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Contraception for women aged over 40
An important but neglected area

DEBORAH BATESON MA(Oxon), MSc, MB BS, **KATHY McNAMEE** MB BS, FRACGP, DipVen, GradDipEpiBio, MEpi, **CAROLINE HARVEY** MB BS(Hons), FRACGP, DRANZCOG, **MARY STEWART** MB BS, DFFP

Older women need to be provided with evidence-based advice to guide their decision on whether to use contraception, and the method to use. Regular review of contraceptive options is important because a woman's preferred method at the time of the perimenopause may be very different from that chosen in her early 40s.

Key points

- **Women over 40 require evidence-based information about their need, and options, for contraception to reduce the risk of an unintended pregnancy.**
- **Oestrogen-containing contraceptives and depot medroxyprogesterone acetate injections can be used by women up to the age of 50; after this age, women should switch to an alternative progestogen-only or non-hormonal method until contraception is no longer required.**
- **Women over 50 who are using a non-hormonal contraceptive can be advised that contraception is no longer required after 12 months of amenorrhoea; those below the age of 50 should wait for two years of amenorrhoea.**
- **Women over 50 who are amenorrhoeic while using progestogen-only contraception can be advised to continue using the method for only another 12 months if they have two follicular stimulating hormone levels of 30 IU/L or above taken six weeks apart.**

Although the chance of pregnancy after the age of 40 years is reduced compared with the peak reproductive years,[1] a small number of women continue to be fertile even into their early 50s. Women over 40 have a higher risk than younger women of having fetal abnormalities[2] as well as pregnancy-related complications.[3,4] At least one in four pregnancies in women over the age of 40 ends in abortion.[5] Anecdotally, women may underestimate their fertility and subsequent risk of pregnancy in their later reproductive years. Women in their 40s and early 50s require evidence-based information about contraception to reduce the risk of an unintended pregnancy.

CONTRACEPTIVE OPTIONS FOR WOMEN OVER 40

The principles of contraceptive choice are the same regardless of age. Medical contraindications to the use of a particular method are considered with social, cultural and economic factors, as well as experiences with past methods. As increasing age itself is an independent risk factor for conditions such as venous and arterial vascular disease, osteoporosis and gynaecological problems, it

Dr Bateson is Medical Director of Family Planning NSW, Sydney, NSW. Dr McNamee is Senior Medical Officer of Family Planning Victoria, Melbourne, Vic. Dr Harvey is Medical Director of Family Planning Qld, Brisbane, Qld. Dr Stewart is Medical Education Coordinator of Family Planning NSW, Sydney, NSW.

DEFINITION OF MEDICAL ELIGIBILITY CRITERIA (MEC) CATEGORIES[6,7]

MEC 1

A condition for which there is no restriction for the use of the contraceptive method

MEC 2

A condition for which the advantages of using the method generally outweigh the theoretical or proven risks

MEC 3

A condition for which the theoretical or proven risks generally 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 acceptable

MEC 4

A condition that represents an unacceptable risk if the contraceptive method is used

is essential to take a thorough history of women over 40 to determine eligibility for a particular contraceptive method.

The medical eligibility criteria (MEC) system for contraceptive use provides an internationally recognised framework for matching a woman's medical and personal history with her chosen method of contraception. Australian guidance on MEC encompasses both the UK Faculty of Sexual and Reproductive Healthcare (FSRH)[6] and World Health Organization (WHO)[7] MEC (see the box on this page).

Although upper age limits are not specified in MEC guidance, oestrogen-containing methods and depot medroxy-progesterone acetate (DMPA) injections are not advised in women over the age of 50 because the risks of these methods outweigh the benefits for women in this age group. Women can be advised to switch to an alternative progesterone-only or non-hormonal method at age 50 until contraception is no longer required or desired (Table).[8]

TABLE. ADVICE FOR WOMEN ON STOPPING CONTRACEPTION[8]

Contraceptive method	Advice on stopping contraception	
	Age less than 50 years	Age 50 years and above
Non-hormonal	Stop contraception after two years of amenorrhoea	Stop contraception after one year of amenorrhoea
CHC	Can be continued up to age 50 years*	Stop CHC at age 50 years and switch to a non-hormonal or progestogen-only method, then follow appropriate advice
DMPA	Can be continued up to age 50 years*	Stop DMPA at age 50 years and choose from options below: • switch to a non-hormonal method and stop after two years of amenorrhoea, or • switch to the POP, implant or LNG-IUD and follow advice below
Implant POP LNG-IUD	Can be continued to age 50 years or longer*	Continue method • If amenorrhoeic either: – check FSH levels and stop method after one year if serum FSH level is 30 IU/L or above on two occasions six weeks apart, or – stop at age 55 years when natural loss of fertility can be assumed for most women • If not amenorrhoeic, consider investigating any abnormal bleeding or changes in bleeding pattern, and continue contraception beyond age 55 years until amenorrhoeic for one year

* If a woman wishes to stop hormonal contraception before age 50 years she should be advised to switch to a non-hormonal method and to stop once she has been amenorrhoeic for two years (or three years if switched from DMPA due to the potential delay in return of ovulation).

