CONTRACEPTION

[Birth control]

WHAT IS CONTRACEPTION?

- The deliberate use of artificial methods or other techniques to prevent pregnancy.
- Important that women are able to plan timing of children.
- Aim of contraception is to prevent pregnancies from occurring while causing the least amount of side effects to the patient.

Pearl index

- The Pearl index will be determined by the number of unintentional pregnancies related to 100 women using certain method of contraception for 1 year. If 3 pregnancies occur during this period in this group, the Pearl index will be 3.0
- Methods of contraception are compared by the Pearl index.

- Perfect Use efficacy rates (Correct Use); reflect what happens when a contraceptive method is used correctly all of the time.
- Typical Use efficacy rates (Actual Use); reflect what happens in the real world when we factor in human error in the first year of use of a method.

IDEAL CONTRACEPTIVE

Cheap

■ Highly 100% effective

Acceptive

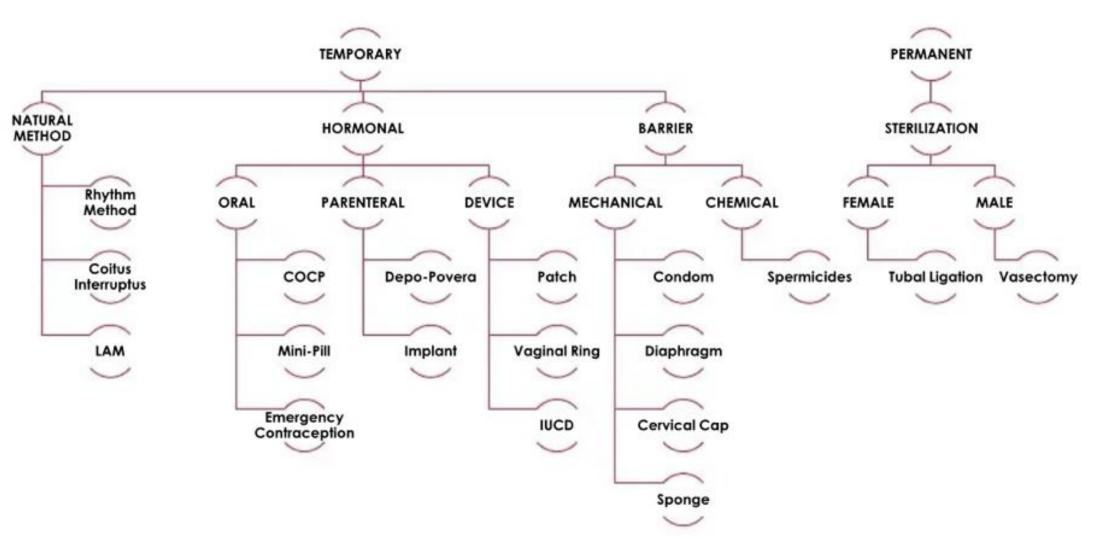
Safe

Reversible

■ Having non-contraceptive benefits

■ Simple to use

 Requiring minimal motivation, maintainence and supervision



NATURAL METHOD

- Certain methods used to *achieve and avoid* pregnancies.
- Based on observation of the naturally occurring signs and symptoms of the fertile and infertile phases of a woman's menstrual cycle.
- No drugs, devices, or surgical procedures are used.

WITHDRAWAL

- Coitus Interruptus.
- Removal of penis from the vagina before ejaculation occurs.
- Effectiveness rate is 60-80%.
- Failure due to
- 1) Delay withdrawal.
- 2) Presence of sperm in the preejaculatory fluid.

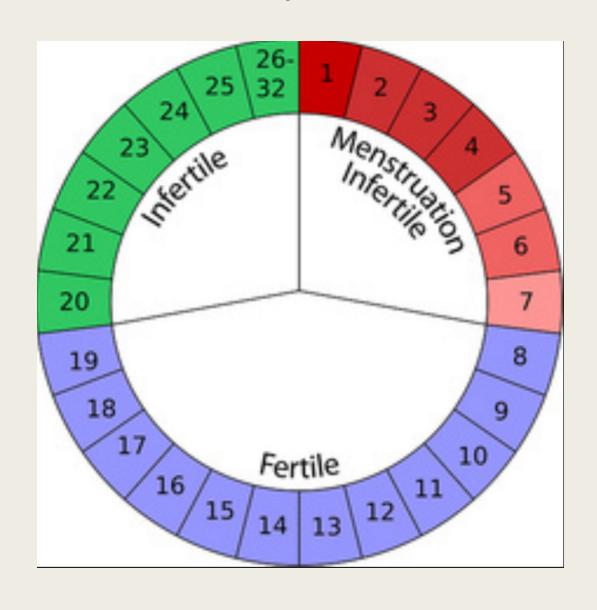
RHYTHM METHOD

- Based on identification of the fertile period of a cycle and to abstain from sexual intercourse during that period.
- Requires partner's co-operation.
- Methods to determine:
- a) Calendar Rhythm
- b) Temperature Rhythm c Mucus Rhythm

Calendar Rhythm

- Before relying on this method, the woman records the number of days for each menstrual cycle for at least 6 months. The first day of menstrual bleeding is always counted as **Day 1**.
- The woman subtracts 18 from the length of her shortest records cycle. This tells her the estimated first day of her fertile time, she then subtracts 11 days from the length of her longest cycle. This tells her the last day of her fertile time.
- If her record cycles vary from 26-32 days;
- $\blacksquare 26-18 = 8$ (start abstinence on day 8)
- ■32-11=21 (have sex after day 21)
- Thus 14 days i.e. 8-21 of abstinence

Standard days method



Mucus Method

Tracking changes in the amount and texture of vaginal discharge, which reflect rising levels of estrogen in the body.

For the first few days after your period, there is often no discharge, but there will be a cloudy, sticky mucus as estrogen starts to rise.

When the discharge starts to increase in volume and becomes clear and stringy, ovulation is near.

A return to the tacky, cloudy mucus or no discharge means that ovulation has passed.

