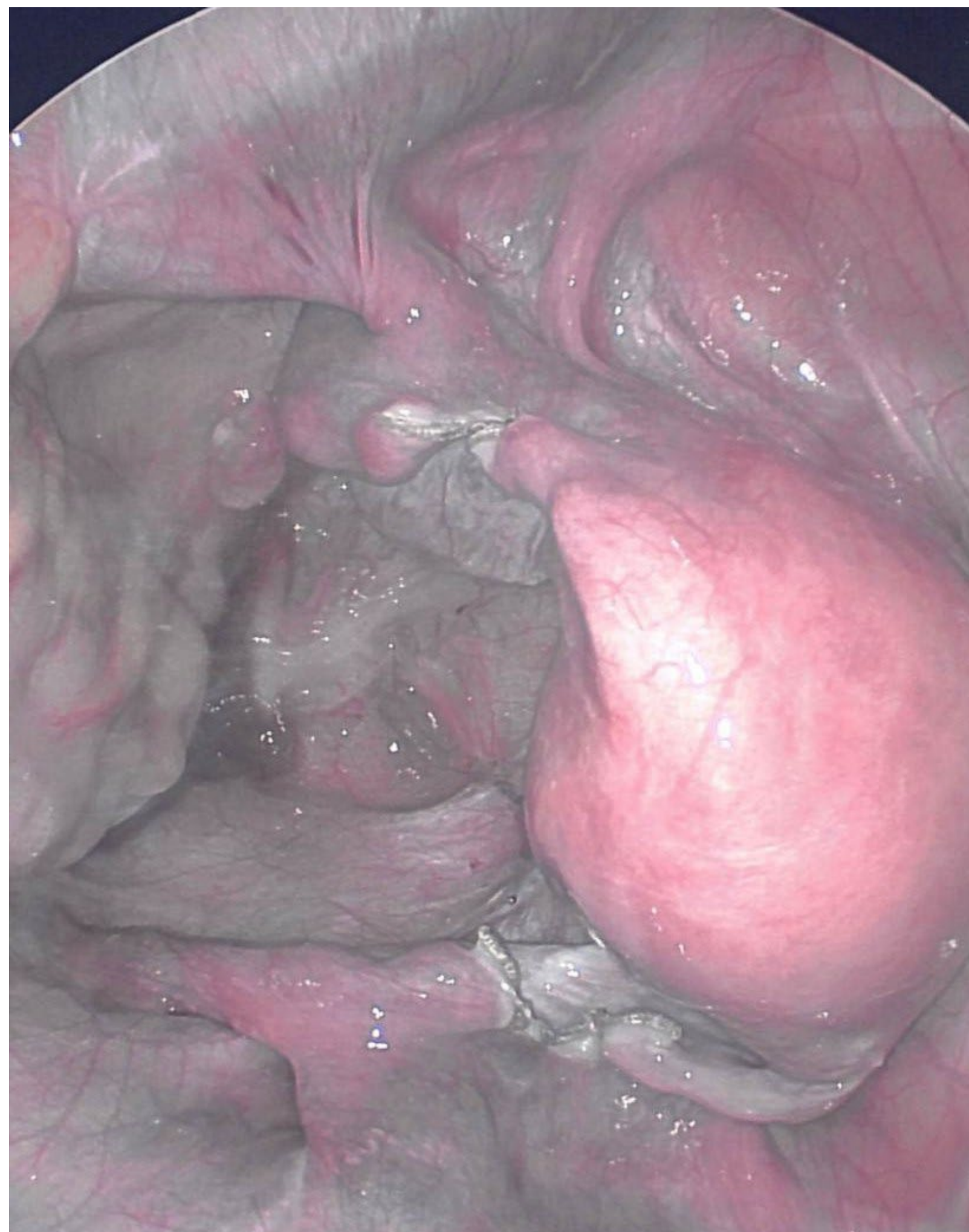


Minimally Invasive Sterilization

- Laparoscopic
- Outpatient
- Overall well tolerated and good recovery
- Risk: injury to pelvic or abdominal organs, infection, anesthesia reaction
- Post ablation tubal sterilization syndrome
- Laparoscopic major complications 0.1-3.5%, rate 0.9-1.6 per 100 cases. Conversion to laparotomy 0.9 per 100 cases.

Laparoscopic Sterilisation





Mechanical Devices

- Silicon rubber band
- Spring-loaded clip
- Titanium clip lined with silicon rubber

Risk of miss application and increased failure rate is associated with tubal adhesions, thicken tubes or dilated fallopian tubes.



Laparoscopic Tubal Ligation with Filshie

Questions about the
surgical procedures?

New Trend: Bilateral Salpingectomy

- Removal of the entire fallopian tubes
- Done as a way to also reduce ovarian cancer
- Ovarian cancer may originate from the fimbriae of the fallopian tube

Failure Rate

	1 to 2 years	3 to 5 years	7 to 12 years
Female permanent contraception			
Postpartum permanent contraception			
Postpartum partial salpingectomy	1.2 (1)	6.3 (5)	7.5 (10)
Postpartum titanium clips (Filshie clips)	17 (2)	-	-
Interval permanent contraception			
Interval partial salpingectomy	7.3 (1)	15.1 (5)	20.1 (10)
Interval titanium clips (Filshie clips)	4 (2)	-	-
Silicone rubber band (Falope Ring)	3 (1 to 2)	10 (5)	17.7 (10)
Electrosurgery	-	3.2* (5)	-
Male permanent contraception			
Vasectomy	1.5 (2)	-	-
LARC			
LNG IUD 52/8 (Mirena [¶] /Liletta ^Δ)	2 (1)	7 [◇] (5)	14 (8)
LNG IUD 19.5/5 (Kyleena) [§]	2 (1)	15 (5)	-
LNG IUD 13.5/3 (Skyla) [¥]	4 (1)	9 (3)	-
TCu380A copper IUD (Paragard)	8 (1)	-	14 (7); 22 (12)
Etonogestrel implant (Nexplanon)	0.5 (1)	4 (3); 6 (5)	-

IUD: intrauterine device; LARC: long-acting reversible contraception; LNG: levonorgestrel.

