

FAMILY PLANNING

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CONTRACEPTIVE METHODS

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**SPACING
METHODS**

**TERMINAL
METHODS**

SPACING METHODS

- BARRIER METHODS
 - a) PHYSICAL METHODS
 - b) CHEMICAL METHODS
 - c) COMBINED METHODS
- INTRA-UTERINE DEVICES
- HORMONAL METHODS
- POST-CONCEPTIONAL METHODS
- MISCELLANEOUS

INTRA-UTERINE DEVICES

It is a small, flexible, plastic device that contains either metal or hormones and is inserted into the uterus to prevent pregnancy.

Types:

1. Non-medicated or Inert IUD
 2. Medicated or bioactive IUD
- **First generation IUDs:** The non medicated or inert
 - **Second generation IUDs:** Copper
 - **Third generation IUDs:** Hormone releasing

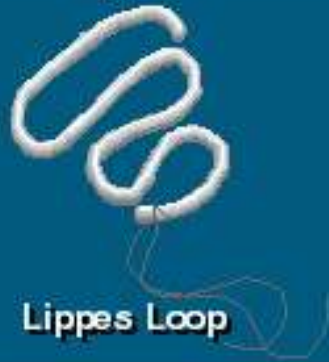


First Generation IUDs

- They usually comprise of inert or non medicated devices. They appear in different shapes and sizes-loops, spiral, coils, rings
- **Lippes loop:** This is the best known and most commonly used double S-shaped device.



Early IUDs



Prototypes

- A plastic material that is non toxic, non tissue reactive, and extremely durable. The loop has attached thread or tail made of fine nylon, which projects into the vagina after insertion.
- This exists in four sizes. A larger size has greater anti fertility effect and a lower expulsion rate but a higher removal rate because of side effects like pain and bleeding

Second Generation IUDs

- A new approach was tried in 1970 by adding copper to the IUD. The newer copper devices are significantly more effective.
- **Multi load and variant of T device:**
Effective life of at least 5 years.
- They can be left in place safely for the time, unless specific medical or personal reasons call for earlier removal.

Copper IUDs



Advantages of copper devices

- Low expulsion rate
- Lower incidence of side effects e.g pain and bleeding
- Easier to fit even in nulliparous
- Better tolerated by nullipara
- Increased contraceptive effectiveness
- Effective as post coital contraceptives, if inserted within 3-5 days of unprotected intercourse.

Third Generation IUDs

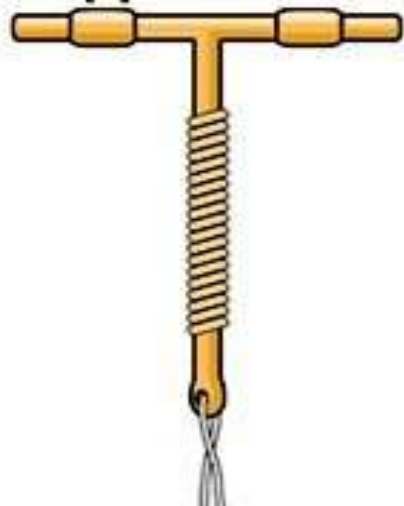
- These are based on another principle of release of hormone.

A- Progestasert:

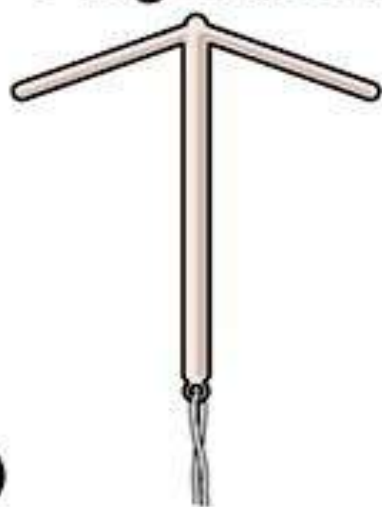
- Most commonly used device, which is a t-shaped device filled with 38mg progesterone (the natural hormone).
- It is released daily in uterus and has a direct local effect on the uterine lining, on the cervical mucus and possibly on sperms.