Charting your Mucus Pattern Chart



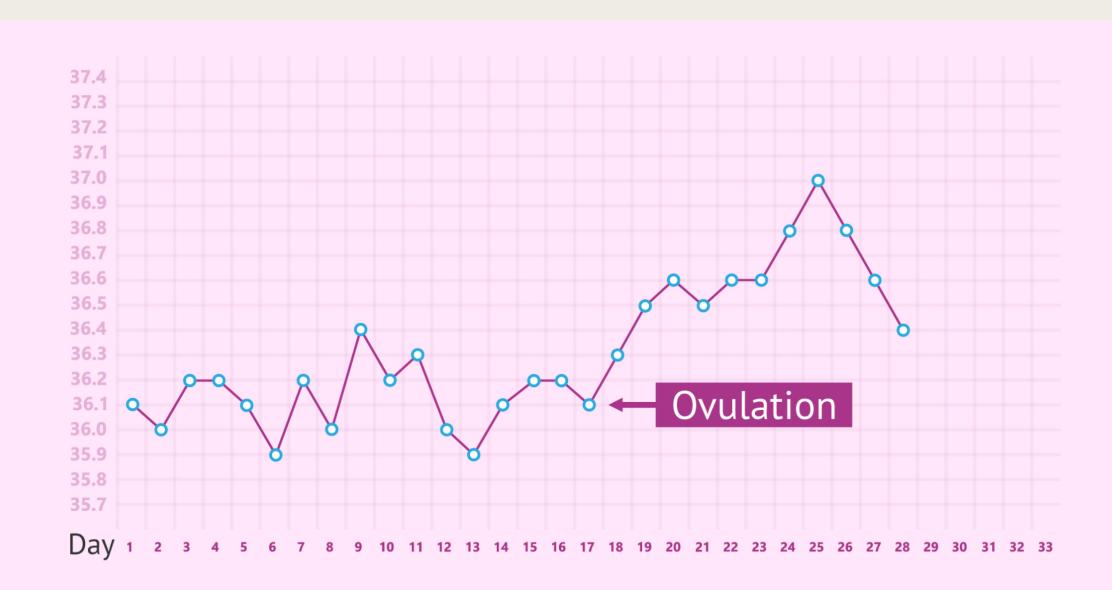
Month/Day	7/24	7/25	7/26	7/27	7/28	7/29	7/30	7/31	8/1	8/2	8/3	8/4	8/5	8/6	8/7	8/8	8/9	8/10	8/11	8/12	8/13	8/14	8/15	8/16	8/17	8/18	8/19	8/20
Cycle Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Mucus Wet, Dry, Cloudy, Clear, Tacky, etc.	Period	Period	Period	Period	Dry	Dry	Dry	Sticky	Sticky	Sticky	Cloudy	Cloudy	Wet	Slippery	Cloudy	Cloudy	Wet	Slippery	Sticky	Slippery	Cloudy	Cloudy	Sticky	Sticky	Dry	Dry	Dry	Sticky

Basal body temperature

- What we mean by BBT?
- Your basal body temperature is your body's temperature at complete rest or your lowest temperature
- Note: If you're using the BBT method to chart your fertility, make sure to take your temperature before getting out of bed.
- How use this method?
- 1. Take your basal temperature as soon as you wake up.
- 2. Take your temperature at the same time.
- 3. Measure your temperature from the same place every day
- 4. Record your temperature each day
- 5. Identify a temperature increase
- 6. Consider the fertile period. You're most likely to get pregnant four days before and one day after ovulation.

Ovulation raises body temp

1/2 - 1 degree F, and temp
will drop if fertilization does
not occur.



BREAST FEEDING LACTATION ALAMENORRHEA (LAM)

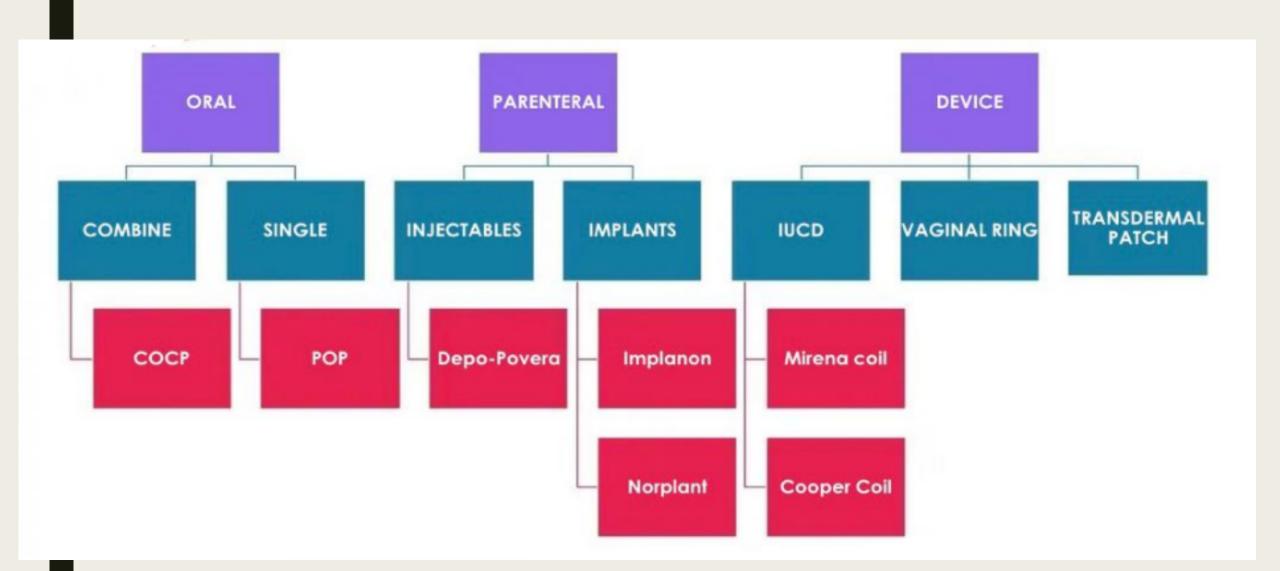
- Prolonged and sustained breastfeeding offers a natural protection of pregnancy.
- More effective in women who are amenorrhea than those who are menstruating.
- Risk of pregnancy who fully breastfeed an amenorrhea < 2% in the first 6 months.

