Contraception Counselling

PRINCIPLES OF FAMILY PLANING COUNSELING

- Most commonly used contraception in India: female sterilization
- Counseling:
  - Private
  - Confidentiality
  - Non judgemental
  - Affordability
  - Acceptability
  - According to patient social norms

Counseling - GATHER approach:

- G - Greet (greet friendly/safe space)
- A - Ask (history, requirements, comorbidity, complaints)
- T - Tell (options)
- H - Help (choose)
- E - Explain (about choosing contraception)
- R - Return (follow up)

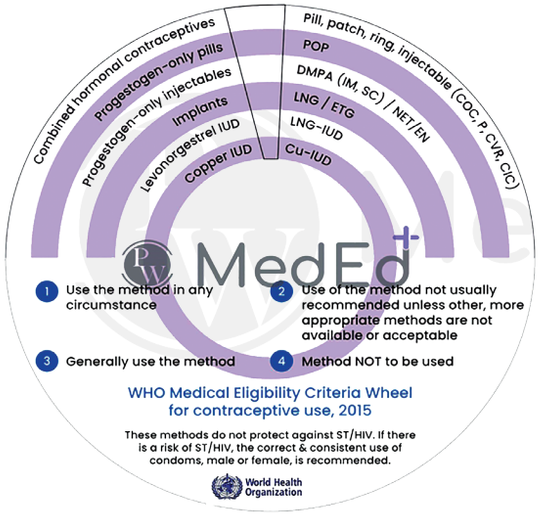
Basket approach

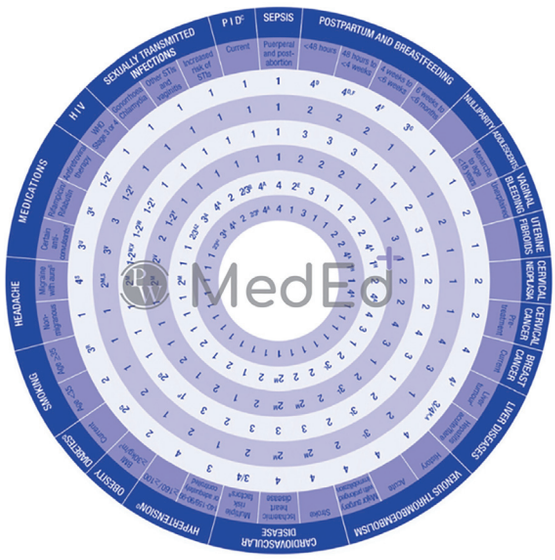
Personal Notes

Cafeteria approach

MEDICAL ELIGIBILITY CRITERIA (MEC)

- Published by WHO





Personal Notes

MEC category:

- Use without any risk
- The benefits of contraception are much more theoretical risks
- The theoretical risk outweighs the contraception benefits
- Contraindicated for patients

Steps of FP counseling:

- General counseling
- Method specific counseling
- Post Contraception counseling

CONTRACEPTIVE BASKET OF CHOICE UNDER NATIONAL FAMILY PLANNING PROGRAM

35 mm/1.26 in

Temporary method:

- Condom - NIRODH
- Pills - combined oral contraceptive pills (MALA - N)

Personal Notes

- Centchroman - Chhaya (earlier-saheli)
- Emergency contraceptive pill - LNG (1.5 mg) EZY pill
- Injectables - DMPA (150 mg) Antara

IUCDs:

- CuT 380 A (10 years)
- CuT 375 (5 years)

Personal Notes

Contraception: Natural Methods

CONTRACEPTION

Temporary:

- Natural
- Barrier methods
- Hormone contraceptives
- Intrauterine contraceptive device

Permanent:

- Female sterilization
- Male sterilization

NATURAL METHODS

- No extrinsic drug/device/object used
- The couple relies on their own understanding of physiology for contraception.

CALENDER METHOD

- Relies on women's knowledge of ovulatory & periovulatory days of her cycle & intercourse is avoided on those days.
- Variations:
  - Dating:
    - Shortest cycle minus 18 days & longest cycle minus 11 days → Unsafe period
    - Intercourse must be avoided during unsafe periods
  - Basal body temperature:
    - Intercourse is avoided for 3 days after increase in BBT.
  - Cervical mucus/Billing method:
    - +ve spinnbarkeit test → mucus stretch upto 10 cm between fingers
    - Copious, mucoid and stretchy cervical mucus
    - Couple avoids intercourse on those days
    - Advantages:
      - Well accepted method.
    - Disadvantage:
      - High failure rates (10-30 per 100 WY)
      - Does not protect from STDs

Personal Notes

LACTATIONAL AMENORRHEA

- Exclusive breastfeeding → high prolactin levels → inhibit GnRH → Anovulation
- For first 6 month after pregnancy
- Feeding at night as well

Advantages:

- If done properly (within 6 months) → low failure rates (2 per 100WY)

Disadvantages:

- Between 6-12 months of pregnancy → failure rates rapidly increases
- Does not protect against STDs

COITUS INTERRUPTUS

- Male partner ejaculates outside the female

Advantages:

- Well accepted by certain religions

Disadvantage:

- Very high failure rates (~ 20 per 100WY) → some ejaculates may deposit in vagina & prejaculates contain sperms.
- Stress in male partner
- Stress in female partners → pelvic pain, hypothalamic amenorrhea
- Does not protect against STDs.

Personal Notes

Contraception: Barrier Methods

BARRIER METHODS

- Provides physical hindrance to sperm reaching the oocyte
- Note: failure rate can be of 2 types:
  - With ideal use
  - With typical use

Personal Notes

MALE CONDOM

- Most common
- MoHFW provides free condoms - Nirodh
- Condoms are made of latex or polyurethane (in case of latex allergy)
- It is unrolled over the erect penis
- Teat or reservoir should be present at the tip of penis where the semen collects.

Advantage:

- Protects against STDs like HIV, Hepatitis B,C
- Long distance partners who meet very few times

Disadvantages:

- Reduces sensation Polyurethane - thinner and gives a more skin-like feel
- High failure rates - 2/100 women years with ideal use 18/100 women years with typical use
- Failure is due to slippage > breakage

FEMALE CONDOM

- Not reusable
- Made of polyurethane, it has 2 rings with a tube
- One end is covered and goes over the cervix and the other end is at the vulva and it is open.
- Intercourse takes place at the orifice at vulval end, semen collects inside the female condom.

Advantages:

- Protects against STDs
- Comes prelubricated

Disadvantages:

- Failure rate:
  - Ideal use - 5/100 women years
  - Typical use - 21/100 women years
- Cannot be reused
- More expensive
- It may be ill-fitting and cause sounds during intercourse - can be a disturbance to the couple

DIAPHRAGM OR DUTCH CAP

- The cup is fitted at the level of the cervix

Personal Notes

- Advantages:
  - Protects against STDs
  - Can be filled with spermicide
- Disadvantages:
  - High failure rate - 20/100 women years
- Inserted at least 3 hours before intercourse and left in situ for at least 6 hours post coital. But for not > 24 hours

CERVICAL CAP/DOME

- Comes in a variety of shapes - looks like thimble
- Blocks the cervix

Disadvantage:

- Not very effective in preventing STDs
- High failure rate -20/100 women years

SPERMICIDES

- Spermicides can be used alone or in combination with barrier contraceptives.

