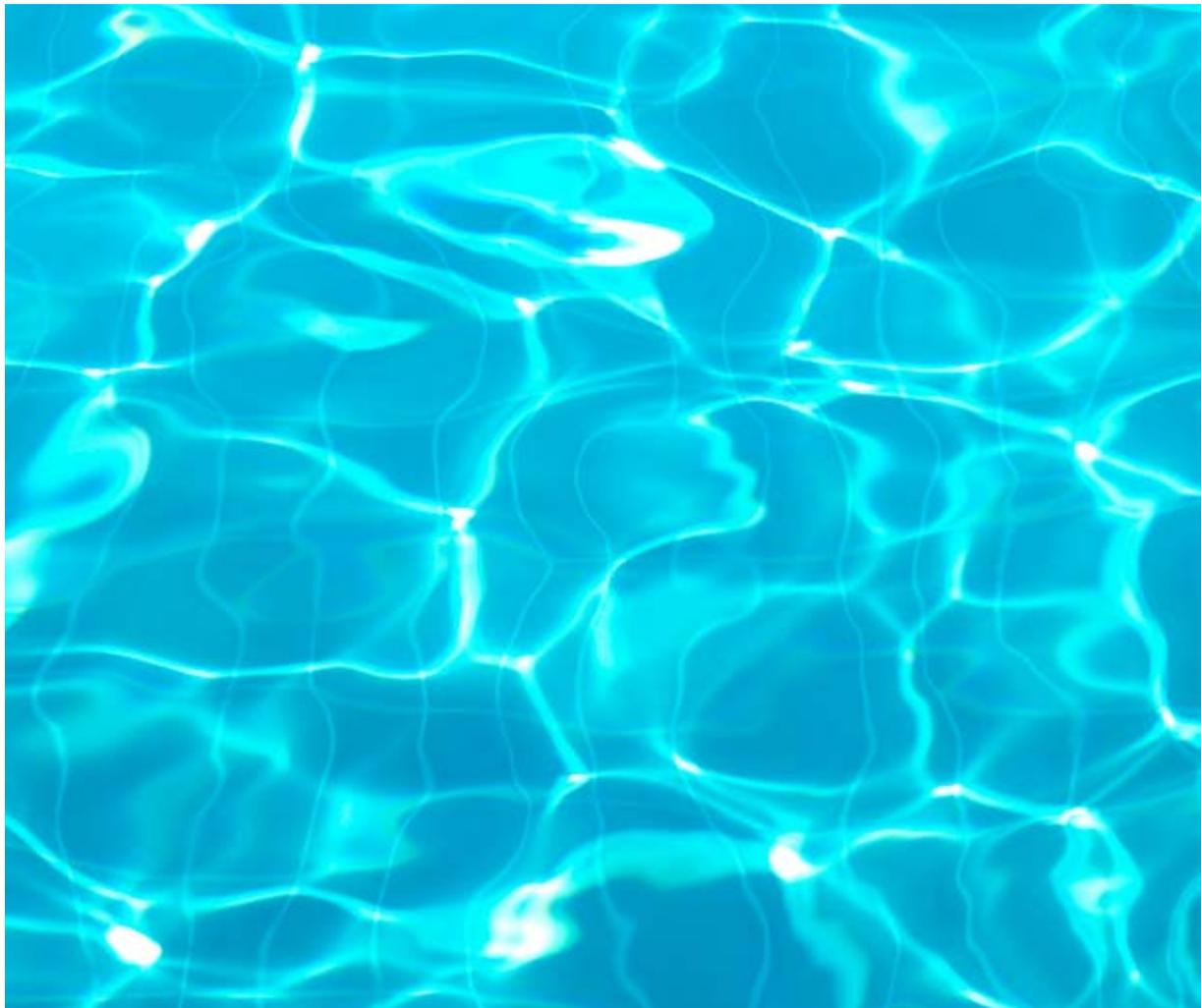




Royal College
of Nursing

Menopause: lifestyle and therapeutic approaches

RCN guidance for nurses, midwives and health visitors





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This new publication is based on, and replaces, two previous RCN publications – *Women's health and the menopause: RCN guidance for nurses, midwives and health visitors* (RCN, 2005) and *Complementary approaches to menopausal symptoms: RCN guidance for nurses, midwives and health visitors* (RCN, 2006).

This publication was reviewed in 2014 by: Debby Holloway, Consultant nurse, Chair RCN Woman Health Forum; Kathy Abernethy, Clinical Nurse Specialist and Director 'the menopause course'; Philomena McFall, Menopause Nurse Specialist and will be considered following the publication of NICE standards in 2015-2016.

This publication is due for review in October 2016. To provide feedback on its contents or on your experience of using the publication, please email publications.feedback@rcn.org.uk

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Introduction

Whatever field they practice in, nurses encounter women – as patients and clients, or as the relatives, partners and friends of patients. To provide support and advice to women it is important that all nurses, midwives, and health visitors understand the changes that women face at the time of their menopause and the issues related to improving health after menopause.

Nursing staff working specifically in women's health have to understand the safety and efficacy of modern therapy options and be aware of a myriad of complementary therapies. They also have to balance these options with the fact that for many women the menopause is an event that needs no intervention, and all that's required is general health promotion advice.

This publication aims to help all health care professionals gain awareness of all these issues by reviewing what happens to the body during menopause and in the post-menopausal stage, examining the impact of these changes on women, and finally outlining the options for health after menopause.

Nursing staff who work in women's health will recognise that there is much more to the subject than can be described here, and the reference section sign posts additional sources for obtaining a deeper understanding of the subject. However, this guidance aims to encourage nurses to be more approachable and knowledgeable about the options available to women at and beyond menopause. By acting as women's advocates, nurses can ensure that female clients have access to unbiased and accurate information.

1

The menopause

The menopause is defined as:

“Ovarian failure due to loss of ovarian follicular function accompanied by oestrogen deficiency resulting in permanent cessation of menstruation and loss of reproductive function.”
(Utian, 1999)

The transitional phase known as menopause describes the time leading up to a woman’s final menstruation, and the endocrinological, biological, and clinical features of the approaching menopause. The length of this transition is usually about four years, but is shorter in smokers compared to non-smokers. However, 10 per cent of women do not experience this phase and menses may stop abruptly.

The median age for menopause is 51 years, over an age range of 39 –59 years.

Changes in ovarian function

During a woman’s middle age the exhaustion of the oocyte (egg) store in the ovaries leads to reduced production of the female hormone oestrogen. This in turn increases the production of gonadotrophin, the hormone released by the pituitary gland to stimulate the ovaries to produce oestrogen.

A woman’s ovary becomes less responsive to gonadotrophin several years before her menstrual periods cease. As a result there is continuous decrease in oestrogen, but also a gradual increase in levels of follicle stimulating hormone (FSH) and luteinising hormone (LH) in the blood, both of which are produced by the pituitary gland to stimulate the ovaries. The unresponsiveness of the ovary results in anovulatory cycles, where no eggs are produced by the ovaries.

Throughout the menopausal transition these hormone levels can fluctuate markedly from pre- to post-menopausal values.

Eventually the follicles (the sacks which develop oestrogen and eggs) fail completely. Insufficient oestradiol production fails to stimulate the endometrium (womb lining), menstrual periods stop, and FSH and LH levels are persistently elevated.

Climacteric years: the stages of menopause (Rees et al., 2009)

Pre-menopause: the reproductive years prior to the last menstrual period.

Peri-menopause: the time immediately around the menopause, often accompanied by longer cycles and heavier and prolonged bleeding. These menstrual irregularities result from a decline in ovarian follicular function and take place before 12 consecutive months of amenorrhoea (lack of menstruation) occur. This stage is often accompanied by hot flushes.

Post-menopause: a period of time where no menstruation has occurred for 12 consecutive months. The median age for this to happen is 51 years.

2

Diagnosing menopause

One of the questions most commonly asked by women in their late forties is: “*Is it the change? Can I have a blood test?*” In practice, it is rarely useful to perform blood tests as hormone levels fluctuate widely over a very short time span, making the results confusing and unreliable. Blood tests (for FSH) are usually only indicated when a premature menopause is suspected in a younger woman, or to rule out conditions – such as anaemia or thyroid disease – that may cause similar symptoms.

The best way to diagnose the menopause is by taking a thorough history of symptoms and menstrual irregularities. The menopause can only be diagnosed with absolute certainty retrospectively, as ovulation could still occur after many months without menstrual periods (amenorrhoea) (Burger, 1999).

Contraception at peri-menopause

Women should be informed that effective contraception should be used in the peri-menopause, although there is a natural decline in fertility. The usual advice is that a woman who has her menopause before the age of 50 should use contraception for two years, and for one year after the age of 50.

No method of contraception is contraindicated in women aged over 40 years simply due to age. However, the risks and benefits of each contraceptive method should be discussed on an individual basis (Gebbie and Hardman, 2010).

Considerations in relation to contraception include:

- the combined oral contraceptive pill (COCP) can be used unless there are other diseases/risks, and may have a number of benefits; the combined method should not be used after the age of 50 years
- irregular bleeding is common in progestogen-only methods; the progestogen-only pill (POP) can be used with hormone replacement therapy (HRT) to provide effective contraception
- a copper intrauterine device (IUD) inserted at or after the age of 40 years can stay in until the post-menopause

- a levonorgestrel-releasing intrauterine system (LNG-IUS) fitted at or after the age of 45 years may remain in for seven years (the normal contraceptive licence is five years); the IUS may now be used for endometrial protection in HRT and is licensed for four years’ use
- condoms without spermicidal lubricant are recommended.

Further information can be obtained from the Faculty of Sexual and Reproductive Healthcare’s clinical guidance *Contraception for women aged over 40 years* (2010), which can be downloaded from its website at www.ffprhc.org.uk

Premature ovarian insufficiency (POI)

Premature ovarian insufficiency (POI) is the loss of ovarian function before the age of 45, although some countries prefer to use the age of 40 as a cut-off (Rees et al., 2009). It affects approximately one per cent of women before the age of 40 and five per cent before the age of 45, and is also known as early or premature menopause.

Women with POI may present with no periods, irregular periods, sub-fertility or menopausal symptoms. In any woman under 45 years of age (menstrual irregularity lasting longer than three months) should be investigated.

