Instruction for the patient

Your situation

- You are 32 years old, divorced and have one child; you have just started a new relationship
- You underwent surgical resection of the left ovary during adolescence after rupture of an ovarian cyst
- Six months ago you had pelvic inflammatory disease (PID) and the cervical smear was positive for *Chlamydia trachomatis*
- You are considering using an IUD
- You want the option to have more children in the future

Instruction for the patient

Your questions for the doctor

1. Can I use intrauterine contraception, even if testing for *C. trachomatis* and *Neisseria gonorrhoeae* is not available?
2. Which type of intrauterine contraception is most appropriate for me?
3. What other contraceptive options do I have, bearing in mind that I do not like taking pills?
4. What do you recommend in my situation?

Instruction for the doctor to question 1:

Can I use intrauterine contraception, even if testing for *C. trachomatis* and *N. gonorrhoeae* is not available?

- Collect information on the patient's risk factors for current STI
  - Was the chlamydia smear negative after treatment of her last infection? (*Was not tested, not available*)
  - Was her partner also treated? (*Yes*)
  - What about her current partner?
- *C. trachomatis*/*N. gonorrhoeae* screening contributes to the prevention of PID initiated by the IUD insertion process
- As chlamydia PID is typically asymptomatic, studies reporting that IUD placement does not increase the risk of PID compared with no IUD placement should be interpreted with caution
- Antibiotic treatment should be used before insertion in women and their partners who are symptomatic or have positive smears, and insertion should be delayed in these cases
- If a chlamydia smear cannot be taken prior to insertion of a device, antibiotic prophylaxis might advantageous especially in women with an increased risk of STI

Instruction for the doctor to question 2:

Which type of intrauterine contraception is most appropriate for me?

- Collect information on the characteristics of the patient's menstrual periods (intensity, dysmenorrhoea, duration)
- Does she use any medication? (*She uses cortisone for her asthma*)
- Does she suffer or has she ever suffered from a psychiatric condition? (*No; this might cause a problem with use of POC, LNG-IUS*)
- Are there any risk factors that would limit use of the combined vaginal ring or combined transdermal patch? Please check for all risk factors relevant at this age (*No risk factors*)
- Check for contraindications to use of the copper IUD

Instruction for the doctor to question 3:

What other contraceptive options do I have, bearing in mind that I do not like taking pills?

- Discuss what she understands of the differences between the copper IUD and the LNG-IUS (*Bleeding pattern, side effects on skin, mood, weight*)
- Discuss the advantages and disadvantages of the transdermal patch and vaginal ring (*Regular bleeding, easy to use, no IUD insertion process, protection from further ovarian cysts*)
- Discuss benefits and potential side effects of DMPA and the etonogestrel-releasing implant (*Bleeding pattern, return of fertility delayed with DMPA, effects on skin and mood*)

Instruction for the doctor to question 4:

What do you recommend in my situation?

- Understanding the woman's preferences after counselling
  - *Maintenance of fertility is important to her*
  - *She would feel irritated with an irregular and unpredictable bleeding pattern, but would accept amenorrhoea*
  - *She is not worried about other POC-related side effects, but would not use DMPA because of the delay in return of fertility, as she is already 32 years old and would like to become pregnant again if her new relationship works out well*
  - *She would not mind using the vaginal ring*
- Fertility might already be limited in this woman as a result of removal of one ovary and chlamydia infection
- As chlamydia testing is not available to you, you would not recommend IUD insertion as a first option
- The vaginal ring or transdermal patch might be the methods of choice, as they are associated with regular cycles, decreased risk of ovarian cysts and immediate return of fertility

IUD and risk of PID

- Meta-analysis of clinical trials from 13 countries (22,908 IUD insertions and 51,399 woman-years of follow-up)
- The overall rate of PID was low: 1.6/1000 woman-years of use
- PID risk: more than six times higher in the 20 days after insertion than at later times

<20 days post-insertion	9.66
>20 days post-insertion	1.36

- PID risk higher in younger women:

15–24 years	3.48
24–29 years	1.26
30–34 years	1.07
35+ years	1.04

- **PID risk in IUD users is most strongly related to:**
- the insertion process
- the background risk of STIs
- age: higher in young women

Farley TM, et al. Lancet 1992; 339(8796):785-8.

General history

Most important aspects to avoid severe complications

General history

Exclude

1. History of venous blood clot (venous thrombosis), stroke or heart attack
2. Thrombogenic mutations
3. Migraine with aura
4. Hypertension (≥160/≥100 mmHg)
5. Severe liver or gall bladder disease
6. Systemic lupus erythematosus
7. Diabetes with vascular complications
8. Smoking and age >35 years
9. A venous blood clot (venous thrombosis), stroke or heart attack in any first-degree relative aged ≤50 years

Who should not use the copper IUD

Women with:

- Heavy menstrual bleeding
- Anticoagulation
- Bleeding disorders (thrombocytopenia)
- Uterine malformation
- Submucous myoma
- Conditions requiring high-dose immunosuppressive treatment (→ MC session: IUD in special situations)
- PID

Speroff, L. et al.. Clinical Gynaecologic endocrinology and Infertility, sixthh edition,p:987-88.

