

# Combined hormonal contraception

(From FSRH Guideline, 2019)



# Red Whale

GEMS  
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## What is CHC (combined hormonal contraception)?

- Contains an oestrogen and a progestogen. These work synergistically to prevent ovulation, render cervical mucus hostile to sperm and keep endometrium thin and stable. Preparations differ in type/dose of oestrogen/progestogen.
- Includes the combined pill, patch and vaginal ring.
- **Oestrogen:** most CHC contains synthetic ethinyl oestradiol, but some contains mestranol, estetrol or oestradiol.
- **Progestogen:** classified according to 'generation' which reflects introduction onto the CHC market (see table below). Newer generation progestogens were developed to have fewer androgenic/glucocorticoid effects and so may be better tolerated BUT studies suggest they may incur a higher VTE risk.

## Benefits of CHC

- Light, predictable bleeding patterns.
- Less dysmenorrhea.
- Manages symptoms of:
  - PMS.
  - PCOS.
  - Endometriosis (use continuous regime).
  - Menopause (can use up to 50y).
- Reduces risk of endometrial, ovarian, colorectal cancer.

## Progestogens

| Generation                 | Progestogen  |
|----------------------------|--|
| 1 <sup>st</sup> generation | Norethisterone   |
| 2 <sup>nd</sup> generation | Levonorgestrel   |
| 3 <sup>rd</sup> generation | Desogestrel<br>Gestodene<br>Etonogestrel<br>Norgestimate (sometimes considered 2 <sup>nd</sup> generation as metabolised to levonorgestrel)<br>Norelgestomin |
| 4 <sup>th</sup> generation | Drospirenone<br>Dienogest<br>Nomogestrel   |

## Efficacy of CHC

- **CHC is not as effective as long-acting methods: typical failure rate is 9% in first year of use!**
- Highly user-dependent! Remember to follow missed pill rules if vomits within 3h of taking/has diarrhoea >24h.
- No additional precautions needed if taking non-enzyme-inducing antibiotics unless severe vomiting or diarrhoea.

## Contraindications and cautions

### Common absolute contraindications (UKMEC 4)

- BP  $\geq 160/100$ .
- Current breast cancer.
- Smoking  $\geq 15$  cigarettes/d AND  $\geq 35y$ .
- Current vascular disease.
- History of VTE or known thrombogenic mutation (e.g. factor 5 Leiden, prothrombin mutation, protein S or C, antithrombin deficiencies).
- Migraine with aura.

**Always check [www.fsrh.org/ukmec](http://www.fsrh.org/ukmec) if unsure whether a medical condition or lifestyle factor restricts CHC use.**

### Cautions to use

- BMI  $\geq 35$  is UKMEC 3 (relative contraindication) (CHC efficacy unaffected by weight, except for patch if  $>90kg$ ).
- Patients on teratogens should be on a LARC (as CHC not effective enough).
- Avoid CHC if taking enzyme inducers or lamotrigine (can lower seizure threshold).
- Avoid pills in malabsorptive state (e.g. post-bariatric surgery).

## Risks (small but greater than with other methods)

### Counselling about VTE

- Annual risk of developing VTE  $\approx 2/10\ 000$ ; this increases around 3x on CHC (but much lower than in pregnancy).
- 1<sup>st</sup>/2<sup>nd</sup> generation formulations appear lower risk than 3<sup>rd</sup>/4<sup>th</sup> generation.
- Annual risk of death from VTE on CHC  $\approx 1-2/100\ 000$  which is MUCH lower than other lifestyle risks, e.g. driving a car (80/100 000) (Contraception Today 7<sup>th</sup> Ed, J Guillebaud, Informa healthcare 2012).

### Other (small) risks

- Arterial thrombosis (higher risk with higher oestrogen doses).
- Breast and cervical cancer (risk reduces after stopping).

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# Starting combined hormonal contraception

(From FSRH Guideline, 2019)



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## Regimes

**Traditional (licensed) regimes:** involve 21d of pill-taking then a 7d break.

**Tailored or extended regimes:** recommended by FSRH as involve fewer, shorter or no hormone-free intervals, and therefore potentially less bleeding, fewer side-effects and lower risk of contraceptive failure. Note: the patch and ring may be used in the same way, but phasic pill preparations should NOT.

