Update on the use of emergency contraception

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In March 2017, the Faculty of Sexual and Reproductive Healthcare (FSRH) issued a new guideline on emergency contraception. This article provides an overview of the current approach to managing emergency contraception to help busy clinicians tailor the most appropriate method to each individual.

Emergency contraception is designed to be used after unprotected sexual intercourse (UPSI), in an attempt to prevent unwanted pregnancy. It is not the same as termination of pregnancy, and emergency contraception is not abortifacient. ‘The morning-after pill’ was always an inaccurate and misleading description, but evidence (for example measuring the chance of conception at various times of the menstrual cycle) has shown that there is more to consider than just the timing after intercourse (see Figure 1). The Faculty of Sexual and Reproductive Healthcare (FSRH) has therefore issued new guidance, which includes useful decision-making flowcharts (see Figures 2 and 3).

This article is an overview aimed at the clinician who is trying to manage emergency contraception in a 10-minute consultation or a hectic walk-in service. Even worse, the need for emergency contraception may become evident as part of a different consultation that occupies most of the time slot (for example severe diarrhoea and vomiting, which may have prevented the absorption of contraceptive pills).

When is emergency contraception needed?
Emergency contraception is indicated in the following circumstances:
• If contraception has not been used.
• If contraception has failed (or probably failed), eg broken condoms, missed pills, overdue injections, expired implants (see the relevant FSRH guidance).
• After pregnancy. Fertility may return 21 days after childbirth (unless the woman is fully breastfeeding, see below) and five days after failed or terminated pregnancy.

What methods are there?
There are three methods of emergency contraception:
• Insertion of a copper IUD (Cu-IUD; NOT the hormonal intrauterine system such as Mirena). This is always the most effective

Figure 1. When during the natural menstrual cycle the different methods of emergency contraception – Cu-IUD, ulipristal acetate (UPA-EC) and levonorgestrel (LNG-EC) – are effective.
method and provides continuing contraceptive cover.
• Oral ulipristal acetate 30mg, referred to as UPA-EC (ellaOne in the UK). This is a progesterone-receptor modulator. It is not the same as Esmya (ulipristal acetate 5mg), which is used in the management of uterine fibroids.
• Oral levonorgestrel 1.5mg, referred to as LNG-EC (such as Levonelle or the many generic equivalents, prices vary considerably). It is a progestogen.

The choice of methods has not changed, but there is fresh evidence, including a study of the failure rates of emergency contraception given before or after ovulation, regarding the best use of these methods.

**Which method should I use?**
The decision-making algorithms in the FSRH guidance offer a wealth of detail on choosing between Cu-IUD and oral emergency contraception (see Figure 2) and choosing between oral methods (see Figure 3).

**The copper IUD**
The Cu-IUD is always the most effective method, and the new guidance stresses this. Its primary mechanism of action is inhibition of fertilisation via a toxic effect on sperm and ova; if fertilisation does occur, it can also prevent implantation. It can be inserted up to five days after the first UPSI in a natural cycle or up to five days after the earliest estimated date of ovulation (in

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Figure 2. FSRH decision-making algorithm for emergency contraception: copper IUD vs oral emergency contraception. Reproduced under licence from FSRH. Copyright © Faculty of Sexual and Reproductive Healthcare 2011 to 2017
The Cu-IUD is the most effective form of EC. If criteria for insertion of a Cu-IUD are not met or a Cu-IUD is not acceptable to a woman, consider oral EC.

**Emergency contraception**

**REVIEW**

Last UPSI <96 hours ago?

Yes

UPSI likely to have taken place ≤5 days prior to the estimated day of ovulation?

Yes or Unknown

- UPA-EC* + start contraception after 5 days
- **Reconsider Cu-IUD** if all UPSI within 120 hours or if currently within 5 days after likely ovulation
- If UPA not suitable: LNG-EC**
  + immediate QS

No

BMI >26kg/m² or weight >70kg

Yes

- **UPA-EC** + start contraception after 5 days or
  - **Double dose (3mg) LNG-EC**
    + immediate QS

No

- **UPA-EC** + immediate QS
- **UPA-EC** + start contraception after 5 days

Last UPSI <120 hours ago?

