Implants

An advanced slide kit complementing the WHO training tool is available from: www.fptraining.org

Update January 2020

ENG-releasing implant

All data presented in this session are about the

Etonogestrel (ENG)-releasing implant

The only implant available across Europe

Contents

- General characteristics
- Mechanisms of action
- Contraceptive efficacy
- Insertion and removal, return of fertility
- Contraindications
- Adverse events
- Bleeding pattern and treatment
- Discontinuation
- Summary

The ENG-releasing implant is a single-rod subdermal contraceptive

Progestin-only contraceptive method

Core : 40% EVA
60% Etonogestrel

Membrane : 100% EVA

Provides contraception for 3 years

In vitro release of ENG

• 60–70 µg/day	At week 5–6
• 35–45 µg/day	At the end of year 1
• 30–40 µg/day	At the end of year 2
• 25–30 µg/day	At the end of year 3

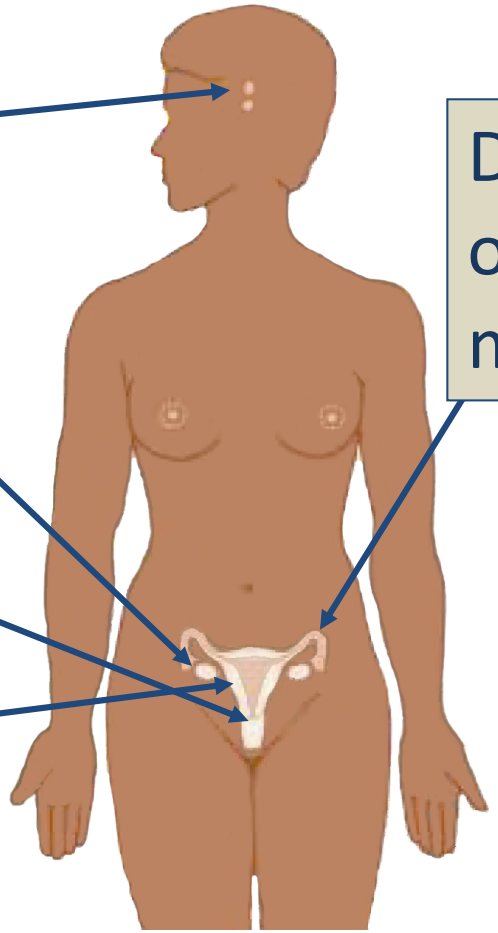
ENG is the active metabolite of desogestrel: 3-ketodesogestrel.
ENG plasma concentrations decrease over duration of use and are comparable to the low plasma levels of the progestin-only pill with desogestrel.

Mechanisms of action

Suppression of ovulation

Thickening of cervical mucus to block sperm

Endometrial effects



Decrease of tubal motility

Inhibition of ovulation is the key mechanism to prevent pregnancy

Ref 1-2

Efficacy of the ENG implant

- Efficacy is >99%
- Pearl Index is 0.05
- Provides efficient contraception for 3 years

New data indicate that the implant might provide 2 more years longer protection; however, longer use is off-label.
Concomitant use of carbamazepine reduces serum ENG levels.
Newer studies indicate that the 3-year efficacy of the implant is also high in obese women.