POI can also be as a result of radiotherapy, chemotherapy and surgery.

POI is generally diagnosed by two FSH levels of over 30iu/l measured at an interval of more than four weeks. There is sometimes a long transition phase into early menopause, with hormonal function occasionally returning to normal, making diagnosis even more difficult.

Figure 1: The causes of primary and secondary POI

Primary	Secondary
Chromosome abnormalities	Chemotherapy and radiotherapy
Follicle-stimulating hormone receptor gene polymorphism and inhibin B mutation	Bilateral oophorectomy or surgical menopause
Enzyme deficiencies	Hysterectomy without oophorectomy/uterine embolisation
Autoimmune disease	Infection – HIV, mumps, TB
Idiopathic	

3

Menopause symptoms

Some cases of POI are attributed to autoimmune disorders, others to genetic disorders such as Turner syndrome and the Fragile X permutation. In many cases the cause cannot be determined and this is known as idiopathic POI. The causes of primary and secondary POI are shown in Figure 1.

POI can be a devastating diagnosis, and affected women have special needs because they are facing the end of their fertility potential and will suffer the systemic consequences of oestrogen deprivation. Short-term menopausal symptoms are variable but may include hot flushes, night sweats, decreased libido and psychological symptoms. In the long-term, women with POI are at increased risk of developing cardiovascular disease, osteoporosis and cognitive decline.

To alleviate short-term symptoms and reduce the long-term health risks of POI, oestrogen replacement therapy is recommended until the average age of natural menopause (52 years in the UK) and is given in the form of hormone replacement therapy (HRT) or the combined oral contraceptive pill (COCP).

There has been no research to date addressing whether HRT or the COCP is a superior treatment, and the decision of which to take is therefore a personal matter for the woman to decide with her clinician. HRT is considered by some clinicians to be more 'physiological' but it may have negative associations for a young woman. Meanwhile, the COCP is available without a prescription charge, is more 'peer friendly', and provides contraception.

Women with spontaneous POI have a much reduced (about five per cent) chance of becoming pregnant naturally (van Kasteren, 1999). Sadly, no medical intervention can increase this and the only treatment option is egg donation. However, it is important to remember that spontaneous pregnancies can occur, even after many years of amenorrhoea, and if pregnancy is not desired it is important to use contraception.

Further information on infertility treatments can be obtained from the Human Fertilisation and Embryology Authority (www.hfea.gov.uk), the Infertility Network UK (www.infertilitynetworkuk.com) and the Daisy Network (www.daisynetwork.org.uk).

The fall in oestrogen levels that occurs at the menopause can cause a variety of symptoms. Although the list seems alarming, few women experience all of these symptoms and some women are fortunate enough to have no obvious problems. From a clinical perspective the immediate symptoms are mostly harmless, but it is the longer-term consequences of oestrogen deficiency on the skeletal system that causes greater anxiety.

Changes in menstrual pattern

As anovulatory cycles begin to predominate, the length of the menstrual cycle begins to vary and gaps of several weeks or months may occur between menstrual periods. Most women find their periods become lighter during the peri-menopause, but some experience more frequent and heavier bleeding. Because of the possibility of renewed follicular activity, women can become pregnant even at this stage of life and they should be advised to continue with contraception.

Immediate effects of oestrogen deficiency vasomotor

It is estimated that about 70 per cent of westernised women experience vasomotor symptoms (Rees et al., 2009). These symptoms are:

- hot flushes
- night sweats
- palpitations
- headaches.

Vasomotor symptoms are commonly worst in the two or three years before periods stop, and may continue for many years afterwards.

Psychological problems

It is unclear why psychological symptoms occur at the menopause, and these may well have little to do with hormonal fluctuations. Life stresses at this age, as well as past problems, are an obvious causative factor (Rees et al., 2009). Many women do not realise that the following

symptoms are very normal at this stage of life and fear they may be on the verge of a breakdown:

- loss of confidence
- depressed mood
- irritability
- forgetfulness
- difficulty in concentrating
- panic attacks.

Medium-term effects of oestrogen deficiency

Urogenital symptoms

The vagina and distal urethra are oestrogen dependent tissues. Falling oestrogen levels in post-menopausal women leads to a marked drop in vaginal and vulval capillary blood supply; the skin appears red and dry (atrophic vaginitis). Additionally there is a loss of collagen from the underlying tissues. These two factors cause the vaginal epithelium to become thinner and less elastic and the vagina narrower and shorter. As secretions lessen, the vagina becomes more susceptible to infection (atrophic vaginitis). At least 50 per cent of women will suffer from one of the following symptoms (Goldstein I and Alexander JL, 2005):

- vaginal dryness - dyspareunia
- vaginitis
- urinary problems - frequency
- urgency
- dysuria.

Generalised connective tissue atrophy

Oestrogens help maintain the epidermis, so changes in the skin, nails and hair are common when oestrogen levels fall. Women may find their skin becomes dry, inelastic and is easily broken or bruised. The loss of thickness and elasticity is largely due to a decline in collagen levels (Rees et al., 2009). Other symptoms of connective tissue atrophy are brittle nails, hair loss, muscular aches and bone and joint pain (Szoek et al., 2008). These changes in connective tissue can also promote vaginal prolapse and the subsequent development of stress incontinence.

Long-term effects of oestrogen deficiency

Cardiovascular disease

Cardiovascular disease (CVD) is the collective term for angina, myocardial infarction, stroke, and peripheral

vascular disease. Despite an overall reduction in CVD in recent years, it is still the leading cause of avoidable death in both men and women (see Figure 2).

Figure 2: Leading causes of avoidable deaths in England and Wales in 2005

Men		Women	
Cause	Death rate per 100,000	Cause	Death rate per 100,000
Ischaemic heart disease	73	Ischaemic heart disease	23
Respiratory disease	30	Respiratory disease	21
Cerebrovascular disease	18	Cerebrovascular disease	21
Cancer of rectum or colon	13	Cancer of rectum or colon	13

Note: Respiratory disease includes pneumonia, which is reported separately by the Office of National Statistics

In comparison to men, women are more likely to be under diagnosed and less likely to be on an appropriate treatment, and as such are at an increased risk of dying from CVD (National Collaborating Centre for Primary Care, 2008a).

CVD is also age dependent. Less common in the pre-menopausal woman, the prevalence of CVD increases after the menopause (Stevenson, 1996). It is also known that women with a premature menopause, especially those with surgical oophorectomy, have an increased risk of coronary heart disease (Lobo, 2007) (Lokkegaard et al., 2006). By the time women reach 60 years of age CVD will be the most common cause of death.

CVD and HRT

Contrary to initial advice following publication of the Women’s Health Initiative study (2002) which raised questions as to the safety of HRT, recent re-analysis and studies clearly show that HRT is safe in younger women (aged 50-59 years). There is evidence that the age at which HRT is started and the time since menopause could be critical in determining the effect of HRT on CVD.

There may be a beneficial effect for women who start HRT within 10 years of the menopause (Brownley et al., 2004) and this is thought to be due to the healthier state of the underlying vasculature and the lower baseline CVD risk. There may even be a decrease in risk (Rossouw, 2007) prompting researchers to postulate that HRT might be

cardio protective in younger women. Although studies have shown HRT to be cardiac neutral in younger women, these did not achieve the statistical significance that would enable us to promote HRT as being cardio protective and further randomised control studies are still required (MHRA and CHM, 2007b).

Irrespective of age, prior to commencing HRT, every woman should have a health assessment to identify CVD risk factors like hypertension, diabetes mellitus, smoking, dyslipidemia, obesity and metabolic syndrome (MHRA and CHM, 2007b). Where risk factors are identified lifestyle changes and pharmacological intervention should be introduced, ideally in the peri-menopause. Where actual CVD is identified this should be aggressively managed (IMS, 2009).

If dyslipidaemia has been identified, starting HRT can have a proactive effect on lipid profile; total and low-density lipoprotein (LDL) cholesterol decreases while high-density lipoprotein (HDL) cholesterol increases. Oestrogen in comparison to combined oestrogen and progestogen has the most favourable effect, and oral administration is more favourable (for lipids) to transdermal (Rees et al., 2009; WHI, 2002).

There is evidence that the types of HRT have an effect on CVD risk. Currently there is no evidence that oestrogen-only preparations carry any risk. However, combined oestrogen and progestogen does carry an increased risk of CVD especially if started late (over 60 years of age) or given for a prolonged time (Grady et al., 2002; Rossouw, 2007), see Figure 3.

In the UK the majority of women normally start HRT earlier, either in the peri-menopause or early menopause, and only take it for two to three years. Because HRT could trigger a coronary event in women with an established CVD they should be managed within a specialist menopause clinic. A history of myocardial infarction, stroke, and pulmonary embolism are all contraindications to HRT (IMS, 2008).

Key points

- All peri-menopausal women should have an individual CVD risk assessment. Where modifiable risk factors are identified women should receive lifestyle advice (stopping smoking, weight reduction, healthy diet, increased regular exercise).
- Hormone replacement therapy (HRT) can be given to women around the age of natural menopause without increasing the risk of coronary heart disease.
- HRT is not contraindicated in women with hypertension and in some cases treatment may even reduce blood pressure.
- In women with premature ovarian failure HRT is strongly recommended until the average age of the natural menopause.
- All women taking HRT should have a regular review and reassessment of CVD risk factors.
- Women with established CVD should be managed within a specialist menopause clinic.
- Women with a history of myocardial infarction, stroke, or pulmonary embolism are contraindications to HRT.

Figure 3: HRT and CVD risk

Age range (years)	Time (years)	Background incidence per 1000 women in Europe*	Oestrogen-only HRT		Oestrogen–progestogen HRT	
			Additional cases per 1000 HRT users†	Risk ratio (95 per cent CI)‡	Additional cases per 1000 HRT users†	Risk ratio (95 per cent CI)‡
Coronary heart disease						
50–59	5	14 (oestrogen) 9 (oestrogen plus progestogen)	NS*	0.6 (0.4 to 1.1)	NS	1.3 (0.8 to 2.1)
60–69	5	31 (oestrogen) 18 (oestrogen plus progestogen)	NS*	0.9 (0.7 to 1.2)	NS	1.0 (0.7 to 1.4)
70–79	5	44 (oestrogen) 29 (oestrogen plus progestogen)	NS*	1.1 (0.8 to 1.5)	15 (1 to 32)	1.5 (1.0 to 2.1)
*NS = not significant. and CHM (2007b)				Data taken from MHRA		

Osteoporosis

Osteoporosis is a condition of the skeleton in which bone strength is compromised, predisposing the woman to an increased risk of fracture (NIH Consensus Statement, 2000). In the UK, 1-in-3 women and 1-in-12 men over the age of 50 will suffer a fragility fracture due to osteoporosis (Torgeson et al., 2001). The most common fracture sites are the femoral neck, forearm and spine.