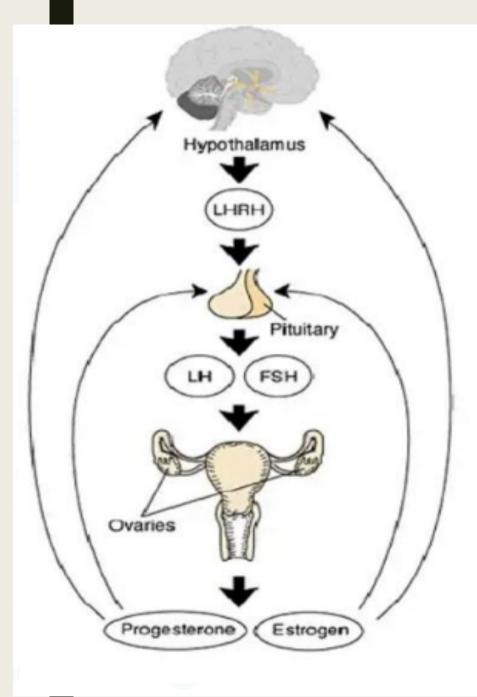
Method	How it works	Effectiveness:pregnancies per 100women per year with consistent and correct use	Effectiveness:pregnancies per 100women per year as commonly used
Withdrawal (coitus interrupts)	Tries to keep sperm out of the female body (prevent fertilization)	4	20
Calnder Rhythm or rhythm method	Prevents pregnancy by avoiding unprotected vaginal sex during most fertile days	Reliable effectiveness rate not available	15
TwoDay method	Prevents pregnancy by avoiding unprotected vaginal sex during most fertile days	4	14
LAM	Prevents the release of eggs from the ovaries (ovulation)	0.9(in 6 months)	2(in 6 months)
Basal body temperature	Prevents pregnancy by avoiding unprotected vaginal sex during most fertile days	Reliable effectiveness rate not available	

HORMONAL

Hormonal compound taken in order to block ovulation and prevent occurrence of pregnancy.

HORMONAL CONTRACEPTION





MODE OF ACTION

Prevent Ovulation Suppression of hypothalamic gonadotropin-releasing Prevents pituitary factors secretion of FSH and LH Inhibit implantation ↓ cervical mucus penetrability Inhibit ovum transport in tube Failure rate: 1%

• ORAL CONTRACEPTIVE PILL:

Estrogen

Ethinyl estradiol (common)
Mestranol (rare)

Progestogen

Desogestrel
Norethisterone
Ethynodiol
Norgestimate
Gestodene
Levonorgestrel

COMBINED ORAL CONTRACEPTIVE PILL

- Oral contraceptives consist of a combination of an estrogen and a progestational agent: Eithylestradiol (20mcg 35mcg) and a progestogen (Levonorgestrel/ norethisterone/ desogestrel).
- Meant to be taken for 21 days with a pill-free week.
- taken daily for 3 weeks and then omitted for 1 week, during which time there is withdrawal uterine bleeding
- Low dose pills now more commonly used:
- Mercilon, Loette, Yasmin, Diane(35 mcg).
- 99% effective if used correctly.



More info

ADVANTAGES

- Reversible.
- Intercourse unaffected.
- Reduce incidence of ovarian and endometrial cancer.
- Controlled timing menses.

DISADVANTAGES

- Effective only if taken consistently.
- Effectiveness is reduced by;
- phenytoin
- antibiotic like ampicillin
- Vomiting and diarrhea that may impair absorption.

SIDE EFFECT

- Nausea/ Vomitting.
- Breast tenderness.
- Increased venous and arterial thrombosis.
- Strokes.
- Weight gain.
- Headache.
- Hypertension.
- Cholethiasis



- History of cardiovascular disease.
- Hypertension.
- Obesity.
- Migraine.
- Acute/ severe liver disease.
- Breast cancer.
- Smoker above 35

PROGESTIN ONLY PILL (MINI-PILL):

- **They contains only progesterone.**
- ***** They need to be taken daily and continuously
- Levonorgestrel 75 ug
- Norethsterone 350 ug
- Desogestrel 75 ug
- Failure rate 2-3 %
- **Contraceptive effect by;**
- Alterations in cervical mucus and effects on the endometrium.
- **The first pill has to be taken on the first day of the cycle then continuously and regularly and at the same time of the day -> to be maximally effective**



ADVANTAGES:

- Reduce the risk of estrogen related side effects
- Easy to take.
- Contraindications to estrogen

INDICATION:

• Older women.

Lactation.

Cardiovascular risk factors

Diabetes

DISADVANTAGES:

- It can have mild androgenic effects in some women, potentially influencing oil production in the skin that leads to Acne.
- Some could experience headaches, breast tenderness, mood changes.
- Irregular menstrual cycle.
- 30% increased risk of ovarian cysts.

CONTRAINDICATION

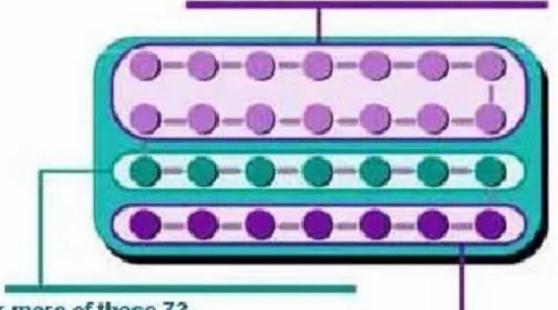
- Recent breast cancer.
- Liver cirrhosis
- Stroke and coronary artery disease

Missed 1 pill?

- Take 1 as soon as remembered.
- . Take all the others as usual

Missed 2 or more of these 14?

- Take 1 as soon as remembered.
- Take all the others as usual.
- " Use condoms for 7 day.

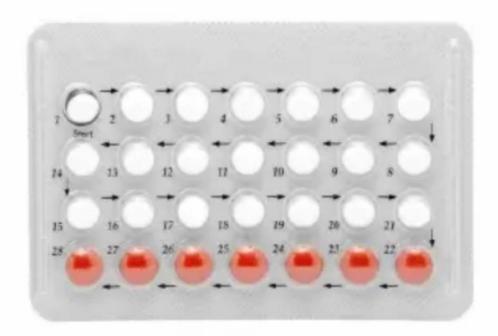


Missed 2 or more of these 7?