ABBREVIATIONS. CHC = combined hormonal contraception; DMPA = depot medroxyprogesterone acetate; FSH = follicle-stimulating hormone; IU = international unit; LNG-IUD = levonorgestrel-releasing intrauterine device; POP = progestogen-only pill.

Reproduced with permission from: Faculty of Sexual and Reproductive Healthcare clinical guidance. Contraception for women aged over 40 years. London: Faculty of Sexual and Reproductive Healthcare; 2010 (available from http://www.fsrh.org).[8]

AT WHAT AGE SHOULD WOMEN STOP CONTRACEPTION?

Contraception is advised for sexually active women until there is no longer a chance of ovulation. The probability of menstruation and possible ovulation after 12 months of amenorrhoea in women

over 45 years of age is estimated to be between 2 and 10%.[9] The median age of menopause for Australian women is estimated to be 51 years,[10] and sterility approaches 100% at 50 years.[11]

Women over 50 who are using a non-hormonal method such as condoms or a copper-bearing intrauterine device (IUD) and those not currently using any contraceptive method can be advised that contraception is no longer required after 12 months of amenorrhoea. Women below the age of 50 are advised to wait for two years of amenorrhoea,[8] because of the possibility of the resumption of ovulation and menstruation. It is not uncommon for a perimenopausal woman's menses to cease for several months only to resume again in a regular pattern.

Advice on ceasing contraception is more challenging for women using a hormonal method. Hormonal methods may mask the signs and symptoms of menopause, which makes it difficult, if not impossible, to determine when contraception is no longer required. Progestogen-only methods may result in amenorrhoea due to the hormonal effect on the endometrium, and oestrogen-containing methods will generally result in a regular withdrawal bleed for as long as the method is used. Oestrogen-containing methods will also control vasomotor symptoms.[12]

Practical method-specific guidance is therefore required (Table). Follicle-stimulating hormone (FSH) levels are not diagnostic of infertility and cannot generally be used to guide advice on whether to stop contraception. They may be useful, however, to plan the future timing of stopping contraception in women over 50 years who are amenorrhoeic while using a progestogen-only pill (POP), an etonogestrel implant or a levonorgestrel intrauterine device (LNG-IUD). If two FSH levels taken six weeks apart are both above 30 IU/L, the woman can be advised that she need only to continue the method for another 12 months.[8] It should be remembered that the hormone doses in hormone replacement therapy (HRT) regimens are not contraceptive.

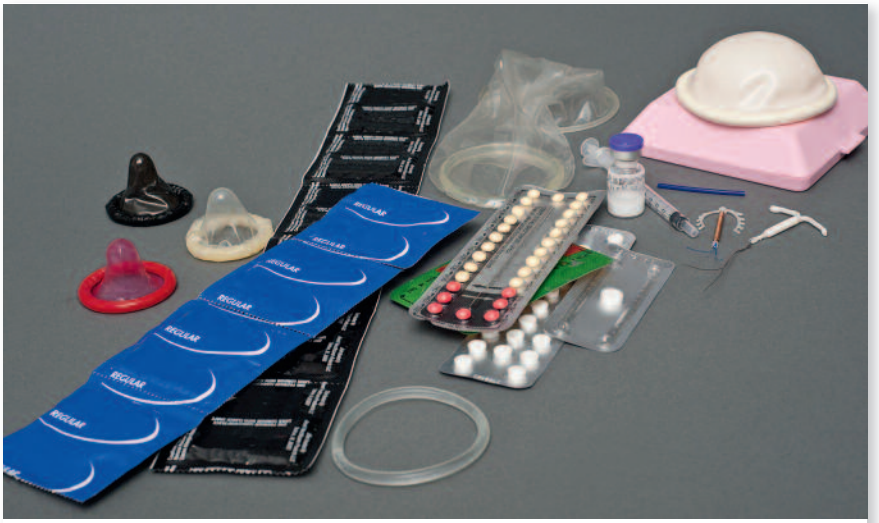

Figure. Contraceptive options available in Australia.