As oestrogen levels decline, the risk of osteoporosis increases. The disease leads to weakness in the skeleton which can mean that bone fractures much more easily. Treating the affects of osteoporosis has huge financial implications for the NHS, and in personal and emotional terms for the individual and for carers.

Bone is a living tissue that is constantly remodelling itself. Old bone is broken down by osteoclasts and rebuilt by osteoblasts. In childhood osteoblasts work faster, enabling the skeleton to increase in density and strength, with bone mass reaching a peak by the late 20s. The balance between breakdown and formation remains stable until around age 35, when bone loss increases as part of the natural ageing process. After menopause, as oestrogen levels decline, bone turnover is increased and the reformation of bone cannot keep up with its breakdown. The end result is skeletal loss, leading to osteoporosis.

Factors influencing the development of osteoporosis

The failure to reach optimal peak bone mass and/or accelerated bone loss in later life increases an individual's risk of osteoporosis. Peak bone mass is influenced by a combination of factors including race, heredity, diet, exercise, alcohol consumption, smoking and hormones.

Factors increasing the risk of fragility fractures (Kanis, 1998)

- Age (risk of fracture increases with age).
- Low levels of oestrogen due to primary hypogonadism, premature menopause or prolonged anorexia nervosa.
- Long-term use of oral corticosteroid therapy.
- Low body mass index (< 19 kg / m²).
- Maternal history of hip fracture.
- Smoking.
- History of previous fragility fracture.

Other risk factors include alcohol abuse, immobility, hyperthyroidism and conditions associated with the poor absorption of food, such as coeliac disease.

Young women (under the age of 40) experiencing menopause need particular advice about osteoporosis prevention and a baseline bone densitometry should be performed. Older women who had an untreated early menopause should also be assessed for risk of fracture.

Testing for osteoporosis

Testing for osteoporosis involves measurement of bone mineral density (BMD) with a dual energy X-ray absorptiometry (DEXA) scan, usually of the hip and spine. A fracture risk assessment tool has been developed by the World Health Organization and is increasingly used by health professionals to identify those people at increased risk of osteoporotic fracture (FRAX, 2010), but this is not suitable for women with premature ovarian failure (POF). The National Institute for Health and Care Excellence (NICE) also has guidelines, *Osteoporosis: assessing the risk of fragility fracture* Clinical guidelines, CG146 . Issued: August 2012. www.nice.org.uk

Where a secondary cause of osteoporosis is suspected, diagnostic procedures may also include blood cell count, erythrocyte sedimentation rate, serum calcium, albumin, phosphate, alkaline phosphate and liver transaminases.

Treatment for osteoporosis

The main aim of treatment is to prevent fragility fractures. The NICE has published technology appraisals relating to specific osteoporosis treatments (NICE, 2008). These include:

- bisphosphonates
- selective oestrogen receptor modulators (SERMs)
- calcium and vitamin D
- parathyroid hormone
- strontium ranelate
- calcitriol
- calcitonin.

To improve bone health in women across the population, all women should be encouraged to obtain adequate calcium (700mg daily) and vitamin D from a well-balanced, varied diet and sensible exposure to sunlight. For those who have restricted exposure to sunlight (due to covering up for cultural or religious reasons) or who have a restricted diet, then supplementation with calcium and vitamin D may be necessary.

4

Hormone replacement therapy and osteoporosis

Women who are on HRT for menopausal symptoms will continue to benefit from osteoporosis prevention whilst on treatment.

Although HRT is a proven effective treatment for the prevention of osteoporosis, it is only specifically indicated in:

- women with a premature menopause
- post-menopausal women with an increased risk of fracture who are unable to tolerate other treatments ([National Osteoporosis Society's Position statement on hormone replacement therapy in the prevention and treatment of osteoporosis](#)).

HRT may be the treatment choice for menopausal women needing bone protection, especially those who have an early menopause or have their ovaries removed before they reach the age of 45. Other groups for whom HRT is recommended for bone preservation include women with Turner Syndrome, diseases of the pituitary gland, and women with amenorrhoea (no periods) because of anorexia nervosa or over-exercise.

The psychosocial impact of the menopause

Confidence and sexuality

Some women view the menopause with confidence as an end to periods, premenstrual syndrome and contraceptive worries, and the start of the next enjoyable phase of their lives.

Others can be less positive as they struggle to deal with the impact of the loss of fertility and other physical symptoms, alongside the coincidental problems which arise in later middle age such as:

- children leaving home (or even returning home after some time away)
- increasing dependence of elderly parents
- fear of redundancy
- impending retirement
- a sense of failed expectations.

Life changing events such as these coupled with troublesome menopausal symptoms, including vaginal dryness, lowered self-esteem and body-image, and the possibility of a faltering relationship, can all have a negative effect on a woman's view of her sexuality.

As health care professionals we should be alert to potential problems and be proactive in acknowledging that sexuality has an important part to play in every woman's life. We should always view a woman and her symptoms holistically, and link discussion about sexuality with other health problems. Asking open-ended questions can help establish such links.

Cultural differences

Different cultures view the menopause in different ways, which may affect women's social standing or the attitudes of others towards them.

In eastern cultures, the older woman becomes a well-respected member of the family group, to whom younger family members frequently turn for advice. Loss of regular bleeding is beneficial for some Muslim women and Orthodox Jewish women, as they are no longer seen as 'impure' during menstruation and can enter the temple, handle and prepare food, or continue to have sexual intercourse throughout the month.

Conversely, in some cultures the menopause is viewed negatively, as it signals the end of fertility and the loss of a woman's 'usefulness' for procreation. Western society has a somewhat negative attitude towards women ageing, particularly with the so-called loss of femininity and the attractiveness associated with it. Culture, ethnic group and socio-economic status are all linked into the overall well being of women and the symptoms that they may experience.

Menopausal symptoms also vary significantly between countries and amongst different ethnic and religious groups within the same countries. Symptom data is difficult to compare because of varying cultural, dietary and lifestyle factors and the differences in language used to describe climacteric symptoms – for example, in Japanese there is no word to describe a hot flush and women have a significantly later menopause. The SWAN study (2001) found wide variation in women's symptoms between different ethnic groups in terms of symptoms, attitudes and general health at the menopause.

Nurses talking to women from the many cultures present in the UK need to be sensitive to these differing attitudes and symptoms.

Dealing with physical changes

As we've seen, the menopause increases the risk of osteoporosis and cardiovascular diseases.

With the increased longevity of women living in western societies, most women will spend over 30 years in the post-menopausal state. They need to be fully informed about the physical effects of the menopause, and advised about the ways they can change their lifestyle and behaviour to lead a healthy, active life.

Keeping women informed

All women approaching the menopause should have the opportunity to learn about the changes they may experience and the potential benefits to be derived from hormone replacement therapy.

Health professionals need to keep abreast with changes in the management of the menopause in order to maintain the standard of care to women, and to make sure that their clients and patients have access to unbiased and accurate information.

5

Lifestyle advice and choices for women at menopause

Many women only consult health care practitioners for advice about their health when they are approaching or are at the menopause. They have concerns about living well for the rest of their lives, and some say that they do not want to grow old the way their mother or grandmother did. When women present with these concerns it is a good opportunity to review their lifestyle with them.

Women want sensitive, unbiased and up-to-date information, and an explanation of normal menopausal changes. General health advice is the same throughout a woman's life, but there is a particular emphasis on certain factors for menopausal woman, primarily the effects that the menopause has on cardiovascular and bone health as well as the day-to-day symptoms of menopause.

The key areas to cover are:

- smoking status
- diet and nutrition
- exercise
- alcohol consumption
- weight control
- psychological aspects of the menopause
- reinforcing breast awareness
- encouraging attendance for breast and cervical screening
- assessing the cardiovascular risk
- osteoporosis risk assessment
- reducing the impact of symptoms.

Healthy living

Stopping smoking

Smoking has many negative effects:

- cigarette smoking can increase the risk of having a heart attack by two or three times; coronary heart disease (CHD) is the most common cause of death in women
- smokers are 1.5 times more likely to have a stroke
- smoking tends to increase blood cholesterol levels and adversely effects the HDL/LDL ratio
- smokers have an increased level of atherosclerosis in their coronary arteries
- smoking leads to an earlier menopause – up to two years earlier when compared with non-smokers
- smokers are at greater risk of developing osteoporosis
- smokers are more likely to experience vasomotor symptoms.

Make yourself aware of smoking cessation initiatives, so that you can make these resources available to support women who want to stop smoking.

Diet and nutrition

Nutrition is important for all women around the time of the menopause, and a healthy, balanced diet should be low in fat, low in salt and rich in calcium.

Facts about nutritional health – calcium and salt:

- high salt intake is linked with the development of high blood pressure
- women with hypertension excrete higher amounts of calcium in their urine than people with low blood pressure
- it is thought that calcium lost in the urine is replaced through calcium stripped from the bone, and that salt plays an important role in speeding calcium loss
- it should be possible to get all the calcium needed from a healthy diet; adults need 700mg a day, although those with osteoporosis may need more (DH, 1998)
- vitamin D is necessary for the effective absorption of calcium from the gut, most being obtained from direct sunlight; a smaller amount is obtained from the diet. Supplements of 10mcg vitamin D may be necessary for elderly and housebound people, those on a restricted diet, and where there is little exposure to sunlight, such as women in hijab (see the Department of Health website www.dh.gov.uk for the January 2010 vitamin D recommendations).

Figure 4 contains a table of foods that are a valuable source of calcium.

