FSRH The Faculty of Sexual & Reproductive Healthcare

UK MEDICAL ELIGIBILITY CRITERIA

FOR CONTRACEPTIVE USE | UKMEC 2016

FSRH provided funding to the Clinical Effectiveness Unit (of the FSRH)
to assist them in the production of this guidance, the UK Medical Eligibility for Contraceptive Use (2016).

Published by the Faculty of Sexual and Reproductive Healthcare
Registered in England No. 2804213 and Registered Charity No. 1019969
UKMEC first published in July 2006

Published in the UK

SECTION A: INTRODUCTION

The UK medical eligibility criteria for contraceptive use (UKMEC)

The UK Medical Eligibility Criteria for Contraceptive Use (UKMEC) offers guidance to providers of contraception regarding *who can* use contraceptive methods safely. These evidence-based recommendations do not indicate a *best method* for a woman nor do they take into account efficacy (and this includes drug interactions or malabsorption). The recommendations allow for consideration of the possible methods that could be used safely by individuals with certain health conditions (e.g. hypertension) or characteristics (e.g. age) to prevent an unintended pregnancy.

Most contraceptive users are medically fit and can use any available contraceptive method safely. However, some medical conditions are associated with potential or theoretical increased health risks when certain contraceptive methods are used, either because the method adversely affects the condition or because the condition or its treatment affects the safety of the contraceptive. Since most trials of new contraceptive methods deliberately exclude subjects with chronic medical conditions, there is often little direct evidence on which to base accurate prescribing advice.

Development of the UKMEC

The World Health Organization (WHO) developed a set of internationally agreed norms for providing contraception to individuals with a range of medical conditions that may contraindicate one or more contraceptive methods. The first edition of the WHO Medical Eligibility Criteria for Contraceptive Use (WHOMEC) was published in 1996. The fifth edition was published in 2015 and is available on the WHO website.[1] The WHOMEC is primarily intended for use in developing countries where the risks associated with pregnancy are often extremely high but it is the intention of WHO that the guidance be adapted for use in different settings in which the risk benefit ratio of contraceptive methods may differ.

The first edition of the UKMEC was published in 2006 with a grant from the Department of Health (England).The document was widely distributed to clinicians throughout the United Kingdom (UK) with funding from the Department of Health (England), the Scottish Executive (Scotland) and the Faculty of Sexual and Reproductive Healthcare (FSRH). The second edition of the UKMEC[2] was published in 2009. UKMEC 2016 supersedes the second version and has taken account of new evidence included in the WHOMEC (fifth edition).

The UKMEC update was led by the Clinical Effectiveness Unit (CEU) of the FSRH and involved a guideline development group (GDG) consisting of 19 members (see Appendix 1 for the UKMEC development process and Appendix 2 for the list of contributors). A formal consensus process[3] was used by the GDG with the aim of making the best use of published evidence and capturing the collective knowledge of experts in the fields of sexual and reproductive health and allied specialties to inform the recommendations included in the UKMEC classifications. The changes in UKMEC 2016 from UKMEC 2009 are summarised and highlighted at the end of Section A.

USING THE UKMEC

The UKMEC considers the following groups of contraceptive methods: intrauterine contraception (IUC), progestogen-only contraception (POC), combined hormonal contraception (CHC) and emergency contraception (EC). The UKMEC categories for each of these groups can be found in Section B, together with evidence summaries and clarifications. Additional comments can be found at the end of each method section. References and additional resources are located in Section C. Commonly used abbreviations are listed in Appendix 3.

The UKMEC Categories

For each of the personal characteristics or medical conditions considered by the UKMEC a Category 1, 2, 3 or 4 is given. The definitions of the categories are given in Table 1.

Table 1: Definition of UKMEC categories

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

When applied in a clinical setting, a UKMEC Category 1 indicates that there is no restriction for use. A UKMEC Category 2 indicates that the method can generally be used, but more careful follow-up *may* be required. A contraceptive method with a UKMEC Category 3 can be used; however, it may require expert clinical judgement and/or referral to a specialist contraception provider since use is not usually recommended unless other methods are not available or acceptable. A UKMEC Category 4 indicates that use in that condition poses an unacceptable health risk and should not be used.

Initiation and Continuation of a Method

The initiation (I) and continuation (C) of a method of contraception can sometimes be distinguished and classified differently (see Table 2). The duration of use of a method of contraception prior to the new onset of a medical condition may influence decisions regarding continued use. However, there is no set duration and clinical judgement will be required.

Table 2: Initiation and continuation of a method by women with a medical condition

Initiation (I)	Starting a method by a woman with a specific medical condition.
Continuation (C)	Continuing with the method already being used by a woman who develops a new medical condition.

For example, the initiation of a progestogen-only pill (POP) is not restricted in a woman with stroke (cerebrovascular accident) as the advantages of using the method generally outweigh the theoretical or proven risks (UKMEC 2). However, if a woman has a stroke (cerebrovascular accident) while using a POP, the continuation of the method will require expert clinical judgement and/or referral to a specialist contraceptive provider because use of that method is not usually recommended unless other, more appropriate methods are not available or acceptable (UKMEC 3).

Using the UKMEC Tables

The UKMEC tables are set out as follows (from left to right, see Table 3):

- The first column indicates the ***CONDITION***. Each condition is defined as representing either an individual's characteristics (e.g. age, parity) or a known pre-existing medical condition (e.g. diabetes, hypertension). Some conditions are subdivided to differentiate between varying degrees of the condition (e.g. migraine with or without aura).
- The ***CATEGORY*** (UKMEC 1 to 4) for each ***CONDITION*** is given for each method of contraception. Occasionally, NA (not applicable) is used, which denotes a condition for which a ranking was not given but for which clarifications have been provided.
- The last column is used to provide ***CLARIFICATION*** or to make comment on the ***EVIDENCE*** for the recommendation where appropriate.

Table 3: Example of tables in UKMEC

METHOD OF CONTRACEPTION		
CONDITION	CATEGORY I = Initiation, C = Continuation	CLARIFICATION/EVIDENCE
Obesity	Category 1, 2, 3 or 4	Clarifications and evidence regarding the condition or classification

It is important to note that the UKMEC categories:

- Relate to the **SAFETY** of use of a method of contraception by a woman with a particular medical condition or personal characteristic. The **EFFICACY** of contraception may be affected by the condition or by a medication required for the condition but the UKMEC category does not reflect this.
- Are intended to be applied to use of the method of contraception for contraceptive purposes. Where a method of contraception is used for a non-contraceptive indication [e.g. management of heavy menstrual bleeding (HMB)] the risk/benefit profile and eligibility criteria may differ.
- Cannot simply be added together to indicate the safety of using a method. For example, if a woman has two conditions that are each UKMEC 2 for use of CHC, these should **not** be added to make a UKMEC 4. However, if multiple UKMEC 2 conditions are present that all relate to the same risk, clinical judgement must be used to decide whether the risks of using the method may outweigh the benefits. For example, consider a 34-year-old woman wishing to use CHC who has a body mass index (BMI) of 34 kg/m^2 (UKMEC 2), is a current smoker (UKMEC 2), has a history of superficial venous thrombosis (UKMEC 2), and has a first-degree relative who had a venous thromboembolic event at age 50 years (UKMEC 2), all potential risk factors for venous thromboembolism (VTE). She might be better advised to consider a different method of contraception that does not increase her risk of VTE. When an individual has multiple conditions all scoring UKMEC 3 for a method, use of this method may pose an unacceptable risk; clinical judgement should be used in each individual case.

Contraceptive Choice

Many factors determine the method of contraception an individual chooses to use. Provided the woman is medically eligible to use a particular method, she should be free to choose the method that is most acceptable to her. To be effective, contraception must be used correctly and consistently. Effective and continued use of a method is directly related to its acceptability to the user.

Women should be given accurate information about all methods for which they are medically eligible and helped to decide which might best suit their needs. Health professionals who give advice about contraception should be competent to give information about the efficacy, risks and side effects, advantages and disadvantages, and non-contraceptive benefits of all available methods.

Information on contraception for women in the UK can be found on the Family Planning Association (fpa) website.[4]

Effectiveness of Contraceptive Method

Methods that require consistent and correct use by individuals have a wide range of effectiveness and can vary greatly with characteristics such as age, socioeconomic status, users' desires to prevent or delay pregnancy, and culture. Table 4 compares the percentage of women experiencing an unintended pregnancy during the first year of contraceptive use when the method is used 'typically' (which includes both incorrect and inconsistent use) or 'perfectly' (correct and consistent use).[5] Methods considered as long-acting reversible contraception (LARC) are highlighted in Table 4.

Table 4: Percentage of women experiencing an unintended pregnancy within the first year of use with typical use and perfect use (modified from Trussell et al.)[5]

Method	Typical use (%)	Perfect use (%)
No method	85	85
Fertility awareness-based methods	24	0.4–5
Female diaphragm	12	6
Male condom	18	2
Combined hormonal contraception (CHC)*	9	0.3
Progestogen-only pill (POP)	9	0.3
Progestogen-only injectable (DMPA)	**6**	**0.2**
Copper-bearing intrauterine device (Cu-IUD)	**0.8**	**0.6**
Levonorgestrel-releasing intrauterine system (LNG-IUS)	**0.2**	**0.2**
Progestogen-only implant (IMP)	**0.05**	**0.05**
Female sterilisation	0.5	0.5
Vasectomy	0.15	0.1

*Includes combined oral contraception (COC), transdermal patch (patch) and vaginal rings.

A pictorial chart on the effectiveness of family planning methods is available from the Centers for Disease Control and Prevention (CDC) website.[6]

Drug Interactions with Hormonal Contraception

Use of other medications may increase or decrease serum levels of contraceptive hormones; likewise, hormonal contraception may increase or decrease serum levels of other medications. This can potentially cause adverse effects. Health professionals providing hormonal contraception should ask women about their current and previous drug use including prescription, over-the-counter, herbal, recreational drugs, and dietary supplements. Women should be advised to use the most effective methods for them; this may include the additional use of non-hormonal barrier methods when potential drug interactions pose concern.

For further guidance and resources regarding specific contraceptive method/formulation, please refer to

- FSRH guidance on drug interactions with hormonal contraception,[7] available on the FSRH website
- The British National Formulary (BNF) publications and website.[8]
- Summary of product characteristics (SPC), available on electronic Medicine Compendium (eMC) website.[9]

Online Drug Interaction Checkers

There are online drug interaction checkers available which give useful information on drug interactions. For up-to-date information on the potential drug interactions between hormonal contraception and antiretroviral (ARV) drugs, please refer to the online HIV drugs interaction checker.[10]

For up-to-date information on the potential drug interactions between hormonal contraception and other drugs, please refer to Stockley's Drug Interactions website.[11]

Please note that the contraceptive effectiveness of DMPA and the LNG-IUS is not reduces by concurrent use of enzyme-inducing medications.

If in doubt please refer to the current FSRH Guideline on Drug Interactions with Hormonal Contraception.[7]

Conditions that May Pose a Significant Health Risk During Pregnancy

Women with conditions that may pose a significant health risk during pregnancy should be advised to consider using the most effective LARC methods, which provide a highly reliable and effective method of contraception (failure rate <1 pregnancy per 100 women in a year). The sole use of barrier methods and user-dependent methods of contraception (e.g. oral contraception) may not be the most appropriate choice for these women given their relatively higher typical-use failure rates.

Some conditions that expose a woman to increased risk as a result of unintended pregnancy include but are not limited to:

- Bariatric surgery within the past 2 years
- Breast cancer
- Cardiomyopathy
- Complicated valvular heart disease
- Cystic fibrosis
- Diabetes: insulin-dependent, or with nephropathy/retinopathy/neuropathy or other vascular disease
- Endometrial or ovarian cancer
- Epilepsy
- Gestational trophoblastic neoplasia
- HIV-related diseases
- Hypertension (systolic >160 mmHg or diastolic >100 mmHg)
- Ischaemic heart disease
- Malignant liver tumours (hepatocellular carcinoma)
- Morbid obesity (BMI ≥40 kg/m^2)
- Organ failure/transplant
- Rheumatoid arthritis
- Severe (decompensated) cirrhosis
- Sickle cell disease
- Stroke
- Systemic lupus erythematosus (SLE)
- Systemic sclerosis
- Thrombogenic conditions
- Tuberculosis
- Teratogenic drugs (see below)

Women using teratogenic drugs (e.g. methotrexate, some anti-epileptic drugs and retinoids) or drugs with potential teratogenic effects should also be advised to use reliable and effective contraception both during treatment and for the recommended timeframe after discontinuation to avoid unintended pregnancies. More information is available from the UK Teratology Information Service (UKTIS) website.[12]

Summary of Changes from UKMEC 2009

A total of 27 topics and more than 126 recommendations were reviewed as part of the UKMEC revision. Changes from UKMEC 2009 include the exclusion of some methods and conditions, inclusion of new conditions and ulipristal acetate (UPA) as a new method of EC, removal of split UKMEC categories, revision of sub-conditions and the reordering of the contraceptive methods in the UKMEC tables.

Method Sections No Longer Included

Comprehensive, method-specific FSRH guidance on barrier methods for contraception and sexually transmitted infection (STI) prevention[13], fertility awareness methods[14] [including the lactational amenorrhoea method (LAM)], and male and female sterilisation[15] is available on the FSRH website. The GDG considered the sections on these methods in the UKMEC as not particularly helpful and so agreed to remove them.

Conditions No Longer Included

The following conditions are no longer included in the UKMEC:

Schistosomiasis and malaria: These infectious diseases are uncommon in the UK population. Evidence suggests no contraindication to hormonal contraception use with both conditions (UKMEC 1 for all methods in UKMEC 2009). Please refer to the WHOMEC[1] if required.

Raynaud's disease/phenomenon: Expert opinion from UK rheumatologists was that the UKMEC classification given in the UKMEC 2009 was unhelpful/no longer appropriate since the risks associated with Raynaud's disease relate to the underlying disease process rather than the condition itself. Raynaud's disease/phenomenon is therefore no longer included in the UKMEC.

Drug interactions: Drug interactions are no longer presented at the end of each method section since the recommendations quickly become outdated as new drugs become available. Where appropriate to a specific condition (e.g. HIV infection or epilepsy), references to the section on drug interactions with hormonal contraception and to relevant online drug interaction checkers are made.

Inclusion of New Conditions

The new conditions added to the UKMEC include history of bariatric surgery, organ transplant, cardiomyopathy, cardiac arrhythmias, rheumatoid arthritis, and positive antiphospholipid antibodies.

The inclusion of these conditions into the UKMEC reflects increasing prevalence of women with these conditions requesting contraception and the need of contraception providers for guidance.

Conditions for which there is a Revision of Sub-condition Description

Conditions where the sub-conditions have been revised include postpartum, gestational trophoblastic disease, cervical cancer, HIV infection, and SLE.

Revisions to the sub-condition descriptions have been made to provide guidance that is more specific/ relevant to the sub-population of women with each condition based on new evidence or development of clinical practice/opinion.

Removal of Split Categories

As they were considered unhelpful, split categories (e.g. UKMEC 2/3 or 3/4) are no longer used in the UKMEC for the following conditions: multiple risk factors for cardiovascular disease, known dyslipidaemias, viral hepatitis (acute or flare) and diabetes (nephropathy/retinopathy/ neuropathy and other vascular disease).

Clarifications have been added or expanded upon to aid clinicians in their judgement regarding whether a particular method of contraception is safe and appropriate for a woman.

Reordering of the Method Categories Presented in the UKMEC Tables

The order of contraceptive methods presented in the UKMEC has been changed to broadly reflect (from left to right) long-acting, medium-acting and short-acting methods of contraception.

Inclusion of Ulipristal Acetate as New Method of Emergency Contraception

The UKMEC now includes ulipristal acetate (UPA) as a method of EC. The order of the methods presented in the UKMEC table reflects the effectiveness of the method (from left to right): copper-bearing IUD (Cu-IUD), UPA and levonorgestrel (LNG).

Changes to the UKMEC 2009 in the EC section include the addition of obesity as a new condition (UKMEC 1 for all methods) and the expansion of the sub-conditions and UKMEC classification recommendations for gestational trophoblastic disease (GTD).

SUMMARY OF CHANGES FROM UKMEC 2009

Conditions for which there has been a classification change for one or more methods or a major modification to the condition description are highlighted. Conditions that do not appear below remain unchanged.

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						
Breastfeeding						
a) 0 to <6 weeks	See below		1	2	1	4
b) ≥6 weeks to <6 months (primarily breastfeeding)			1	1	1	2
c) ≥6 months			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
Postpartum (in breastfeeding or non breastfeeding women, including post caesarean section)						
a) 0 to <48 hours	1	1	See above			
b) 48 hours to <4 weeks	3	3				
c) ≥4 weeks	1	1				
d) Postpartum sepsis	4	4				

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

CONDITION	Cu-IUD	LNG-IUS	IMP	DMPA	POP	CHC
	I = Initiation, C = Continuation					
History of bariatric surgery						
a) With <30 kg/m² BMI	1	1	1	1	1	1
b) With ≥30–34 kg/m² BMI	1	1	1	1	1	2
c) With ≥35 kg/m² BMI	1	1	1	1	1	3
Organ transplant						
a) Complicated: graft failure (acute or chronic), rejection, cardiac allograft vasculopathy	I: 3 / C: 2	I: 3 / C: 2	2	2	2	3
b) Uncomplicated	2	2	2	2	2	2
CARDIOVASCULAR DISEASE (CVD)						
Multiple risk factors for cardiovascular disease (such as smoking, diabetes, hypertension, obesity and dyslipidaemias)	1	2	2	3	2	3
Known dyslipidaemias	1	2	2	2	2	2
Cardiomyopathy						
a) Normal cardiac function	1	1	1	1	1	2
b) Impaired cardiac function	2	2	2	2	2	4
Cardiac arrhythmias						
a) Atrial fibrillation	1	2	2	2	2	4
b) Known long QT syndrome	I: 3 / C: 1	I: 3 / C: 1	1	2	1	2
NEUROLOGICAL CONDITIONS						
Idiopathic intracranial hypertension (IIH)	1	1	1	1	1	2

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

CONDITION	Cu-IUD	LNG-IUS	IMP	DMPA	POP	CHC
	I = Initiation, C = Continuation					
Epilepsy	1	1	1	1	1	1
Taking anti-epileptic drugs	Certain anti-epileptic drugs have the potential to affect the bioavailability of steroid hormones in hormonal contraception. In addition, hormonal contraception may affect the levels of certain antic-epileptic drugs with potential adverse effects. For up-to-date information on the potential drug interactions between hormonal contraception and anti-epileptic drugs, please refer to the online drug interaction checker available on Stockley's Interaction Checker website.[11]					
BREAST AND REPRODUCTIVE TRACT CONDITIONS						
Gestational trophoblastic disease (GTD)						
a) Undetectable hCG levels	1	1	1	1	1	1
b) Decreasing hCG levels	3	3	1	1	1	1
c) Persistently elevated hCG levels or malignant disease	4	4	1	1	1	1
Cervical cancer						
a) Awaiting treatment	I: 4 / C: 2	I: 4 / C: 2	2	2	1	2
b) Radical trachelectomy	3	3	2	2	1	2
Breast conditions						
a) Undiagnosed mass/breast symptoms	1	2	2	2	2	I: 3 / C: 2
b) Benign breast conditions	1	1	1	1	1	1
c) Family history of breast cancer	1	1	1	1	1	1
d) Carriers of known gene mutations associated with breast cancer (e.g. BRCA1/BRCA2)	1	2	2	2	2	3
e) Breast cancer						
(i) Current breast cancer	1	4	4	4	4	4
(ii) Past breast cancer	1	3	3	3	3	3

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

CONDITION	Cu-IUD		LNG-IUS		IMP	DMPA	POP	CHC
	I = Initiation, C = Continuation							
Ovarian cancer	1		1		1	1	1	1
Sexually transmitted infections (STIs)								
a) Chlamydial infection (current)	**I**	**C**	**I**	**C**				
(i) Symptomatic	4	2	4	2	1	1	1	1
(ii) Asymptomatic	3	2	3	2	1	1	1	1
b) Purulent cervicitis or gonorrhoea (current)	4	2	4	2	1	1	1	1
c) Other current STIs (excluding HIV and hepatitis)	2		2		1	1	1	1
d) Vaginitis (including *Trichomonas vaginalis* and bacterial vaginosis) (current)	2		2		1	1	1	1
e) Increased risk for STIs	2		2		1	1	1	1
HIV INFECTION								
HIV Infection								
a) High risk of HIV infection	2		2		1	2	1	1
b) HIV infected								
(i) CD4 count ≥200 cells/mm^3	2		2		1	1	1	1
(ii) CD4 count <200 cells/mm^3	**I**	**C**	**I**	**C**	1	1	1	1
	3	2	3	2				
c) Taking antiretroviral (ARV) drugs	Certain ARV drugs have the potential to affect the bioavailability of steroid hormones in hormonal contraception. 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.[10]							

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

CONDITION	Cu-IUD	LNG-IUS	IMP	DMPA	POP	CHC
	I = Initiation, C = Continuation					
ENDOCRINE CONDITIONS						
Diabetes						
a) History of gestational disease	1	1	1	1	1	1
b) Non-vascular disease						
(i) Non-insulin dependent	1	2	2	2	2	2
(ii) Insulin-dependent	1	2	2	2	2	2
c) Nephropathy/retinopathy/neuropathy	1	2	2	2	2	3
d) Other vascular disease	1	2	2	2	2	3
Viral hepatitis						
a) Acute or flare	1	1	1	1	1	**I** 3 / **C** 2
b) Carrier	1	1	1	1	1	1
c) Chronic	1	1	1	1	1	1
RHEUMATIC DISEASES						
Rheumatoid arthritis	1	2	2	2	2	2
Systemic lupus erythematosus (SLE)						
a) No antiphospholipid antibodies	1	2	2	2	2	2
b) Positive antiphospholipid antibodies	1	2	2	2	2	4
Positive antiphospholipid antibodies	1	2	2	2	2	4
DRUG INTERACTIONS						
Taking medication	See section on drug interactions with hormonal contraception.					

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

SECTION B: METHODS OF CONTRACEPTION

INTRAUTERINE CONTRACEPTION (IUC)

Intrauterine contraception (IUC) is highly effective and long-acting. The licensed duration of use of IUC ranges from 3 to 10 years. IUC is significantly more cost effective than shorter-acting methods due to very low failure rates and requirement for very minimal action by the user apart from undergoing the initial insertion procedure.

IUC comprises two types:

- Copper-bearing intrauterine device (Cu-IUD)
- Levonorgestrel-releasing intrauterine system (LNG-IUS).

FSRH guidance on IUC[1] is available on the FSRH website.

Copper-bearing intrauterine device (Cu-IUD)
Cu-IUDs have copper on their central stems and may also be banded with copper sleeves on the arms. The surface area from which copper is released varies between devices. In general, banded Cu-IUDs which have the higher surface areas of copper are the most effective and long-lasting so are recommended as the first-choice copper devices.

Levonorgestrel-releasing intrauterine system (LNG-IUS)
Several LNG-IUS devices are now available with two dosages of LNG. The 13.5 mg LNG-IUS (releasing 6 µg LNG/day) is licensed for 3 years and the 52 mg LNG-IUS (releasing 20 µg LNG/day) for 5 years. Although there are significantly more data for the 52 mg LNG-IUS, the categories within the UKMEC can be extrapolated to the 13.5 mg LNG-IUS.

Intrauterine Contraception (IUC) Copper-bearing IUD (Cu-IUD) Levonorgestrel-releasing IUS (LNG-IUS)	**IUC does not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another method of contraception. Male condoms reduce the risk of STI/HIV.**		
CONDITION *See additional comments at end of section	**CATEGORY** **I = Initiation,** **C = Continuation**		**CLARIFICATION/EVIDENCE**
	Cu-IUD	**LNG-IUS**	
PERSONAL CHARACTERISTICS AND REPRODUCTIVE HISTORY			
Pregnancy	NA	NA	**Clarification:** Most pregnancies which occur in women using IUC will be intrauterine, but ectopic pregnancy must be excluded. Women who become pregnant whilst using IUC should be informed of the increased risks of second-trimester septic miscarriage, preterm delivery and infection if the IUC is left *in situ*. Women who are pregnant with IUC *in situ* and wish to continue with the pregnancy should be informed that, when possible, IUC removal reduces the risk of an adverse outcome. However, removal itself carries a small risk of miscarriage. Whether or not IUC is removed, pregnant women should be advised to seek medical care if they develop heavy bleeding, cramping pain, abnormal vaginal discharge or fever.[1]
Age			
a) Menarche to <20 years	2	2	**Evidence:** Risks of pregnancy, infection and perforation are low among IUC users of all ages. Removals for bleeding issues do not appear to be related to age. Younger women using IUC may have an increased risk of expulsion compared with older women.[2–18]
b) ≥20 years	1	1	
Parity			
a) Nulliparous	1	1	**Evidence:** Risks for expulsion, perforation, pregnancy and infection are low among all IUC users and differences by parity may not be clinically meaningful. Data do not suggest an increased delay in return to fertility for nulliparous IUC users.[2,4,8–11]
b) Parous	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

Intrauterine Contraception (IUC) Copper-bearing IUD (Cu-IUD) Levonorgestrel-releasing IUS (LNG-IUS)	**IUC does not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another method of contraception. Male condoms reduce the risk of STI/HIV.**		
CONDITION *See additional comments at end of section	**CATEGORY** **I = Initiation,** **C = Continuation**		**CLARIFICATION/EVIDENCE**
	Cu-IUD	**LNG-IUS**	
Postpartum (in breastfeeding or non-breastfeeding women, including post-caesarean section)			
a) 0 to <48 hours	1	1	**Evidence:** A systematic review concludes that insertion of an IUC within the first 48 hours of vaginal or caesarean delivery is safe. Post-placental insertion and insertion between 10 minutes and 48 hours after delivery result in higher expulsion rates than insertion 4–6 weeks postpartum or non-postpartum insertion. Insertion at the time of a caesarean section is associated with lower expulsion rate than post-placental insertion at the time of vaginal delivery.[19] There are limited data on insertion between 48 hours and 4 weeks. Three cohort studies[20–22] of poor to fair quality compare outcomes of post-placental Cu-IUD insertion with insertion between 10 minutes and 72 hours after delivery. The studies show a wide range of expulsion rates; one study reports an expulsion rate of >70%.[22] The rate of uterine perforation associated with IUC use is very low. The most important risk factors for uterine perforation are insertion during lactation and insertion in the 36 weeks after giving birth.[23] The majority of studies show no significant differences in breastfeeding outcomes in women using LNG-IUS with insertion either immediately postpartum or after 4 weeks.[24–30]
b) 48 hours to <4 weeks	3	3	
c) ≥4 weeks	1	1	
d) Postpartum sepsis	4	4	**Clarification:** Immediate insertion of an IUC may substantially worsen the condition.

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

Intrauterine Contraception (IUC) Copper-bearing IUD (Cu-IUD) Levonorgestrel-releasing IUS (LNG-IUS)	**IUC does not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another method of contraception. Male condoms reduce the risk of STI/HIV.**		
CONDITION *See additional comments at end of section	**CATEGORY** **I = Initiation,** **C = Continuation**		**CLARIFICATION/EVIDENCE**
	Cu-IUD	**LNG-IUS**	
Post-abortion			
a) First trimester	1	1	**Evidence**: IUC can be inserted immediately after first- or second-trimester, surgical or medical abortion.[31] **Evidence**: There is no difference in risk of complications for immediate versus delayed insertion of an IUC after abortion. Expulsion may be greater when an IUC is inserted following a second-trimester abortion versus following a first-trimester abortion.[31–50]
b) Second trimester	2	2	
c) Post-abortion sepsis	4	4	**Clarification:** Immediate insertion of an IUC may substantially worsen the condition.
Past ectopic pregnancy	1	1	
History of pelvic surgery	1	1	
Smoking			**Clarification:** UKMEC currently does not include use of e-cigarettes, as risks associated with their use are not yet established. **Evidence:** COC users who smoke are at an increased risk of CVD, especially MI, compared with those who do not smoke. Studies also show an increased risk of MI with an increasing number of cigarettes smoked per day.23–34 The 35 year age cut off is identified because any excess mortality associated with smoking is only apparent from this age.[51] The mortality rate from all causes (including cancers) decreases to that of a non-smoker within 20 years of smoking cessation. The cardiovascular disease (CVD) risk associated with smoking decreases within 1 to 5 years of smoking cessation.[51–53]
a) Age <35 years	1	1	
b) Age ≥35 years			
(i) <15 cigarettes/day	1	1	
(ii) ≥15 cigarettes/day	1	1	
(iii) Stopped smoking <1 year	1	1	
(iv) Stopped smoking ≥1 year	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

Intrauterine Contraception (IUC) Copper-bearing IUD (Cu-IUD) Levonorgestrel-releasing IUS (LNG-IUS)	**IUC does not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another method of contraception. Male condoms reduce the risk of STI/HIV.**		
CONDITION *See additional comments at end of section	**CATEGORY** **I = Initiation,** **C = Continuation**		**CLARIFICATION/EVIDENCE**
	Cu-IUD	**LNG-IUS**	
Obesity			
a) BMI ≥30–34 kg/m^2	1	1	
b) BMI ≥35 kg/m^2	1	1	
History of bariatric surgery			
a) With BMI <30 kg/m^2	1	1	
b) With BMI ≥30–34 kg/m^2	1	1	
c) With BMI ≥35 kg/m^2	1	1	
Organ transplant			
a) Complicated: graft failure (acute or chronic), rejection, cardiac allograft vasculopathy	**I** 3 / **C** 2	**I** 3 / **C** 2	**Evidence:** No comparative studies have examined IUC use among transplant patients. Four case reports of transplant patients using IUC provide inconsistent results, including beneficial effects and contraceptive failures.[54–57]
b) Uncomplicated	2	2	
CARDIOVASCULAR DISEASE (CVD)			
Multiple risk factors for CVD (such as smoking, diabetes, hypertension, obesity and dyslipidaemias)	1	2	

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

Intrauterine Contraception (IUC) Copper-bearing IUD (Cu-IUD) Levonorgestrel-releasing IUS (LNG-IUS)	**IUC does not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another method of contraception. Male condoms reduce the risk of STI/HIV.**		
CONDITION *See additional comments at end of section	**CATEGORY** **I = Initiation,** **C = Continuation**		**CLARIFICATION/EVIDENCE**
	Cu-IUD	**LNG-IUS**	
Hypertension*			**Clarification:** For all categories of hypertension, classifications are based on the assumption **that no other risk factor for CVD exists.** When multiple risk factors do exist, risk of CVD may increase substantially. *Vascular disease* includes coronary heart disease presenting with angina, peripheral vascular disease presenting with intermittent claudication, hypertensive retinopathy and TIA.
a) Adequately controlled hypertension	1	1	
b) Consistently elevated blood pressure (BP) levels (properly taken measurements)			
(i) Systolic >140–159 mmHg or diastolic >90–99 mmHg	1	1	
(ii) Systolic ≥160 mmHg or diastolic ≥100 mmHg	1	1	
c) Vascular disease	1	2	
History of high BP during pregnancy	1	1	**Clarification:** When current BP is measurable and normal.
Current and history of ischaemic heart disease*	1	**I** 2 / **C** 3	**Clarification:** LNG-IUS may be continued if women develop ischaemic heart disease while using the method. Clinical judgement and assessment of pregnancy risk and other factors are required.
Stroke* [history of cerebrovascular accident, including transient ischaemic attack (TIA)]	1	**I** 2 / **C** 3	
Known dyslipidaemias	1	2	**Clarification:** Routine screening for these genetic mutations is not cost effective. Increased levels of total cholesterol, low-density lipoproteins (LDL) and triglycerides, as well as decreased levels of high-density lipoproteins (HDL), are known risk factors for CVD. Women with known, severe, genetic lipid disorders are at a much higher lifetime risk for CVD and may warrant further clinical consideration.

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

Intrauterine Contraception (IUC) Copper-bearing IUD (Cu-IUD) Levonorgestrel-releasing IUS (LNG-IUS)	**IUC does not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another method of contraception. Male condoms reduce the risk of STI/HIV.**		
CONDITION *See additional comments at end of section	**CATEGORY** **I = Initiation,** **C = Continuation**		**CLARIFICATION/EVIDENCE**
	Cu-IUD	**LNG-IUS**	
Venous thromboembolism (VTE)*			**Clarification**: VTE includes deep vein thrombosis (DVT) and pulmonary embolism (PE) of any aetiology. **Evidence:** Limited evidence indicates that insertion of the LNG-IUS does not pose major bleeding risks in women on long-term anticoagulant therapy.[58–60] **Clarifications:** **Major surgery:** Includes major elective surgery (>30 minutes' duration) and all surgery on the legs, or surgery which involves prolonged immobilisation of a lower limb.[61] **Minor surgery:** Includes operations lasting <30 minutes with a short duration of anaesthesia (e.g. laparoscopic sterilisation or tooth extraction).[61]
a) History of VTE	1	2	
b) Current VTE (on anticoagulants)	1	2	
c) Family history of VTE			
(i) First-degree relative age <45 years	1	1	
(ii) First-degree relative age ≥45 years	1	1	
d) Major surgery			
(i) With prolonged immobilisation	1	2	
(ii) Without prolonged immobilisation	1	1	
e) Minor surgery without immobilisation	1	1	
f) Immobility (unrelated to surgery) (e.g. wheelchair use, debilitating illness)	1	1	
Superficial venous thrombosis			
a) Varicose veins	1	1	
b) Superficial venous thrombosis	1	1	
Known thrombogenic mutations (e.g. factor V Leiden, prothrombin mutation, protein S, protein C and antithrombin deficiencies)	1	2	**Clarification:** Routine screening for these genetic mutations is not cost effective. [62–89]

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

Intrauterine Contraception (IUC) Copper-bearing IUD (Cu-IUD) Levonorgestrel-releasing IUS (LNG-IUS)	IUC does not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another method of contraception. Male condoms reduce the risk of STI/HIV.		
CONDITION *See additional comments at end of section	**CATEGORY** **I = Initiation,** **C = Continuation**		**CLARIFICATION/EVIDENCE**
	Cu-IUD	**LNG-IUS**	
Valvular and congenital heart disease			
a) Uncomplicated	1	1	**Clarification:** Uncomplicated cases can be considered where: there is (i) no requirement for cardiac medication, (ii) the woman is asymptomatic and (iii) a cardiology review is required annually or less. If in doubt, discussion with a specialist cardiologist is advised. *Valvular heart* disease: Occurs when any of the heart valves are stenotic and/or incompetent (e.g. aortic stenosis, mitral regurgitation, tricuspid valve abnormalities, pulmonary stenosis).[90] *Congenital heart disease*: Aortic stenosis, atrial septal defects, atrioventricular septal defect, cardiomyopathy (hypertrophic or dilated), coarctation of the aorta, complex transposition of the great arteries, Ebstein's anomaly; Eisenmenger syndrome, patent ductus arteriosus, pulmonary atresia, pulmonary stenosis, tetralogy of Fallot, total anomalous pulmonary venous connection, tricuspid atresia, truncus arteriosus, ventricular septal defect.[90] Prophylaxis against bacterial endocarditis is no longer indicated for women with artificial heart valves or previous endocarditis when inserting or removing IUC.[91,92] However, this does not necessarily mean that there is no risk.[1]
b) Complicated (e.g. pulmonary hypertension, history of subacute bacterial endocarditis)	2	2	

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

Intrauterine Contraception (IUC) Copper-bearing IUD (Cu-IUD) Levonorgestrel-releasing IUS (LNG-IUS)	IUC does not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another method of contraception. Male condoms reduce the risk of STI/HIV.		
CONDITION *See additional comments at end of section	**CATEGORY** **I = Initiation,** **C = Continuation**		**CLARIFICATION/EVIDENCE**
	Cu-IUD	**LNG-IUS**	

Cardiomyopathy					
a) Normal cardiac function	1		1		**Clarification**: A woman who is not on cardiac medication can be considered as having normal cardiac function.
b) Impaired cardiac function	2		2		**Evidence:** No direct evidence exists on the safety of IUC among women with cardiomyopathy. Limited indirect evidence from non-comparative studies does not demonstrate any cases of arrhythmia or infective endocarditis in women with cardiac disease who used IUC.[93,94] **Clarification:** IUC insertion may induce cardiac arrhythmias in women with cardiomyopathy. The IUC should be fitted in a hospital setting as a vasovagal reaction presents a particularly high risk of cardiac events.[91]
Cardiac arrhythmias					
a) Atrial fibrillation	1		2		
b) Known long QT syndrome	**I**	**C**	**I**	**C**	**Clarification:** Cervical stimulation during the insertion of intrauterine methods can cause a vasovagal reaction including bradycardia, which increases the risk of a cardiac event in women with long QT syndrome. The IUC should be fitted in a hospital setting if vasovagal reaction presents a particularly high risk of cardiac events.[91]
	3	1	3	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

Intrauterine Contraception (IUC) Copper-bearing IUD (Cu-IUD) Levonorgestrel-releasing IUS (LNG-IUS)	**IUC does not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another method of contraception. Male condoms reduce the risk of STI/HIV.**		
CONDITION *See additional comments at end of section	**CATEGORY** **I = Initiation,** **C = Continuation**		**CLARIFICATION/EVIDENCE**
	Cu-IUD	**LNG-IUS**	
NEUROLOGICAL CONDITIONS			
Headaches			
a) Non-migrainous (mild or severe)	1	1	**Clarification:** Headache is a common condition affecting women of reproductive age. There is no identified evidence which specifically considers migraine in women using an LNG-IUS. Classification depends on making an accurate diagnosis of those severe headaches that are migrainous and, in addition, those complicated by aura.[95–97] See additional resource on diagnosis of migraines with or without aura.
b) Migraine without aura, at any age	1	2	
c) Migraine with aura, at any age	1	2	
d) History (≥5 years ago) of migraine with aura, any age	1	2	
Idiopathic intracranial hypertension (IIH)	1	1	
Epilepsy	1	1	
Taking anti-epileptic drugs	Certain anti-epileptic drugs have the potential to affect the bioavailability of steroid hormones in hormonal contraception. Additionally, hormonal contraception may affect the levels of certain anti-epileptic drugs with potential adverse effects. For up-to-date information on the potential drug interactions between hormonal contraception and anti-epileptic drugs, please refer to the online drug interaction checker available on Stockley's Interaction Checker website.[98]		
DEPRESSIVE DISORDERS			
Depressive disorders	1	1	**Clarification**: The classification is based on data for women with selected depressive disorders. No data are available on bipolar disorder or postpartum depression.

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

Intrauterine Contraception (IUC) Copper-bearing IUD (Cu-IUD) Levonorgestrel-releasing IUS (LNG-IUS)	**IUC does not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another method of contraception. Male condoms reduce the risk of STI/HIV.**		
CONDITION *See additional comments at end of section	**CATEGORY** **I = Initiation,** **C = Continuation**		**CLARIFICATION/EVIDENCE**
	Cu-IUD	**LNG-IUS**	

BREAST AND REPRODUCTIVE TRACT CONDITIONS					
Vaginal bleeding patterns*					
a) Irregular pattern without heavy bleeding	1		1		**Clarification:** Abnormal menstrual bleeding should raise suspicion of a serious underlying condition and be investigated appropriately.[99–102] **Evidence:** Evidence from studies examining the treatment effects of the 52 mg LNG-IUS among women with heavy or prolonged bleeding report no increase in adverse effects and finds the 52 mg LNG-IUS beneficial in treating heavy menstrual bleeding (HMB).[103–110]
b) Heavy or prolonged bleeding (includes regular and irregular patterns)	2		**I** 1	**C** 2	
Unexplained vaginal bleeding (suspicious for serious condition) before evaluation	**I** 4	**C** 2	**I** 4	**C** 2	**Clarification:** If pregnancy or an underlying pathological condition (such as pelvic malignancy) is suspected, it must be evaluated and the category adjusted accordingly. The IUC does not need to be removed before evaluation.
Endometriosis*	2		1		**Evidence:** 52 mg LNG-IUS use among women with endometriosis decreases dysmenorrhoea, pelvic pain and dyspareunia.[111–115]
Benign ovarian tumours (including cysts)	1		1		
Severe dysmenorrhoea*	2		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

Intrauterine Contraception (IUC) Copper-bearing IUD (Cu-IUD) Levonorgestrel-releasing IUS (LNG-IUS)	**IUC does not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another method of contraception. Male condoms reduce the risk of STI/HIV.**		
CONDITION *See additional comments at end of section	**CATEGORY** **I = Initiation,** **C = Continuation**		**CLARIFICATION/EVIDENCE**
	Cu-IUD	**LNG-IUS**	
Gestational trophoblastic disease (GTD)*			**Clarification:** Includes hydatidiform mole (complete and partial) and gestational trophoblastic neoplasia. **Evidence:** Limited evidence suggests that women using an IUC after uterine evacuation for a molar pregnancy are at no greater risk for gestational trophoblastic neoplasia than are women using other methods of contraception.[116–119]
a) Undetectable hCG levels	1	1	
b) Decreasing hCG levels	3	3	
c) Persistently elevated hCG levels or malignant disease	4	4	
Cervical ectropion	1	1	
Cervical intraepithelial neoplasia (CIN)*	1	2	
Cervical cancer*			
a) Awaiting treatment	**I** 4 / **C** 2	**I** 4 / **C** 2	**Clarification:** Concern exists about the increased risk of infection and bleeding at insertion. The IUC will normally be removed at the time of surgery, but until then the woman is at risk of pregnancy.
b) Radical trachelectomy	3	3	**Clarification:** Insertion of IUC should be conducted with caution in a specialist setting due to abnormal anatomy.