Types of IUDs; An IUD in Position

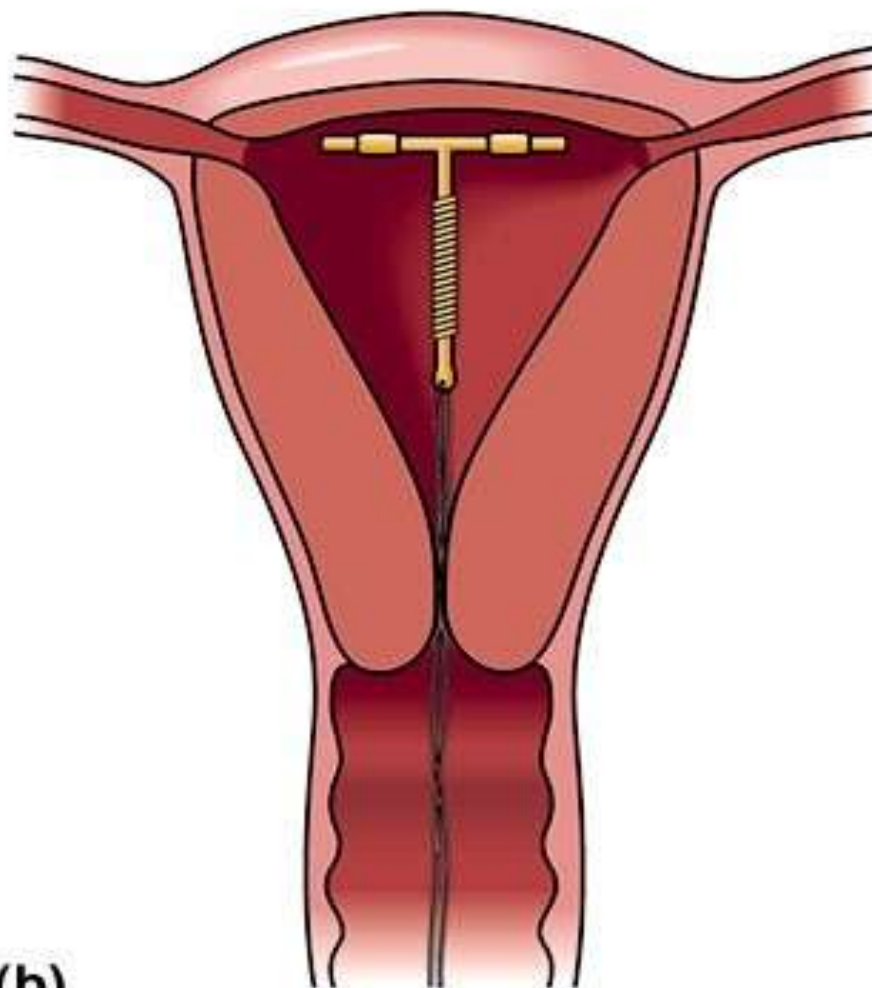
Copper T 380A



Progestasert



(a)



(b)

B- Levonorgestrel:

- Contains 52mg of synthetic progestin hormone.
- A potent synthetic steroid, this has an effective life of 10 years.
- This is associated with lower menstrual blood loss and fewer days of bleeding than copper devices but are more expensive to be used on wider scale



Mechanism of action of IUDs

- IUD causes a foreign-body reaction in the uterus causing cellular and biochemical changes in the endometrium and uterine fluids.
- These changes impair the viability of the gamete and thus reduce its chances of fertilization, rather than its implantation.

Mechanism of Action

- ***Medicated IUD:*** Produces other local effects that may contribute to their contraceptive action.
- Copper seems to enhance the cellular response in the endometrium. It also effects the enzymes in the uterus.
- By altering the biochemical composition of cervical mucus, copper ions may affect sperm mobility, capacitation and survival.

Mechanism of action

- ***Hormone-releasing devices:*** Increase the viscosity of the cervical mucus and thereby prevent sperm from entering the cervix.
- They also maintain high levels of progesterone in the endometrium and thus relatively low levels of estrogen, thereby sustaining an endometrium unfavorable to implantation.

Effectiveness

- IUD is one of the most effective reversible contraceptive method.
- The theoretical effectiveness of IUD is less than that of oral and injectable hormonal contraceptives.
- But since IUD have longer continuation rates than the hormonal pills or injections, the over all effectiveness of IUD and oral contraceptives are about the same in family planning programs.

Change of IUD

- Inert IUD such as lippes loop may be left in place as long as required, if there are no side effects.
- Copper devices cannot be used indefinitely because copper corrodes and mineral deposits build up on the copper affecting the release of copper ions.
- The same applies to hormone releasing devices. They have to be replaced periodically.