Figure 4: The calcium content of common foods

Food	Quantity	Mg of calcium
Milk - skimmed	100mls	122
Milk - semi skimmed	100mls	120
Milk - whole	100mls	118
Milk - soya	100mls	89
Cheese (cheddar)	100g	739
Yoghurt	100g	140
Ice cream	100g	100
Sardines in oil	100g	500
Whitebait fried	100g	860
Tahini	100g	680
White bread	1 slice	33
Figs dried	100g	250
Cheese omelette	100g	287
Green beans	100g	56

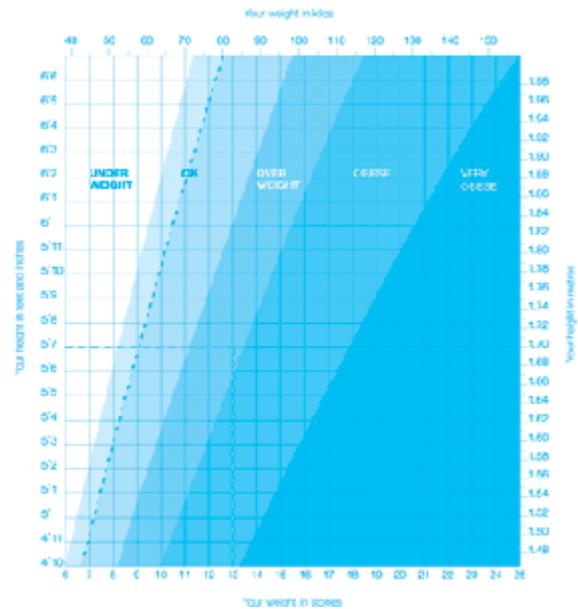
Facts about nutritional health – fats:

- saturated fatty acids raise blood cholesterol levels
- total fat consumed should be reduced, with no more than one third of calories coming from fat
- saturated fats should be replaced with polyunsaturated fat and monounsaturated fat
- cholesterol is mainly made in the liver from the saturated fats in food
- polyunsaturated fatty acids have been found to help lower the amount of low density lipoproteins in the blood.

Facts about nutritional health – general:

- diet should be high in fruit and vegetables, containing at least five portions daily
- fruit and vegetables contain antioxidant vitamins and minerals which are crucial in preventing the damaging effects of free radicals
- smokers use antioxidants faster
- you should aim for at least two portions of fish a week, one of which should be oily fish
- maintaining a healthy weight is important as obesity is a major risk factor for CHD and is associated with high blood pressure, heart attacks, heart failure and diabetes. Women should aim for a health body mass index (BMI) of 20–25 (see Figure 5).

Figure 5: Body mass index chart (Reproduced by kind permission of the Food Standards Agency)



Exercise

The following key points relate to the importance and benefits of exercise:

- regular exercise is necessary to remain active, healthy and independent
- physical activity reduces the both the risk of developing CHD and of having a stroke by lowering blood pressure
- exercise increases energy levels, muscle strength and bone density
- exercise can reduce stress, anxiety and likelihood of depression
- exercise helps weight loss and improves sleep
- weight-bearing exercise such as brisk walking, dancing, skipping, aerobics, tennis and running stimulate bone to strengthen itself
- cycling and swimming are both good cardiovascular exercises
- exercise should be varied and should be taken for at least 30 minutes on five or more days of the week for maximum benefit
- regular exercise may help to reduce hot flushes.

Alcohol

It is recommended that women drink no more than three units of alcohol a day, with a weekly consumption of fewer than 14 units. One to two alcohol-free days per week are recommended.

The following are useful facts about alcohol:

- keeping alcohol levels low can lower the risk of heart disease and stroke
- too much alcohol is damaging to bone turnover
- heavy drinking increases the risk of heart disease and stroke, and raises blood pressure which can lead to depression, stress, difficulty in sleeping and relationship problems. It can also cause dementia
- alcohol can trigger vasomotor symptoms at menopause.

Weight control

It is not inevitable that women will put on weight at the menopause, but many do. This is due in part to a decline in muscle mass and a subsequent slow-down in the basal metabolic rate, combined with a failure to reduce food and alcohol intake when taking little or no exercise.

Women should be advised to:

- eat a healthy diet
- exercise regularly; start slowly and gradually increase
- lose extra weight slowly and steadily.

Psychological aspects

Depression, anxiety, tiredness, loss of concentration and memory problems are all common experiences during or after the menopause. To help these aspects, note that:

- regular mental stimulation seems to maintain cognitive ability
- regular exercise can make sleeping easier
- a balanced diet will ensure an adequate intake of essential minerals and vitamins
- social activity improves mental function
- concentration can be improved with crosswords, puzzles, quizzes and so on
- learning new skills or languages improves mental function
- moderating alcohol intake is important for good memory function.

Reducing the impact of symptoms

There are a number of simple measures that may reduce the impact of some symptoms of the menopause. Women have found the following measures helpful:

- hot flushes may be triggered by particular activities such as smoking, eating spicy foods, and drinking alcohol and caffeine and avoiding or modifying a known trigger may help; wearing natural fabrics that can 'breathe' and using light-weight cotton bedding may also help

- exercise can help general wellbeing and mood as well as improving stamina and fitness
- relaxation or stress reduction techniques will improve coping strategies
- counselling may help to deal with life events that are causing anxiety
- vaginal symptoms may be relieved by regular use of vaginal moisturisers, or non-systemic oestrogen.

Screening

Breast awareness

Breast cancer is the most common cancer in women, with a woman's lifetime risk being 1-in-9 women. The exact cause of breast cancer is not fully understood, but certain risk factors will predispose women to develop the disease (see Figure 6). Clinicians should therefore aim to educate women about these risks factors, helping to support them in addressing those that are modifiable.

Figure 6: Risk factors for breast cancer
(Adapted from www.cancerscreening.nhs.uk)

Highest risk factors include:

- age – risk rises with age (rare under 30 years)
- born in North America and Northern Europe
- high pre-menopausal blood insulin-like growth factor level
- having a sister and mother with breast cancer.

Other risk factors include:

- the BRCA1, BRCA2 and TP53 genes predispose women to breast cancer (but represents under five per cent of cases)
- high socio-economic status
- age at first pregnancy (full-term) over 30 years
- nulliparity
- early menarche (under the age of 11 years)
- late menopause (over the age of 55 years)
- HRT and oral contraceptives (if taken long-term increase risk slightly; however, this declines when the hormones are stopped and risk for HRT starts after five years of use)
- postmenopausal obesity
- family history (any first-degree relative with breast cancer)
- alcohol intake may increase risk in a dose-related manner.

Routine breast examination by women and by health professionals is no longer advocated, but we should encourage and promote breast awareness. The *Be breast aware* leaflet, produced by the NHS Breast Screening Programme and Cancer Research UK (available for download in 19 languages from www.cancerscreening.nhs.uk), sets out a five-point plan for women:

- know what is normal for you
- look and feel
- know what changes to look for
- report any changes without delay
- attend for breast screening if aged 50 or over.

The Breakthrough Breast Cancer charity website provides well balanced advice for women on all aspects of breast cancer at www.breakthrough.org.uk

HRT and breast awareness

All women should have an initial risk assessment before commencing HRT and further risk assessments on an annual basis thereafter. Where modifiable risks are identified, such as obesity or excessive alcohol intake, advice and support should be given.

If there is any suspicion of pathology, full assessment in a specialist breast unit should be performed prior to commencing HRT.

Breast screening

Breast cancer is the commonest cancer in women in the UK accounting for 31 per cent (nearly 1-in-3) of all cancer cases in women (Office for National Statistics, 2007). Around 45,000 new cases are diagnosed in the UK each year.

Breast cancer incidence increases with age, with 75 per cent of new cases in those aged over 50 years, and over half of the deaths being in women over 70 years. Although 90 per cent of breast cancer deaths occur in women aged over 50 years, it is also the most common cause of death in women under 50 years.

Breast cancer survival rates, however, have been steadily improving since the 1970s. Today eight out of 10 women survive breast cancer beyond five years, with almost two out of three women surviving the disease beyond 20 years.

This reduction in death rate is thought to be a combination of improved treatments and the use of mammograms to achieve the earlier detection of cases. In 2008-9 the National

Health Service Breast Screening Programme (NHSBSP) reported 79.1 per cent of all cancers diagnosed were invasive, and of these 52.2 per cent were 15mm or less which would not have been detected by hand.

The first breast screening began in 1988 and today the programme provides free breast screening every three years for all women in the UK over 50 years of age. The NHSBSP is currently phasing in an extension to the eligible age range to include those aged 47 to 73 years.

Questions have been raised as to whether the benefits of screening outweigh the potential harms: pain and discomfort of mammography, the psychological distress, the possibility of false positive or negative results, under or over diagnosis, and incorrect or unnecessary treatment. However, after reviewing the evidence, Duffy et al. (2010) concluded that in terms of lives saved the benefit of breast screening outweighs any potential harm, with between up to 2.5 lives being saved for every over-diagnosed case.

Clinicians and patients can access posters, leaflets and information booklets that inform women about the breast screening programme from the information resources section of the NHSBSP website at www.cancerscreening.nhs.uk/breastscreen. A British Sign Language DVD and audio CD set, as well as information for women with learning difficulties, is also available.

The screening programme is currently rolling out digital screening in response to the findings of the DMIST study (Hendrick et al., 2006 and 2008) which found digital mammography offered significant improvements to film mammography for women under age 50, or women with very dense breasts. All screening units should have at least one digital set.

HRT and screening

Tibolone and oestrogen only preparations do not appear to affect breast density. However, around 1-in-4 women taking combined oestrogen and progestogen HRT will have an increase in mammographic density. Given that breast cancers can appear on a mammogram as an isolated focus of increased density, small cancers potentially may be more difficult to detect in a woman with generalised increased density (Williamson, 2008). This in turn could lead to delayed diagnosis.

Bowel screening

The lifetime risk of developing bowel cancer for men is around 1-in-18, while for women it is around 1-in-20. The third most common cancer in the UK, and the second leading cause of cancer deaths, over 16,000 people die from the disease each year. However, regular screening can reduce the risk of dying from the disease by 16 per cent. Screening can also detect polyps, which can cause bleeding and may also with time develop cancer.