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

Intrauterine Contraception (IUC) Copper-bearing IUD (Cu-IUD) Levonorgestrel-releasing IUS (LNG-IUS)	**IUC does not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another method of contraception. Male condoms reduce the risk of STI/HIV.**		
CONDITION *See additional comments at end of section	**CATEGORY** **I = Initiation,** **C = Continuation**		**CLARIFICATION/EVIDENCE**
	Cu-IUD	**LNG-IUS**	

Breast conditions					
a) Undiagnosed mass/breast symptoms	1		2		**Clarification:** Breast cancer is a hormonally sensitive tumour. Concerns about progression of the disease may be less with LNG-IUS than with COC or higher-dose POC. Use of the LNG-IUS in women with breast cancer for gynaecological reasons can be considered on an individual basis in consultation with the woman's oncology team.[1]
b) Benign breast conditions	1		1		
c) Family history of breast cancer	1		1		
d) Carriers of known gene mutations associated with breast cancer (e.g. BRCA1/BRCA2)	1		2		
e) Breast cancer					
(i) Current breast cancer	1		4		
(ii) Past breast cancer	1		3		
Endometrial cancer*	**I**	**C**	**I**	**C**	
	4	2	4	2	
Ovarian cancer*	1		1		
Uterine fibroids					
a) Without distortion of the uterine cavity	1		1		**Evidence:** Among women with uterine fibroids, evidence shows no adverse health events with 52 mg LNG-IUS use and a decrease in symptoms and size of fibroid. Most women experience improvements in serum levels of haemoglobin, haematocrit, ferritin and menstrual blood loss.[120–131]

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

Intrauterine Contraception (IUC) Copper-bearing IUD (Cu-IUD) Levonorgestrel-releasing IUS (LNG-IUS)	IUC does not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another method of contraception. Male condoms reduce the risk of STI/HIV.		
CONDITION *See additional comments at end of section	**CATEGORY** **I = Initiation,** **C = Continuation**		**CLARIFICATION/EVIDENCE**
	Cu-IUD	**LNG-IUS**	
b) With distortion of the uterine cavity	3	3	**Clarification**: In women with a distorted uterine cavity it may be appropriate to attempt insertion of IUC after discussion. **Evidence:** Available studies show that rates of 52 mg LNG-IUS expulsion are higher in women with uterine fibroids than in women without fibroids; however, these findings are either not statistically significant or significance testing was not conducted.[129, 132] Rates of expulsion from non-comparative studies ranged from 0% to 20%.[126–131]
Anatomical abnormalities			
a) Distorted uterine cavity	3	3	**Clarification:** Includes any congenital or acquired uterine abnormality distorting the uterine cavity in a manner that is incompatible with IUC insertion. In some women with a distorted uterine cavity it may be appropriate to attempt insertion of IUC after discussion.
b) Other abnormalities	2	2	**Clarification:** Includes cervical stenosis or cervical lacerations not distorting the uterine cavity or interfering with IUC insertion.

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

Intrauterine Contraception (IUC) Copper-bearing IUD (Cu-IUD) Levonorgestrel-releasing IUS (LNG-IUS)	IUC does not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another method of contraception. Male condoms reduce the risk of STI/HIV.		
CONDITION *See additional comments at end of section	**CATEGORY** **I = Initiation,** **C = Continuation**		**CLARIFICATION/EVIDENCE**
	Cu-IUD	**LNG-IUS**	

Pelvic inflammatory disease (PID)					
a) PID (assuming no current risk factors for STIs)	1		1		**Clarification:** ***Initiation:*** For routine IUC insertion, women with symptomatic pelvic infection should be tested for and treated. Insertion should be delayed until symptoms have resolved. Appropriate provision of alternative contraception should be provided until the IUC can be inserted.[1] ***Continuation:*** For women with symptomatic pelvic infection, treat using appropriate antibiotics and perform testing for STIs. There is usually no need to remove the IUC if the woman wishes to continue its use.[1] Continued use of an IUC depends on the woman's informed choice and her current risk factors for STIs and PID. Among IUC users treated for PID, there is no difference in clinical course if the IUC is removed or left in place.[133–135]
b) Current PID	**I**	**C**	**I**	**C**	
	4	2	4	2	

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

Intrauterine Contraception (IUC) Copper-bearing IUD (Cu-IUD) Levonorgestrel-releasing IUS (LNG-IUS)	IUC does not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another method of contraception. Male condoms reduce the risk of STI/HIV.		
CONDITION *See additional comments at end of section	**CATEGORY** **I = Initiation,** **C = Continuation**		**CLARIFICATION/EVIDENCE**
	Cu-IUD	**LNG-IUS**	

Sexually transmitted infections (STIs)					
a) Chlamydial infection (current)	I	C	I	C	**Clarification for chlamydia:** In a woman with asymptomatic infection in an emergency situation (i.e. EC), the IUC can be inserted without delay on the same day as treatment is instituted.[1] **Clarification for Initiation:** Screening for STIs in advance of insertion (when indicated or requested) will allow infection to be treated before insertion. If results are unavailable before insertion then prophylactic antibiotics should be considered for women at higher risk of STIs at time of insertion. The antibiotic regimen chosen should cover *Chlamydia trachomatis*. **Clarification for continuation:** Treat the STI using appropriate antibiotics. The IUC usually does not need to be removed if the woman wishes to continue using it. Continued use of an IUC depends on the woman's informed choice and her current risk factors for STIs and PID.[1] **Evidence:** There is no evidence whether IUC insertion among women who contract STIs increases the risk for PID over that of women with no IUC insertion. Among women who have IUC inserted, the absolute risk for subsequent PID is low among women with an STI at the time of insertion but greater than among women with no STI at the time of IUC insertion.[136–145]
(i) Symptomatic	4	2	4	2	
(ii) Asymptomatic	3	2	3	2	
b) Purulent cervicitis or gonorrhoea (current)	4	2	4	2	
c) Other current STIs (excluding HIV and hepatitis)	2		2		
d) Vaginitis (including *Trichomonas vaginalis* and bacterial vaginosis) (current)	2		2		

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

Intrauterine Contraception (IUC) Copper-bearing IUD (Cu-IUD) Levonorgestrel-releasing IUS (LNG-IUS)	IUC does not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another method of contraception. Male condoms reduce the risk of STI/HIV.		
CONDITION *See additional comments at end of section	**CATEGORY** **I = Initiation,** **C = Continuation**		**CLARIFICATION/EVIDENCE**
	Cu-IUD	**LNG-IUS**	
e) Increased risk for STIs	2	2	**Clarification:** IUC insertion may further increase the risk of PID among women at increased risk of STIs, although limited evidence suggests that this risk is low. Risk of STIs varies by individual behaviour and local STI prevalence. Therefore, while many women at increased risk of STIs can have IUC inserted, some women at very high risk of STIs may be advised to wait appropriate testing and treatment occur. **Evidence:** One small study shows a low incidence of PID after IUC insertion (2.2%) in a cohort of women considered to be high risk.[137] Another study reports that 11% of women classed as at high STI risk experienced IUC-related complications compared with 5% of those not classified as high risk.[141]
HIV INFECTION			
HIV infection*			
a) High risk of HIV infection	2	2	**Evidence:** Among women at risk for HIV, Cu-IUD use does not increase risk of HIV acquisition.[146–156]
b) HIV infected			

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

Intrauterine Contraception (IUC) Copper-bearing IUD (Cu-IUD) Levonorgestrel-releasing IUS (LNG-IUS)	**IUC does not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another method of contraception. Male condoms reduce the risk of STI/HIV.**		
CONDITION *See additional comments at end of section	**CATEGORY** **I = Initiation,** **C = Continuation**		**CLARIFICATION/EVIDENCE**
	Cu-IUD	**LNG-IUS**	

(i) CD4 count ≥200 cells/mm^3	2		2		**Clarification:** The initiation of an IUC method may be appropriate in some women with low CD4 counts who have an undetectable viral load. **Evidence**: Among IUC users, limited evidence shows no increased risk of infection or overall complications when comparing HIV-infected with non-infected women. IUC use is not found to adversely affect progression of HIV when compared to hormonal contraception use among HIV-infected women. IUC use among HIV-infected women is not associated with increased risk of transmission to sexual partners.[157–165] No difference is found in antiretroviral therapy initiation or CD4 count between users and non-users of the LNG-IUS.[166]
(ii) CD4 count <200 cells/mm^3	**I**	**C**	**I**	**C**	
	3	2	3	2	
c) Taking antiretroviral (ARV) drugs	Certain ARV drugs have the potential to affect the bioavailability of steroid hormones in hormonal contraception. 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.[167]				
OTHER INFECTIONS					
Tuberculosis*					
a) Non-pelvic	1		1		
b) Pelvic	**I**	**C**	**I**	**C**	
	4	3	4	3	

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

Intrauterine Contraception (IUC) Copper-bearing IUD (Cu-IUD) Levonorgestrel-releasing IUS (LNG-IUS)	**IUC does not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another method of contraception. Male condoms reduce the risk of STI/HIV.**		
CONDITION *See additional comments at end of section	**CATEGORY** **I = Initiation,** **C = Continuation**		**CLARIFICATION/EVIDENCE**
	Cu-IUD	**LNG-IUS**	
ENDOCRINE CONDITIONS			
Diabetes			
a) History of gestational disease	1	1	
b) Non-vascular disease			**Evidence:** Limited evidence on the use of the LNG-IUS among women with insulin-dependent or non-insulin-dependent diabetes suggests that these methods have little effect on short- or long-term diabetes control (e.g. glycosylated haemoglobin levels), haemostatic markers or lipid profile.[168,169]
(i) Non-insulin dependent	1	2	
(ii) Insulin-dependent	1	2	
c) Nephropathy/retinopathy/ neuropathy	1	2	
d) Other vascular disease	1	2	
Thyroid disorders			
a) Simple goitre	1	1	
b) Hyperthyroid	1	1	
c) Hypothyroid	1	1	
GASTROINTESTINAL CONDITIONS			
Gallbladder disease			
a) Symptomatic			
(i) Treated by cholecystectomy	1	2	
(ii) Medically treated	1	2	
(iii) Current	1	2	
b) Asymptomatic	1	2	

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

Intrauterine Contraception (IUC) Copper-bearing IUD (Cu-IUD) Levonorgestrel-releasing IUS (LNG-IUS)	**IUC does not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another method of contraception. Male condoms reduce the risk of STI/HIV.**		
CONDITION *See additional comments at end of section	**CATEGORY** **I = Initiation,** **C = Continuation**		**CLARIFICATION/EVIDENCE**
	Cu-IUD	**LNG-IUS**	
History of cholestasis			
a) Pregnancy related	1	1	
b) Past-COC related	1	2	
Viral hepatitis*			
a) Acute or flare	1	1	
b) Carrier	1	1	
c) Chronic	1	1	
Cirrhosis*			
a) Mild (compensated without complications)	1	1	**Clarification:** *Severe (decompensated) cirrhosis:* development of major complications (ascites, jaundice, encephalopathy or gastrointestinal haemorrhage).[170]
b) Severe (decompensated)	1	3	
Liver tumours*			
a) Benign			
(i) Focal nodular hyperplasia	1	2	
(ii) Hepatocellular adenoma	1	3	
b) Malignant (hepatocellular carcinoma)	1	3	
Inflammatory bowel disease (IBD)* (including Crohn's Disease and ulcerative colitis)	1	1	
ANAEMIAS			
Thalassaemia*	2	1	
Sickle cell disease*	2	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

Intrauterine Contraception (IUC) Copper-bearing IUD (Cu-IUD) Levonorgestrel-releasing IUS (LNG-IUS)	IUC does not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another method of contraception. Male condoms reduce the risk of STI/HIV.		
CONDITION *See additional comments at end of section	**CATEGORY** **I = Initiation,** **C = Continuation**		**CLARIFICATION/EVIDENCE**
	Cu-IUD	**LNG-IUS**	
Iron deficiency anaemia*	2	1	
RHEUMATIC DISEASES			
Rheumatoid arthritis	1	2	
Systemic lupus erythematosus (SLE)			**Clarification:** People with SLE are at increased risk of ischaemic heart disease, stroke and VTE and this is reflected in the categories given. Available evidence indicates that many women with SLE can be considered good candidates for most methods of contraception, including hormonal contraception.[171–189]
a) No antiphospholipid antibodies	1	2	
b) Positive antiphospholipid antibodies	1	2	
Positive antiphospholipid antibodies	1	2	**Clarification:** Positive antiphospholipid antibodies (aPL) is not itself a disease state and in the absence of manifestations of the antiphospholipid syndrome a stratification of risk with specialist advice if necessary is recommended. In particular, persistence of aPL positivity, high titre of aPL, lupus anticoagulant (LA) positivity, triple positivity for anticardiolipin antibodies (aCL), anti-β2-glycoprotein I (βgPI) and LA and immunoglobulin G (IgG) aPL have greater risk for future events.[190–192]
DRUG INTERACTIONS			
Taking medication	See section on drug interactions with hormonal contraception.		

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

Additional Comments

HYPERTENSION, CURRENT AND HISTORY OF ISCHAEMIC HEART DISEASE, STROKE
There is theoretical concern about the effect of LNG on lipids. There is no restriction for Cu-IUD.

VENOUS THROMBOEMBOLISM (VTE)
The LNG-IUS may be a useful treatment for HMB in women on long-term anticoagulation therapy.

VAGINAL BLEEDING PATTERNS
LNG-IUS use frequently causes changes in menstrual bleeding patterns. Over time, LNG-IUS users are more likely than non-users to become amenorrhoeic particularly if they have a 52 mg LNG-IUS fitted. 52mg LNG-IUS are used as a treatment for HMB.

ENDOMETRIOSIS
Cu-IUD use may worsen dysmenorrhoea associated with the condition.

SEVERE DYSMENORRHOEA
Dysmenorrhoea may intensify with Cu-IUD use. LNG-IUS use has been associated with reduction of dysmenorrhoea.

GESTATIONAL TROPHOBLASTIC DISEASE (GTD)
There is theoretical concern about increased risk of perforation in the presence of persistent molar tissue.

CERVICAL INTRAEPITHELIAL NEOPLASIA (CIN)
There is some theoretical concern that progestogens may enhance progression of CIN.

CERVICAL CANCER
Awaiting treatment: There is concern about the increased risk of infection and bleeding at insertion. The IUC may need to be removed at the time of treatment but, until then, the woman is at risk of pregnancy.

ENDOMETRIAL CANCER
There is concern about the increased risk of infection, perforation and bleeding at insertion.

The IUC may need to be removed at the time of treatment but, until then, the woman is at risk of pregnancy.

OVARIAN CANCER

The IUD may need to be removed at the time of treatment but, until then, the woman is at risk of pregnancy.

HIV INFECTION

Women with HIV infection often have co-morbidities that may influence their choice of contraception.

TUBERCULOSIS

Pelvic: Insertion of an IUC may substantially worsen the condition.

VIRAL HEPATITIS AND CIRRHOSIS

POC are metabolised by the liver and their use may adversely affect women whose liver function is compromised.

LIVER TUMOURS

POC are metabolised by the liver and their use may adversely affect women whose liver function is compromised. No evidence is available regarding hormonal contraceptive use in women with hepatocellular adenoma. COC use is associated with growth of hepatocellular adenoma, but it is still unknown whether other hormonal contraceptives have similar effects.

INFLAMMATORY BOWEL DISEASE (IBD)

Risk of VTE may increase in women who are unwell, bed-bound or undergoing emergency or major surgery and prolonged immobilisation. Under these circumstances the use of the Cu-IUD or LNG-IUS is safe.

THALASSAEMIA, SICKLE CELL DISEASE, IRON-DEFICIENCY ANAEMIA

There is concern about an increased risk of blood loss with Cu-IUD. However, LNG-IUS is generally associated with reduced blood loss.

Progestogen-only Contraception (POC)

The section on progestogen-only contraception (POC) includes the following methods:

- Progestogen-only implant (IMP)
- Progestogen-only injectable: depot medroxyprogesterone acetate (DMPA)
- Progestogen-only pill (POP).

FSRH guidance on the IMP,[1] progestogen-only injectable[2] and POP[3] is available on the FSRH website.

Progestogen-only implant (IMP)
The recommendations in the UKMEC refer to the single-rod implant containing 68 mg etonogestrel licensed for 3 years of use in the UK. For women using LNG implants the UKMEC categories are considered the same as for etonogestrel implants.

Progestogen-only injectables: depot medroxyprogesterone acetate (DMPA)
The recommendations in the UKMEC refer to DMPA given intramuscularly (IM) or subcutaneously (SC) at 13-weekly intervals.[2]

The available evidence reviewed by the UKMEC GDG suggests that DMPA-SC and DMPA-IM appear to be therapeutically equivalent with similar safety profiles when used by healthy women. The GDG considers the evidence available for DMPA-IM to be applicable to DMPA-SC and, therefore, DMPA-SC should have the same categories as DMPA-IM. This is presented in the UKMEC tables as the method 'DMPA'. For women using intramuscular norethisterone enantate (NET-EN), which is not licensed in the UK for long-term contraception, the UKMEC categories are considered the same as for DMPA.

There are theoretical concerns that higher doses of progestogen in injectables and longer duration of action may be associated with increased risk compared to IMP and POP in some conditions. The higher UKMEC classifications reflect this.

Progestogen-only pill (POP)

The recommendations in the UKMEC refer to the POP currently available in the UK which contain either norethisterone (NET) 350 µg, LNG 30 µg or desogestrel (DSG) 75 µg.

Theoretically, the DSG pill may be expected to be more effective than traditional POP, especially with typical use, because ovulation is suppressed more consistently and it has a longer missed pill window.[4]

Progestogen-only Contraception (POC) Progestogen-only pill (POP) Progestogen-only injectable: depot medroxyprogesterone acetate (DMPA) Progestogen-only implant (IMP)	POC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.			
CONDITION *See additional comments at end of section	**CATEGORY** I = Initiation, C = Continuation			**CLARIFICATION/EVIDENCE**
	IMP	DMPA	POP	
PERSONAL CHARACTERISTICS AND REPRODUCTIVE HISTORY				
Pregnancy	NA	NA	NA	**Clarification**: There is no known harm to the woman, the course of pregnancy or the fetus if POC is accidentally used during pregnancy.
Age				
a) Menarche to <18 years	1	2	1	**Clarification:** A guideline from the National Institute for Health and Care Excellence (NICE) recommends that women should be informed that use of DMPA is associated with a small reduction in bone mineral density (BMD) but this usually recovers after discontinuation. Evidence for any long-term effects of DMPA on BMD in women aged <18 years is lacking.[5] Evidence on long-term fracture risk is sparse but women choosing to continue DMPA should be reviewed every 2 years to assess individual situations and to discuss the risks and benefits. Women should be supported in their choice of whether or not to continue.[2] In women aged <18 years, DMPA can be used as a first-line option after consideration of other methods.[6]
b) 18–45 years	1	1	1	
c) >45 years	1	2	1	
Parity				
a) Nulliparous	1	1	1	
b) Parous	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

Progestogen-only Contraception (POC) **Progestogen-only pill (POP)** **Progestogen-only injectable: depot medroxyprogesterone acetate (DMPA)** **Progestogen-only implant (IMP)**	**POC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.**			
CONDITION *See additional comments at end of section	**CATEGORY** I = Initiation, C = Continuation			**CLARIFICATION/EVIDENCE**
	IMP	DMPA	POP	
Postpartum (in breastfeeding women)				
a) 0 to <6 weeks	1	2	1	**Evidence:** Direct evidence demonstrates no harmful effect of POC on breastfeeding performance[7–54] and generally demonstrates no harmful effects on infant growth, health or development.[15,30,39,45]
b) ≥6 weeks to <6 months (primarily breastfeeding)	1	1	1	
c) ≥6 months	1	1	1	
Postpartum (in non-breastfeeding women)				
a) 0 to <3 weeks				**Clarification:** This includes any births, including stillbirths from 24 weeks' gestation. **Clarification:** POC may be safely used by non-breastfeeding women immediately postpartum, although they are not required for contraception until Day 21.[55,56] **Clarification**: Other risk factors for VTE, such as immobility, transfusion at delivery, BMI >30 kg/m^2, postpartum haemorrhage, immediately post-caesarean delivery, pre-eclampsia or smoking may pose an additional increased risk for VTE.
(i) With other risk factors for VTE	1	2	1	
(ii) Without other risk factors	1	2	1	
b) 3 to <6 weeks				
(i) With other risk factors for VTE	1	2	1	
(ii) Without other risk factors	1	1	1	
c) ≥6 weeks	1	1	1	
Post-abortion				
a) First trimester	1	1	1	**Clarification:** Includes induced abortions and spontaneous miscarriages <24 weeks' gestation. POC can be started immediately following surgical abortion or medical abortion.[57]
b) Second trimester	1	1	1	
c) Post-abortion sepsis	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

Progestogen-only Contraception (POC) Progestogen-only pill (POP) Progestogen-only injectable: depot medroxyprogesterone acetate (DMPA) Progestogen-only implant (IMP)	POC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.			
CONDITION *See additional comments at end of section	**CATEGORY** I = Initiation, C = Continuation			**CLARIFICATION/EVIDENCE**
	IMP	DMPA	POP	
Past ectopic pregnancy	1	1	1	**Clarification:** All POC reduce the risk of pregnancy (intrauterine and extrauterine).
History of pelvic surgery	1	1	1	
Smoking				**Clarification:** UKMEC currently does not include use of e-cigarettes, as risks associated with their use are not yet established. POC do not appear to increase the risk of CVD even in smokers.[58–61] The mortality rate from all causes (including cancers) decreases to that of a non-smoker within 20 years of smoking cessation. The CVD risk associated with smoking decreases within 1 to 5 years of smoking cessation.[61-64] The 35 year age cut-off is identified because any excess mortality associated with smoking is only apparent from this age.[64]
a) Age <35 years	1	1	1	
b) Age ≥35 years				
(i) <15 cigarettes/day	1	1	1	
(ii) ≥15 cigarettes/day	1	1	1	
(iii) Stopped smoking <1 year	1	1	1	
(iv) Stopped smoking ≥1 year	1	1	1	
Obesity				
a) BMI ≥30–34 kg/m^2	1	1	1	**Evidence:** Weight gain is common. Among adult women, there is generally no association between baseline weight and weight gain among DMPA users compared with non-users. Evidence is mixed for adolescent DMPA users, with some studies observing greater weight gain among obese women compared with normal weight users, yet other studies showing no association. Data on other POC methods and weight issues are limited.[65–82]
b) BMI ≥35 kg/m^2	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

Progestogen-only Contraception (POC) Progestogen-only pill (POP) Progestogen-only injectable: depot medroxyprogesterone acetate (DMPA) Progestogen-only implant (IMP)	POC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.

CONDITION *See additional comments at end of section	CATEGORY I = Initiation, C = Continuation			CLARIFICATION/EVIDENCE
	IMP	DMPA	POP	
History of bariatric surgery				
a) With BMI <30 kg/m^2	1	1	1	**Clarification:** Bariatric surgical procedures involving a malabsorptive component have the potential to decrease oral contraception effectiveness, perhaps further decreased by postoperative complications such as long-term diarrhoea and/or vomiting. **Evidence:** Limited evidence demonstrates no substantial decrease in effectiveness of oral contraception among women who underwent laparoscopic placement of an adjustable gastric band.[83] Limited evidence demonstrates no substantial decrease in effectiveness of oral contraception among women who undergo a biliopancreatic diversion;[84] however, evidence from pharmacokinetic studies suggests conflicting results of oral contraception effectiveness among women who undergo a jejuno-ileal bypass.[85,86]
b) With BMI ≥30–34 kg/m^2	1	1	1	
c) With BMI ≥35 kg/m^2	1	1	1	
Organ transplant				
a) Complicated: graft failure (acute or chronic), rejection, cardiac allograft vasculopathy	2	2	2	
b) Uncomplicated	2	2	2	
CARDIOVASCULAR DISEASE (CVD)				
Multiple risk factors for CVD (such as smoking, diabetes, hypertension, obesity and dyslipidaemias)	2	3	2	**Clarification**: When multiple major risk factors exist, the risk of CVD may increase substantially.

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

Progestogen-only Contraception (POC) Progestogen-only pill (POP) Progestogen-only injectable: depot medroxyprogesterone acetate (DMPA) Progestogen-only implant (IMP)	POC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.			
CONDITION *See additional comments at end of section	**CATEGORY** I = Initiation, C = Continuation			**CLARIFICATION/EVIDENCE**
	IMP	DMPA	POP	
Hypertension*				For all categories of hypertension, classifications are based on the assumption **that no other risk factor for CVD exist.** When multiple risk factors do exist, risk of CVD may increase substantially. **Clarification:** Women adequately treated for hypertension are at a reduced risk of acute myocardial infarction (MI) and stroke compared with untreated hypertensive women. Although there are no data, POC users with adequately controlled and monitored hypertension should be at reduced risk of acute MI and stroke compared with untreated hypertensive POC users. Antihypertensive therapy may be initiated when the BP is consistently 160/100 mmHg or greater.[87] **Evidence:** Limited evidence suggests that among women with hypertension, those who used POP or DMPA have a small increased risk of cardiovascular events compared with women who do not use these methods.[58]
a) Adequately controlled hypertension	1	2	1	
b) Consistently elevated BP levels (properly taken measurements)				
(i) Systolic >140–159 mmHg or diastolic >90–99 mmHg	1	1	1	
(ii) Systolic ≥160 mmHg or diastolic ≥100 mmHg	1	2	1	
c) Vascular disease	2	3	2	**Clarification:** *Vascular disease* includes: coronary heart disease presenting with angina, peripheral vascular disease presenting with intermittent claudication, hypertensive retinopathy and TIA.

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

Progestogen-only Contraception (POC) **Progestogen-only pill (POP)** **Progestogen-only injectable: depot medroxyprogesterone acetate (DMPA)** **Progestogen-only implant (IMP)**	**POC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.**

CONDITION *See additional comments at end of section	**CATEGORY** I = Initiation, C = Continuation			**CLARIFICATION/EVIDENCE**
	IMP	DMPA	POP	
History of high BP during pregnancy	1	1	1	**Clarification:** Where current BP is measurable and normal.
Current and history of ischaemic heart disease*	**I** 2 / **C** 3	3	**I** 2 / **C** 3	**Clarification:** The duration of use of POC in relation to the onset of disease should be carefully considered when deciding whether or not continuation of the method is appropriate. **Evidence:** Cohort studies do not show an increased risk of MI and stroke in users of POC.[58,88]
Stroke* (history of cerebrovascular accident, including TIA)	**I** 2 / **C** 3	3	**I** 2 / **C** 3	
Known dyslipidaemias	2	2	2	**Clarification:** Routine screening for these genetic mutations is not cost effective. Increased levels of total cholesterol, LDL and triglycerides, as well as decreased levels of HDL, are known risk factors for CVD. Women with known, severe, genetic lipid disorders are at much higher lifetime risk for CVD and may warrant further clinical consideration.
Venous thromboembolism (VTE)				
a) History of VTE	2	2	2	**Clarification:** Includes DVT and PE.
b) Current VTE (on anticoagulants)	2	2	2	**Evidence**: There is no direct evidence on the use of POC among women with DVT/PE on anticoagulant therapy. Although evidence on the risk of VTE with the use of POC is inconsistent in otherwise healthy women, any small increased risk is substantially less than that with COC.[58,88,89] Limited evidence indicates that DMPA-IM in women on chronic anticoagulation therapy does not pose a significant risk of haematoma at the injection site or increase the risk of heavy or irregular vaginal bleeding.[90,91]

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

Progestogen-only Contraception (POC) **Progestogen-only pill (POP)** **Progestogen-only injectable: depot medroxyprogesterone acetate (DMPA)** **Progestogen-only implant (IMP)**	**POC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.**			
CONDITION *See additional comments at end of section	**CATEGORY** I = Initiation, C = Continuation			**CLARIFICATION/EVIDENCE**
	IMP	DMPA	POP	
c) Family history of VTE				
(i) First-degree relative age <45 years	1	1	1	
(ii) First-degree relative age ≥45 years	1	1	1	
d) Major surgery				**Major surgery:** Includes major elective surgery (>30 minutes' duration) and all surgery on the legs, or surgery which involves prolonged immobilisation of a lower limb.[92] **Minor surgery:** Includes operations lasting <30 minutes with short duration of anaesthesia (e.g. laparoscopic sterilisation or tooth extraction).[92]
(i) With prolonged immobilisation	2	2	2	
(ii) Without prolonged immobilisation	1	1	1	
e) Minor surgery without immobilisation	1	1	1	
f) Immobility (unrelated to surgery) (e.g. wheelchair use, debilitating illness)	1	1	1	
Superficial venous thrombosis				
a) Varicose veins	1	1	1	
b) Superficial venous thrombosis	1	1	1	
Known thrombogenic mutations (e.g. factor V Leiden, prothrombin mutation, protein S, protein C and antithrombin deficiencies)	2	2	2	**Clarification**: Routine screening for these genetic mutations is not cost effective.[93–95]

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

Progestogen-only Contraception (POC) Progestogen-only pill (POP) Progestogen-only injectable: depot medroxyprogesterone acetate (DMPA) Progestogen-only implant (IMP)	POC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.			
CONDITION *See additional comments at end of section	**CATEGORY** I = Initiation, C = Continuation			**CLARIFICATION/EVIDENCE**
	IMP	DMPA	POP	
Valvular and congenital heart disease*				
a) Uncomplicated	1	1	1	**Clarification:** Uncomplicated cases can be considered where: there is (i) no requirement for cardiac medication, (ii) the woman is asymptomatic and (iii) a cardiology review is required annually or less. If in doubt, discussion with a specialist cardiologist is advised. *Valvular heart* disease: Occurs when any of the heart valves are stenotic and/or incompetent (e.g. aortic stenosis, mitral regurgitation, tricuspid valve abnormalities, pulmonary stenosis).[96] *Congenital heart disease:* Aortic stenosis, atrial septal defects, atrioventricular septal defect, cardiomyopathy (hypertrophic or dilated), coarctation of the aorta, complex transposition of the great arteries, Ebstein's anomaly, Eisenmenger syndrome, patent ductus arteriosus, pulmonary atresia, pulmonary stenosis, tetralogy of Fallot, total anomalous pulmonary venous connection, tricuspid atresia, truncus arteriosus, ventricular septal defect.[96]
b) Complicated (e.g. pulmonary hypertension, history of subacute bacterial endocarditis)	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

Progestogen-only Contraception (POC) Progestogen-only pill (POP) Progestogen-only injectable: depot medroxyprogesterone acetate (DMPA) Progestogen-only implant (IMP)	POC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.			
CONDITION *See additional comments at end of section	**CATEGORY** I = Initiation, C = Continuation			**CLARIFICATION/EVIDENCE**
	IMP	DMPA	POP	
Cardiomyopathy				
a) Normal cardiac function	1	1	1	**Clarification:** A woman who is not on cardiac medication can be considered as having normal cardiac function. **Evidence:** No direct evidence exists on the safety of POC among women with cardiomyopathy. Limited indirect evidence from non-comparative studies of women with cardiac disease demonstrates few cases of hypertension, thromboembolism and heart failure in women with cardiac disease using POP and DMPA.[97,98]
b) Impaired cardiac function	2	2	2	
Cardiac arrhythmias				
a) Atrial fibrillation	2	2	2	
b) Known long QT syndrome	1	2	1	**Evidence:** Case reports suggest exacerbation of LQTS2 with use of DMPA as postpartum contraception.[99,100]

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

Progestogen-only Contraception (POC) Progestogen-only pill (POP) Progestogen-only injectable: depot medroxyprogesterone acetate (DMPA) Progestogen-only implant (IMP)	POC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.

CONDITION *See additional comments at end of section	CATEGORY I = Initiation, C = Continuation			CLARIFICATION/EVIDENCE
	IMP	DMPA	POP	
NEUROLOGICAL CONDITIONS				
Headaches				
a) Non-migrainous (mild or severe)	1	1	1	**Clarification:** Headache is a common condition affecting women of reproductive age. **Evidence:** Few studies have specifically assessed migraine in POC users. Since there are no studies comparing active POC with placebo, the true effect of POC on migraine is not clear. However, there is no evidence that the use of progestogen-only POC is associated with an increased risk of ischaemic stroke.[101] Classification depends on making an accurate diagnosis of those severe headaches that are migrainous and, in addition, those complicated by aura.[101–103] See additional resource on diagnosis of migraines with or without aura.
b) Migraine without aura, at any age	2	2	I: 1, C: 2	
c) Migraine with aura, at any age	2	2	2	
d) History (≥5 years ago) of migraine with aura, any age	2	2	2	
Idiopathic intracranial hypertension (IIH)	1	1	1	
Epilepsy	1	1	1	
Taking anti-epileptic drugs	Certain anti-epileptic drugs have the potential to affect the bioavailability of steroid hormones in hormonal contraception. In addition, hormonal contraception may affect the levels of certain anti-epileptic drugs with potential adverse effects. For up-to-date information on the potential drug interactions between hormonal contraception and anti-epileptic drugs, please refer to the online drug interaction checker available on Stockley's Interaction Checker website.[104]			

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

Progestogen-only Contraception (POC) Progestogen-only pill (POP) Progestogen-only injectable: depot medroxyprogesterone acetate (DMPA) Progestogen-only implant (IMP)	POC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.			
CONDITION *See additional comments at end of section	**CATEGORY** I = Initiation, C = Continuation			**CLARIFICATION/EVIDENCE**
	IMP	DMPA	POP	
Depressive disorders	1	1	1	**Clarification**: The classification is based on data for women with selected depressive disorders. No data are available on bipolar disorder or postpartum depression. **Evidence**: POC use is not shown to increase depressive symptoms in women with depression compared with baseline.[105–108]
BREAST AND REPRODUCTIVE TRACT CONDITIONS				
Vaginal bleeding patterns				
a) Irregular pattern without heavy bleeding	2	2	2	**Clarification:** Abnormal menstrual bleeding should raise suspicion of a serious underlying condition and be investigated appropriately.[109,110] Bleeding patterns in women using POC are often altered particularly in the initial months of use and may not settle with time.[110]
b) Heavy or prolonged bleeding (includes regular and irregular patterns)	2	2	2	
Unexplained vaginal bleeding* (suspicious for serious condition) before evaluation	3	3	2	**Clarification:** If pregnancy or an underlying pathological condition (such as pelvic malignancy) is suspected, it must be evaluated and the category adjusted after evaluation.[110]
Endometriosis	1	1	1	
Benign ovarian tumours (including cysts)	1	1	1	
Severe dysmenorrhoea	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

Progestogen-only Contraception (POC) Progestogen-only pill (POP) Progestogen-only injectable: depot medroxyprogesterone acetate (DMPA) Progestogen-only implant (IMP)	POC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.			
CONDITION *See additional comments at end of section	**CATEGORY** I = Initiation, C = Continuation			**CLARIFICATION/EVIDENCE**
	IMP	DMPA	POP	
Gestational trophoblastic disease (GTD)				
a) Undetectable hCG levels	1	1	1	**Clarification:** Includes hydatidiform mole (complete and partial) and gestational trophoblastic neoplasia. A small study which included women using POP and DMPA concluded that current use of hormonal contraception is not associated with development of gestational trophoblastic neoplasia or delayed time to hCG remission.[111]
b) Decreasing hCG levels	1	1	1	
c) Persistently elevated hCG levels or malignant disease	1	1	1	
Cervical ectropion	1	1	1	
Cervical intraepithelial neoplasia (CIN)	1	2	1	**Evidence:** Among women with persistent human papilloma virus (HPV) infection, long-term DMPA use (≥5 years) may increase the risk of carcinoma *in situ* and invasive carcinoma.[112]
Cervical cancer*				
a) Awaiting treatment	2	2	1	**Clarification:** There is some theoretical concern that POC use could affect prognosis of the existing disease. While awaiting treatment, women may use POC.
b) Radical trachelectomy	2	2	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

Progestogen-only Contraception (POC) Progestogen-only pill (POP) Progestogen-only injectable: depot medroxyprogesterone acetate (DMPA) Progestogen-only implant (IMP)	POC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.			
CONDITION *See additional comments at end of section	**CATEGORY** I = Initiation, C = Continuation			**CLARIFICATION/EVIDENCE**
	IMP	DMPA	POP	
Breast conditions				
a) Undiagnosed mass/breast symptoms	2	2	2	**Clarification:** Breast cancer is a hormonally sensitive tumour and therefore the prognosis of women with current or past breast cancer may be affected by hormonal methods of contraception.
b) Benign breast conditions	1	1	1	
c) Family history of breast cancer	1	1	1	
d) Carriers of known gene mutations associated with breast cancer (e.g. BRCA1/BRCA2)	2	2	2	
e) Breast cancer				**Clarification:** For women with a history of breast cancer, the decision to initiate hormonal contraception may be best made in consultation with the local oncology team.
(i) Current breast cancer	4	4	4	
(ii) Past breast cancer	3	3	3	
Endometrial cancer*	1	1	1	
Ovarian cancer*	1	1	1	
Uterine fibroids				
a) Without distortion of the uterine cavity	1	1	1	
b) With distortion of the uterine cavity	1	1	1	
Pelvic inflammatory disease (PID)				
a) Past PID (assuming no current risk factors for STIs)	1	1	1	
b) Current PID	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

Progestogen-only Contraception (POC) Progestogen-only pill (POP) Progestogen-only injectable: depot medroxyprogesterone acetate (DMPA) Progestogen-only implant (IMP)	POC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.			
CONDITION *See additional comments at end of section	**CATEGORY** I = Initiation, C = Continuation			**CLARIFICATION/EVIDENCE**
	IMP	DMPA	POP	
Sexually transmitted infections (STIs)				
a) Chlamydial infection (current)				**Evidence:** Limited evidence suggests that there may be an increased risk of chlamydial cervicitis among DMPA users at high risk of STIs. For other STIs, there is either evidence of no association between DMPA use and STI acquisition or evidence that is too limited to draw any conclusions. There is no evidence for other POC.[113–119]
(i) Symptomatic	1	1	1	
(ii) Asymptomatic	1	1	1	
b) Purulent cervicitis or gonorrhoea (current)	1	1	1	
c) Other current STIs (excluding HIV and hepatitis)	1	1	1	
d) Vaginitis (including *Trichomonas vaginalis* and bacterial vaginosis) (current)	1	1	1	
e) Increased risk for STIs	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

Progestogen-only Contraception (POC) Progestogen-only pill (POP) Progestogen-only injectable: depot medroxyprogesterone acetate (DMPA) Progestogen-only implant (IMP)	POC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.