Women switching from DMPA to non-hormonal methods need to wait for two years of amenorrhoea if over 50 years of age, or three years if younger before stopping contraception.

Although it is essential to provide evidence-based information to support women making an informed choice about when to stop contraception, it is also important to acknowledge that this choice is personal and individual. Some women will be prepared to accept the small risk of an unintended pregnancy at the perimenopause, whereas others prefer to continue contraception until there is no chance of pregnancy. The natural loss of fertility can be assumed for most women at the age of 55 years and women can be advised that contraception is no longer required beyond this age.[8]

COMBINED HORMONAL CONTRACEPTIVE METHODS

Combined oral contraceptive pills (COCPs) and vaginal rings can be used up to the age of 50 by women who have no contraindications to oestrogen (risk factors for or history of venous or arterial disease, breast cancer or liver disease).[8] They can be helpful in relation to reducing menstrual bleeding[13,14] and dysmenorrhoea,[15] maintenance of bone density[16] and reducing menopausal symptoms at the time of the perimenopause.[12]

Factors influencing the choice of COCP for women aged between 40 and 50 years are the same as those for younger women. The PBS-listed monophasic pills containing levonorgestrel or norethisterone combined with 30 or 35 µg of ethinyloestradiol (EE) are generally a good first choice. Other pills can be used when there is a specific potential benefit for the woman or there are side effects with the first-line pills. Theoretically, COCPs with 20 µg EE are a good choice for older women with a higher baseline venous thromboembolism (VTE) risk as a result of age. However, it is unknown whether the lowest dose pills with 20 µg EE available in Australia offer a safety benefit over pills with 30 or 35 µg EE.[17,18] COCPs with 20 µg EE may also be associated with a higher chance of unscheduled bleeding, which may lead to early discontinuation.[19]

The newest COCPs that are available in Australia have substituted EE with oestradiol valerate and oestradiol. These oestrogens are structurally identical to that produced by the ovary and have a lesser impact on clotting factors than EE.[20-22] It is not yet known whether these COCPs will demonstrate any real safety benefit in relation to VTE risk compared with the EE-containing COCPs, and the contraindications to their use are no different from those of other COCPs.

It is important to provide information about VTE risk in a way that is understandable for women. The VTE risk for women not using a hormonal method of contraception appears to be approximately two per 10,000 women years and this is increased approximately two- to fourfold in women using a combined hormonal method of contraception. The absolute risk of a VTE for users of combined hormonal contraceptives is far lower than the risk of VTE associated with pregnancy and the postpartum period, which is between 21.5- and 84-fold over baseline.[23] As age is an independent risk factor for VTE, the background risk for women in their 40s is higher than that for younger women. Beyond the age of 50, the risk profile outweighs the benefits and switching to a non-oestrogen based method is advised.

COCPs and vaginal rings can also be used in the management of appropriately investigated heavy menstrual bleeding. Heavy menstrual bleeding, defined as blood loss of more than 80 mL per cycle, is more common in women in their 40s than in younger women. Since older women are also at increased risk of endometrial pathology, it is essential to rule out serious causes of bleeding, including endometrial cancer, before initiating treatment. The quadriphasic oestradiol valerate/dienogest pill has been shown to be very effective at reducing blood loss compared with placebo[14] and has an indication for the management of idiopathic heavy menstrual bleeding in women requiring contraception. However, it is not known whether this COCP is superior to others in this regard.

Women can also reduce or eliminate withdrawal bleeding in the pill-free or ring-free break by running monophasic active pill packs together or by replacing their vaginal rings every three to four weeks without a break. Eliminating the pill-free or ring-free break has traditionally been advised for three months at a time, followed by a withdrawal bleed but there are now good safety data to support the continuous use of combined pills or vaginal rings for up to 12 months.[24-27]

Women may experience heightened premenstrual symptoms in the perimenopause as a result of fluctuating hormonal levels.[28] All contraceptive methods that inhibit ovulation may potentially benefit women with the symptoms of premenstrual syndrome (PMS), although the aetiology of this condition remains elusive. The 20 µg EE/3 g drospirenone pill has been shown to be more effective than placebo in the treatment of the more severe premenstrual dysphoric disorder (PMDD) over three months,[29] but it is unknown whether this effect is similar in women with the milder symptoms of PMS.

