

# An update on oral contraception

M Nasri 13/5/2024

# Types of contraception



Abstinence  
Condoms male/female  
Caps and diaphragm  
Combined oral contraceptive (COCs)  
Implant  
Injectable  
Intrauterine device (IUD)  
Intrauterine system (IUS)  
Patch  
Progesterone only pills (POPs)  
Spermicides  
Sterilisation male/female  
Vaginal ring  
Withdrawal

1. 1. NICE CKS Contraception Assessment: [Available contraceptive methods in the UK](#) | [Background information](#) | [Contraception - assessment](#) | CKS | NICE (Accessed April 2024)

# Combined Oral Contraceptive Pills (COCs)

- Menstrual bleeding is usually regular, lighter, and less painful
- Non invasive
- Easy to get hold of online
- Non contraceptive benefits include reduced risk of ovarian and /endometrial cancer



[Contraception: Combined Hormonal Methods Available at: Scenario: Combined oral contraceptive | Management | Contraception - combined hormonal methods | CKS | NICE Accessed April 2024\)](#)

# Combined Oral Contraceptive Pills (COCs)

## Side effects

- Some women experience adverse effects when they start COCs
- The COC does not protect against sexually transmitted infections (STIs); people at risk of STIs are advised to use condoms in addition to the COC
- They are less effective than long-acting reversible methods of contraception (progesterone-only implants or injectables, copper intrauterine devices, levonorgestrel intrauterine system and the combined vaginal ring)

[Contraception: Combined Hormonal Methods Available at: Scenario: Combined oral contraceptive | Management | Contraception - combined hormonal methods | CKS | NICE Accessed April 2024](#)

# Progesterone Only Pills (POPs)



POPs currently available in the UK contain:

- Drospirenone 4mg (Slynd®)
- Norethisterone 350 µg (Noriday®),
- Levonorgestrel 30 µg (Norgeston®)
- Desogestrel 75 µg (Cerazette®, Cerelle®, Zelleta® + other branded generic products).

Please refer to the individual Summary of Product Characteristics for more information

# What issues should I consider and discuss when a woman requests contraception<sup>1</sup>?

Discuss her needs and personal circumstances, including:

- Her preferred method of contraception.
- Her future plans for having children.
- Her personal beliefs and views about contraception.
- The attitudes of her partner and family towards contraception.

Provide information on all contraceptive methods, including long-acting reversible contraception (LARC) methods, to help her make an informed choice.

- The information should be presented using language and formats that can be easily understood and accessed by the woman, and should at least include:
  - The relative efficacy of the methods.
  - How the methods work.
  - Common adverse effects.
  - Possible drug interactions.
  - Health risks and benefits of the methods.
  - Information on return to fertility after discontinuing the methods.

# Contraception Counselling

Is this an  
appropriate  
method for the  
woman?

# Is the Contraceptive method suitable for the woman? UKMEC<sup>1</sup>

**FSRH** The Faculty of Sexual & Reproductive Healthcare

**UKMEC SUMMARY TABLE (AMENDED SEPTEMBER 2019)**

**UKMEC SUMMARY TABLE HORMONAL AND INTRAUTERINE CONTRACEPTION**

Cu-IUD = Copper-bearing intrauterine device; LNG-IUS = Levonorgestrel-releasing intrauterine system; IMP = Progestogen-only implant; DMPA = Progestogen-only injectable: depot medroxyprogesterone acetate; POP = Progestogen-only pill; CHC = Combined hormonal contraception

CONDITION	Cu-IUD	LNG-IUS	IMP	DMPA	POP	CHC
I = Initiation, C = Continuation						
PERSONAL CHARACTERISTICS AND REPRODUCTIVE HISTORY						
Pregnancy	NA	NA	NA	NA	NA	NA
Age	Menarche to <20=2, ≥20=1	Menarche to <20=2, ≥20=1	After menarche =1	Menarche to <18=2, 18-45=1, >45=2	After menarche =1	Menarche to <40=1, ≥40=2
Parity						
a) Nulliparous	1	1	1	1	1	1
b) Parous	1	1	1	1	1	1
Breastfeeding						
a) 0 to <6 weeks postpartum	See below	1	2	1	4	
b) ≥6 weeks to <6 months (primarily breastfeeding)		1	1	1	2	
c) ≥6 months postpartum		1	1	1	1	
Postpartum (in non-breastfeeding women)						
a) 0 to <3 weeks						
(i) With other risk factors for VTE	See below	1	2	1	4	
(ii) Without other risk factors		1	2	1	3	
b) 3 to <6 weeks						
(i) With other risk factors for VTE	See below	1	2	1	3	
(ii) Without other risk factors		1	1	1	2	
c) ≥6 weeks						
	1	1	1	1	1	