Personal Notes

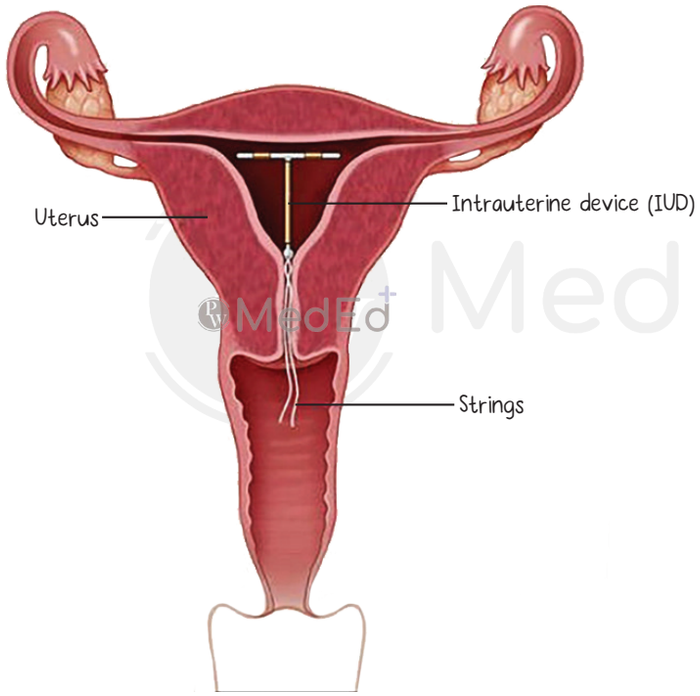
- Forms:
  - Sponges
  - Tablets
  - Gels
  - Suppositories
- It has a chemical, wet before intercourse
- The sponge opposes the cervix and there is a thread to pull it out.
- Disadvantages:
  - Messy
  - High failure rate -30/100 women years
  - Does not protect against STDs
- Formulation - nonoxynol-9 - Today sponge
- Prevents entry of sperms and kills them

Personal Notes

Contraception: Intrauterine Device

INTRAUTERINE DEVICES

- 2nd most common contraception used worldwide
- Devices placed inside the uterine cavity for contraceptive purposes.
- Falls in the category of LARC - long acting reversible contraceptive.
- IUDs - LARCs placed inside the uterine cavity
- Temporary method of contraception



CLASSIFICATION

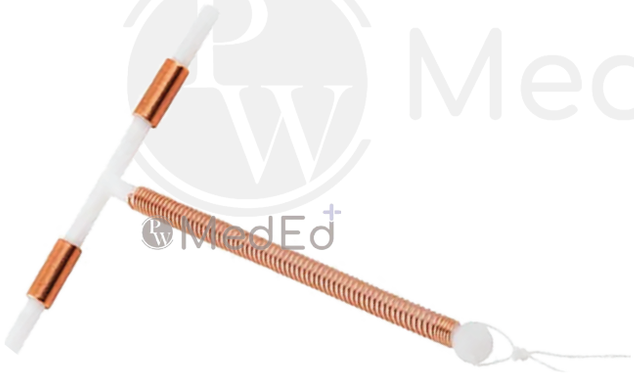
- 1st generation:
  - Out of use now
  - Made up of inert material like plastic
  - Generates a foreign body reaction in the endometrium - makes endometrium unsuitable for implantation.
  - Example: Lippe's loop

Personal Notes

Lippe's loop

- 2nd generation - Copper containing:
  - MoHFW - gives it free of cost
  - Most commonly used - Cu T 380A, Cu T 375 (multiload)

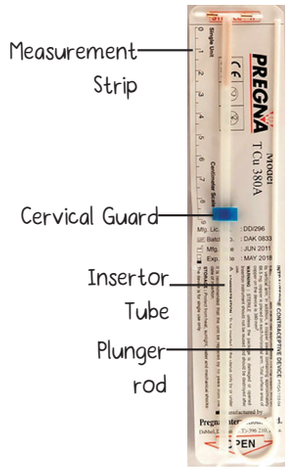
Cu T 380 A:



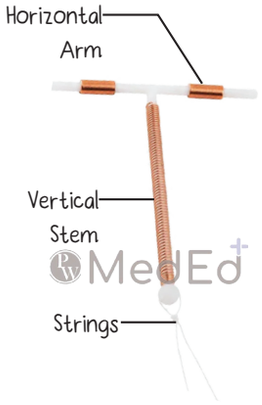
- Inert base coated with barium, Seen in X-ray
- Reddish part - copper coils
- 'T' shaped, with 2 arms and a stem
- 380 stands for surface area of copper in mm^2, Stem alone as 314 mm^2 copper.
- 'A' - copper is present in the arm
- Lasts for 10 years from date of insertion
- Packaging:
  - Cu T is loaded on a insertor tube
  - Cervical guard
  - Plunger rod - not seen in Cu T 375, present in Cu T 380A.

Personal Notes

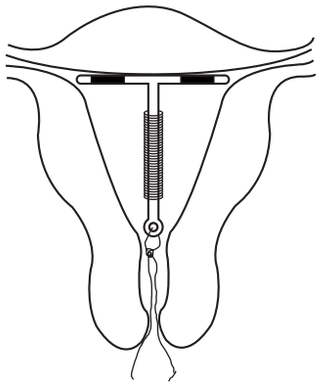
IUCD 380A



a: IUCD 380 A
(Inside Packet)

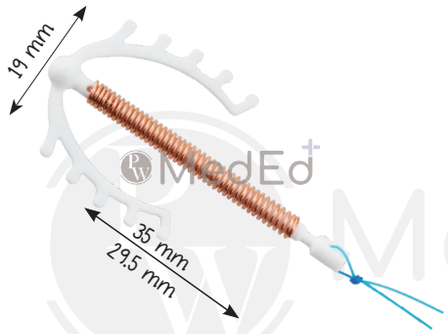


b: Parts of IUCD 380 A

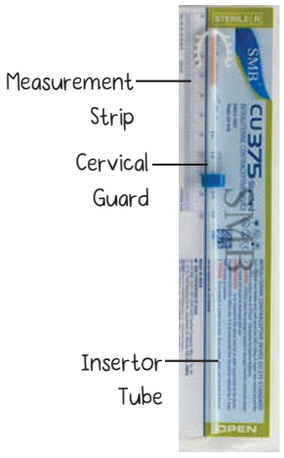


c: IUCD 380 A
(Inside the Uterus)

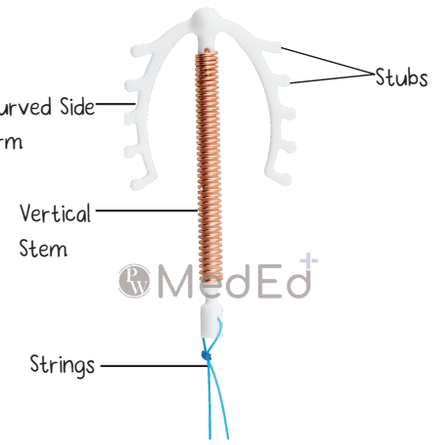
Cu T 375 (multiload):



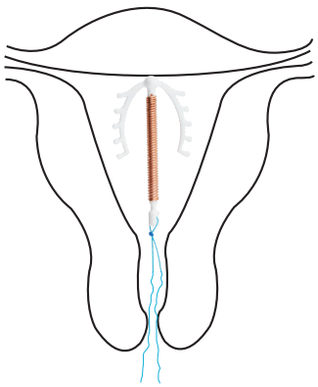
- 375 stands for the 375 mm^2 of copper wound around the stem
- No copper on arms and it looks like an arrow
- Serrated arrowhead
- No plunger rod
- Effective for 5 years from the date of insertion



a: IUCD 375
(Inside Packet)



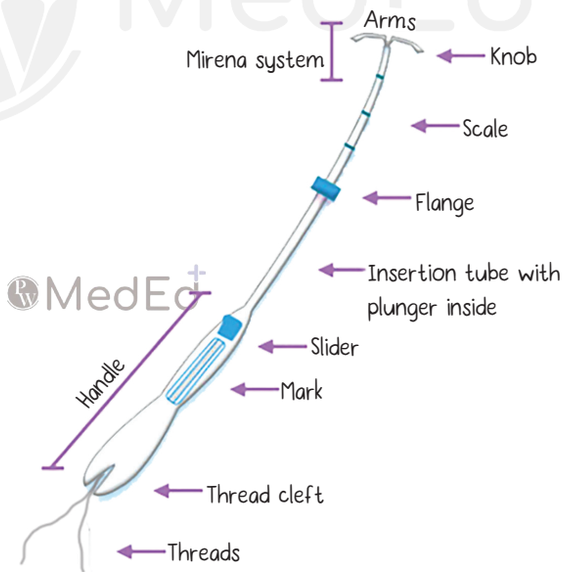
b: Parts of IUCD 375



c: IUCD 375
(Inside the Uterus)

- Advantages of Cu IUDs:
  - Reversible
  - Long acting
  - Can be used for spacing
  - Easy to insert and remove
  - Can be used as emergency contraception within 5 days of coitus
  - Suits most women - minimal side effects
  - Low failure rate - 1/100 women years
  - Safe in breastfeeding
- Side effects/limitations:
  - Heavy menstrual bleeding
  - Risk of infection
  - Does not protect against STDs
  - Causes cramping and spotting
  - Women have to come to the health care facility for insertion and removal

- 3rd generation - hormonal IUDs:
  - They mostly contain progesterone
  - Example: Mirena, Emily, progestasert, Lilette
  - Mirena:



    - Levonorgestrel - 52 mg
    - Called LNG IUD
    - Releases LNG at a rate of 20 mcg/day
    - Lasts for 5 years from date of insertion
    - Advantages:
      - Contraceptive effect
      - Medical uses in conditions like AUB, adenomyosis, endometriosis.