PROGESTOGEN-ONLY PILLS

POPs offer an oral alternative to the COCP without oestrogen. The primary mechanism of action is to thicken the cervical mucus so it is impenetrable to sperm. POPs available in Australia have a variable and inconsistent effect on preventing ovulation. Although POPs need to be taken within a narrow three-hour time frame each day, they have a relatively low failure rate in women over 40 (quoted as 0.3%[30]) as a result of reduced fertility in this age group.

The POP produces minimal, if any, metabolic effects and is not associated with increased VTE risk; however, unscheduled bleeding can be a troublesome side effect. It is important to exclude pathological causes of bleeding in women in their 40s and early 50s. POPs can be continued, if required and desired, until the age of 55 (Table).

ETONOGESTREL IMPLANTS

The subdermal etonogestrel contraceptive implant is MEC 1 (i.e. no restriction for the use of the contraceptive method; see the box on page 28) for women over 40 and can be continued for as long as contraception is required (Table). The implant's primary mechanism of action is ovulation inhibition, although follicular activity and oestradiol levels are not reduced to a level that would adversely impact on bone mineral density. Furthermore, the implant does not appear to have significant metabolic effects[31] and does not significantly increase the risk of VTE.[32]

Women using an etonogestrel implant may experience unscheduled vaginal bleeding, which can lead to early method discontinuation. As noted above, it is particularly important to exclude pathological causes of bleeding in women in their 40s and early 50s.

DEPOT MEDROXYPROGESTERONE ACETATE INJECTIONS

DMPA injections given as an intramuscular injection every 12 weeks (plus or minus

two weeks) provides effective contraception by inhibiting ovulation as well as thickening the cervical mucus. In women without cardiovascular risk factors DMPA is MEC 2 (i.e. the advantages outweigh the theoretical or proven risks) from the age of 45 years but it is not recommended beyond the age of 50 due to concerns on the effects on lipids and increased cardiovascular risk resulting from its hypo-oestrogenic impact.

The hypo-oestrogenic effect of DMPA has been shown to reduce high-density lipoprotein (HDL) cholesterol levels,[33] and the risks of this method outweigh the benefits (MEC 3) for women with multiple risk factors for cardiovascular disease, including a family history of cardiovascular disease, smoking, hypertension and diabetes.

DMPA users experience mean reductions in bone density of 5.8% and 5.7% in the hip and spine, respectively, compared with a mean reduction of 0.9% in both sites for non-users over a two-year period.[34] However, it appears that DMPA users regain bone density after discontinuing the method.[35-39] In women aged over 45 years there is a theoretical but unproven concern that there may be insufficient time to regain any losses prior to the onset of the hypo-oestrogenic effects of menopause. There is no recommendation to routinely perform bone densitometry before or during DMPA use, but a detailed assessment of risk factors for osteoporosis should occur every two years in any user.

Women in their early 40s who desire another child need to be aware that DMPA is not immediately reversible. The median time for the return to the woman's own level of fertility is about 10 months.[40]

INTRAUTERINE DEVICES

IUDs offer highly effective contraception for women aged 40 and above, either in the form of the levonorgestrel-releasing device (LNG-IUD) or the copper-bearing devices.

LNG-IUD

The LNG-IUD has a potential added benefit for women aged 40 and above in relation to its effect on reducing menstrual blood loss.[41] Perimenopausal women may experience heavy menstrual bleeding, often associated with anovulatory cycles. As mentioned above, it is essential to exclude pathological causes of heavy menstrual bleeding in women of this age because they are at an increased risk of endometrial pathology, including endometrial cancer, compared with younger women. Women presenting with new heavy menstrual bleeding should be

CASE STUDIES. CONTRACEPTIVE ADVICE FOR OLDER WOMEN

Case 1.

Sara, aged 53 years, had a levonorgestrel intrauterine device (LNG-IUD) inserted at the age of 48 years for heavy menstrual bleeding and contraception. After an initial four months of persistent, unscheduled bleeding, she developed a pattern of light regular menstruation. About three years ago menstruation became less frequent and she has been amenorrhoeic for the past 18 months. She presents for removal of her IUD. Sara describes some mild symptoms of menopause, including occasional hot flushes and some vaginal dryness.

Discussion

Because Sara is using hormonal contraception, the usual criteria to determine menopause in women aged 50 years or older with 12 months of amenorrhoea do not apply. Although she was initially menstruating, it is common for women using an LNG-IUD to become amenorrhoeic as a result of the progestogen effect on the endometrium. Removal of the LNG-IUD may result in the return of her previously heavy menses.