Advantages

- Simplicity, no complex procedures are involved in insertion
- Insertion takes only few minutes
- Once inserted IUD stays in place as long required
- Inexpensive
- Contraceptive effect is reversible by removal of IUD

- Virtually free of systemic metabolic side effects associated with hormonal pills
- Highest continuation rate
- There is no need for continual motivation required to take a pill daily or to use a barrier method consistently only a single act of motivation is required

WHO CAN USE IUD

Can be used safely by women who:

- Are of various age and parity
- Young and nulliparous women should be counseled on expulsion risk
- Are postpartum, post-abortion, or breastfeeding
- Have a chronic condition, including hypertension , cardiovascular disease , diabetes , liver or gallbladder disease

CONTRAINDICATIONS

ABSOLUTE:

- Suspected pregnancy
- Pelvic inflammatory disease
- Vaginal bleeding of undiagnosed etiology
- Cancer of the cervix, uterus or endometrial and other pelvic tumors
- Previous ectopic pregnancy
- Malignant trophoblastic disease or known pelvic tuberculosis
- Uterine distortion that impedes correct IUD placement

RELATIVE:

- Anemia
- Menorrhagia
- History of PID since last pregnancy
- Purulent cervical discharge
- Distortions of the uterine cavity due to congenital malformations, fibroids
- Unmotivated person

An ideal IUD candidate

- Who has borne at least one child
- Has no history of pelvic disease
- Has normal menstrual periods
- Is willing to check IUD tail
- Has access to follow up and treatment of potential problems
- Is in monogamous relationship

Time of insertion

- Although an IUD can be inserted at almost anytime during a woman's reproductive years (except pregnancy), the ideal time is during menstruation or within 10 days of the beginning of a menstrual period.
- The insertion can also be done during the first week after delivery before the women leaves the hospital (immediate postpartum insertion)

- A convenient time for loop insertion is 6-8 weeks after delivery (post-puerperal insertion)
- It can also be done after first trimester abortion.

Follow-up

An important aspect is follow-up which is usually neglected.

Objectives:

- To provide motivation and emotional support for the women
- To confirm the presence of the IUD
- Diagnose and treat any side effect or complications

Time of Examination :

1. After her first menstrual period
2. After 3rd menstrual period
3. There after at 6 months or 1 year

Side effects and complications

- Bleeding
- Pain
- Pelvic infection
- Uterine perforation
- Pregnancy
- Ectopic pregnancy
- Expulsion
- Fertility after removal
- Cancer and teratogenesis

DEVICE	PREGNANCY RATE(%)	EXPULSION RATE (%)	REMOVAL RATE(%)
Lippes loop	3	12-20	12-15
Cu-7	2-3	6	11
Tcu-200	3	8	11
Tcu-380A	0.5-0.8	5	14
Progesterone	1.3-1.6	2.7	9.3
Levonorgestrel	0.2	6	17

Comparison of Copper IUDs

	1 st Year Failure per 100 women	Recommended Lifespan
TCu 380A	0.3	12 years
Multiload Cu 250	1.2	3 years
Multiload Cu 375	1.4	5 years
TCu 200	2.3	3 years
Nova T	3.3	5 years

Source: FHI clinical trials, 1985-1989.

Pelvic Inflammatory Disease (PID)