The NHS Bowel Cancer Screening Programme began in 2006, with rollout completed in 2010. Men and women aged 60 to 69 years of age are invited to participate in screening every two years, while people over 70 years of age will be able to request a screening kit by calling the 0800 707 6060 helpline.

Clinicians should educate patients as to the following risk factors for bowel cancer:

- age
- a previous bowel polyp
- a personal history of chronic bowel inflammation (ulcerative colitis and Crohn's disease)
- diet – a diet that is high in red meat and fat, and low in vegetables, folate and fibre may increase the risk of bowel cancer
- exercise – moderate exercise may help prevent bowel cancer obesity
- alcohol consumption may increase risk, especially in those with low levels of folate in their diet
- family history, including familial adenomatous polyposis (FAP) and hereditary non-polyposis colon cancer
- personal history of bowel cancer
- smoking.

Patients should also be alerted to the symptoms of possible bowel cancer, and the importance of reporting these symptoms promptly:

- a persistent change in bowel habit (for example, needing to go to the toilet more often or having diarrhoea for several weeks)
- bleeding from the back passage or blood in the bowel motion
- severe abdominal pain
- a lump in the abdomen
- unexplained tiredness or weight loss.

Bowel screening

Men and women who are eligible for screening will receive an invitation letter explaining the programme and an information leaflet entitled *Bowel Cancer Screening – The Facts*.

About a week later, a faecal occult blood (FOB) kit test will be sent out along with step-by-step instructions for completing the test at home.

It is estimated that around 98 people in 100 will receive a normal result.

Cervical screening

Cervical screening aims to detect pre-cancerous abnormalities which may, if left untreated, progress into cervical cancer. The cervical screening programme invites women between 25 and 45 years of age every three years for a screening test, while those aged between 50 and 64 years of age are invited every five years.

In the UK, liquid-based cytology (LBC) has superseded the conventional 'smear test' and offers the potential for the additional testing of human papilloma virus (HPV) and chlamydia. There is a strong association (almost 99.7 per cent) between HPV infection (mainly HPV 16, 18, 45 and 31) and cervical cancer (of which HPV 16 and 18 carry the highest risk). While HPV infection is common and the majority of those infected clear their infection, it is thought that persistent HPV infection increases the likelihood of the progression to cancer.

HRT and cervical screening

After the menopause the vagina and cervix undergo atrophic change. Atrophic epithelium can have a detrimental effect on the quality of sample obtained and smears taken in the post menopausal woman, with basal and para basal cells being present at the surface (Bachmann 2000, Pitkin 2008). These changes may increase the possibility of the smear returning as unsatisfactory.

Topical HRT has a beneficial effect on the vaginal and cervical epithelium (Bachmann 2000, Castelo-Branco et al., Pitkin 2008). This beneficial effect may enable a more adequate sample to be obtained, especially if a smear has been reported as inadequate.

Hormone replacement therapy (HRT)

HRT will effectively relieve hot flushes and sweats, improve vaginal dryness and may help with some of the others symptoms which women may experience around the time of the menopause (Rees et al., 2009). It will also have a positive effect on bone density, delaying the skeletal loss which occurs after the menopause and preventing subsequent osteoporotic fractures (Al Azzawi et al., 2007).

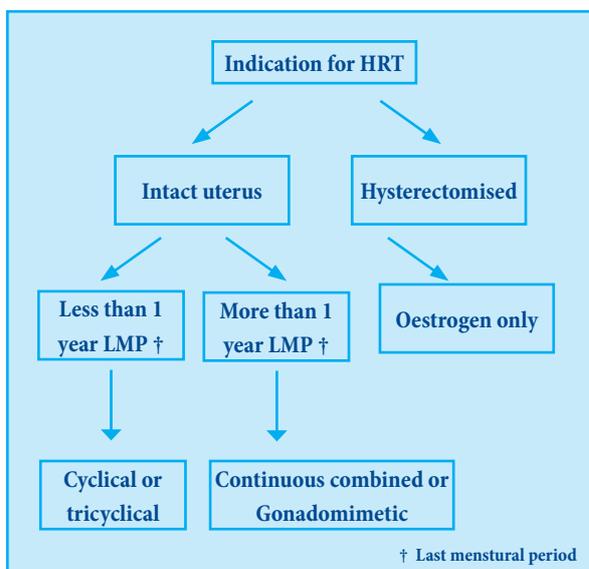
HRT usually comprises two hormones – oestrogen and progestogen. Women who have had a hysterectomy may use oestrogen on its own, whereas women with an intact uterus use a combination oestrogen/progestogen regimen. This is to prevent endometrial hyperplasia (thickening of the womb) which may occur with oestrogen-only therapy (Grady et al., 1995).

Progestogens are given in one of three ways:

- cyclical – usually resulting in a monthly bleed
- tricyclical – usually resulting in bleeds every three months
- continuous – ‘no-bleed’ therapy (some irregular bleeding initially).

HRT can also be given as a gonadomimetic, a synthetic hormone which comprises oestrogenic, progestogenic and androgenic properties.

Figure 7: Regimens of hormone replacement therapy



Who might use HRT?

There are several groups of women where the use of HRT might be indicated:

- those experiencing symptoms of the menopause, such as hot flushes, sweats or genitourinary symptoms
- those who have had an early menopause
- as a second-line therapy for osteoporosis protection in women over 50 years old.

Who should not use HRT?

Very few women cannot take HRT, but the following are contra-indications (Rymer, 2000):

- active or recent thromboembolic disease
- severe active liver disease
- pregnancy
- otosclerosis
- history of oestrogen dependent tumour, for example, breast or endometrium
- undiagnosed vaginal bleeding, for example, bleeding more than one year after the menopause.

Women with conditions considered as contra-indications may still receive HRT under the care of a specialist clinic, if the benefits outweigh potential risk.

Women with the following conditions may take HRT, but it may be preferable to refer them to a specialist clinic (Rees et al 2009):

- endometriosis
- fibroids
- diabetes
- gall bladder disease
- epilepsy.

The benefits of HRT

The benefits of HRT include:

- relief of vasomotor symptoms (MacLennan, 2001)
- relief of some psychological symptoms (Haskell et al., 1997)
- reduced urogenital atrophy (Cardozo et al., 1998)
- reduction in osteoporotic fracture (WHI Study, 2002)
- reduced incidence of colorectal cancer (WHI Study, 2002).

The risks of HRT

The risks of HRT include:

- in the first year of use, the risk of venous thrombosis increases slightly from 1 per 10,000 to 3 per 10,000 (Lowe, 2000); this risk may be lower with transdermal preparations (Renoux et al., 2010)

- using unopposed oestrogen therapy, there is an increased risk of endometrial cancer (Wiederpass, 1999); women with a uterus should use combined oestrogen/progestogen therapy to prevent this
- long-term use of combined HRT increases the risk of breast cancer (Bush, 2001); this effect on breast cancer is not apparently seen in women who start HRT early for a premature menopause, indicating that it is the total exposure to oestrogen over a lifetime which is probably important (Rees et al., 2009).

HRT and breast cancer

Long-term use of HRT increases the risk of breast cancer (Bush, 2001). Much controversy surrounds breast cancer risk. The Women’s Health Initiative study (WHI, 2004) showed no increase of risk in women taking oestrogen after seven years of use. Women using combined HRT showed no significant increase in risk with four years of use (WHI, 2002). The Million Women Study (MWS, 2003) showed an increased risk for both oestrogen alone and combined therapy. However, several authorities now agree that design flaws in this latter study do not allow firm conclusions to be drawn. The most reliable figures are those of the Collaborative Group (1997).

Figure 8: Extra cases of breast cancer with HRT use per 1,000 women (Collaborative Group 1997)

Years of HRT	Number of cases of breast cancer in women aged 50-70 years
0	45
>5	47
>10	51
>15	57

Are there side effects?

Minor side effects are common in the first few weeks of HRT treatment. Women are advised to persevere during this period. After this ‘settling time’ side effects can be minimised by adjusting doses, and the types or routes of HRT. Such side effects may include:

- breast tenderness
- nausea
- leg cramps.

Side effects may be related to the progestogen component; for example, symptoms similar to premenstrual tension

such as headaches, irritability, and bloating. These can often be resolved by changing the type or route of progestogen dose.

Figure 9: Routes of administration for hormone replacement therapy

Oestrogen	Progestogen
Tablet	Tablet
Patch	Patch (with oestrogen)
Implant	Intrauterine
Vaginal – local	

Bleeds

Women who still have periods (even erratically) and start HRT will be prescribed a cyclical form of HRT which usually results in a monthly withdrawal bleed. Tricyclical treatments are available which result in a three-monthly bleed.

Women who are post-menopausal and have had at least one year since their last period, may use a continuous combined form of HRT. This is described as ‘period free’ or ‘no bleed’, as the aim of the treatment is to have no bleeding at all. However, the settling phase can take three to four months, during which it is common to experience some breakthrough bleeding.

A gonadomimetic (Tibolone) is also available, which is a synthetic hormone replacement and ‘period free’.

Initiating and monitoring HRT

Nurses, particularly practice nurses, are often involved with decision making about HRT, with baseline investigations of patients and the ongoing monitoring of their treatment.

Practice nurses will have access to the patient’s full medical history, so that possible contraindications for the use of HRT can be considered along with the woman’s potential risk factors for osteoporosis, for example, use of corticosteroids and early menopause. You can detail a symptom history either by asking the patient direct questions or using a symptom assessment chart. It is also helpful for you to discuss realistic expectations of the treatment with the woman at an early stage in decision making.

Before initiating HRT, the prescribing doctor may request some of the following investigations:

- blood pressure – it has become established practice to record women's blood pressure as a baseline measurement and in ongoing monitoring; there is no evidence to suggest that blood pressure will be altered simply by the use of HRT (PEPI Trial, 1996)
- weight – useful as a baseline measurement. Being overweight will not in itself preclude use of HRT pelvic examination – not routinely performed before treatment, but clinically indicated in women with a history of fibroids, ovarian cysts, pelvic pain, abnormal vaginal bleeding, endometriosis, prolapse or urinary leakage
- breast examination – not routinely indicated but may be clinically indicated before HRT use in women with symptomatic disease, personal or family history of breast cancer (CSM, 2001) – see the healthy living section on [page 13](#) of this booklet.

