

Copper IUDs

Advanced slide kit complementing the
WHO training tool www.fptraining.org

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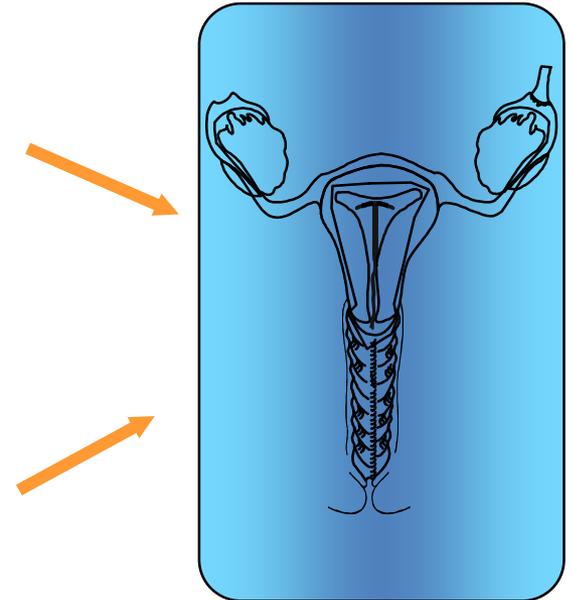
To enable teachers to understand and explain:

- Mechanism of action
- Efficacy, duration of use
- Side effects: harmless, harmful, frequency
- Treatment of side effect
- Contraindications
- Misconceptions
- Counseling
- Risk of ectopic pregnancy
- Copper ball and expulsion

Mechanism of action

Interference with movement of the sperm

Impairment of sperm viability



In the uterine cavity the copper-IUD prevents fertilization by inducing a sterile inflammatory response in the uterine cavity with release of prostaglandins. This environment is sufficient to be spermicidal. An additional spermicidal effect takes place in the cervical mucus.

The copper load

Modern copper IUDs contain more copper (> 300 mm²) to

- Increase efficacy
- Increase duration of use (for 5-10 years)
- Decrease risk of PID

Efficacy of copper IUD

Method	% of women experiencing an unintended pregnancy within first year of use	
	Typical use	Perfect use
No method	85	85
Combined pill	9	0.3
Depo-Provera	6	0.2
Implanon	0.05	0.05
IUD Copper T380Ag*	0.3	0.3
IUD Mirena (LNG)*	0.2	0.2
Female sterilisation	0.5	0.5
Male sterilisation	0.15	0.1

*Source I.Sivin, Contraception 1990,; Vol.42NO 4.; adapted from Trussel Contraception 2011

- The modern copper-IUD is a highly effective method.
- 5-year gross failure rates are below 1% for the T380AG and the LNG-IUS .

Adverse events of copper IUD

During and after insertion

- Vasovagal syncope
- Cramping for several days
- Spotting for a few weeks

Long-term

- Longer and heavier periods
- Bleeding or spotting between periods
- Cramps
- Pain during menses
- Rarely iron deficiency over many years

An important advantage is the lack of systemic side effects

Management of cramping and bleeding

- If a patient suffers from severe or prolonged cramping:
 - Exclude pathology*
 - If symptoms are mild, they can be treated with nonsteroidal anti-inflammatory drugs (NSAIDs)
 - Remove the IUD if the severe cramping is unrelated to menses or is unacceptable to the patient
- Heavy bleeding for more than 3 months:
 - Examine the patient for infection, fibroids, or signs of anemia and treat if necessary
 - Prescribe NSAIDs for 3 days
 - Remove the device if there is a medical contraindication or if the bleeding is unacceptable to the patient

Discontinuation of copper IUD

Discontinuation rates are similar between LNG-IUS users and copper-IUD users:

Copper-IUD users:

- 48 months: 64,2%
- 60 months: 55,9%

Risks for discontinuation:

- Age > 29 years (less discontinuation) compared with age 24-29 years

Who should better not start a copper IUD

Women with:

- Heavy menstrual bleeding
- Dysmenorrhoea
- Anticoagulation
- Bleeding disorder (thrombocytopenia)
- Uterine malformation
- Submucous myoma
- Some conditions with high dosed immunosuppressive treatment
(→ MC session: IUD in special situations)

Who should not start copper IUD

Strong Contraindications

WHO MEC	Condition (selected examples)
Category 3	48 h to <4 weeks postpartum, ovarian cancer/if initiating use, high individual risk of STI/if initiating use, severe thrombocytopenia
Category 4	Pregnancy, unexplained vaginal bleeding (prior to evaluation), current PID or cervical infection, endometrial or cervical cancer/if initiating use

Rumors and misconceptions about IUDs

Clarify misconceptions:

- Rarely lead to PID
- Do not increase risk of STIs, including HIV
- Do not work by causing abortion
- Do not make women infertile
- Do not move to the heart or brain
- Do not cause birth defects
- Do not cause pain for women or men during sex
- Increase risk of ectopic pregnancy

Key counseling topics for copper IUD users

A detailed guidance to counseling before
IUD insertion can be found in the

**WHO, Technical Resource Package for Family
Planning Contraceptive IUD Module**

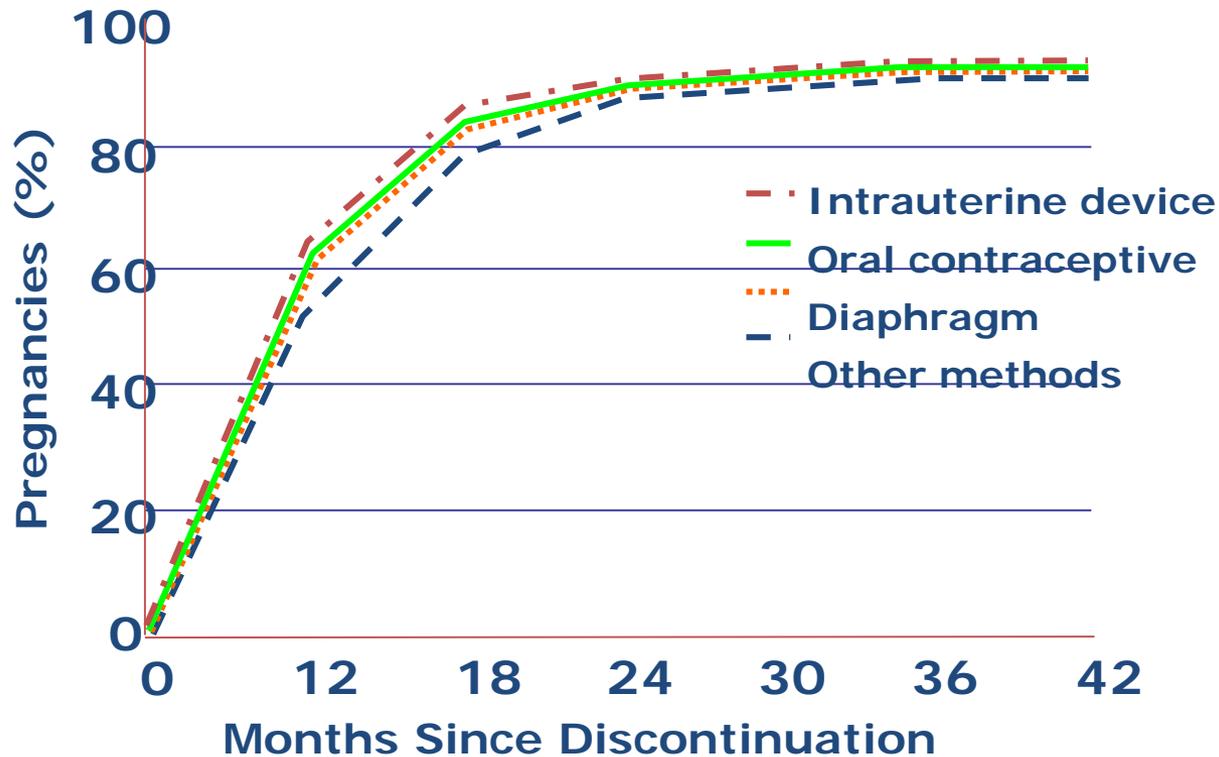
<https://www.fptraining.org/projects/intrauterine-devices-iuds>