- Take 1 now.
- Take the others on this row, one each day, then start a new pack.
- Throw the last row of this pack away.
- *Use condoms for 7 days.

Missed any of these 7?

- Throw the missed pills away.
- Take all the others as usual.

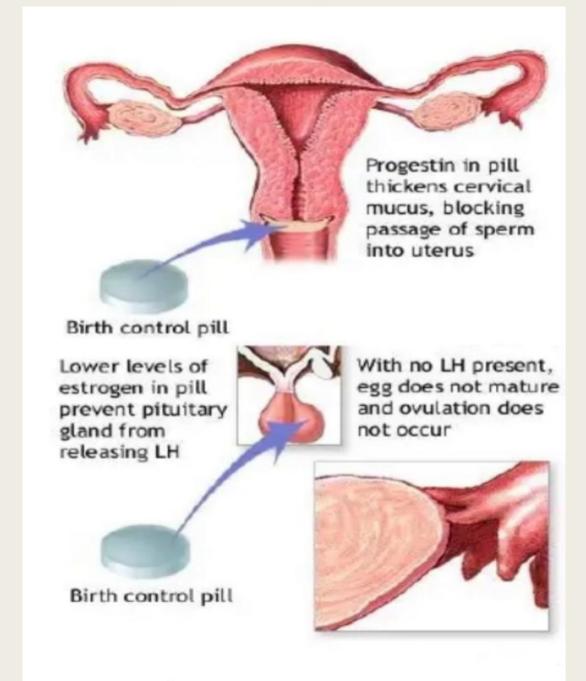


Progestin prevents ovulation

- suppress luteinizing hormone
- thicken cervical mucus (thick, viscid and scanty) retarding sperm passage -> endometrium unfavorable to implantation (endometrium non receptive to the embryo)

Estrogen prevents ovulation

- suppress follicle-stimulating hormone
- stabilize the endometrium-> prevents breakthrough bleeding



INJECTABLE PREGESTIN INTRAMUSCULARLY Depo-

po Dose: 150mg IM, every 12 weeks.

- reach active levels within 24 hrs.
- •undetectable in the body by 7 9 months.

When it starts to work?

You can have the injection at any time during your menstrual cycle.

- If you have it during the first 5 days of your cycle, you'll be immediately protected against pregnancy.
- If you have it on any other day of your cycle, you should use additional contraception such as <u>condoms</u> for 7 days.

INDICATION	CONTRAINDICATION	ADVANTAGES	DISADVANTAGES
 Good option for women who find it difficult to remember to take pill. Useful if oestrogen is contraindicate. Lactation. 	 High risk for osteoporosis. Same as POP: Pregnancy. Unexplained uterine bleeding. Recent breast cancer. Arterial disease. Thromboembolic disease. 	 Safe during lactation. Low failure rate (<1%). No estrogen related side effect. Menstrual symptoms reduced. Protective against endometrial cancer. 	 •Irregular bleeding. •Delay in return of fertility up to 12 months. •Injections. •Weight Gain. •doesn't provide protection against sexually transmitted infections (STIs). •Long term use (>2 years) can lead to decreased bone density.

Types of implants:

1)IMPLANON

- Progestin only delivery system containing: Etonorgestrel 68mg.
- Single closed capsule Sub dermal implant about 1.6 inches and approximately one-eighth inch in diameter, inserted on day 1-5 of the menstrual cycle.
- into the non-dominant arm in between the head of the biceps and triceps.
- The hormone in it is slowly released into the body over 3 years.
- Efficacy 99%.
- Long-lasting (3 years).





Reversible Longevity of effectiveness

No effect on lactation
Not user dependent



Surgical
Difficult to remove

公 Not D biodegradable



Menstrual irregularity

Headache

Mood change

Depression



History of cardiovscular disease

Hypertension

Obesity

Migraine

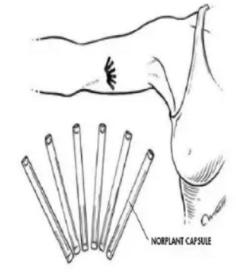
Chronic hepatitis

Breast cancer



ADVERSE EFFEC

2)NORPLANT I vs. NORPLANT I



- NORPLANT I : Six capsules (Five years).
- The initial release rate is **about 85 mcg/day**, declining to about 50 mcg/day
- NORPLANT II : Two capsules (Three years).
- The initial release rate of 60 to 70 μ g/day falls gradually to around 25 to 30 μ g/day
- **Rods:** 34 mm in length and 2.4 mm in outer diameter.

Administration: Under LA 6 slicone rubber rods effective within 6 hours of insertion and has a 5 years action.

PATCH (EVRA)

- The patch was designed to administer 20 µg of ethinyl estradiol and 150 μg of norelgestromin.
- Patch (Evra) is applied to:
 - Buttocks.
 - Upper outer arm.
 - Lower abdomen.
 - Upper torso (avoiding the breasts).
- A new patch is applied weekly for 3 weeks.
- followed by a patch-free week to allow for withdrawal bleeding.

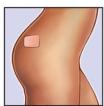
Birth control patch



Shoulder or upper arm



Abdomen below belly button



Lower back above the glute



Upper back near shoulder blade



How the Patch is Used

	Month											
1st Patch 🗝	1	2	3	4	5	6	7					
2nd Patch →	8	9	10	11	12	13	14					
3rd Patch →	15	16	17	18	19	20	21					
No Patch →	22	23	24	25	26	27	28					

Each patch is worn for a 7-day period.

After using three patches in a row,
no patch is worn during the fourth week.

ADVANTAGE

- S Well tolerated
- Safe overall

DISADVANTAGE

- Dysmenorrhea.
- **Breast tenderness.**
- Breakthrough bleeding in the first Two patches.
- Some women may have application site reaction severe enough to limit usage.