Other investigations that may be performed include:

- follicle stimulating hormone (FSH) – not usually helpful for diagnosis, but can be useful in women with early menopause (serial tests), or women with hysterectomy and ovarian conservation
- thyroid function – when flushes do not improve on HRT or if thyroid disease is suspected on clinical examination lipid profile – women with a family history of coronary heart disease
- thrombophilia screen – women with a personal or family history of venous thrombosis
- bone densitometry – women considered at high risk of osteoporosis
- endometrial assessment – women with abnormal vaginal bleeding (pelvic examination, ultrasound and or hysteroscopy and biopsy).

It may take up to three visits (or more) for a woman to settle onto HRT but once a regimen is established, a woman should return for regular follow-up visits. These may be to the general practitioner or to the practice nurse if she has received the necessary education and has the support of her medical colleagues.

Regular assessments of blood pressure, weight, symptom control and bleeding should be included as well as time for the woman to ask questions or raise any anxieties she may have. Each visit is the opportunity to re-evaluate the need for treatment and consider the safety of continuing. This becomes even more crucial when women have been on HRT

for over five years after the age of fifty. It also provides an opportunity to discuss other health issues and encourage an attitude of health promotion in the post menopause.

Prescribed alternatives to HRT

Clonidine

Clonidine was originally developed to treat hypertension, but can be effective in treating hot flushes in some women. Studies have shown that clonidine is better than a placebo (Nelson et al., 2006) at reducing the number and intensity of hot flushes. The recommended dose is 50-75mcg twice daily. Side effects include dry mouth and dizziness. This is currently the only prescribed alternative that is licensed for the treatment of hot flushes.

Gabapentin

Gabapentin is a gamma-aminobutyric acid analogue and is used to treat epilepsy and migraine. Limited early evidence shows it is better than a placebo at relieving hot flushes and sweats (Reddy et al., 2006; Guttuso et al., 2003). It is not licensed for this indication.

Selective serotonin reuptake inhibitors (SSRIs) and serotonin and norepinephrine reuptake inhibitors (SNRIs)

Emerging evidence that there are a variety of mechanisms and hormones involved in hot flushes has led to trials of medication that have previously been used as SSRI antidepressants. Studies have shown these provide relief of hot flushes in some women, although the treatment remains unlicensed currently. Treatments include venlafaxine in lower doses of 37.5mg-150mg daily, paroxetine, fluoxetine and citalopram (Barton et al., 2003; Loprinzi et al., 2000; Stearns et al., 2003); the treatments can improve depression, however there may be some interaction with Tamoxifen (Kelly et al., 2010).

Locally applied oestrogen

Vaginally administered oestrogen may be prescribed, even to women in whom systemic HRT is contraindicated. Weakly absorbed oestril or oestradiol preparations used at the correct dose will not cause endometrial proliferation, treating only the local vaginal symptoms (Rees et al., 2009). Vaginal oestrogen should not be used as a sexual lubricant, but rather used on a regular, twice-weekly basis for relief of vaginal dryness. Long-term use, whilst not contraindicated, requires regular review. Women with breast cancer may be able to use local oestrogens – seek specialist advice.

Non-hormonal vaginal lubricants and moisturisers

Women may get relief from vaginal dryness by the regular use of vaginal moisturisers which can be purchased without prescription. Examples include Replens and Sylk Repadina, some of which may be available on prescription. Lubricants, used at the time of sex, can help with dyspareunia.

Progestogen

Some randomised controlled trials (RCTs) have shown that progestogens alone reduce vasomotor symptoms compared with placebo. The risk of venous thromboembolism is increased at doses required to control vasomotor symptoms and there are no long-term data on the effect on blood lipids or on breast tissue.

In its 2006 guidance the Royal College of Obstetricians and Gynaecologists (RCOG) points out concerns that the increased risk of breast cancer with HRT is due to the combination of oestrogen and progestogen, rather than oestrogen alone (Rossouw et al., 2002). So it is probably inappropriate to treat women who have an increased risk of breast cancer with progestogens. The potential risk needs to be taken into account when using progestogens as an alternative (RCOG, 2006).

Libido and testosterone replacement

The drop in oestradiol level at the time of the menopause has a significant negative effect on sexual arousal and interest (Dennerstein et al., 2003). The post-menopausal ovary is an important source of androgen production, and total and free testosterone levels have been shown to be reduced by more than 40 per cent in hysterectomised women with bilateral oophorectomy relative to menopausal women who have not undergone surgery.

In women, around two-thirds of circulating testosterone is bound to steroid hormone binding globulin (SHBG) and around a third to albumin, leaving only two per cent in the free or unbound state. A free testosterone index (normal range 0.4 – 0.8 ng/dl) accurately reflects the tissue androgen status but is not widely available; total testosterone measurements are influenced by fluctuating levels of SHBG and are less meaningful.

Several studies have shown the benefit of testosterone therapy in post-menopausal women but mainly in those using oestrogen. In the UK, testosterone pellets for subcutaneous insertion as an adjunct to HRT have been

licensed for many years, however there may now be a problem with the supply. Testosterone patches (300ug) were available and had the advantage that women could stop and start treatment as they wished. However, these have now been withdrawn by the company. Both are currently licensed for hysterectomised and oophorectomised women taking concomitant oestradiol-based HRT but are also effective in naturally menopausal women taking oestrogen. *Testogel* is licensed for use in men but may be beneficial to women (off licence) with a reduced dose. *Tibolone* is a synthetic steroid with oestrogenic, progestogenic and androgenic properties and is effective for sexual dysfunction (Uygur et al., 2005).

The therapeutic approach

The way in which menopause is perceived and experienced is influenced by its timing, personal meaning and severity of bodily symptoms which can mimic symptoms of chronic stress. Stressors may be external and circumstantial (for example redundancy, bereavement, acting as a carer) or internal (for example bitterness and regret at past choices or losses, fear of the future). Stressors may be exacerbated in the absence of positive mediators such as supportive relationships.

Specialist counselling can help promote emotional self-management and a sense of personal control through validating the experience and supporting or introducing personal coping strategies which may lessen the impact of bodily symptoms. Challenging negative thinking, developing coping strategies to reduce the impact of hot flushes and/or night sweats on daily life, guided imagery work and learning relaxation techniques have generally resulted in reduced problematic impact, increased sleep quality, increased self confidence, and a greater sense of optimism and empowerment.

Cognitive behavioural therapy

Cognitive behavioural therapy (CBT) is used to address a variety of different problems such as depression, pre-menstrual syndrome (PMS), and compulsive disorders, and aims to make sense of problems by sub dividing these to make it easier to see how these are connected and the effects. Typically issues are broken into areas to explore: situation – a problem, event or difficult situation from which follows:

- thoughts - physical feelings
- emotions - actions.

There have been promising trials of women with breast cancer who have CBT individually or in groups and find they are able to cope with the symptoms better after the sessions.

Complementary approaches

The placebo effect

When exploring alternatives to conventional treatment for the menopause, it is helpful to be aware of the importance that psychological factors play, not only in giving rise to symptoms, but also in determining a patient's response to a treatment.

Studies have shown that patients' expectations concerning a treatment, their experience of the treatment and their attitudes towards their health care provider can all affect the impact of a treatment. Such factors as these can all be brought together under the term 'placebo effect'. This is the therapeutic impact of 'non-specific' or 'incidental' treatment ingredients, as opposed to the therapeutic impact that can be directly attributed to a specific, characteristic action of the treatment. Despite a lack of understanding of the exact mechanisms through which the placebo effect may operate, research clearly shows that the effect exists and can have a significant impact on health.

When reviewing the evidence of therapies for menopausal symptoms, it can be difficult to find studies of complementary therapies compared with placebo. Such lack of evidence may be partly due to lack of investment in research, but also lies in a belief amongst some practitioners that in studying such therapies it is difficult to have a control group which is blind to the therapy as complementary therapies often consist of many components and may include therapeutic processes which are unique.

It is also important to recognise that menopausal symptoms are usually, by their nature, self-limiting and will generally improve over time.

A wide range of complementary therapies may be used to reduce or stop the short-term symptoms of the menopause, but do not prevent or treat osteoporosis.

Each therapy has benefits and pitfalls. For the majority, there is a lack of randomised control trials or hard evidence of use, although many appear to have been used successfully

for years. Since many are taken by individuals and are available over the counter, they are difficult to study in a traditional medical setting. Most treatments claim to work by treating the whole person, rather than a specific disease, balancing health and realigning the person's own healing properties. A major downside of all these therapies is cost, as most are not available on the NHS.

When you are advising patients about the use of complementary therapies, they should be encouraged to consult a reputable practitioner. If you are the practitioner offering the complementary therapy you have a responsibility to ensure you are educated and prepared to offer the therapy at a safe level.

Herbal treatments

Herbal medicine uses plant products for their therapeutic properties. This section looks at herbal treatments commonly used in managing the symptoms of menopause and reviews the evidence for each one.

Many women see the use of herbal remedies as a more natural way of managing their menopausal symptoms than conventional medicines. Indeed, herbs have been used for centuries to relieve an assortment of ailments. There are now a wide variety of products available which can be obtained from many sources such as health food shops, supermarkets, pharmacies, herbalists and even via the internet.

Although many women find herbal remedies useful in reducing menopausal symptoms, there is a lack of data concerning their efficacy and safety, and little overall proof to back up the claims made for these remedies. This appears to be due more to the lack of appropriate scientific studies rather than any absence of effect. More rigorous analyses may yet demonstrate clear efficacy for some of these preparations.

Like all medicines, herbal treatments may cause side effects. At present there appears to be no effective way of reporting these. Not only is the cost of some herbal treatments prohibitive to many women, **but they may also contain potential harmful contaminants.**

Herbal remedies should be used with caution in women who have a contraindication to oestrogen, as some herbs may have oestrogenic properties. Herbal remedies are currently registered as food substances and are not therefore under

the review of the Committee for Safety of Medicines. There is little control over the quality of the products available, which may vary considerably. However, a House of Lords committee recently recommended that herbal medicines should be regulated and the European Parliament has also approved a resolution to regulate non-medical over-the-counter products. Worldwide regulation is required for the supervision of herbal medicines. This would give more credibility to those preparations that do appear to have some effect and would also protect people from preparations that have no proven effect and may be potentially harmful.

