



# Intrauterine devices in special situations

This advanced slide kit is complementing the  
WHO training tool which can be found at  
[www.fptraining.org](http://www.fptraining.org)

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**Topic: IUDs in special situations**



# Adolescents

## Why should intrauterine contraception be offered to all adolescents as a first-line option?

- Adolescent pregnancy remains a global public health problem and about 80% of pregnancies in adolescents are unplanned.
- Modern IUDs are well tolerated from most adolescents
- Among modern methods of contraception, adolescents usually use oral contraceptives and condoms.
- Adolescents are twice as likely to become pregnant while using oral contraceptives compared with women over 30 years of age.
- Adolescents have higher continuation rates with longer acting contraceptive methods than with shorter acting methods.
- Many adolescents could benefit from long-acting contraception.

## Facts of IUD insertion in nulliparous adolescents

Successful IUD insertion on first attempt: 95 - 98%

Cervical dilation needed: 2 – 29%

IUD insertion failed: 0.3 – 1.4%

Vasovagal reaction: 1.4%

Health care providers rated the IUD insertion procedure as “very difficult”: 1 - 5%

Patients assessed pain during insertion as severe: 11 - 19%

Difficulties reported were minor, and there were no perforations

## Are young women who use IUDs at increased risk of adverse events?

### EXPULSION RATE

- Slightly higher in adolescent women than in women >20 years of age
- Higher in nulliparous women than in parous women (in the majority of studies)

### PELVIC INFLAMMATORY DISEASE

- No significant increase in risk based exclusively on adolescent age
- The symptomatic PID risk in IUD users is determined by their STI risk

### INFERTILITY RISK

- No evidence of increased infertility risk in adolescent IUD/IUS users
- \* Infertility secondary to tubal occlusion among nulligravid women is associated with antibodies to Chlamydia trachomatis and not with previous IUD/IUS use

## STI screening/antibiotic prophylaxis for IUD and IUS insertion

High risk group for STI: Women younger than 25 years



STI screen recommended: Chlamydia trachomatis, Neisseria gonorrhoea  
(in regions with high prevalence)



If STI screening unavailable: Azithromycin 1 g orally in a single dose or  
doxycycline 100 mg orally twice daily for 7 days

## How to support the adolescent girl in her decision between the copper-IUD and the LNG-IUS

### Copper-IUD

#### Benefits:

- no systemic side effects
- no impact on mood
- lower risk for HPV acquisition compared to LNG-IUS

#### Disadvantages:

- dysmenorrhoea
- heavier and prolonged menstrual bleeding

### LNG-IUS

#### Benefits:

- reduction in the number of bleeding days
- improvement of dysmenorrhoea

#### Disadvantages:

- negative impact on skin and worsening acne in some women
- negative impact on mood and increased risk for depression

### RISKS:

- increased likelihood for STI / PID
- pelvic pain and cramping – insert small copper-IUD or LNG-IUS 12