- Costs around Rs 3300, Not available for free
- Has a handle, slider on which LNG is loaded
- Health benefits:
  - Contraception
  - Prevents iron deficiency anemia
  - Can be used for treatment of abnormal uterine bleeding, endometriosis, adenomyosis.
  - Protective against endometrial cancer
- Drawbacks:
  - Irregular menses
  - Amenorrhoea
  - Inter menstrual spotting
  - Breast tenderness

MECHANISM OF ACTION OF IUDs

Copper IUDs	Hormonal IUDs
Foreign body reaction - makes endometrium unsuitable for implantation	Foreign body reaction - makes endometrium unsuitable for implantation
Copper has a spermicidal effect	Makes cervical mucus thick and unfavorable for sperm entry
	Endometrial atrophy
	Increases fallopian tube cilia motility

- If pregnancy occurs with IUD - most likely ectopic

TIMING OF INSERTION

- Postpartum IUCD:
  - Vaginal delivery:
    - Within 10 minutes of placental expulsion - post placental IUD
    - Within 48 hours of delivery - postpartum IUD
  - LSCS - inserted at the time of surgery
- After surgical abortion:
  - Inserted immediately after completion of abortion or within 12 days of abortion.
- After medical method of abortion:
  - Within 15 days of abortion
- Interval IUCD:
  - Inserted at any time during menses
  - Preferable immediately after menses - pregnancy is excluded, cervix is dilated which makes insertion easy.
  - 6 weeks after delivery

INSTRUCTION POST INSERTION

- She may feel cramping and spotting for 2- 3 days
- Initial cycles may be heavy
- Teach how to check for presence of IUD - with help of threads

FOLLOW UP

- If all normal:
  - Follow up after 1st menses after insertion
  - Check for expulsion
  - If normal follow up at 3, 6 months and then annual follow
- Come SOS:
  - If she cannot feel threads:
    - Copper T has been expelled out
    - Cu T has been misplaced
  - Signs and symptoms of pregnancy - amenorrhea
  - Abdominal pain
  - Heavy menstrual bleeding
  - Vaginal discharge

WHEN TO REMOVE THE IUD

- When the time is complete - 5 years for multiload 375 and LNG and 10 years for cu T 380A.
- When a patient wants to conceive
- For replacement
- IUD related complications,Example - pregnancy, PID.

COMPLICATIONS

- Early:
  - Spasm
  - Vasovagal attack
  - Uterine perforation
- Late:
  - Infection
  - Spasmodic pain
  - Heavy menstrual bleeding

WHEN NOT TO PUT AN IUD/WHAT IS MEC CATEGORY 3 AND 4

- Existing infection or evidence of existing infection like PID , genital TB and active vaginal discharge.

Personal Notes

- Absolute contraindication - pregnancy
- Undiagnosed vaginal bleeding
- Cu T - wilson's disease
- Not within 48 hours to 6 weeks of delivery
- Delivery related C/I - chorioamnionintis or prolonged leakage.
- Specific infection related to IUD - actinomycosis

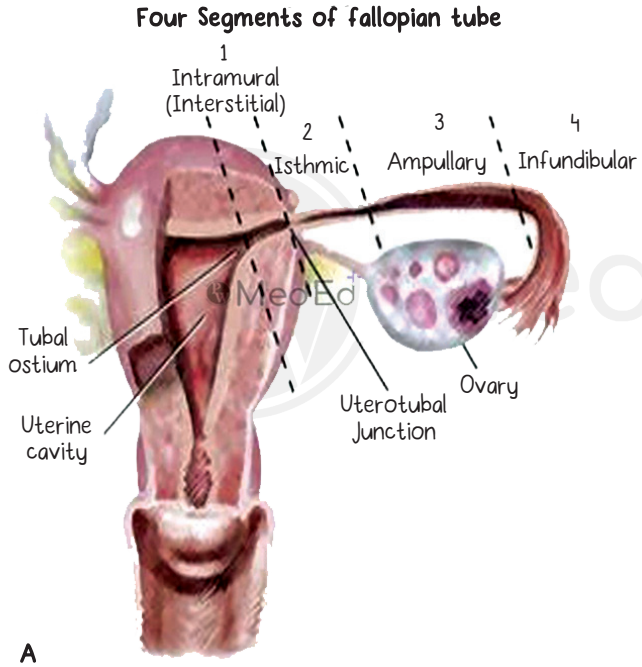
Personal Notes

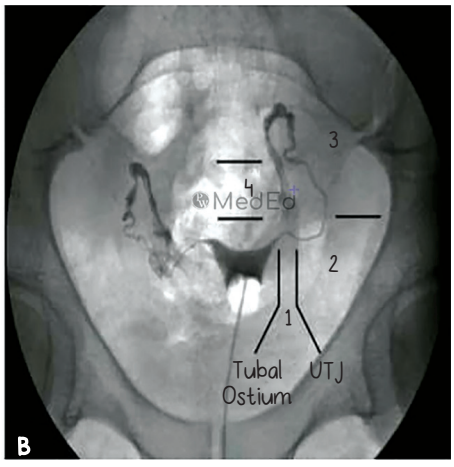
Contraception - Permanent Method of Contraception

TUBAL LIGATION

- Most common contraception is female sterilization (tubal ligation).
- 2nd most common - male condom

ANATOMY





- Fallopian tube length: 7-12 cm

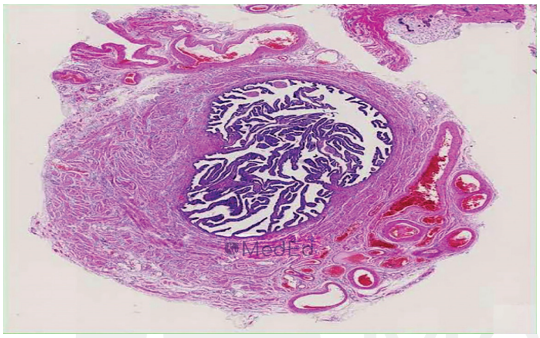
Personal Notes

4 segment of fallopian tube:

1. Intramural
2. Isthmic
3. Ampullary
4. Fimbrial end

- Ligation is done at an isthmic segment because it is narrow. (2-3 cm lateral to intramural portion)
- At an ampullary site more chance of incomplete closure
- Fimbrial end - tube identification
- Recanalization: best chances of recanalization if tube length is 4 inches. it is better if it has been done laparoscopically.

HISTOLOGY



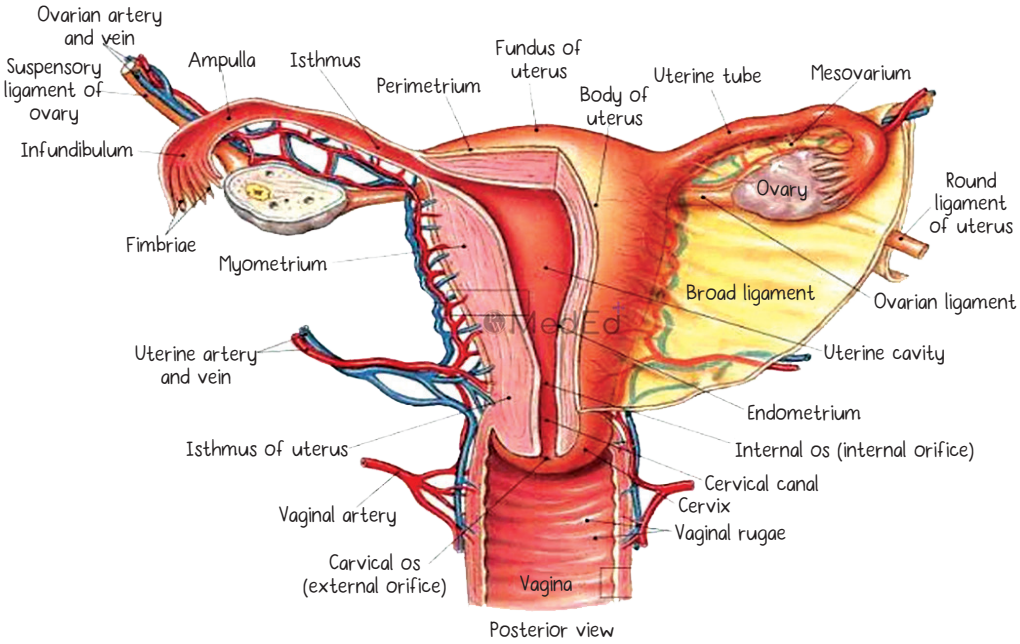
Mucosa - columnar ciliated epithelium

Muscularis - inner circular muscle layer, outer longitudinal muscle layer.