UKMEC	Definition of category
Category 1	A condition for which there is no restriction for the use of the method
Category 2	A condition where the advantages of using the method generally outweigh the theoretical or proven risks
Category 3	A condition where the theoretical or proven risks usually outweigh the advantages of using the method. The provision of a method requires expert clinical judgement and/or referral to a specialist contraceptive provider, since use of the method is not usually recommended unless other more appropriate methods are not available or not acceptable
Category 4	A condition which represents an unacceptable health risk if the method is used

1. UKMEC April 2016 Summary Sheet (Amended September 2019) [UKMEC April 2016 Summary Sheet \(Amended September 2019\) - Faculty of Sexual and Reproductive Healthcare \(fsrh.org\) \(Accessed April 2024\)](https://www.fsrh.org.uk/ukmecc/ukmecc-2016/ukmecc-2016-summary-sheet)

# UKMEC

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# POP Criteria for exclusion

- Non competent under 16s
- Lack of capacity to consent
- Risk of pregnancy
- Allergy
- Acute porphyria.
- Aged 55 and over
- Cardiovascular Disease: Current or past history of ischemic heart disease, vascular disease, stroke, or transient ischemic attack (first attack only) if taking the method when the event occurred.
- Cancers: Current or past history of breast cancer. Malignant liver tumour (hepatocellular carcinoma).
- Gastro-intestinal conditions: Severe (decompensated) cirrhosis. Benign liver tumour (hepatocellular adenoma). Any bariatric or other surgery resulting in malabsorption.

# POP Criteria for exclusion

## Medicines

Individuals using enzyme-inducing drugs/herbal products or within 4 weeks of stopping them.

Individuals taking any interacting medicines (other than enzyme inducers) including medicines or herbal products purchased

## Resources:

British National Formulary (BNF) [www.bnf.org](http://www.bnf.org)

Individual product SmPCs <http://www.medicines.org.uk>



## Case 1: Stacey

- Stacey is 16 years old.
- Her BMI is 36, she has a regular boyfriend and has no medical history.
- She wants to have a pill.
- Can she have the progesterone only pill?

Case study is fictitious, based on typical woman presenting at speaker's contraceptive clinics.<sup>12</sup>

# Management

- Hand out PIL
- Discuss LARC
- Explain mode of action, side effects, and benefits of the medicine
- Advise on action on vomiting and diarrhoea
- Advise on missed pill advice
- Advise on risks of the medication, including failure rates and serious side effects and the actions to be taken
- Advise of risk of pregnancy and EP
- Condoms, safe sex, STDs
- Signpost to local services/sexual health services
- Advise the individual to seek advice from a pharmacist, doctor, or other prescriber before starting any new medications or herbal products, including those purchased OTC

PIL - Patient Information Leaflet, LARC – Long-Acting Reversible Contraceptive, EP – Ectopic Pregnancy, STD – Sexually Transmitted Diseases OTC – Over the counter

Supply of a progestogen only contraceptive pill (POP) by Community Pharmacists in England working in a pharmacy registered to provide the NHS Pharmacy Contraception Service NHS England: <https://www.england.nhs.uk/wp-content/uploads/2023/01/PRN00750-pgd-supply-pop-by-community-pharmacists-in-england-v2.0.pdf> (Accessed April 2024)

# Desogestrel (DSG) containing pills

Desogestrel (DSG) pills may have potential benefits over traditional POPs

- Ovulation is inhibited in up to 97% of cycles
- 12-hour window for missed pills.
- Management of dysmenorrhoea

## Case 2: Betty

- Betty is 35 years old and would like a repeat of her COC.
- She smokes 20 cigarettes a day and is not keen to discuss giving up.
- Which pill can she have? POP or COC?

COC - Combined oral contraceptive pill, POP Progesterone-only pill  
Case study is fictitious, based on typical woman presenting at speaker's contraceptive clinics.