CONDITION *See additional comments at end of section	CATEGORY I = Initiation, C = Continuation			CLARIFICATION/EVIDENCE
	IMP	DMPA	POP	
HIV INFECTION				
HIV infection*				
a) High risk of HIV infection	1	2	1	**Clarification:** There continues to be evidence of a possible increased risk of acquiring HIV among progestogen-only injectable users. Uncertainty exists about whether this is due to methodological issues with the evidence or a real biological effect. In many settings, unintended pregnancies and/or pregnancy-related morbidity and mortality are common, and progestogen-only injectables are among the few types of methods widely available. Women should not be denied the use of progestogen-only injectables because of concerns about the possible increased risk. Women considering progestogen-only injectables should be advised about these concerns, about the uncertainty over whether there is a casual relationship, and about how to minimise their risk of acquiring HIV. **Evidence:** Evidence from 13 observational studies of DMPA, NET-EN or non-specified progestogen-only injectables, which were considered to be "informative but with important limitations",[120] continue to show some association between use of progestogen-only injectables and risk of HIV acquisition, but it remains unclear whether this results from a causal relationship or methodological limitation. Two small studies assessing levonorgestrel implants, which were considered to be "informative but with important limitations"[120] did not suggest an elevated risk, although the risk estimates were imprecise. One study reported no association between use of progestogen-only pills and HIV acquisition.[120]

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

Progestogen-only Contraception (POC) Progestogen-only pill (POP) Progestogen-only injectable: depot medroxyprogesterone acetate (DMPA) Progestogen-only implant (IMP)	POC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.			
CONDITION *See additional comments at end of section	**CATEGORY** I = Initiation, C = Continuation			**CLARIFICATION/EVIDENCE**
	IMP	DMPA	POP	
b) HIV infected				**Evidence:** Five studies suggest no association between use of progestogen-only injectables and progression of HIV, as measured by CD4 count <200 cells/mm^3, initiation of ART or mortality.[121–127] One randomised trial shows an increased risk of a composite outcome of declining CD4 count or death among oral contraceptive users (COC and POP) when compared with users of Cu-IUDs, but has significant confounders limiting its interpretation.[128,129] Most indirect studies measuring whether various hormonal contraception methods affect plasma HIV viral load find no effect.[130–146]
(i) CD4 count ≥200 cells/mm^3	1	1	1	
(ii) CD4 count <200 cells/mm^3	1	1	1	
c) Taking antiretroviral (ARV) drugs	Certain ARV drugs have the potential to affect the bioavailability of steroid hormones in hormonal contraception. 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.[147]			
OTHER INFECTIONS				
Tuberculosis				
a) Non-pelvic	1	1	1	
b) Pelvic	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

Progestogen-only Contraception (POC) Progestogen-only pill (POP) Progestogen-only injectable: depot medroxyprogesterone acetate (DMPA) Progestogen-only implant (IMP)	POC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.			
CONDITION *See additional comments at end of section	**CATEGORY** I = Initiation, C = Continuation			**CLARIFICATION/EVIDENCE**
	IMP	DMPA	POP	
ENDOCRINE CONDITIONS				
Diabetes*				
a) History of gestational disease	1	1	1	**Evidence**: POC has no adverse effects on serum lipid levels in women with a history of gestational diabetes according to two small studies.[148,149] Limited evidence is inconsistent regarding the development of non-insulin dependent diabetes among users of POC with a history of gestational diabetes.[150–154]
b) Non-vascular disease				
(i) Non-insulin dependent	2	2	2	**Evidence**: Among women with insulin or non-insulin dependent diabetes, limited evidence on the use of POC suggests that these methods have little effect on short-term or long-term diabetes control (e.g. HbA1c levels), haemostatic markers or lipid profile.[154–157]
(ii) Insulin-dependent	2	2	2	
c) Nephropathy/retinopathy/ neuropathy	2	2	2	
d) Other vascular disease	2	2	2	
Thyroid disorders				
a) Simple goitre	1	1	1	
b) Hyperthyroid	1	1	1	
c) Hypothyroid	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

Progestogen-only Contraception (POC) Progestogen-only pill (POP) Progestogen-only injectable: depot medroxyprogesterone acetate (DMPA) Progestogen-only implant (IMP)	POC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.

CONDITION *See additional comments at end of section	CATEGORY I = Initiation, C = Continuation			CLARIFICATION/EVIDENCE
	IMP	DMPA	POP	
GASTROINTESTINAL CONDITIONS				
Gallbladder disease				
a) Symptomatic				
(i) Treated by cholecystectomy	2	2	2	
(ii) Medically treated	2	2	2	
(iii) Current	2	2	2	
b) Asymptomatic	2	2	2	
History of cholestasis*				
a) Pregnancy related	1	1	1	
b) Past-COC related	2	2	2	
Viral hepatitis*				
a) Acute or flare	1	1	1	
b) Carrier	1	1	1	
c) Chronic	1	1	1	
Cirrhosis*				
a) Mild (compensated without complications)	1	1	1	**Clarification**: *Severe (decompensated) cirrhosis*: development of major complications (ascites, jaundice, encephalopathy or gastrointestinal haemorrhage).[158]
b) Severe (decompensated)	3	3	3	

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

Progestogen-only Contraception (POC) **Progestogen-only pill (POP)** **Progestogen-only injectable: depot medroxyprogesterone acetate (DMPA)** **Progestogen-only implant (IMP)**	**POC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.**			
CONDITION *See additional comments at end of section	**CATEGORY** I = Initiation, C = Continuation			**CLARIFICATION/EVIDENCE**
	IMP	DMPA	POP	
Liver tumours*				
a) Benign				**Evidence**: There is limited direct evidence that hormonal contraception use does not influence either progression or regression of liver lesions among women with focal nodular hyperplasia.[159–161] There is no evidence relating to use of hormonal contraception by women with other liver tumours.
(i) Focal nodular hyperplasia	2	2	2	
(ii) Hepatocellular adenoma	3	3	3	
b) Malignant (hepatocellular carcinoma)	3	3	3	
Inflammatory bowel disease (IBD)* (including Crohn's disease and ulcerative colitis)	1	1	2	**Evidence:** Risk for disease relapse among women with IBD using oral contraception (most studies do not specify whether it is POP or COC) does not increase significantly from that for non-users.[162–166]
ANAEMIAS				
Thalassaemia	1	1	1	
Sickle cell disease	1	1	1	**Evidence:** One systematic review concludes that among women with sickle cell disease, POC use does not have adverse effects on haematological parameters and, in some studies, proves beneficial with respect to clinical symptoms.[167–175]
Iron deficiency anaemia	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

Progestogen-only Contraception (POC) Progestogen-only pill (POP) Progestogen-only injectable: depot medroxyprogesterone acetate (DMPA) Progestogen-only implant (IMP)	POC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.

CONDITION *See additional comments at end of section	CATEGORY I = Initiation, C = Continuation			CLARIFICATION/EVIDENCE
	IMP	DMPA	POP	
RHEUMATIC DISEASES				
Rheumatoid arthritis	2	2	2	**Clarification:** Risk of CVD is increased among women with rheumatoid arthritis.[176] There is no evidence that POC are associated with reduced BMD or fragility fractures in women with rheumatoid arthritis. **Evidence:** Limited evidence shows no consistent pattern of improvement or worsening of rheumatoid arthritis with use of oral contraception.[177–184] (most studies do not specify whether it is POP or COC).
Systemic lupus erythematosus (SLE)				**Clarification:** Women with SLE are at an increased risk of ischaemic heart disease, stroke and VTE and this is reflected in the categories given. Available evidence indicates that many women with SLE can be considered good candidates for most methods of contraception, including hormonal contraception.[185-204]
a) No antiphospholipid antibodies	2	2	2	
b) Positive antiphospholipid antibodies	2	2	2	
Positive antiphospholipid antibodies	2	2	2	**Clarification:** Positive antiphospholipid antibodies (aPL) is not itself a disease state and in the absence of manifestations of the antiphospholipid syndrome a stratification of risk with specialist advice, if necessary, is recommended. In particular, persistence of aPL positivity, high titre of aPL, lupus anticoagulant (LA) positivity, triple positivity for anticardiolipin antibodies (aCL), anti-β2-glycoprotein I (βgPI) and LA and immunoglobulin G (IgG) aPL have greater risk for future events.[205–207]
DRUG INTERACTIONS*				
Taking medication	See section on drug interactions with hormonal contraception.			

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

Additional Comments

HYPERTENSION

A single reading of BP level is not sufficient to classify a woman as hypertensive. If elevated, the BP should be reassessed at the end of the consultation. If BP is increased, it should be re-assessed and monitored according to current guidelines.

CARDIOVASCULAR DISEASE, ISCHAEMIC HEART DISEASE AND STROKE

There is concern regarding hypoestrogenic effects and reduced HDL levels among users of DMPA. However, there is little concern about these effects with regard to POP or IMP. The effects of DMPA may persist for some time after discontinuation.

VALVULAR AND CONGENITAL HEART DISEASE, CARDIOMYOPATHY AND CARDIAC ARRHYTHMIAS

Stasis, endothelial injury and hyperviscosity (Virchow's triad) increase the risk of clot formation. Impaired cardiac function and/or dilated heart chambers or arrhythmia increase the risk of stasis. Closure of a cardiac defect within the last 6 months or presence of a mechanical heart valve increase the risk of thrombus formation. Cyanotic defects are associated with hyperviscosity because of erythrocytosis.

UNEXPLAINED VAGINAL BLEEDING

POC may cause irregular bleeding patterns which may mask symptoms of underlying pathology. The effects of DMPA may persist for some time after discontinuation.

CERVICAL, ENDOMETRIAL AND OVARIAN CANCER

While awaiting treatment, women with gynaecological cancers may use POC since the period of waiting is likely to be brief and pregnancy would be contraindicated.

CERVICAL CANCER

There is some theoretical concern that POC use could affect prognosis of cervical cancer.

HIV INFECTION

Women at high risk of HIV infection should be informed that progestogen-only injectables may or may not increase their risk of HIV acquisition. Women and couples at high risk of HIV acquisition considering DMPA should also be informed about and have access to HIV preventive measures, including male and female condoms.

Women with HIV infection often have co-morbidities that may influence their choice of contraception.

DIABETES

There is concern regarding hypoestrogenic effects and reduced HDL levels among users of DMPA. The effects of DMPA may persist for some time after discontinuation.

HISTORY OF CHOLESTASIS

Theoretically, a history of COC-related cholestasis may predict subsequent cholestasis with POC use.

VIRAL HEPATITIS AND CIRRHOSIS

POC are metabolised by the liver and their use may adversely affect women whose liver function is compromised. This concern is similar to, but less than, that with COC.

LIVER TUMOURS

Progestogens are metabolised by the liver and use may adversely affect women whose liver function is compromised.

INFLAMMATORY BOWEL DISEASE (IBD)

Risk of VTE may increase if a woman is unwell, bed-bound or undergoing acute surgery, or with major surgery and prolonged immobilisation. Under these circumstances, POC can be continued.

Oral methods may be less reliable if there is significant malabsorption or small bowel resection (particularly with Crohn's disease). Oral methods are unaffected by colectomy and ileostomy.

DRUG INTERACTIONS

Generally, the safety of using POC is unaffected. Nevertheless, use of liver enzyme inducers may reduce contraception efficacy of POP and IMP, increasing the risk of an unintended pregnancy. DMPA is unaffected by liver enzyme inducing drugs and injection intervals need not be reduced. Contraception choice may depend on the likely duration of use of concurrent medications and need for additional or alternative methods.

Combined Hormonal Contraception (CHC)

The section on combined hormonal contraception (CHC) includes the following types:

- Combined oral contraception (COC)
- Combined contraception transdermal patches
- Combined contraception vaginal rings.

FSRH guidance on CHC[1] is available on the FSRH website .

Combined oral contraception (COC)
The recommendations in the UKMEC refer to low-dose combined oral contraception (COC) containing ≤35 µg ethinylestradiol (EE) combined with a progestogen. Data relating to newer COC containing estradiol are very limited. Currently, UKMEC recommendations for these preparations are as for EE-containing COC. Recommendations in the UKMEC are the same for all COC formulations, irrespective of their progestogen content.

Venous thromboembolism (VTE) is rare among women of reproductive age. All COC are associated with an increased risk for VTE compared to non-use. Studies have found differences in risk for VTE associated with COC containing different progestogens. Current evidence suggests that COC containing LNG, NET and norgestimate are associated with the lowest risk. The absolute differences, however, are very small.[2]

Combined contraceptive transdermal patch and vaginal rings
The combined contraceptive patch and ring are relatively new contraception methods. Limited information is available on the short- and long-term safety of these methods among women with specific medical conditions. Most of the available studies received support from the manufacturers of these methods.

After reviewing the available limited evidence, the UKMEC GDG considers the evidence available for COC to be applicable to the combined contraceptive patch and ring, and therefore should have the same categories as COC. This is presented in the UKMEC tables as the method ‘CHC’.

Combined Hormonal Contraception (CHC) which includes Combined oral contraception (COC) Combined contraceptive transdermal patch and vaginal ring	CHC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.	
CONDITION *See additional comments at end of section	**CATEGORY** I = Initiation C = Continuation	**CLARIFICATION/EVIDENCE** Most evidence available relates to COC use. However, his evidence is also applied to use of the contraceptive patch and ring.

PERSONAL CHARACTERISTICS AND REPRODUCTIVE HISTORY		
Pregnancy	NA	**Clarification:** There is no known harm to the woman, the course of pregnancy or the fetus if CHC is accidentally used during pregnancy.
Age		
a) Menarche to <40 years	1	
b) ≥40 years	2	**Clarification:** Guidance from the FSRH supports use of CHC up to age 50 years if there are no medical contraindications to use.[2]
Parity		
a) Nulliparous	1	
b) Parous	1	
Postpartum (in breastfeeding women)		**Evidence**: One systematic review reports that the impact of COC on breastfeeding duration and success is inconsistent. Results are conflicting on whether early initiation of COC affects infant outcomes, but generally find no negative impact on infant outcomes with later initiation of COC.[3]
a) 0 to <6 weeks	4	
b) ≥6 weeks to <6 months (primarily breastfeeding)	2	
c) ≥6 months	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

Combined Hormonal Contraception (CHC) which includes **Combined oral contraception (COC)** **Combined contraceptive transdermal patch and vaginal ring**	**CHC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.**	
CONDITION *See additional comments at end of section	**CATEGORY** I = Initiation C = Continuation	**CLARIFICATION/EVIDENCE** Most evidence available relates to COC use. However, this evidence is also applied to use of the contraceptive patch and ring.
Postpartum (in non-breastfeeding women)		**Clarification:** This includes any births, including stillbirths from 24 weeks gestation. **Clarification**: In the presence of other risk factors for VTE, such as immobility, transfusion at delivery, BMI ≥30 kg/m^2, postpartum haemorrhage, immediately post-caesarean delivery, pre-eclampsia or smoking, use of CHC may pose an additional increased risk for VTE. **Evidence**: VTE risk is elevated during pregnancy and the postpartum period; this risk is most pronounced in the first 3 weeks after delivery, declining to near baseline levels by 42 days postpartum.[4–8] Use of CHC, which increase the risk of VTE in women of reproductive age, may pose an additional risk if used during this time.[9] Risk of pregnancy during the first 21 days postpartum is very low, but increases after that time in non-breastfeeding women; ovulation before first menses is common.[10-14]
a) 0 to <3 weeks		
(i) With other risk factors for VTE	4	
(ii) Without other risk factors	3	
b) 3 to <6 weeks		
(i) With other risk factors for VTE	3	
(ii) Without other risk factors	2	
c) ≥6 weeks	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

Combined Hormonal Contraception (CHC) which includes Combined oral contraception (COC) Combined contraceptive transdermal patch and vaginal ring	CHC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.	
CONDITION *See additional comments at end of section	**CATEGORY** I = Initiation C = Continuation	**CLARIFICATION/EVIDENCE** Most evidence available relates to COC use. However, his evidence is also applied to use of the contraceptive patch and ring.
Post-abortion		**Clarification:** Includes induced abortions and spontaneous miscarriage <24 weeks gestation. **Clarification**: CHC may be started immediately post-abortion. **Evidence**: Women who start taking COC immediately after first-trimester medical or surgical abortion do not experience more side effects, adverse vaginal bleeding outcomes or clinically significant changes in coagulation parameters compared with women who use a placebo, an IUD, a non-hormonal contraception method or delayed COC initiation.[14-21] Limited evidence on women using the contraceptive ring immediately after first-trimester medical or surgical abortion suggests no serious adverse events and no infection related to use of the contraceptive ring during three cycles of follow-up post-abortion.[22]
a) First trimester	1	
b) Second trimester	1	
c) Post-abortion sepsis	1	
Past ectopic pregnancy	1	
History of pelvic surgery	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

Combined Hormonal Contraception (CHC) which includes Combined oral contraception (COC) Combined contraceptive transdermal patch and vaginal ring	CHC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.	
CONDITION *See additional comments at end of section	**CATEGORY** I = Initiation C = Continuation	**CLARIFICATION/EVIDENCE** Most evidence available relates to COC use. However, this evidence is also applied to use of the contraceptive patch and ring.
Smoking		
a) Age <35 years	2	**Clarification:** UKMEC currently does not include use of e-cigarettes, as risks associated with their use are not yet established. **Evidence**: COC users who smoke are at an increased risk of CVD, especially MI, compared with those who do not smoke. Studies also show an increased risk of MI with an increasing number of cigarettes smoked per day.[23–34] The 35 year age cut off is identified because any excess mortality associated with smoking becomes apparent from this age.[35] The mortality rate from all causes (including cancers) decreases to that of a non-smoker within 20 years of smoking cessation. The CVD risk associated with smoking decreases within 1 to 5 years of smoking cessation.[35–37]
b) Age ≥35 years		
(i) <15 cigarettes/day	3	
(ii) ≥15 cigarettes/day	4	
(iii) Stopped smoking <1 year	3	
(iv) Stopped smoking ≥1 year	2	
Obesity		**Clarification:** The absolute risk of VTE in women of reproductive age is low. The relative risk of VTE increases with CHC use. Nevertheless, the absolute risk of VTE in CHC users is still low. **Evidence:** The risk of VTE rises as BMI increases over 30 and rises further with BMI over 35. Use of CHC raises this inherent increased risk further.[28,34,38–41] Limited evidence suggests that obese women who use COC do not have a higher risk of acute MI or stroke than obese non-users.[34,42–44]
a) BMI ≥30–34 kg/m^2	2	
b) BMI ≥35 kg/m^2	3	

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

Combined Hormonal Contraception (CHC) which includes Combined oral contraception (COC) Combined contraceptive transdermal patch and vaginal ring	CHC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.	
CONDITION *See additional comments at end of section	**CATEGORY** I = Initiation C = Continuation	**CLARIFICATION/EVIDENCE** Most evidence available relates to COC use. However, his evidence is also applied to use of the contraceptive patch and ring.
History of bariatric surgery		**Comment:** UKMEC categories relate to safety of use. Bariatric surgical procedures involving a malabsorptive component have the potential to decrease oral contraception effectiveness, perhaps further decreased by postoperative complications such as long-term diarrhoea and/or vomiting. **Evidence:** Limited evidence demonstrates no substantial decrease in effectiveness of oral contraception among women who undergo laparoscopic placement of an adjustable gastric band or biliopancreatic diversion.[45,46] However, evidence from pharmacokinetic studies report conflicting results of oral contraception effectiveness among women who undergo a jejunoileal bypass.[47,48]
a) With BMI <30 kg/m^2	1	
b) With BMI ≥30–34 kg/m^2	2	
c) With BMI ≥35 kg/m^2	3	
Organ transplant		
a) Complicated: graft failure (acute or chronic), rejection, cardiac allograft vasculopathy	3	**Clarification**: Women with Budd-Chiari syndrome should not use CHC because of the increased risk of thrombosis and graft rejection. **Evidence:** One study reports discontinuation of COC use in 2/26 (8%) women as a result of serious medical complications, and one case report recounts a woman developing cholestasis associated with high-dose COC use.[49–52]
b) Uncomplicated	2	

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

Combined Hormonal Contraception (CHC) which includes Combined oral contraception (COC) Combined contraceptive transdermal patch and vaginal ring	CHC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.	
CONDITION *See additional comments at end of section	**CATEGORY** I = Initiation C = Continuation	**CLARIFICATION/EVIDENCE** Most evidence available relates to COC use. However, this evidence is also applied to use of the contraceptive patch and ring.
CARDIOVASCULAR DISEASE (CVD)		
Multiple risk factors for CVD (such as smoking, diabetes, hypertension, obesity and dyslipidaemias)	3	**Clarification**: When a woman has multiple major risk factors, any of which alone would substantially increase the risk of CVD, use of CHC may increase her risk to an unacceptable level. However, a simple addition of categories for multiple risk factors is not intended; for example, a combination of two risk factors assigned a Category 2 may not necessarily warrant a higher category.
Hypertension*		**Clarification:** For all categories of hypertension, classifications are based on the assumption that no other risk factors for CVD exist. When multiple risk factors do exist, the risk of CVD may increase substantially. **Clarification:** Women adequately treated for hypertension are at reduced risk of acute MI and stroke compared to untreated women. Although there are no data, CHC users with adequately controlled and monitored hypertension should be at reduced risk of acute MI and stroke compared with untreated hypertensive CHC users. Antihypertensive therapy may be initiated when the BP is consistently 160/100 mmHg or higher.[53] **Evidence**: Among women with hypertension, COC users are at an increased risk of stroke, acute MI and peripheral arterial disease compared with non-users.[23,25,28,32-34,54–69] Discontinuation of COC in women with hypertension may improve BP control.[70]
a) Adequately controlled hypertension	3	
b) Consistently elevated BP levels (properly taken measurements)		
(i) Systolic >140–159 mmHg or diastolic >90–99 mmHg	3	
(ii) Systolic ≥160 mmHg or diastolic ≥100 mmHg	4	

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

Combined Hormonal Contraception (CHC) which includes Combined oral contraception (COC) Combined contraceptive transdermal patch and vaginal ring	CHC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.	
CONDITION *See additional comments at end of section	**CATEGORY** I = Initiation C = Continuation	**CLARIFICATION/EVIDENCE** Most evidence available relates to COC use. However, his evidence is also applied to use of the contraceptive patch and ring.
c) Vascular disease	4	**Clarification:** This includes coronary heart disease presenting with angina, peripheral vascular disease presenting with intermittent claudication, hypertensive retinopathy and TIA.
History of high BP during pregnancy	2	**Clarification:** Where current BP is measurable and normal. **Evidence:** COC users with a history of high BP in pregnancy have an increased risk of MI and VTE, compared with COC users who do not have a history of high BP during pregnancy. The absolute risks of acute MI and VTE in this population remained small.[34,56–58,60,71–76]
Current and history of ischaemic heart disease*	4	
Stroke* (history of cerebrovascular accident, including TIA)	4	
Known dyslipidaemias	2	**Clarification:** Routine screening for these genetic mutations is not cost effective. Increased levels of total cholesterol, LDL and triglycerides, as well as decreased levels of HDL, are known risk factors for CVD. Women with known, severe, genetic lipid disorders are at a much higher lifetime risk for CVD and may warrant further clinical consideration.

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

Combined Hormonal Contraception (CHC) which includes Combined oral contraception (COC) Combined contraceptive transdermal patch and vaginal ring	CHC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.	
CONDITION *See additional comments at end of section	**CATEGORY** I = Initiation C = Continuation	**CLARIFICATION/EVIDENCE** Most evidence available relates to COC use. However, this evidence is also applied to use of the contraceptive patch and ring.
Venous thromboembolism (VTE)		
a) History of VTE	4	**Clarification:** VTE includes DVT and PE.
b) Current VTE (on anticoagulants)	4	***On anticoagulants:*** Women on anticoagulant therapy are at risk for gynaecological complications of therapy, such as haemorrhagic ovarian cysts and HMB. Hormonal contraception methods can be of benefit in preventing or treating these complications. When a contraception method is used as a therapy, rather than solely to prevent pregnancy, the risk/benefit ratio may differ and should be considered on a case-by-case basis.
c) Family history of VTE		***Family history of VTE:*** May alert clinicians to women who may have an increased risk but alone cannot identify with certainty an underlying thrombophilia.
(i) First-degree relative age <45 years	3	
(ii) First-degree relative age ≥45 years	2	
d) Major surgery		***Major and minor surgery***: CHC should preferably be discontinued (and adequate alternative contraception arrangements made) 4 weeks before major elective surgery (>30 minutes' duration) and all surgery on the legs or surgery which involves prolonged immobilisation of a lower limb; CHC should normally be recommenced at least 2 weeks after full mobilisation. POC may be offered as an alternative and the CHC restarted after mobilisation, as above. When discontinuation of CHC is not possible (e.g. after trauma or if a patient admitted for an elective procedure is still using CHC), thromboprophylaxis (with low molecular weight heparin and graduated compression hosiery) is advised. These recommendations do not apply to minor surgery with short duration of anaesthesia (e.g. laparoscopic sterilisation or tooth extraction), or to women using estrogen-free hormonal contraception.[77]
(i) With prolonged Immobilisation	4	
(ii) Without prolonged Immobilisation	2	
e) Minor surgery without immobilisation	1	
f) Immobility (unrelated to surgery) (e.g. wheelchair use, debilitating illness)	3	

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

Combined Hormonal Contraception (CHC) which includes Combined oral contraception (COC) Combined contraceptive transdermal patch and vaginal ring	CHC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.	
CONDITION *See additional comments at end of section	**CATEGORY** I = Initiation C = Continuation	**CLARIFICATION/EVIDENCE** Most evidence available relates to COC use. However, his evidence is also applied to use of the contraceptive patch and ring.
Superficial venous thrombosis*		
a) Varicose veins	1	**Evidence**: One study suggests that among women with varicose veins, the rate of VTE and superficial venous thrombosis is higher in COC users compared with non-users, however statistical significance is not reported and the number of events in this study is small.[78]
b) Superficial venous thrombosis	2	**Clarification**: Superficial venous thrombosis may be associated with an increased risk of VTE. **Evidence**: Among women with superficial venous thrombosis, the risk of VTE is higher in COC users compared with non-users.[79]
Known thrombogenic mutations (e.g. factor V Leiden, prothrombin mutation, protein S, protein C and antithrombin deficiencies)	4	**Clarification**: Routine screening for these genetic mutations is not cost effective.[80–82] **Evidence**: Among women with thrombogenic mutations, COC users have a two- to twenty-fold higher risk of thrombosis than non-users.[41,83–105]
Valvular and congenital heart disease*		
a) Uncomplicated	2	**Clarification:** Uncomplicated cases could be considered to be where: there is (i) no requirement for cardiac medication, (ii) the woman is asymptomatic and (iii) a cardiology review is required annually or less. If in doubt, discussion with a specialist cardiologist is advised. *Valvular heart disease*: Occurs when any of the heart valves are stenotic and/or incompetent (e.g. aortic stenosis, mitral regurgitation, tricuspid valve abnormalities, pulmonary stenosis).[106] *Congenital heart disease:* Aortic stenosis, atrial septal defects, atrioventricular septal defect, cardiomyopathy (hypertrophic or dilated), coarctation of the aorta, complex transposition of the great arteries; Ebstein's anomaly, Eisenmenger syndrome, patent ductus arteriosus, pulmonary atresia, pulmonary stenosis, tetralogy of Fallot, total anomalous pulmonary venous connection, tricuspid atresia, truncus arteriosus, ventricular septal defect.[106]
b) Complicated (e.g. pulmonary hypertension, history of subacute bacterial endocarditis)	4	

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

Combined Hormonal Contraception (CHC) which includes Combined oral contraception (COC) Combined contraceptive transdermal patch and vaginal ring	CHC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.	
CONDITION *See additional comments at end of section	**CATEGORY** I = Initiation C = Continuation	**CLARIFICATION/EVIDENCE** Most evidence available relates to COC use. However, this evidence is also applied to use of the contraceptive patch and ring.
Cardiomyopathy*		**Clarification:** A woman who is not on cardiac medication can be considered as having normal cardiac function. COC may increase fluid retention that may worsen heart failure in women with cardiomyopathy. Women with cardiomyopathy have a high incidence of cardiac arrhythmias which may be increased with CHC use.
a) Normal cardiac function	2	
b) Impaired cardiac function	4	
Cardiac arrhythmias*		
a) Atrial fibrillation	4	
b) Known long QT syndrome	2	
NEUROLOGICAL CONDITIONS		
Headaches		**Clarification:** Headache is a common condition affecting women of reproductive age. **Evidence:** Among women with migraine, women who also have aura are at a higher risk of stroke than those without aura.[107,108] Women with a history of migraine who use COC are about two to four times as likely to have an ischaemic stroke as non-users with a history of migraine.[23,42,59,65,66,109,110] Classification depends on making an accurate diagnosis of those severe headaches that are migrainous and, in addition, those complicated by aura.[111–113] See additional resource on diagnosis of migraines with or without aura.
a) Non-migrainous (mild or severe)	I: 1 / C: 2	
b) Migraine without aura, at any age	I: 2 / C: 3	
c) Migraine with aura, at any age	4	
d) History (≥5 years ago) of migraine with aura, any age	3	
Idiopathic intracranial hypertension (IIH)	2	

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

Combined Hormonal Contraception (CHC) which includes Combined oral contraception (COC) Combined contraceptive transdermal patch and vaginal ring	CHC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.	
CONDITION *See additional comments at end of section	**CATEGORY** I = Initiation C = Continuation	**CLARIFICATION/EVIDENCE** Most evidence available relates to COC use. However, his evidence is also applied to use of the contraceptive patch and ring.
Epilepsy	1	
Taking anti-epileptic drugs	Certain anti-epileptic drugs have the potential to affect the bioavailability of steroid hormones in hormonal contraception. In addition, hormonal contraception may affect the levels of certain anti-epileptic drugs with potential adverse effects. For up-to-date information on the potential drug interactions between hormonal contraception and anti-epileptic drugs, please refer to the online drug interaction checker available on Stockley's Interaction Checker website. [114]	
DEPRESSIVE DISORDERS		
Depressive disorders	1	**Clarification**: The classification is based on data for women with selected depressive disorders. No data are available on bipolar disorder or postpartum depression. **Evidence**: COC use does not increase depressive symptoms in women with depression compared to baseline or to non-users with depression.[115–124]
BREAST AND REPRODUCTIVE TRACT CONDITIONS		
Vaginal bleeding patterns*		
a) Irregular pattern without heavy bleeding	1	**Clarification:** Abnormal menstrual bleeding should raise suspicion of a serious underlying condition and should be investigated appropriately .[125–128] **Evidence**: COC are shown to be an effective treatment in heavy menstrual bleeding (HMB).[129–131]
b) Heavy or prolonged bleeding (includes regular and irregular patterns)	1	
Unexplained vaginal bleeding* (suspicious for serious condition) before evaluation	2	**Clarification:** If pregnancy or an underlying pathological condition (such as pelvic malignancy) is suspected, it must be evaluated and the category adjusted after evaluation.

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

Combined Hormonal Contraception (CHC) which includes Combined oral contraception (COC) Combined contraceptive transdermal patch and vaginal ring	CHC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.	
CONDITION *See additional comments at end of section	**CATEGORY** I = Initiation C = Continuation	**CLARIFICATION/EVIDENCE** Most evidence available relates to COC use. However, this evidence is also applied to use of the contraceptive patch and ring.
Endometriosis*	1	
Benign ovarian tumours (including cysts)	1	
Severe dysmenorrhoea	1	**Evidence**: There is no increased risk of side effects with COC use among women with dysmenorrhoea compared with women not using COC. Some COC users experience a reduction in pain and bleeding.[127,128]
Gestational trophoblastic disease (GTD)		**Clarification:** Includes hydatidiform mole (complete and partial) and gestational trophoblastic neoplasia. **Evidence**: Following molar pregnancy evacuation, the balance of evidence finds COC use does not increase the risk of gestational trophoblastic neoplasia, and some COC users experience a more rapid regression in hCG levels compared with non-users.[132–140] Limited evidence suggests that use of COC during chemotherapeutic treatment does not significantly affect the regression or treatment of gestational trophoblastic neoplasia compared with women who use a non-hormonal contraception method or DMPA during chemotherapeutic treatment.[141]
a) Undetectable hCG levels	1	
b) Decreasing hCG levels	1	
c) Persistently elevated hCG levels or malignant disease	1	
Cervical ectropion*	1	
Cervical intraepithelial neoplasia (CIN)	2	**Evidence**: Among women with persistent HPV infection, long-term COC use (≥5 years) may increase the risk of carcinoma *in situ* and invasive carcinoma.[142–144]

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

Combined Hormonal Contraception (CHC) which includes Combined oral contraception (COC) Combined contraceptive transdermal patch and vaginal ring	CHC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.	
CONDITION *See additional comments at end of section	**CATEGORY** I = Initiation C = Continuation	**CLARIFICATION/EVIDENCE** Most evidence available relates to COC use. However, his evidence is also applied to use of the contraceptive patch and ring.

Cervical cancer*			
a) Awaiting treatment	2		
b) Radical trachelectomy	2		
Breast conditions*			**Clarification:** Breast cancer is a hormone-sensitive tumour and therefore the prognosis of women with current or past breast cancer may be affected by hormonal methods of contraception.
a) Undiagnosed mass/breast symptoms	**I**	**C**	
	3	2	
b) Benign breast conditions	1		
c) Family history of breast cancer	1		
d) Carriers of known gene mutations associated with breast cancer (e.g. BRCA1/BRCA2)	3		**Evidence**: Women with inherited breast cancer gene mutations (such as *BRCA1* and *BRCA2*) have a much higher baseline risk of breast cancer than women without these genes. The very limited evidence in this area suggests that the risk of breast cancer among women with either a family history of breast cancer or with known inherited breast cancer gene mutations is probably not modified by the use of COC.[145–163]
e) Breast cancer			**Clarification:** For a woman with a history of breast cancer, a decision to initiate hormonal contraception may be best made in consultation with the local oncology team.
(i) Current breast cancer	4		
(ii) Past breast cancer	3		
Endometrial cancer*	1		
Ovarian cancer*	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

Combined Hormonal Contraception (CHC) which includes Combined oral contraception (COC) Combined contraceptive transdermal patch and vaginal ring	CHC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.	
CONDITION *See additional comments at end of section	**CATEGORY** I = Initiation C = Continuation	**CLARIFICATION/EVIDENCE** Most evidence available relates to COC use. However, this evidence is also applied to use of the contraceptive patch and ring.
Uterine fibroids*		
a) Without distortion of the uterine cavity	1	
b) With distortion of the uterine cavity	1	
Pelvic inflammatory disease (PID)		
a) Past PID (assuming no current risk factors for STIs)	1	
b) Current PID	1	
Sexually transmitted infections (STIs)		
a) Chlamydial infection (current)		
(i) Symptomatic	1	
(ii) Asymptomatic	1	
b) Purulent cervicitis or gonorrhoea (current)	1	
c) Other current STIs (excluding HIV and hepatitis)	1	
d) Vaginitis (including *Trichomonas vaginalis* and bacterial vaginosis) (current)	1	
e) Increased risk for STIs	1	**Evidence**: Evidence suggests that there may be an increased risk of chlamydial cervicitis among COC users at high risk of STIs. For other STIs, there is either evidence of no association between COC use and STI acquisition or too limited evidence to draw any conclusions.[164–244]

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

Combined Hormonal Contraception (CHC) which includes Combined oral contraception (COC) Combined contraceptive transdermal patch and vaginal ring	CHC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.	
CONDITION *See additional comments at end of section	**CATEGORY** I = Initiation C = Continuation	**CLARIFICATION/EVIDENCE** Most evidence available relates to COC use. However, his evidence is also applied to use of the contraceptive patch and ring.

HIV INFECTION		
HIV infection*		
a) High risk of HIV infection	1	**Evidence:** A systematic review identifies eight studies which assess the use of COC.[245] Seven of these studies find no statistically significant association between use of COC and HIV acquisition[246–253], although one study among sex workers in Kenya does.[254]
b) HIV infected		
(i) CD4 count ≥200 cells/mm^3	1	**Evidence:** Seven studies suggest no association between use of COC and progression of HIV, as measured by CD4 count <200 cells/mm^3, initiation of ART or mortality.[255–261] One randomised controlled trial finds an increased risk of a composite outcome of declining CD4 count or death among COC users when compared with Cu-IUDs.[262,263] The majority of indirect studies measuring whether various hormonal contraception methods affect plasma HIV viral load find no effect.[264–280]
(ii) CD4 count <200 cells/mm^3	1	
c) Taking antiretroviral (ARV) drugs	Certain ARV drugs have the potential to affect the bioavailability of steroid hormones in hormonal contraception. 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.[281]	

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

Combined Hormonal Contraception (CHC) which includes Combined oral contraception (COC) Combined contraceptive transdermal patch and vaginal ring	CHC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.	
CONDITION *See additional comments at end of section	**CATEGORY** I = Initiation C = Continuation	**CLARIFICATION/EVIDENCE** Most evidence available relates to COC use. However, this evidence is also applied to use of the contraceptive patch and ring.
OTHER INFECTIONS		
Tuberculosis		
a) Non-pelvic	1	
b) Pelvic	1	
ENDOCRINE CONDITIONS		
Diabetes*		
a) History of gestational disease	1	**Evidence**: The development of non-insulin dependent diabetes in women with a history of gestational diabetes is not increased by the use of COC.[282–289] Likewise, lipid levels appear to be unaffected by COC use.[290–292]
b) Non-vascular disease		**Evidence**: Among women with insulin or non-insulin-dependent diabetes, COC use has limited effect on daily insulin requirements and no effect on long-term diabetes control (e.g. HbA1c levels) or progression to retinopathy. Changes in lipid profile and haemostatic markers are limited and most changes remain within normal values.[293–302]
(i) Non-insulin dependent	2	
(ii) Insulin-dependent	2	
c) Nephropathy/retinopathy/ neuropathy	3	**Clarification**: The category should be assessed according to the severity of the condition.
d) Other vascular disease	3	
Thyroid disorders		
a) Simple goitre	1	
b) Hyperthyroid	1	
c) Hypothyroid	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

Combined Hormonal Contraception (CHC) which includes Combined oral contraception (COC) Combined contraceptive transdermal patch and vaginal ring	CHC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.	
CONDITION *See additional comments at end of section	**CATEGORY** I = Initiation C = Continuation	**CLARIFICATION/EVIDENCE** Most evidence available relates to COC use. However, his evidence is also applied to use of the contraceptive patch and ring.

GASTROINTESTINAL CONDITIONS		
Gallbladder disease*		
a) Symptomatic		
(i) Treated by cholecystectomy	2	
(ii) Medically treated	3	
(iii) Current	3	
b) Asymptomatic	2	
History of cholestasis*		
a) Pregnancy related	2	
b) Past COC related	3	
Viral hepatitis*		
a) Acute or flare	I: 3 / C: 2	**Clarification:** *Acute or flare:* this category should be assessed on the severity of the condition. **Evidence**: Data suggest that in women with chronic hepatitis, COC use does not increase the rate or severity of cirrhotic fibrosis, nor does it increase the risk of hepatocellular carcinoma.[303,304] For women who are carriers, COC use does not appear to trigger liver failure or severe dysfunction.[305–307] Evidence is limited for COC use during active hepatitis.[308,309]
b) Carrier	1	
c) Chronic	1	
Cirrhosis*		**Clarification:** *Severe (decompensated) cirrhosis:* development of major complications (such as ascites, jaundice, encephalopathy or gastrointestinal haemorrhage).[310]
a) Mild (compensated without complications)	1	
b) Severe (decompensated)	4	

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

Combined Hormonal Contraception (CHC) which includes Combined oral contraception (COC) Combined contraceptive transdermal patch and vaginal ring	CHC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.	
CONDITION *See additional comments at end of section	**CATEGORY** I = Initiation C = Continuation	**CLARIFICATION/EVIDENCE** Most evidence available relates to COC use. However, this evidence is also applied to use of the contraceptive patch and ring.
Liver tumours*		**Evidence**: There is limited, direct evidence that hormonal contraception use does not influence either progression or regression of liver lesions among women with focal nodular hyperplasia.[311–313] There is no evidence relating to use of hormonal contraception by women with other liver tumours. **Clarification:** Continuation may need to be reviewed if the woman has an acute exacerbation, acute surgery or prolonged immobilisation (see section on VTE). **Evidence:** Risk for disease relapse is not significantly higher among women with IBD using oral contraception (most studies do not specify whether it is POP or COC) than among non-users.[314–318] Absorption of COC among women with mild ulcerative colitis and no or small ileal resections is similar to the absorption among healthy women.[319,320] Findings may not apply to women with Crohn's disease or more extensive bowel resections. No data exist that evaluate the increased risk for VTE among women with IBD using CHC. However, women with IBD are at higher risk than unaffected women for VTE.[320]
a) Benign		
(i) Focal nodular hyperplasia	2	
(ii) Hepatocellular adenoma	4	
b) Malignant (hepatocellular carcinoma)	4	
Inflammatory bowel disease (IBD)* (including Crohn's disease and ulcerative colitis)	2	

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

Combined Hormonal Contraception (CHC) which includes Combined oral contraception (COC) Combined contraceptive transdermal patch and vaginal ring	CHC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.	
CONDITION *See additional comments at end of section	**CATEGORY** I = Initiation C = Continuation	**CLARIFICATION/EVIDENCE** Most evidence available relates to COC use. However, his evidence is also applied to use of the contraceptive patch and ring.
ANAEMIAS		
Thalassaemia*	1	
Sickle cell disease	2	
Iron deficiency anaemia*	1	
RHEUMATIC DISEASES		
Rheumatoid arthritis	2	**Clarification:** Risk of CVD is increased among women with rheumatoid arthritis.[321] **Evidence:** Limited evidence shows no consistent pattern of improvement or worsening of rheumatoid arthritis with use of oral contraception.[321–329]
Systemic lupus erythematosus (SLE)		**Clarification:** People with SLE are at an increased risk of ischaemic heart disease, stroke and VTE and this is reflected in the categories given. There is no evidence that use of CHC causes disease flare. Available evidence indicates that many women with SLE can be considered good candidates for most methods of contraception, including hormonal contraception.[330–351]
a) No antiphospholipid antibodies	2	
b) Positive antiphospholipid antibodies	4	

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

Combined Hormonal Contraception (CHC) which includes Combined oral contraception (COC) Combined contraceptive transdermal patch and vaginal ring	CHC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.	
CONDITION *See additional comments at end of section	**CATEGORY** I = Initiation C = Continuation	**CLARIFICATION/EVIDENCE** Most evidence available relates to COC use. However, this evidence is also applied to use of the contraceptive patch and ring.
Positive antiphospholipid antibodies	4	**Clarification:** Positive antiphospholipid antibodies (aPL) is not itself a disease state and in the absence of manifestations of the antiphospholipid syndrome a stratification of risk with specialist advice if necessary is recommended. In particular, persistence of aPL positivity, high titre of aPL, lupus anticoagulant (LA) positivity, triple positivity for anticardiolipin antibodies (aCL), anti-β2-glycoprotein I (βgPI) and LA and immunoglobulin G (IgG) aPL have greater risk for future events.[352–354]
DRUG INTERACTIONS*		
Taking medication	See section on drug interactions with hormonal contraception.	