Counseling topics for Copper IUD users

Side effects and STI prevention

- Side-effects
 - Side-effects like bleeding problems or pain usually improve after first 3 months.
- Protection against STIs or HIV/AIDS
 - The copper-IUD does not provide protection against STIs/HIV
 - For STI/HIV and AIDS protection, also use condoms.

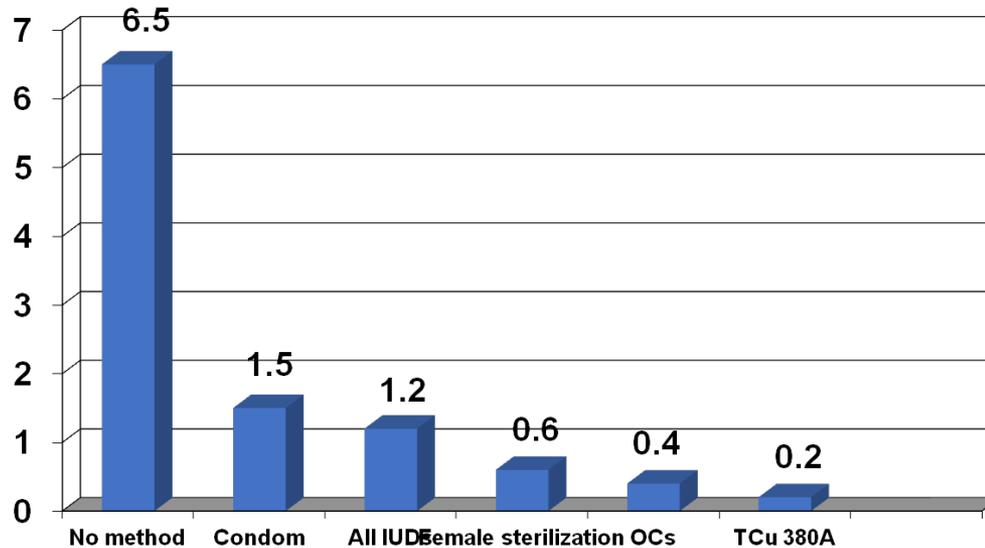
Fertility rates in parous women after discontinuation of a contraceptive



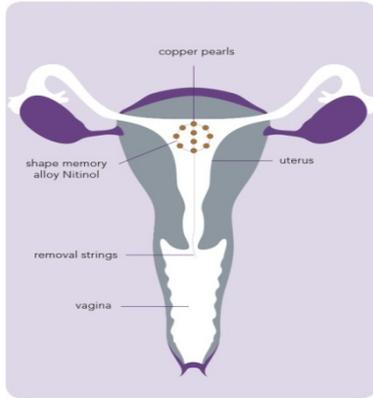
This study from 1983 was performed at a time when the incidence of chlamydia infection was low. Comment in notes.

IUDs reduce risk of ectopic pregnancy

Ectopic pregnancy rate per 1000 woman years



Copper-IUDs reduce the risk for ectopic pregnancy, but if a IUD user reports pain or atypical bleeding ectopic pregnancy should be excluded.



The copper ball (IUB)

Pilot study in 51 women

- The intrauterine ball (IUB) was designed to prevent some typically side effects of copper-devices.
- It is 1.2 cm in diameter and made of a shape memory alloy. When inserted into the uterus, the IUB takes a spherical shape.
- Expulsion rate was 27%

Expulsion rates with 1.2 cm diameter device were unacceptable high. No data are available on the tolerability of the 15 and 18mm IUBs. More data are needed before routine use.