Serosa - merging with mesosalpinx

BLOOD SUPPLY

- Ovarian vessels and uterine vessels



Personal Notes

APPROPRIATE TIMING OF THE PROCEDURE

- Able to exclude pregnancy it is not necessary to do the UPT test.
- Done within 7 days of LMP
- No H/O intercourse during this period
- Post abortal: if it is done surgically, within 7 days or immediately can do tubal ligation. If it is done medically, the next cycle after menses within 7 days of LMP can do tubal ligation. (1st trimester)
- Postpartum women: within 7 days (by minilap method only) or after 6 weeks (1st trimester).
- if patient is using contraception (OCPs): any time but patient should continue the pills for this cycle.
- If patient has IUD: remove the IUD and immediately tubal ligation.
- If patient undergoes a cesarean - intraceserean tubal ligation
- If patient is undergoing vaginal delivery - within 7 days or after 6 weeks.
- In laparoscopy - trocar is put through the umbilicus.If the uterus is very large for example in postpartum uterus or after second trimester abortion, it can get injured.
- Within 7 days - minilaparotomy
- After 6 weeks - both option laparoscopy or minilaparotomy

COUNSELING AND INFORMED CONSENT

- Permanent procedure - no more children
- Never force
- Check eligibility
- No other problems
- No effect on menses
- No effect on sexual life
- Informed consent - It is a legal document. It has to be signed by the patient. Partner sign is not necessary.

ELIGIBILITY CRITERIA

- Age: 22-49 year
- Ever married
- Have at least 1 child more than 1 year of age.
- Patient and partner never before undergo sterilization (does not include sterilization failure)
- Clinical assessment by the doctor is satisfactory (total assessment history, examination and investigation Hb more than 7 gm)
- Sound mental status

Personal Notes

CLINICAL ASSESSMENT

- All disease, surgery past and present
- Assessment of mental status
- Examination: per abdominal, per vaginal, per speculum to rule out pregnancy, any PID or any undiagnosed vaginal bleeding.
- GPE (General Physical Examination): pallor
- Investigations: reasonably sure that the patient is not pregnant, but UPT is not necessary.
- Necessary investigation: Hb (>7 gm), Urine routine.

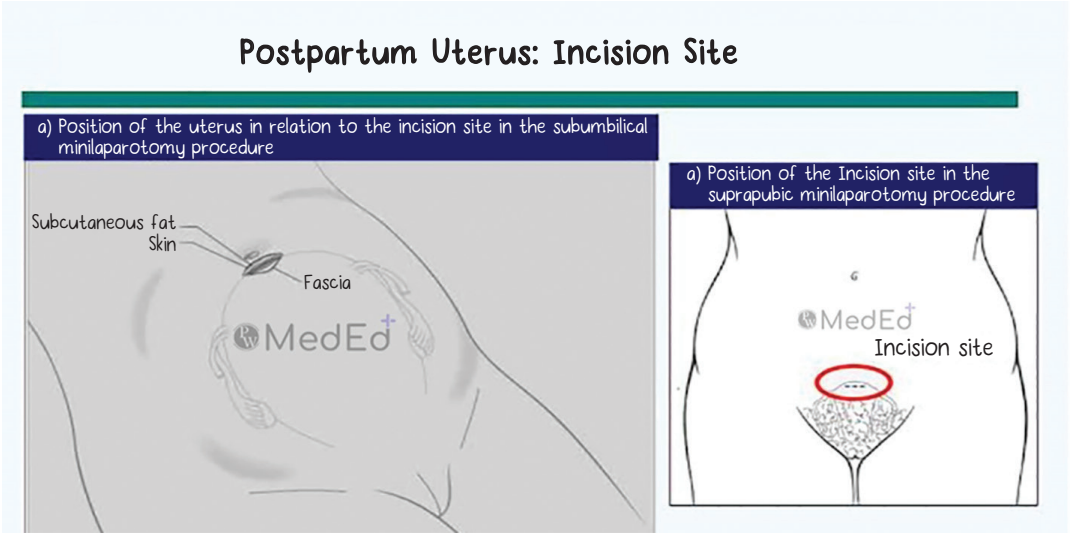
ANESTHESIA

- Local anaesthesia (lignocaine) and does not have adrenaline because it will cause vasoconstriction.
- Sedation
- Analgesia (pethidine)
- Preop - alprazolam

TYPES OF STERILIZATION

A. Laparotomy (minilaparotomy)
B. Laparoscopy
C. Hysteroscopy (new method)

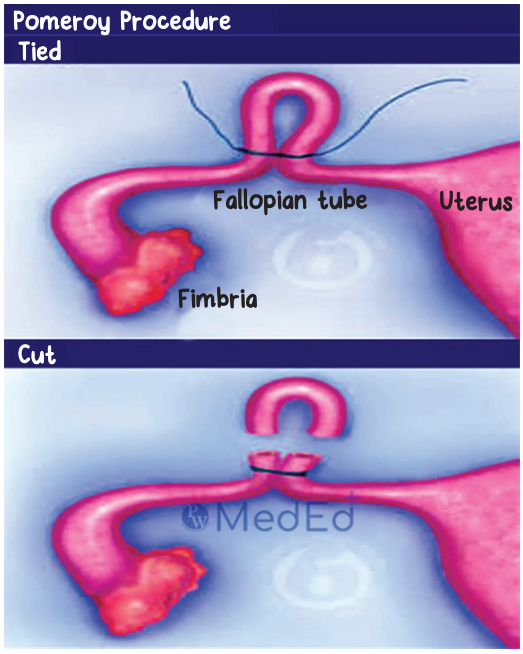
MINILAPAROTOMY TUBECTOMY



2 approach:

- Subumbilical: within 7 days for delivery
- Suprapubic: > 6 weeks of delivery or non pregnant (interval ligation) or post 1st trimester abortion (post abortal ligation).
- Advantage of the subumbilical approach is that the abdominal layers are very thin.

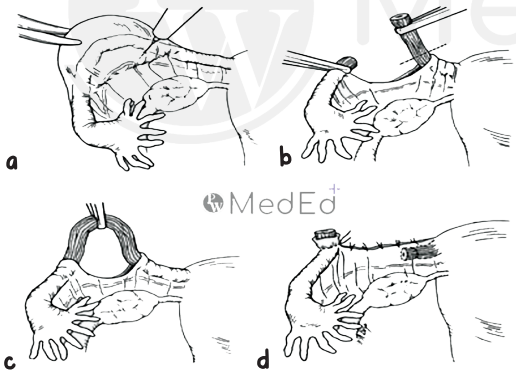
Personal Notes



Pomeroy's method

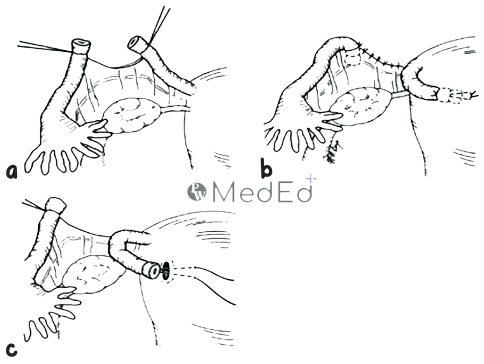
- Most common method is the modified Pomeroy's method in which 2 loops of catgut are tied one over the other instead of one in traditional Pomeroy's.
- Failure rate is less than 1% (~0.8%)

Different techniques:

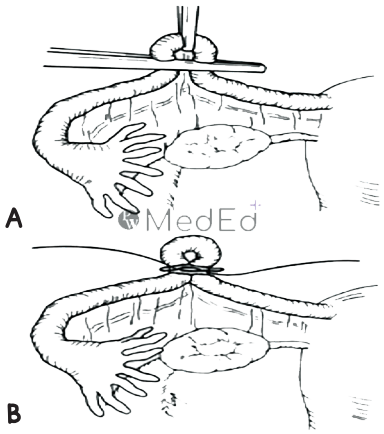


Uchida technique

- Uchida technique has the lowest failure rate.