Ref 1-8

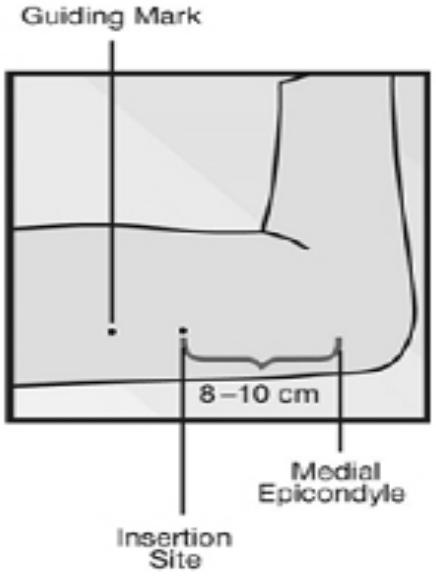
When to start the ENG implant

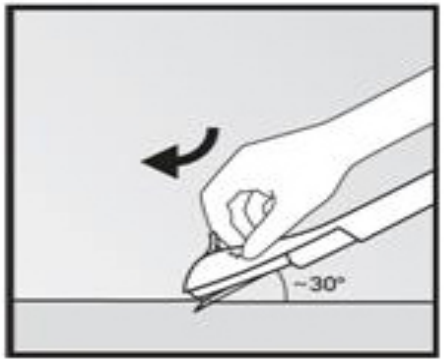
- In the first 5 days of the menstrual cycle no back-up method is needed
- After the 5th day of the menstrual cycle, rule out pregnancy and use a back-up method for 7 days
- Postabortion (medical and surgical): immediate start
- Post-emergency contraception with ulipristal acetate: 6 days later; use back-up for 12 days
- Postpartum
  - No breastfeeding: immediate start (no need to rule out pregnancy until 4 weeks postpartum)
  - Breastfeeding: delay for 6 weeks (WHO/MEC)

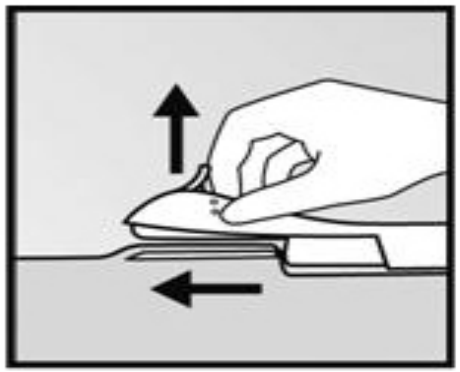
Ref 1

Insertion of implant (patient information)

- Insertion is performed on the inner side of the non-dominant upper arm about 8–10 cm (3–4 inches) above the medial epicondyle
- The implant is inserted under local anaesthesia just under the skin
- After marking, the insertion site is cleaned with an antiseptic solution and anaesthesia is performed
- Correct insertion of the implant should be confirmed by palpation. The patient should also be allowed to palpate the implant
- A pressure bandage with sterile gauze to minimise bruising is applied for 24 h