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CONDITION	Cu-IUD	LNG-IUS	IMP	DMPA	POP	CHC
I = Initiation, C = Continuation						
PERSONAL CHARACTERISTICS AND REPRODUCTIVE HISTORY						
Pregnancy	NA	NA	NA	NA	NA	NA
Age	Menarche to <20=2, ≥20=1	Menarche to <20=2, ≥20=1	After menarche =1	Menarche to <18=2, 18-45=1, >45=2	After menarche =1	Menarche to <40=1, ≥40=2
Smoking						
a) Age <35 years	1	1	1	1	1	2
b) Age ≥35 years						
(i) <15 cigarettes/day	1	1	1	1	1	3
(ii) ≥15 cigarettes/day	1	1	1	1	1	4
(iii) Stopped smoking <1 year	1	1	1	1	1	3
(iv) Stopped smoking ≥1 year	1	1	1	1	1	2
Obesity						

## Case 3: Alisha

- Alisha is 26 and is getting married and would like to avoid falling pregnant for the next two years.
- She has migraine with aura.
- She prefers a pill to any type of LARC for the time being. Which pill can she have?

LARC - Long-acting reversible contraceptive

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CONDITION	Cu-IUD	LNG-IUS	IMP	DMPA	POP	CHC
	I = Initiation, C = Continuation					
NEUROLOGICAL CONDITIONS						
Headaches						
a) Non-migrainous (mild or severe)	1	1	1	1	1	I 1 C 2
b) Migraine without aura, at any age	1	2	2	2	I 1 C 2 I 2 C 3	
c) Migraine with aura, at any age	1	2	2	2	2	4
d) History ( $\geq 5$ years ago) of migraine with aura, any age	1	2	2	2	2	3

## Alisha (Continued)

- She has not had sex since the first day of her regular period and wants to start as soon as possible.
- She will be getting married abroad and wonders how much supply you can give her?

# Combined oral pills

# Criteria for exclusion- in addition to POP

- Individuals aged 50 years and over.
- Significant or prolonged immobility.

## Cardiovascular disease

- Individuals who have had a gap (of any duration) in their COC cycle.
- Individuals aged 35 years and over that smoke or stopped smoking less than one year ago (this includes vaping and the use of e-cigarettes).
- Body Mass Index (BMI) equal to or greater than 35kg/m<sup>2</sup>.
- BP>140/90mmHg or controlled hypertension.
- Multiple risk factors for cardiovascular disease (CVD) (such as smoking (including vaping/use of e-cigarettes), diabetes, hypertension, obesity, and dyslipidaemias).
- Current or past history of venous thromboembolism

<https://www.england.nhs.uk/wp-content/uploads/2023/01/Patient-group-direction-supply-of-a-combined-oral-hormonal-contraceptive-by-community-pharmacists-in-England-w.pdf>

# Criteria for exclusion- in addition to POP

## Cardiovascular disease

- Individuals aged 35 years and over that smoke or stopped smoking less than one year ago (this includes vaping and the use of e-cigarettes).
- Body Mass Index (BMI) equal to or greater than  $35\text{kg}/\text{m}^2$ .
- $\text{BP}>140/90\text{mmHg}$  or controlled hypertension.
- Multiple risk factors for cardiovascular disease (CVD) (such as smoking (including vaping/use of e-cigarettes), diabetes, hypertension, obesity, and dyslipidaemias).
- Current or past history of venous thromboembolism

# Cardiac

- Complicated valvular or congenital heart disease, e.g., pulmonary hypertension, history of subacute bacterial endocarditis.
- First degree relative (with DVT <45 years of age)
- Known thrombogenic mutations, e.g., factor V Leiden, prothrombin mutation, protein S, protein C and antithrombin deficiencies.
- Cardiomyopathy with impaired cardiac function.
- Atrial fibrillation.
- Current or past history of ischaemic heart disease, vascular disease, stroke, or transient ischaemic attack.

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# Neurological Conditions & Cancer

- Current or past history of migraine with neurological symptoms including aura at any age.
- Migraine without aura, first attack when on method of contraception containing an estrogen.

## Cancers

- Past or current history of breast cancer.
- Carrier of known gene mutations associated with breast cancer, e.g., BRCA1 or 2
- Malignant liver tumour (hepatocellular carcinoma).