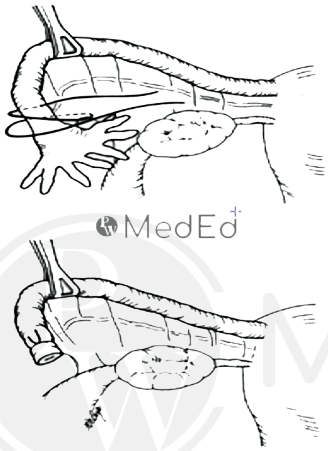


Irving method



Madlener technique

- It has a very high failure rate



Kroener method

Steps of modified Pomeroy technique

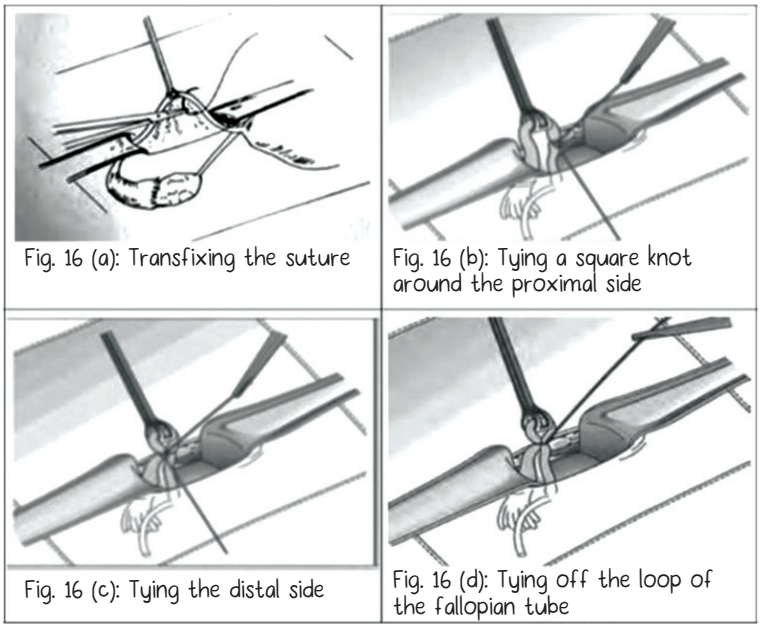


Fig. 16 (a): Transfixing the suture

Fig. 16 (b): Tying a square knot around the proximal side

Fig. 16 (c): Tying the distal side

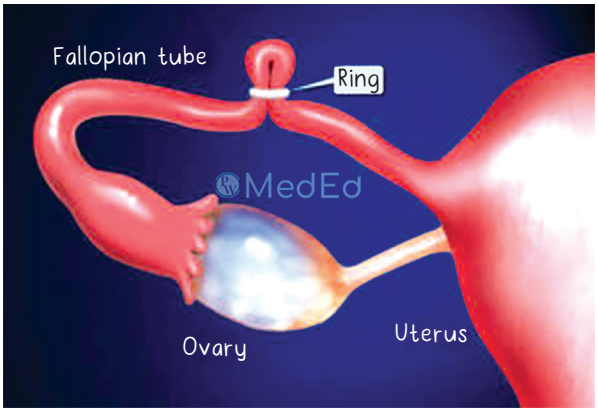
Fig. 16 (d): Tying off the loop of the fallopian tube

Steps of modified pomeroy's technique

SURGICAL PROCEDURE - LAPAROSCOPIC TUBAL OCCLUSION

Personal Notes

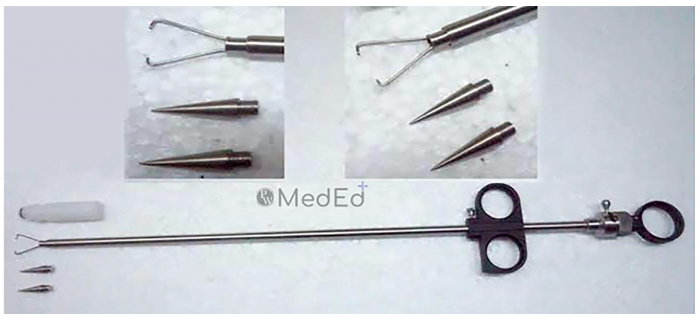
- It can be done > 6 weeks of delivery or non pregnant (interval ligation) or post 1st trimester abortion (post abortal ligation).



Falope ring

Loading of falope ring:

- The falope ring loading kit consist of the:
  1. Dilator
  2. Teflon guide
  3. Applicator



Laprocater

Discharge: after 4 hours

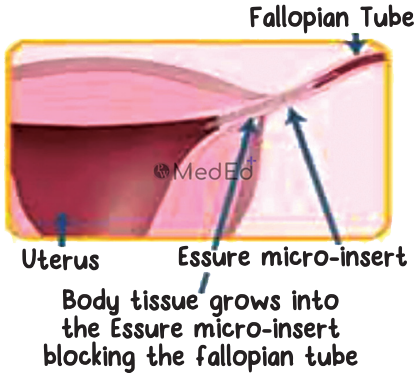
Instructions:

- Next visit after 7 days for suture removal
- Return after her 1st menses to collect a ligation certificate
- Sterilization certificate is most important because the government gives cash incentive and in case of failure sterilization it proves patient had undergone sterilization.

HYSTEROSCOPY STERILIZATION

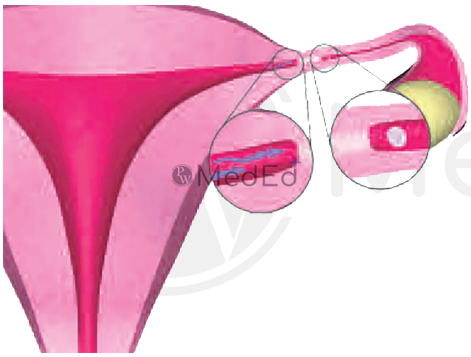
Personal Notes

1. Essure device



- Double lumen device
- Inner part is made of stainless steel
- Outer part is made of a combination of titanium and nickel
- 3 months have to use alternate contraception

2. Adiana sterilization system:



Adiana device

- Use radiofrequency ablation
- Then put the matrix in the intramural part
- Advice alternate method of contraceptive

FAILURE OF STERILIZATION

- Ligation of wrong structure (Most common round ligament)
- Tubes have been recanalized
- Incomplete ligation (the entire lumen was not occluded)

In case of failure sterilization:

- If miss periods - report within 2 weeks
- If UPT positive then rule out it is intrauterine pregnancy or ectopic pregnancy.
- IUP - continue pregnancy or MTP
- Ectopic - treatment accordingly
- 30000 rupees indemnity

Question: A lady had her first baby yesterday and wants to undergo ligation. How will you suggest patient go about it?

A. Laparoscopy

B. Laparotomy

C. Hysteroscopy

D. Deny ligation and advice for alternate method

Answer: D - Deny ligation and advice for alternate method

Personal Notes

Contraception
Emergency-Contraception

Question: A woman comes to you, scared that she will get pregnant as she has missed one Mala N tablet and did not use any backup protection when she had intercourse 4 days back. what will you advise her?

A. Reassure and send her back
B. Cu IUD
C. LNG only pill
D. Ulipristal

Answer: A - Reassure and send her back

(Advice - to take the missed pill)

Question: A woman comes to you, scared that she will get pregnant as she has missed 3 Mala N Tablets and did not use any backup protection when she had intercourse 4 days back.what will you advise her?

A. Reassure and send her back
B. Cu IUD
C. LNG only pill
D. Ulipristal

Answer: B - Cu IUD

Personal Notes

EMERGENCY CONTRACEPTION

Indications:

- Contraception not used
- Survivors of sexual assault
- Minors
- Failure of contraception
  - Barrier method - breakage or spillage
  - Natural method - failure pull out on time
  - Hormonal method:
    - Ocp only - pills3 missed pills
    - Progesterone only pills - more than 3 hours late
    - DMPA injection - more than 4 weeks
    - Expulsion of IUD

LEVONORGESTREL ONLY PILLS

Personal Notes

- Pills should be taken within 72 hours of intercourse
- 2 ways to take this:
  - 2 doses of 0.75 mg 12 hours apart
  - 1 dose of 1.5 mg

YUZPE REGIMEN

- Estrogen + progesterone
- It has to be given within 72 hours twice 12 hours apart.
- Dose is 100 µg of EE (ethinyl estradiol) + 0.5 mg of LNG = 1 tablet and repeated after 12 hours.