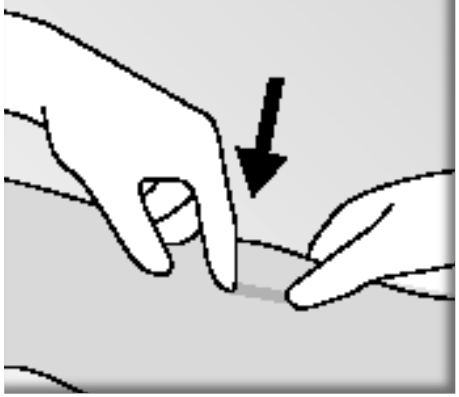




Ref 1

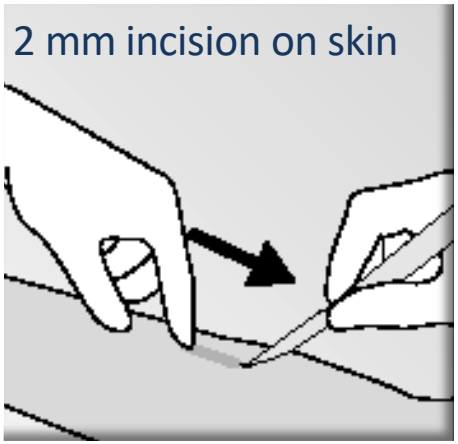
Removal of the implant

Localise the implant

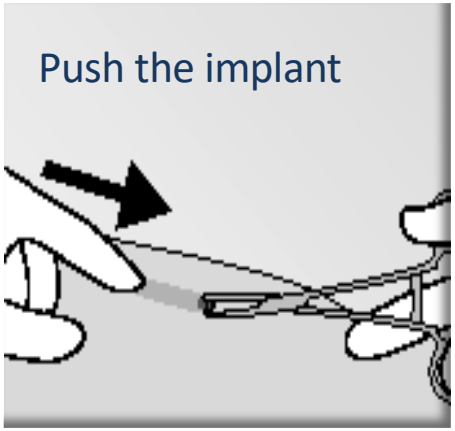


Apply local anaesthesia

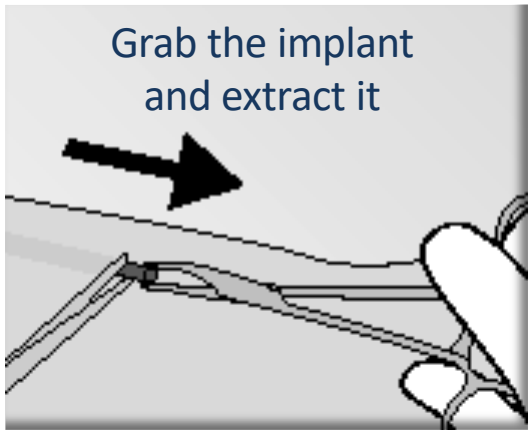
2 mm incision on skin



Push the implant



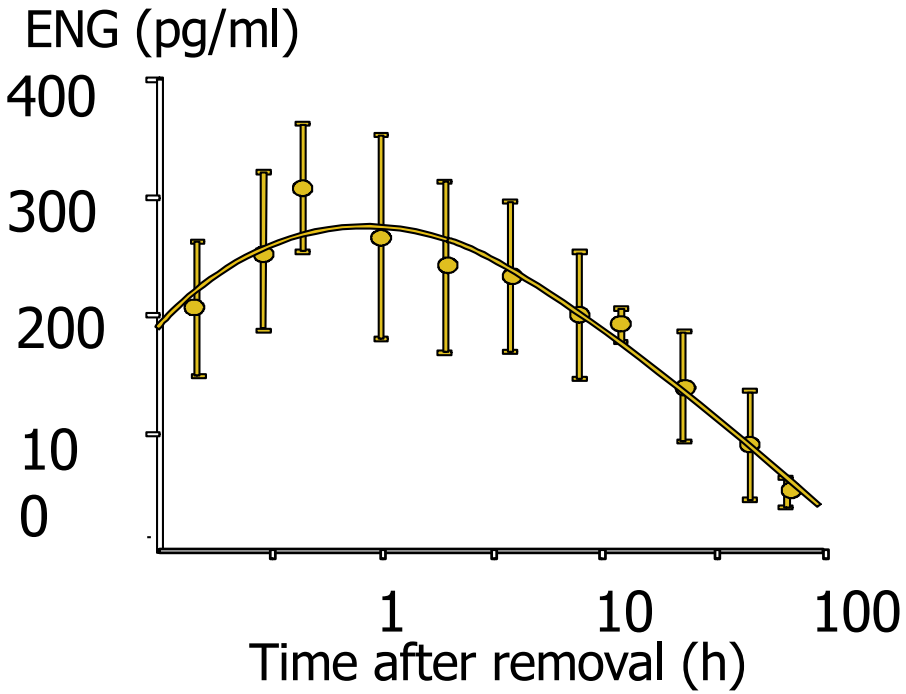
Grab the implant and extract it



Notes:
What to do if you can not palpate the implant

Ref 1

Return to fertility
Decrease of ENG levels after removal



Fertility returns within few days after removal

Ref 1

Contraindications (WHO category 3)

A small number of women may not be able to use implants

- Acute VTE, LE
- Unexplained vaginal bleeding
- Severe liver disease
- Breast cancer
- Breastfeeding <6 weeks postpartum (WHO 2)