- **Scheduled extended cycles (bi/tricycling):** take 2–3 packs consecutively followed by a 4–7d hormone-free interval.
- **Unscheduled extended cycle:** take pills continuously for >21d, after which, when/if breakthrough bleeding occurs, take a 4–7d break.
- **Continuous pill-taking:** take a pill daily whether bleeding occurs or not.

## Before starting CHC

### Before prescribing:

- Check medical eligibility (medical history, lifestyle factors, drug and family history).
- Measure and record BP and BMI.
- Counsel regarding efficacy, risks, benefits, side-effects and regimes...

## Which formulation and how much?

- Prescribe  $\leq 30\text{mcg}$  pill with a 1<sup>st</sup> or 2<sup>nd</sup> generation progestogen first line.
- Consider an alternative formulation if likely to be more suitable based on patient experience, tolerance or preference.
- Give up to 12m supply (except vaginal ring: prescribe only 3m due to shelf life).

## Starting instructions

### If no risk of pregnancy, start CHC immediately:

**Up to day 5 of natural menstrual cycle:** can be started without using extra precautions.

- **After day 5 of menstrual cycle:** use extra precautions for 7d.
- **If swapping from alternative form of contraception:** use extra precautions for 7d if the previous method was not anti-ovulant (implant, depot, POP).

### After oral emergency contraception:

- **Levonorgestrel emergency contraception:** start immediately after giving levonorgestrel, use extra precautions for 7d and do a pregnancy test at 3w.
- **Ulipristal emergency contraception: do NOT start CHC until 5d after giving ulipristal,** then use extra precautions for a further 7d and do a pregnancy test at 3w.
  - EXCEPTION: if an established CHC user misses 2–7d of pills/patch/ring in the first week after the hormone-free interval, we can give ulipristal as emergency contraception and she can restart CHC immediately. She should use extra precautions for 7 days and do a pregnancy test at 3w.

## Review annually

- Check for compliance and any problems.
- Reassess eligibility (including BP, BMI and smoking status).
- Continue up to 50y if acceptable.
- Stopping and starting the pill every few months/years to have a 'pill holiday' is not recommended and may actually increase overall risk of VTE.

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## Troubleshooting tips

### Breakthrough bleeding

- Common! Usually settles in 3–4m.
- Higher oestrogen preparations may be associated with less bleeding.
- 2<sup>nd</sup> generation formulations may be better than 1<sup>st</sup> generation.
- Extended or continuous regimes may be better.
- Consider other causes (e.g. STIs, pregnancy, compliance, cervical/uterine pathology).

### Headache

- No optimal preparation recommended.
- Extended/continuous regimes may be better if occurs in hormone-free interval.

### Mood changes

- Counsel that may be multifactorial.
- There is no clear evidence that CHC causes depression.
- Consider switching to a formulation with a different progestogen.
- Extended/continuous regimes may be better if symptoms occur in hormone-free interval.

### Weight gain

- There is no known causal association between CHC and weight gain.
- There is no evidence that different formulations impact weight differently.

### Low libido

- Evidence contradictory; overall, no clear effect of CHC on libido. Try different formulation or method of contraception.

## Missed pill rules...

Has the hormone-free interval been extended >7d?

Yes

If UPSI has occurred in the hormone-free interval (HFI):  
consider emergency contraception

- Take the missing pill ASAP
- Continue rest of pack
- Use condoms/avoid sex for 7d
- Consider follow-up pregnancy test

No

≥2 missed pills (≥72h since last pill)

**Week 1 after hormone-free interval (HFI)**  
Consider emergency contraception if UPSI has occurred in past week or in HFI

**Week 2 or 3 after hormone-free interval (HFI)**  
(also applies for subsequent consecutive weeks of continuous pill-taking)  
Emergency contraception NOT required

- Take the missing pill ASAP
- Continue to take remaining pills in pack
- **If ≥2 pills missed in the 7d prior to a scheduled HFI: omit HFI**
- Use condoms/avoid sex until 7d of consecutive pill-taking

1 missed pill (48–<72h since last pill)

- **Emergency contraception NOT needed**
- Take missed pill ASAP
- Continue rest of pack
- NO additional precautions required