Mechanism of action:

(Hormonal emergency contraception)

- They do not prevent implantation
- They inhibit or delay ovulation (First cycle disturb)
- They prevent fertilization

SPRMs

- Selective progesterone receptor modulators
- Should be given within 72 hours of intercourse
  - Mifepristone: which is given as a single dose 25 mg or 50 mg.
  - Ulipristal: which is given as a single dose of 30 mg.
  - It has some efficacy: it can take upto 72 hours to 5 days.

Mechanism of action of SPRMs:

- They inhibit formation of follicles
- They inhibit endometrial maturation

Note: It is avoided in patients with hepatic dysfunction

Cu T

- Best contraceptive
- It has the lowest failure rate
- It is around for 1% LNG only and 1.5 - 2% for E + P.
- It can be used upto 5 days

Effectiveness of ECPS:

- Cu T > oral (LNG > E + P)

Personal Notes

Recurrent Pregnancy Loss

Question: In a woman with a history of recurrent pregnancy loss, which of the following is not recommended?

A. APLA
B. GTT
C. USG
D. Parental karyotype

Answer: D. Parental karyotype

Personal Notes

MISCARRIAGE

- Loss of pregnancy before the period of viability (before 24 weeks)
- Most common cause - chromosomal abnormality/aneuploidies.
  - Most common single chromosome disorder - Monosomy X
  - As a group Triploidy (13-6,21,22) is more common
- Incidence - 12-15%

RECURRENT PREGNANCY LOSS (RPL)

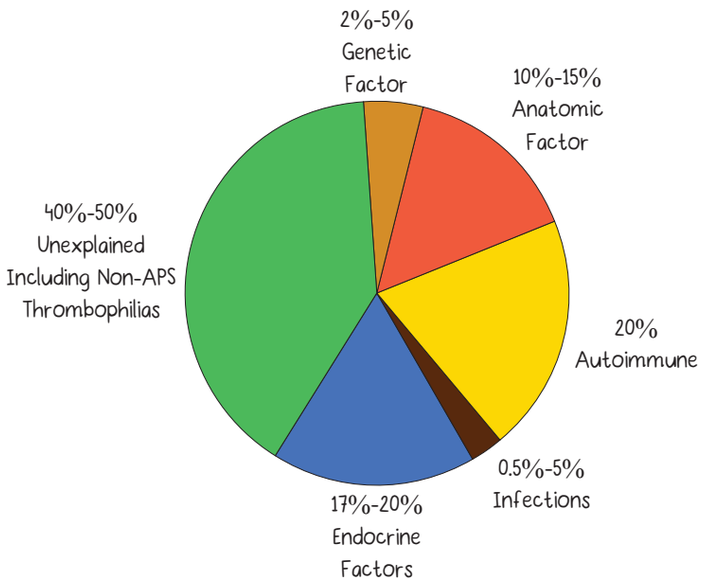
- First abortion can be sporadic, not likely to repeat.
- If there are 2 abortions the chance of getting 3rd abortion is around 30% - high risk.
- So start evaluating after 2 abortions
- Definition of RPL:
  - $\geq$ 2 abortions before the 24 weeks period of gestation and it need not be consecutive.
- Types:
  - Primary - no live birth preceding the abortion
  - Secondary - there has been a prior live birth

ENVIRONMENTAL FACTORS

- Increasing age
- Stress
- Obesity
- Smoking or substance abuse
- Alcohol intake

ETIOLOGY

Personal Notes



- 50% of RPL is unexplained
- Only 2%-5%- genetic factors
- Most common identifiable cause - autoimmune (20%)

Autoimmune factors:

- Most common - thrombophilias
- Types:
  - Acquired - APS/APLA - anti phospholipid antibody syndrome - it causes thrombus formation in the placental vasculature, finally cutting off blood supply to the fetus which can lead to missed abortion.
    - Primary
    - Secondary - associated with SLE
  - Inherited - not very common
    - Antithrombin 3 deficiency
    - Protein C and S deficiency
    - Hyperhomocysteinemia

Endocrine factors:

- Diabetes
- PCOS
- Hypothyroidism
- Luteal phase deficiency

Anatomical factors:

- Uterine- most common:
  - Malformations - septate, unicornuate, bicornuate
  - Fibroids, polyps, intrauterine adhesions
  - There can be reduced space for growth, defective implantation.

- Cervical:
  - Cervical incompetence - in the absence of uterine contractions, cervix dilates and is unable to hold the pregnancy.
  - Secondary to procedures - LEEP, LETTZ or trachelectomy, conization.

Genetic factors:

- Unbalanced or reciprocal translocations - recurs

Infections:

- Note : TORCH infections - does not cause RPL as single infection confers immunity.
- Kassowitz law - everytime there is a pregnancy loss , the period of gestation at which the abortion occurs then it will be more than the previous Seen in syphilis.
- Bacterial vaginosis - endometritis
- Semen infection - endometritis

EVALUATION IN PRE-PREGNANCY/ PRECONCEPTION COUNSELING

	History	Examination	Investigations
1st trimester	Missed abortions - APS/APLA	General physical examination Look for endocrine disorders Pelvic examination - look for fibroids	APS: - Lupus anticoagulant - Anticardiolipin antibodies - Beta-2 glycoprotein
2nd trimester	- Mid Trimester loss - painless delivery or premature rupture of membranes - Decreasing POG with every abortion - cervical incompetence - Kassowitz law - syphilis - History of heavy menstrual bleeding, infertility- anatomical abnormality - Hypothyroidism, DM - Vascular accidents- stroke - APLA - H/o procedures - LEEP, LETTZ - H/o sending products of conception for genetic test		- Glucose tolerance test - T3,T4, TSH - Prolactin - USG - 3D, sonosalpingogram - uterine abnormalities

INVESTIGATIONS THAT MAYBE DONE

- Genome of products of conception:
  - Aneuploidy - sporadic - rule out genetic cause
  - Translocation - do parental karyotype
  - Normal karyotype - rule out genetic cause

Personal Notes

- Note: historical interest -to diagnose cervical incompetence:
  - Pass a size 8 Hegar's dilator through the cervix - no resistance - cervical incompetence.
  - Insert an intrauterine Foley's catheter and inflate the balloon - tug at it - if no resistance with dislodgement of bulb - cervical incompetence. Not done at present.
- Semen culture sensitivity:
  - Male accessory gland infection - endometritis - RPL.
- ANA - autoimmune disease

TREATMENT MODALITIES

APS:

- Diagnosis criteria (Sapporo's criteria) - one clinical feature + one lab feature.
- Clinical features:
  - Vascular thrombosis
  - Obstetric thrombosis:
    1. 3 or more pregnancy losses before 10 weeks.
    2. At Least 1 pregnancy loss after 10 weeks in a morphologically normal fetus.
    3. Preterm delivery before 34 weeks owing to eclampsia, severe pre-eclampsia or placental insufficiency.
- Lab features:
  - Lupus anticoagulant present
  - Anticardiolipin antibodies - IgG/IgM in high titres (> 99 centile)
  - Beta-2 glycoprotein - IgG/IgM in high titres (> 99 centile)
  - Should be present for 2 readings at least 12 weeks apart
- Treatment:
  - Preconceptionally - low dose aspirin- 75 - 100 mg
  - As soon is pregnancy detected - Low molecular weight heparin - prophylactic dose - once a day dose.

Endocrine:

- Correct endocrine factors
- Behavioral changes - smoking and alcohol cessation and weight loss.