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

Additional Comments

HYPERTENSION, CURRENT AND HISTORY OF ISCHAEMIC HEART DISEASE, STROKE
A single reading of BP level is not sufficient to classify a woman as hypertensive. If elevated, the BP should be reassessed at the end of the consultation. If BP is increased, it should be reassessed and monitored according to current guidelines.

SUPERFICIAL VENOUS THROMBOSIS
Varicose vein: Varicose veins are not a risk factor for VTE.

VALVULAR AND CONGENITAL HEART DISEASE, CARDIOMYOPATHY AND CARDIAC ARRHYTHMIAS
Stasis, endothelial injury and hyperviscosity (Virchow's triad) increase the risk of clot formation. Impaired cardiac function and/or dilated heart chambers or arrhythmia increase the risk of stasis. Closure of a cardiac defect within the last 6 months or presence of a mechanical heart valve increases the risk of thrombus formation. Cyanotic defects are associated with hyperviscosity because of increased erythrocytosis.

Congenital heart disease: Surgical correction, co-existing complications and degree of cardiac disability will vary between individuals and should be taken into account when considering contraception use.

UNEXPLAINED VAGINAL BLEEDING
There are no conditions that cause vaginal bleeding that will be worsened in the short term by use of CHC.

ENDOMETRIOSIS
CHC do not worsen, and may alleviate, the symptoms of endometriosis.

CERVICAL ECTROPION
Cervical ectropion is not a risk factor for cervical cancer and there is no need for restriction of CHC.

CERVICAL CANCER
Awaiting treatment: There is some theoretical concern that CHC use may affect prognosis of the existing disease. While awaiting treatment, women may use CHC since the period of waiting is likely to be brief and pregnancy would be contraindicated.

ENDOMETRIAL AND OVARIAN CANCER
COC use reduces the risk of developing endometrial cancer. While awaiting treatment, women may use COC.

UTERINE FIBROIDS
There is no evidence that CHC affect growth of fibroids.

HIV INFECTION
Women with HIV infection often have co-morbidities that may influence their choice of contraception.

DIABETES
Although carbohydrate tolerance may change with CHC use, the major concerns are vascular disease due to diabetes and additional risk of arterial thrombosis due to use of CHC.

GALLBLADDER DISEASE
COC may cause a small increased risk of gallbladder disease. There is also concern that COC may worsen existing gallbladder disease.

HISTORY OF CHOLESTASIS
Pregnancy-related: History of pregnancy-related cholestasis may predict an increased risk of developing COC-associated cholestasis.

Past COC-related: History of COC-related cholestasis predicts an increased risk with subsequent COC use.

VIRAL HEPATITIS, CIRRHOSIS AND LIVER TUMOURS
COC are metabolised by the liver, and their use may adversely affect women whose liver function is compromised.

INFLAMMATORY BOWEL DISEASE (IBD)
Risk of VTE may increase if unwell, bed-bound or undergoing acute surgery or with major surgery and prolonged immobilisation. Under these circumstances the use of combined methods should be avoided and alternative methods used.

THALASSAEMIA
There is anecdotal evidence from countries where thalassaemia is prevalent that COC use does not worsen the condition.

IRON-DEFICIENCY ANAEMIA
CHC use may decrease menstrual blood loss.

DRUG INTERACTIONS
Generally, the safety of using combined hormonal methods is unaffected. Nevertheless, use of liver enzyme inducing medication may reduce contraception efficacy, increasing risk of unintended pregnancy. Contraception choice may depend on the likely duration of use of concurrent medications and need for additional or alternative methods.

Emergency Contraception (EC)

Emergency contraception (EC) provides women of all reproductive ages with a means of preventing unintended pregnancy following any unprotected sexual intercourse (UPSI).

The section on emergency contraception includes the following types:

- Copper-bearing IUD (Cu-IUD)
- Oral emergency contraception (EC).

FSRH guidance on EC[1] and IUC[2] is available on the FSRH website.

Copper-bearing IUD (Cu-IUD) for emergency contraception
The Cu-IUD is the most effective form of EC. All eligible women presenting between 0 and 120 hours of UPSI or within 5 days of expected ovulation (Day 19 in a regular 28-day cycle) should be offered a Cu-IUD because of the low documented failure rate.

The eligibility criteria for interval Cu-IUD insertion also apply for the insertion of the Cu-IUD as EC. However, the risk-benefit ratio will be different for the use of the Cu-IUD as EC compared to when it is used for routine contraception.

Oral emergency contraception
Two methods of oral EC are available in the UK.

Ulipristal acetate (UPA) is a progesterone receptor modulator that is a synthetic steroid derived from 19-norprogesterone and is licensed for use within 120 hours of UPSI.

Oral progestogen-only EC containing LNG 1.5 mg is licensed to be given up to 72 hours after UPSI or contraceptive failure. There is some evidence of reduced efficacy with use after 72 hours.[3,4]

Emergency Contraception (EC) Copper-bearing intrauterine device (Cu-IUD) Ulipristal acetate (UPA) Levonorgestrel (LNG)	EC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.			
CONDITION *See additional comments at end of section	CATEGORY			CLARIFICATION/EVIDENCE
	Cu-IUD	UPA	LNG	
Pregnancy	NA	NA	NA	**Clarification:** There is no known harm to the woman, the course of her pregnancy or the fetus if UPA or LNG is accidentally used. Cu-IUD can be inserted up to 5 days after the *first episode* of UPSI or if necessary up to 5 days after the *expected date of ovulation* (Day 19 in a regular 28-day cycle).[2]
Postpartum (in breastfeeding or non-breastfeeding women)				**Clarification:** EC is not required if UPSI or barrier method failure occurs <3 weeks pospartum. UPA and LNG are indicated from 3 weeks postpartum. Emergency Cu-IUD is indicated from 4 weeks postpartum. **Clarification**: Breastfeeding is not recommended for 1 week after taking UPA since it is excreted in breast milk. Breast milk should be expressed and discarded during that time.[5]
a) <3 weeks	NA	NA	NA	
b) 3 to <4 weeks	3	1	1	
c) ≥4 weeks	1	1	1	
Past ectopic pregnancy	1	1	1	**Clarification:** Women using contraception have a lower risk of ectopic pregnancy overall compared to women not using contraception. There does not appear to be an increased risk of ectopic pregnancy following use of Cu-IUD as EC,[6] UPA[7] or LNG[8].
Smoking	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

Emergency Contraception (EC) Copper-bearing intrauterine device (Cu-IUD) Ulipristal acetate (UPA) Levonorgestrel (LNG)	EC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.			
CONDITION *See additional comments at end of section	CATEGORY			CLARIFICATION/EVIDENCE
	Cu-IUD	UPA	LNG	
Obesity	1	1	1	**Evidence:** A review by the European Medicines Agency determines that data available are too limited and not robust enough to conclude with any certainty that contraceptive effect is reduced with increased body weight. The Agency's Committee for Medicinal Products for Human Use recommends that LNG and UPA could continue to be used in women of all weights as the benefits are considered to outweigh the risk.[9]
Hypertension	1	1	1	
Known dyslipidaemias	1	1	1	
Venous thromboembolism (VTE)* Current VTE (on anticoagulants)	2	2	2	**Clarification:** VTE includes DVT and PE.
History of severe CVD complications (Includes ischaemic heart disease, cerebrovascular attack, or other thromboembolic conditions)	1	1	1	**Clarification:** There is no evidence that UPA or LNG increase the risk of CVD.
Headaches	1	1	1	**Clarification:** Headache is a common condition affecting women of reproductive age.
Gestational trophoblastic disease (GTD)				
a) Undetectable hCG levels	1	1	1	**Clarification:** Includes hydatidiform mole (complete and partial) and gestational trophoblastic neoplasia.
b) Decreasing hCG levels	3	1	1	
c) Persistently elevated hCG levels or malignant disease	4	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

Emergency Contraception (EC) Copper-bearing intrauterine device (Cu-IUD) Ulipristal acetate (UPA) Levonorgestrel (LNG)	EC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.			
CONDITION *See additional comments at end of section	CATEGORY			CLARIFICATION/EVIDENCE
	Cu-IUD	UPA	LNG	
Breast conditions				
Breast cancer				**Clarification:** Although the prognosis of women with breast cancer may be affected by hormonal methods of contraception, the benefit of oral EC is considered to outweigh risks.
a) Current breast cancer	1	2	2	
b) Past breast cancer	1	2	2	
Uterine fibroids*				
a) Without distortion of the uterine cavity	1	1	1	
b) With distortion of the uterine cavity	3	1	1	
Anatomical abnormalities*				
a) Distorted uterine cavity	3	1	1	**Clarification:** Includes any congenital or acquired uterine abnormality distorting the uterine cavity in a manner that is incompatible with IUC insertion.
b) Other abnormalities	2	1	1	**Clarification:** Includes cervical stenosis or cervical lacerations not distorting the uterine cavity or interfering with IUC insertion.
Inflammatory bowel disease (including Crohn's disease and ulcerative colitis)	1	2	2	**Clarification:** Oral methods may be less reliable if there is significant malabsorption or small bowel resection (particularly with Crohn's disease). Oral methods are unaffected by colectomy and ileostomy.
Severe liver disease* *(including jaundice)*	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

Emergency Contraception (EC) Copper-bearing intrauterine device (Cu-IUD) Ulipristal acetate (UPA) Levonorgestrel (LNG)	EC do not protect against STI/HIV. If there is a risk of STI/HIV (including during pregnancy or postpartum), the correct and consistent use of condoms is recommended, either alone or with another contraception method. Male condoms reduce the risk of STI/HIV.			
CONDITION *See additional comments at end of section	CATEGORY			CLARIFICATION/EVIDENCE
	Cu-IUD	UPA	LNG	
Acute intermittent porphyria*	1	2	2	**Clarification:** Acute intermittent porphyria is a rare disorder characterised by acute attacks often precipitated by drugs. Estrogen and progestogen have been implicated. Around 1% of acute attacks are fatal. In one population study, almost half of women with porphyria used hormonal contraception but only 4.5% had associated acute attacks.[10] Combined hormonal contraception is shown to reduce attacks for some women.[11] Natural fluctuations in estrogen and progesterone appear to be associated with acute attacks more often than exogenous hormones. Women may use UPA or LNG following discussion of the risks and benefits and with clinical judgement.[12–14]
Repeated use of UPA or LNG (in the same cycle)	NA	1	1	**Clarification:** Recurrent use of EC is an indication that the woman requires further discussion about other contraceptive options. UPA or LNG can be used more than once in a cycle if clinically indicated.[1] Alternatively, a Cu-IUD can be inserted if repeated UPSI occurs up to 5 days after the first episode of unprotected sex or up to 5 days after expected date of ovulation. Frequently repeated UPA and LNG use may be harmful for women with conditions classified as Category 2, 3 or 4 for CHC or POC use.
Risk of sexually transmitted infections (STIs)	1	1	1	**Clarification:** Women thought to be at higher risk of STI from their sexual history (aged <25 years, or with a change in sexual partner or two or more partners in the last year) should be offered testing for STI. In a woman with asymptomatic chlamydia in an emergency situation (i.e. emergency contraception), the Cu-IUD could be inserted on the same day as treatment is instituted.[2]
DRUG INTERACTIONS				
Taking medication*	See section on drug interactions with hormonal contraception.			

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

Additional Comments

POSTPARTUM
Breastfeeding: Although women who are fully or nearly fully breastfeeding, amenorrhoeic and <6 months postpartum can rely on LAM as an effective method of contraception, if breastfeeding frequency decreases or menstruation recurs EC may be indicated.

VENOUS THROMBOEMBOLISM
Current VTE taking anticoagulants: Care should be taken when fitting a Cu-IUD in those taking anticoagulants as there may be an increased risk of bleeding.

UTERINE FIBROIDS AND ANATOMICAL ABNORMALITIES (distorted uterine cavity)
In women with a distorted uterine cavity it may be appropriate after discussion to attempt insertion of Cu-IUD.

SEVERE LIVER DISEASE
The duration of use of UPA or LNG is less than that of regular use of POP and thus would be expected to have less clinical impact.

ACUTE INTERMITTENT PORPHYRIA
Cyclical symptoms have been found in relation to the menstrual cycle but seldom lead to acute attacks.

RISK OF SEXUALLY TRANSMITTED INFECTIONS (STIs)
Women who are thought to be at higher risk for STI based on a sexual history (age <25 years or age >25 years with a change in sexual partner or two or more partners in the last year) can be offered testing for STIs and should be given prophylactic antibiotics to prevent *Chlamydia trachomatis* at the time of Cu-IUD insertion.

DRUG INTERACTIONS
Current FSRH guidance recommends that women using liver enzyme inducers should be advised to use a Cu-IUD. If progestogen-only EC is to be used it should be given as soon as possible and within 72 hours of UPSI. In women using liver enzyme inducing drugs, two 1.5 mg LNG tablets should be taken (3 mg) as a single dose. The efficacy of LNG is not reduced by non-liver enzyme inducing antibiotics.

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

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

UKMEC SUMMARY TABLE HORMONAL AND INTRAUTERINE CONTRACEPTION						
CONDITION	Cu-IUD	LNG-IUS	IMP	DMPA	POP	CHC
	I = Initiation, C = Continuation					
Postpartum (in breastfeeding or non-breastfeeding women, including post-caesarean section)						
a) 0 to <48 hours	1	1	See above			
b) 48 hours to <4 weeks	3	3				
c) ≥4 weeks	1	1				
d) Postpartum sepsis	4	4				
Post-abortion						
a) First trimester	1	1	1	1	1	1
b) Second trimester	2	2	1	1	1	1
c) Post-abortion sepsis	4	4	1	1	1	1
Past ectopic pregnancy	1	1	1	1	1	1
History of pelvic surgery	1	1	1	1	1	1
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						
a) BMI ≥30–34 kg/m^2	1	1	1	1	1	2
b) BMI ≥35 kg/m^2	1	1	1	1	1	3

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

UKMEC SUMMARY TABLE HORMONAL AND INTRAUTERINE CONTRACEPTION						
CONDITION	**Cu-IUD**	**LNG-IUS**	**IMP**	**DMPA**	**POP**	**CHC**
	I = Initiation, C = Continuation					
History of bariatric surgery						
a) With BMI <30 kg/m^2	1	1	1	1	1	1
b) With BMI ≥30–34 kg/m^2	1	1	1	1	1	2
c) With BMI ≥35 kg/m^2	1	1	1	1	1	3
Organ transplant						
a) Complicated: graft failure (acute or chronic), rejection, cardiac allograft vasculopathy	**I** 3 / **C** 2	**I** 3 / **C** 2	2	2	2	3
b) Uncomplicated	2	2	2	2	2	2
CARDIOVASCULAR DISEASE (CVD)						
Multiple risk factors for CVD (such as smoking, diabetes, hypertension, obesity and dyslipidaemias)	1	2	2	3	2	3
Hypertension						
a) Adequately controlled hypertension	1	1	1	2	1	3
b) Consistently elevated BP levels (properly taken measurements)						
(i) Systolic >140–159 mmHg or diastolic >90–99 mmHg	1	1	1	1	1	3
(ii) Systolic ≥160 mmHg or diastolic ≥100 mmHg	1	1	1	2	1	4
c) Vascular disease	1	2	2	3	2	4
History of high BP during pregnancy	1	1	1	1	1	2
Current and history of ischaemic heart disease	1	**I** 2 / **C** 3	**I** 2 / **C** 3	3	**I** 2 / **C** 3	4
Stroke (history of cerebrovascular accident, including TIA)	1	**I** 2 / **C** 3	**I** 2 / **C** 3	3	**I** 2 / **C** 3	4
Known dyslipidaemias	1	2	2	2	2	2

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

UKMEC SUMMARY TABLE HORMONAL AND INTRAUTERINE CONTRACEPTION						
CONDITION	Cu-IUD	LNG-IUS	IMP	DMPA	POP	CHC
	I = Initiation, C = Continuation					
Venous thromboembolism (VTE)						
a) History of VTE	1	2	2	2	2	4
b) Current VTE (on anticoagulants)	1	2	2	2	2	4
c) Family history of VTE						
(i) First-degree relative age <45 years	1	1	1	1	1	3
(ii) First-degree relative age ≥45 years	1	1	1	1	1	2
d) Major surgery						
(i) With prolonged immobilisation	1	2	2	2	2	4
(ii) Without prolonged immobilisation	1	1	1	1	1	2
e) Minor surgery without immobilisation	1	1	1	1	1	1
f) Immobility (unrelated to surgery) (e.g. wheelchair use, debilitating illness)	1	1	1	1	1	3
Superficial venous thrombosis						
a) Varicose veins	1	1	1	1	1	1
b) Superficial venous thrombosis	1	1	1	1	1	2
Known thrombogenic mutations (e.g. factor V Leiden, prothrombin mutation, protein S, protein C and antithrombin deficiencies)	1	2	2	2	2	4

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

UKMEC SUMMARY TABLE HORMONAL AND INTRAUTERINE CONTRACEPTION						
CONDITION	Cu-IUD	LNG-IUS	IMP	DMPA	POP	CHC
	I = Initiation, C = Continuation					
Valvular and congenital heart disease						
a) Uncomplicated	1	1	1	1	1	2
b) Complicated (e.g. pulmonary hypertension, history of subacute bacterial endocarditis)	2	2	1	1	1	4
Cardiomyopathy						
a) Normal cardiac function	1	1	1	1	1	2
b) Impaired cardiac function	2	2	2	2	2	4
Cardiac arrhythmias						
a) Atrial fibrillation	1	2	2	2	2	4
b) Known long QT syndrome	I: 3, C: 1	I: 3, C: 1	1	2	1	2
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 (≥5 years ago) of migraine with aura, any age	1	2	2	2	2	3

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

UKMEC SUMMARY TABLE HORMONAL AND INTRAUTERINE CONTRACEPTION						
CONDITION	**Cu-IUD**	**LNG-IUS**	**IMP**	**DMPA**	**POP**	**CHC**
	I = Initiation, C = Continuation					
Idiopathic intracranial hypertension (IIH)	1	1	1	1	1	2
Epilepsy	1	1	1	1	1	1
Taking anti-epileptic drugs	Certain anti-epileptic drugs have the potential to affect the bioavailability of steroid hormones in hormonal contraception. For up-to-date information on the potential drug interactions between hormonal contraception and anti-epileptic drugs, please refer to the online drug interaction checker available on Stockley's Interaction Checker website (https://www.medicinescomplete.com/mc/alerts/current/drug-interactions.htm).					
DEPRESSIVE DISORDERS						
Depressive disorders	1	1	1	1	1	1
BREAST AND REPRODUCTIVE TRACT CONDITIONS						
Vaginal bleeding patterns						
a) Irregular pattern without heavy bleeding	1	1	2	2	2	1
b) Heavy or prolonged bleeding (includes regular and irregular patterns)	2	**I** 1 / **C** 2	2	2	2	1
Unexplained vaginal bleeding (suspicious for serious condition) before evaluation	**I** 4 / **C** 2	**I** 4 / **C** 2	3	3	2	2
Endometriosis	2	1	1	1	1	1
Benign ovarian tumours (including cysts)	1	1	1	1	1	1
Severe dysmenorrhoea	2	1	1	1	1	1
Gestational trophoblastic disease (GTD)						
a) Undetectable hCG levels	1	1	1	1	1	1
b) Decreasing hCG levels	3	3	1	1	1	1
c) Persistently elevated hCG levels or malignant disease	4	4	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

UKMEC SUMMARY TABLE HORMONAL AND INTRAUTERINE CONTRACEPTION						
CONDITION	Cu-IUD	LNG-IUS	IMP	DMPA	POP	CHC
	I = Initiation, C = Continuation					
Cervical ectropion	1	1	1	1	1	1
Cervical intraepithelial neoplasia (CIN)	1	2	1	2	1	2
Cervical cancer						
a) Awaiting treatment	I: 4 / C: 2	I: 4 / C: 2	2	2	1	2
b) Radical trachelectomy	3	3	2	2	1	2
Breast conditions						
a) Undiagnosed mass/breast symptoms	1	2	2	2	2	I: 3 / C: 2
b) Benign breast conditions	1	1	1	1	1	1
c) Family history of breast cancer	1	1	1	1	1	1
d) Carriers of known gene mutations associated with breast cancer (e.g. BRCA1/BRCA2)	1	2	2	2	2	3
e) Breast cancer						
(i) Current breast cancer	1	4	4	4	4	4
(ii) Past breast cancer	1	3	3	3	3	3
Endometrial cancer	I: 4 / C: 2	I: 4 / C: 2	1	1	1	1
Ovarian cancer	1	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

UKMEC SUMMARY TABLE HORMONAL AND INTRAUTERINE CONTRACEPTION

CONDITION	Cu-IUD	LNG-IUS	IMP	DMPA	POP	CHC
	I = Initiation, C = Continuation					
Uterine fibroids						
a) Without distortion of the uterine cavity	1	1	1	1	1	1
b) With distortion of the uterine cavity	3	3	1	1	1	1
Anatomical abnormalities						
a) Distorted uterine cavity	3	3				
b) Other abnormalities	2	2				
Pelvic inflammatory disease (PID)						
a) Past PID (assuming no current risk factor for STIs)	1	1	1	1	1	1
b) Current PID	I: 4, C: 2	I: 4, C: 2	1	1	1	1
Sexually transmitted infections (STIs)						
a) Chlamydial infection (current)	I: 4, C: 2	I: 4, C: 2				
(i) Symptomatic	4	4	1	1	1	1
(ii) Asymptomatic	3	3	1	1	1	1
b) Purulent cervicitis or gonorrhoea (current)	4	4	1	1	1	1
c) Other current STIs (excluding HIV & hepatitis)	2	2	1	1	1	1
d) Vaginitis (including Trichomonas vaginalis and bacterial vaginosis) (current)	2	2	1	1	1	1
e) Increased risk for STIs	2	2	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

UKMEC SUMMARY TABLE HORMONAL AND INTRAUTERINE CONTRACEPTION						
CONDITION	Cu-IUD	LNG-IUS	IMP	DMPA	POP	CHC
	I = Initiation, C = Continuation					
HIV INFECTION						
HIV infection						
a) High risk of HIV infection	2	2	1	2	1	1
b) HIV infected						
(i) CD4 count ≥200 cells/mm^3	2	2	1	1	1	1
(ii) CD4 count <200 cells/mm^3	I: 3, C: 2	I: 3, C: 2	1	1	1	1
c) Taking antiretroviral (ARV) drugs	Certain ARV drugs have the potential to affect the bioavailability of steroid hormones in hormonal contraception. 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 (www.hiv-druginteractions.org/Interactions.aspx).					
OTHER INFECTIONS						
Tuberculosis						
a) Non-pelvic	1	1	1	1	1	1
b) Pelvic	I: 4, C: 3	I: 4, C: 3	1	1	1	1
ENDOCRINE CONDITIONS						
Diabetes						
a) History of gestational disease	1	1	1	1	1	1
b) Non-vascular disease						
(i) Non-insulin dependent	1	2	2	2	2	2
(ii) Insulin dependent	1	2	2	2	2	2
c) Nephropathy/retinopathy/neuropathy	1	2	2	2	2	3
d) Other vascular disease	1	2	2	2	2	3

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

UKMEC SUMMARY TABLE HORMONAL AND INTRAUTERINE CONTRACEPTION						
CONDITION	Cu-IUD	LNG-IUS	IMP	DMPA	POP	CHC
	I = Initiation, C = Continuation					
Thyroid disorders						
a) Simple goitre	1	1	1	1	1	1
b) Hyperthyroid	1	1	1	1	1	1
c) Hypothyroid	1	1	1	1	1	1
GASTROINTESTINAL CONDITIONS						
Gallbladder disease						
a) Symptomatic						
(i) Treated by cholecystectomy	1	2	2	2	2	2
(ii) Medically treated	1	2	2	2	2	3
(iii) Current	1	2	2	2	2	3
b) Asymptomatic	1	2	2	2	2	2
History of cholestasis						
a) Pregnancy related	1	1	1	1	1	2
b) Past COC related	1	2	2	2	2	3
Viral hepatitis						
a) Acute or flare	1	1	1	1	1	I: 3 / C: 2
b) Carrier	1	1	1	1	1	1
c) Chronic	1	1	1	1	1	1
Cirrhosis						
a) Mild (compensated without complications)	1	1	1	1	1	1
b) Severe (decompensated)	1	3	3	3	3	4

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

UKMEC SUMMARY TABLE HORMONAL AND INTRAUTERINE CONTRACEPTION						
CONDITION	**Cu-IUD**	**LNG-IUS**	**IMP**	**DMPA**	**POP**	**CHC**
	I = Initiation, C = Continuation					
Liver tumours						
a) Benign						
(i) Focal nodular hyperplasia	1	2	2	2	2	2
(ii) Hepatocellular adenoma	1	3	3	3	3	4
b) Malignant (hepatocellular carcinoma)	1	3	3	3	3	4
Inflammatory bowel disease (including Crohn's disease and ulcerative colitis)	1	1	1	1	2	2
ANAEMIAS						
Thalassaemia	2	1	1	1	1	1
Sickle cell disease	2	1	1	1	1	2
Iron deficiency anaemia	2	1	1	1	1	1
RHEUMATIC DISEASES						
Rheumatoid arthritis	1	2	2	2	2	2
Systemic lupus erythematosus (SLE)						
a) No antiphospholipid antibodies	1	2	2	2	2	2
b) Positive antiphospholipid antibodies	1	2	2	2	2	4
Positive antiphospholipid antibodies	1	2	2	2	2	4
DRUG INTERACTIONS						
Taking medication	See section on drug interactions with hormonal contraception.					

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

SECTION C: REFERENCES AND RESOURCES

REFERENCES

Introduction

1. World Health Organization. *Medical Eligibility Criteria for Contraceptive Use* (5th edn). 2015. http://www.who.int/reproductivehealth/publications/family_planning/MEC-5/en/ [accessed 8 Feb 2016]

2. Faculty of Sexual and Reproductive Healthcare. *UK Medical Eligibility Criteria for Contraceptive Use* (UKMEC 2009). 2009. http://www.fsrh.org/pdfs/UKMEC2009.pdf [accessed 8 Feb 2016]

3. Stephen G, Brechin S, Glasier A. Using formal consensus methods to adapt World Health Organization Medical Eligibility Criteria for Contraceptive Use. *Contraception 2008*; **78:** 300–308.

4. Family Planning Association (fpa). Contraception help. http://www.fpa.org.uk/help-and-advice/contraception-help [accessed 8 Feb 2016]

5. Trussell J. Contraceptive efficacy. In: Hatcher RA, Trussell J, Nelson AL, *et al.* (eds), *Contraceptive Technology* (20th revised edn). New York, NY: Ardent Media, 2011.

6. Centers for Disease Control and Prevention (CDC). Effectiveness of family planning methods. http://www.cdc.gov/reproductivehealth/unintendedpregnancy/pdf/family-planning-methods-2014.pdf [accessed 8 Feb 2016]

7. Faculty of Sexual and Reproductive Healthcare. *Drug Interactions with Hormonal Contraception*. 2012. http://www.fsrh.org/pdfs/CEUGuidanceDrugInteractionsHormonal.pdf [accessed 8 Feb 2016]

8. BMJ Group, RCPCH Publications Ltd, the Royal Pharmaceutical Society of Great Britain. *British National Formulary*. http://www.bnf.org [accessed 8 Feb 2016]

9. electronic Medicines Compendium (eMC). https://www.medicines.org.uk/emc [accessed 8 Feb 2016]

10. www.hiv-druginteractions.org. Drug Interaction Charts. http://www.hiv-druginteractions.org/Interactions.aspx [accessed 8 Feb 2016]

11. MedicinesComplete. Stockley's Interaction Checker. https://www.medicinescomplete.com/mc/alerts/current/drug-interactions.htm [accessed 9 November 2017]

12. UK Teratology Information Service (UKTIS). http://www.UKTIS.org [accessed 8 Feb 2016]

13. Faculty of Sexual and Reproductive Healthcare. *Barrier Methods for Contraception and STI Prevention.* 2012. http://www.fsrh.org/pdfs/CEUGuidanceBarrierMethodsContraceptionSDI.pdf [accessed 8 Feb 2016]

14. Faculty of Sexual and Reproductive Healthcare. *Fertility Awareness Methods.* 2015. http://www.fsrh.org/pdfs/CEUGuidanceFertilityAwarenessMethods.pdf [accessed 8 Feb 2016]

15. Faculty of Sexual and Reproductive Healthcare. *Male and Female Sterilisation.* 2014. http://www.fsrh.org/pdfs/MaleFemaleSterilisation.pdf [accessed 8 Feb 2016]

Intrauterine Contraception (IUC)

1. Faculty of Sexual and Reproductive Healthcare. *Intrauterine Contraception.* 2015. http://www.fsrh.org/pdfs/CEUGuidanceIntrauterineContraception.pdf [accessed 8 Feb 2016]

2. Albert A, Carrasco F, Duenas JL, *et al.* Analysis of minor complications in copper IUD wearers [in Spanish]. *Clinica e Investigacion en Ginecologia y Obstetricia* 1983; **10:** 16–22.

3. Allonen H, Luukkainen T, Nielsen NC, *et al*. Two-year rates for Nova T and Copper T in a comparative study. *Contraception* 1980; **21**: 321–334.

4. Allonen H, Luukkainen T, Nielsen NC, *et al*. Factors affecting the clinical performance of Nova T and Copper T 200. *Obstet Gynecol* 1984; **64:** 524–529.

5. Alton TM, Brock GN, Yang D, *et al*. Retrospective review of intrauterine device in adolescent and young women. *J Pediatr Adolesc Gynecol* 2012; **25:** 195–200.

6. Behringer T, Reeves MF, Rossiter B, *et al*. Duration of use of a levonorgestrel IUS amongst nulliparous and adolescent women. *Contraception* 2011; **84**: e5–e10.

7. Berenson AB, Tan A, Hirth JM, *et al*. Complications and continuation of intrauterine device use among commercially insured teenagers. *Obstet Gynecol* 2013; **121**: 951–958.

8. Luukkainen T, Allonen H, Nielsen NC, *et al*. Five years' experience of intrauterine contraception with the Nova-T and the Copper-T-200. *Am J Obstet Gynecol* 1983; **147**: 885–892.

9. Luukkainen T, Nielsen NC, Nygren KG, *et al*. Nulliparous women, IUD and pelvic infection. *Ann Clin Res* 1979; **11**: 121–124.

10. Luukkainen T, Nielsen NC, Nygren KG, *et al.* Combined and national experience of postmenstrual IUD insertions of Nova-T and Copper-T in a randomized study. *Contraception* 1979; **19:** 11–20.

11. Nygren KG, Nielsen NC, Pyorala T, *et al*. Intrauterine contraception with Nova-T and copper-T-200 during three years. *Contraception* 1981; **24:** 529–542.

12. Osser S, Gullberg B, Liedholm P, *et al*. Risk of pelvic inflammatory disease among intrauterine-device users irrespective of previous pregnancy. *Lancet* 1980; **315**: 386–388.

13. Rasheed SM, Abdelmonem AM. Complications among adolescents using copper intrauterine contraceptive devices. *Int J Gynaecol Obstet* 2011; **115**: 269–272.

14. Skajaa K, Dorup I, Skajaa T. Complications caused by intrauterine contraceptive devices. *Ugeskr Laeger* 1990; **152:** 3002–3006.

15. Suhonen S, Haukkamaa M, Jakobsson T, *et al*. Clinical performance of a levonorgestrel-releasing intrauterine system and oral contraceptives in young nulliparous women: a comparative study. *Contraception* 2004; **69:** 407–412.

16. Zhang J, Feldblum PJ, Chi IC, *et al*. Risk factors for copper T IUD expulsion: an epidemiologic analysis. *Contraception* 1992; **46:** 427–433.

17. Deans EI, Grimes DA. Intrauterine devices for adolescents: a systematic review. *Contraception* 2009; **79:** 418–423.

18. Lyus R, Lohr P, Prager S. Use of the Mirena LNG-IUS and Paragard CuT380A intrauterine devices in nulliparous women. Board of the Society of Family Planning. *Contraception* 2010; **81:** 367–371.

19. Sonalkar S, Kapp N. Intrauterine device insertion in the postpartum period: a systematic review. *Eur J Contracept Reprod Health Care* 2015; **20:** 4–18.

20. Chi IC, Wilkens L, Rogers S. Expulsions in immediate postpartum insertions of Lippes Loop D and Copper T IUDs and their counterpart Delta devices – an epidemiological analysis. *Contraception* 1985; **32:** 119–134.

21. Morrison C, Waszak C, Katz K, *el al.* Clinical outcomes of two early postpartum IUD insertion programs in Africa. *Contraception* 1996; **53***:* 17–21.

22. Eroğlu K, Akkuzu G, Vural G, *et al.* Comparison of efficacy and complications of IUD insertion in immediate postplacental/early postpartum period with interval period: 1 year follow-up. *Contraception* 2006; **74:** 376–381.

23. Heinemann K, Reed S, Moehner S, *et al*. Risk of uterine perforation with levonorgestrel-releasing and copper intrauterine devices in the European Active Surveillance Study on Intrauterine Devices. *Contraception* 2015; **91**: 274–297.

24. Chen BA, Reeves MF, Creinin MD, *et al*. Postplacental or delayed levonorgestrel intrauterine device insertion and breast-feeding duration. *Contraception* 2011; **84:** 499–504.

25. Brito MB, Ferriani RA, Quintana SM, *et al*. Safety of the etonogestrel-releasing implant during the immediate postpartum period: a pilot study. *Contraception* 2009; **80:** 519–526.

26. Gurtcheff SE, Turok DK, Stoddard G, *et al*. Lactogenesis after early postpartum use of the contraceptive implant: a randomized controlled trial. *Obstet Gynecol* 2011; **117:** 1114–1121.

27. Bahamondes L, Bahamondes MV, Modesto W, *et al*. Effect of hormonal contraceptives during breastfeeding on infant's milk ingestion and growth. *Fertil Steril* 2013; **100:** 445–450.

28. Costa ML, Cecatti JG, Krupa FG, *et al*. Progestin-only contraception prevents bone loss in postpartum breastfeeding women. *Contraception* 2012; **85:** 374–380.

29. Shaamash AH, Sayed GH, Hussien MM, *et al*. A comparative study of the levonorgestrel-releasing intrauterine system Mirena versus the Copper T380A intrauterine device during lactation: breast-feeding performance, infant growth and infant development. *Contraception* 2005; **72:** 346–351.

30. Elsedeek MS. Puerperal and menstrual bleeding patterns with different types of contraceptive device fitted during elective cesarean delivery. *Int J Gynaecol Obstet* 2012: **116:** 31–34.

31. Okusanya BO, Oduwole O, Effa EE. Immediate postabortal insertion of intrauterine devices. *Cochrane Database Syst Rev* 2014; **7:** CD001777.

32. El Tagy A Sakr , Sokal DC, Issac AH. Safety and acceptability of post-abortal IUD insertion and the importance of counseling. *Contraception* 2003; **67:** 229–234.

33. Moussa A. Evaluation of postabortion IUD insertion in Egyptian women. *Contraception* 2001; **63:** 315–317.

34. Timonen H, Luukkainen T. Immediate postabortion insertion of the copper-T (TCu-200) with eighteen months follow-up. *Contraception* 1974; **9:** 153–160.

35. Gupta I, Devi PK. Studies on immediate post-abortion copper 'T' device. *Indian J Med Res* 1975; **63:** 736–739.

36. Suvisaari J, Lähteenmäki P. Detailed analysis of menstrual bleeding patterns after postmenstrual and postabortal insertion of a copper IUD or a levonorgestrel-releasing intrauterine system. *Contraception* 1996; **54:** 201–208.

37. Stanwood NL, Grimes DA, Schulz KF. Insertion of an intrauterine contraceptive device after induced or spontaneous abortion: a review of the evidence. *BJOG* 2001; **108:** 1168–1173.

38. Pakarinen P, Toivonen J, Luukkainen T. Randomized comparison of levonorgestrel- and copper-releasing intrauterine systems immediately after abortion, with 5 years' follow-up. *Contraception* 2003; **68:** 31–34.

39. Gillett PG, Lee NH, Yuzpe AA, *et al*. A comparison of the efficacy and acceptability of the Copper-7 intrauterine device following immediate or delayed insertion after first-trimester therapeutic abortion. *Fertil Steril* 1980; **34:** 121–124.

40. Zhang PZ. Five years experience with the copper T 200 in Shanghai – 856 cases. *Contraception* 1980; **22:** 561–571.

41. World Health Organization's Special Programme of Research Development and Research Training in Human Reproduction: Task Force on Intrauterine Devices for Fertility Regulation. IUD insertion following spontaneous abortion: a clinical trial of the TCu 220C, Lippes loop D, and copper 7. *Stud Fam Plann* 1983; **14:** 109–114.

42. World Health Organization's Special Programme of Research Development and Research Training in Human

Reproduction: Task Force on Intrauterine Devices for Fertility Regulation. IUD insertion following termination of pregnancy: a clinical trial of the TCu 220C, Lippes loop D, and copper 7. *Stud Fam Plann* 1983; **14:** 99–108.

43. World Health Organization's Special Programme of Research Development and Research Training in Human Reproduction: Task Force on Intrauterine Devices for Fertility Regulation. The Alza T IPCS 52, a longer acting progesterone IUD: safety and efficacy compared to the TCu220C and multiload 250 in two randomized multicentre trials. *Clin Reprod Fertil* 1983; **2**: 113–128.

44. Hohmann HL, Reeves MF, Chen BA, *et al.* Immediate versus delayed insertion of the levonorgestrel-releasing intrauterine device following dilation and evacuation: a randomized controlled trial. *Contraception* 2012; **85:** 240–245.

45. Sääv I, Stephansson O, Gemzell-Danielsson K. Early versus delayed insertion of intrauterine contraception after medical abortion – a randomized controlled trial. *PLOS One* 2012; **7:** e48948.

46. Cremer M, Bullard KA, Mosley RM, *et al.* Immediate vs. delayed post-abortal copper T 380A IUD insertion in cases over 12 weeks of gestation. *Contraception* 2011; **83:** 522–527.

47. Bednarek PH, Creinin MD, Reeves MF, *et al*. Immediate versus delayed IUD insertion after uterine aspiration. *N Engl J Med* 2011; **364***:* 2208–2217.

48. Betstadt SJ, Turok DK, Kapp N, *et al.* Intrauterine device insertion after medical abortion. *Contraception* 2011; **83:** 517–521.

49. Drey EA, Reeves MF, Ogawa DD, *et al.* Insertion of intrauterine contraceptives immediately following first- and second-trimester abortions. *Contraception* 2009; **79:** 397–402.

50. Shimoni NA, Davis A, Ramos ME, *et al.* Timing of copper intrauterine device insertion after medical abortion: a randomized controlled trial. *Obstet Gynecol* 2011; **118:** 623–628.

51. McElduff P, Dobson A, Beaglehole R, *et al*. Rapid reduction on coronary risk for those who quit cigarette smoking. *Aust N Z J Public Health* 1998; **22**: 787–791.

52. Rosenberg R, Palmer JR, Shapiro S. Decline in the risk of myocardial infarction among women who stop smoking. *N Engl J Med* 1990; **322**: 213–217.

53. Kenfield SA, Stampfer MJ, Rosner BA. Smoking and smoking cessation in relation to mortality in women. *JAMA* 2008; **299:** 2037–2047.

54. Fong YF, Singh K. Effect of the levonorgestrel-releasing intrauterine system on uterine myomas in a renal transplant patient. *Contraception* 1999; **60**: 51–53.

55. Zerner J, Doil KL, Drewry J, *et al*. Intrauterine contraceptive device failures in renal transplant patients. *J Reprod Med* 1981; **26:** 99–102.

56. Lessan-Pezeshki M, Ghazizadeh S, Khatami MR, *et al*. Fertility and contraceptive issues after kidney transplantation in women. *Transplant Proc* 2004; **36:** 1405–1406.

57. O'Donnell D. Contraception in the female transplant recipient. *Dial Transplant* 1986; **15:** 610–612.

58. Kingman CE, Kadir RA, Lee CA, *et al*. The use of the levonorgestrel-releasing intrauterine system for treatment of menorrhagia in women with inherited bleeding disorders. *BJOG* 2004; **111:** 1425–1428.

59. Pisoni CN, Cuadrado MJ, Khamashta MA, *et al*. Treatment of menorrhagia associated with oral anticoagulation: efficacy and safety of the levonorgestrel releasing intrauterine device (Mirena coil). *Lupus* 2006; **15:** 877–880.

60. Schaedel ZE, Dolan G, Powell MC. The use of the levonorgestrel-releasing intrauterine system in the management of menorrhagia in women with hemostatic disorders. *Am J Obstet Gynecol* 2005; **193:** 1361–1363.