Ref 1

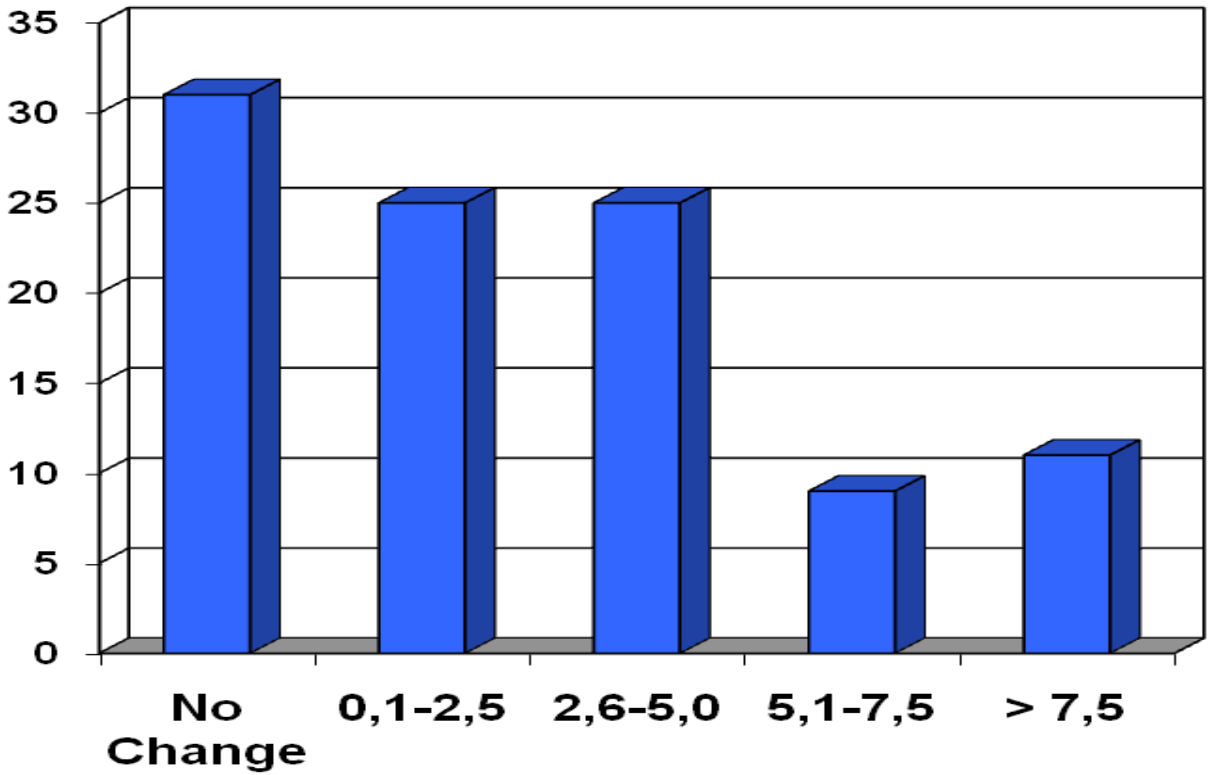
Adverse events recorded in clinical trials

Adverse events (WHO definition)	**Incidence (%)**	**Reason for discontinuation (%)**
Headache	15.3	1.6
Weight gain	11.8	2.3
Acne	11.4	1.3
Breast tenderness	10.2	<1
Mood variations	5.7	2.3
Abdominal pain	5.2	<1

Bleeding irregularity was reported separately during this study

Ref 1

ENG implant and weight gain over 2 years



942 users over 2 years

- 31% of women had no weight gain over 2 years
- 20% experienced weight increase of more than 5 kg in 2 years