INTRAVAGINAL RING

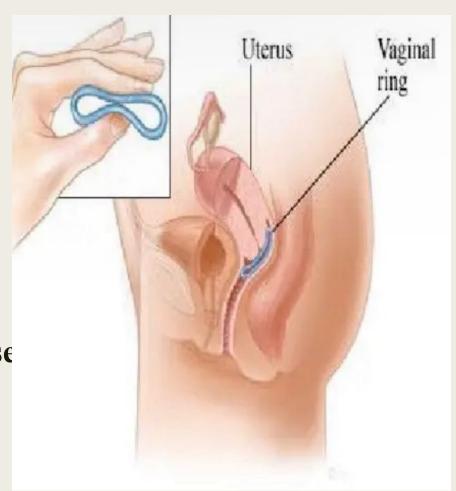
- Flexible polymer ring.
- Contains ethinyl estradiol + etonogestrel.
- Hormones are absorbed through the wall of the vagina directly into the bloodstream.
- Released rates: 15 mcg and 120 mcg per day.
- Highly effective but in case of typical use failure rate was 7 out of 100 ring users each year.
- The ring is placed within 5 days of the onset of menses and is removed after 3 weeks of use for 1 week to allow withdrawal bleeding.



• Breakthrough bleeding is uncommon.

• 18% of women, 22% of men reported being able to feel the ring during intercourse.

• If this is bothersome, may be removed for intercourse BUT should be replaced within 3 hours.

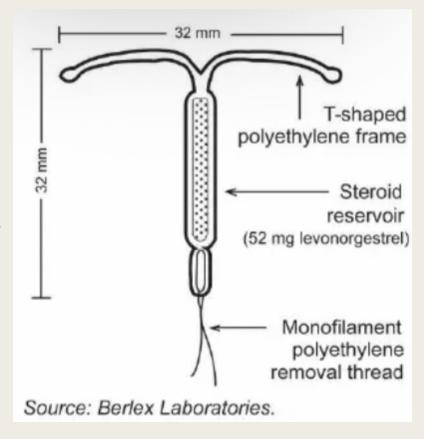


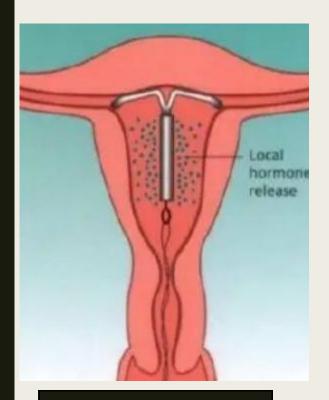
INTRAUTERINE CONTRACEPTION SYSTEM (MIRENA)

■ Device contain progestogen- releasing rod, (reservoir releasing levenorgestrel 20 microgram 12 hourly).

■ Levonorgestrel released directly into uterine cavity from a T-shaped plastic intra uterine device.

■ Most effective contraceptive, failure rates<2/1000.





NON-CONTRACEPTIVE

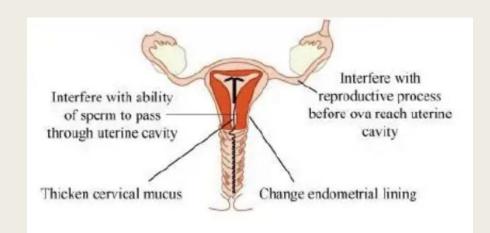
- Menorrhagia.
- To oppose ostrogen in HRT.
- To oppose effects of Tamoxifen on endometrium.

SIDE

- Minimal.
- Amenorrhoea (20%).
- Irregular bleeding (up to 6 months).
- PMS -like symptoms (rarely) If conception occurs risk of ectopic pregnancy.

MODE OF

- Thickens cervical mucus
- Thins endometrium
- Local inflammatory reaction



COOPER IUCD:

Copper effects are by causing a toxic effect to sperm and the egg.

Licensed for use for up to 10 years.

99% effective.

Has an increased risk of infection associated with the first 3 weeks of sertion Copper IUCD associated with increased menstrual loss.

Occasionally can have problem of missing strings, lost IUCD that any require investigation or surgical exploration/removal.



BENER

- Does not require a person to take medication.
- Good for those with a contraindication to taking oestrogen.
- Useful for patients who are not compliant to taking medicines.

CONTRAINDICATIO

- Current STI or PID.
- Distortion of the shape of uterine cavity.
- Severe dysmenorrea.
- Valvular heart disease.
- Cooper allergy.
- Heavy periods.

SIDE

- Pain.
- Menstrual loss.
- Expulsion <3%.
- Uterine perforation 1 in 1000.
- Salpingitis 1.5-7.5 per 1000.
- Endometritis.

TIME OF INSERTION:

1. **INTERVAL**:

- •6 Weeks following childbirth or abortion.
- 2-3 days after the period is over.
- During lactational amenorrhea can be anytime.

2. **POSTABORTAL:**

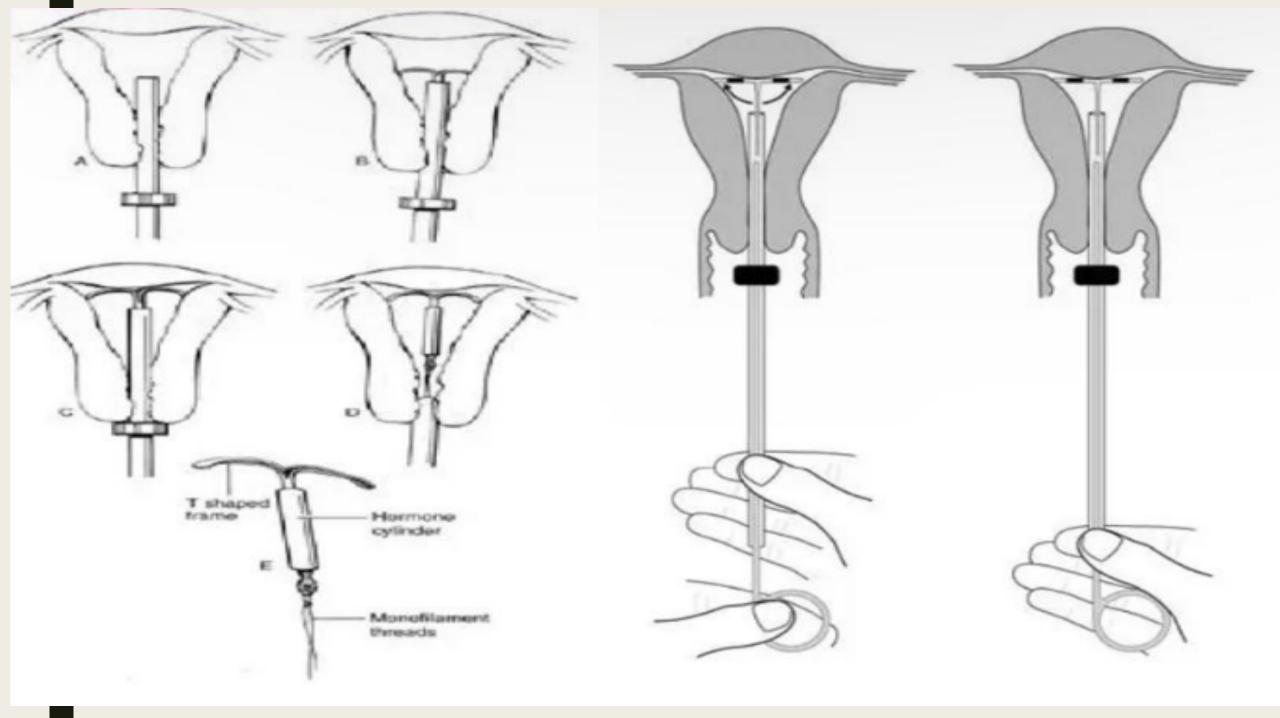
- Immediately following termination of pregnancy
- Prevent uterine synechia

