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Oral contraception—updated

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KEYWORDS
Oral contraception;
Combined oral contraception;
Progestogen-only contraception

Summary
'An orally administered formulation intended to prevent pregnancy.'

Oral contraception in women is available in two formulations; products containing both oestrogen and progestogen—combined oral contraceptives (COCs, the Pill); and those containing progestogen alone—progestogen-only pills (POPs, the Mini-Pill). COCs first became available in the UK in 1961 and have become an extremely safe, effective and popular method of reversible contraception. They also benefit from having non-contraceptive health benefits. This article aims to outline the advantages and disadvantages of taking oral contraception and important aspects of safe prescribing. Initially, the COC pill will be focused on, with the differences arising with the POP pill being outlined later.

Combined oral contraceptives

Formulation

Current combined oral contraceptives (COCs) either have a fixed dose of oestrogen and progestogen in each tablet (monophasic preparations), or are 'phasic' formulations. Phasic pills have either two (biphasic) or three (triphasic) different doses of the oestrogen and progestogen in an attempt to mimic the menstrual cycle more naturally.

Commonly used COCs contain ethinyloestradiol (EE). The oestrogen content ranges from 20 to 40 μg. A higher dose may be needed when there are drug interactions causing liver enzyme induction. A lower dose may be more adequate for the older woman whose natural fertility is declining or in women for whom 20 μg of EE is adequate for contraceptive effect and cycle control.

The progestogens used are norethisterone, levonorgestrel, desogestrel, drospirenone and gestodene. The pills that use desogestrel, drospirenone and gestodene may be chosen for women who have side effects with other progestogens, but desogestrel and gestodene have been associated with an increased risk of venous thromboembolism (VTE).

Mode of action

- Suppression of ovulation:
  - By prevention of ovarian follicular maturation.
  - By interrupting the oestrogen-mediated positive feedback on the hypothalamic–pituitary axis and thus preventing the luteinising hormone (LH) surge.
- Reduction of sperm penetrability of cervical mucous.
- Alteration of the endometrium and reducing likelihood of implantation.

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How to take the pill

Starting regimes

The COC should be started according to the regimen in Table 1. One pill is taken every day and although timing is not as critical as it is with progestogen-only pills (POPs), it is good practice to get into the habit of taking the pill at a similar time every day. One pill is taken every day for 21 days and then there are 7 days when no pills are taken, during which the woman will have a 'withdrawal bleed'. The woman is covered contraceptively in the pill-free week as long as she is going to start another packet after the 7-day break.

Missed pills

- It takes seven consecutive pills to ensure that ovulation has been suppressed.
- In some women follicular activity can be seen to begin to return towards the end of the 7-day break.
- It is thus vital to avoid lengthening the pill-free week to more than 7 days. (see Fig. 1).

If pills are missed in the first 7-days of pill taking, the ovaries will not have had seven consecutive pills to ensure suppression of ovulation following the pill-free week and emergency contraception should be given if necessary and extra precautions used until seven further pills have been taken without a break.

If pills are missed in the second 7-days of the packet then the ovaries will have had at least seven pills to ensure suppression of ovulation. Thus, theoretically, emergency contraception and extra precautions should not be needed unless more than seven pills are missed in a row. In practice women may find it easier to have one set of rules to cover all eventualities (see Table 2).

If pills are missed in the third 7-days of pill taking the next packet of pills should be started without having a pill-free week. This is again to ensure that seven consecutive days of pill taking is achieved before allowing 7 days free from the pill. In practice, it is less complicated to finish that second packet before having a pill-free interval.

The number of pills that need to be missed before extra contraceptive measures are taken varies according to which pill the woman is on. A rule of thumb is 'two for twenty, three for thirty', i.e. if two 20 μg pills are missed, condoms or abstinence will be necessary for the next 7 days and the same applies of three 30 μg pills are missed (see Table 2).

Table 1 Starting regimes for COCs.

	Starting day	Extra precautions needed for contraception?
With menses	Day 1–5 of cycle	None
	Later than day 5	7 days
Other time in cycle	Any day if early pregnancy can be excluded	7 days
Post-partum:		
Breastfeeding	COC not recommended	
Not breastfeeding	Day 21 or wait for next period	None
After termination of pregnancy or miscarriage	Next day	None
Changing from another COC	Immediate switch, omit 7-day break	None
Changing from POP	Immediate switch	None
Changing from injectable or implant	Start COC while still covered by previous method or at any time if pregnancy can be excluded	None
After post-coital contraception	Day 1 or 2 of menses, with proper flow, not just spotting	None

COC, combined oral contraception; POP, progestogen-only pill.

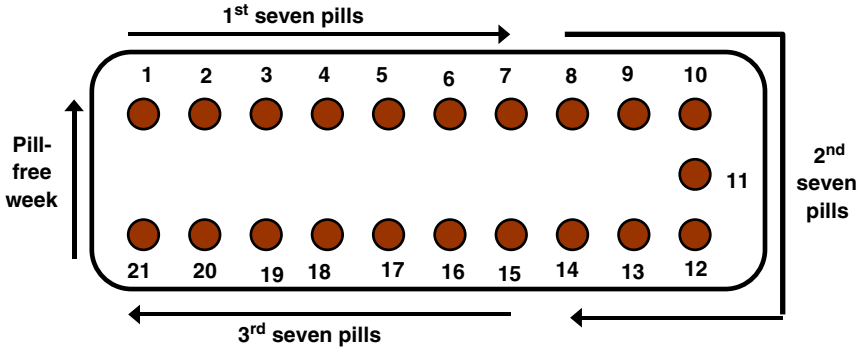

Figure 1 The combined oral contraceptive pill packet.