Instruction for the patient

Your situation

- You are a 18 years old woman who is requesting an induced abortion. You opted for medical abortion.
- You have been suffering from dysmenorrhea from the age of 15. Non-steroidal antiinflammatory drugs couldn't alleviate the pain, and you stayed in bed for three days almost every month.
- You tried with combined oral contraception (COC) that considerably improved dysmenorrhoea, but you forgot to take the pills regularly. The result has been the unplanned pregnancy, and induced abortion that you are requesting for.

Instruction for the patient

Your questions for the doctor

1. Which contraceptive method would you advise me, that could improve dysmenorrhoea? I don't trust the pill anymore, and I don't want to take any other CHCs, injections or implants.
2. What is the working mechanism of those methods?
3. What impact would that contraceptive method have on my menstrual periods?
4. What are the risks of that contraceptive method?
5. When can I start the method after medical abortion?

WS 3 Case 2 LNG-IUS-abortion-dysmenorrhoea

Instruction for the doctor to question 1: Which contraceptive method would you advise me, that could improve dysmenorrhoea? I don't trust the pill anymore, and I don't want to take any other CHCs, injections or implants.

- Inform the patient that the levonorgestrel-containing intrauterine system (LNG-IUS) is a very efficient contraceptive method.
- Reassure her that all hormonal methods including LNG-IUS, implant and DMPA will improve her dysmenorrhea.
- The IUS consists of a plastic T-frame surrounded by a cylindric reservoir around the stem, releasing 20 µg/day of the progestin LNG during 5 years.
- Inform her that the LNG-IUS and DMPA injections are used as a second-line medical treatment for women with symptomatic endometriosis, and is proven to be effective in the treatment of adenomyosis and adenomyosis-related dysmenorrhoea.

Vercellini P et al. 1999; Vercellini P et al., 2003; Tanmahasamut P et al. 2012; Petta CA et al., 2005; Bayoglu Tekin Y et al., 2011.

Instruction for the doctor to question 2:

What is the working mechanism of those methods?

Explain how LNG-IUS and DMPA work

- The IUS works mainly by preventing fertilisation (effects on endometrium and cervical mucus)
- DMPA by inhibiting ovulation and suppression of endometrium proliferation

Return to fertility

- The LNG-IUS can be removed whenever the woman wants
- Reassure that there is no delay in fertility return after removal of the LNG-IUS
- DMPA delays return to ovulation and of regular cycles 6-12 months

WS 3 Case 2 LNG-IUS-abortion-dysmenorrhoea

Instruction for the doctor to question 3:

What impact would that contraceptive method have on my menstrual periods?

Discuss bleeding pattern for both methods

- LNG-IUS reduces bleeding frequency in the longterm, irregular harmless spotting can occur in the initial 3-6 months (hypomenorrhoea and amenorrhea)
- DMPA induces in most women amenorrhoea after 6 months of use, initially prolonged spotting might occur

Discuss adverse events for the LNG-IUS

- Pelvic pain is reported by ≈ 10% of users after insertions (≈ 50% of LNG-IUS users with new insertions)* (and even higher if inserted after abortion)
- 1-10% of women report: nausea, headache, breast tenderness, mood changes, and acne. Usually these adverse events are mild, transient and dissolve over time
- Functional ovarian cysts mostly resolve spontaneously
- Expulsion is very rare < 1:1000 (2-8/100 women)

Suhonen et al. Contraception. 2004;69(5):407–12.

Instruction for the doctor to question 4:

What are the risks of that contraceptive method?

Discuss PID risk with the LNG-IUS

- Explain that PID risk depends much on sexual behaviour and can be reduced by condom use
- PID associated with IUD insertion can be reduced by exclusion of infection before insertion and by use of proper procedures during insertion including desinfection
- Instruct her to return if she has symptoms or signs that may indicate malposition/expulsion of the LNG-IUS or PID (symptom: pelvic pain, bleeding, pain during intercourse)

WS 3 Case 2 LNG-IUS-abortion-dysmenorrhoea

Instruction for the doctor to question 5:

When should I start the method after medical abortion?