61. British National Formulary (online). 7.3.1. Combined hormonal contraceptives. http://www.evidence.nhs.uk/formulary/bnf/current/7-obstetrics-gynaecology-and-urinary-tract-disorders/73-contraceptives/731-combined-hormonal-contraceptives [accessed 8 Feb 2016]

62. Wu O, Robertson L, Twaddle S, *et al.* Screening for thrombophilia in high-risk situations: a meta-analysis and cost-effectiveness analysis. *Br J Haematol* 2005; **131:** 80–90.

63. Middledrop S, van Hylckama Vlieg A. Does thrombophilia testing help in the clinical management of patients? *Br J Haematol* 2008; **143:** 321–335.

64. Blickstein D, Blickstein I. Oral contraception and thrombophilia. *Curr Opin Obstet Gynecol* 2007; **19:** 370–376.

65. Anderson BS, Olsen J, Nielsen GL, *et al*. Third generation oral contraceptives and heritable thrombophilia as risk factors of non-fatal venous thromboembolism. *Thromb Haemost* 1998; **79:** 28–31.

66. Aznar J, Mira Y, Vaya A, *et al*. Factor V Leiden and pro-thrombin G20210A mutations in young adults with cryptogenic ischaemic stroke. *Thromb Haemost* 2004; **91:** 1031–1034.

67. Bennet L, Odeberg H. Resistance to activated protein C, highly prevalent amongst users of oral contraceptives with venous thromboembolism. *J Intern Med* 1998; **244:** 27–32.

68. Bloemenkamp KW, Rosendaal FR, Helmerhorst FM, *et al.* Enhancement by factor V Leiden mutation of risk of deep-vein thrombosis associated with oral contraceptives containing a third-generation progestagen. [Comment]. *Lancet* 1995; **346:** 1593–1596.

69. Bloemenkamp KW, Rosendaal FR, Helmerhorst FM, *et al*. Higher risk of venous thrombosis during early use of oral contraceptives in women with inherited clotting defects. [Comment]. *Arch Intern Med* 2000; **160:** 49–52.

70. de Bruijn SF, Stam J, Koopman MM, *et al*. Case-control study of risk of cerebral sinus thrombosis in oral contraceptive users and in [correction of who are] carriers of hereditary prothrombotic conditions. The Cerebral Venous Sinus Thrombosis Study Group. *BMJ* 1998; **316:** 589–592.

71. Emmerich J, Rosendaal FR, Cattaneo M, *et al*. Combined effect of factor V Leiden and prothrombin 20210A on the risk of venous thromboembolism – pooled analysis of 8 case-control studies including 2310 cases and 3204 controls. Study Group for Pooled-Analysis in Venous Thromboembolism. *Thromb Haemost* 2001; **86:** 809–816.

72. Gadelha T, Andre C, Juca AA, *et al*. Prothrombin 20210A and oral contraceptive use as risk factors for cerebral venous thrombosis. *Cerebrovasc Dis* 2005; **19:** 49–52.

73. Legnani C, Palareti G, Guazzaloca G, *et al.* Venous thromboembolism in young women: role of thrombophilic mutations and oral contraceptive use. *Eur Heart J* 2002; **23:** 984–990.

74. Martinelli I, Sacchi E, Landi G, *et al*. High risk of cerebral-vein thrombosis in carriers of a prothrombin-gene mutation and in users of oral contraceptives. [Comment]. *N Engl J Med* 1998; **338:** 1793–1797.

75. Martinelli I, Taioli E, Bucciarelli P, *et al*. Interaction between the G20210A mutation of the prothrombin gene and oral contraceptive use in deep vein thrombosis. *Arterioscler Throm Vasc Biol* 1999; **19:** 700–703.

76. Martinelli I, Battaglioli T, Bucciarelli P, *et al*. Risk factors and recurrence rate of primary deep vein thrombosis of the upper extremities. *Circulation* 2004; **110:** 566–570.

77. Martinelli I, Battaglia C, Burgo I, *et al*. Oral contraceptive use, thrombophilia and their interaction in young women with ischaemic stroke. *Haematologica* 2006; **91:** 844–847.

78. Middeldorp S, Meinardi JR, Koopman MM, *et al*. A prospective study of asymptomatic carriers of the factor V Leiden mutation to determine the incidence of venous thromboembolism. [Comment]. *Ann Intern Med* 2001; **135:** 322–327.

79. Pabinger I, Schneider B. Thrombotic risk of women with hereditary antithrombin lll-, protein C- and protein S-deficiency taking oral contraceptive medication. The GTH Study Group on Natural Inhibitors. *Thromb Haemost* 1994; **71**: 548–552.

80. Pezzini A, Grassi M, Iacoviello L, *et al*. Inherited thrombophilia and stratification of ischaemic stroke risk among users of oral contraceptives. *J Neurol Neurosurg Psychiatry* 2007; **78:** 271–276.

81. Santamaria A, Mateo J, Oliver A, *et al*. Risk of thrombosis associated with oral contraceptives of women from 97 families with inherited thrombophilia: high risk of thrombosis in carriers of the G20210A mutation of the prothrombin gene. *Haematologica* 2001; **86:** 965–971.

82. Slooter AJ, Rosendaal FR, Tanis BC, *et al*. Prothrombotic conditions, oral contraceptives, and the risk of ischaemic stroke. *J Thromb Haemost* 2005; **3:** 1213–1217.

83. Spannagl M, Heinemann LAJ, Schramm W. Are factor V Leiden carriers who use oral contraceptives at extreme risk of venous thromboembolism? *Eur J Contracept Reprod Health Care* 2000; **5:** 105–112.

84. van Boven HH, Vandenbroucke JP, Briet E, *et al*. Gene-gene and gene-environment interactions determine risk of thrombosis in families with inherited antithrombin deficiency. *Blood* 1999; **94:** 2590–2594.

85. van Vlijmen EF, Brouwer JL, Veeger NJ, *et al*. Oral contraceptives and the absolute risk of venous thromboembolism in women with single or multiple thrombophilic defects: results from a retrospective family cohort study. *Arch Intern Med* 2007; **167:** 282–289.

86. Vandenbroucke JP, Koster T, Briet E, *et al*. Increased risk of venous thrombosis in oral-contraceptive users who are carriers of factor V Leiden mutation. [Comment]. *Lancet* 1994; **344:** 1453–1457.

87. Vaya AM. Prothrombin G20210A mutation and oral contraceptive use increase upper-extremity deep vein thrombotic risk. *Thromb Haemost* 2003; **89:** 452–457.

88. Royal College of General Practitioners' Oral Contraception Study. Oral contraceptives, venous thrombosis, and varicose veins. *J R Coll Gen Pract* 1978; **192:** 393–399.

89. Roach RE, Lijfering WM, van Hylckama Vlieg A, *et al*. The risk of venous thrombosis in individuals with a history of superficial vein thrombosis and acquired venous thrombotic risk factors. *Blood* 2013; **122:** 4264–4269.

90. Medscape. Cardiology. http://emedicine.medscape.com/cardiology [accessed 8 Feb 2016]

91. Faculty of Sexual and Reproductive Healthcare. *Contraceptive Choice for Women with Cardiac Disease*. 2014. http://www.fsrh.org/pdfs/CEUGuidanceContraceptiveChoicesWomenCardiacDisease.pdf [accessed 8 Feb 2016]

92. National Institute for Health and Care Excellence (NICE). *Prophylaxis Against Infective Endocarditis: Antimicrobial Prophylaxis Against Infective Endocarditis in Adults and Children Undergoing Interventional Procedures.* 2008. https://www.nice.org.uk/guidance/cg64 [accessed 8 Feb 2016]

93. Avila WS, Grinberg M, Melo NR, *et al*. Contraceptive use in women with heart disease [in Portuguese]. *Arq Bras Cardiol* 1996; **66:** 205–211.

94. Suri V, Aggarwal N, Kaur R, *et al*. Safety of intrauterine contraceptive device (copper T 200 B) in women with cardiac disease. *Contraception* 2008; **78:** 315–318.

95. MacGregor EA. Contraception and headache. *Headache* 2013; **53:** 247–276.

96. Edlow AG, Bartz D. Hormonal contraceptive options for women with headache: a review of the evidence. *Rev Obstet Gynecol* 2010; **2**: 55–65.

97. Headache Classification Committee of the International Headache Society (IHS). The International Classification of Headache Disorders, 3rd edition (beta version). C*ephalalgia* 2013; **33:** 629–808.

98. MedicinesComplete. Stockley's Interaction Checker. https://www.medicinescomplete.com/mc/alerts/current/drug-interactions.htm [accessed 9 November 2017]

99. National Institute of Health and Care Excellence. *Heavy Menstrual Bleeding: Assessment and Management.* 2007. http://www.nice.org.uk/nicemedia/pdf/CG44FullGuideline.pdf [accessed 8 Feb 2016]

100. Faculty of Sexual and Reproductive Healthcare. *Problematic Bleeding with Hormonal Contraception.* 2015. http://www.fsrh.org/pdfs/CEUGuidanceProblematicBleedingHormonalContraception.pdf [accessed 8 Feb 2016]

101. Hendrix SL, Alexander NJ. Primary dysmenorrhea treatment with a desogestrel-containing low dose oral contraceptive. *Contraception* 2002; **66**: 393–399.

102. Wong CL, Farquhar C, Roberts H, *et al*. Oral contraceptive pill for primary dysmenorrhoea. *Cochrane Database Syst Rev* 2009; **4:** CD002120.

103. Barrington JW, Arunkalaivanan AS, Abdel-Fattah M. Comparison between the levonorgestrel intrauterine system (LNG-IUS) and thermal balloon ablation in the treatment of menorrhagia. *Eur J Obstet Gynecol Reprod Biol* 2003; **108:** 72–74.

104. Gupta B, Mittal S, Misra R, *et al*. Levonorgestrel-releasing intrauterine system vs. transcervical endometrial resection for dysfunctional uterine bleeding. *Int J Gynaecol Obstet* 2006; **95:** 261–266.

105. Hurskainen R, Teperi J, Rissanen P, *et al*. Quality of life and cost-effectiveness of levonorgestrel-releasing intrauterine system versus hysterectomy for treatment of menorrhagia: a randomised trial. *Lancet* 2001; **357:** 273–277.

106. Istre O, Trolle B. Treatment of menorrhagia with the levonorgestrel intrauterine system versus endometrial resection. *Fertil Steril* 2001; **76:** 304–309.

107. Koh SC, Singh K. The effect of levonorgestrel-releasing intrauterine system use on menstrual blood loss and the hemostatic, fibrinolytic/inhibitor systems in women with menorrhagia. *J Thromb Haemost* 2007; **5:** 133–138.

108. Lethaby A, Hussain M, Rishworth JR, *et al*. Progesterone or progestogen-releasing intrauterine systems for heavy menstrual bleeding. *Cochrane Database Syst Rev* 2015; **4:** CD002126.

109. Magalhaes J, Aldrighi JM, de Lima GR. Uterine volume and menstrual patterns in users of the levonorgestrel-releasing intrauterine system with idiopathic menorrhagia or menorrhagia due to leiomyomas. *Contraception* 2007; **75:** 193–198.

110. Stewart A, Cummins C, Gold L, *et al*. The effectiveness of the levonorgestrel-releasing intrauterine system in menorrhagia: a systematic review. *BJOG* 2001; **108**: 74–86

111. Fedele L, Bianchi S, Zanconato G, *et al*. Use of a levonorgestrel-releasing intrauterine device in the treatment of rectovaginal endometriosis. *Fertil Steril* 2001; **75:** 485–488.

112. Lockhat FBE. The effect of a levonorgestrel intrauterine system (LNG-IUS) on symptomatic endometriosis. *Fertil Steril* 2002; **77:** S24.

113. Petta CA, Ferriani RA, Abrao MS, *et al*. Randomized clinical trial of a levonorgestrel-releasing intrauterine system and a depot GnRH analogue for the treatment of chronic pelvic pain in women with endometriosis. *Hum Reprod* 2005; **20:** 1993–1998.

114. Vercellini P, Aimi G, Panazza S, *et al*. A levonorgestrel-releasing intrauterine system for the treatment of dysmenorrhea associated with endometriosis: a pilot study. *Fertil Steril* 1999; **72:** 505–508.

115. Vercellini P, Frontino G, De GO, *et al*. Comparison of a levonorgestrel-releasing intrauterine device versus expectant management after conservative surgery for symptomatic endometriosis: a pilot study. *Fertil Steril* 2003; **80:** 305–309.

116. Ho Yuen B, Burch P. Relationship of oral contraceptives and the intrauterine contraceptive devices to the regression of concentration of the beta subunit of human chorionic gonadotropin and invasive complications after molar pregnancy. *Am J Obstet Gynecol* 1983; **145:** 214–217.

117. Adewole IF, Oladokun A, Fawole AO, *et al*. Fertility regulatory methods and development of complications after evacuation of complete hydatidiform mole. *J Obstet Gynaecol* 2000; **20:** 68–69.

118. Deicas RE, Miller DS, Radmaker AW, *et al*. The role of contraception in the development of postmolar trophoblastic tumour. *Obstet Gynecol* 1991; **78:** 221–226.

119. Gaffield ME, Kapp N, Curtis KM. Combined oral contraceptive and intrauterine device use among women with gestational trophoblastic disease. *Contraception* 2009; **80:** 363–371.

120. Wildemeersch D, Schacht E. The effect on menstrual blood loss in women with uterine fibroids of a novel 'frameless' intrauterine levonorgestrel-releasing drug delivery system: a pilot study. *Eur J Obstet Gynecol Reprod Biol* 2002; **102:** 74–79.

121. Wildemeersch D, Schacht E, Wildemeersch P. Treatment of primary and secondary dysmenorrhea with a novel 'frameless' intrauterine levonorgestrel-releasing drug delivery system: a pilot study. *Eur J Contracept Reprod Health Care* 2001; **6:** 192–198.

122. Wildemeersch D, Schacht E, Wildemeersch P. Contraception and treatment in the perimenopause with a novel 'frameless' intrauterine levonorgestrel-releasing drug delivery system: an extended pilot study. *Contraception* 2002; **66:** 93–99.

123. Wildemeersch D, Schacht E, Wildemeersch P. Performance and acceptability of intrauterine release of levonorgestrel with a miniature delivery system for hormonal substitution therapy, contraception and treatment in peri and postmenopausal women. *Maturitas* 2003; **44:** 237–245.

124. Fedele L, Bianchi S, Raffaelli R, *et al*. Treatment of adenomyosis-associated menorrhagia with a levonorgestrel-releasing intrauterine device. *Fertil Steril* 1997; **68:** 426–429.

125. Tasci Y, Caglar GS, Kayikcioglu F, *et al*. Treatment of menorrhagia with the levonorgestrel releasing intrauterine system: effects on ovarian function and uterus. *Arch Gynecol Obstet* 2009; **280:** 39–42.

126. Jindabanjerd K, Taneepanichskul S. The use of levonorgestrel–IUD in the treatment of uterine myoma in Thai women. *J Med Assoc Thai* 2006; **89:** S147–S151.

127. Rosa E Silva JC, de Sa Rosa e Silva AC, Candido dos Reis FJ, *et al*. Use of a levonorgestrel-releasing intrauterine device for the symptomatic treatment of uterine myomas. *J Reprod Med* 2005; **50:** 613–617.

128. Mercorio F, De SR, Di Spiezio SA, *et al*. The effect of a levonorgestrel-releasing intrauterine device in the treatment of myoma-related menorrhagia. *Contraception* 2003; **67:** 277–280.

129. Grigorieva V, Chen-Mok M, Tarasova M, *et al*. Use of a levonorgestrel-releasing intrauterine system to treat bleeding related to uterine leiomyomas. *Fertil Steril* 2003; **79:** 1194–1198.

130. Starczewski A, Iwanicki M. Intrauterine therapy with levonorgestrel releasing IUD of women with hypermenorrhea secondary to uterine fibroids [in Polish]. *Ginekol Pol* 2000; **71:** 1221–1225.

131. Soysal S, Soysal ME. The efficacy of levonorgestrel-releasing intrauterine device in selected cases of myoma-related menorrhagia: a prospective controlled trial. *Gynecol Obstet Invest* 2005; **59:** 29–35.

132. Ikomi A, Mansell E, Spence-Jones C, *et al.* Treatment of menorrhagia with the levonorgestrel intrauterine system: can we learn from our failures? *J Obstet Gynaecol* 2000; **20:** 630–631.

133. Larsson B, Wennergren M. Investigation of a copper-intrauterine device (Cu-IUD) for possible effect on frequency and healing of pelvic inflammatory disease. *Contraception* 1977; **15:** 143–149.

134. Soderberg G, Lindgren S. Influence of an intrauterine device on the course of an acute pelvic inflammatory disease. *Contraception* 1981; **24:** 137–143.

135. Teisala K. Removal of an intrauterine device and the treatment of acute pelvic inflammatory disease. *Ann Med* 1989; **21:** 63–65.

136. Campbell SJ, Cropsey KL, Matthews CA. Intrauterine device use in a high-risk population: experience from an urban university clinic. *Am J Obstet Gynecol* 2007; **197:** 193e1–193e6.

137. Cropsey KL, Matthews C, Campbel S, *et al*. Long-term, reversible contraception use among high-risk women treated in a university-based gynecology clinic: comparison between IUD and depo-provera. *J Womens Health (Larchmt)* 2010; **19:** 349–353.

138. Faúndes A, Telles E, Cristofoletti ML, *et al*. The risk of inadvertent intrauterine device insertion in women carriers of endocervical *Chlamydia trachomatis*. *Contraception* 1998; **58:** 105–109.

139. Ferraz do Lago R, Simoes JA, Bahamondes L, *et al*. Follow-up of users of intrauterine device with and without bacterial vaginosis and other cervicovaginal infections. *Contraception* 2003; **68:** 105–109.

140. Mohllajee AP, Curtis KM, Peterson HB. Does insertion and use of an intrauterine device increase the risk of pelvic inflammatory disease among women with sexually transmitted infection? A systematic review. *Contraception* 2006; **73:** 145–153.

141. Morrison CS, Sekadde-Kigondu C, Miller WC, *et al*. Use of sexually transmitted disease risk assessment algorithms for selection of intrauterine device candidates. *Contraception* 1999; **59:** 97–106.

142. Pap-Akeson M, Solheim F, Thorbert G*, et al*. Genital tract infections associated with the intrauterine contraceptive device can be reduced by inserting the threads into the uterine cavity. *Br J Obstet Gynaecol* 1992; **99:** 676–679.

143. Sinei SK, Schulz KF, Lamptey PR, *et al*. Preventing IUCD-related pelvic infection: the efficacy of prophylactic doxycycline at insertion. *Br J Obstet Gynaecol* 1990; **97:** 412–419.

144. Skjeldestad FE, Halvorsen LE, Kahn H, *et al*. IUD users in Norway are at low risk for genital *C. trachomatis* infection. *Contraception* 1996; **54:** 209–212.

145. Walsh TL, Bernstein GS, Grimes DA, *et al*. Effect of prophylactic antibiotics on morbidity associated with IUD insertion: results of a pilot randomized controlled trial. IUD Study Group. *Contraception* 1994; **50:** 319–327.

146. Carael M, Van de Perre PH, Lepage PH, *et al*. Human immunodeficiency virus transmission among heterosexual couples in Central Africa. *AIDS* 1988; **2:** 201–205.

147. European Study Group on Heterosexual Transmission of HIV. Comparison of female to male and male to female transmission of HIV in 563 stable couples. *BMJ* 1992; **304:** 809–813.

148. Mann JM, Nzilambi N, Piot P, *et al*. HIV infection and associated risk factors in female prostitutes in Kinshasa, Zaire. *AIDS* 1998; **2**: 249–254.

149. Kapiga SH, Lyamuya EF, Lwihula GK, *et al*. The incidence of HIV infection among women using family planning methods in Dar es Salaam, Tanzania. *AIDS* 1998; **12:** 75–84.

150. Kapiga SH, Shao JF, Lwihula GK, *et al*. Risk factors for HIV infection among women in Dar-es-Salaam, Tanzania. *J Acquir Immune Defic Syndr* 1994; **7:** 301–309.

151. Martin HL Jr, Nyange PM, Richardson BA, *et al*. Hormonal contraception, sexually transmitted diseases, and risk of heterosexual transmission of human immunodeficiency virus type 1. *J Infec Dis* 1998; **178:** 1053–1059.

152. Mati JK, Hunter DJ, Maggwa BN, *et al*. Contraceptive use and the risk of HIV infection in Nairobi, Kenya. *Int J Gynecol Obstet* 1995; **48:** 61–67.

153. Nicolosi A, Correa Leite ML, Musicco M, *et al*. The efficiency of male-to-female and female-to-male sexual transmission of the human immunodeficiency virus: a study of 730 stable couples. Italian Study Group on HIV Heterosexual Transmission. [Comment]. *Epidemiology* 1994; **5:** 570–575.

154. Plourde PJ, Plummer FA, Pepin J, *et al*. Human immunodeficiency virus type 1 infection in women attending a sexually transmitted diseases clinic in Kenya. [Comment]. *J Infect Dis* 1992; **166:** 86–92.

155. Sinei SK, Fortney JA, Kigondu CS, *et al*. Contraceptive use and HIV infection in Kenyan family planning clinic attenders. *Int J STD AIDS* 1996; **7:** 65–70.

156. Spence MR, Robbins SM, Polansky M, *et al*. Seroprevalence of human immunodeficiency virus type I (HIV-1) antibodies in a family-planning population. *Sex Transm Dis* 1991; **18:** 143–145.

157. Mostad SB, Overbaugh J, Devange DM, *et al*. Hormonal contraception, vitamin A deficiency, and other risk factors for shedding of HIV-1 infected cells from the cervix and vagina. *Lancet* 1997; **350:** 922–927.

158. Sinei SK, Morrison cs, Sekaddek-Kigondy C, *et al*. Complications of use of intrauterine devices among HIV-1 infected women. *Lancet* 1998; **351:** 1238–1241.

159. Richardson BA, Morrison CS, Sekaddek-Kigondy C, *et al*. Effect of intrauterine device use on cervical shedding of HIV-1 DNA. *AIDS* 1999; **13:** 2091–2097.

160. Kovacs A, Wasserman SS, Burns D, *et al*. Determinants of HIV-1 shedding in the genital tract of women. *Lancet* 2001; **358:** 1593–1601.

161. Morrison CS, Sekkaddek-Kigondu C, Sinei SK, *et al*. Is the intrauterine device appropriate contraception for HIV-1 infected women? *BJOG* 2001; **108:** 784–790.

162. Heikinheimo O, Lehtovirta P, Suni J, *et al*. The levonorgestrel-releasing intrauterine system (LNG-IUS) in HIV-infected women – effects on bleeding patterns, ovarian function and genital shedding of HIV. *Hum Reprod* 2006; **21:** 2857–2861.

163. Stringer EM, Kaseba C, Levy J, *et al*. A randomized trial of the intrauterine contraceptive device vs hormonal contraception in women who are infected with the human immunodeficiency virus. *Am J Obstet Gynecol* 2007; **197:** 144–148.

164. Lehtovirta P, Paavonen J, Heikinheimo O. Experience with the levonorgestrel-releasing intrauterine system among HIV-infected women. *Contraception* 2007; **75:** 37–39.

165. Kakaire O, Byamugisha JK, Tumwesigye, NM, *et al.* Clinical versus laboratory screening for sexually transmitted infections prior to insertion of intrauterine contraception among women living with HIV/AIDS: a randomized controlled trial. *Hum Reprod* 2015; **30:** 1573–1579.

166. Heikinheimo O, Lehtovirta P, Aho I, *et al*. The levonorgestrel-releasing intrauterine system in human immunodeficiency virus-infected women: a 5-year follow-up study. *Am J Obstet Gynecol* 2011; **204:** 126e1–126e4.

167. www.HIV-Drugsinteraction.org. Drug Interaction Charts. www.hiv-druginteractions.org/Interactions.aspx [accessed 8 Feb 2016]

168. Rogovskaya S, Rivera R, Grimes DA, *et al*. Effect of a levonorgestrel intrauterine system on women with type 1 diabetes: a randomized trial. *Obstet Gynecol* 2005; **105:** 811–815.

169. Grigoryan OR, Grodnitskaya EE, Andreeva EN, *et al*. Contraception in perimenopausal women with diabetes mellitus. *Gynecol Endocrinol* 2006; **22:** 198–206.

170. Gines P, Quintero E, Arroyo V, *et al*. Compensated cirrhosis: natural history of prognostic factors. *Hepatology* 1987; **7**: 122–128.

171. Bernatsky S, Ramsey-Goldman R, Gordon C, *et al*. Factors associated with abnormal Pap results in systemic lupus erythematosus. *Rheumatology (Oxford)* 2004; **43:** 1386–1389.

172. Bernatsky S, Clarke A, Ramsey-Goldman R, *et al*. Hormonal exposures and breast cancer in a sample of women with systemic lupus erythematosus. *Rheumatology (Oxford)* 2004; **43:** 1178–1181.

173. Chopra N, Koren S, Greer WL, *et al*. Factor V Leiden, pro-thrombin gene mutation, and thrombosis risk in patients with antiphospholipid antibodies. *J Rheumatol* 2002; **29:** 1683–1688.

174. Esdaile JM, Abrahamowicz M, Grodzicky T, *et al*. Traditional Framingham risk factors fail to fully account for accelerated atherosclerosis in systemic lupus erythematosus. *Arthritis Rheum* 2001; **44:** 2331–2337.

175. Julkunen HA. Oral contraceptives in systemic lupus erythematosus: side-effects and influence on the activity of SLE. *Scand J Rheumatol* 1991; **20:** 427–433.

176. Julkunen HA, Kaaja R, Friman C. Contraceptive practice in women with systemic lupus erythematosus. *Br J Rheumatol* 1993; **32:** 227–230.

177. Jungers P, Dougados M, Pelissier C, *et al*. Influence of oral contraceptive therapy on the activity of systemic lupus erythematosus. *Arthritis Rheum* 1982; **25:** 618–623.

178. Manzi S, Meilahn EN, Rairie JE, *et al*. Age-specific incidence rates of myocardial infarction and angina in women with systemic lupus erythematosus: comparison with the Framingham Study. *Am J Epidemiol* 1997; **145:** 408–415.

179. McAlindon T, Giannotta L, Taub N, *et al*. Environmental factors predicting nephritis in systemic lupus erythematosus. *Ann Rheum Dis* 1993; **52:** 720–724.

180. McDonald J, Stewart J, Urowitz MB, *et al*. Peripheral vascular disease in patients with systemic lupus erythematosus. *Ann Rheum Dis* 1992; **51:** 56–60.

181. Mintz G, Gutierrez G, Deleze M, *et al*. Contraception with progestogens in systemic lupus erythematosus. *Contraception* 1984; **30:** 29–38.

182. Petri M. Musculoskeletal complications of systemic lupus erythematosus in the Hopkins Lupus Cohort: an update. *Arthritis Care Res* 1995; **8:** 137–145.

183. Petri M, Kim MY, Kalunian KC, *et al*. Combined oral contraceptives in women with systemic lupus erythematosus. *N Engl J Med* 2005; **353:** 2550–2558.

184. Petri M. Lupus in Baltimore: evidence-based 'clinical pearls' from the Hopkins Lupus Cohort. *Lupus* 2005; **14:** 970–973.

185. Sanchez-Guerrero J, Uribe AG, Jimenez-Santana L, *et al*. A trial of contraceptive methods in women with systemic lupus erythematosus. *N Engl J Med* 2005; **353:** 2539–2549.

186. Sarabi ZS, Chang E, Bobba R, *et al*. Incidence rates of arterial and venous thrombosis after diagnosis of systemic lupus erythematosus. *Arthritis Rheum* 2005; **53:** 609–612.

187. Schaedel ZE, Dolan G, Powell MC. The use of the levonorgestrel-releasing intrauterine system in the management of menorrhagia in women with hemostatic disorders. *Am J Obstet Gynecol* 2005*;* **193:** 1361–1363.

188. Somers E, Magder LS, Petri M. Antiphospholipid antibodies and incidence of venous thrombosis in a cohort of patients with systemic lupus erythematosus. *J Rheumatol* 2002; **29:** 2531–2536.

189. Urowitz MB, Bookman AA, Koehler BE, *et al*. The bimodal mortality pattern of systemic lupus erythematosus. *Am J Med* 1976; **60:** 221–222.

190. Pengo V, Biasiolo A, Pegoraro C, *et al*. Antibody profiles for the diagnosis of antiphospholipid syndrome. *Thromb Haemost* 2005; **93:** 1147–1152.

191. Ruffatti A, Tonello M, Del Ross T, *et al*. Antibody profile and clinical course in primary antiphospholipid syndrome with pregnancy morbidity. *Thromb Haemost* 2006; **96:** 337–341.

192. Miyakis S, Lockshin MD, Atsumi T, *et al*. International consensus statement on an update of the classification criteria for definite antiphospholipid syndrome. *J Thromb Haemost* 2006; **4:** 295–306.

Progestogen-only Contraception (POC)

1. Faculty of Sexual and Reproductive Healthcare. *Progestogen-only Implants.* 2014. http://www.fsrh.org/pdfs/CEUGuidanceProgestogenOnlyImplants.pdf [accessed 8 Feb 2016]

2. Faculty of Sexual and Reproductive Healthcare. *Progestogen-only Injectable Contraception.* 2014. http://www.fsrh.org/pdfs/CEUGuidanceProgestogenOnlyInjectables.pdf [accessed 8 Feb 2016]

3. Faculty of Sexual and Reproductive Healthcare. *Progestogen-only Pills.* 2015. http://www.fsrh.org/pdfs/CEUGuidanceProgestogenOnlyPills.pdf [accessed 8 Feb 2016]

4. Korver T, Klipping C, Heger-Mahn D, *et al*. Maintenance of ovulation inhibition with the 75-microg desogestrel-only contraceptive pill (Cerazette) after scheduled 12-h delay in tablet intake. *Contraception* 2005; **71:** 8–13.

5. National Institute for Health and Clinical Excellence (NICE). *Long-acting Reversible Contraception: The Effective and Appropriate Use of Long-acting Reversible Contraception.* 2005. http://www.nice.org.uk/nicemedia/pdf/CG030fullguideline.pdf [accessed 8 Feb 2016]

6. Faculty of Sexual and Reproductive Healthcare. *Contraceptive Choices for Young People.* 2010. http://www.fsrh.org/pdfs/ceuGuidanceYoungPeople2010.pdf [accessed 8 Feb 2016]

7. World Health Organization Task Force for Epidemiological Research on Reproductive Health; Special Programme of Research, Development and Research Training in Human Reproduction. Progestogen-only Contraceptives During Lactation: I. Infant Growth. *Contraception* 1994; **50**: 35–53.

8. Matias SL, Nommsen-Rivers LA, Dewey KG. Determinants of exclusive breastfeeding in a cohort of primiparous periurban Peruvian mothers. *J Hum Lact* 2012; **28:** 45–54.

9. McEwan JA, Joyce DN, Tothill AU, *et al*. Early experience in contraception with a new progestogen. *Contraception* 1977; **16:** 339–350.

10. Bahamondes L, Bahamondes MV, Modesto W, *et al*. Effect of hormonal contraceptives during breastfeeding on infant's milk ingestion and growth. *Fertil Steril* 2013; **100:** 445–450.

11. Brito MB, Ferriani RA, Quintana SM *et al*. Safety of the etonogestrel-releasing implant during the immediate postpartum period: a pilot study. *Contraception* 2009; **80:** 519–526.

12. Brownell EA, Fernandez ID, Fisher SG, *et al*. The effect of immediate postpartum depot medroxyprogesterone on early breastfeeding cessation. *Contraception* 2013; **87:** 836–843.

13. Chen BA, Reeves MF, Creinin MD, *et al*. Postplacental or delayed levonorgestrel intrauterine device insertion and breast-feeding duration. *Contraception* 2011; **84:** 499–504.

14. Costa ML, Cecatti JG, Krupa FG, *et al*. Progestin-only contraception prevents bone loss in postpartum breastfeeding women. *Contraception* 2012; **85:** 374–380.

15. Dahlberg K. Some effects of depo-medroxyprogesterone acetate (DMPA): observations in the nursing infant and in the long-term user. *Int J Gynaecol Obstet* 1982; **20:** 43–48.

16. Díaz S, Reyes MV, Zepeda A, *et al*. Norplant® implants and progesterone vaginal rings do not affect maternal bone turnover and density during lactation and after weaning. *Hum Reprod* 1999; **14:** 2499–2505.

17. Espey E, Ogburn T, Leeman, *et al*. Effect of progestin compared with combined oral contraceptive pills on lactation: a randomized controlled trial. *Obstet Gynecol* 2012; **119:** 5–13.

18. Gurtcheff SE, Turok DK, Stoddard G, *et al*. Lactogenesis after early postpartum use of the contraceptive implant: a randomized controlled trial. *Obstet Gynecol* 2011; **117**: 1114–1121.

19. Kamal I, Hefnawi F, Ghoneim M, *et al*. Clinical, biochemical, and experimental studies on lactation. II. Clinical effects of gestagens on lactation. *Am J Obstet Gynecol* 1969; **105:** 324–334.

20. Pardthaisong T, Yenchit C, Gray R. The long-term growth and development of children exposed to Depo-Provera during pregnancy or lactation. *Contraception* 1992; **45:** 313–324.

21. Zañartu J, Aguilera E, Muñoz G, *et al*. Effect of a long-acting contraceptive progestogen on lactation. *Obstet Gynecol* 1976; **47:** 174–176.

22. Abdel-Aleem H, Abol-Oyoun ESM, Shaaban MM, *et al*. The use of nomegestrol acetate subdermal contraceptive implant, uniplant, during lactation. *Contraception* 1996; **54:** 281–286.

23. Abdulla KA, Elwan SI, Salem HS, *et al*. Effect of early postpartum use of the contraceptive implants, NORPLANT, on the serum levels of immunoglobulins of the mothers and their breastfed infants. *Contraception* 1985; **32:** 261–266.

24. Affandi B, Karmadibrata S, Phihartono J, *et al*. Effect of Norplant on mothers and infants in the postpartum period. *Adv Contracept* 1986; **2:** 371–380.

25. Baheiraei A, Ardsetani N, Ghazizadeh SH. Effects of progestogen-only contraceptives on breast-feeding and infant growth. *Int J Gynaecol Obstet* 2001; **74:** 203–205.

26. Bjarnadóttir RI, Gottfredsdóttir H, Sigurdardóttir K, *et al*. Comparative study of the effects of a progestogen-only pill containing desogestrel and an intrauterine contraceptive device in lactating women. *BJOG* 2001; **108:** 1174–1180.

27. Coutinho EM, Athayde C, Dantas C, *et al*. Use of a single implant of elcometrine (ST-1435), a nonorally active progestin, as a long acting contraceptive for postpartum nursing women. *Contraception* 1999; **59:** 115–122.

28. Croxatto HB, Diaz S, Peralta O, *et al*. Fertility regulation in nursing women. II. Comparative performance of progesterone implants versus placebo and copper T. *Am J Obstet Gynecol* 1982; **144:** 201–208.

29. Díaz S, Peralta O, Juez G, *et al*. Fertility regulation in nursing women: VII. Influence of NORPLANT levonorgestrel implants upon lactation and infant growth. *Contraception* 1985; **32:** 53–74.

30. Díaz S, Peralta O, Juez G, *et al*., Fertility regulation in nursing women. VI. Contraceptive effectiveness of a subdermal progesterone implant. *Contraception* 1984; **30:** 311–325.

31. Díaz S, Zepeda A, Maturana X, *et al*. Fertility regulation in nursing women. IX. Contraceptive performance, duration of lactation, infant growth, and bleeding patterns during use of progesterone vaginal rings, progestin-only pills, Norplant implants, and Copper T 380-A intrauterine devices. *Contraception* 1997; **56:** 223–232.

32. Giner VJ, Cortés GV, Sotelo LA, *et al*. Effect of daily oral administration of 0.350 mg of norethindrone on lactation and on the composition of milk. *Ginecol Obstet Mex* 1976; **40:** 31–39.

33. Guiloff E, Ibarra-Polo A, Zañartu J, *et al*. Effect of contraception on lactation. *Am J Obstet Gynecol* 1974; **118:** 42–45.

34. Halderman LD, Nelson AL. Impact of early postpartum administration of progestin-only hormonal contraceptives compared with nonhormonal contraceptives on short-term breast-feeding patterns. *Am J Obstet Gynecol* 2002; **186:** 1250–1258.

35. Hannon PR, Duggan AK, Serwint JR, *et al*. The influence of medroxyprogesterone on the duration of breast-feeding in mothers in an urban community. *Arch Pediatr Adolesc Med* 1997; **151:** 490–496.

36. Heikkila M, Luukkainen T. Duration of breast-feeding and development of children after insertion of a levonorgestrel-releasing intrauterine contraceptive device. *Contraception* 1982; **25:** 279–292.

37. Jimenez J, Ochoa M, Soler MP, *et al*. Long-term follow-up of children breast-fed by mothers receiving depot-medroxyprogesterone acetate. *Contraception* 1984; **30:** 523–533.

38. Kamal I, Hefnawi F, Ghoneim M, *et al*. Clinical, biochemical, and experimental studies on lactation. V. Clinical effects of steroids on the initiation of lactation. *Am J Obstet Gynecol* 1970; **108:** 655–658.

39. Karim M, Ammar R, El Mahgoub S, *et al*. Injected progestogen and lactation. *Br Med J* 1971; **1:** 200–203.

40. Massai MR, Díaz S, Quinteros E, *et al*. Contraceptive efficacy and clinical performance of Nestorone implants in postpartum women. *Contraception* 2001; **64:** 369–376.

41. McCann MF, Moggia AV, Higgins JE, *et al*. The effects of a progestin-only oral contraceptive (levonorgestrel 0.03 mg) on breast-feeding. *Contraception* 1989; **40:** 635–648.

42. Moggia AV, Harris GS, Dunson TR, *et al*. A comparative study of a progestin-only oral contraceptive versus non-hormonal methods in lactating women in Buenos Aires, Argentina. *Contraception* 1991; **44:** 31–43.

43. Reinprayoon D, Taneepanichskul S, Bunyavejchevin S, *et al*. Effects of the etonogestrel-releasing contraceptive implant (Implanon®) on parameters of breastfeeding compared to those of an intrauterine device. *Contraception* 2000; **62:** 239–246.

44. Schiappacasse V, Díaz S, Zepeda A, *et al*. Health and growth of infants breastfed by Norplant contraceptive implants users: a six-year follow-up study. *Contraception* 2002; **66:** 57–65.

45. Seth U, Yadava HS, Agarwal N, *et al*. Effect of a subdermal silastic implant containing norethindrone acetate on human lactation. *Contraception* 1977; **16:** 383–398.

46. Shaaban MM. Contraception with progestogens and progesterone during lactation. *J Steroid Biochem Mol Biol* 1991; **40:** 705–710.

47. Shaaban MM, Salem HT, Abdullah KA. Influence of levonorgestrel contraceptive implants, NORPLANT®, initiated early postpartum upon lactation and infant growth. *Contraception* 1985; **32:** 623–635.

48. Shaamash AH, Sayed GH, Hussien MM, *et al*. A comparative study of the levonorgestrel-releasing intrauterine system Mirena versus the Copper T380A intrauterine device during lactation: breast-feeding performance, infant growth and infant development. *Contraception* 2005; **72:** 346–351.

49. Shikary ZK, Betrabet SS, Toddywala WS, *et al*. Pharmacodynamic effects of levonorgestrel (LNG) administered either orally or subdermally to early postpartum lactating mothers on the urinary levels of follicle stimulating hormone (FSH), luteinizing hormone (LH) and testosterone (T) in their breast-fed male infants. *Contraception* 1986; **34:** 403–412.

50. Taneepanichskul S, Reinprayoon D, Thaithumyanon P, *et al*. Effects of the etonogestrel-releasing implant Implanon® and a nonmedicated intrauterine device on the growth of breast-fed infants. *Contraception* 2006; **73:** 368–371.

51. Tankeyoon M, Dusitsin N, Chalapati S, *et al*. Effects of hormonal contraceptives on milk volume and infant growth. WHO Special Programme of Research, Development and Research Training in Human Reproduction Task Force on Oral Contraceptives. *Contraception* 1984; **30:** 505–522.

52. West CP. The acceptability of a progestagen-only contraceptive during breast-feeding. *Contraception* 1983; **27:** 563–569.

53. Zacharias S, Aguilera E, Assenzo JR, *et al*. Effects of hormonal and nonhormonal contraceptives on lactation and incidence of pregnancy. *Contraception* 1986; **33:** 203–213.

54. Zañartu J, Aguilera E, Munoz-Pinto G. Maintenance of lactation by means of continuous low-dose progestogen given post-partum as a contraceptive. *Contraception* 1976; **13:** 313–318.