1. **POSTPARTUM:**

• 6 weeks following child birth when the uterus will be involuted to near normal size.

2. **POSTPLACENTAL DELIVERY:**

- Immediate insertion can be done.
- Rate of expulsion is high.



EMERGENCY CONTRACEPTIVE

These methods can be used after intercourse when no contraception was employed (ie, unprotected intercourse [UPI]), a method was used imperfectly (ie, a condom slipped or broke, pills or injection were missed),

WHAT ARE THE EMERGENCY CONTRACEPTION METHODS?

- 1. **Intrauterine devices (**
- 2. Oral medication emergency contraception methods

1. IUDs:

■ Two types : Copper 380 mm2 and LNG 52 mg

Highly effective and decrease the risk of pregnancy by more than 99

Mechanisms of action:

the mechanism of action is not clearly understood for postcoital use

Insertion and use:

several guidelines advise the copper 380 mm2 IUD and LNG 52 mg can be inserted within five days of UPI

2. Oral medication emergency contraception methods:

a. Ulipristal acetate (UPA):

- **Mechanisms of action:** UPA is a selective progestin receptor modulator (ie, antiprogestin "UPA delays ovulation in both the pre-ovulatory period and after the LH surge has started
- UPA is given as a single 30 mg oral dose to be taken as soon as possible after UPI, up to a five-day (120-hour) interval
- Commercial names include ella, ellaOne, and Fibristal
- Progestin-containing contraceptives should not be used with UPA or for five days after UPA administration because of concerns that the progestin contraceptive will interfere with UPA action
- the most effective oral EC method, report single-cycle pregnancy rates of 1.2 to 1.8 percent

b.LNG (levonorgestrel):

Mechanisms of action: LNG prevents ovulation if taken in the pre-ovulatory period by blocking the luteinizing hormone (LH) surge, thus inhibiting follicular development and egg release

LNG is available as a single oral 1.5 mg dose, to be taken as soon as possible after UPI, up to three days (72 hours)

Highly effective, report single-cycle pregnancy rates of 1.7 to 2.6 percent

c.Combined oral estrogen and LNG contraceptive pills (Yuzpe method)

- Each pill contain Levonorgestrel and Ethinyl estradiol.
- After unprotected intercourse.
- Highly effective and decrease the risk of pregnancy by 75%.
- 100 women had unprotected intercourse during the second to third week of their menstrual cycle, 8 would be expected to conceive.
- Contain high dose of contraceptive hormones.
- Take within 72 hours of SI.
- Dosage:
- 1. Take 2 pills per dose
- 2. Another 2 pills 12 hours later

MECHANISM OF ACTION



Preventing implantation

 alteration of the endometrium

Side effects

 Nausea and vomiting are major problems due to the estrogen in these regimens

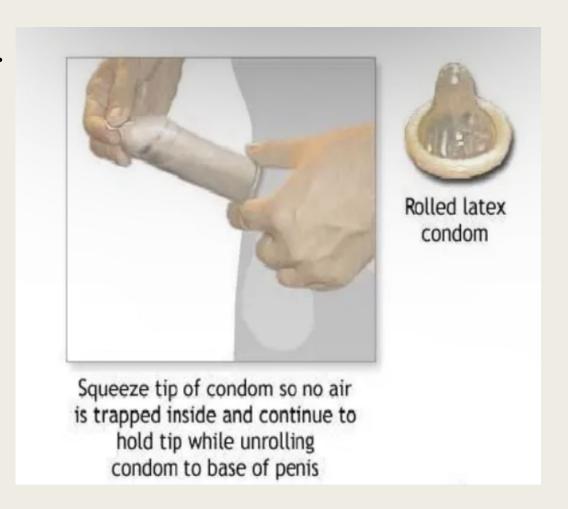
BARRIER METHODS

■ Prevent pregnancy by blocking the egg and sperm from meeting.

■ Barrier methods have higher failure rates than hormonal methods due to design and human error.

MALE CONDOM

- Most common and effective when used properly.
- Latex and Polyurethane.
- •Benefit.
- Decrease risk of venereal infection.
- Controlling the spread of HIV.
- Perfect effectiveness rate = 97%.
- •Combining condoms withspermicides raises effectivenesslevels to 99%.



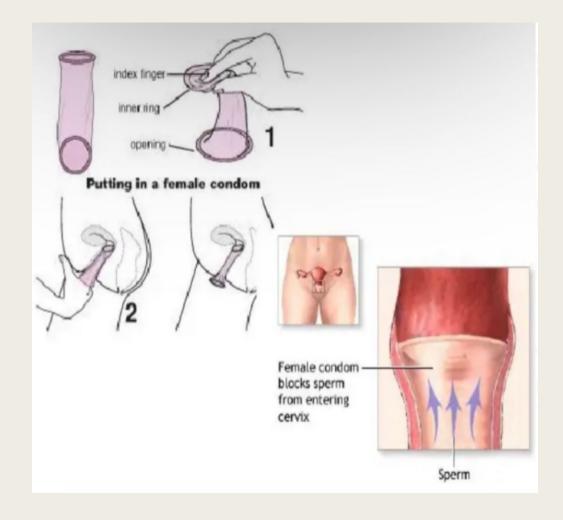
FEMALE CONDOM

Made as an alternative to male condoms.