No or unknown

- Oral EC unlikely to be effective
  - **Reconsider Cu-IUD** if currently within 5 days after likely ovulation or
  - Immediate QS only

Yes or unknown

NOTE THAT ORAL EC IS UNLIKELY TO BE EFFECTIVE IF TAKEN AFTER OVULATION

- **UPA-EC** + start contraception after 5 days
- **LNG-EC** + immediate QS
- **UPA-EC** + start contraception after 5 days

**UPA** could be less effective if:
- A woman is taking an enzyme inducer (see Section 10.1 of the guideline)
- A woman has recently taken a progestogen (Section 10.3)
UPA is not recommended for a woman who has severe asthma managed with oral glucocorticoids (Section 11.2)

**Consider double-dose (3mg) LNG if BMI >26kg/m² or weight >70kg (Section 9.2) or if taking an enzyme inducer (Section 10.1)
Cu-IUD = copper intrauterine device; EC = emergency contraception; LNG-EC = levonorgestrel 1.5mg; QS = quick start of suitable hormonal contraception; UPA-EC = ulipristal acetate 30mg; UPSI = unprotected sexual intercourse

*Figure 3. FSRH decision-making algorithm for oral emergency contraception: levonorgestrel emergency contraception (LNG-EC) vs ulipristal acetate emergency contraception (UPA-EC). Reproduced under licence from FSRH. Copyright © Faculty of Sexual and Reproductive Healthcare 2011 to 2017*
a natural cycle or after failed contraception). Inserting a Cu-IUD once a pregnancy is implanted may not work, and is illegal.

For IUD insertion, obviously, the woman needs to agree to the procedure, but other information (which may or may not be available) may also be required, for example:

- The first day of her last period, and a reasonable idea of the regularity and length of her cycle (unless her only UPSI since her last period was in the last five days, or was more than 21 days ago and a pregnancy test is negative).
- Where she was in her combined oral contraceptive pill packet when she forgot two or more pills (or the equivalent for the contraceptive patch or ring). Indeed, is she on the combined pill or a progestogen-only pill? The latter has much tighter requirements for efficacy; one pill three hours late or 12 hours late, depending on the type, may lead to failure.
- When her last contraceptive injection was given or her implant was inserted (if not by your team).

A fast and convenient referral system is also needed to ensure that a Cu-IUD is fitted in a timely fashion. If the first clinician seeing the woman cannot offer the procedure (for example a pharmacist or a GP in a practice that does not include a trained clinician), there should be an agreed system for accessing a nearby Sexual and Reproductive Health (SRH) clinic as a priority.

In case there is a problem, it is recommended that any woman who has to wait for an insertion is also offered an oral method immediately.

Note that adolescence is not a contraindication to a Cu-IUD, nor is sexual assault.

**Oral methods**

Oral emergency contraception methods should be used as soon as possible after UPSI. They are less effective than the Cu-IUD and (unlike a Cu-IUD) do not provide ongoing contraception.

There are two types, both relying on disrupting the hormonal cycle responsible for ovulation. Both act by inhibiting ovulation for at least five days, until the sperm from unprotected intercourse are dead. However, ovulation may simply be delayed, and it is important that women realise that any further UPSI may easily result in pregnancy. Neither of them acts by preventing implantation of the embryo.

Importantly, both EC methods are only effective before ovulation. LNG-EC works up to the start of the luteinising hormone (LH) surge that triggers ovulation, and UPA-EC works until just before the peak of the surge and is therefore still effective if given closer to the time of ovulation. For UPSI in the five days before ovulation (the days of maximum risk for pregnancy), UPA-EC is likely to be more effective. It is also licenced for use up to 120 hours after UPSI, whereas LNG-EC is only licenced for up to 72 hours (although it may have some effect for 96 hours).

However, unlike a Cu-IUD, no harm will be caused to the foetus if either oral method is in fact given after implantation.

**Timing of ovulation and efficacy**

Figure 1 shows when during the menstrual cycle the different methods of emergency contraception are effective in a natural cycle. The FSRH fertility awareness guidance provides more information on ovulation timing.

**Comparing oral methods**

So why is LNG-EC still used if UPA-EC is more effective?

- While LNG-EC works in the presence of progestogens, UPA-EC may not (see Box 1). This needs to be considered if the woman is using progestogens (eg if a hormonal contraceptive method has failed or if she wants to start one immediately). Outside the woman’s most fertile time, the benefit of being able to quick start a hormonal method may outweigh the extra efficacy of UPA-EC.
- The dose of LNG-EC can be doubled up if needed (two tablets of 1.5mg), although the evidence for this is not clear. This is used for overweight women and women on enzyme-inducing medication. Doubling the dose is not recommended for UPA-EC (see Box 2).
- LNG-EC can be used by breastfeeding women without the need to express and discard milk for seven days (which is recommended for UPA-EC).
- LNG-EC is cheaper than UPA-EC.
- UPA-EC is not suitable for use by women who have severe asthma controlled by oral glucocorticoids.