# Combined hormonal contraception: formulations

(From MIMS 2022) All costs for 3 cycles

## 20mcg ethinyl oestradiol monophasic pills

| Progestogen              | Name          | Cost   |
|--------------------------|---------------|--------|
| <b>Third generation</b>  |               |        |
| Desogestrel 150mg        | Bimizza       | £5.04  |
|                          | Gedarel 20    | £5.08  |
|                          | Mercilon      | £8.44  |
| Gestodene 75mcg          | Femodette     | £8.85  |
|                          | Millinette 20 | £5.41  |
|                          | Sunya         | £6.62  |
| <b>Fourth generation</b> |               |        |
| Drospirenone 3mg         | Eloine        | £14.70 |

## 35mcg equivalent monophasic pills

| Oestrogen                                | Progestogen             | Name       | Cost  |
|--|-------------------------|------------|-------|
| 35mcg ethinyl oestradiol                 | <b>First generation</b> |            |       |
|  | Norethisterone 500mcg   | Brevinor   | £1.99 |
|  | Norethisterone 1mg      | Norimin    | £2.28 |
|  | <b>Third generation</b> |            |       |
|  | Norgestimate 250mcg     | Cilique    | £4.65 |
|  | Lizinna                 | £4.64      |       |
| Mestranol 50mcg*                         | <b>First generation</b> |            |       |
|  | Norethisterone 1mg      | Norinyl -1 | £2.19 |
| * Equivalent to 35mcg ethinyl oestradiol |                         |            |       |

## 30mcg ethinyl oestradiol monophasic pills

| Progestogen              | Name            | Cost          |
|--------------------------|-----------------|---------------|
| <b>Second generation</b> |                 |               |
| Levonorgestrel 150mcg    | Ambelina        | £2.60         |
|                          | Elevin          | £29.25        |
|                          | Levest          | £1.80         |
|                          | Maexeni         | £1.88         |
|                          | Microgynon (ED) | £2.82 (£2.99) |
|                          | Ovranette       | £2.20         |
|                          | Rigevidon       | £1.89         |
| <b>Third generation</b>  |                 |               |
| Desogestrel 150mcg       | Cimizt          | £3.80         |
|                          | Gedarel 30      | £4.19         |
|                          | Marvelon        | £7.10         |
| Gestodene 75mcg          | Femodene (ED)   | £6.73 (£7.10) |
|                          | Katya           | £5.03         |
|                          | Millinette 30   | £4.12         |
| <b>Fourth generation</b> |                 |               |
| Drospirenone 3mg         | Dretine         | £8.34         |
|                          | Lucette         | £9.35         |
|                          | Yacella         | £8.30         |
|                          | Yasmin          | £14.70        |
|                          | Yiznell         | £8.30         |

## Phasic pills

| Oestrogen                   | Progestogen                 | Name         | Cost          |
|-----------------------------|-----------------------------|--------------|---------------|
| Ethinyl oestradiol 35mcg    | <b>First generation</b>     |              |               |
|                             | Norethisterone 500mcg/1mg   | Synphase     | £3.60         |
| Ethinyl oestradiol 30/40mcg | <b>Second generation</b>    |              |               |
|                             | Levonorgestrel 50/75/125mcg | Logynon (ED) | £3.82 (£4.00) |
|                             |                             | TriRegal     | £2.43         |

## Oestradiol or estetrol pills

| Oestrogen                            | 4 <sup>th</sup> generation progestogen | Name     | Cost   |
|--------------------------------------|--|----------|--------|
| Oestradiol valerate 3/2/1mg (phasic) | Dienogest 2/3mg                        | Qlaira   | £25.18 |
| Oestradiol hemihydrate 1.5mg         | Nomegestrel 2.5mg                      | Zoely    | £19.80 |
| Estetrol 14.2mg                      | Drospirenone 3mg                       | Drovelis | £26.70 |

## Other CHC preparations

| Route             | Oestrogen content | Third generation progestogen | Name       | Cost   |
|-------------------|-------------------|------------------------------|------------|--------|
| Transdermal patch | 34mcg/d           | Norelgestromin 200mcg/d      | Evra       | £19.51 |
| Vaginal ring      | 15mcg/d           | Etonogestrel 120mcg/d        | NuvaRing   | £29.70 |
|                   |                   |                              | SyreniRing | £23.76 |

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