Figure 10 shows the common herbs used at menopause. However, there are many other herbs not listed that some women may use around the menopause but which have no specific properties for menopausal symptoms.

Figure 10: Common herbs used at the menopause

Herb	Comments
Black cohosh	Recognised as a menopausal treatment by WHO and German authorities. Data on effectiveness is mixed and there have been reports of liver toxicity
Evening primrose oil	Useful for breast tenderness
Dong quai	Not found to be better than placebo, can interact with warfarin
Ginkgo biloba	Little evidence improves menopause symptoms; can interact with warfarin and may cause bleeding
Ginseng	No better than placebo at relieving hot flushes; can cause PMB and interacts with warfarin and alcohol
Agnus castus (chasteberry)	No evidence
Sage	May cause bleeding; interacts with tamoxifen.
St John's wort	Good for depression, irritability and fatigue and reducing anxiety; multiple drug interactions
Sea buckthorn	Used for mucus membrane dryness
Valerian	Lack of data
Liquorice root	Lack of data
Wild yam cream	Little data that it works as humans are unable to convert the active ingredients

Phytoestrogens

Phytoestrogens are naturally occurring, oestrogen-like compounds derived from plants. They have a similar chemical structure to oestrogen and bind to oestrogen receptors. For more than 25 years, much interest has focused on phytoestrogens as an alternative therapy for relief of menopausal symptoms, particularly vasomotor symptoms such as hot flushes.

Women in Japan and Asia appear to have fewer menopausal symptoms and have less risk of cardiovascular disease and of cancers of the breast, endometrium, ovary and colon. They also have lower rates of osteoporosis. This has been linked with diet. Typical Japanese diets may contain 20-50mg per day of phytoestrogens, while the Western diet probably contains less than 1mg per day. However, high consumption of fish in Japan means a high intake of essential fatty acids which could also explain the lower incidence of disease and illness.

The two main dietary groups of phytoestrogens are lignans and isoflavones (see box). Lignans are found in cereals (oats and barley), seeds (linseed), fruits and vegetables, while isoflavones are found in beans and pulses (chickpeas, lentils), particularly soya beans and soy products. Evidence for the use of isoflavones for relief of menopausal symptoms is encouraging and further research is ongoing. Various dietary supplements of isoflavones are commercially available. Most published literature concerns studies of a 40mg red clover isoflavones supplement (Novogen Promensil).

Isoflavins	Lignans
Chickpeas, legumes, lentils Soya beans/soy-based products Tofu	Cereals (oats/barley)

Efficacy

Isoflavones are thought to work differently in pre- and post-menopausal women, which complicates testing and reviewing results.

A review of placebo-controlled studies of a standardised 40mg red clover isoflavone demonstrated a reduction in the number of hot flushes experienced compared with placebo (Nachtigall, 2006).

Howes et al. (2006) showed a slight to modest reduction in hot flushes and that benefit may be more apparent in women experiencing a high number of hot flushes per day. A Cochrane review (2007) of 30 trials regarding the effectiveness of phytoestrogens in vasomotor symptoms concluded that there was no evidence of effectiveness in alleviation of menopausal symptoms as those trials that did show effect were low quality and underpowered. Most trials demonstrated a strong placebo effect.

Several short duration studies have investigated bone density.

A one-year study suggested that, through attenuation of bone loss, isoflavones may have a potentially protective effect on the lumbar spine in women (Atkinson, 2004). While the effects appear positive, Cassidy (2003a) concludes that the optimal dose is as yet unknown.

Isoflavones may also have a role in preventing vaginal atrophy.

A prospective double-blind, placebo controlled cross-over study demonstrated positive effect on vaginal tissue with no increase in endometrial thickness (Woods, 2004).

Isoflavones may also have a small beneficial effect on lipids, but cardiovascular outcomes have not yet been measured (Chedraui, 2008).

Safety

No significant alterations in serum biochemical or haematological markers were seen in a placebo-controlled study using a 40mg red clover isoflavone for a 12-week period (Baber, 1999).

Powles et al. (2008), in a randomised placebo-controlled trial over a three-year period, showed red clover supplements did not adversely affect breast density.

A Cochrane review (2007) indicated that there was no evidence that phytoestrogens caused estrogenic stimulation of the endometrium when used for up to two years. However, in a randomised, placebo-controlled study Unfer et al. (2004) demonstrated that five years use of soy isoflavones does appear to increase the risk of endometrial hyperplasia.

Standardisation

Like all non-medicinal products, isoflavones are registered as food substances and therefore are not under review by a regulatory authority such as the MHRA. There are discrepancies between label contents and active ingredients. Setchell et al. (2001) compared isoflavone content of 33 products in the United States and showed that many manufacturers claimed their product contained more isoflavones than were present on testing.

Dosage

The recommended dose of red clover isoflavones is 40mg per day, depending on severity of vasomotor symptoms. It is important to take red clover with a meal that includes carbohydrate to aid absorption and to take it regularly at the same time each day. Approximately one third of women may not convert or absorb dietary isoflavones which renders them ineffective, meaning there will be no symptom improvement even after three months' use (Faughnen, 2004).

Drug interactions

There may be contaminants in some preparations studied, so it is difficult to extrapolate whether side effects relate to the action of isoflavones, drug-herb interactions or a contaminant. There are no reports of drug interactions in clinical trials of a standardised 40mg red clover isoflavone to date (Cassidy, 2003b).

Other considerations include:

- proton pump inhibitors or H2 receptor agonists may reduce efficacy of isoflavones
- antibiotic use reduces gut flora and may affect absorption of isoflavones and could therefore affect efficacy for approximately six weeks; increased intake of lacto acidophilus (probiotic) may help
- isoflavones may inhibit effect of some drugs metabolised by liver enzymes (Boullata, 2005)
- women receiving warfarin should be monitored regularly when changing their diet or commencing a dietary supplement
- in the absence of definitive research data, it is recommended that isoflavone supplements should not be used concomitantly with oestrogen, progestogen, or androgen therapy due to possible competitive inhibition (Food Standards Agency, 2003).

Contraindications

Isoflavones are not recommended for use during pregnancy or in women with undiagnosed vaginal bleeding. For women who have had hormone-dependent tumours such as breast cancer, it has not been established whether weekly oestrogenic supplements affect disease recurrence. Further well designed studies are needed to determine the role and safety of phytoestrogens supplements in menopausal women.

Other therapies

You may find that some women you work with have used some of the following therapies. There is evidence that some of the therapies may reduce symptoms, but it has yet to be established why this is and could be the placebo effect or having “me time”.

The following are therapies women may have used/ask advice on:

- acupuncture uses needles put into the skin at specific points on the body, whereas acupressure uses pressure on these points. These points then correspond to meridian or energy channels, which are believed to link to internal organs and unblock energy and balance the flow, correcting illness and psychological problems. Although acupuncture has been used for thousands of years, there are few good quality trials on its use in treating menopause. Those studies that have been conducted have shown no harm, and some have shown benefits in relieving hot flushes, night sweats and general mood, especially when site-specific points for menopause have been used (Cohen, 2003). Acupuncture has also been used in women with breast cancer and tamoxifen-induced hot flushes, increasing general wellbeing (Walker et al., 2004). However a systematic review has failed to show a specific benefit for hot flushes (Lee et al., 2009) but Borud and White (2010) in a review article have suggested that there is a reduction in hot flushes
- homeopathy aims to cure like with like, and stimulate the body into healing itself. There are some studies that have shown that this is beneficial in women in the menopause, both natural and induced menopause. Homeopathic remedies have been demonstrated to reduce hot flushes and to improve quality of life (Jacobs et al., 2005; Thompson and Reilly, 2003). Traditional homeopathic practitioners select and administer an individual ‘constitutional’ remedy based on the totality of a woman’s symptoms and her physical, mental and emotional state. This is thought to strengthen the body’s vital defences and restores a healthy balance and sense of wellbeing. Most of the major homeopathic remedies may be used to treat the symptoms of menopause. But scientific evidence is lacking
- reflexology uses the energy channels and meridians similar to those in acupuncture and acupressure, but contained within the feet or hands. It aims to help the body’s energy circulate effectively and claims to be effective in PMS and menopause, although there is little published data
- yoga is the use of mental and physical disciplines to meditate and adopt postures. It may help to control flushes through relaxation, improve balance, and decrease falls
- hypnotherapy aims to improve the health of a patient through inducing a trance-like state, with therapist and patient working together
- aromatherapy treats illness with concentrated plant oils, most commonly applied through massage. The oils can also be administered as an inhalation or in a bath.

6

Nurses as advocates

“Advocate...on behalf of another” (Oxford English Dictionary)

Many women approaching the menopause have a clear idea of what information they need, the therapeutic interventions they might want and are aware of appropriate resources that they can access or ask for this information. But nurses will encounter a significant number of women who do not have the necessary skills or knowledge, and for some of these women you will need to act as an advocate.

In areas of the country where there is limited access to specialist menopause services, there is a particular need for nurses – such as practice nurses or gynaecology nurses to take on the role of advocate, or to be aware of where they can refer onto if specialist advice is needed. Unfortunately, for a number of reasons, some women are denied even the most basic information and treatment. These reasons may include social, racial or cultural beliefs within the woman’s community, and beliefs or financial strictures on the part of the clinician. There are also misunderstandings about the potential risks and benefits of treatment.

You must ensure each individual woman has all the information she needs to make an informed choice, and that you act for her in the most appropriate way.

Accountability

The Nursing and Midwifery Council (NMC) *Code: standards of conduct, performance and ethics for nurses and midwives* (2008) stated: As a professional you are personally accountable for actions and omissions in your practice and must always be able to justify your decisions.

Make the care of people your first concern, treating them as individuals and respecting their dignity. To achieve this you must:

- treat people as individuals
- respect people’s confidentiality
- collaborate with those in your care
- ensure you gain consent
- maintain clear professional boundaries.

In order to work with others to protect and promote the health and wellbeing of those in your care, their families and carers, and the wider community you must:

- share information with your colleagues
- work effectively as a team
- delegate effectively
- manage risk.

In order to provide a high standard of practice and care at all times you should:

- use the best available evidence
- keep your knowledge and skills up to date
- keep clear and accurate records
- manage risk.