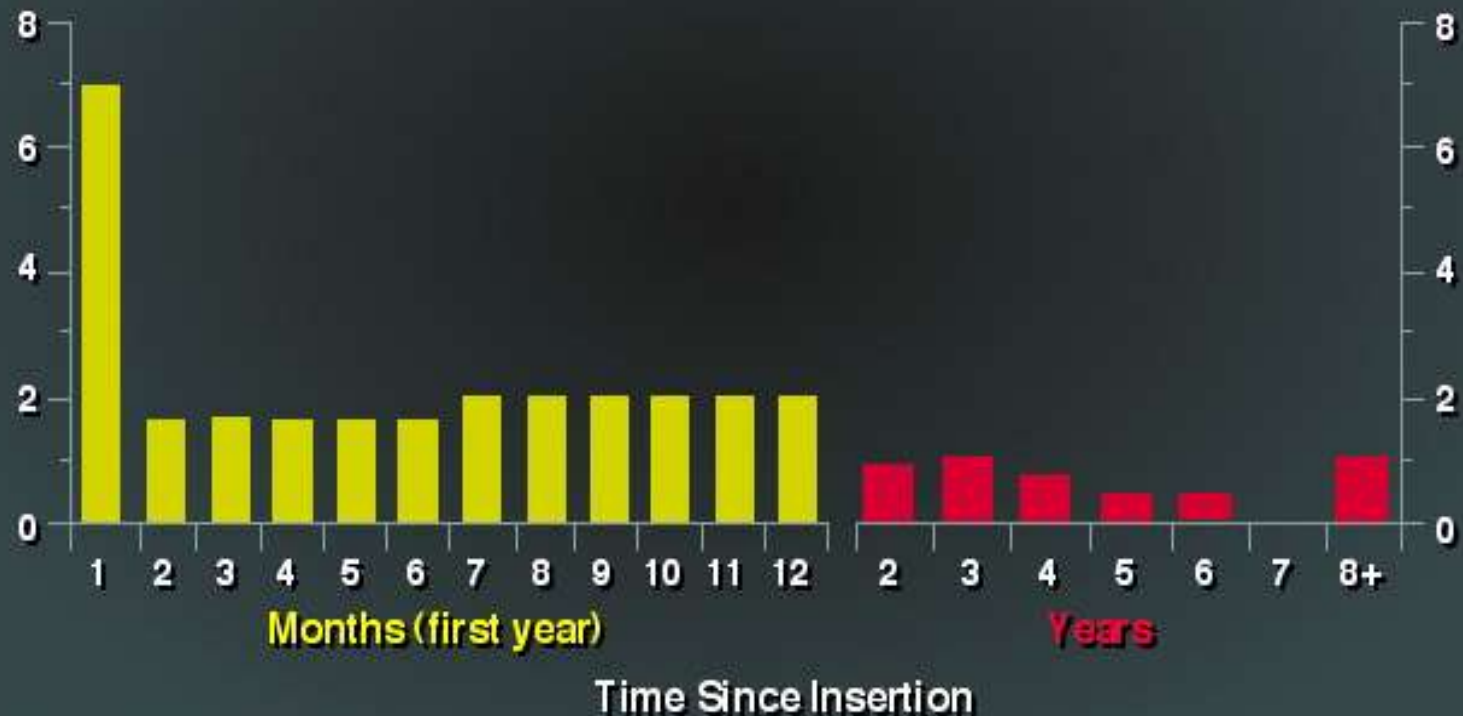
- PID is an infection of the woman's upper genital tract

Risk of PID in IUD users:

- Low overall
- Higher during first 20 days after insertion
- Mostly due to infection with gonorrhea and Chlamydia
- Similar to risk of PID in women with gonorrhea and Chlamydia who are not using IUD

PID Incidence Rate by Time Since Insertion

PID Rate
(per 1000 woman years)



Source: Farley et al, 1992.

Reducing Risks During Insertion

- Follow infection prevention procedures
- Follow manufacturer's instructions
- Use IUD only if sterile package is not damaged or opened and has not expired
- Antibiotic prophylactic is not generally recommended
- Tarnished or discolored IUDs are still effective

Reducing the Risk of PID

- Screen women for risk of STIs:
 - not recommended if at high individual risk of STIs
- Screen out women with clinical symptoms and signs of an STI
- Counsel about risk of PID
- Follow infection prevention procedures during insertion
- Recommend one-month follow-up visit to check for infection
- Return immediately if any symptoms of PID develop

Uterine Perforation

- Very rare 1 in 1000 iud insertions.
- Risk is directly linked to experience and skill of provider.
- Reduced through supervised training.
- Greater for postpartum insertion performed within 48 hrs to 6 weeks after delivery.

Expulsion

- Partial or unnoticed expulsion may result in irregular bleeding or pregnancy.
- Factors contributing to expulsion:
 - Age and parity of women
 - Timing of insertion
 - Time since insertion
 - Skill of healthcare provider

Expulsion Rates for Interval and Postpartum Insertions

Timing of Insertion	Expulsion Rate
Interval (more than 4 weeks after delivery)	Low (3% for skilled inserters)
Immediate Postpartum (within 10 minutes)	Slightly higher (* up to 9.5%)
Early Postpartum (between 10 minutes and 48 hours)	Moderately higher (* up to 37%)

Data on expulsion rates for late postpartum insertions (48 hours to 4 weeks) are limited. Late postpartum insertions are not recommended due to an increased risk of perforation.