55. Knight J, Pyper C. Postnatal contraception: what are the choices? *Nursing in Practice* 2002; **May**: 23–25.

56. Faculty of Sexual and Reproductive Healthcare. *Postnatal Sexual and Reproductive Health.* 2009. http://www.fsrh.org/pdfs/CEUGuidancePostnatal09.pdf [accessed 8 Feb 2016]

57. Faculty of Family Planning and Reproductive Health Care. Clinical Effectiveness Unit. The use of contraception outside the terms of the product licence. *J Fam Plann Reprod HealthCare* 2005; **31**: 225–241.

58. World Health Organization Collaborative Study of Cardiovascular Disease and Steroid Hormone Contraception. Cardiovascular Disease and Use of Oral and Injectable Progestogen-Only Contraceptives and Combined Injectable Contraceptives. *Contraception* 1998; **57**: 315–324.

59. Dunn N, Faragher B, Thorogood M, *et al*. Oral contraceptives and myocardial infarction: results of the MICA case-control study. *BMJ 1999;* **318**: 1579–1584.

60. Croft P, Hannaford P. Risk factors for acute myocardial infarction in women – evidence from the Royal College of General Practitioners' oral contraceptive study. *BMJ* 1989; **298**: 165–168.

61. Rosenberg R, Palmer JR, Shapiro S. Decline in the risk of myocardial infarction among women who stop smoking. *N Engl J Med* 1990; **322**: 213–217.

62. Vessey M, Painter R, Yeates D. Mortality in relation to oral contraceptive and cigarette smoking. *Lancet* 2003; **362:** 185–191.

63. McElduff P, Dobson A, Beaglehole R, *et al*. Rapid reduction on coronary risk for those who quit cigarette smoking. *Aust N Z J Public Health* 1998; **22**: 787–791.

64. Kenfield SA, Stampfer MJ, Rosner BA. Smoking and smoking cessation in relation to mortality in women. *JAMA* 2008; **7:** 2037–2047.

65. Leiman G. Depo-medroxyprogesterone acetate as a contraceptive agent: its effect on weight and blood pressure. *Am J Obstet Gynecol* 1972; **114:** 97–102.

66. Clark MK, Dillon JS, Sowers M, *et al*. Weight, fat mass, and central distribution of fat increase when women use depot-medroxyprogesterone acetate for contraception. *Int J Obes (Lond)* 2005; **29:** 1252–1258.

67. Kozlowski KJ, Rickert VI, Hendon A, *et al*. Adolescents and Norplant: preliminary findings of side effects. *J Adolesc Health* 1995; **16:** 373–378.

68. Risser WL, Gefter LR, Barratt MS, *et al*. Weight change in adolescents who used hormonal contraception. *J Adolesc Health* 1999; **24:** 433–436.

69. Mangan SA, Larsen PG, Hudson S. Overweight teens at increased risk for weight gain while using depot medroxyprogesterone acetate. *J Pediatr Adolesc Gynecol* 2002; **15:** 79–82.

70. Jain J, Jakimiuk AJ, Bode FR, *et al*. Contraceptive efficacy and safety of DMPA-SC. *Contraception* 2004; **70:** 269–275.

71. Westhoff C, Jain JK, Milsom I, *et al*. Changes in weight with depot medroxyprogesterone acetate subcutaneous injection 104 mg/0.65 mL. *Contraception* 2007; **75:** 261–267.

72. Bonny AE, Ziegler J, Harvey R, *et al*. Weight gain in obese and nonobese adolescent girls initiating depot medroxyprogesterone, oral contraceptive pills, or no hormonal contraceptive method. *Arch Pediatr Adolesc Med* 2006; **160:** 40–45.

73. Bonny AE, Secic M, Cromer B. Early weight gain related to later weight gain in adolescents on depot medroxyprogesterone acetate. *Obstet Gynecol* 2011; **117:** 793–797.

74. Berenson AB, Rahman M. Changes in weight, total fat, percent body fat, and central-to-peripheral fat ratio associated with injectable and oral contraceptive use. *Am J Obstet Gynecol* 2009; **200:** 329.e1–329.e8.

75. Le YC, Rahman M, Berenson AB. Early weight gain predicting later weight gain among depot medroxyprogesterone acetate users. *Obstet Gynecol* 2009; **114:** 279–284.

76. Beksinska ME, Smit JA, Kleinschmidt I, *et al*. Prospective study of weight change in new adolescent users of DMPA, NET-EN, COCs, nonusers and discontinuers of hormonal contraception. *Contraception 2010*; **81:** 30-34.

77. Pantoja M, Medeiros T, Baccarin MC, *et al*. Variations in body mass index of users of depot-medroxyprogesterone acetate as a contraceptive. *Contraception 2010*; **81:** 107-111.

78. Segall-Gutierrez P, Xiang AH, Watanabe RM, *et al*. Deterioration in cardiometabolic risk markers in obese women during depot medroxyprogesterone acetate use. *Contraception 2012*; **85:** 36-41.

79. Gerlach LS, Saldana SN, Wang Y, *et al*. Retrospective review of the relationship between weight change and demographic factors following initial depot medroxyprogesterone acetate injection in adolescents. *Clin Ther* 2011; **33:** 182–187.

80. Nyirati CM, Habash DL, Shaffer LE. Weight and body fat changes in postpartum depot-medroxyprogesterone acetate users. *Contraception* 2013; **88:** 169–176.

81. Bender NM, Segall-Gutierrez P, Najera SO, *et al*. Effects of progestin-only long-acting contraception on metabolic markers in obese women. *Contraception* 2013; **88:** 418–425.

82. Lopez LM, Grimes DA, Chen M, *et al*. Hormonal contraceptives for contraception in overweight or obese women. *Cochrane Database Syst Rev* 2013 **4:** CD008452.

83. Weiss HG, Nehoda H, Labeck B, *et al*. Pregnancies after adjustable gastric banding. *Obes Surg* 2001; **11:** 303–306.

84. Gerrits EG, Ceulemans R, van HR, *et al*. Contraceptive treatment after biliopancreatic diversion needs consensus. *Obes Surg* 2003; **13:** 378–382.

85. Victor A, Odlind V, Kral JG. Oral contraceptive absorption and sex hormone binding globulins in obese women: effects of jejunoileal bypass. *Gastroenterol Clin North Am* 1987; **16:** 483–491.

86. Andersen AN, Lebech PE, Sorensen TI, *et al*. Sex hormone levels and intestinal absorption of estradiol and D-norgestrel in women following bypass surgery for morbid obesity. *Int J Obes* 1982; **6:** 91–96.

87. National Institute for Health and Care Excellence (NICE). *Hypertension in Adults: Diagnosis and Management.* 2011. https://www.nice.org.uk/guidance/cg127 [accessed 8 Feb 2016]

88. Heinemann LAJ, Assmann A, DoMinh T, *et al*. Oral progestogen-only contraceptives and cardiovascular risk: results from the Transnational Study on Oral Contraceptives and the Health of Young Women. *Eur J Contracept Reprod Health Care* 1999; **4:** 67–73.

89. Vasilakis C, Jick H, del Mar Melero-Montes M. Risk of idiopathic venous thromboembolism in users of progestogens alone. *Lancet* 1999; **354:** 1610–1611.

90. Sonmezer M, Atabekoglu C, Cengiz B, *et al*. Depot-medroxyprogesterone acetate in anticoagulated patients with previous hemorrhagic corpus luteum. *Eur J Contracept Reprod Health Care* 2005; **10**: 9–14.

91. Culwell KR, Curtis KM. Use of contraceptive methods by women with current venous thrombosis on anticoagulant therapy: a systematic review. *Contraception* 2009; **80:** 337–345.

92. British National Formulary (online). 7.3.1. Combined hormonal contraceptives. http://www.evidence.nhs.uk/formulary/bnf/current/7-obstetrics-gynaecology-and-urinary-tract-disorders/73-contraceptives/731-combined-hormonal-contraceptives [accessed 8 Feb 2016]

93. Wu O, Robertson L, Twaddle S, *et al.* Screening for thrombophilia in high-risk situations: a meta-analysis and cost-effectiveness analysis. *Br J Haematol* 2005; **131:** 80–90.

94. Middledrop S, van Hylckama Vlieg A. Does thrombophilia testing help in the clinical management of patients? *Br J Haematol* 2008; **143:** 321–335.

95. Blickstein D, Blickstein I. Oral contraception and thrombophilia. *Curr Opin Obstet Gynecol* 2007; **19:** 370–376.

96. Medscape. Cardiology. http://emedicine.medscape.com/cardiology [accessed 8 Feb 2016]

97. Avila WS, Grinberg M, Melo NR, *et al*. Contraceptive use in women with heart disease [in Portuguese]. *Arq Bras Cardiol* 1996; **66:** 205–211.

98. Taurelle R, Ruet C, Jaupart F, *et al*. Contraception using a progestagen-only minipill in cardiac patients [in French]. *Arch Mal Coeur Vaiss* 1979; **72:** 98–106.

99. Giudicessi JR, Brost BC, Traynor KD, *et al*. Potential depot medroxyprogesterone acetate-triggered torsades de pointes in a case of congential type 2 long QT syndrome. *Heart Rhythm* 2012; **7**: 1143–1147.

100. Kern J, Duffy M, Kern C, *et al*. Long QTc syndrome type 2 presenting in a postpartum patient on medroxyprogesterone. *Case Reports in Cardiology* 2014; Article ID: 676080.

101. MacGregor EA. Contraception and headache. *Headache* 2013; **53:** 247–276.

102. Edlow AG, Bartz D. Hormonal contraceptive options for women with headache: a review of the evidence. *Rev Obstet Gynecol* 2010; **3:** 55–65.

103. Headache Classification Committee of the International Headache Society (IHS). The International Classification of Headache Disorders, 3rd edition (beta version). *Cephalalgia* 2013; **33:** 629–808.

104. MedicinesComplete. Stockley's Interaction Checker. https://www.medicinescomplete.com/mc/alerts/current/drug-interactions.htm [accessed 9 November 2017]

105. Cromer BA, Smith RD, Dwyer J, *et al*. A prospective study of adolescents who choose among levonorgestrel implant (Norplant), medroxyprogesterone acetate (Depo-Provera), or the combined oral contraceptive pill as contraception. *Pediatrics* 1994; **94:** 687–694.

106. Gupta N, O'Brien R, Jacobson LJ, *et al*. Mood changes in adolescents using depot-medroxyprogesterone acetate for contraception: a prospective study. *J Pediatr Adolesc Gynecol* 2001; **14:** 71–76.

107. Westhoff C, Truman C, Kalmuss DS, *et al*. Depressive symptoms and Norplant® contraceptive implants. *Contraception* 1998; **57:** 241–245.

108. Westhoff C, Truman C, Kalmuss DM, *et al*. Depressive symptoms and Depo-Provera®. *Contraception* 1998; **57**: 237–240.

109. National Institute of Health and Care Excellence. *Heavy Menstrual Bleeding:Assessment and Management.* 2007. http://www.nice.org.uk/nicemedia/pdf/CG44FullGuideline.pdf [accessed 8 Feb 2016]

110. Faculty of Sexual and Reproductive Healthcare. *Problematic Bleeding with Hormonal Contraception.* 2015. http://www.fsrh.org/pdfs/CEUGuidanceProblematicBleedingHormonalContraception.pdf [accessed 8 Feb 2016]

111. Braga A, Maestá I, Short D, *et al.* Hormonal contraceptive use before hCG remission does not increase the risk of gestational trophoblastic neoplasia following complete hydatidiform mole: a historical database review. *BJOG* 2015*;* 7 October [e-pub ahead of print]. doi: 10.1111/1471-0528.13617. [accessed 8 Feb 2016]

112. Smith JS, Green JS, Berrington de Gonzalez A, *et al*. Cervical cancer and use of hormonal contraceptives: a systematic review. *Lancet* 2003; **361**: 1159–1167.

113. Baeten JM, Nyaneg PM, Richardson BA, *et al*. Hormonal contraception and risk of sexually transmitted disease acquisition: results from a prospective study. *Am J Obstet Gynecol* 2001; **185**: 380–385.

114. Giuliano AR, Papenfuss M, Abrahamsen M, *et al*. Human papillomavirus infection at the United States-Mexico border: implications for cervical cancer prevention and control. *Cancer Epidemiol Biomarkers Prev* 2001; **10**: 1129–1136.

115. Jacobson DL, Peralta L, Farmer M, *et al*. Relationship of hormonal contraception and cervical ectopy as measured by computerized planimetry to chlamydial infection in adolescents. *Sex Transm Dis* 2000; **27:** 313–319.

116. Lavreys L, Bhavna C, Rhonda A, *et al*. Human herpesvirus 8: seroprevalence and correlates in prostitutes in Mombasa, Kenya. *J Infect Dis* 2003; **187**: 359–363.

117. Moscicki AB, Shilboski S, Powell K, *et al.* Risks for incident human papillomavirus infection and low-grade squamous intraepithelial lesion development in young females. *JAMA* 2001; **285**: 2995–3002.

118. Nsofor BI, Bello CS, Ekwempu CC. Sexually transmitted disease among women attending a family planning clinic in Zaria, Nigeria. *Int J Gynecol Obstet* 1989; **28**: 365–367.

119. Ruijs GJ, Kaver FM, Van Gijssel PM, *et al*. Direct immunofluorescence for *Chlamydia trachomatis* on urogenital smears for epidemiological purposes. *Eur J Obstet Gynecol Reprod Biol* 1988; **27:** 289–297.

120. Polis CB, Phillips SJ, Curtis KM, *et al*. Hormonal contraceptive methods and risk of HIV acquisition in women: a systematic review of epidemiological evidence. *Contraception* 2014; **90:** 360–390.

121. Reid SE, Dai JY, Wang J, *et al*. Pregnancy, contraceptive use, and HIV acquisition in HPTN 039: relevance for HIV prevention trials among African women. *J Acquir Immune Defic Syndr* 2010; **53:** 606–613.

122. Lutalo T, Musoke R, Kong X, *et al.* Effects of hormonal contraceptive use on HIV acquisition and transmission among HIV-discordant couples. *AIDS* 2013; **27:** S27–S34.

123. Allen S, Stephenson R, Weiss H, *et al*. Pregnancy, hormonal contraceptive use, and HIV-related death in Rwanda. *J Womens Health* 2007; **16:** 1017–1027.

124. Kilmarx PH, Limpakarnjanarat K, Kaewkungwal J, *et al.* Disease progression and survival with human immunodeficiency virus type 1 subtype E infection among female sex workers in Thailand. *J Infect Dis* 2000; **181:** 1598–1606.

125. Morrison CS, Chen PL, Nankya I, *et al.* Hormonal contraceptive use and HIV disease progression among women in Uganda and Zimbabwe. *J Acquir Immune Defic Syndr* 2011; **57:** 157–164.

126. Polis CB, Wawer MJ, Kiwanuka N, *et al*. Effect of hormonal contraceptive use on HIV progression in female HIV seroconverters in Rakai, Uganda. *AIDS* 2010; **24:** 1937–1944.

127. Stringer EM, Giganti M, Carter RJ, *et al*. Hormonal contraception and HIV disease progression: a multicountry cohort analysis of the MTCT-Plus Initiative. *AIDS* 2009; **23:** S69–S77.

128. Stringer EM, Kaseba C, Levy J, *et al.* A randomized trial of the intrauterine contraceptive device vs hormonal contraception in women who are infected with the human immunodeficiency virus. *Am J Obstet Gynecol* 2007; **197:** 144.e1–144.e8.

129. Stringer EM, Levy J, Sinkala M, *et al*. HIV disease progression by hormonal contraceptive method: secondary analysis of a randomized trial. *AIDS 2009;* **23:** 1377–1382.

130. Heikinheimo O, Lehtovirta P, Aho I, *et al*. The levonorgestrel-releasing intrauterine system in human immunodeficiency virus-infected women: a 5-year follow-up study. *Am J Obstet Gynecol* 2011; **204:** 126. e1–126.e4.

131. Cejtin HE, Jacobson L, Springer G, *et al*. Effect of hormonal contraceptive use on plasma HIV-1-RNA levels among HIV-infected women. *AIDS* 2003; **17:** 1702–1704.

132. Richardson BA, Otieno PA, Mbori-Ngacha D, *et al*. Hormonal contraception and HIV-1 disease progression among postpartum Kenyan women. *AIDS* 2007; **21:** 749–753.

133. Clark RA, Theall KP, Amedee AM, *et al*. Lack of association between genital tract HIV-1 RNA shedding and hormonal contraceptive use in a cohort of Louisiana women. *Sex Transm Dis* 2007; **34:** 870–872.

134. Clemetson DB, Moss GB, Willerford DM, *et al.* Detection of HIV DNA in cervical and vaginal secretions. Prevalence and correlates among women in Nairobi, Kenya. *JAMA* 1993; **269:** 2860–2864.

135. Graham SM, Masese L, Gitau R, *et al*. Antiretroviral adherence and development of drug resistance are the strongest predictors of genital HIV-1 shedding among women initiating treatment. *J Infect Dis* 2010; **202:** 1538–1542.

136. Kovacs A, Wasserman SS, Burns D, *et al*. Determinants of HIV-1 shedding in the genital tract of women. *Lancet* 2001; **358:** 1593–1601.

137. Kreiss J, Willerford DM, Hensel M, *et al*. Association between cervical inflammation and cervical shedding of human immunodeficiency virus DNA. *J Infect Dis* 1994; **170:** 1597–1601.

138. Kumwenda JJ, Makanani B, Taulo F, *et al*. Natural history and risk factors associated with early and established HIV type 1 infection among reproductive-age women in Malawi. *Clin Infect Dis* 2008; **46:** 1913–1920.

139. Lavreys L, Baeten JM, Kreiss JK, *et al.* Injectable contraceptive use and genital ulcer disease during the early phase of HIV-1 infection increase plasma virus load in women. *J Infect Dis* 2004; **189:** 303–311.

140. Morrison CS, Demers K, Kwok C, *et al*. Plasma and cervical viral loads among Ugandan and Zimbabwean women during acute and early HIV-1 infection. *AIDS* 2010; **24:** 573–582.

141. Mostad SB, Overbaugh J, DeVange DM, *et al.* Hormonal contraception, vitamin A deficiency, and other risk factors for shedding of HIV-1 infected cells from the cervix and vagina. *Lancet* 1997; **350:** 922–927.

142. Polis CB, Gray RH, Bwanika JB, *et al.* Effect of hormonal contraceptive use before HIV seroconversion on viral load setpoint among women in Rakai, Uganda. *J Acquir Immune Defic Syndr* 2011; **56:** 125–130.

143. Roccio M, Gardella B, Maserati R, *et al*. Low-dose combined oral contraceptive and cervicovaginal shedding of human immunodeficiency virus. *Contraception* 2011; **83:** 564–570.

144. Sagar M, Lavreys L, Baeten JM, *et al*. Identification of modifiable factors that affect the genetic diversity of the transmitted HIV-1 population. *AIDS 2004;* **18:** 615–619.

145. Seck K, Samb N, Tempesta S, *et al*. Prevalence and risk factors of cervicovaginal HIV shedding among HIV-1 and HIV-2 infected women in Dakar, Senegal. *Sex Transm Infect* 2001; **77:** 190–193.

146. Tanton C, Weiss HA, Le Goff J, *et al*. Correlates of HIV-1 genital shedding in Tanzanian women. *PloS One* 2011; **6:** e17480.

147. www.hiv-druginteractions.org. Drug Interaction Charts. www.hiv-druginteractions.org/Interactions.aspx [accessed 8 Feb 2016]

148. Pyorala T, Vahapassi J, Huhtala M. The effect of lynestrenol and norethindrone on the carbohydrate and lipid metabolism in subjects with gestational diabetes. *Ann Chir Gynaecol* 1979; **68:** 69–74.

149. Radberg T, Gustafson A, Skryten A, *et al.* Metabolic studies in women with previous gestational diabetes during contraceptive treatment: effects on serum lipids and high density lipoproteins. *Acta Endocrinol (Copenh)* 1982; **101:** 134–139.

150. Kjos SL, Peters RK, Xiang A, *et al*. Contraception and the risk of type 2 diabetes mellitus in Latina women with prior gestational diabetes mellitus. *JAMA* 1998; **280:** 533–538.

151. Nelson AL, Le MH, Musherraf Z, *et al*. Intermediate-term glucose tolerance in women with a history of gestational diabetes: natural history and potential associations with breastfeeding and contraception. *Am J Obstet Gynecol* 2008; **198:** 699.e1–699.e8.

152. Xiang AH, Kawakubo M, Kjos SL, *et al.* Long-acting injectable progestin contraception and risk of type 2 diabetes in Latino women with prior gestational diabetes mellitus. *Diabetes Care* 2006; **29:** 613–617.

153. Xiang AH, Kawakubo M, Buchanan TA, *et al*. A longitudinal study of lipids and blood pressure in relation to method of contraception in Latino women with prior gestational diabetes mellitus. *Diabetes Care* 2007; **30:** 1952–1958.

154. Diab KM, Zaki MM. Contraception in diabetic women: comparative metabolic study of norplant, depot medroxy-progesterone acetate, low dose oral contraceptive pill and CuT380A. *J Obstet Gynaecol Res* 2000; **26:** 17–26.

155. Lunt H, Brown LJ. Self-reported changes in capillary glucose and insulin requirements during the menstrual cycle. *Diabet Med* 1995; **13:** 525–530.

156. Radberg T, Gustafson A, Skryten A, *et al*. Oral contraception in diabetic women. A cross-over study on serum and high density lipoprotein (HDL) lipids and diabetes control during progestogen and combined estrogen/progestogen contraception. *Horm Metab Res* 1982; **14:** 61–65.

157. Skouby SO, Molsted-Petersen L, Kuhl C, *et al.* Oral contraceptives in diabetic women: metabolic effects of four compounds with different estrogen/progestogen profiles. *Fertil Steril* 1986; **46**: 858–864.

158. Gines P, Quintero E, Arroyo V, *et al.* Compensated cirrhosis: natural history of prognostic factors. *Hepatology* 1987; **7**: 122–128.

159. D'halluin V, Vilgrain V, Pelletier G, *et al*. Natural history of focal nodular hyperplasia. A retrospective study of 44 cases. *Gastroenterol Clin Biol* 2001; **25**: 1008–1010.

160. Mathieu D, Kobeiter H, Maison P, *et al*. Oral contraceptive use and focal nodular hyperplasia of the liver. *Gastroenterology* 2000; **118**: 560–564.

161. Kapp N, Curtis KM. Hormonal contraceptive use among women with liver tumors: a systematic review. *Contraception* 2009; **80**: 387–390.

162. Bitton A, Peppercorn MA, Antonioli DA, et al. Clinical, biological, and histologic parameters as predictors of relapse in ulcerative colitis. Gastroenterology 2001; 120: 13–20.

163. Cosnes J, Carbonnel F, Carrat F, et al. Oral contraceptive use and the clinical course of Crohn's disease: a prospective cohort study. Gut 1999; 45: 218–222.

164. Sutherland LR, Ramcharan S, Bryant H, et al. Effect of oral contraceptive use on reoperation following surgery for Crohn's disease. Dig Dis Sci 1992; 37: 1377–1382.

165. Timmer A, Sutherland LR, Martin F. Oral contraceptive use and smoking are risk factors for relapse in Crohn's disease. The Canadian Mesalamine for Remission of Crohn's Disease Study Group. Gastroenterology 1998; 114: 1143–1150.

166. Wright JP. Factors influencing first relapse in patients with Crohn's disease. *J Clin Gastroenterol* 1992; **15**: 12–16.

167. Haddad LB, Curtis KM, Legardy-Williams JK, *et al*. Contraception for individuals with sickle cell disease: a systematic review of the literature. *Contraception* 2012; **85***:* 527–537.

168. Adadevoh BK, Isaacs WA. The effect of megestrol acetate on sickling. *Am J Med Sci* 1973; **265**: 367–370.

169. Barbosa IC, Lapdipo OA, Maria de Lourdes PN, *et al*. Carbohydrate metabolism in sickle cell patients using subdermal implant containing nomegesterol acetate (Uniplant). *Contraception* 2001; **63**: 263–265.

170. de Abood M, De Castillo Z, Guerrero F, *et al*. Effects of Depo-Provera® or Microgynon® on the painful crises of sickle cell anemia patients. *Contraception* 1997; **56**: 313–316.

171. De Ceulaer K, Hayes R, Gruber C, *et al*. Medroxyprogesterone acetate and homozygous sickle-cell disease. *Lancet* 1982; **2**: 229–231.

172. Howard RJ, Lillis C, Tuck SM. Contraceptives, counselling, and pregnancy in women with sickle cell disease. *BMJ* 1993; **306**: 1735–1737.

173. Ladipo OA, Falusi AG, Feldblum PJ, *et al*. Norplant® use by women with sickle cell disease. *Int J Gynecol Obstet* 1993; **41**: 85–87.

174. Nascimento ML, Ladipo OA, Coutinho E. Nomegestrol acetate contraceptive implant use by women with sickle cell disease. *Clin Pharmacol Ther* 1998; **64**: 433–438.

175. Yoong WC, Tuck SM, Yardumian A. Red cell deformability in oral contraceptive pill users with sickle cell anaemia. *Br J Haematol* 1999; **104**: 868–870.

176. Choy E, Ganeshalingam K, Semb AG, *et al.* Cardiovascular risk in rheumatoid arthritis: recent advances in the understanding of the pivotal role of inflammation, risk predictors and the impact of treatment. *Rheumatology 2014;* **53**: 2143–2154.

177. Camacho EM, Lunt M, Farragher TM, *et al*. The relationship between oral contraceptive use and functional outcome in women with recent onset inflammatory polyarthritis: results from the Norfolk Arthritis Register. *Arthritis Rheum* 2011; **63**: 2183–2191.

178. Demers R, Blais JA, Pretty H. Rheumatoid arthritis treated by norethynodrel associated with mestranol: clinical aspects and laboratory tests [in French]. *Can Med Assoc J* 1966; **95**: 350–354.

179. Drossaers-Bakker KW, Zwinderman AH, Van ZD, *et al.* Pregnancy and oral contraceptive use do not significantly influence outcome in long term rheumatoid arthritis. *Ann Rheum Dis* 2002; **61**: 405–408.

180. Gilbert M, Rotstein J, Cunningham C, *et al*. Norethynodrel with mestranol in treatment of rheumatoid arthritis. *JAMA* 1964; **190**: 235.

181. Gill D. Rheumatic complaints of women using anti-ovulatory drugs. An evaluation. *J Chronic Dis* 1968; **21**: 435–444.

182. Hazes JM, Dijkmans BA, Vandenbroucke JP, *et al*. Oral contraceptive treatment for rheumatoid arthritis: an open study in 10 female patients. *Br J Rheumatol* 1989; **28**(Suppl. 1): 28–30.

183. Ostensen M, Aune B, Husby G. Effect of pregnancy and hormonal changes on the activity of rheumatoid arthritis. *Scand J Rheumatol* 1983; **12**: 69–72.

184. Vignos PJ, Dorfman RI. Effect of large doses of progesterone in rheumatoid arthritis. *Am J Med Sci* 1951; **222**: 29–34.

185. Sanchez-Guerrero J, Uribe AG, Jimenez-Santana L, *et al.* A trial of contraceptive methods in women with systemic lupus erythematosus. *N Engl J Med* 2005; **353**: 2539–2542.

186. Jungers P, Dougados M, Pelissier C, *et al.* Influence of oral contraceptive therapy on the activity of systemic lupus erythematosus. *Arthritis Rheum* 1982; **25**: 618–623.

187. Mintz G, Gutierrez G, Deleze M, *et al*. Contraception with progestogens in systemic lupus erythematosus. *Contraception* 1984; **30**: 29–38.

188. Bernatsky S, Ramsey-Goldman R, Gordon C, *et al.* Factors associated with abnormal Pap results in systemic lupus erythematosus. *Rheumatology* 2004; **43**: 1386–1389.

189. Bernatsky S, Clarke A, Ramsey-Goldman R, *et al.* Hormonal exposures and breast cancer in a sample of women with systemic lupus erythematosus. *Rheumatology* 2004; **43**: 1178–1181.

190. Chopra N, Koren S, Greer WL, *et al*. Factor V Leiden, pro-thrombin gene mutation, and thrombosis risk in patients with antiphospholipid antibodies. *Rheumatology* 2002; **29**: 1683–1688.

191. Esdaile JM, Abrahamowicz M, Grodzicky T, *et al.* Traditional Framingham risk factors fail to fully account for accelerated atherosclerosis in systemic lupus erythematosus. *Arthritis Rheum* 2001; **44**: 2331–2337.

192. Julkunen HA. Oral contraceptives in systemic lupus erythematosus: side-effects and influence on the activity of SLE. *Scand J Rheumatol* 1991; **20**: 427–433.

193. Julkunen HA, Kaaja R, Friman C. Contraceptive practice in women with systemic lupus erythematosus. *Br J Rheumatol* 1993; **32**: 227–230.

194. Manzi S, Meilahn EN, Rairie JE, *et al.* Age-specific incidence rates of myocardial infarction and angina in women with systemic lupus erythematosus: comparison with the Framingham Study. *Am J Epidemiol* 1997; **145**: 408–415.

195. McAlindon T, Giannotta L, Taub N, *et al.* Environmental factors predicting nephritis in systemic lupus erythematosus. *Ann Rheum Dis 1993*; **52**: 720-724.

196. McDonald J, Stewart J, Urowitz MB, *et al.* Peripheral vascular disease in patients with systemic lupus erythematosus. *Ann Rheum Dis* 1992; **51**: 56–60.

197. Petri M. Musculoskeletal complications of systemic lupus erythematosus in the Hopkins Lupus Cohort: an update. *Arthritis Care Res* 1995; **8**: 137–145.

198. Petri M, Kim MY, Kalunian KC, *et al*. Combined oral contraceptives in women with systemic lupus erythematosus. *N Engl J Med* 2005; **353**: 2550–2558.

199. Petri M. Lupus in Baltimore: evidence-based 'clinical pearls' from the Hopkins Lupus Cohort. *Lupus* 2005; **14**: 970–973.

200. Sanchez-Guerrero J, Uribe AG, Jimenez-Santana L, *et al.* A trial of contraceptive methods in women with systemic lupus erythematosus. *N Engl J Med* 2005; **353**: 2539–2549.

201. Sarabi ZS, Chang E, Bobba R, *et al.* Incidence rates of arterial and venous thrombosis after diagnosis of systemic lupus erythematosus. *Arthritis Rheum* 2005; **53**: 609–612.

202. Schaedel ZE, Dolan G, Powell MC. The use of the levonorgestrel-releasing intrauterine system in the management of menorrhagia in women with hemostatic disorders. *Am J Obstet Gynecol* 2005; **193**: 1361–1363.

203. Somers E, Magder LS, Petri M. Antiphospholipid antibodies and incidence of venous thrombosis in a cohort of patients with systemic lupus erythematosus. *J Rheumatol* 2002; **29**: 2531–2536.

204. Urowitz MB, Bookman AA, Koehler BE, *et al.* The bimodal mortality pattern of systemic lupus erythematosus. *Am J Med* 1976; **60**: 221–225.

205. Pengo V, Biasiolo A, Pegoraro C, *et al.* Antibody profiles for the diagnosis of antiphospholipid syndrome. *Thromb Haemost* 2005; **93**: 1147–1152.

206. Ruffatti A, Tonello M, Del Ross T, *et al*. Antibody profile and clinical course in primary antiphospholipid syndrome with pregnancy morbidity. *Thromb Haemost* 2006; **96**: 337–341.

207. Miyakis S, Lockshin MD, Atsumi T, *et al*. International consensus statement on an update of the classification criteria for definite antiphospholipid syndrome. *J Thromb Haemost* 2006; **4**: 295–306.

Combined Hormonal Contraception (CHC)

1. Faculty of Sexual and Reproductive Healthcare. *Combined Hormonal Contraception.* 2011. http://www.fsrh.org/pdfs/CEUGuidanceCombinedHormonalContraception.pdf [accessed 8 Feb 2016]

2. Faculty of Sexual and Reproductive Healthcare. *Statement: Venous Thromboemolism (VTE) and Hormonal Contraception.* November 2014. http://www.fsrh.org/pdfs/FSRHStatementVTEandHormonalContraception.pdf [accessed 8 Feb 2016]

3. Tepper NK, Phillips SJ, Kapp N, *et al*. Combined hormonal contraceptive use among breastfeeding women: an updated systematic review. *Contraception* 2015; 19 May [Epub ahead of print]. doi: 10.1016/j.contraception.2015.05.006. [accessed 8 Feb 2016]

4. Kamel H, Navi BB, Sriram N, *et al*. Risk of a thrombotic event after the 6-week postpartum period. *N Engl J Med* 2014; **370**: 1307–1315.

5. Sultan AA, Tata LJ, West J, *et al*. Risk factors for first venous thromboembolism around pregnancy: a population-based cohort study from the United Kingdom. *Blood* 2013; **121**: 3953–3961.

6. Sultan AA, West J, Tata LJ, *et al*. Risk of first venous thromboembolism in and around pregnancy: a population-based cohort study. *Br J Haematol* 2012; **156**: 366–373.

7. Tepper NK, Boulet SL, Whiteman MK, *et al.* Postpartum venous thromboembolism: incidence and risk factors. *Obstet Gynecol* 2014; **123**: 987–996.

8. Jackson E, Curtis KM, Gaffield ME. Risk of venous thromboembolism during the postpartum period: a systematic review. *Obstet Gynecol* 2011; **117**: 691–703.

9. Petersen JF, Bergholt T, Nielsen AK, *et al*. Combined hormonal contraception and risk of venous thromboembolism within the first year following pregnancy. Danish nationwide historical cohort 1995–2009. *Thromb Haemost* 2014; **112**: 73–78.

10. Jackson E, Glasier A. Return of ovulation and menses in postpartum nonlactating women: a systematic review. *Obstet Gynecol* 2011; **117**: 657–662.

11. Campbell OMR, Gray RH. Characteristics and determinants of postpartum ovarian function in women in the United States. *Am J Obstet Gynecol* 1993; **169**: 55–60.

12. Gray RH, Campbell OMR, Zacur HA, *et al*. Postpartum return of ovarian activity in nonbreastfeeding women monitored by urinary assay. *J Clin Endocr Metab* 1987; **64**: 645–650.

13. Cronin TJ. Influence of lactation upon ovulation. *Lancet* 1968; **292**: 422–424.

14. Lähteenmäki P. Influence of oral contraceptives on immediate postabortal pituitary-ovarian function. *Acta Obstet Gynecol Scand* 1978; **76**: 1–38.

15. Lähteenmäki P, Rasi V, Luukkainen T, *et al*. Coagulation factors in women using oral contraceptives or intrauterine contraceptive devices immediately after abortion. *Am J Obstet Gynecol* 1981; **141**: 175–179.

16. Martin CW, Brown AH, Baird DT. A pilot study of the effect of methotrexate or combined oral contraceptive on bleeding patterns after induction of abortion with mifepristone and a prostaglandin pessary. *Contraception* 1998; **58**: 99–103.

17. Niswonger JWH, London, GD, Anderson GV, *et al.* Oral contraceptives during immediate postabortal period. *Obstet Gynecol* 1968; **32**: 325–327.

18. Peterson WF. Contraceptive therapy following therapeutic abortion. *Obstet Gynecol* 1974; **44**: 853–857.

19. Tang OS, Gao PP, Cheng L, *et al*. A randomized double-blind placebo-controlled study to assess the effect of oral contraceptive pills on the outcome of medical abortion with mifepristone and misoprostol. *Hum Reprod* 1999; **14**: 722–725.

20. Tang OS, Xu J, Cheng L, *et al*. The effect of contraceptive pills on the measured blood loss in medical termination of pregnancy by mifepristone and misoprostol: a randomized placebo controlled trial. *Hum Reprod* 2002; **17**: 99–102.

21. Gaffield ME, Kapp N, Ravi A. Use of combined oral contraceptives post abortion. *Contraception* 2009; **80**: 355–362.

22. Fine PM, Tryggestad J, Meyers NJ, *et al.* Safety and acceptability with the use of a contraceptive vaginal ring after surgical or medical abortion. *Contraception* 2007; **75**: 367–371.

23. Gillum LA, Mamidipudi SK, Johnston SC. Ischaemic stroke risk with oral contraceptives: a meta-analysis. *JAMA* 2000; **284**: 72–78.

24. Jick SS, Walker AM, Stergachis A, *et al*. Oral contraceptives and breast cancer. *Br J Cancer* 1989; **59**: 618–621.

25. Khader YS, Rice J, John L, *et al*. Oral contraceptive use and the risk of myocardial infarction: a meta-analysis. *Contraception* 2003; **68**: 11–17.

26. Lawson DH, Davidson JF, Jick H. Oral contraceptive use and venous thromboembolism: absence of an effect of smoking. *BMJ* 1977; **2**: 729–730.

27. Lidegaard Ø, Edström B, Kreiner S. Oral contraceptives and venous thromboembolism. A case-control study. *Contraception* 1998; **57**: 291–301.

28. Nightingale AL, Lawrenson RA, Simpson EL, *et al*. The effects of age, body mass index, smoking and general health on the risk of venous thromboembolism in users of combined oral contraceptives. *Eur J Contracept Reprod Health Care* 2000; **5**: 265–274.

29. Petitti D, Wingerd J, Pellegrin F, *et al*. Risk of vascular disease in women. Smoking, oral contraceptives, noncontraceptive estrogens, and other factors. *JAMA* 1979; **242**: 1150–1154.

30. Rosenberg L, Palmer JR, Rao RS, *et al*. Low-dose oral contraceptive use and the risk of myocardial infarction. *Arch Intern Med* 2001; **161**: 1065–1070.

31. Straneva P, Hinderliter A, Wells E, *et al*. Smoking, oral contraceptives, and cardiovascular reactivity to stress. *Obstet Gynecol* 2000; **95**: 78–83.

32. Tanis BC, van den Bosch MA, Kemmeren JM, *et al*. Oral contraceptives and the risk of myocardial infarction. *N Engl J Med* 2001; **345**: 1787–1793.

33. van den Bosch MA, Kemmeren JM, Tanis BC, *et al*. The RATIO study: oral contraceptives and the risk of peripheral arterial disease in young women. *J Thromb Haemost* 2003; **1**: 439–444.

34. Poulter NR, Chang CL, Farley T, *et al*. Venous thromboembolic disease and combined oral contraceptives: results of international multicentre case-control study. World Health Organization Collaborative Study of Cardiovascular Disease and Steroid Hormone Contraception. *Lancet* 1995; **346:** 1575–1582.

35. McElduff P, Dobson A, Beaglehole R, *et al*. Rapid reduction on coronary risk for those who quit cigarette smoking. *Aust N Z J Public Health* 1998; **22**: 787–791.

36. Rosenberg R, Palmer JR, Shapiro S. Decline in the risk of myocardial infarction among women who stop smoking. *N Engl J Med* 1990; **322**: 213–217.

37. Kenfield SA, Stampfer MJ, Rosner BA. Smoking and smoking cessation in relation to mortality in women. *JAMA* 2008; **7**: 2037–2047.

38. Abdollahi M, Cushman M, Rosendaal FR. Obesity: risk of venous thrombosis and the interaction with coagulation factor levels and oral contraceptive use. *Thromb Haemost* 2003; **89**: 493–498.

39. Lidegaard Ø, Edström B, Kreiner S. Oral contraceptives and venous thromboembolism: a five-year national case-control study. *Contraception* 2002; **65**: 187–196.

40. Pomp ER, le Cessie S, Rosendaal FR, *et al.* Risk of venous thrombosis: obesity and its joint effect with oral contraceptive use and prothrombotic mutations. *Br J Haematol* 2007; **139**: 289–296.

41. Sidney S, Petitti DB, Soff GA, *et al*. Venous thromboembolic disease in users of low-estrogen combined estrogen-progestin oral contraceptives. *Contraception* 2004; **70**: 3–10.

42. Schwartz SM, Petitti DB, Siscovick DS, *et al.* Stroke and use of low-dose oral contraceptives in young women: a pooled analysis of two US studies. *Stroke* 1998; **29**: 2277–2284.

43. Sidney S, Siscovick DS, Petitti DB, *et al*. Myocardial infarction and use of low-dose oral contraceptives: a pooled analysis of 2 US studies. *Circulation* 1998; **98**: 1058–1063.

44. Holt VL, Cushing-Haugen KL, Daling JR. Body weight and risk of oral contraceptive failure. *Obstet Gynecol* 2002; **99**: 820–827.

45. Weiss HG, Nehoda H, Labeck B, *et al*. Pregnancies after adjustable gastric banding. *Obes Surg* 2001; **11**: 303–306.

46. Gerrits EG, Ceulemans R, van HR, *et al.* Contraceptive treatment after biliopancreatic diversion needs consensus. *Obes Surg* 2003; **13**: 378–382.

47. Victor A, Odlind V, Kral JG. Oral contraceptive absorption and sex hormone binding globulins in obese women: effects of jejunoileal bypass. *Gastroenterol Clin North Am* 1987; **16**: 483–491.