Explain procedures before insertion and follow-up

- Gynaecological examination (cause of her dysmenorrhoea ?)
- Screening for a current pelvic infection or a current purulent cervicitis, including a Chlamydia trachomatis/Neisseria gonorrhoea test
- Transvaginal ultrasound to exclude distortion of the uterine cavity by fibroids or anatomical abnormalities
- A HIV blood test might be done (in certain situations)
- Appointment for insertion and confirmation of complete abortion
- Explain that protection starts 7 days after IUD/IUS insertion (not if inserted within 7 days of complete abortion)*
- Offer follow-up visit 4-6 weeks after LNG-IUS insertion

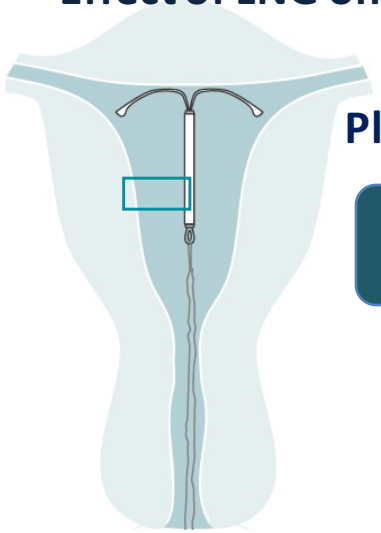
Schreiber CA et al. Contraception 2011;84:230-3

Health benefits

- Treatment of Heavy Menstrual Bleeding (LNG-IUS, DMPA)
- Help inhibit growth of uterine fibroids (LNG-IUS, DMPA)
- Protection against iron-deficiency anemia (LNG-IUS, DMPA)
- Reduce sickle cell crises in women with sickle cell anemia (DMPA)
- Decrease in endometrial cancer (DMPA)
- Reduced symptoms of endometriosis (POP, Implant, LNG-IUS, DMPA)
- Minimal metabolic effects (POP, implant, LNG-IUS)
- Reduced dysmenorrhoea

Rationale for health benefits of LNG-IUS

Effect of LNG on endometrium



Plastic T-frame releasing LNG 20 µg/day from a reservoir in the stem

High LNG concentrations in endometrium ≈ 200-800 higher than after daily oral dose

Low LNG plasma levels < 200 pg/mL

LOCAL hormonal action

=

Inhibition of endometrial proliferation:

- **reduced menstrual blood loss**
- **positive impact on dysmenorrhea**
- **mild hormonal and metabolic side-effects**

Mechanism of action

ENDOMETRIUM:

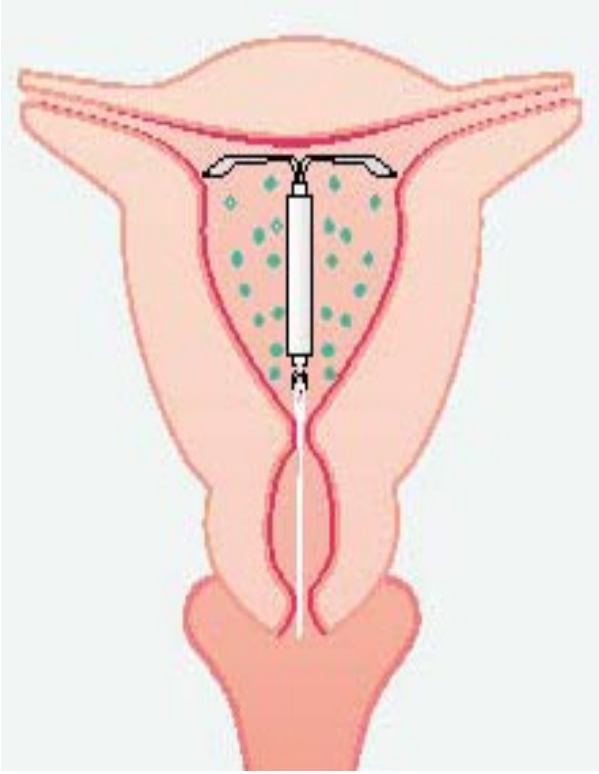
- alteration of endometrial receptivity
- suppression of endometrial proliferation
- local inflammatory reaction (*the foreign body reaction*)

CERVICAL MUCUS:

- inhibition of sperm migration
- thickening of cervical mucus

OVARY

- Some effect on follicular development and ovulation



WOMEN CONTINUE TO OVULATE:
> 75% of 52 mg LNG-IUS users

Bleeding pattern for the LNG-IUS

≤ 6 MONTHS - Menstrual disturbances (prolonged bleeding and spotting days) – common

> 6 MONTHS

- Bleeding frequency ↓
- Hypomenorrhea and amenorrhea ↑

AFTER 5 YEARS:

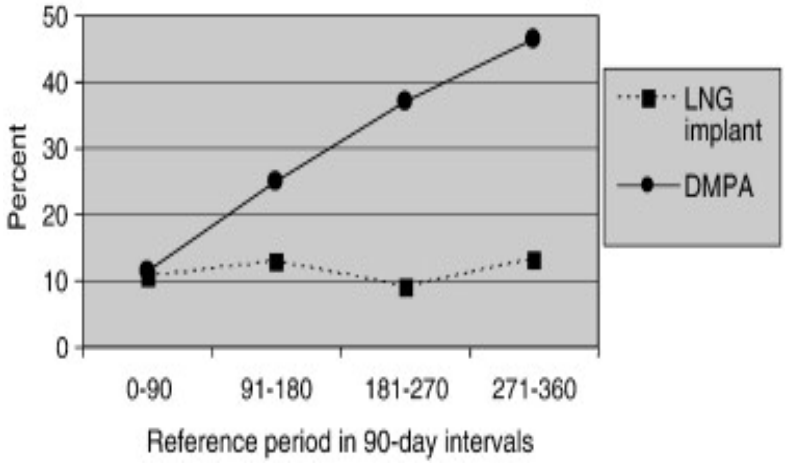
- Regular scanty menses 70%
- Amenorrhea 26%
- Infrequent scanty bleeding 4%

NOTE:
The initial counseling about the bleeding pattern is very important for continuation of LNG-IUS use .

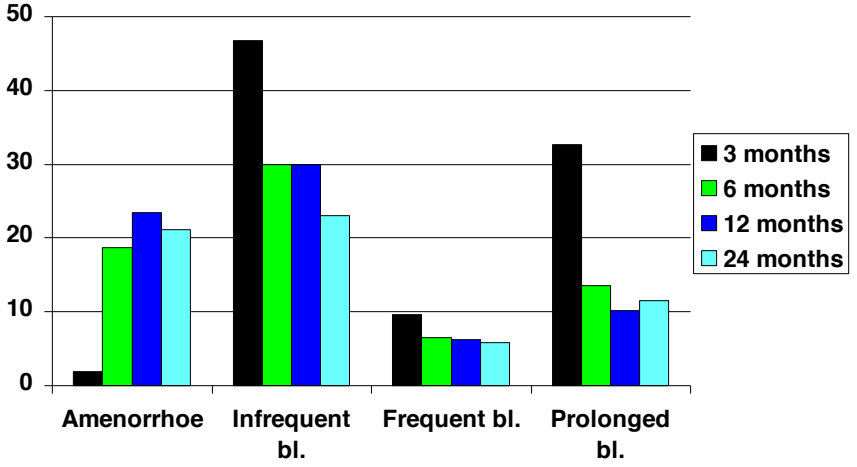
Andersson et al. Contraception 1994; 49:56-72. Rönnerdag M, Odlind V. Acta Obstet Gynecol Scand 1999; 78: 716–21

Bleeding pattern –DMPA and Implant

DMPA
% Amenorrhoe



Implant



Amenorrhoea rate after one year

DMPA im.sc 47%-60%

Implant 20%

Hubacher, D. et al. Contraception 2009;80:113-8. Affandi, B. Contraception 1998:58;99S-107S. No authors listed. EJCRHC 1998 Dec;3(4):169-78. Arias et al. Contraception 2006;74:234-8.

Short and Long-term side effects of LNG-IUS

- **FUNCTIONAL OVARIAN CYSTS 1-10%**

  - mostly asymptomatic and resolve spontaneously
  - more frequent with 52mg than 13.5 mg LNG-IUS

- **ECTOPIC PREGNANCY incidence rate 0.02 per 100 WY**
- **EXPULSION 0.05**
- **PERFORATION 0.44-0.53/1,000 insertions**
  Risk factors inexperienced clinician, stenosised cervix, immobile and retroverted uterus, immediate postpartum insertion
- **Nausea, headache, breast tenderness, mood changes, acne (1-10%)**

Heinemann K et al. Contraception 2015;91:280–32. Gemzell-Danielsson K et al. PLoS ONE 2015;10(9):e0135309.

Preventing Infection at IUD Insertion

Screen for STI/chlamydia during counselling visit

- if possible, especially in young women with hight STI risk
- In case of positive screening treat patient and partner before insertion
- Discuss contraception for the interval until insertion

Follow proper infection-prevention procedures:

- Use high-level disinfected or sterile instruments.
- Use a new, presterilized IUD that is packaged with its inserter. The "no-touch" insertion technique is best (explainde notes below)
- Clean the cervix thoroughly with antiseptic before IUD insertion
- Be careful not to touch the vaginal wall or speculum blades with the uterine sound or loaded IUD inserter
- Pass both the uterine sound and the loaded IUD inserter only once each through the cervical canal

IUD insertion after medical abortion

- Provide medical abortion
- Insert IUD after confirmation of complete abortion (5-9 days after mifepristone treatment)
- Earlier insertion might be assoicated with an increased risk for expulsion
- Or start her on a COC and insert the LNG-IUS after the period

Pohjoranta E et al. Contraception 2016 Nov 9 [Epub ahead of print]. Shimoni, N.et al. Contraception2014 May;89(5). Shimoni, N.et al. Obstet Gynecol 2011; 118(3):623-8.