“Dispelling Myths”

IUDs are:

- Are not Abortifacients
- Don't cause infertility
- Don't travel to distant parts of body
- Are not large for small women
- Don't cause discomfort for male partner.

Signs of possible complications

Fever chills or unusual vaginal discharge	Infection
Missed periods or other signs of pregnancy	Pregnancy (ectopic or uterine)
Shorter, longer or missing strings	Partial or complete expulsion or perforation
Severe bleeding or cramping 4-5 days after insertion	Perforation or infection
Irregular bleeding or pain during every cycle	Dislocation or perforation
Pain during intercourse	Infection , perforation or possible expulsion

Reasons for Discontinuation of Copper IUDs

Rates per 100 women in first year of use of various copper IUDs



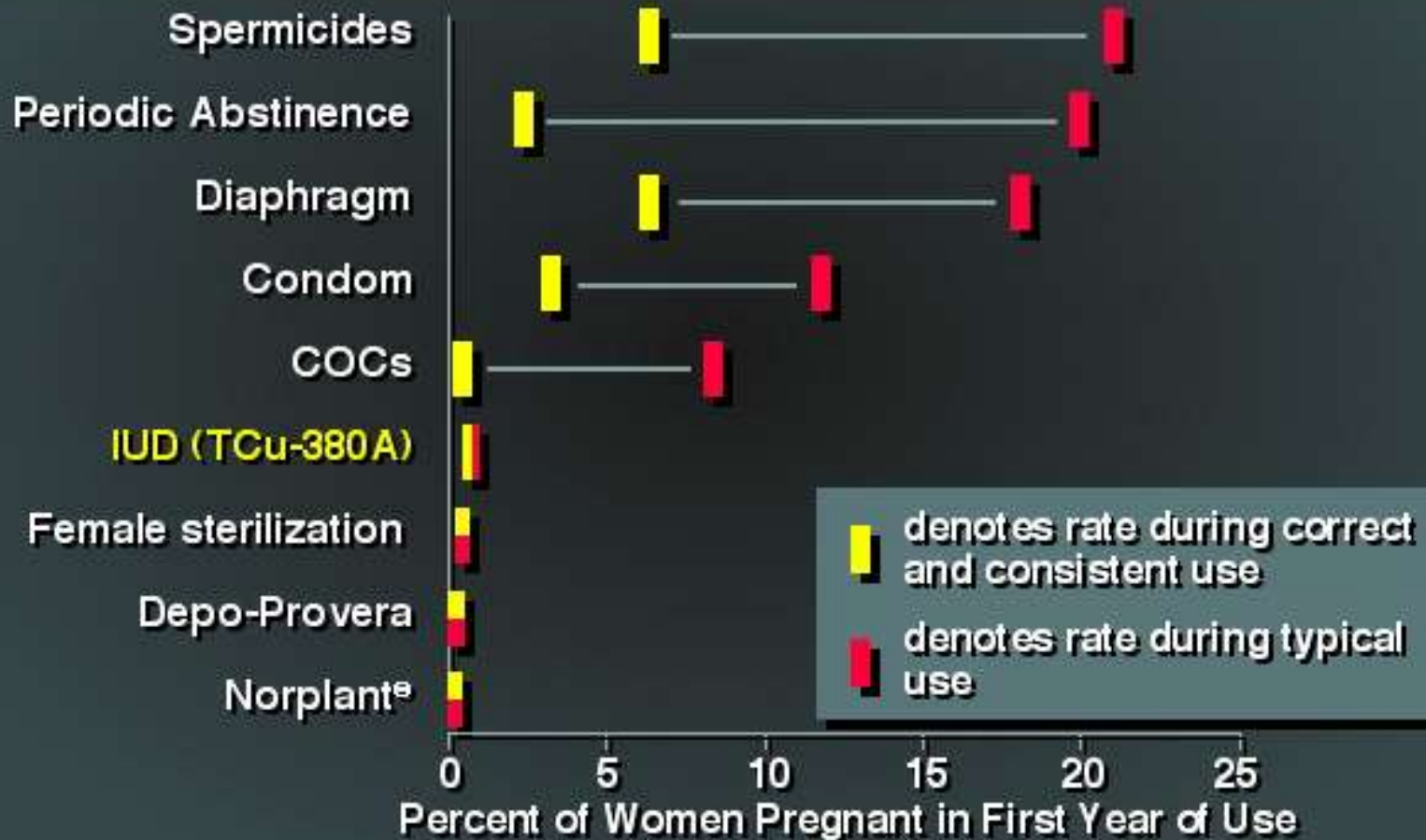
Source: Population Reports, 1988.