## Use of long-acting reversible contraception (LARC) in adolescents

### 12 month continuation rates

- Combined for all LARC methods (IUD/IUS and implant): 84%

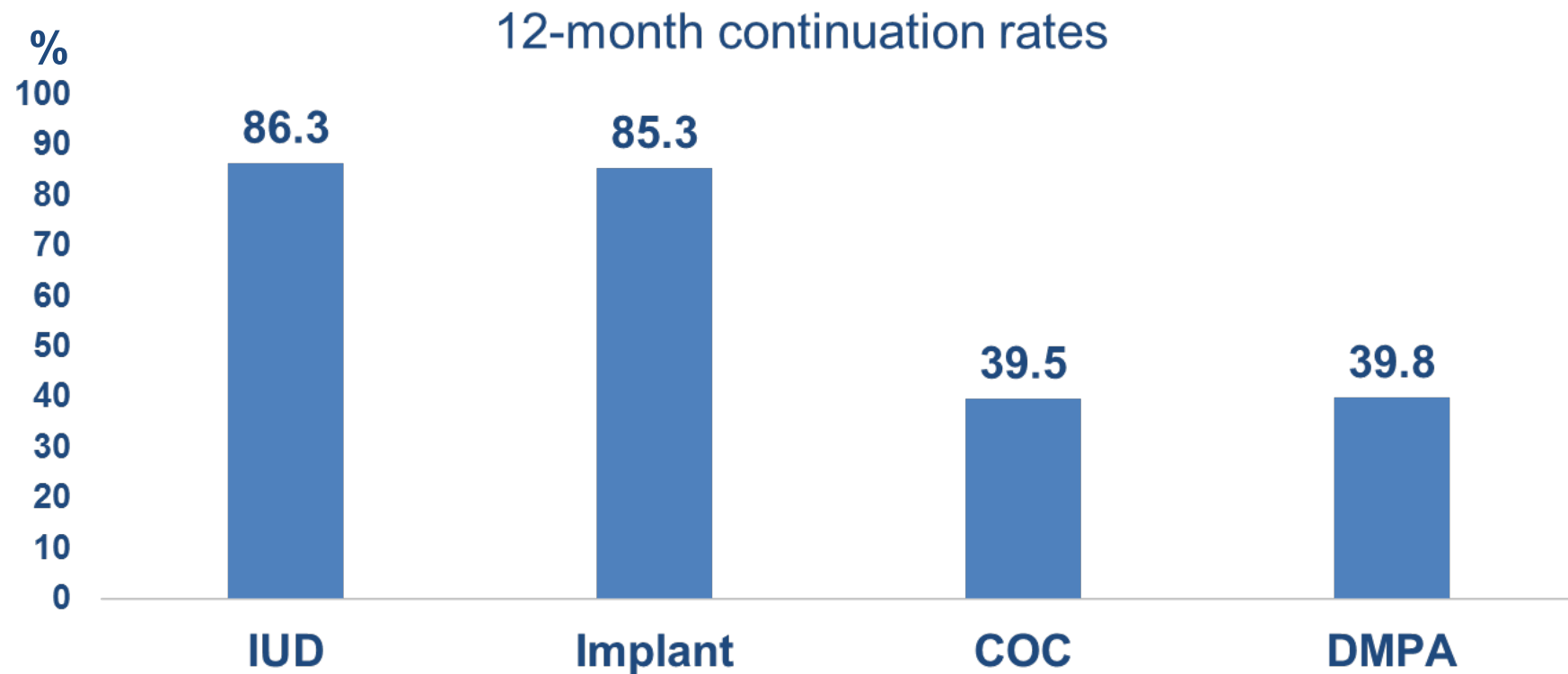
**IUD/IUS expulsion rate: 8.0%**

### The most frequent reason for IUD removal

- Pain 4 - 14% (significantly lower in parous adolescents)
- Irregular bleeding, incl. amenorrhoea 4 - 6% (similar in nulliparous and parous adolescents)

**IUD/IUS  
continuation  
rate at one  
year:  
74%**

## Use of long-acting reversible contraception (LARC) in adolescents and young women



# Cervical cancer risk (LSIL and HSIL)

## Can we consider copper-IUD or LNG-IUS use in women with SIL / CIN

- Cervical intraepithelial neoplasia (CIN): Both the copper-IUD and LNG-IUS can be used
- Cervical cancer: Neither the copper-IUD nor LNG-IUS can be used
- **In case of a high-risk HPV infection screening for Chlamydia is recommended**

## Intrauterine device use and cervical cancer risk

Findings of two analysis (pooled analysis of 26 studies and a systematic review with meta-analysis):

- **The use of a copper-IUD reduces the risk for cervical cancer:**  
OR 0.55 – 0.64
- **The risk was reduced in the first year of IUD use** (OR 0.53) and was maintained with longer durations of use, compared with never users

\* Protective effect of IUD use on cervical cancer was not modified by: age, education, marital status, number of screening PAPs, number of sexual partners, parity (except in nulliparous women), oral contraceptive use and condom use

HPV vaccination in adolescents protects from some types of HPV infections

## Cervical cancer risk among copper-IUD and LNG-IUS users

- The LNG-IUS use is associated with decreased high-risk HPV infection clearance (70% vs. 42%) and possibly increased new high-risk HPV acquisition (6.9% vs. 1.7%) compared with the copper-IUD use
- The incidence of high-grade cervical neoplasia is lower in the copper-IUD than in the LNG-IUS cohort (7.4 vs. 18.2 cases/1,000 persons)