Polyurethane.

Physically inserted in the vagina.

Perfect rate = 95%.



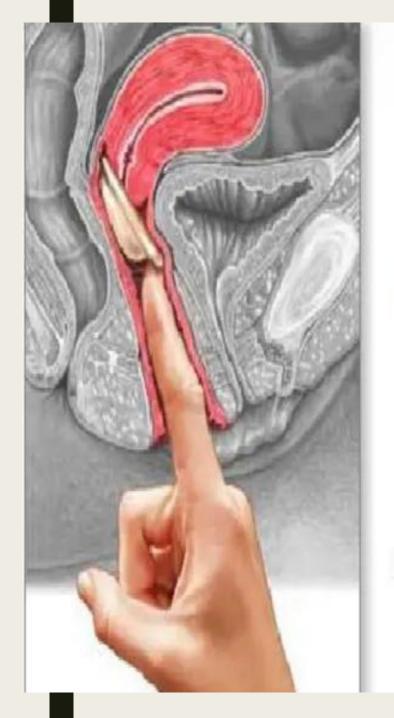
Woman can use female condom if partner refuses.

DIAPRAGHM

- Perfect Effectiveness Rate = 94%.
- Typical Effectiveness Rate = 80%.
- Latex barrier placed inside vagina during intercourse.
- Fitted by physician• Spermicidal jelly before insertion.
- Inserted up to 18 hours before intercourse and can be left in for a total of 24 hours.

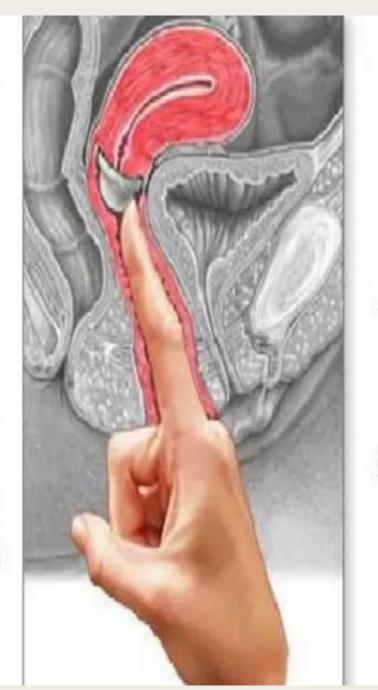
CERVICAL

- Perfect effectiveness rate = 91%.
- Typical effectiveness rate = 80%.
- Latex barrier inserted in vagina before intercourse "Caps" around cervix with suction.
- Fill with spermicidal jelly prior to use.
- Can be left in body for up to a total of 48 hours.
- Must be left in place six hours after sexual intercourse.





Barrier method: The diaphragm fits over the cervical opening, preventing sperm from entering the uterus





Barrier method:
The cervical cap fits snugly over the cervix, preventing sperm from entering the uterus

SPERMICIDES

- Chemicals kill sperm in the vagina.
- Different forms:
- Jelly
- Film
- Foam
- Suppository
- Some work instantly, others require preinsertion.
- Only 76% effective (used alone), should be used in combination with another method i.e., condoms.



SPONGE

• The sponge is inserted by the woman into the vagina and covers the cervix blocking sperm from entering the cervix.

• The sponge also contains a spermicide that kills sperm.



STERILIZATION

• Medical techniques that intentionally leave a person unable to reproduce in the future.

• Generally permanent birth control techniques that surgically disrupt the normal passage of ova or sperm.

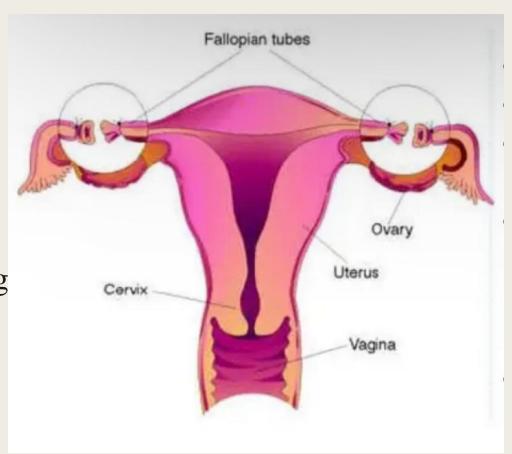
STERILIZATION

- 5% couples between 40-45 years.
- Tave completed family.
- Tave no other acceptable method.
- Temale sterilization (laparoscopic / mini-lap or during ()).

failure 1:200, not 100% reversible.

10% risk of ectopic pregnancy.

- Male sterilization.
- ailure 1:10 000, not 100% reversible.



TUBAL LIGATION

- A small incision is made in the abdomen to access the fallopiantubes.
- Fallopian tubes are cut, tied, cauterized, blocked, burned, or clipped shut to prevent the egg from traveling through the tubes.
- Recovery usually takes 4-6 days.
- Failure rates vary by procedure, from 0.8%-3.7%.
- May experience heavier periods.