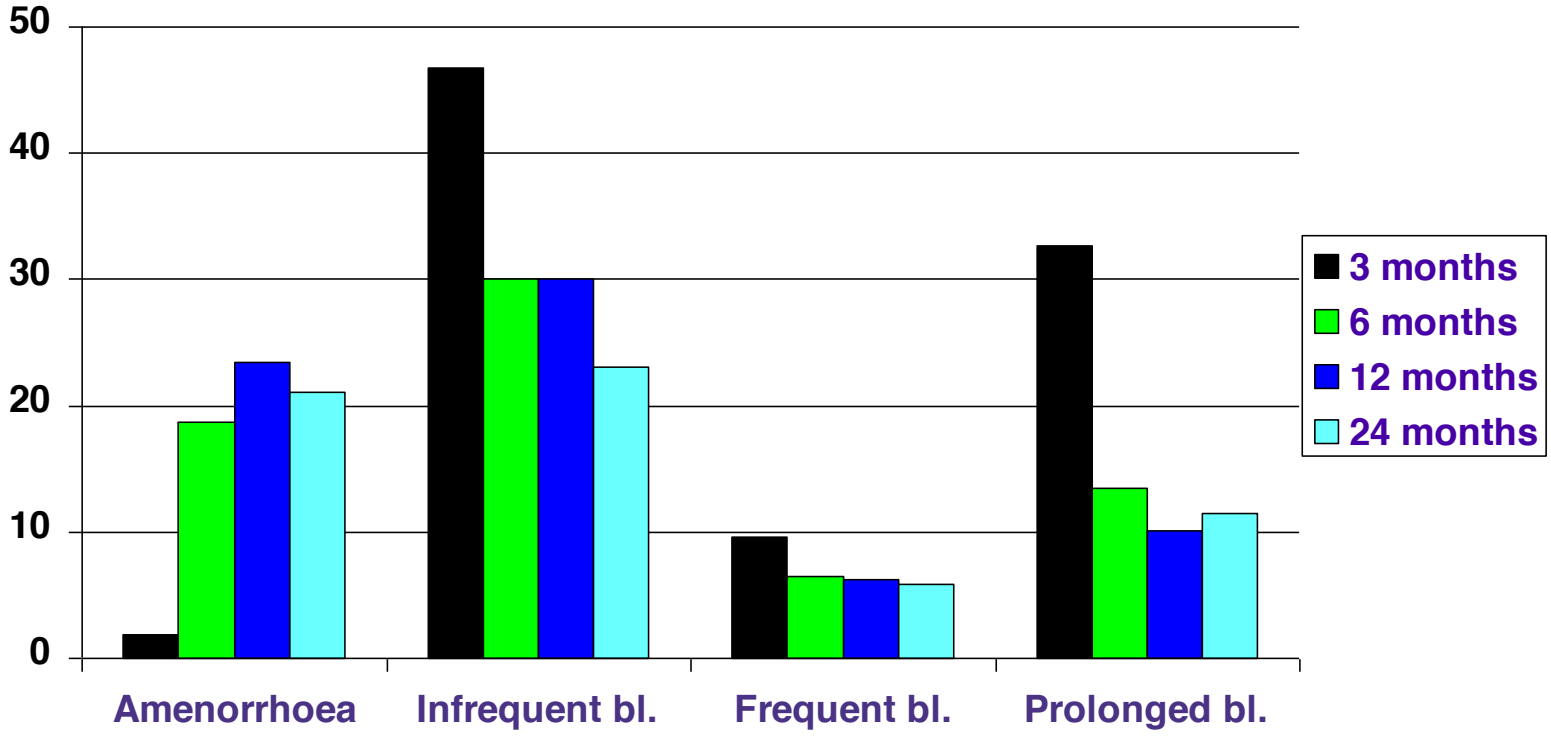
Ref 1

Bleeding pattern: counselling before insertion

- During use of the implant it is probable that women experience changes in their menstrual bleeding pattern
- These changes include:
  - Modifications of the frequency
  - Modifications of the intensity
  - Modifications of the duration
- In many women the bleeding pattern over the first 6 months indicates the future bleeding pattern