<https://www.england.nhs.uk/wp-content/uploads/2023/01/Patient-group-direction-supply-of-a-combined-oral-hormonal-contraceptive-by-community-pharmacists-in-England-w.pdf>

# Gastro-intestinal Conditions

- Severe (decompensated) cirrhosis
- Gall bladder disease
- Any bariatric or other surgery resulting in malabsorption
- Cholestasis (related to past combined hormonal contraceptive use)
- Benign liver tumour (hepatocellular adenoma)

<https://www.england.nhs.uk/wp-content/uploads/2023/01/Patient-group-direction-supply-of-a-combined-oral-hormonal-contraceptive-by-community-pharmacists-in-England-w.pdf>

## Other Conditions

- Imminent planned major surgery (COC should be stopped at least 4 weeks prior to planned major surgery or expected period of limited mobility)
- Diabetes with end organ disease (retinopathy, nephropathy, neuropathy)
- Positive anti-phospholipid antibodies (with or without systemic lupus erythematosus)
- Organ transplant, with complications.
- Known severe renal impairment or acute renal failure
- Acute porphyria

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# Medicines

- Individuals using enzyme-inducing drugs/herbal products or within 4 weeks of stopping them.
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- Individual product Summary of Product Characteristics ([www.medicines.org.uk](http://www.medicines.org.uk))

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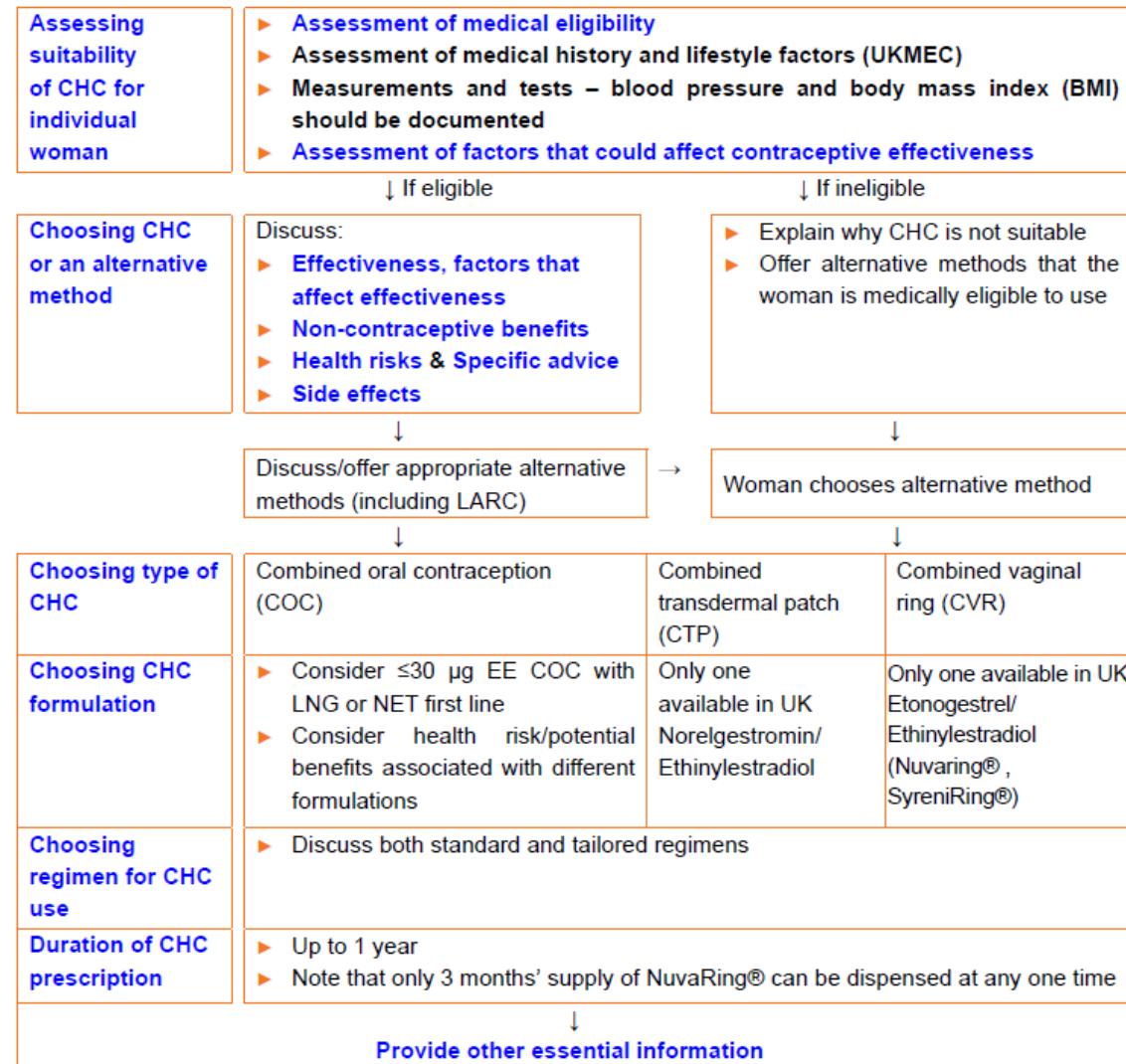
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	I = Initiation, C = Continuation					
<b>PERSONAL CHARACTERISTICS AND REPRODUCTIVE HISTORY</b>						
Pregnancy	NA	NA	NA	NA	NA	NA
Age	Menarche to <20=2, ≥20=1	Menarche to <20=2, ≥20=1	After menarche =1	Menarche to <18=2, 18-45=1, >45=2	After menarche =1	Menarche to <40=1, ≥40=2
Parity						
a) Nulliparous	1	1	1	1	1	1
b) Parous	1	1	1	1	1	1
<b>Breastfeeding</b>						
a) 0 to <6 weeks postpartum	See below	1	2	1	4	
b) ≥6 weeks to <6 months (primarily breastfeeding)		1	1	1	2	
c) ≥6 months postpartum		1	1	1	1	
<b>Postpartum (in non-breastfeeding women)</b>						
a) 0 to <3 weeks	See below	1	2	1	4	
(i) With other risk factors for VTE		1	2	1	3	
(ii) Without other risk factors		1	1	1	2	
b) 3 to <6 weeks	See below	1	2	1	3	
(i) With other risk factors for VTE		1	1	1	2	
(ii) Without other risk factors		1	1	1	1	
c) ≥6 weeks		1	1	1	1	