Anatomical:

- Uterine:
  - Uterine septum - hysteroscopic septal resection
  - Bicornuate - laparoscopic metroplasty
  - Fibroid - submucosal, intramural > 5 cm - myomectomy
  - Polyp - endometrial - polypectomy

Personal Notes

- Cervical:
  - Cervical cerclage -cervical cerclage during pregnancy: purse string sutures
  - McDonald's or Shirodkar technique
  - Indications:
    - Singleton pregnancy
    - History of ≥ 3 preterm births or 2nd trimester abortions.
  - Done between 12-24 weeks
  - If ≥ 1 preterm birth or 2nd trimester abortion - progesterone + cervical length monitoring on TVS.
  - If cervical length becomes < 25 cm - cerclage done - USG indicated cerclage.
  - Cerclage removal - 37-38 weeks

Genetic causes:

- Karyotype of products of conception (POCS) shows aneuploidy - usually sporadic - to reassure the patient Advice spontaneous conception and prenatal testing.
- If POCS shows translocation - IVF + preimplantation genetic diagnosis.

Infections:

- Antibiotics given for bacterial vaginosis, syphilis and semen infection.

Unexplained causes:

- Vaginal progesterone

TERMINATION OF PREGNANCY

- As per obstetric indications

  Example - high risk of FGR in patients with APLA may require earlier delivery.

Personal Notes

Contraception: Oral Contraceptives

ORAL CONTRACEPTIVES

- Combined oral contraceptive (CoC)
- Progesterone only pills
- Emergency/post coital pill
- Centchroman

Components:

- CoCs - Estrogen + Progesterone
- Progesterone inhibits pregnancy (anovulation) by LH surge and has a negative feedback.
- It thickens cervical mucus.
- Decrease ciliary motility of fallopian tube
- Increase secretion
- Very high dose of progesterone causes endometrial atrophy
- Estrogen decreases FSH and by decreasing FSH promotes ovulation, follicles do not grow.
- Estrogen makes endometrium proliferative
- It potentiates the action of progesterone

Mechanism of action of CoCs:

- Inhibition of ovulation
- Make cervical mucus thick which inhibits sperm entry.
- Makes endometrium unsuitable for implantation

SIDE EFFECTS OF OCPs

Minor:

- Nausea, vomiting and lack of appetite
- Breakthrough bleeding
- Oligomenorrhea and amenorrhea
- Breast changes
- Vaginal discharge
- Headache and migraine
- Chloasma
- Weight gain (due to progesterone)
- Acne and oily skin

Personal Notes

Personal Notes

Major:

- Myocardial infarction
- Ischemic stroke
- Hemorrhagic shock
- Venous thromboembolism
- Hypertension
- Dyslipidemia (decreased HDL and increased LDL)
- Increased risk of cervical cancer and HCC

NON-CONTRACEPTIVE BENEFITS OF OCPs

- Corrects anemia by decreasing menstrual bleeding
- Helps with dysmenorrhoea & PCOS
- Increases bone density
- Used for hormone replacement therapy in menopausal women.
- Decreases risk of certain cancer

4 generation of progesterone:

- 1st - norethindrone
- 2nd - levonorgestrel
- 3rd - desogestrel, gestodene (less androgenic action)
- 4th - drospirenone (spironolactone derivative, non androgenic action, antiandrogenic, antimineralocorticoid activity)

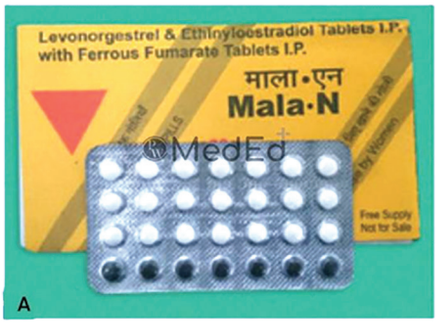
Estrogen:

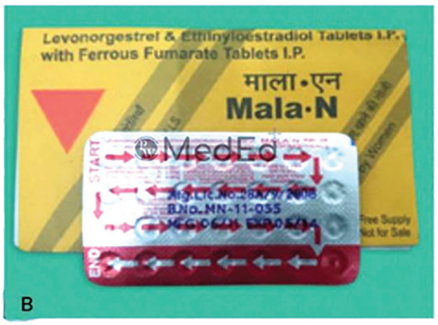
- Ethinylestradiol use
- Usual dose: 30 µg (mala N and mala D)
- Low dose: 20 µg
- Ultra low dose: 10 µg

CONTRAINDICATIONS

- > 40 years
- > 30 years (smoker)
- Hypertensive women
- Women having migraine
- H/o Ischemic stroke or MI
- Active liver diseases
- H/o DVT and breast cancer

Contraceptives can be started within the first 5 days of the menses.





- White pills (21) - active pills
- Black pills (7) - ferrous sulfate

Missed pill:

- 1 pill missed: take as soon as and due doses of that day
- 2 pills missed: take as soon as
- 3 pills missed (1st week): continue rest of the pack + backup contraception for 7 days.
- 3 pills missed (3rd week): finish the rest of the pack, omit iron tablets and start a new pack.

Breakthrough bleeding:

- Breakthrough bleeding is due to the action of progesterone, Progesterone makes endometrium atrophic.
- Usually happens in the first 3 months
- Additional estrogen can be given for the first 21 days

Amenorrhea:

- Reassure after taking pills

Breast tenderness:

- Hot compression
- Supportive care

Mood changes:

- Supportive care
- Avoid in depression

Risk of cancer:

- Above diaphragm: increases risk (breast cancer, cervical cancer)
- Below diaphragm: decrease risk (ovarian cancer, colorectal cancer, endometrial cancer)

Risk of thrombosis:

- Due to estrogen (low dose estrogen)
- Avoid in vascular diseases, old age and smoker
- 3rd and 4th generation CoCs have high risk of DVT

Before prescribing COCs:

- LMP
- Proper history (past illness, menstrual history, drug history, addiction history)
- Examination of head to toe

- Pelvic examination
- Pap smear
- LFT
- BP

PROGESTERONE ONLY PILLS

- Lactating women
- Women over age 40
- Use where estrogen is contraindicated

Contraindications:

- Undiagnosed vaginal bleeding
- Decompensated cirrhosis

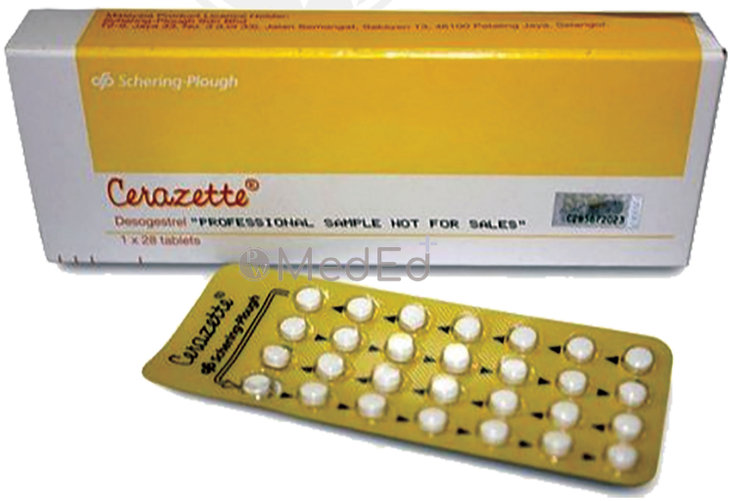
Mechanism of action:

- Progesterone inhibit LH hormone
- Prevents ovulation
- Progesterone makes endometrium atrophic
- Cervical mucus thick

Progesterone only pills can start within the first 5 days of breastfeeding mother also.

- missed pills for more than 3 days, need to use a backup method for 2 days and pills taken continuously.

Cerazette:



- Desogestrel 75 µg
- Grace period of 12 hours

Personal Notes

NON HORMONAL ORAL CONTRACEPTION

Personal Notes

Centchroman:

- Saheli
- CHHAYA
- Safe in breastfeeding
- Not daily pills

- First 3 month: 30 mg tablets (1 tablet twice a week after that once a week)
- Centchroman is associated with liver dysfunction and ovarian cyst.

Non-Oral Hormonal Contraceptive: LARC

WHAT DOES LARC STAND FOR?

Long acting Reversible contraceptive. Includes Cu and hormonal IUDs, inserts, injections and implants.

NON ORAL HORMONAL CONTRACEPTION

- Do not have to take it daily
- Less problems with compliance
- As a result of which the failure rates are lower than combined oral contraceptives.
- Even though they have estrogen and progesterone they seem to have fewer side effects than COCs.