Ref 1,2

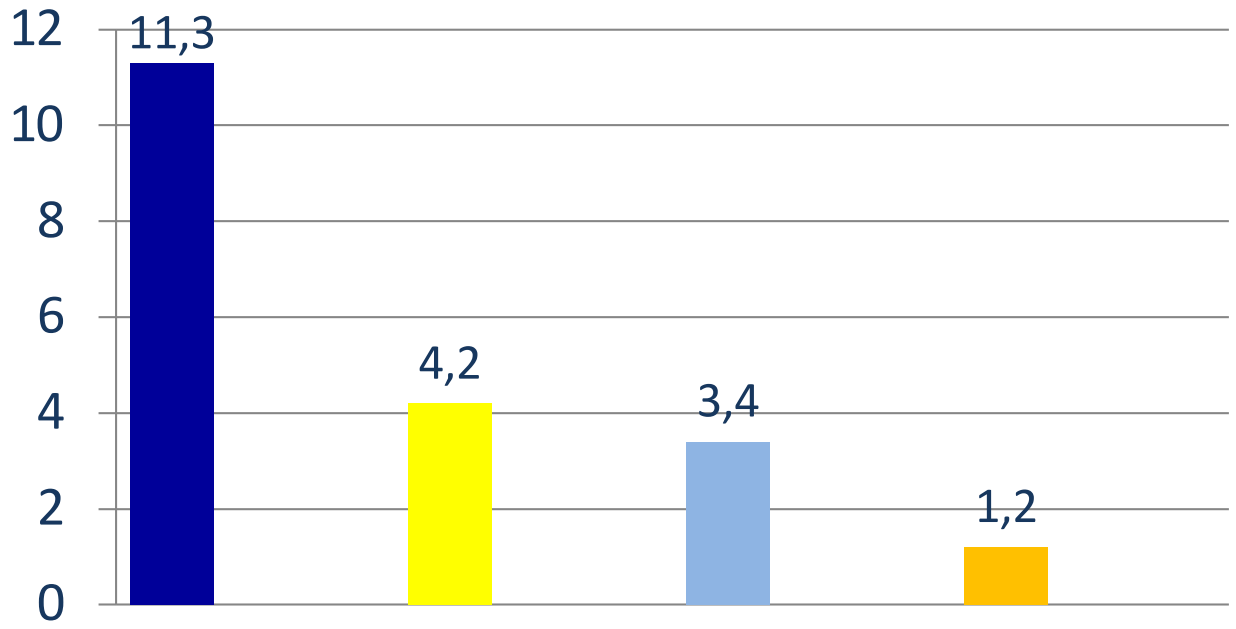
ENG implant: Long-term bleeding pattern



Bleeding pattern in 155 long-term users

Ref 1-3

Bleeding patterns as reasons for discontinuation



11% of women discontinue due to bleeding irregularities

Ref 1

Management of bleeding irregularities

Persistent or unacceptable bleeding 6 months after insertion of the implant

Take a history, exclude STIs, pregnancy and check last PAP smear

Last PAP smear <12 months

- Gynaecological examination if there are other symptoms (pain, etc.)
- Reassure and arrange follow-up
- Consider medical treatment if requested by the woman

Follow-up visit:

- If bleeding continues
- If bleeding has settled

Continue with the method

Last PAP smear >12 months or treatment failure

Examination

Normal

No other symptoms

1. **Offer medical treatment**
2. **Remove the implant**

Abnormal

Management according to the disease

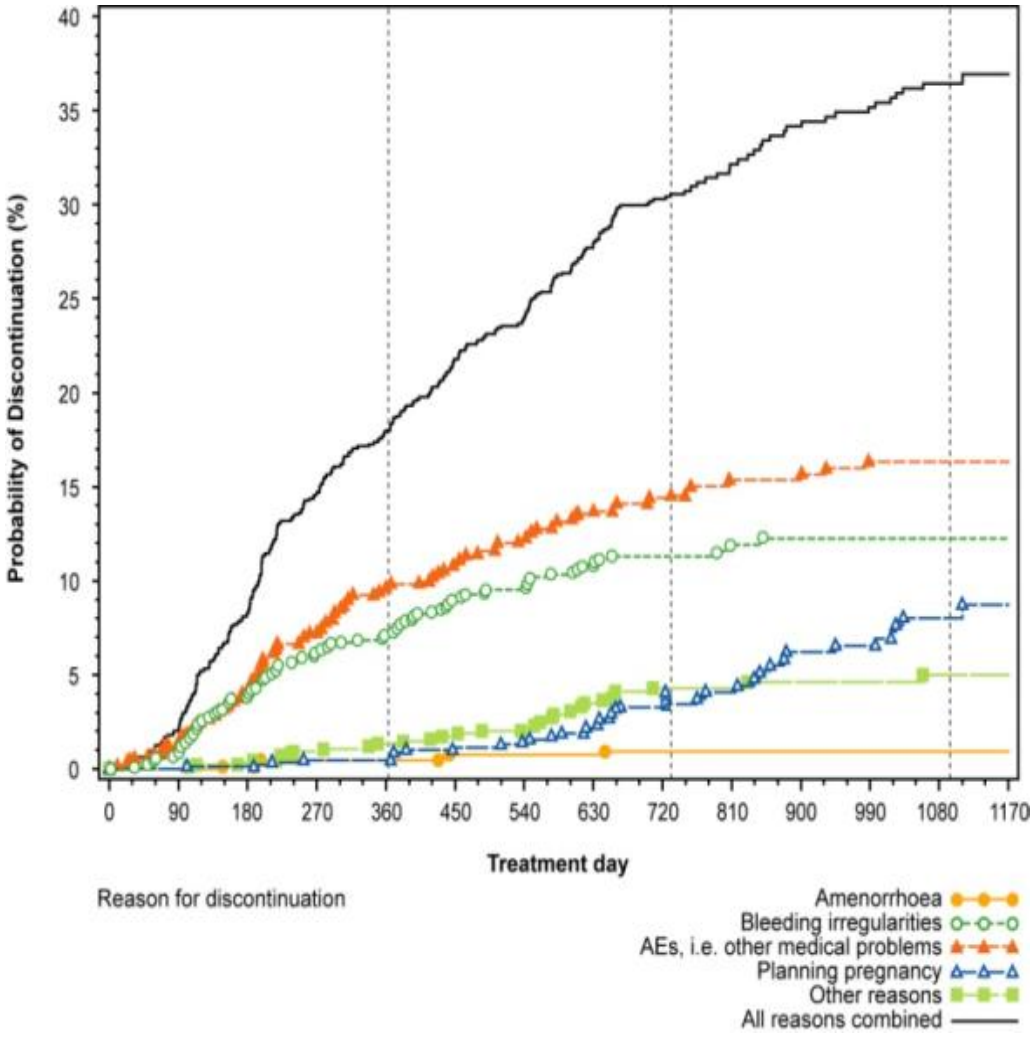
Adapted from Ref 1

Treatment options for prolonged bleeding

- NSAIDs: ibuprofen 500–800 mg twice daily for 5 days
- Mefenamic acid 500 mg twice daily for 5 days
- Doxycycline twice daily for 5 days
- Tranexamic acid 500 mg twice daily for 5 days
- Norethisterone 5 mg 2–3 times daily for 21 days/2–3 cycles
- Estradiol 2 mg for 7 days or estradiol patch 50 µg (if endometrium is atrophic) (if not contraindicated)
- CHCs for 21 days, if not contraindicated
- For DMPA, shorten interval between injections*
- Mifepristone (off-label)
- Ulipristal acetate 5 mg for 5 days

Ref 1-4

Discontinuation of implant



Accumulated probability of discontinuation:

- End of year 1: 18%
- End of year 2: 30%
- End of year 3: 36%

Discontinuation rate due to bleeding pattern: 10.4%

Ref 1

To correct misconceptions

The ENG implant

- does not cause infertility
- can be used immediately after abortion
- cannot cause abortion in pregnant women
- does not increase the risk of any form of cancer
- does not cause blindness

Ref 1

Summary ENG implant

- Safe and highly effective
- Low-dose (caution with enzyme-inducing drugs)
- Can be used in women with contraindications against estrogen use
- Most important adverse events: bleeding irregularity, weight gain, acne (rare)
- Effect on mood not clear
- No negative effect on lactation
- Immediate return of fertility