Finally, you should be open and honest, act with integrity, and uphold the reputation of the profession.

Skill levels

The evolving role of the nurse in menopause is essential for the provision of expert care and for the education of both patients and health care professionals. Work undertaken by the Department of Health (2005) reviewing the nursing workforce led to the initial mapping of nursing roles in menopause to specific levels of competence.

In 2009 the RCN produced an integrated career and competence framework for nurses and health care support workers in the field of menopause: the *RCN Competences: an integrated career and competence framework for nurses and health care support workers working in the field of menopause* (RCN, 2009) refer to levels of practice described in the *Career framework for health* (Skills for Health, 2006) which apply across the UK.

The competences that follow for nurses working in menopause are detailed in the RCN 2009 framework. Achievable competences are attributed for each individual level of nurse, and the necessary performance criteria, underpinning knowledge and skill and also attitudes and behaviours are also outlined. Relevant contextual factors – typically, useful reference points – are listed, and lifelong learning and skills enhancement are encouraged. It should be noted that the numerical levels do not directly correlate to *Agenda for Change* pay bandings as other factors may be considered in job evaluation. The competence framework applies across the UK.

Health care assistant/health care support worker (levels 2, 3 and 4)

It is recognised that the roles of the health care assistant (HCA) and health care support worker (HCSW) is rapidly developing across all health services. The HCA/HCSW has a role in caring for women experiencing menopause, supporting women through clinical procedures, undertaking assessment activities with supervision, and ensuring relevant literature on HRT, complementary therapies, non-hormonal therapies, peri-menopausal contraception and health promotion is available. They may also undertake additional clinical roles such as venepuncture.

Competent nurse (level 5)

This level defines the entry point for registered nurses to the specialty of menopause. Competence at this level has a minimum threshold that is in line with the general competences required for registered nurses to enter the register of the NMC. The nurse develops expertise and skills relevant to the local setting.

The interpersonal skills of all menopause nurses develop so that discussions can be initiated surrounding menopause. A clear understanding of menopause must be demonstrated so that the care of women at the time of menopause will be enhanced. At this level the nurse can undertake a comprehensive holistic health history encompassing physical, social, psychological, emotional, sexual, spiritual and lifestyle aspects as appropriate. A prioritised problem list, based on holistic history, can be formulated with the woman and partner/carer. Therapy decisions can be made responsibly according to clinical need, risk and acceptance. An individual risk benefit profile can be developed.

At this level the nurse can explain types of HRT, and will have knowledge of complementary therapies that are useful and know their limitations. The nurse can encourage positive lifestyle changes and also provide learning opportunities for nurses and other care professionals about menopause.

Experienced/proficient nurse (level 6)

In addition to being competent in all areas required of a competent nurse in the menopause, experienced nurses are also able to provide ongoing menopause management.

Qualification:

- registered nurse
- working towards a menopause foundation course, higher education diploma, or first degree appropriate to setting.

Some nurses go one step further and work at a more advanced level to provide specialist care, completing formal study in menopausal health. As a nurse with greater clinical experience and an increased base of knowledge, the nurse can undertake appropriate investigation and diagnosis, provide clear information, explanation of rationale for investigations and possible outcomes, and communicate results appropriately. An action plan based on scientific rationale/evidence can be formulated.

The nurse can provide 'one-stop' care including independent consultations, working to patient group directives (PGDs), initiating, monitoring and changing treatment and management plans. The nurse can insert hormonal implants and hormonal intrauterine systems (IUS), and other clinicians can use you as a resource. You will know when and how to refer to another.

Dissemination of specialist knowledge and contribution to development of patient education information are also important at this level.

Senior nurse/expert nurse (level 7)

Often regarded as specialist or advanced practice, this is the extension of the registered nurse role. Experienced senior registered nurses typically reflect nurses in a diverse range of posts including nurse led services. Menopause nurses practising at this level of clinical practice are able to work according to local protocols to coordinate the comprehensive care of women. They can work autonomously without asking the advice of a doctor.

Any nurse working at this level is required to work within the boundaries of their own knowledge and competence, and refer to or seek advice/opinions from medical colleagues for cases beyond their clinical expertise. The expected workload of senior registered nurses can differ between settings, depending on local need, resource and infrastructure.

Qualification:

- registered nurse/midwife
- working towards first or master's degree related to sexual and/or reproductive health
- specific professional training/qualifications for advanced practice roles, for example nurse prescribing, insertion of intrauterine devices and implants.

Experience:

- at least two years working in menopausal health care.

Competences at this level include ability to undertake a comprehensive assessment of the woman presenting at time of menopause including differential diagnosis, provision of advice and support to the team and others throughout the assessment process, and provision of easily accessible expert professional advice to women and carers/partners.

Overall the nurse should provide and monitor a service that reflects national standards in menopause care whilst encouraging menopause teaching across professions and disciplines.

Consultant nurse (level 8)

This level of practice typically reflects experienced and expert nurses. However, some senior nurses may have specific elements of this level of practice incorporated in their job descriptions. For example, some senior nurses may have a consultancy function, or lead on policy development in their trust. The consultant nurse will generally provide clinical and professional leadership and consultancy to senior registered nurses and others. They will also initiate and lead expert practice; education, training and development; research and service development initiatives. The consultant posts are generally developed for specific trust/unit needs of the service. As with the other levels of nursing practice, the consultant nurse will work in a multidisciplinary team environment.

Qualification:

- registered nurse/midwife
- master's or doctorate related to menopause health care
- specialist-specific professional qualifications commensurate with standards proposed for recognition of a 'higher level of practice' in menopause.

Experience:

- five years working in field of menopause
- recent or ongoing research work in menopausal health care
- evidence of education and training initiatives in menopausal health care
- evidence of developing projects and implementing policies and procedures in menopausal care.

At this level the nurse can use specialist knowledge to critically analyse, evaluate and synthesise new and advanced interventions, and also develop creative approaches to complex /challenging cases. Depending on location, the nurse can influence a coordinated strategy for smooth transition to adult services, for example, for those with premature ovarian failure or Turner Syndrome. Policy and guideline review are also key aspects for this level of nurse. Consultant nurses can encourage integration of health promotion and evidence-based advice into care of menopausal women.

Nurse prescribing

In order to provide holistic and timely care non-medical prescribing has evolved. Nurses can now gain a qualification to be a non-medical prescriber or a supplementary prescriber.

When first introduced, there was a limited formulary for nurses to prescribe from. This was restrictive for nurses working within menopause. Since 2006, however, there has been a change in the law and the extended formulary was revised; as a result nurses can now prescribe any HRT as long as it is within their scope of competence.

For supplementary prescribing, using a clinical management plan (which has been agreed by the nurse, the doctor and the patient), it is possible for the nurse to prescribe from an agreed range/group of drugs. There are already reliable local and national guidelines and policies in place to assist this process.

7

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Useful contacts and resources

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Healthy eating

The NHS Live Well campaign contains easy-to-access advice on healthy eating

www.nhs.uk/livewell/healthy-eating

For information on the NHS Live Well five a day

www.nhs.uk/livewell/5aday

British Association for Applied Nutrition & Nutritional Therapy www.bant.org.uk

Cancer screening

Full information on the NHS (England) cancer screening programmes (cervical, breast and bowel) can be accessed at www.cancerscreening.nhs.uk

Detailed information on the NHS HPV vaccination programme can be obtained from www.nhs.uk

Breast cancer

Cancer Research UK
www.cancerresearchuk.org

Breakthrough Breast Cancer
www.breakthrough.org.uk

Complementary therapies

British Acupuncture Council
Tel: 020 8735 0400
www.acupuncture.org.uk

British Homeopathic Association
Tel: 020 7566 7800
www.britishhomeopathic.org

Council for Complementary and Alternative Medicine
Tel: 0208 968 3862

Institute for Complementary Medicine
Tel: 020 7237 5165
www.icnm.org.uk

Research Council for Complementary Medicine
www.rccm.org.uk

Counselling and therapy

British Association for Counselling & Psychotherapy
Tel. 01788 550 899
www.bacp.co.uk

British Association for Sexual and Marital Therapy
Tel. 020 8543 2707
www.basrt.org.uk

Institute of Psychosexual Medicine
Tel. 020 7580 0631
www.ipm.org.uk

Relate
Tel. 01788 573 241
www.relate.org.uk
– coordinates the activities of local marriage guidance centres and relationship counselling for couples or families.

Support, advice and information

British Menopause Society
Tel: 01628 890199
www.thebms.org.uk
– a multidisciplinary professional organisation for health professionals working in the menopause field – excellent quarterly journal.

The Continence Foundation
Tel: 020 7404 6875 (Helpline: 020 7831 9831)
www.continence-foundation.org.uk
– provides information for health professionals and the public.

Daisy Network
www.daisynetwork.org.uk
– a support group for women suffering from premature menopause.

FPA (Family Planning Association)
www.fpa.org.uk
– information for health professionals and the public on issues related to reproductive and sexual health:
FPA England
Tel: 020 7837 5432
Helpline: 020 7837 4044
FPA Wales
Tel: 0122 342 766
FPA Northern Ireland
Tel: 01232 325 488
FPA Scotland
Tel: 0141 211 8138

The Hysterectomy Association
www.hysterectomy-association.org.uk

Menopause Matters
www.menopausematters.co.uk
– aims to provide easily accessible up-to-date information about the menopause, menopausal symptoms and treatment options including HRT and alternative therapies.

National Osteoporosis Society
www.nos.org.uk
Helpline: 0845 4500 230
– provides excellent literature for health professionals and lay public on many issues related to osteoporosis at reasonable cost.

RCN Direct
Tel: 0845 772 6100
– information and advice for RCN members.

Women's Health Concern (WHC)
www.womens-health-concern.org
– provides information on women's health issues, particularly those relating to the menstrual cycle and the menopause. Local help lines available.



Further reading

Focus on Alternative and Complementary Therapies
– a review journal that aims to present the evidence on complementary therapies in an analytical and impartial manner.

Hope S and Rees M (2004) *“Which?” guide to managing the menopause*, London: Which? Books.

Murray J (2003) *Is it me or is it hot in here? A modern woman’s guide to the menopause*, London: Vermillion.

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