Side effects of copper IUDs

During and after insertion

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

Common long-term side effects

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

An important advantage is the lack of systemic side effects

Farmer M et al. Intrauterine device insertion-related complications: can they be predicted? J Fam Plann Reprod Health Care 2003; 29: 227–31.

Short- and long-term side effects of the LNG-IUS

- **FUNCTIONAL OVARIAN CYSTS: 1–10%**

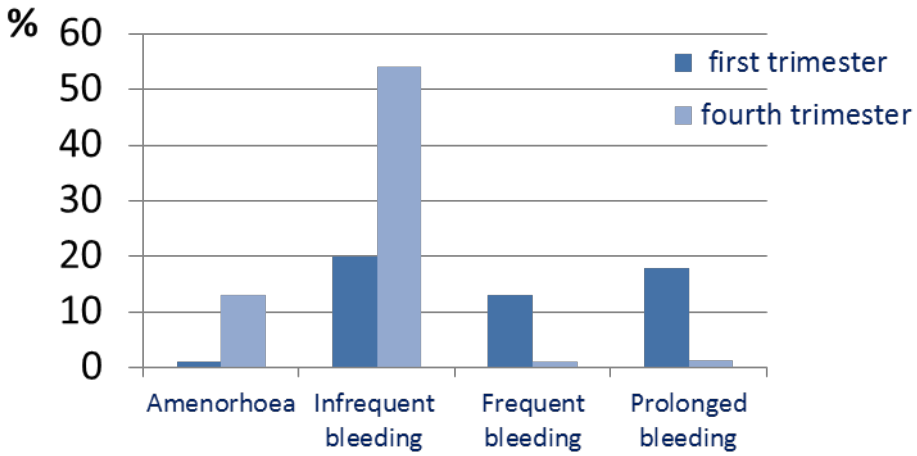
  - Mostly asymptomatic and resolve spontaneously
  - More frequent with the 52mg than the 13.5 mg LNG-IUS

- **ECTOPIC PREGNANCY: incidence rate 0.02 per 100 woman-years**
- **EXPULSION: 0.05**
- **PERFORATION: 0.44–0.53/1000 insertions.** Risk factors: inexperienced clinician, stenosed cervix, immobile and retroverted uterus, immediate postpartum insertion
- **Nausea, headache, breast tenderness, mood changes, acne: 1–10%**

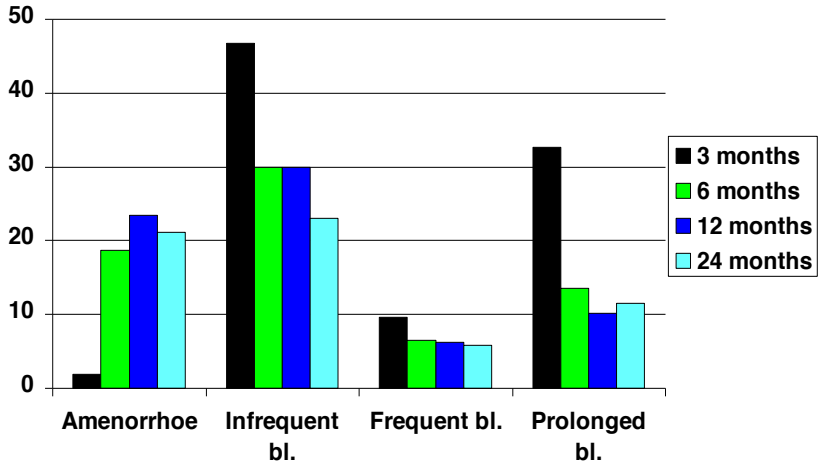
Heinemann K et al. Comparative contraceptive effectiveness of levonorgestrel-releasing and copper intrauterine devices: the European Active Surveillance Study for Intrauterine Devices Contraception 2015; 91: 280–3.
Gemzell-Danielsson K et al. The effect of age, parity and body mass index on the efficacy, safety, placement and user satisfaction associated with two low-dose levonorgestrel intrauterine contraceptive systems: subgroup analyses of data from a phase III trial. PLoS ONE 2015; 10: e0135309.