Infection Prevention Procedures

- Wash hands
- Wear sterile gloves
- Carefully disinfect vagina and cervix
- Use sterile IUDs and sterile or high-level disinfected equipment
- Decontaminate instruments
- Safely dispose of contaminated waste

Effectiveness of prophylactic antibiotics not proven

Contraceptive Failure Rates*

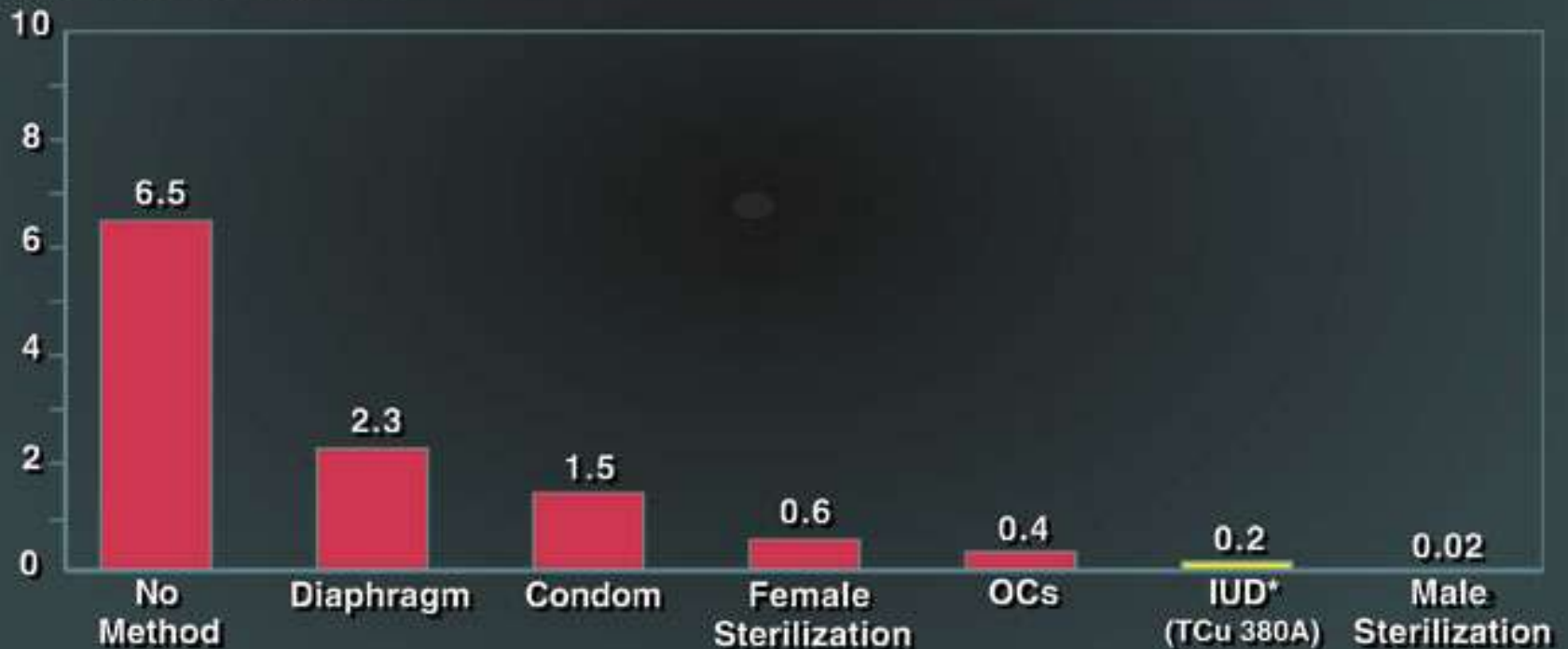


Source: Trussell, 1994; Jones/Forrest, 1992 (COC typical use data).

* U.S. data

Estimated Ectopic Pregnancy Rates by Method

Typical Ectopic Pregnancy Rate
per 1000 woman years



* Adapted from: Sivin, 1991.