Copper-IUD users are at a three times lower risk for high-grade cervical neoplasia relative to LNG-IUS users (relative risk 0.38)

**Topic: IUDs in special situations**



**Women after STI or  
at increased risk of STI**

## Copper-IUD insertion as emergency contraception in a woman at high risk for STI

- This woman is at high risk of pregnancy
- She also might be a carrier of chlamydia - IUD insertion in that case would be associated with increased risk of PID
- Risky sexual behaviour in the future would increase her risk of PID
- PID risk has to be balanced against risk of pregnancy
- Discuss future condom use in addition to IUD



## Rates of symptomatic PID in women who received a copper-IUD for emergency contraception

- Prospective study of 272 women aged 15–45 years who were seeking walk-in pregnancy testing or EC
- Investigated groups: same day IUD placement (28 women), delayed IUD insertion (17 women) and no IUD (227 women)
- Electronic medical record data on PID within first 3 months:
  - Same day IUD insertion 6.5%
  - Delayed IUD insertion 5.0%
  - Hormonal method 1.9%
  - No prescription 0.9%

This study reports only on symptomatic PID, but not asymptomatic PID, which is the typical clinic of infection with *Chlamydia trachomatis*. The group of women with immediate insertion is small  $n=28$ . No final conclusion can be drawn.

## Recommendations for copper-IUD insertion in emergency situation

- Concern for asymptomatic STIs should not delay copper-IUD placement in an emergency situation
- Prior to copper-IUD insertion smears for *Neisseria gonorrhoea* and *Chlamydia trachomatis* should be taken (at least in women at higher risk for STI), with prompt treatment of positive results

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# IUDs and cardiovascular disease

## IUDs and cardiovascular disease

- Good contraceptive options for women with **MULTIPLE RISK FACTORS FOR ARTERIAL CARDIOVASCULAR DISEASE** such as older age, smoking, diabetes, hypertension and known dyslipidaemias
- There is no evidence of an increased risk of VTE or ATE in copper-IUD and LNG-IUS users

# IUDs and cardiovascular disease

- VALVULAR HEART DISEASE
  - Uncomplicated
    - Copper-IUD: WHO MEC category 1
    - LNG-IUS: WHO MEC category 1
  - Complicated (pulmonary hypertension, risk of atrial fibrillation, history of subacute bacterial endocarditis)
    - Copper-IUD: WHO MEC category 2
    - LNG-IUS: WHO MEC category 2
- Immunosuppressive treatment
  - Copper-IUD: WHO MEC category 2
  - LNG-IUS: WHO MEC category 2

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# Women with HIV

## WHO Medical eligibility criteria for IUD use in HIV positive women

Condition	Copper-IUD		LNG-IUS	
	I	C	I	C
High risk of HIV (if also at risk of STIs)	1 (2/3)	1 (2)	1 (2/3)	1 (2)
Asymptomatic or mild HIV clinical disease	2	2	2	2
Severe or advanced HIV clinical disease <i>* IUD users should be closely monitored for pelvic infection</i>	3	2	3	2

## Safety of IUD/IUS use among women with HIV

### **Pelvic infections**

- no statistically significant difference in infection-related complications between women with HIV and women without HIV

### **HIV disease progression**

- no statistically significant differences between the IUD and control groups in CD4 count

### **HIV transmission**

- no significant difference in the rate of seroconversion of IUD users/males whose partners are HIV-infected, prevalence of cervical HIV-1 DNA shedding, and levels of genital HIV RNA



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# Women with chronic disease on immunosuppression

## What are the risks of copper-IUD/LNG-IUS use in women with chronic disease on immunosuppression?

- Increased risk for PID (if infected with *Chlamydia trachomatis* / *Neisseria gonorrhoea*)

*Recommendation:* STI screening at a time of insertion and afterwards if a woman is at increased risk for STI - LNG-IUS preferred option

- Increased risk of cervical high-grade dysplasia/cancer

*Recommendation:* annual cervical cancer screening – Copper-IUD preferred option

## IUD / IUS use and chronic disease on immunosuppression

- Immunosuppressive treatment
  - Copper-IUD: WHO MEC category 2
  - LNG-IUS: WHO MEC category 2
- Severe thrombocytopenia
  - Copper-IUD: WHO MEC category 3
  - LNG-IUS: WHO MEC category 2