48. Andersen AN, Lebech PE, Sorensen TI, *et al.* Sex hormone levels and intestinal absorption of estradiol and D-norgestrel in women following bypass surgery for morbid obesity. *Int J Obes* 1982; **6**: 91–96.

49. Pietrzak B, Bobroswska K, Jabiry-Zieniewicz Z, et al. Oral and transdermal hormonal contraception in women after kidney transplant. Transplant Proc 2007; 39: 2759-2762.

50. Pietrzak B, Kaminski P, Wielgos M, *et al.* Combined oral contraception in women after renal transplantation. *Neuro Endocrinol Lett* 2006; **27**: 679–682.

51. Jabiry-Zieniewicz Z, Bobrowska K, Kaminski P, *et al*. Low-dose hormonal contraception after liver transplantation. *Transplant Proc* 2007; **39**: 1530–1532.

52. Fedorkow DM, Corenblum B, Shaffer EA. Cholestasis induced by oestrogen after liver transplantation. *BMJ* 1989; **299**: 1080–1081.

53. National Institute for Health and Care Excellence (NICE). *Hypertension in Adults: Diagnosis and Management*. 2011. https://www.nice.org.uk/guidance/cg127 [accessed 8 Feb 2016]

54. Heinemann LAJ, Lewis MA, Spitzer WO, *et al*. Thromboembolic stroke in young women. A European case-control study on oral contraceptives. *Contraception* 1998; **57**: 29–37.

55. Lewis MA, Heinmann LAJ, Spitzer WO, *et al*. The use of oral contraceptives and the occurrence of acute myocardial infarction in young women. Results from the Transnational Study on Oral Contraceptives and the Health of Young Women. *Contraception* 1997; **56**: 129–140.

56. Poulter NR, Chang CL, Farley TM, *et al*. Haemorrhagic stroke, overall stroke risk, and combined oral contraceptives: results of an international, multicentre, case-control study. *Int J Gynecol Obstet* 1997; **1**: 103.

57. Poulter NR, Chang CL, Farley TM, *et al*. Ischaemic stroke and combined oral contraceptives: results of an international multicentre case-control study. WHO Collaborative Study of Cardiovascular Disease and Steroid Hormone Contraception. *Lancet* 1996; **348**: 498–505.

58. Poulter NR, Chang CL, Farley TM, *et al*. Acute myocardial infarction and combined oral contraceptives: results of an international multicentre case-control study. *Lancet* 1997; **349**: 1202–1209.

59. Task Force of the American Medical Association. Oral contraceptives and stroke in young women. Associated risk factors. *JAMA* 1975; **231**: 718–722.

60. Croft P, Hannaford P. Risk factors for acute myocardial infarction in women: evidence from the Royal College of General Practitioners' Oral Contraception Study. *BMJ* 1989; **298**: 165–168.

61. D'Avanzo B, La Vecchia C, Negri E, *et al*. Oral contraceptive use and risk of myocardial infarction: an Italian case-control study. *J Epidemiol Community Health* 1994; **48**: 324–328.

62. Dunn NR, Faragher B, Thorogood M, *et al*. Risk of myocardial infarction in young female smokers. *Heart* 1999; **82**: 581–583.

63. Hannaford P, Croft P, Kay CR. Oral contraception and stroke: evidence from the Royal College of General Practitioners' Oral Contraception Study. *Stroke* 1994; **25**: 935–942.

64. Kemmeren JM, Tanis BC, van den Bosch MA, *et al*. Risk of Arterial Thrombosis in Relation to Oral Contraceptives (RATIO) study: oral contraceptives and the risk of ischaemic stroke. *Stroke 2002;* **33**: 1202-1208.

65. Lidegaard Ø. Oral contraception and risk of a cerebral thromboembolic attack: results of a case-control study. *BMJ 1993;* **306**: 956-963.

66. Lidegaard Ø. Oral contraceptives, pregnancy and the risk of cerebral thromboembolism: the influence of diabetes, hypertension, migraine and previous thrombotic disease. *BJOG 1995;* **102**: 153-159.

67. Lubianca JN, Faccin CS, Fuchs FD. Oral contraceptives: a risk factor for uncontrolled blood pressure among hypertensive women. *Contraception* 2003; **67**: 19–24.

68. Narkiewicz K, Grabiero GR, d'Este D, *et al*. Ambulatory blood pressure in mild hypertensive women taking oral contraceptives. A case-control study. *Am J Hypertens* 1995; **8**: 249–253.

69. Siritho S, Thrist AG, McNeil JJ, *et al*. Risk of ischaemic stroke among users of the oral contraceptive pill: The Melbourne Risk Factor Study (MERFS) Group. *Stroke* 2003; **34**: 1575–1580.

70. Lubianca JN, Moreira LB, Gus M, *et al.* Stopping oral contraceptives: an effective blood pressure-lowering intervention in women with hypertension. *J Hum Hypertens* 2005; **19**: 451–455.

71. Aberg H, Karlsson L, Melander S. Studies on toxaemia of pregnancy with special reference to blood pressure. II. Results after 6–11 years' follow-up. *Ups J Med Sci* 1978; **83**: 97–102.

72. Carmichael SM, Taylor MM, Ayers CR. Oral contraceptives, hypertension, and toxemia. *Obstet Gynecol* 1970; **35**: 371–376.

73. Meinel H, Ihle R, Laschinski M. Effect of hormonal contraceptives on blood pressure following pregnancy-induced hypertension [in German]. *Zentralbl Gynakol* 1987; **109**: 527–531.

74. Pritchard JA, Pritchard SA. Blood pressure response to estrogen-progestin oral contraceptive after pregnancy-induced hypertension. *Am J Obstet Gynecol* 1977; **129**: 733–739.

75. Sibai BM, Taslimi MM, El-Nazer, *et al*. Maternal-perinatal outcome associated with the syndrome of hemolysis, elevated liver enzymes, and low platelets in severe preeclampsia-eclampsia. *Obstet Gynecol* 1986; **155**: 501–509.

76. Sibai BM, Ramadan MK, Chri RS, *et al*. Pregnancies complicated by HELLP syndrome (hemolysis, elevated liver enzymes, and low platelets): subsequent pregnancy outcome and long-term prognosis. *Am J Obstet Gynecol* 1995; **172**: 125–129.

77. British National Formulary (online). 7.3.1. Combined hormonal contraceptives. http://www.evidence.nhs.uk/formulary/bnf/current/7-obstetrics-gynaecology-and-urinary-tract-disorders/73-contraceptives/731-combined-hormonal-contraceptives [accessed 8 Feb 2016]

78. Royal College of General Practitioners. Oral contraceptives, venous thrombosis, and varicose veins. *J Roy Coll Gen Pract* 1978; **28:** 393–399.

79. Roach RE, Lijfering WM, van Hylckama Vlieg A, *et al*. The risk of venous thrombosis in individuals with a history of superficial vein thrombosis and acquired venous thrombotic risk factors. *Blood* 2013; **122**: 4264–4269.

80. Wu O, Robertson L, Twaddle S, *et al*. Screening for thrombophilia in high-risk situations: a meta-analysis and cost-effectiveness analysis. *Br J Haematol* 2005; **131**: 80–90.

81. Middledrop S, van Hylckama Vlieg A. Does thrombophilia testing help in the clinical management of patients? *Br J Haematol* 2008; **143**: 321–335.

82. Blickstein D, Blickstein I. Oral contraception and thrombophilia. *Curr Opin Obstet Gynecol* 2007; **19**: 370–376.

83. Anderson BS, Olsen J, Nielsen GL, *et al.* Third generation oral contraceptives and heritable thrombophilia as risk factors of non-fatal venous thromboembolism. *Thromb Haemost* 1998; **79**: 28–31.

84. Aznar J, Mira Y, Vaya A, *et al*. Factor V Leiden and pro-thrombin G20210A mutations in young adults with cryptogenic ischaemic stroke. *Thromb Haemost* 2004; **91**: 1031–1034.

85. Bennet L, Odeberg H. Resistance to activated protein C, highly prevalent amongst users of oral contraceptives with venous thromboembolism. *J Intern Med* 1998; **244**: 27–32.

86. Bloemenkamp KW, Rosendaal FR, Helmerhorst FM, *et al.* Enhancement by factor V Leiden mutation of risk of deep-vein thrombosis associated with oral contraceptives containing a third-generation progestagen [Comment]. *Lancet* 1995; **346**: 1593–1596.

87. Bloemenkamp KW, Rosendaal FR, Helmerhorst FM, *et al.* Higher risk of venous thrombosis during early use of oral contraceptives in women with inherited clotting defects. [Comment]. *Arch Intern Med* 2000; **160**: 49–52.

88. de Bruijn SF, Stam J, Koopman MM, *et al*. Case-control study of risk of cerebral sinu thrombosis in oral contraceptive users and in [correction of who are] carriers of hereditary prothrombotic conditions. The Cerebral Venous Sinus Thrombosis Study Group. *BMJ* 1998; **316**: 589–592.

89. Emmerich J, Rosendaal FR, Cattaneo M, *et al.* Combined effect of factor V Leiden and prothrombin 20210A on the risk of venous thromboembolism – pooled analysis of 8 case-control studies including 2310 cases and 3204 controls. Study Group for Pooled-Analysis in Venous Thromboembolism. *Thromb Haemost* 2001; **86**: 809–816.

90. Gadelha T, Andre C, Juca AA, *et al.* Prothrombin 20210A and oral contraceptive use as risk factors for cerebral venous thrombosis. *Cerebrovasc Dis* 2005; **19**: 49–52.

91. Legnani C, Palareti G, Guazzaloca G, *et al.* Venous thromboembolism in young women: role of thrombophilic mutations and oral contraceptive use. *Eur Heart J* 2002; **23**: 984–990.

92. Martinelli I, Sacchi E, Landi G, *et al*. High risk of cerebral-vein thrombosis in carriers of a prothrombin-gene mutation and in users of oral contraceptives. [Comment]. *N Engl J Med* 1998; **338**: 1793–1797.

93. Martinelli I, Taioli E, Bucciarelli P, *et al*. Interaction between the G20210A mutation of the prothrombin gene and oral contraceptive use in deep vein thrombosis. *Arterioscler Thromb Vasc Biol* 1999; **19**: 700–703.

94. Martinelli I, Battaglioli T, Bucciarelli P, *et al.* Risk factors and recurrence rate of primary deep vein thrombosis of the upper extremities. *Circulation* 2004; **110**: 566–570.

95. Martinelli I, Battaglia C, Burgo I, *et al*. Oral contraceptive use, thrombophilia and their interaction in young women with ischaemic stroke. *Haematologica* 2006; **91**: 844–847.

96. Middeldorp S, Meinardi JR, Koopman MM, *et al*. A prospective study of asymptomatic carriers of the factor V Leiden mutation to determine the incidence of venous thromboembolism. [Comment]. *Ann Intern Med* 2001; **135**: 322–327.

97. Pabinger I, Schneider B. Thrombotic risk of women with hereditary antithrombin lll-, protein C- and protein S-deficiency taking oral contraceptive medication. The GTH Study Group on Natural Inhibitors. *Thromb Haemost* 1994; **71**: 548–552.

98. Pezzini A, Grassi M, Iacoviello L, *et al*. Inherited thrombophilia and stratification of ischaemic stroke risk among users of oral contraceptives. *J Neurol Neurosur Psychiatry* 2007; **78**: 271–276.

99. Santamaria A, Mateo J, Oliver A, *et al*. Risk of thrombosis associated with oral contraceptives of women from 97 families with inherited thrombophilia: high risk of thrombosis in carriers of the G20210A mutation of the prothrombin gene. *Haematologica* 2001; **86**: 965–971.

100. Slooter AJ, Rosendaal FR, Tanis BC, *et al.* Prothrombotic conditions, oral contraceptives, and the risk of ischaemic stroke. *J Thromb Haemost* 2005; **3**: 1213–1217.

101. Spannagl M, Heinemann LAJ, Schramm W. Are factor V Leiden carriers who use oral contraceptives at extreme risk of venous thromboembolism? *Eur J Contracept Reprod Health Care* 2000; **5**: 105–112.

102. van Boven HH, Vandenbroucke JP, Briet E, *et al.* Gene-gene and gene-environment interactions determine risk of thrombosis in families with inherited antithrombin deficiency. *Blood* 1999; **94**: 2590–2594.

103. van Vlijmen EF, Brouwer JL, Veeger NJ, *et al.* Oral contraceptives and the absolute risk of venous thromboembolism in women with single or multiple thrombophilic defects: results from a retrospective family cohort study. *Arch Intern Med* 2007; **167**: 282–289.

104. Vandenbroucke JP, Koster T, Briet E, *et al.* Increased risk of venous thrombosis in oral-contraceptive users who are carriers of factor V Leiden mutation. [Comment]. *Lancet* 1994; **344**: 1453–1457.

105. Vaya AM. Prothrombin G20210A mutation and oral contraceptive use increase upper-extremity deep vein thrombotic risk. *Thromb Haemost* 2003; **89**: 452–457.

106. Medscape. Cardiology. http://emedicine.medscape.com/cardiology [accessed 8 Feb 2016]

107. Carolei A, Marini C, De Matteis G. History of migraine and risk of cerebral ischaemia in young adults. The Italian National Research Council Study Group on Stroke in the Young. *Lancet* 1996; **347**: 1503–1506.

108. Chang CL, Donaghy M, Poulter N. Migraine and stroke in young women: case-control study. The World Health Organization Collaborative Study of Cardiovascular Disease and Steroid Hormone Contraception. *BMJ* 1999; **318**: 13–18.

109. Tzourio C, Tehindrazanarivelo A, Iglesias S, *et al.* Case-control study of migraine and risk of ischaemic stroke in young women. *BMJ* 1995; **310**: 830–833.

110. Etminan M, Takkouche B, Isorna FC, *et al.* Risk of ischaemic stroke in people with migraine: systematic review and meta-analysis of observational studies. *BMJ* 2005; **330**: 63.

111. MacGregor EA. Contraception and headache. *Headache* 2013; **53:** 247–276.

112. Edlow AG, Bartz D. Hormonal contraceptive options for women with headache: a review of the evidence. *Rev Obstet Gynecol* 2010; **3**: 55–65.

113. Headache Classification Committee of the International Headache Society (IHS). The International Classification of Headache Disorders, 3rd edition (beta version). *Cephalalgia* 2013; **33:** 629–808.

114. MedicinesComplete. Stockley's Interaction Checker. https://www.medicinescomplete.com/mc/alerts/current/drug-interactions.htm [accessed 9 November 2017]

115. Deijen JB, Duyn KJ, Jansen WA, *et al.* Use of a monophasic, low-dose oral contraceptive in relation to mental functioning. *Contraception* 1992; **46**: 359–367.

116. Nightingale AL, Farmer RD. Ischaemic stroke in young women: a nested case-control study using the UK General Practice Research Database. *Stroke* 2004; **35**: 1574–1578.

117. Cromer BA, Smith RD, Blair JM, *et al*. A prospective study of adolescents who choose among levonorgestrel implant (Norplant), medroxyprogesterone acetate (Depo-Provera), or the combined oral contraceptive pill as contraception. *Pediatrics* 1994; **94**: 687–694.

118. Gupta N, O'Brien R, Jacobsen LJ, *et al*. Mood changes in adolescents using depo-medroxyprogesterone acetate for contraception: a prospective study. *Am J Obstet Gynecol* 2001; **14**: 71–76.

119. Herzberg BN, Draper KC, Johnson AL, *et al.* Oral contraceptives, depression, and libido. *BMJ* 1971; **3**: 495–500.

120. Koke SC, Brown EB, Miner CM. Safety and efficacy of fluoxetine in patients who receive oral contraceptive therapy. *Am J Obstet Gynecol* 2002; **187**: 551–555.

121. O'Connell K, Davis AR, Kerns J. Oral contraceptives: side effects and depression in adolescent girls. *Contraception* 2007; **75**: 299–304.

122. Westoff C, Truman C. Depressive symptoms and Depo-Provera. *Contraception* 1998; **57**: 237–240.

123. Westoff C, Truman C, Kalmuss D, *et al.* Depressive symptoms and Norplant contraceptive implants. *Contraception* 1998; **57**: 241–245.

124. Young EA, Kornstein SG, Harvey AT, *et al*. Influences of hormone-based contraception on depressive symptoms in premenopausal women with major depression. *Psychoneuroendocrinology* 2007; **32**: 843–853.

125. National Institute of Health and Care Excellence. *Heavy Menstrual Bleeding: Assessment and Management*. 2007. http://www.nice.org.uk/nicemedia/pdf/CG44FullGuideline.pdf [accessed 8 Feb 2016]

126. Faculty of Sexual and Reproductive Healthcare. *Problematic Bleeding with Hormonal Contraception*. 2015 http://www.fsrh.org/pdfs/CEUGuidanceProblematicBleedingHormonalContraception.pdf [accessed 8 Feb 2016]

127. Hendrix SL, Alexander NJ. Primary dysmenorrhea treatment with a desogestrel-containing low dose oral contraceptive. *Contraception 2002;* **66**: 393–399.

128. Wong CL, Farquhar C, Roberts H, *et al*. Oral contraceptive pill for primary dysmenorrhoea. *Cochrane Database Syst Rev* 2009; **4**: CD002120.

129. Farquhar C, Brown J. Oral contraceptive pill for heavy menstrual bleeding. *Cochrane Database Syst Rev* 2009; **4**: CD000154.

130. Shabaan MM, Zakherah MS, El-Nashar SA, *et al.* Levonorgestrel-releasing intrauterine system compared to low dose combined oral contraceptive pills for idiopathic menorrhagia: a randomized clinical trial. *Contraception* 2011; **83**: 48–54.

131. Jensen JT, Parke S, Mellinger U, *et al*. Effective treatment of heavy menstrual bleeding with estradiol valerate and dienogest: a randomized controlled trial. *Obstet Gynecol* 2011; **117**: 777–787.

132. Braga A, Maestá I, Short D, *et al.* Hormonal contraceptive use before hCG remission does not increase the risk of gestational trophoblastic neoplasia following complete hydatidiform mole: a historical database review. *BJOG* 2015*;* 7 October [e-pub ahead of print]. doi: 10.1111/1471-0528.13617. [accessed 8 Feb 2016]

133. Adewole IF, Oladokun A, Fawole AO, *et al.* Fertility regulatory methods and development of complications after evacuation of complete hydatidiform mole. *J Obstet Gynecol* 2000; **20**: 68–69.

134. Berkowitz RS, Goldstein DP, Marean AR, *et al.* Oral contraceptives and post-molar trophoblastic disease. *Obstet Gynecol* 1981; **58**: 474–477.

135. Curry SL, Schlaerth JB, Kohorn E, *et al*. Hormonal contraception and trophoblastic sequelae after hydatidiform mole (a Gynecologic Oncology Group Study). *Am J Obstet Gynecol* 1989; **160**: 805–809.

136. Deicas RE, Miller DS, Radmaker AW, *et al*. The role of contraception in the development of postmolar trophoblastic tumour. *Obstet Gynecol* 1991; **78**: 221–226.

137. Goldberg GL, Cloete K, Bloch B, *et al*. Medroxyprogesterone acetate in non-metastatic gestational trophoblastic disease. *BJOG* 1987; **94**: 22–25.

138. Ho Yuen B, Burch P. Relationship of oral contraceptives and the intrauterine contraceptive devices to the regression of concentration of the beta subunit of human chorionic gonadotropin and invasive complications after molar pregnancy. *Am J Obstet Gynecol* 1983; **145**: 214–217.

139. Morrow P, Nakamura R, Schlaerth J, *et al.* The influence of oral contraceptives on the postmolar human chorionic gonadotropin regression curve. *Am J Obstet Gynecol* 1985; **151**: 906–914.

140. Gaffield ME, Kapp K, Curtis KM. Combined oral contraceptive and intrauterine device use among women with gestational trophoblastic disease. *Contraception* 2009; **80**: 363–371.

141. Eddy GL, Schlaerth JB, Natlick RH, *et al*. Postmolar trophoblastic disease in women using hormonal contraception with and without estrogen. *Obstet Gynecol* 1983; **62**: 736–740.

142. Dieben T, Roumen FJ, Apter D. Efficacy, cycle control, and user acceptability of a novel combined contraceptive vaginal ring. *Obstet Gynecol* 2002; **100**: 585–593.

143. Smith JS. Cervical cancer and use of hormonal contraceptives: a systematic review. *Lancet* 2003; **361**: 1159–1167.

144. Hannaford P, Selvaraja S, Elliot A, *et al.* Cancer risk among users of oral contraceptives: cohort data from the Royal College of General Practitioners' oral contraceptive study. *BMJ* 2007; **335**: 651.

145. Black MM, Barclay THC, Polednak A, *et al.* Family history, oral contraceptive usage, and breast cancer. *Cancer* 1983; **51**: 2147–2151.

146. Brinton LA, Hoover R, Szklo M, *et al.* Oral contraceptives and breast cancer. *Int J Epidemiol* 1982; **11**: 316–322.

147. Brohet RM, Goldgar DE, Easton DF, *et al*. Oral contraceptives and breast cancer risk in the International BRCA1/2 Carrier Cohort Study: a report from EMBRACE, GENEPSO, GEO-HE-BON, and the IBCCS Collaborating Group. *J Clin Oncol* 2007; **25**: 3831–3836.

148. Claus EB, Stowe M, Carter D. Oral contraceptives and the risk of ductal breast carcinoma in situ. *Breast Cancer Res Treat* 2003; **81**: 129–136.

149. Collaborative Group on Hormonal Factors in Breast Cancer. Familial breast cancer: collaborative reanalysis of individual data from 52 epidemiological studies including 58 209 women with breast cancer and 101 986 women without the disease. *Lancet* 2001; **358**: 1389–1399.

150. Grabrick DM, Hartmann LC, Cerhan JR, *et al*. Risk of breast cancer with oral contraceptive use in women with a family history of breast cancer [Comment]. *JAMA* 2000; **284**: 1791–1798.

151. Gronwald J, Byrski T, Huzarski T, *et al.* Influence of selected lifestyle factors on breast and ovarian cancer risk in BRCA1 mutation carriers from Poland. *Breast Cancer Res Treat* 2006; **95**: 105–109.

152. Haile RW, Thomas DC, McGuire V, *et al*. BRCA1 and BRCA2 mutation carriers, oral contraceptive use, and breast cancer before age 50. *Cancer Epidemiol Biomarkers Prev* 2006; **15**: 1863–1870.

153. Harris NV, Weiss NS, Francis AM, *et al*. Breast cancer in relation to patterns of oral contraceptive use. *Am J Epidemiol* 1982; **116**: 643–651.

154. Hennekens CH, Speizer FE, Lipnick RJ, *et al*. A case-control study of oral contraceptive use and breast cancer. *J Natl Cancer Inst* 1984; **72**: 39–42.

155. Jernstrom H, Loman N, Johannsson OT, *et al*. Impact of teenage oral contraceptive use in a population-based series of early-onset breast cancer cases who have undergone BRCA mutation testing. *Eur J Cancer* 2005; **41**: 2312–2320.

156. Marchbanks PA, McDonald JA, Wilson HG, *et al.* Oral contraceptives and the risk of breast cancer. *N Engl J Med* 2002; **346**: 2025–2032.

157. Milne RL, Knight JA, John EM, *et al.* Oral contraceptive use and risk of early-onset breast cancer in carriers and noncarriers of BRCA1 and BRCA2 mutations. *Cancer Epidemiol Biomarkers Prev* 2005; **14**: 350–356.

158. Narod S, Dube MP, Klijn J, *et al.* Oral contraceptives and the risk of breast cancer in BRCA1 and BRCA2 mutation carriers. *J Natl Cancer Inst* 2002; **94**: 1773–1779.

159. Rosenberg L, Palmer JR, Rao RS, *et al.* Case-control study of oral contraceptive use and risk of breast cancer. *Am J Epidemiol* 1996; **143**: 25–37.

160. Silvera SAN, Miller AB, Rohan TE. Oral contraceptive use and risk of breast cancer among women with a family history of breast cancer: a prospective cohort study. *Cancer Causes Control* 2005; **16**: 1059–1063.

161. Ursin G, Henderson BE, Haile RW, *et al.* Does oral contraceptive use increase the risk of breast cancer in women with BRCA1/BRCA2 mutations more than in other women? *Cancer Res* 1997; **57**: 3678–3681.

162. Ursin G, Ross RK, Sullivan-Halley J, *et al*. Use of oral contraceptives and risk of breast cancer in young women. *Breast Cancer Res Treat* 1998; **50**: 175–184.

163. Gaffield ME, Culwell KR, Ravi A. Oral contraceptives and family history of breast cancer. *Contraception* 2009; **80**: 372–380.

164. Fedele L, Varotto F, Parazzini F, *et al*. Determinants of cervical *Chlamydia trachomatis* infection in Italy. *Sex Transm Infect* 1993; **69**: 123–125.

165. Ackers JP, Lumsden WH, Catterall RD, *et al*. Antitrichomonal antibody in the vaginal secretions of women infected with *T. vaginalis*. *Br J Vener Dis* 1975; **51**: 319–323.

166. Acosta-Cazares B, Ruiz-Maya L, de la Peña JE. Prevalence and risk factors for *Chlamydia trachomatis* infection in low-income rural and suburban populations of Mexico. *Sex Transm Dis* 1996; **23**: 283–288.

167. Addiss DG, Vaughn ML, Holzhueter MA, *et al.* Selective screening for *Chlamydia trachomatis* infection in nonurban family planning clinics in Wisconsin. *Fam Plann Perspect* 1987; **19**: 252–256.

168. Arya OP, Mallinson H, Goddard AD. Epidemiological and clinical correlates of chlamydial infection of the cervix. *Br J Vener Dis* 1981; **57**: 118–124.

169. Austin H, Louv WC, Alexander WJ. A case-control study of spermicides and gonorrhea. *JAMA* 1984; **251**: 2822–2824.

170. Avonts D, Sercu M, Heyerick P, *et al*. Incidence of uncomplicated genital infections in women using oral contraception or an intrauterine device: a prospective study. *Sex Transm Dis* 1990; **17**: 23–29.

171. Baeten JM, Nyange PM, Richardson BA *et al.* Hormonal contraception and risk of sexually transmitted disease acquisition: results from a prospective study. *Am J Obstet Gynecol* 2001; **185**: 380–385.

172. Barbone F, Austin H, Louv WC, *et al.* A follow-up study of methods of contraception, sexual activity, and rates of trichomoniasis, candidiasis, and bacterial vaginosis. *Am J Obstet Gynecol* 1990; **163**: 510–514.

173. Barnes RC, Katz BP, Rolfs RT, *et al.* Quantitative culture of endocervical *Chlamydia trachomatis*. *J Clin Microbiol* 1990; **28**: 774–780.

174. Berger GS, Keith L, Moss W. Prevalence of gonorrhoea among women using various methods of contraception. *Br J Vener Dis* 1975; **51**: 307–309.

175. Bhattacharyya MN, Jephcott AE. Diagnosis of gonorrhea in women – influence of the contraceptive pill. *J Am Vener Dis Assoc* 1976; **2**: 21–24.

176. Blum M, Pery J, Kitai E. The link between contraceptive methods and *Chlamydia trachomatis* infection. *Adv Contracept* 1988; **4**: 233–239.

177. Bontis J, Vavilis D, Panidis D, *et al.* Detection of *Chlamydia trachomatis* in asymptomatic women: relationship to history, contraception, and cervicitis. *Adv Contracept* 1994; **10**: 309–315.

178. Bramley M, Kinghorn G. Do oral contraceptives inhibit *Trichomonas vaginalis*? *Sex Transm Dis* 1979; **6**: 261–263.

179. Bro F, Juul S. Predictors of *Chlamydia trachomatis* infection in women in general practice. *Fam Pract* 1990; **7**: 138–143.

180. Burns DC, Darougar S, Thin RN, *et al.* Isolation of *Chlamydia* from women attending a clinic for sexually transmitted disease. *Br J Vener Dis* 1975; **51**: 314–318.

181. Ceruti M, Canestrelli M, Condemi V, *et al*. Methods of contraception and rates of genital infections. *Clin Exp Obstet Gynecol* 1994; **21**: 119–123.

182. Chacko M, Lovchik J. *Chlamydia trachomatis* infection in sexually active adolescents: prevalence and risk factors. *Pediatrics* 1984; **73**: 836–840.

183. Cottingham J, Hunter D. *Chlamydia trachomatis* and oral contraceptive use: a quantitative review. *Genitourin Med* 1992; **68**: 209–216.

184. Crowley T, Horner P, Hughes A, *et al*. Hormonal factors and the laboratory detection of *Chlamydia trachomatis* in women: implications for screening? *Int J STD AIDS* 1997; **8**: 25–31.

185. Edwards D, Phillips D, Stancombe S. *Chlamydia trachomatis* infection at a family planning clinic. *N Z Med J* 1985; **98**: 333–335.

186. Evans BA, Kell PD, Bond RA, *et al.* Predictors of seropositivity to herpes simplex virus type 2 in women. *Int J STD AIDS* 2003; **14**: 30–36.

187. Evans DL, Demetriou E, Shalaby H, *et al.* Detection of *Chlamydia trachomatis* in adolescent females using direct immunofluorescence. *Clin Pediatr* 1988; **27**: 223–228.

188. Fish AN, Fairweather DV, Oriel JD, *et al. Chlamydia trachomatis* infection in a gynaecology clinic population: identification of high-risk groups and the value of contact tracing. *Eur J Obstet Gynecol Reprod Biol* 1989; **31**: 67–74.

189. Fouts AC, Kraus SJ. *Trichomonas vaginalis*: reevaluation of its clinical presentation and laboratory diagnosis. *J Infect Dis* 1980; **141**: 137–143.

190. Fraser JJ Jr, Rettig PJ, Kaplan DW. Prevalence of cervical *Chlamydia trachomatis* and *Neisseria gonorrhoeae* in female adolescents. *Pediatrics* 1983; **71**: 333–336.

191. Gertig DM, Kapiga SH, Shao JF, *et al.* Risk factors for sexually transmitted diseases among women attending family planning clinics in Dar-es-Salaam, Tanzania. *Genitourin Med* 1997; **73**: 39–43.

192. Green J, de Gonzalez AB, Smith JS, *et al.* Human papilloma-virus infection and use of oral contraceptives. *Br J Cancer* 2003; **88**: 1713–1720.

193. Griffiths M, Hindley D. Gonococcal pelvic inflammatory disease, oral contraceptives, and cervical mucus. *Genitourin Med* 1985; **61**: 67.

194. Han Y, Morse DL, Lawrence CE, *et al*. Risk profile for *Chlamydia* infection in women from public health clinics in New York State. *J Commun Health* 1993; **18**: 1–9.

195. Handsfield HH, Jasman LL, Roberts PL, *et al*. Criteria for selective screening for *Chlamydia trachomatis* infection in women attending family planning clinics. *JAMA* 1986; **255**: 1730–1734.

196. Hanna NF, Taylor-Robinson D, Kalodiki-Karamanoli M, *et al.* The relation between vaginal pH and the microbiological status in vaginitis. *BJOG* 1985; **92**: 1267–1271.

197. Harrison HR, Costin M, Meder JB, *et al.* Cervical *Chlamydia trachomatis* infection in university women: relationship to history, contraception, ectopy, and cervicitis. *Am J Obstet Gynecol* 1985; **153**: 244–251.

198. Hart G. Factors associated with genital chlamydial and gonococcal infection in females. *Genitourin Med* 1992; **68**: 217–220.

199. Herrmann B, Espinoza F, Villegas RR, *et al.* Genital chlamydial infection among women in Nicaragua: validity of direct fluorescent antibody testing, prevalence, risk factors and clinical manifestations. *Genitourin Med* 1996; **72**: 20–26.

200. Hewitt AB. Oral contraception among special clinic patients. With particular reference to the diagnosis of gonorrhoea. *Br J Vener Dis* 1970; **46**: 106–107.

201. Hilton AL, Richmond SJ, Milne JD, *et al*. *Chlamydia* A in the female genital tract. *Br J Vener Dis* 1974; **50**: 1–10.

202. Hiltunen-Back E, Haikala O, Kautiainen H, *et al.* A nationwide sentinel clinic survey of *Chlamydia trachomatis* infection in Finland. *Sex Transm Dis* 2001; **28**: 252–258.

203. Jacobson DL, Peralta L, Farmer M, *et al.* Relationship of hormonal contraception and cervical ectopy as measured by computerized planimetry to chlamydial infection in adolescents. *Sex Transm Dis* 2000; **27**: 313–319.

204. Jaffe LR, Siqueira LM, Diamond SB, *et al. Chlamydia trachomatis* detection in adolescents. A comparison of direct specimen and tissue culture methods. *J Adolesc Health* 1986; **7**: 401–404.

205. Jick H, Hannan MT, Stergachis A, *et al*. Vaginal spermicides and gonorrhea. *JAMA* 1982; **248**: 1619-–621.

206. Johannisson G, Karamustafa A, Brorson J. Influence of copper salts on gonococci. *Br J Vener Dis* 1976; **52**: 176–177.

207. Keith L, Berer GS, Moss W. Cervical gonorrhea in women using different methods of contraception. *J Am Vener Dis Assoc* 1976; **3**: 17–19.

208. Kinghorn GR, Waugh MA. Oral contraceptive use and prevalence of infection with *Chlamydia trachomatis* in women. *Br J Vener Dis* 1981; **57**: 187–190.

209. Lavreys L, Chohan B, Ashley R, *et al.* Human herpesvirus 8: seroprevalence and correlates in prostitutes in Mombasa, Kenya. *J Infect Dis* 2003; **187**: 359–363.

210. Lefevre JC, Averous S, Bauriaud R, *et al.* Lower genital tract infections in women: comparison of clinical and epidemiologic findings with microbiology. *Sex Transm Dis* 1988; **15**: 110–113.

211. Louv WC, Austin H, Perlman, *et al*. Oral contraceptive use and the risk of chlamydial and gonococcal infections. *Am J Obstet Gynecol* 1989; **160**: 396–402.

212. Lowe TL, Kraus SJ. Quantitation of *Neisseria gonorrhoeae* from women with gonorrhea. *J Infect Dis* 1976; **133**: 621–626.

213. Lycke E, Lowhagen GB, Hallhagen G, *et al.* The risk of transmission of genital *Chlamydia trachomatis* infection is less than that of genital *Neisseria gonorrhoeae* infection. *Sex Transm Dis* 1980; **7**: 6–10.

214. Macaulay ME, Riordan T, James JM, *et al.* A prospective study of genital infections in a family-planning clinic. 2. Chlamydia infection – the identification of a high-risk group. *Epidemiol Infect* 1990; **104**: 55–61.

215. Magder LS, Harrison HR, Ehret JM, *et al*. Factors related to genital Chlamydia trachomatis and its diagnosis by culture in a sexually transmitted disease clinic. *Am J Epidemiol* 1988; **128**: 298–308.

216. Magder LS, Klontz KC, Bush LH, *et al.* Effect of patient characteristics on performance of an enzyme immunoassay for detecting cervical *Chlamydia trachomatis* infection. *J Clin Microbiol* 1990; **28**: 781–784.

217. Masse R, Laperriere H, Rousseau H, *et al*. *Chlamydia trachomatis* cervical infection: prevalence and determinants among women presenting for routine gynecologic examination. *Can Med Assoc J* 1991; **145**: 953–961.

218. McCormack WM, Reynolds GH. Effect of menstrual cycle and method of contraception on recovery of *Neisseria gonorrhoeae*. *JAMA* 1982; **247**: 1292–1294.

219. Morrison CS, Bright P, Wong EL, *et al*. Hormonal contraceptive use, cervical ectopy, and the acquisition of cervical infections. *Sex Transm Dis* 2004; **31**: 561–567.

220. Nayyar KC, O'Neill JJ, Hambling MH, *et al*. Isolation of *Chlamydia trachomatis* from women attending a clinic for sexually transmitted diseases. *Br J Vener Dis* 1976; **52**: 396–398.

221. Oh MK, Feinstein RA, Soileau EJ, *et al. Chlamydia trachomatis* cervical infection and oral contraceptive use among adolescent girls. *J Adolesc Health* 1989; **10**: 376–381.

222. Oriel JD, Powis PA, Reeve P, *et al.* Chlamydial infections of the cervix. *Br J Vener Dis* 1974; **50**: 11–16.

223. Oriel JD, Johnson AL, Barlow D, *et al*. Infection of the uterine cervix with *Chlamydia trachomatis*. *J Infect Dis* 1978; **137**: 443–451.

224. Paavonen J, Vesterinen E. *Chlamydia trachomatis* in cervicitis and urethritis in women. *Scand J Infect Dis* 1982; **32**(Suppl.): 45–54.

225. Park BJ, Stergachis A, Scholes D, *et al*. Contraceptive methods and the risk of *Chlamydia trachomatis* infection in young women. *Am J Epidemiol* 1995; **142**: 771–778.

226. Pereira LH, Embil JA, Haase DA, *et al.* Cytomegalovirus infection among women attending a sexually transmitted disease clinic: association with clinical symptoms and other sexually transmitted diseases. *Am J Epidemiol* 1990; **131**: 683–692.

227. Rahm VA, Odlind V, Pettersson R. *Chlamydia trachomatis* in sexually active teenage girls. Factors related to genital chlamydial infection: a prospective study. *Genitourin Med* 1991; **67**: 317–321.

228. Reed BD, Huck W, Zazove P. Differentiation of *Gardnerella vaginalis*, *Candida albicans*, and *Trichomonas vaginalis* infections of the vagina. *J Fam Pract* 1989; **28**: 673–680.

229. Ripa KT, Svensson L, Mardh PA, *et al*. *Chlamydia trachomatis* cervicitis in gynecologic outpatients. *Obstet Gynecol* 1978; **52**: 698–702.

230. Ruijs GJ, Kauer FM, van Gijssel PM, *et al.* Direct immunofluorescence for *Chlamydia trachomatis* on urogenital smears for epidemiological purposes. *Eur J Obstet Gynecol Reprod Biol* 1988; **27**: 289–297.

231. Schachter J, Stoner E, Moncada J. Screening for chlamydial infections in women attending family planning clinics. *West J Med* 1983; **138**: 375–379.

232. Sellors JW, Karwalajtys TL, Kaczorowski J, *et al*. Incidence, clearance and predictors of human papillomavirus infection in women. *Can Med Assoc J* 2003; **168**: 421–425.

233. Sessa R, Latino MA, Magliano EM, *et al.* Epidemiology of urogenital infections caused by *Chlamydia trachomatis* and outline of characteristic features of patients at risk. *J Med Microbiol* 1994; **41**: 168–172.

234. Shafer MA, Beck A, Blain B, *et al*. *Chlamydia trachomatis*: important relationships to race, contraception, lower genital tract infection, and Papanicolaou smear. *J Pediatr* 1984; **104**: 141–146.

235. Smith JS, Herrero R, Munoz N, *et al.* Prevalence and risk factors for herpes simplex virus type 2 infection among middle-age women in Brazil and the Philippines. *Sex Transm Dis* 2001; **28**: 187–194.

236. Staerfelt F, Gundersen TJ, Halsos AM, *et al.* A survey of genital infections in patients attending a clinic for sexually transmitted diseases. *Scand J Infect Dis* 1983; **40**(Suppl.): 53–57.

237. Svensson L, Westrom L, Mardh PA. *Chlamydia trachomatis* in women attending a gynaecological outpatient clinic with lower genital tract infection. *Br J Vener Dis* 1981; **57**: 259–262.

238. Tait IA, Rees E, Hobson D, *et al.* Chlamydial infection of the cervix in contacts of men with nongonococcal urethritis. *Br J Vener Dis* 1980; **56**: 37–45.

239. Vaccarella S, Herrero R, Dai M, *et al.* Reproductive factors, oral contraceptive use, and human papillomavirus infection: pooled analysis of the IARC HPV prevalence surveys. *Cancer Epidemiol Biomarkers Prev* 2006; **15**: 2148–2153.

240. Willmott FE, Mair HJ. Genital herpesvirus infection in women attending a venereal diseases clinic. *Br J Vener Dis* 1978; **54**: 341–343.

241. Winer RL, Lee SK, Hughes JP, *et al*. Genital human papillomavirus infection: incidence and risk factors in a cohort of female university students. *Am J Epidemiol* 2003; **157**: 218–226 [erratum appears in *Am J Epidemiol* 2003; **157**: 858].

242. Winter L, Goldy AS, Baer C. Prevalence and epidemiologic correlates of *Chlamydia trachomatis* in rural and urban populations. *Sex Transm Dis* 1990; **17**: 30–36.

243. Wolinska WH, Melamed MR. *Herpes genitalis* in women attending Planned Parenthood of New York City. *Acta Cytol* 1970; **14**: 239–242.

244. Woolfitt JM, Watt L. Chlamydial infection of the urogenital tract in promiscuous and non-promiscuous women. *Br J Vener Dis* 1977; **53**: 93–95.

245. Polis CB, Phillips SJ, Curtis KM, *et al.* Hormonal contraceptive methods and risk of HIV acquisition in women: a systematic review of epidemiological evidence. *Contraception* 2014; **90**: 360–390.