Sarah can be given the option of retaining the IUD until the age of 55 years. At this age the loss of natural fertility can be assumed for most women and the chance of menses returning is extremely low. Alternatively, since she is over 50 years of age and amenorrhoeic, she could have her follicle-stimulating hormone (FSH) levels checked on two occasions six weeks apart and if both are over 30 IU/L she can be advised to have the IUD removed after a further 12 months.

Case 2

Heidi is a 46-year-old mother of two children who presents you with a letter from the local abortion clinic requesting a post-abortion check. She had not been using contraception as she believed that she was 'too old' to get pregnant and she and her husband have sex infrequently. She asks for contraceptive advice as she is determined not to get pregnant again.

Heidi's medical history is unremarkable except for a history of a postpartum deep vein thrombosis (DVT) after her second child. She is a nonsmoker, has a BMI of 22 kg/m^2 and is normotensive. She has a regular menstrual cycle and is up to date with Pap testing.

Discussion

As Heidi has a personal history of a DVT, any oestrogen-containing contraception is contraindicated (MEC 4 – she has a condition that represents an unacceptable risk if the contraceptive method is used). Heidi's options include progestogen-only methods, non-hormonal methods and sterilisation (either herself or her partner). Suitable progestogen-only methods include the contraceptive implant, the LNG-IUD and the progestogen-only pill. The DMPA injection is not considered as a first-line option for women over 45 years because of its effect on bone density.

Heidi is keen to use a method that she does not have to remember on a daily basis and decides to have an implant inserted. Since she has not yet had intercourse since the abortion she can have the implant inserted at any time, but will need to wait for seven days after insertion for it to become effective if it is inserted at any time other than the first five days of a menstruation.

appropriately investigated before LNG-IUD insertion. Investigations may include measurements of haemoglobin levels, iron status and thyroid-stimulating hormone levels; a transvaginal ultrasound; and possible hysteroscopy.[42,43] The LNG-IUD is relatively contraindicated in women who have significant intrauterine abnormalities, such as submucosal fibroids, which may prevent appropriate placement of the device.

The LNG-IUD may be associated with irregular vaginal bleeding for the first three to five months but thereafter the pattern of bleeding is likely either to be that of light bleeding reflecting the woman's own menstrual cycle or absent bleeding. Amenorrhoea may be the result of either the progestogen hormone on the endometrium or from menopause itself. Guidance on stopping the LNG-IUD at the menopause is provided in the Table.

The LNG-IUD should be replaced after five years' use in women aged less than 45 years. For women aged 45 or over at the time of insertion, the device can be left in place for a maximum of seven years if they are still menstruating (off-label use). In amenorrhoeic women aged 50 years and above, FSH measurements can be used to determine the timing of removal (Table) or the device can be retained until 55 years when a loss of natural fertility can be assumed for most women (see case study 1 on this page).

The LNG-IUD can also be used to protect the endometrium as part of an HRT regimen for women who are using oestrogen to control menopausal symptoms. The device is recommended to be used for a maximum of five years in this context (see the box on page 35).[8]

Copper-IUDs

Copper-IUDs are a suitable choice for many women over the age of 40 years who require or desire an effective contraceptive method that is hormone-free.

USE OF THE LNG-IUD AT THE PERIMENOPAUSE

LNG-IUD inserted when 45 years or younger

- Replace after five years if ongoing use required

LNG-IUD inserted when over 45 years

- Menstruating women
  - Replace after seven years (off–label use) if ongoing contraception is required
- Amenorrhoiec women aged over 50 years
  - Consider taking two FSH level measurements six weeks apart; if levels are greater than 30 IU/L contraception is not required after one further year (provided the woman remains amenorrhoeic)
  - Alternatively, leave the IUD in place until the woman turns 55 years of age

LNG-IUD being used as progestogen component of HRT

- Replace after five years if ongoing use required

ABBREVIATIONS. FSH = follicle-stimulating hormone; HRT = hormone replacement therapy; IU = international unit; LNG-IUD = levonorgestrel-releasing intrauterine device.

The copper-IUD is not, however, a first-line choice for women with heavy menstrual bleeding or severe dysmenorrhoea because it can be associated in some women with an increase in blood loss and worsening pelvic pain. The method is relatively contraindicated in women who have significant uterine abnormalities due to the risk of incorrect placement of the device.