* With three contiguous sites of fulguration along the fallopian tube (a total length of fulguration of approximately 3 cm).

¶ LNG-releasing IUD containing 52 mg LNG at initial placement and with an initial LNG release rate of 20 mcg/day for 8 years (Mirena).

Δ LNG-releasing IUD containing 52 mg LNG at initial placement and with an initial LNG release rate of 18.6 mcg/day for 8 years (Liletta).

◇ 5-year data is 7/1000 for Mirena and 8/1000 for Liletta; this is not statistically different.

Failure Rate

Table 1. Pregnancy Rates by Sterilization Method

Method	5-year (per 1,000 procedures)	10-year (per 1,000 procedures)	Ectopic (per 1,000 procedures)
Postpartum partial salpingectomy	6.3	7.5	1.5
Bipolar coagulation ^{*†}	16.5	24.8	17.1
Silicone band methods	10.0	17.7	7.3
Spring clip	31.7	36.5	8.5
Vasectomy	11.3		No association

*Secondary analysis of 5-year failure rates with bipolar coagulation performed in different decades found that failure was significantly lower in later periods, reflecting improved technique with the method: 19.5 per 1,000 procedures for 1978–1982 versus 6.3 per 1,000 procedures for 1985–1987.

†Peterson HB, Xia Z, Wilcox LS, Tylor LR, Trussell J. Pregnancy after tubal sterilization with bipolar electrocoagulation. U.S. Collaborative Review of Sterilization Working Group. *Obstet Gynecol* 1999;94:163–7.

Data from Jamieson DJ, Costello C, Trussell J, Hillis SD, Marchbanks PA, Peterson HB. The risk of pregnancy after vasectomy. US Collaborative Review of Sterilization Working Group [published erratum appears in *Obstet Gynecol* 2004;104:200]. *Obstet Gynecol* 2004;103:848–50; Peterson HB, Xia Z, Hughes JM, Wilcox LS, Tylor LR, Trussell J. The risk of pregnancy after tubal sterilization: findings from the U.S. Collaborative Review of Sterilization. *Am J Obstet Gynecol* 1996;174:1161–8; discussion 1168–70; Peterson HB, Xia Z, Hughes JM, Wilcox LS, Tylor LR, Trussell J. The risk of ectopic pregnancy after tubal sterilization. U.S. Collaborative Review of Sterilization Working Group. *N Engl J Med* 1997;336:762–7; and Peterson HB, Xia Z, Wilcox LS, Tylor LR, Trussell J. Pregnancy after tubal sterilization with bipolar electrocoagulation. U.S. Collaborative Review of Sterilization Working Group. *Obstet Gynecol* 1999;94:163–7.

CREST Study

- U.S. Collaborative Review of Sterilization
- Prospective study of 10,685 women conducted in 1996 by the Centers for Disease Control and Prevention
- Concluded: risk of failure of laparoscopy or minilaparotomy sterilization higher than previously reported

CREST Study

II. Life-table cumulative probability of pregnancy among women undergoing tubal sterilization by method (relative probability per 1000 procedures and 95% confidence interval)

Method	No. *	Years since sterilization			
		1	2	3	4
Laparoscopic bipolar coagulation	2267	2.3 (0.3-4.2)	4.6 (1.8-7.5)	6.7 (3.2-10.2)	13.1 (7.9-18.2)
Laparoscopic unipolar coagulation	1432	0.7 (0.0-2.1)	2.3 (0.0-4.8)	2.3 (0.0-4.8)	2.3 (0.0-4.8)
Laparoscopic Pomeroy rubber band application	3329	5.9 (3.3-8.5)	5.6 (4.5-10.6)	8.3 (5.1-11.4)	9.0 (5.7-12.2)
Laparoscopic Falgout clip application	199.5	18.2 (11.5-24.9)	23.8 (16.1-31.5)	29.1 (20.5-37.7)	30.7 (21.9-39.4)
Laparoscopic interval partial salpingectomy	425	7.3 (0.0-15.5)	15.1 (3.1-27.1)	15.1 (3.1-27.1)	15.1 (3.1-27.1)
Laparoscopic interval partial salpingectomy	1637	0.6 (0.0-1.9)	3.9 (0.8-7.1)	4.6 (1.2-8.1)	5.4 (1.7-9.2)
All methods	10685	5.5 (4.1-6.9)	8.4 (6.6-10.1)	9.9 (8.0-11.8)	11.8 (9.7-14.0)

* Number of women sterilized.

References and Further Information

- ACOG Practice Bulletin 208, March 2019
- UpToDate: Female Interval and Postpartum Permanent Contraception: Procedures / Vasectomy
- California Family PACT / Tubal Ligation
- U.S. Medical Eligibility Criteria for Contraceptive Use, from the Center for Disease Control and Prevention

Questions?

Thank You