246. McCoy SI, Zheng W, Montgomery ET, *et al.* Oral and injectable contraception use and risk of HIV acquisition among women in sub-Saharan Africa. *AIDS* 2013; **27**: 1001–1009.

247. Heffron R, Donnell D, Rees H, *et al.* Use of hormonal contraceptives and risk of HIV-1 transmission: a prospective cohort study. *Lancet Infect Dis* 2012; **12**: 19–26.

248. Morrison CS, Chen PL, Kwok C, *et al.* Hormonal contraception and HIV acquisition: reanalysis using marginal structural modeling. *AIDS* 2010; **24**: 1778–1781.

249. Morrison CS, Richardson BA, Mmiro F, *et al.* Hormonal contraception and the risk of HIV acquisition. *AIDS* 2007; **21**: 85–95.

250. Morrison CS, Skoler-Karpoff S, Kwok C, *et al*. Hormonal contraception and the risk of HIV acquisition among women in South Africa. *AIDS* 2012; **26**: 497–504.

251. Myer L, Denny L, Wright TC, *et al.* Prospective study of hormonal contraception and women's risk of HIV infection in South Africa. *Int J Epidemiol* 2007; **36**: 166–174.

252. Reid SE, Dai JY, Wang J, *et al.* Pregnancy, contraceptive use, and HIV acquisition in HPTN 039: relevance for HIV prevention trials among African women. *J Acquir Immune Defic Syndr* 2010; **53**: 606–613.

253. Wand H, Ramjee G. The effects of injectable hormonal contraceptives on HIV seroconversion and on sexually transmitted infections. *AIDS* 2012; **26**: 375–380.

254. Baeten JM, Benki S, Chohan V, *et al.* Hormonal contraceptive use, herpes simplex virus infection, and risk of HIV-1 acquisition among Kenyan women. *AIDS* 2007; **21**: 1771–1777.

255. Heffron R, Mugo N, Ngure K, *et al*. Hormonal contraceptive use and risk of HIV-1 disease progression. *AIDS* 2013; **27**: 261–267.

256. Stephenson J, Griffioen AM, Woronowski H, *et al*. Survival and progression of HIV disease in women attending GUM/HIV clinics in Britain and Ireland. *Sex Transm Infect* 1999; **75**: 247.

257. Allen S, Stephenson R, Weiss H, *et al.* Pregnancy, hormonal contraceptive use, and HIV-related death in Rwanda. *J Womens Health* 2007; **16**: 1017–1027.

258. Kilmarx PH, Limpakarnjanarat K, Kaewkungwal J, *et al.* Disease progression and survival with human immunodeficiency virus type 1 subtype E infection among female sex workers in Thailand. *J Infect Dis* 2000; **181**: 1598–1606.

259. Morrison CS, Chen PL, Nankya I, *et al*. Hormonal contraceptive use and HIV disease progression among women in Uganda and Zimbabwe. *J Acquir Immune Defic Syndr* 2011; **57**: 157–164.

260. Polis CB, Wawer MJ, Kiwanuka N, *et al*. Effect of hormonal contraceptive use on HIV progression in female HIV seroconverters in Rakai, Uganda. *AIDS* 2010; **24**: 1937–1944.

261. Stringer EM, Giganti M, Carter RJ, *et al*. Hormonal contraception and HIV disease progression: a multicountry cohort analysis of the MTCT-Plus Initiative. *AIDS* 2009; **23(**Suppl. 1): S69–S77.

262. Stringer EM, Kaseba C, Levy J, *et al.* A randomized trial of the intrauterine contraceptive device vs hormonal contraception in women who are infected with the human immunodeficiency virus. *Am J Obstet Gynecol* 2007; **197**: 144.e1–144.e8.

263. Stringer EM, Levy J, Sinkala M, *et al*. HIV disease progression by hormonal contraceptive method: secondary analysis of a randomized trial. *AIDS* 2009; **23**: 1377–1382.

264. Lutalo T, Musoke R, Kong X, *et al.* Effects of hormonal contraceptive use on HIV acquisition and transmission among HIV-discordant couples. *AIDS* 2013; **27(**Suppl. 1): S27–S34.

265. Cejtin HE, Jacobson L, Springer G, *et al.* Effect of hormonal contraceptive use on plasma HIV-1-RNA levels among HIV-infected women. *AIDS* 2003; **17**: 1702–1704.

266. Richardson BA, Otieno PA, Mbori-Ngacha D, *et al.* Hormonal contraception and HIV-1 disease progression among postpartum Kenyan women. *AIDS* 2007; **21**: 749–753.

267. Clark RA, Theall KP, Amedee AM, *et al*. Lack of association between genital tract HIV-1 RNA shedding and hormonal contraceptive use in a cohort of Louisiana women. *Sex Transm Dis* 2007; **34**: 870–872.

268. Clemetson DB, Moss GB, Willerford DM, *et al.* Detection of HIV DNA in cervical and vaginal secretions. Prevalence and correlates among women in Nairobi, Kenya. *JAMA* 1993; **269**: 2860–2864.

269. Graham SM, Masese L, Gitau R, *et al.* Antiretroviral adherence and development of drug resistance are the strongest predictors of genital HIV-1 shedding among women initiating treatment. *J Infect Dis* 2010; **202**: 1538–1542.

270. Kovacs A, Wasserman SS, Burns D, *et al.* Determinants of HIV-1 shedding in the genital tract of women. *Lancet* 2001; **358**: 1593–1601.

271. Kreiss J, Willerford DM, Hensel M, *et al.* Association between cervical inflammation and cervical shedding of human immunodeficiency virus DNA. *J Infect Dis* 1994; **170**: 1597–1601.

272. Kumwenda JJ, Makanani B, Taulo F, *et al.* Natural history and risk factors associated with early and established HIV type 1 infection among reproductive-age women in Malawi. *Clin Infect Dis* 2008; **46**: 1913–1920.

273. Lavreys L, Baeten JM, Kreiss JK, *et al.* Injectable contraceptive use and genital ulcer disease during the early phase of HIV-1 infection increase plasma virus load in women. *J Infect Dis* 2004; **189**: 303–311.

274. Morrison CS, Demers K, Kwok C, *et al*. Plasma and cervical viral loads among Ugandan and Zimbabwean women during acute and early HIV-1 infection. *AIDS* 2010; **24**: 573–582.

275. Mostad SB, Overbaugh J, DeVange DM, *et al.* Hormonal contraception, vitamin A deficiency, and other risk factors for shedding of HIV-1 infected cells from the cervix and vagina. *Lancet* 1997; **350**: 922–927.

276. Polis CB, Gray RH, Bwanika JB, *et al*. Effect of hormonal contraceptive use before HIV seroconversion on viral load setpoint among women in Rakai, Uganda. *J Acquir Immune Defic Syndr* 2011; **56**: 125–130.

277. Roccio M, Gardella B, Maserati R, *et al.* Low-dose combined oral contraceptive and cervicovaginal shedding of human immunodeficiency virus. *Contraception* 2011; **83**: 564–570.

278. Sagar M, Lavreys L, Baeten JM, *et al*. Identification of modifiable factors that affect the genetic diversity of the transmitted HIV-1 population. *AIDS* 2004; **18**: 615–619.

279. Seck K, Samb N, Tempesta S, *et al.* Prevalence and risk factors of cervicovaginal HIV shedding among HIV-1 and HIV-2 infected women in Dakar, Senegal. *Sex Transm Infect* 2001; **77**: 190–193.

280. Tanton C, Weiss HA, Le Goff J, *et al.* Correlates of HIV-1 genital shedding in Tanzanian women. *PloS One* 2011; **6**: e17480.

281. www.hiv-Druginteractions.org. Drug Interaction Charts. www.hiv-druginteractions.org/Interactions.aspx [accessed 8 Feb 2016]

282. Beck P, Wells SA. Comparison of the mechanisms underlying carbohydrate intolerance in subclinical diabetic women during pregnancy and during post-partum oral contraceptive steroid treatment. *J Clin Endocrinol Metab* 1969; **29**: 807–818.

283. Kjos SL, Peters RK, Xiang A, *et al.* Contraception and the risk of type 2 diabetes mellitus in Latina women with prior gestational diabetes mellitus. *JAMA* 1998; **280**: 533–538.

284. Kung AW, Ma JT, Wong VC, *et al*. Glucose and lipid metabolism with triphasic oral contraceptives in women with history of gestational diabetes. *Contraception* 1987; **35**: 257–269.

285. Radberg T, Gustafson A, Skryten A, *et al.* Metabolic studies in gestational diabetic women during contraceptive treatment: effects on glucose tolerance and fatty acid composition of serum lipids. *Gynecol Obstet Invest* 1982; **13**: 17–29.

286. Skouby SO, Molsted-Pedersen L, Kuhl C. Low dosage oral contraception in women with previous gestational diabetes. *Obstet Gynecol* 1982; **59**: 325–328.

287. Skouby SO, Andersen O, Kuhl C. Oral contraceptives and insulin receptor binding in normal women and those with previous gestational diabetes. *Am J Obstet Gynecol* 1986; **155**: 802–807.

288. Skouby SO, Andersen O, Saurbrey N, *et al.* Oral contraception and insulin sensitivity: in vivo assessment in normal women and women with previous gestational diabetes. *J Clin Endocrinol Metab* 1987; **64**: 519–523.

289. Xiang AH, Kawakubo M, Kjos SL, *et al*. Long-acting injectable progestin contraception and risk of type 2 diabetes in Latino women with prior gestational diabetes mellitus. *Diabetes Care* 2006; **29**: 613–617.

290. Kjos SL, Shoupe D, Douyan S, *et al.* Effect of low-dose oral contraceptives on carbohydrate and lipid metabolism in women with recent gestational diabetes: results of a controlled, randomized, prospective study. *Am J Obstet Gynecol* 1990; **163**: 1822–1827.

291. Radberg T, Gustafson A, Skryten A, *et al.* Metabolic studies in women with previous gestational diabetes during contraceptive treatment: effects on serum lipids and high density lipoproteins. *Acta Endocrinol (Copenh)* 1982; **101**: 134–139.

292. Skouby SO, Kuhl C, Molsted-Pedersen L, *et al.* Triphasic oral contraception: metabolic effects in normal women and those with previous gestational diabetes. *Am J Obstet Gynecol* 1985; **153**: 495–500.

293. Beck P, Arnett DM, Alsever RN, *et al*. Effect of contraceptive steroids on arginine-stimulated glucagon and insulin secretion in women. II. Carbohydrate and lipid physiology in insulin-dependent diabetics. *Metabolism* 1976; **25**: 23–31.

294. Diab KM, Zaki MM. Contraception in diabetic women: comparative metabolic study of Norplant, depot medroxyprogesterone acetate, low dose oral contraceptive pill and CuT380A. *J Obstet Gynaecol Res* 2000; **26**: 17–26.

295. Garg SK, Chase P, Marshall G, *et al*. Oral contraceptives and renal and retinal complications in young women with insulin-dependent diabetes mellitus. *JAMA* 1994; **271**: 1099–1102.

296. Grigoryan OR, Grodnitskaya EE, Andreeva EN, *et al.* Contraception in perimenopausal women with diabetes mellitus. *Gynecol Endocrinol* 2006; **22**: 198–206.

297. Margolis KL, Adami H-O, Luo J, *et al. A* prospective study of oral contraceptive use and risk of myocardial infarction among Swedish women. *Fertil Steril* 2007; **88**: 310–316.

298. Petersen KR, Skouby SO, Sidelmann J, *et al.* Assessment of endothelial function during oral contraception on women with insulin-dependent diabetes mellitus. *Metabolism* 1994; **43**: 1379–1383.

299. Petersen KR, Skouby SO, Jespersen J. Balance of coagulation activity with fibrinolysis during use of oral contraceptives in women with insulin-dependent diabetes mellitus. *Int J Fertil* 1995; **40**: 105–111.

300. Radberg T, Gustafson A, Skryten A, *et al.* Oral contraception in diabetic women. A cross-over study on serum and high density lipoprotein (HDL) lipids and diabetes control during progestogen and combined estrogen/progestogen contraception. *Horm Metab Res* 1982; **14**: 61–65.

301. Skouby SO, Jensen BM, Kuhl C, *et al.* Hormonal contraception in diabetic women: acceptability and influence on diabetes control and ovarian function of a nonalkylated estrogen/progestogen compound. *Contraception* 1985; **32**: 23–31.

302. Skouby SO, Molsted-Petersen L, Kuhl C, *et al.* Oral contraceptives in diabetic women: metabolic effects of four compounds with different estrogen/progestogen profiles. *Fertil Steril* 1986; **46**: 858–864.

303. Di Martino V, Lebray P, Myers RP, *et al.* Progression of liver fibrosis in women infected with hepatitis C: long-term benefit of estrogen exposure. *Hepatology* 2004; **40**: 1426–1433.

304. Libbrecht L, Craninx M, Nevens F, *et al.* Predictive value of liver cell dysplasia for development of hepatocellular carcinoma in patients with non-cirrhotic and cirrhotic chronic viral hepatitis. *Histopathology* 2001; **39**: 66–73.

305. Eisalo A, Konttinen A, Hietala O. Oral contraceptives after liver disease. *BMJ* 1971; **3**: 561–562.

306. Wang P, Lai Z, Tang J, *et al.* Safety of hormonal steroid contraceptive use for hepatitis B virus carrier women. *Pharmacoepidemiol Drug Saf* 2000; **9**: 245–246.

307. Shaaban MM, Hammad WA, Fathalla MF, *et al*. Effects of oral contraception on liver function tests and serum proteins in women with past viral hepatitis. *Contraception* 1982; **26**: 65–74.

308. Schweitzer IL, Weiner JM, McPeak CM, *et al.* Oral contraceptives in acute viral hepatitis. *JAMA* 1975; **233**: 979–980.

309. Kapp N, Tilley IB, Curtis KM. The effects of hormonal contraceptive use among women with viral hepatitis or cirrhosis of the liver: a systematic review. *Contraception* 2009; **80**: 381–386.

310. Gines P, Quintero E, Arroyo V *et al.* Compensated cirrhosis: natural history of prognostic factors. *Hepatology* 1987; **7**: 122–128.

311. D'Halluin V, Vilgrain V, Pelletier G, *et al.* Natural history of focal nodular hyperplasia. A retrospective study of 44 cases. *Gastroenterol Clin Biol* 2001; **25**: 1008–1010.

312. Mathieu D, Kobeiter H, Maison P, *et al.* Oral contraceptive use and focal nodular hyperplasia of the liver. *Gastroenterology* 2000; **118**: 560–564.

313. Kapp N, Curtis KM. Hormonal contraceptive use among women with liver tumors: a systematic review. *Contraception* 2009; **80**: 387–390.

314. Cosnes J, Carbonnel F, Carrat F, *et al*. Oral contraceptive use and the clinical course of Crohn's disease: a prospective cohort study. *Gut* 1999; **45**: 218–222.

315. Sutherland LR, Ramcharan S, Bryant H, *et al*. Effect of oral contraceptive use on reoperation following surgery for Crohn's disease. *Dig Dis Sci* 1992; **37**: 1377–1382.

316. Timmer A, Sutherland LR, Martin F. Oral contraceptive use and smoking are risk factors for relapse in Crohn's disease. The Canadian Mesalamine for Remission of Crohn's Disease Study Group. *Gastroenterology* 1998; **114**: 1143–1150.

317. Wright JP. Factors influencing first relapse in patients with Crohn's disease. *J Clin Gastroenterol* 1992; **15**: 12–16.

318. Grimmer SF, Back DJ, Orme ML, *et al.* The bioavailability of ethinyloestradiol and levonorgestrel in patients with an ileostomy. *Contraception* 1986; **33**: 51–59.

319. Nilsson LO, Victor A, Kral JG, *et al*. Absorption of an oral contraceptive gestagen in ulcerative colitis before and after proctocolectomy and construction of a continent ileostomy. *Contraception* 1985; **31**: 195–204.

320. Bernstein CN, Blanchard JF, Houston DS, *et al.* The incidence of deep venous thrombosis and pulmonary embolism among patients with inflammatory bowel disease: a population-based cohort study. *Thromb Haemost* 2001; **85**: 430–434.

321. Choy E, Ganeshalingam K, Semb AG, *et al*. Cardiovascular risk in rheumatoid arthritis: recent advances in the understanding of the pivotal role of inflammation, risk predictors and the impact of treatment. *Rheumatology* 2014; **53**: 2143–2154.

322. Camacho EM, Lunt M, Farragher TM, *et al*. The relationship between oral contraceptive use and functional outcome in women with recent onset inflammatory polyarthritis: results from the Norfolk Arthritis Register. *Arthritis Rheum* 2011; **63**: 2183–2191.

323. Demers R, Blais JA, Pretty H. Rheumatoid arthritis treated by norethynodrel associated with mestranol: clinical aspects and laboratory tests [in French]. *Can Med Assoc J* 1966; **95**: 350–354.

324. Drossaers-Bakker KW, Zwinderman AH, Van ZD, *et al*. Pregnancy and oral contraceptive use do not significantly influence outcome in long term rheumatoid arthritis. *Ann Rheum Dis* 2002; **61**: 405–408.

325. Gilbert M, Rotstein J, Cunningham C, *et al*. Norethynodrel with mestranol in treatment of rheumatoid arthritis. *JAMA 1964;* **190**: 235.

326. Gill D. Rheumatic complaints of women using anti-ovulatory drugs. An evaluation. *J Chronic Dis* 1968; **21**: 435–444.

327. Hazes JM, Dijkmans BA, Vandenbroucke JP, *et al*. Oral contraceptive treatment for rheumatoid arthritis: an open study in 10 female patients. *Br J Rheumatol* 1989; **28**: 28–30.

328. Ostensen M, Aune B, Husby G. Effect of pregnancy and hormonal changes on the activity of rheumatoid arthritis. *Scand J Rheumatol* 1983; **12**: 69–72.

329. Vignos PJ, Dorfman RI. Effect of large doses of progesterone in rheumatoid arthritis. *Am J Med* 1951; **222**: 29–34.

330. Sanchez-Guerrero J, Uribe AG, Jimenez-Santana L, *et al.* A trial of contraceptive methods in women with systemic lupus erythematosus. *N Engl J Med* 2005; **353**: 2539–2542.

331. Jungers P, Dougados M, Pelissier C, *et al.* Influence of oral contraceptive therapy on the activity of systemic lupus erythematosus. *Arthritis Rheum* 1982; **25**: 618–623.

332. Mintz G, Gutierrez G, Deleze M, *et al*. Contraception with progestogens in systemic lupus erythematosus. *Contraception* 1984; **30**: 29–38.

333. Bernatsky S, Ramsey-Goldman R, Gordon C, *et al.* Factors associated with abnormal Pap results in systemic lupus erythematosus. *Rheumatology* 2004; **43**: 1386–1389.

334. Bernatsky S, Clarke A, Ramsey-Goldman R, *et al.* Hormonal exposures and breast cancer in a sample of women with systemic lupus erythematosus. *Rheumatology* 2004; **43**: 1178–1181.

335. Chopra N, Koren S, Greer WL, *et al.* Factor V Leiden, prothrombin gene mutation, and thrombosis risk in patients with antiphospholipid antibodies. *J Rheumatol* 2002; **29**: 1683–1688.

336. Esdaile JM, Abrahamowicz M, Grodzicky T, *et al.* Traditional Framingham risk factors fail to fully account for accelerated atherosclerosis in systemic lupus erythematosus. *Arthritis Rheum* 2001; **44**: 2331–2337.

337. Julkunen HA. Oral contraceptives in systemic lupus erythematosus: side-effects and influence on the activity of SLE. *Scand J Rheumatol* 1991; **20**: 427–433.

338. Julkunen HA, Kaaja R, Friman C. Contraceptive practice in women with systemic lupus erythematosus. *Br J Rheumatol* 1993; **32**: 227–230.

339. Jungers P, Dougados M, Pelissier C, *et al.* Influence of oral contraceptive therapy on the activity of systemic lupus erythematosus. *Arthritis Rheum* 1982; **25**: 618–623.

340. Manzi S, Meilahn EN, Rairie JE, *et al.* Age-specific incidence rates of myocardial infarction and angina in women with systemic lupus erythematosus: comparison with the Framingham Study. *Am J Epidemiol* 1997; **145**: 408–415.

341. McAlindon T, Giannotta L, Taub N, *et al*. Environmental factors predicting nephritis in systemic lupus erythematosus. *Ann Rheum Dis* 1993; **52**: 720–724.

342. McDonald J, Stewart J, Urowitz MB, *et al.* Peripheral vascular disease in patients with systemic lupus erythematosus. *Ann Rheum Dis* 1992; **51**: 56–60.

343. Mintz G, Gutierrez G, Deleze M, *et al.* Contraception with progestogens in systemic lupus erythematosus. *Contraception* 1984; **30**: 29–38.

344. Petri M. Musculoskeletal complications of systemic lupus erythematosus in the Hopkins Lupus Cohort: an update. *Arthritis Care Res* 1995; **8**: 137–145.

345. Petri M, Kim MY, Kalunian KC, *et al.* Combined oral contraceptives in women with systemic lupus erythematosus. *N Engl J Med* 2005; **353**: 2550–2558.

346. Petri M. Lupus in Baltimore: evidence-based 'clinical pearls' from the Hopkins Lupus Cohort. *Lupus* 2005; **14**: 970–973.

347. Sanchez-Guerrero J, Uribe AG, Jimenez-Santana L, *et al*. A trial of contraceptive methods in women with systemic lupus erythematosus. *N Engl J Med* 2005; **353**: 2539–2549.

348. Sarabi ZS, Chang E, Bobba R, *et al*. Incidence rates of arterial and venous thrombosis after diagnosis of systemic lupus erythematosus. *Arthritis Rheum* 2005; **53**: 609–612.

349. Schaedel ZE, Dolan G, Powell MC. The use of the levonorgestrel-releasing intrauterine system in the management of menorrhagia in women with hemostatic disorders. *Am J Obstet Gynecol* 2005; **193**: 1361–1363.

350. Somers E, Magder LS, Petri M. Antiphospholipid antibodies and incidence of venous thrombosis in a cohort of patients with systemic lupus erythematosus. *J Rheumatol* 2002; **29**: 2531–2536.

351. Urowitz MB, Bookman AA, Koehler BE, *et al*. The bimodal mortality pattern of systemic lupus erythematosus. *Am J Med* 1976; **60**: 221–222.

352. Pengo V, Biasiolo A, Pegoraro C, *et al*. Antibody profiles for the diagnosis of antiphospholipid syndrome. *Thromb Haemost* 2005; **93**: 1147–1152.

353. Ruffatti A, Tonello M, Del Ross T, *et al.* Antibody profile and clinical course in primary antiphospholipid syndrome with pregnancy morbidity. *Thromb Haemost* 2006; **96**: 337–341.

354. Miyakis S, Lockshin MD, Atsumi T, *et al.* International consensus statement on an update of the classification criteria for definite antiphospholipid syndrome. *J Thromb Haemost* 2006; **4**: 295–306.

Emergency Contraception (EC)

1. Faculty of Sexual and Reproductive Healthcare. *Emergency Contraception*. 2011. http://www.fsrh.org/pdfs/CEUguidanceEmergencyContraception11.pdf [accessed 8 Feb 2016]

2. Faculty of Sexual and Reproductive Healthcare. *Intrauterine Contraception*. 2015. http://www.fsrh.org/pdfs/CEUGuidanceIntrauterineContraception.pdf [accessed 8 Feb 2016]

3. von Hertzen H, Piaggio G, Ding J, *et al*. Low dose mifepristone and two regimens of levonorgestrel for emergency contraception: a WHO multicentre randomised trial. *Lancet* 2002; **360**: 1803–1810.

4. Ngai SW, Fan S, Li S, *et al.* A randomized trial to compare 24 hours 12 hours double dose regimen of levonorgestrel for emergency contraception. *Hum Reprod* 2004; **20**: 307–311.

5. HRA Pharma UK & Ireland. ellaOne® Abbreviated Prescribing Information (UK). January 2015. http://www.ellaone.co.uk/hcp/abbreviated-prescribing-information-uk [accessed 8 Feb 2016]

6. Cleland K, Zhu H, Goldstuck N, *et al.* The efficacy of intrauterine devices for emergency contraception: a systematic review of 35 years of experience. *Hum Reprod* 2012; **27**: 1994–2000.

7. Levy DP, Jager M, Kapp N, *et al*. Ulipristal acetate for emergency contraception: post-marketing experience after use by more than 1 million women. *Contraception* 2014; **89**: 431–433.

8. Cleland K, Raymond E, Trussell J, *et al*. Ectopic pregnancy and emergency contraceptive pills: a systematic review. *Obstet Gynecol* 2010; **115**: 1263–1266.

9. European Medicines Agency. Press release: Levonorgestrel and ulipristal remain suitable emergency contraceptives for all women, regardless of bodyweight. 30 September 2014. http://www.ema.europa.eu/docs/en_GB/document_library/Referrals_document/Emergency_contraceptives_31/WC500176381.pdf [accessed 8 Feb 2016]

10. Kauppinen R, Mustajoki PJ. Prognosis of acute porphyria: occurrence of acute attacks, precipitating factors, and associated diseases. *Medicine* 1992; **71**: 1–13.

11. Gross U, Honcamp M, Daume E, *et al*. Hormonal oral contraceptives, urinary porphyrin excretion and porphyrias. *Horm Metab Res* 1995; **27**: 379–383.

12. Andersson C, Innala E, Bäckström T. Acute intermittent porphyria in women: clinical expression, use and experience of exogenous sex hormones. A population-based study in northern Sweden. *J Intern Med* 2003; **254**: 176–183.

13. Castelo-Branco C, Vicente JJ, Vanrell JA. Use of gonadotropin-releasing hormone analog with tibolone to prevent cyclic attacks of acute Intermittent porphyria. *Metabolism* 2001; **50**: 995–996.

14. Thadani H, Deacon A, Peters T. Diagnosis and management of porphyria. *BMJ* 2000; **320**: 1647–1651.

Additional Resources

Diagnosis of Migraine With or Without Aura

The UK Medical Eligibility Criteria for Contraceptive Use (UKMEC) includes 'headache' as a condition, which is spilt into the following sub-conditions:

a) Non-migrainous (mild or severe)
b) Migraine without aura, at any age
c) Migraine with aura, at any age and
d) History (≥5 years ago) of migraine with aura, any age.

Headache is a common condition affecting women of reproductive age. Migraine is a common disabling primary headache disorder which can be classified into two major sub-types: migraine without aura and migraine with aura. Classification depends on making an accurate diagnosis of those severe headaches that are migrainous and in addition those complicated by aura.

Useful resources for making a migraine diagnosis

1. Mayo Clinic

The Mayo Clinic has produced a video on migraine aura[1] that shows how an aura can present to a woman:

http://www.mayoclinic.org/diseases-conditions/migraine-with-aura/multimedia/migraine-aura/vid-20084707

2. International Headache Society (IHS)

The International Classification of Headache Disorders (3rd edition) (ICHD-3) criteria[2] is the official criteria of the International Headache Society (IHS). The ICHD-3 provides the following diagnostic criteria for distinguishing between the two major sub-types of migraines. Please refer to the ICHD-3 criteria for further details on symptoms.[2]

Migraine Without Aura

Recurring headache with at least five attacks fulfilling the following criteria:

- Headache attacks lasting 4–72 hours (treated or unsuccessfully treated)
- Headache has at least two of the following four characteristics:
    - Unilateral location
    - Pulsating quality
    - Moderate or severe pain intensity
    - Aggravation by or causing avoidance of routine physical activity (e.g. walking or climbing stairs).
- At least one of the following during headache attacks:
    - Nausea and/or vomiting
    - Photophobia and phonophobia.
- Not better accounted for by another ICHD-3 diagnosis.

Notes:

1. One or a few migraine attacks may be difficult to distinguish from symptomatic migraine-like attacks. Furthermore, the nature of a single or a few attacks may be difficult to understand. Therefore, at least five attacks are required.
2. When the patient falls asleep during a migraine attack and wakes up without it, duration of the attack is reckoned until the time of awakening.
3. In children and adolescents (aged under 18 years), attacks may last 2–72 hours.

Migraine With Aura

Must fulfil the criteria for migraine without aura, and in addition, at least two attacks fulfilling the following criteria:

- One or more of the following fully reversible aura symptoms, but no motor weakness:
  - Visual
  - Sensory
  - Speech and/or language
  - Motor
  - Brainstem
  - Retinal.
  -
- At least two of the following four characteristics:
  - At least one aura symptom spreads gradually over ≥5 minutes, and/or two or more symptoms occur in succession
  - Each individual aura symptom lasts 5–60 minutes
  - At least one aura symptom is unilateral
  - The aura is accompanied by, or followed within 60 minutes, by headache.
  -
- Not better accounted for by another ICHD-3 diagnosis, and transient ischaemic attack has been excluded.

Notes:

1. Migraine aura is sometimes associated with a headache that does not fulfil criteria for migraine without aura, but this is still regarded as a migraine headache because of its relation to the aura. In other cases, migraine aura may occur without the headache.
2. When, for example, three symptoms occur during an aura, the acceptable maximal duration is 3x60 minutes. Motor symptoms may last up to 72 hours.
3. **Visual symptoms:** Often presents as a fortification spectrum: a zigzag figure near the point of fixation that may gradually spread right or left and assume a laterally convex shape with an angulated scintillating edge, leaving absolute or variable degrees of relative scotoma in its wake. In other cases, scotomata without positive phenomena may occur.
4. **Sensory symptoms:** Pins and needles moving slowly from the point of origin and affecting a greater or smaller part of one side of the body/face and/or tongue. Numbness may occur in its wake, but numbness may also be the only symptom.
5. **Speech disturbance:** Usually aphasia (aphasia is always regarded as a unilateral symptom)

Motor, brainstem and retinal symptoms can constitute aura. Aura involving motor symptoms (fully reversible motor weakness lasting <72 hours), brainstem symptoms (dysarthria, vertigo, tinnitus, hyperacusis, diplopia, ataxia, reduced level of consciousness) and retinal symptoms (fully reversible monocular positive and/or negative visual phenomena) is not typical aura. Please refer to ICHD-3 guideline for more details.[2] Specialist diagnosis may be required to allow exclusion of other diagnoses.

References

1. MayoClinic. Migraine with Aura.
http://www.mayoclinic.org/diseases-conditions/migraine-with-aura/multimedia/migraine-aura/vid-20084707
[accessed 8 Feb 2016]

2. Headache Classification Committee of the International Headache Society (IHS). The International Classification of Headache Disorders, 3re edition (beta version). *Cephalalgia* 2013; **33;** 629–808.

Appendices

Appendix 1: UKMEC Development Process

In preparation for the UKMEC revision and in order to identify topics to be reviewed, the CEU conducted a consultation with FSRH stakeholders from January to March 2015, a search of the 2014 FSRH Members Enquiry Service for common themes relating to medical eligibility for contraceptive use and a comparison of the 2009 UKMEC with existing versions of the USMEC and WHOMEC.

A Guideline Steering Group (GSG), comprising the CEU secretariat and five external members, was established for the 2016 UKMEC edition to define the scope of the UKMEC revisions. A Guideline Development Group (GDG) was established consisting of the steering group and a further nine experts in contraception and relevant disciplines (see Appendix 2).

The GSG met in February 2015 to review the topics that had been proposed from the scoping exercises (above) and to approve the scope of the UKMEC revision that would be considered by the GDG at the meeting in April 2015. Priority was given to controversial topics or those in which new evidence had emerged including clarifying recommendations with 'split' MEC categories (2/3 or 3/4 classification). The topics prioritised for review and consideration by the GDG were sent to GDG members electronically together with evidence summary tables (where appropriate). GDG members were asked to respond electronically to the CEU on level of agreement with the proposed scope of the revision. These responses were considered by the GSG, in advance of the GDG meeting.

A 2-day GDG meeting at the CEU took place on 15–16 April 2015 to endorse the scope of the revised UKMEC 2016 and to review new evidence relevant to the proposed revisions, which was primarily obtained from systematic reviews of the most recent literature. Where evidence was lacking for topics, technical consultation was conducted with UK experts in the relevant area (see Appendix 2). In order for changes to be made to the UKMEC 2009 classifications, we adopted a similar process used by the WHOMEC, which required updated high-quality evidence (i.e. from randomised controlled trials) to be identified to substantiate any significant proposed changes to MEC categories. Recommendations were made following a formal consensus process.

The 2016 edition of the UKMEC was based on the recommendations agreed by the GDG at the meeting convened by the CEU in April 2015. All members of the GDG were asked to declare any conflicts of interest. There were no conflicts of interest that were judged to preclude individuals from participating in the deliberations and development of the UKMEC recommendations. A total of 27 topics (more than 126 recommendations) were reviewed as part of the MEC revision (see 'Summary of changes from UKMEC 2009' in Section A). All other existing recommendations were confirmed by the GDG and did not undergo formal review for the 2016 UKMEC.

The first draft of the 2016 UKMEC was produced in July 2015. This was reviewed by the GDG, and following changes in response to feedback, the second draft was sent to both UK stakeholder groups and international experts in contraception (see Appendix 2) in August 2015 for peer review.

Revisions that required consensus approval were made by the GSG. Editorial revisions were made by the CEU. The final version of the 2016 UKMEC was approved by the Clinical Effectiveness Committee (CEC) of the FSRH on 16 November 2015.

Appendix 2: List of Contributors

The update of the UKMEC is guided by the UKMEC Guideline Development Group (GDG) comprising the secretariat, which includes staff from the CEU, the steering group and the multidisciplinary group of experts.

Secretariat	*Specialist area/Experience*
Dr Sharon Cameron (Chair)	Sexual and reproductive health; gynaecology; contraceptive research; WHOMEC
Dr Zhong Eric Chen	Evidence synthesis
Dr Ailsa Gebbie	Community gynaecology and reproductive health
Dr Sarah Hardman	Sexual and reproductive health; genitourinary medicine
Ms Kate Williams	Project management and administrative support

Steering Group	*Specialist area/Experience*
Dr Anne Connolly	General practice; sexual and reproductive health
Dr Kathryn Curtis	Evidence synthesis; WHOMEC; USMEC
Professor Anna Glasier	Sexual and reproductive health, contraceptive research; WHOMEC; UKMEC
Professor Phil Hannaford*	Epidemiology; general practice; WHOMEC; UKMEC
Dr Diana Mansour	Community gynaecology and reproductive health; UKMEC

Multidisciplinary Group	*Specialist area/Experience*
Dr Sinead Cook	Sexual and reproductive health
Dr Sarah Cooper	Obstetrics and gynaecology
Professor Ian Greer*	Obstetrics and gynaecology
Dr Sophie Khadr	Adolescent sexual and reproductive health
Dr Sue Mann	Public health; sexual and reproductive health
Ms Shelley Mehigan Raine	Nursing; sexual and reproductive health
Dr Janet Nooney	Medicine information/safety; UKMEC
Dr Sam Rowlands	Sexual and reproductive health
Professor James Trussell	Epidemiology; USMEC

*Professor Phil Hannaford and Professor Ian Greer were not present at the face-to-face meeting but provided input before and after the meeting via email.

In the development of the UKMEC, UK experts were consulted:

Experts	*Specialist area*	*Experts*	*Specialist area*
Dr Nicole Amft	Rheumatic diseases	Dr John O'Sullivan	Cardiac disease
Dr Scott Fegan	Ovarian cancer	Dr Karen Schreiber	Rheumatic diseases
Dr Ian Giles	Rheumatic diseases	Dr Gordon Scott	GUM/HIV
Professor Caroline Gordon	Rheumatic diseases	Mr Richard Skipworth	Bariatric surgery
Dr Robin Grant	Neurology	Dr Charles Wallis	Anaesthesia
Ms Jo Marsden	Breast cancer	Dr Laura Waters	GUM/HIV
Ms Lorna Marson	Organ transplant	Dr David Williams	Rheumatic diseases

The UK stakeholder and international reviewers are:

UK reviewers	*Role/Affiliation*	*Specialist area*
Dr P S Arunakumari	Consultant Obstetrician and Gynaecologist, Basildon and Thurrock University Hospitals NHS Trust (Royal College of Obstetrics and Gynaecology)	Contraception; paediatric and adolescent gynaecology; abortion care
Ms Carmel Bagness	Professional lead for Midwifery and Women's Health (Royal College of Nursing)	Midwifery; nursing
Ms Sue Burchill	Head of Nursing (Brook)	Young people's sexual and reproductive health care
Mr Thomas Francis Corbett	Clinical Writer (British National Formulary, Royal Pharmaceutical Society of Great Britain)	Pharmacy
Dr Kate Guthrie	Clinical Director, Consultant Gynaecologist (Sexual and Reproductive Health Services, Hull and East Riding); Clinical Expert, Sexual and Reproductive Health (Public Health England)	Sexual and reproductive health; community based gynaecology
Ms Natika H Halil	Chief Executive (Family Planning Association)	Contraception; sexually transmitted infections

Mr Kin Liu	Highly specialist HIV/GUM pharmacist (Chelsea and Westminster Hospital NHS Foundation Trust, Royal Pharmaceutical Society of Great Britain)	Pharmacy; GUM/HIV
Dr Patricia A Lohr	Medical Director (British Pregnancy Advisory Service)	Obstetrics and gynaecology; family planning
Dr Nneka Nwokolo	Consultant HIV/GU Physician (Chelsea and Westminster Hospital, London; Royal College of Physicians)	Sexually transmitted infections; contraception and reproductive health; HIV medicine
Dr Dhammika Perera	Global Medical Director (Marie Stopes International)	Reproductive health; public health
Dr Lindsey E Ross	General PractitionerP (Dingwall Medical Group, Inverness); Member of Sex, Drugs & BBV Group (Royal College of General Practitioners)	General practice; blood-borne viruses; substance misuse
Ms Louise Silverton	Director for Midwifery (The Royal College of Midwives)	Midwifery and maternity care

International reviewers	***Role/Affiliation***	***Specialist area***
Dr Deborah Bateson (Australia)	Medical Director (Family Planning NSW, Sydney); Clinical Associate Professor, Discipline of Obstetrics, Gynaecology and Neonatology (The University of Sydney)	Sexual and reproductive health; contraceptive research
Dr Erin Berry-Bibee (United States)	Reviewer and Guest Researcher (Centers for Disease Control and Prevention); Assistant Professor (University of Chapel Hill North Carolina)	Family planning; obstetrics and gynaecology
Dr Pritha Biswas (India)	Obstetrician and Gynaecologist, Senior Advisor, Safe Abortion, Family Planning and Sexual and Reproductive Health (Marie Stopes International)	Reproductive health
Professor Kristina Gemzell Danielsson (Sweden)	Professor and Chair, Division of Obstetrics & Gynecology, Department of Women's and Children's Health (Karolinska Institutet); Senior Consultant (Karolinska University Hospital)	Sexual and reproductive health; contraceptive research
Dr Hang Wun Raymond Li (Hong Kong)	Associate Professor, Department of Obstetrics and Gynaecology (The University of Hong Kong); Honorary Medical Consultant (The Family Planning Association of Hong Kong)	Reproductive endocrinology; contraceptive research

Appendix 3: Commonly Used Abbreviations

AIDS	Acquired immune deficiency syndrome
ART	Antiretroviral therapy
ARV	Antiretroviral
BMD	Bone mineral density
BMI	Body mass index
BNF	British National Formulary
BP	Blood pressure
CEU	Clinical Effectiveness Unit
CHC	Combined hormonal contraception
CIN	Cervical intraepithelial neoplasia
COC	Combined oral contraception
Cu-IUD	Copper-bearing intrauterine device
CVD	Cardiovascular disease
DMPA	Depot medroxyprogesterone acetate
DSG	Desogestrel
DVT	Deep vein thrombosis
EC	Emergency contraception
EE	Ethinylestradiol
FSRH	Faculty of Sexual and Reproductive Healthcare
GDG	Guideline Development Group
GTD	Gestational trophoblastic disease
hCG	Human chorionic gonadotrophin
HDL	High-density lipoprotein
HIV	Human immunodeficiency virus
HMB	Heavy menstrual bleeding
HPV	Human papillomavirus
IBD	Inflammatory bowel disease
IIH	Idiopathic intracranial hypertension
IMP	Progestogen-only implant
IUC	Intrauterine contraception
IM	Intramuscular
LAM	Lactational amenorrhoea method
LARC	Long-acting reversible contraception
LDL	Low-density lipoprotein
LNG	Levonorgestrel
LNG-IUS	Levonorgestrel-releasing intrauterine system
MI	Myocardial infarction
NET	Norethisterone
NET-EN	Norethisterone enantate
PE	Pulmonary embolism
PID	Pelvic inflammatory disease
POC	Progestogen-only contraception
POP	Progestogen-only pill
SC	Subcutaneous
SLE	Systemic lupus erythematosus
STI	Sexually transmitted infection
TIA	Transient ischaemic attack
UKMEC	UK Medical Eligibility Criteria for Contraceptive Use
UPA	Ulipristal acetate
UPSI	Unprotected sexual intercourse
VTE	Venous thromboembolism
WHO	World Health Organization

www.fsrh.org