Bleeding pattern of POC: Prolonged and frequent

LNG-IUS



Implant

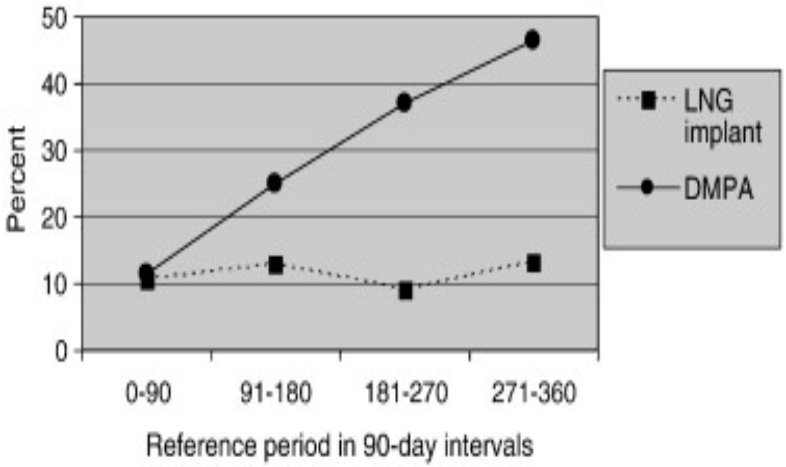


1. **Copper IUD** is associated with cyclic, but heavier and longer, bleeding
2. Frequent or prolonged bleeding is typical in **POC users**. Data for use after 3–4 months:

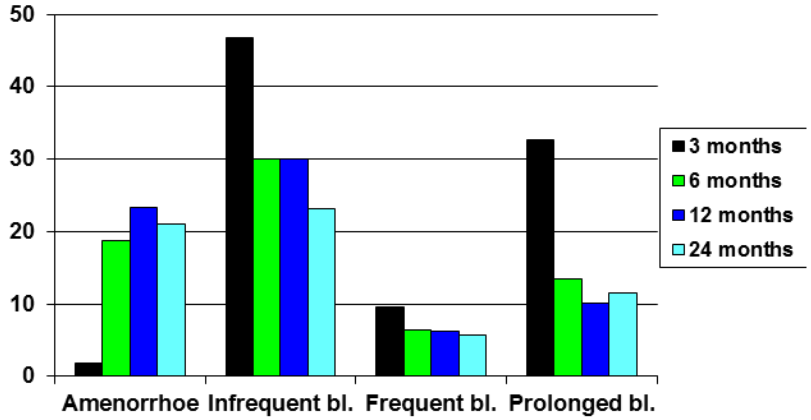
LNG-IUS	**30%**
Implant	42%
POP	38%

Bleeding pattern of POC: Amenorrhoea

DMPA: % Amenorrhoea



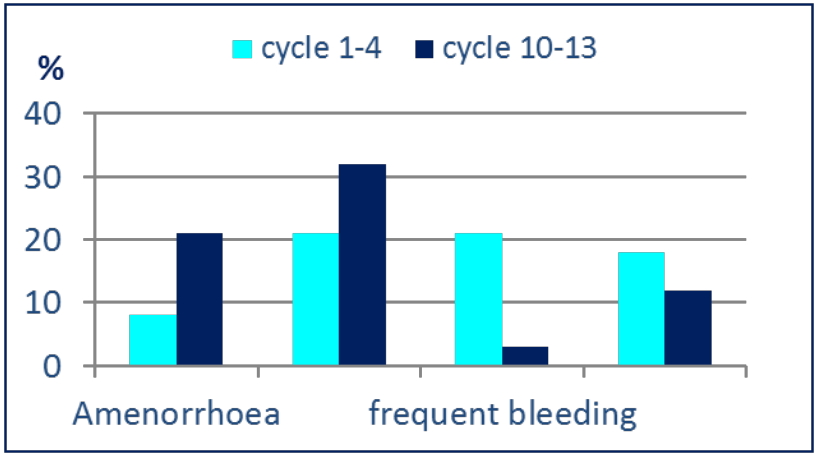
Implant



Amenorrhoea after 1 year

DMPA i.m./s.c.	47–60%
Implant	20%
POP	20%

POP



Advantages of CVR and CTP vs pill

- No enzymatic degradation in the gastrointestinal tract
- No hepatic first-pass metabolism
- Lower hormone doses needed
- No daily peaks and troughs of plasma hormone levels
- No need for daily self-administration
- No daily user compliance
- No difficulty swallowing pills

Side effects CVR and CTP vs the pill

Vaginal ring

- Systemic side effects are generally similar
- Breast tenderness and nausea are less frequent
- Less acne
- No differences in headache or weight gain

Transdermal patch

- Systemic side effects are generally similar
- Breast tenderness (first two cycles), nausea, vomiting and dysmenorrhea are more frequent
- Less moodiness
- No differences in headache or weight gain

POC: Adverse events

Adverse event (%)	POP (%)	Implant (%)	**DMPA i.m./s.c. (%)**
Headache	7.5	12.7	**13.3**
Weight ↑	No	12.1	**12.5**
Depression	No data	7.3	**7.6**
Libido decrease	No data		**3–6**
Acne	**3.1**	14.5	**7.6**

- POC cannot be used for treatment of acne (or what patients consider to be acne)
- DMPA users complain less about skin irritation compared with implant users