**Breastfeeding women**

Breastfeeding is nearly completely effective as a contraceptive if it is full (ie no occasional bottles, even of expressed milk), the baby is less than six months old and the mother’s periods have...
There are two reasons for using a double dose of LNG-EC:
• If a woman is on enzyme-inducing medication, or has been in the last 28 days. Consider HIV, tuberculosis, epilepsy and use of St John’s wort but check any drug interactions online.7,8 For HIV drug interactions, see the University of Liverpool HIV drug interaction checker.9 Note that the currently recommended treatment for postexposure HIV prophylaxis (tenofovir/emtricitabine and raltegravir) does not contain enzyme inducers and so can be used with oral emergency contraception.
• Recent evidence suggests that overweight women have a higher pregnancy rate after oral emergency contraception. The evidence is not strong, and data are limited, but the guideline development group concluded that:
  - UPA-EC could potentially be less effective for women >85kg or with a BMI >30kg/m²
  - LNG-EC could be less effective in women weighing >70kg or with a BMI >26kg/m²

The evidence is still unclear, but for women weighing over 70kg who need LNG-EC because they do not want or are not eligible for a Cu-IUD or UPA-EC, the guidance suggests doubling the dose to 3mg. Slightly confusingly, the UK Medical Eligibility Criteria (UKMEC) categories in the guidance give all three methods a rating of 1 in overweight women, ie no concerns, but these ratings are concerned with safety not effectiveness.

Box 2. Using a double dose of levonorgestrel emergency contraception (LNG-EC)
not returned. For most women, contraception will be needed during breastfeeding.10
• Cu-IUD insertion is not recommended from 48 hours to 28 days postpartum as there is a higher risk of uterine perforation, although absolute rates are still low.4
• UPA-EC can be used, but breast milk should be discarded for seven days afterwards.
• LNG-EC is safe for breastfeeding women.

Follow-up after emergency contraception
Women should be told to seek a repeat dose urgently if they vomit within three hours of taking oral emergency contraception.
Pregnancy testing is advised if:
• The next period is a week or more late, or is abnormal.
• Hormonal contraception has been started at the same time as, or soon after, the emergency contraception. A test should be done 21 days after the last UPSI.

IUDs should be checked by the woman or by a clinician, as recommended by FSRH guidance. Sexually transmitted infection (STI) testing may be needed and safeguarding should be considered, as appropriate.

Conclusion
Emergency (postcoital) contraception is safe and effective, but it needs to be very easily accessible. The most effective
• Do you have a quick link to the FRSH decision-making algorithms on your IT system, or are hard copies easily available?
• Do you have patient information about ongoing contraception, and do you discuss it when oral emergency contraception is given?
• Do you encourage women to keep a record of their menstrual cycle, pointing out that there are many free apps for this?
• Do you have a pathway for urgent referral for a Cu-IUD (in-house or otherwise)? If access to your community sexual health services is being reduced by commissioners, do you point out that an unwanted pregnancy is never cost-effective?
• Time may be crucial, so do you have a way of ensuring that oral emergency contraception is available quickly (supplies in your practice, or a local pharmacy with long opening hours?)
• Do all emergency contraception providers (pharmacists, school nurses, etc, as well as clinics and GPs) have weighing scales available in their consulting rooms?

Table 1. Good practice points for managing emergency contraception

Method

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<thead>
<tr>
<th>Good Practice Points</th>
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<td>Always the insertion of a Cu-IUD, if not acceptable or not possible, the correct choice must be made between the two oral methods. Administrative barriers need to be reduced (for example ensuring free or low-cost pharmacy access to oral methods), but education for women, support for generalists (for example phone advice or priority bookins for IUDs) and the promotion of ongoing contraception are also required to reduce the rate of unplanned, unwanted pregnancy. The good practice points shown in Table 1 may help.</td>
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References


Acknowledgements

I am very grateful to Dr Sarah Hardman and Mrs Valerie Warner of the Faculty Clinical Effectiveness Unit for their comments on the initial draft; all changes are my responsibility.

Declaration of interests

None to declare.

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