Different methods of non oral hormonal contraceptives:

- Injectables
- Implants
- Rings
- IUDs - Mirena, LNG IUD
- Skin patches

Non oral hormonal contraceptives can either be:

- Only progesterone based - eg Antara (DMPA)
- E + P - mimics COCs

INJECTABLE CONTRACEPTIVES

- Progesterone based:
  - More commonly used
  - DMPA (Antara) - Contains 150 mg of DMPA
  - Marketed under MOHFW
  - Administered every 3 months

- E + P - Mimics COCs

Personal Notes

Routes of administration:

- Intramuscular → Over arm/buttocks (more preferred route)
- Subcutaneous → Comes as a prefilled syringe that can be administered. It delivers a lower dose of DMPA - 104 mg.

Mechanism of action of DMPA:

- Inhibits Ovulation:
  - Progesterone sends negative feedback to pituitary decreasing LH.
  - It prevents ovulation but follicle growth and maturation continues. So estrogen is being produced and no or lesser menopause-like side effects are produced.
- Cervical mucus thickening: Prevents sperm entry.
- It makes Endometrium unsuitable for implantation.

Effectiveness:

- Timing of the injection:
  - Within 5-7 days of beginning of Menses
  - Later than that use 7 days backup contraception
  - Explain about amenorrhea
  - Window period for DMPA is 28 days
  - S/E - Delayed return to infertility
- Technique:
  - Z technique of injection.
- Regularity of injections at proper intervals.
- The perfect use failure rate of 0.3% (Lower than IUD, sterilization, COCs).

CONTRAVEPTIVE IMPLANTS

- Norplant
- Implanon
- Implanon NXT (most recently introduced in basket of contraceptive choices in India)

Contains Only Progesterone - Cause amenorrhea.

Personal Notes

Implanon:

- Implant is inserted subcutaneously in the arm (non dominant).
- Works for 3 years

Mechanism of action:

- 67 mg of 3 - Keto Desogestrel
- It is a 3rd generation progesterone
- It has low androgenic side effects
- It releases progesterone at the rate of 30 mcg/day and remains active for 3 years.

Advantages:

- Useful in the treatment of Endometriosis
- It is also quite safe in women with HTN, Diabetes and also can be used in adolescence.

Side effects:

- Amenorrhea
- Irregular bleeding or spotting

HORMONAL CONTRACEPTIVE RING: NUVA RING

Personal Notes

- E + P: 15 mcg of EE and 120 mcg of Etonogestrel
- Advantageous in Adolescents
- Within the first five days of menses it is inserted
- 3 weeks in, 1 week out
- By the end of the week she has withdrawal bleeding
- New ring used for every cycle
- Removal of ring prior to intercourse, the ring can not be out for more than 3 hours.
- If it is kept out for more than 3 hours then, she needs to use backup for the next 7 days.

Disadvantages:

- Very costly
- Ring expulsion
- It can also lead to vaginal discharge or Leucorrhea
- It can also lead to vaginal spotting/bleeding
- It can also lead to Breast tenderness

Advantages:

- Hormones are present in low doses
- Insertion and removal is easy
- There is a rapid return to infertility

TRANSDERMAL CONTRAVEPTIVE PATCH

- EVRA patch - E + P contraceptive
- It is given on the buttocks, lower abdomen and upper arm.
- Act by inhibiting ovulation, thickening of cervical mucus and making endometrial unsuitable for implantation.
- 3 weeks of Patch, 1 week patch free which leads to withdrawal bleeding.

Disadvantages:

- Sweat can lead to differential absorption

Personal Notes

Advantages:

- Very easy to use and has good acceptability
- Very low failure rate

Side effects:

- Skin irritation

Personal Notes

Postpartum and postabortal contraception

POSTPARTUM AND POSTABORTAL CONTRACEPTION

Personal Notes

Temporary:

- Oral:
  - Postpartum - Centchroman
- Non - Oral:
  - IUD - Cu and LNG
  - Inj. DMPA
  - Hormonal implants like Implanon.

Permanent:

- Sterilization - Male and female

TIMINGS OF PPIUCD INSERTION

- Postpartum:
- Postplacental: Within 10 mins of placental expulsion
- Intracesarean: During cesarean, after placental delivery
- Postpartum: Within 48 hrs of delivery
- Postabortion and post medical termination of pregnancy: Immediately after abortion whether medical or surgical abortion.
- Interval/Extended postpartum IUD insertion: Done after 6 weeks of delivery.

Note:

- It is not done between 48 hrs - 6 weeks due to involution of the uterus.
- There is a higher rate of expulsion and infection during this time.

Advantages:

- Already in the facility
- We are sure she is not pregnant
- No interference with breastfeeding
- It is long acting so can be used for spacing
- In the beginning → lochia masks bleeding
- Later → LAM → No increased bleeding

Limitations:

- It has a higher rate of expulsion compared to interval IUCD.

MEC CATEGORIES FOR PPIUCD

Personal Notes

Category 1: Within 48 hrs of delivery, after 6 weeks.

Category 2: Nothing

Category 3: Chorioamnionitis, Prolonged rupture of membrane >18hrs, Increased bleeding

Category 4: Puerperal sepsis

Interval IUD insertion is done normally by holding the anterior lip of the cervix by Allis / Sponge holding forceps and by pulling it forward we straighten the uterus. Once we have straightened the uterus and the Cu - T comes in a pre loading mechanism that is useful for the loading. Once the mechanism is put inside it travels in a straight line.

PP IUD insertion:

- The cervix is soft here and we have to use the sponge holding forceps to hold the anterior lip of the cervix.
- Push the fundus back into the abdomen so that the uterus comes into a straight line.
- Very long forceps → Kelly's Postpartum IUD insertion forceps is used to hold the IUCD→ follows the curve of the uterus.

INJECTABLE CONTRACEPTION FOR POSTPARTUM WOMEN

- DMPA (Depot medroxyprogesterone acetate) (Depo Provera)
- Injected every 3 months with a grace period of 4 weeks or 28 days.
- It contains 150 mg of DMPA and needs to be injected IM or SC.
- IM is preferred

Advantages of DMPA:

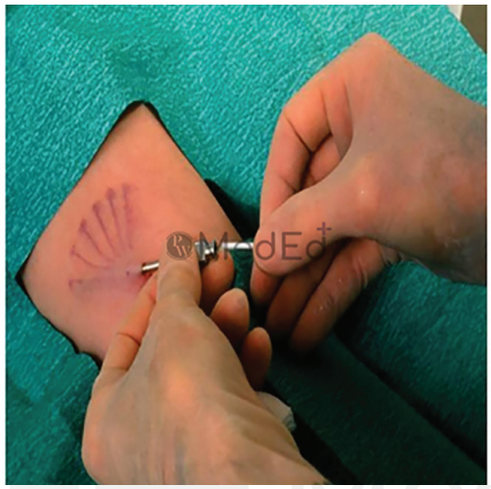
- Increases breast milk production.
- Increases seizure threshold in epileptic patients.
- It reduces sickling in patients with sickle cell disease.

Disadvantages of DMPA:

- It can lead to Weight gain.
- It can lead to diabetes.
- Contraindicated in women with depression and liver disease.

PROGESTIN ONLY IMPLANTS

- Implanon, Nexplanon, Norplant.



IMPLANON

- 67 mg of 3 - keto desogestrel which releases hormone at the rate of 30 mcg/day for 2 years and in the first year it releases 67 mcg/day for 1 year.
- It works for 3 years.

POSTPARTUM STERILIZATION

- Laparoscopic - After 6 weeks - Not done PostPartum.
- Mini LAP - Can be done up to 7 days after delivery.

Timing For Female Sterilization in postpartum women:

- Per abdomen method:
  - It can be done within 7 days of delivery
  - During a cesarean after 6 weeks or immediately Postabortal.
  - Method used is Modified pomeroy's method
- Laparoscopic Sterilization:
  - After delivery - After 6 weeks
  - Immediately after 1st trimester abortion
  - Method used is Falope rings or Filsche's clips

Personal Notes

Advantages of Post - Partum Minilap Tubectomy:

- Patient is already admitted
- Effective immediately
- No need for a follow up.
- Breastfeeding is not affected
- Uterus is high up and easy to access
- It can be done under Local anesthesia
- Can be discharged within 48 hrs

Centchroman:

- Also known as Ormeloxifime
- It was marketed as Saheli when released from CDRI, Lucknow.
- Current name is "Chhaya"
- 30 mg twice a week for 3 months and this is followed by 30 mg once a week.
- It can be started immediately
- It does not interfere with breastfeeding

Personal Notes