# Suggested content of an initial combined hormonal contraception consultation



CHC, combined hormonal contraception; COC, combined oral contraception; EE, ethinylestradiol; LARC, long-acting reversible contraception; LNG, levonorgestrel; NET, norethisterone; UKMEC, United Kingdom Medical Eligibility Criteria.

FSRH Clinical Guideline: Combined Hormonal Contraceptives (01/2019, amended 10/23) Available at: [FSRH Clinical Guideline: Combined Hormonal Contraception \(January 2019, Amended October 2023\)](#) - Faculty of Sexual and Reproductive Healthcare (Accessed April 2024)

## Case 4: Cynthia

- Cynthia is 49 has been on the COC for 2 years. She really likes her method. She has come for a repeat and is also requesting sumatriptan.
- On further questioning you discover that last week she developed a sudden persistent headache which is unusual for her.
- Her neurologist has diagnosed this as migraine and advised her to start sumatriptan.
- How would you manage her?

Case study is fictitious, based on typical woman presenting at speaker's contraceptive clinics.

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POP = Progestogen-only pill; CHC = Combined hormonal contraception

CONDITION	Cu-IUD	LNG-IUS	IMP	DMPA	POP	CHC
	I = Initiation, C = Continuation					
	5	1	5	1		
<b>NEUROLOGICAL CONDITIONS</b>						
<b>Headaches</b>						
a) Non-migrainous (mild or severe)	1	1	1	1	1	I 1
						C 2
b) Migraine without aura, at any age	1	2	2	2	I 1	C 2
					1	3
c) Migraine with aura, at any age	1	2	2	2	2	4
d) History ( $\geq 5$ years ago) of migraine with aura, any age	1	2	2	2	2	3

## Case 5: Anna

- Anna has HIV infection and would like to start the pill.
- Her daughter is a medical student and has searched and has told her she can have any method.

- What do you need to know about her HIV treatment that affects your decision.

Case study is fictitious, based on typical woman presenting at speaker's contraceptive clinics.