Copper IUDs are licenced for up to 10 years' or five years' use, depending on the brand. However, either type can be considered for extended use (off label) and retained until the menopause if inserted in women over the age of 40 years (Table).[6,8] In such cases, the woman should be informed that, although the device may be slightly less effective beyond its product license date, any loss of efficacy should be offset by the decline in her own fertility at this age.

MALE AND FEMALE STERILISATION

Sterilisation must be regarded as a permanent method of contraception. It has been a relatively common method in women aged over 40 years, but this is likely to change with the increasing awareness and use of long-acting reversible contraceptives.

BARRIER METHODS

Barrier methods of contraception, including male and female condoms and the diaphragm, have relatively low efficacies when used 'typically'. For example, although the male condom is 98% effective with 'perfect use', it is only 82% effective with 'typical use'.[44] This disadvantage may be offset by the reduction in fertility and increasing user-experience in older women, and, therefore, barrier methods may be an appropriate contraceptive method for some women in this age group.

Male condoms are readily available and women at risk of sexually transmissible infections (STIs) can be advised to use condoms. Condoms can be used alone to provide dual protection against both unintended pregnancy and STIs or combined with other more effective methods of contraception. Additional water-based lubricant may be useful for perimeno - pausal women experiencing vaginal dryness as a result of reduced oestrogen levels. Anecdotally, polyurethane condoms, either male or female types, may be associated with reduced vaginal irritation in older women.

Silicone diaphragms fitted to cover the cervix may be an appropriate method of

ONLINE RESOURCES

UK Faculty of Sexual and Reproductive Healthcare

- Clinical Guidance: Contraception for Women Aged Over 40 Years, Clinical Effectiveness Unit, 2010 http://www.fsrh.org/pdfs/ContraceptionOver40July10.pdf
- UK Medical Eligibility Criteria for Contraceptive Use (2009): http://www.fsrh.org/pdfs/UKMEC2009.pdf
- UK Medical Eligibility Criteria for Contraceptive Use – Summary Sheets: http://www.fsrh.org/pdfs/UKMECSummarySheets2009.pdf

Sexual Health and Family Planning Australia – member organisations

- Sexual Health and Family Planning Australia (SHFPA) http://www.shfpa.org.au
- Sexual Health and Family Planning ACT (SHFPACT) http://www.shfpact.org.au
- Family Planning NSW (FPNSW) http://www.fpnsw.org.au
- Family Planning Welfare Association of NT http://www.fpwnt.com.au
- Family Planning Qld (FPQ) http://www.fpq.com.au/
- Sexual Health Information Networking & Education SA (SHine SA) http://www.shinesa.org.au
- Family Planning Tasmania http://www.fpt.asn.au
- Family Planning Victoria (FPV) http://www.fpv.org.au
- Family Planning Western Australia (FPWA) http://www.fpwa.org.au

contraception for women over the age of 40 years. The woman must be comfortable inserting the device each time she has intercourse and keeping it in place for at least six hours afterwards so that the vaginal acidity 'kills off' the sperm in the vagina.

EMERGENCY CONTRACEPTION

Women aged 40 and above, like women of any reproductive age, who wish to avoid an unintended pregnancy need to be aware of the availability of the emergency contraceptive pill (ECP) as an S3 medication at the pharmacy. The most common form of ECP is a single 1.5 mg dose of LNG, which is suitable for use in women up to 55 years of age. It has no contraindications except for known allergy. The LNG-ECP can be used up to 120 hours after unprotected intercourse or in the case of contraceptive failure. It may be more effective the earlier it is taken[45] and has limited efficacy from 96 to 120 hours.[46]

The copper-IUD is also an extremely effective method of emergency contraception,[47] and can be retained for ongoing use.

CONCLUSION

Contraception for women aged 40 or above who are at risk of an unintended pregnancy is an important but often neglected area with most research and health promotion activity focusing on younger women. Older women need to be provided with evidence-based advice to guide an informed choice about whether to use contraception and, if so, which method to choose. Since a woman's preferred contraceptive method at the time of the perimenopause may be very different from the method chosen in her early 40s, it is important to review regularly the range of contraceptive options and switch methods if appropriate. Using the MEC system for medical eligibility provides a useful framework for advice. MT

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FURTHER READING

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DEBORAH BATESON MA(Oxon), MSc, MB BS, **KATHY McNAMEE** MB BS, FRACGP, DipVen, GradDipEpiBio, MEpi,
CAROLINE HARVEY MB BS(Hons), FRACGP, DRANZCOG, **MARY STEWART** MB BS, DFFP

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