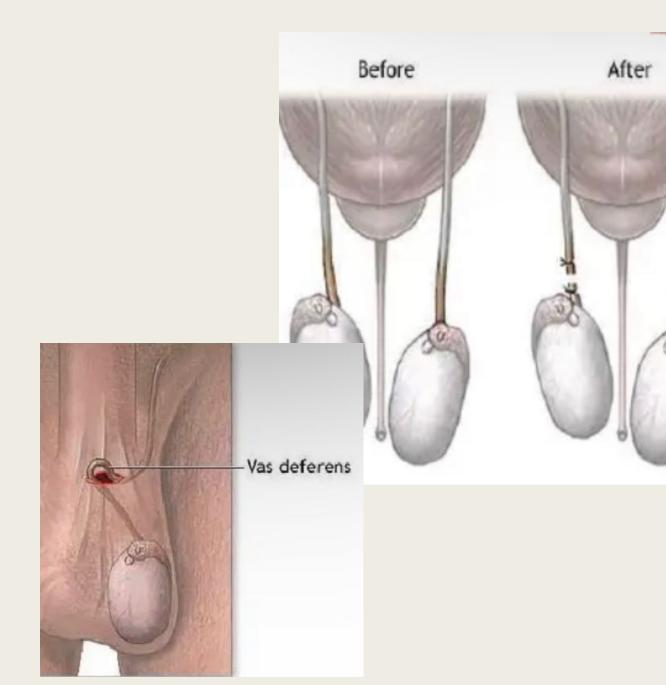
VASECIOMY

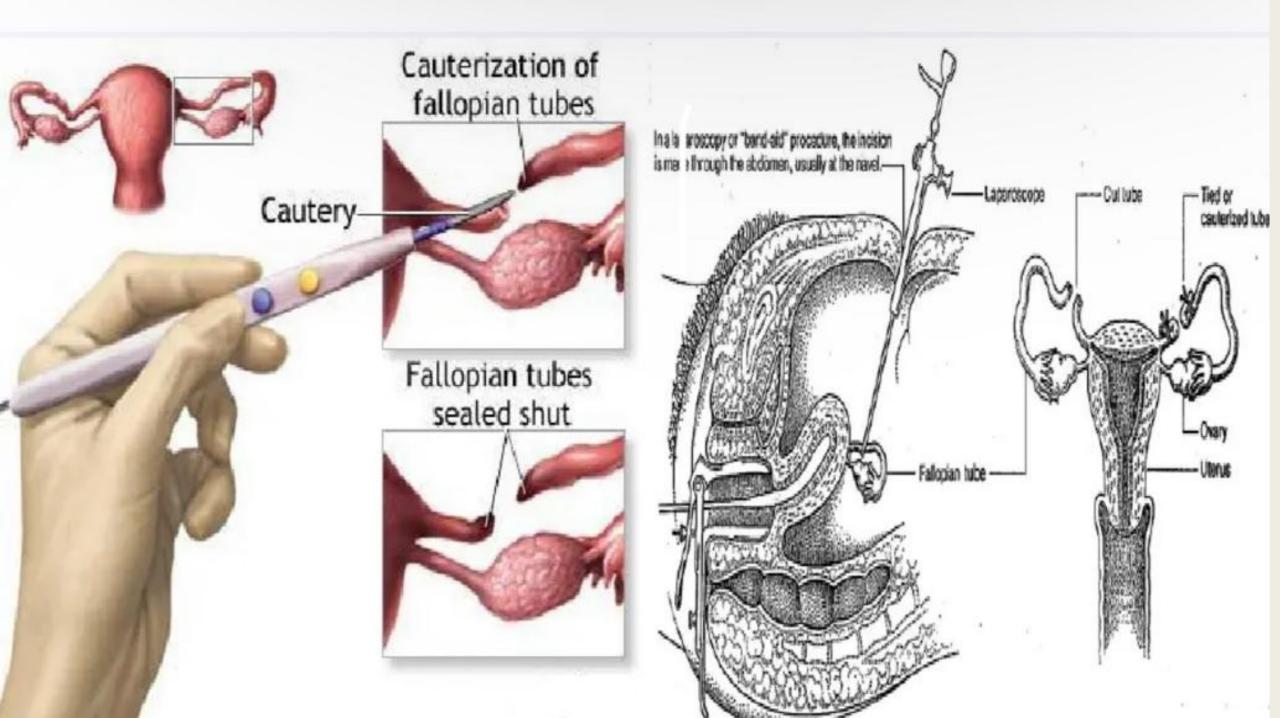
- A small incision is made to access the vas deferens, the tube the sperm travels from the testicle to the penis, and is sealed, tied, or cut.
- No-scalpel Vasectomy (NSV).
- Faster and easier recovery than a tubal ligation Failure rate = 0.1%, more effective than female sterilization.
- After a vasectomy, a male will still ejaculate, but there won't be any sperm present.

During a vasectomy ("cutting the vas") a urologist cuts and ligates (ties off) the ductus deferens.

<u>Sperm are still produced but</u> <u>cannot exit the body.</u>

Sperm eventually deteriorate and are phagocytized. A man is sterile, but because testosterone is still produced he retains his sex drive and secondary sex characteristics.





CONCLUSION:

- There are many forms of contraception available.
- Important to know the advantages and disadvantages of these options.
- Useful to see what is being advised for our post-natal patients and relate the types of contraception recommended with each individual patient.

how well do they work? METHODS YOU CAN USE TO PREVENT PREGNANCY

the only methods you can use that prevent pregnancy AND reduce the risk of STDs, including HIV.

abstinence

WALLTONIES NOW in preventing pregnancy and STOs, including NO when used consistently and correctly every time



male condom

SEW EXPECTIVE against pregnancy, DECK EFFECTIVE argainest HIV, and also reduces the risk of many other STDs when used coestitiently and correctly every lime



female condom

SUN EFFECTIVE against pregnancy and may reduce the risk of STDs, including HIV. when used consistently and correctly every time.



did vou know?

Dental starts as a barrier between the mouth and general. may reduce the risk of getting an STD architing MIV. Orresport peut wes

> Remember to use your protection method each and every time you have sex

PREVENTING PREGNANCY

MORE EFFECTIVE

Less than 1/100 women will get pregnant in one year using these





Be prepared Ise protection the first time on have sex

Find a method you like and stick with it.

Did you not use buth central han a 90% chance of seconding pregnant in the first year

two methods are

better than one

With typical use, less than 9/100 women will get pregnant in one year using these methods











WHEN USED CORRECTLY AND EVERY TIME LESS THAN 1/100 WOMEN WILL GET PREGNANT USING THESE METHODS IN ONE YEAR

With typical use, between 15/100 and 21/100 women will get pregnant in one year using these methods

WHEN USED









cervical cap

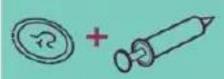
One

method is

better than

none!

WOMEN WILL GET PREGNANT USING THESE METRODS IN ONEYEAR









EFFECTIVE

CORRECTLY AND = - 2/106 =

With typical user about-29/500 women will get. pregnant in one year using these methods







PREGNANT UNING TRESE METHODS IN ONE YEAR

> Both you and vour partner are responsible

LEAST EFFECTIVE

85/100 women will get pregnant in one year using no method



vaginal-penile sex without protection

THANK YOU FOR YOUR ATTENTION!