UKMEC SUMMARY TABLE HORMONAL AND INTRAUTERINE CONTRACEPTION							
CONDITION	Cu-IUD	LNG-IUS	IMP	DMPA	POP	CHC	
I = Initiation, C = Continuation							
<b>HIV INFECTION</b>							
<b>HIV infection</b>							
a) High risk of HIV infection	1	1	1	1	1	1	
b) HIV infected							
(i) CD4 count $\geq 200$ cells/mm <sup>3</sup>	2	2	1	1	1	1	
(ii) CD4 count $< 200$ cells/mm <sup>3</sup>	I 3	C 2	I 3	C 2	1	1	1
c) Taking antiretroviral (ARV) drugs	<p>Certain ARV drugs have the potential to affect the bioavailability of steroid hormones in hormonal contraception.</p> <p>For up-to-date information on the potential drug interactions between hormonal contraception and ARV drugs, please refer to the online HIV drugs interaction checker (<a href="http://www.hiv-druginteractions.org/Interactions.aspx">www.hiv-druginteractions.org/Interactions.aspx</a>).</p>						

## Case 6: Kate

- Kate is 33 and smokes e-cigarettes. She has come for a repeat COC.
- Her BMI is 34 and she is being investigated for pre-diabetes.
- How would you manage her case?

Case study is fictitious, based on typical woman presenting at speaker's contraceptive clinics.

UKMEC SUMMARY TABLE HORMONAL AND INTRAUTERINE CONTRACEPTION						
CONDITION	Cu-IUD	LNG-IUS	IMP	DMPA	POP	CHC
<b>I = Initiation, C = Continuation</b>						

History of bariatric surgery						
a) With BMI <30 kg/m <sup>2</sup>	1	1	1	1	1	1
b) With BMI ≥30–34 kg/m <sup>2</sup>	1	1	1	1	1	2
c) With BMI ≥35 kg/m <sup>2</sup>	1	1	1	1	1	3
Organ transplant						
a) Complicated: graft failure (acute or chronic), rejection, cardiac allograft vasculopathy	I	C	I	C	2	2
	3	2	3	2		
b) Uncomplicated	2		2		2	2
CARDIOVASCULAR DISEASE (CVD)						
Multiple risk factors for CVD (such as smoking, diabetes, hypertension, obesity and dyslipidaemias)	1		2		3	2
						3

## Case 6: Penny

- Penny is an established user of COC.
- She is planning to participate in a swimming tournament. She is worried she may forget to restart after the PFI and wishes not to bleed
- Can she take this pill every day or should she change to a POP?

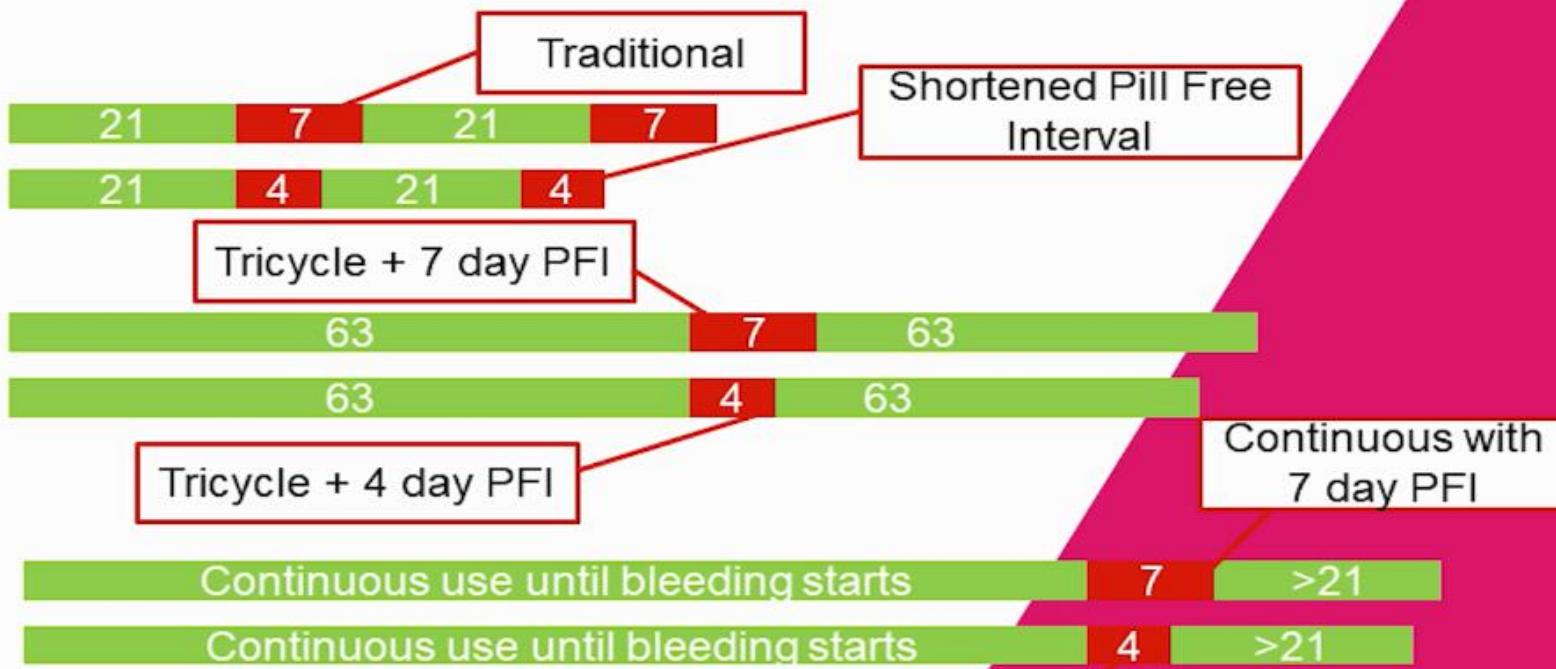


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**Table 1: Standard and tailored regimens for use of combined hormonal contraception (CHC)**

Type of regimen	Period of CHC use	HFI
<b>Standard use</b>	21 days (21 active pills or 1 ring, or 3 patches)	7 days
<b>Tailored use</b>		
<b>Shortened hormone-free interval (HFI)</b>	21 days (21 active pills or 1 ring, or 3 patches)	4 days
<b>Extended use (tricycling)</b>	9 weeks (3 x 21 active pills or 3 rings, or 9 patches used consecutively)	4 or 7 days
<b>Flexible extended use</b>	Continuous use ( $\geq 21$ days) of active pills, patches or rings until breakthrough bleeding occurs for 3–4 days	4 days
<b>Continuous use</b>	Continuous use of active pills, patches or rings	None

## How can the COCP be taken?



# Tailored Regimens: Key Messages

- CHC is an option for contraception if taken as an extended or continuous course
- A woman using CHC does not need a monthly withdrawal bleed to be healthy
- There is no build-up of menstrual blood inside a woman who uses CHC without a break; extended CHC use keeps the lining of the womb thin
- A monthly bleed on CHC is not a reassurance that the woman is not pregnant
- By using extended or continuous courses the frequency of withdrawal bleeds and symptoms can be reduced
- Ovaries can be activated during the traditional 7-day hormone free interval therefore fewer or shorter breaks could mean less risk of pregnancy
- Irregular bleeding or spotting can occur in the first few months of a CHC particularly with extended or continuous courses but it generally improves with time and is not indicative of a problem
- Extended or continuous use does not affect the return of a woman's fertility when she stops CHC

## COC & Low Mood

- Some women may experience negative mood changes when first taking COC
- Inconsistent trends in the incidence of mood change between COC formulations
- Mood changes common and often related to external events
- It is possible that formulation containing an anti-androgenic rather than androgenic progesterone could have a more beneficial effect on mood
- Continuous use of COC may be of benefit to mood
- No clear evidence that COC causes depression

## Box 2. Women using combined hormonal contraception: key indications for medical review

### ***Key symptoms that should prompt women to seek urgent medical review***

- ▶ Calf pain, swelling and/or redness
- ▶ Chest pain and/or breathlessness and/or coughing up blood
- ▶ Loss of motor or sensory function

### ***Key symptoms that should prompt women to seek medical review***

- ▶ Breast lump, unilateral nipple discharge, new nipple inversion, change in breast skin
- ▶ New onset migraine
- ▶ New onset sensory or motor symptoms in the hour preceding onset of migraine
- ▶ Persistent unscheduled vaginal bleeding

### ***New medical diagnoses that should prompt women to seek advice from their contraceptive provider (and review of the suitability of CHC)***

- ▶ High blood pressure
- ▶ High body mass index ( $>35 \text{ kg/m}^2$ )
- ▶ Migraine or migraine with aura
- ▶ Deep vein thrombosis or pulmonary embolism
- ▶ Blood clotting abnormality
- ▶ Antiphospholipid antibodies
- ▶ Angina, heart attack, stroke or peripheral vascular disease
- ▶ Atrial fibrillation
- ▶ Cardiomyopathy
- ▶ Breast cancer or breast cancer gene mutation
- ▶ Liver tumour
- ▶ Symptomatic gallstones