The specialist authority for menopause & post reproductive health

British Menopause Society

What is the menopause?

Menopause is the time in a woman's life when her periods stop as a result of the reduction and loss of *'ovarian reproductive function'*. Ovaries produce the hormones estrogen, progesterone and testosterone. When a woman approaches the menopause, less estrogen is produced causing her body to behave differently. This process is usually a gradual one that progresses over several years. Estrogen also plays an important role in maintaining bone and heart health as well as brain function during the reproductive years.

The menopause usually occurs between 45 and 55 years of age but it may be earlier. There are ethnic differences in age of onset. The average age in the UK is 51. It is defined as when a woman has had no periods for one year or more. Before then a woman will experience 'early perimenopause' and 'late perimenopause' and prior to that, the 'late reproductive' phase.

During **early perimenopause**, women experience a change in menstrual cycle pattern. They may start experiencing menopausal symptoms alongside cycle changes, most commonly by about 7 days from their norm.

Subsequently, in **late perimenopause**, many women experience worsening of their menopausal symptoms. Menstrual cycles become less frequent, with periods sometimes a few months apart, leading to amenorrhea.

Prior to perimenopause, the **late reproductive phase** may see subtle changes in cycle and variable follicle-stimulating hormone (FSH). It is not described as part of the menopause transition, but some individuals may be aware of subtle hormonal fluctuations.

	Menarche						FMP (0)			
Stages	–5	–4	–3b	–3a	–2	–1	+1a	+1b	+1c	+2
Terminology	REPRODUCTIVE				MENOPAUSAL TRANSITION		POSTMENOPAUSE			
	Early	Peak	Late		Early	Late	Early			Late
					Perimenopause					
Duration	Variable				Variable	1–3 years	2 years (1+1)		3-6 years	Remaining lifespan
PRINCIPAL CRITERION										
Menstrual cycle	Variable to regular	Regular		Subtle changes in flow/ length	Variable length (persistent ≥ 7-day difference in length of consecutive cycles)	Interval of amenorrhoea of ≥ 60 days	None			
SUPPORTIVE CRITERIA										
Endocrine: FSH AMH Inhibin 8			Low Low	Variable Low Low	↑ Variable[a] Low Low	↑ >25 iu/l[b] Low Low	↑ Variable Low Low		Stabilises Very low Very low	
Antral follicle count			Low	Low	Low	Low	Very low		Very low	
DESCRIPTIVE CHARACTERISTSICS										
Symptoms						Vasomotor symptoms				Increasing symptoms of urogenital atrophy
						Likely	Most likely			

[a] Blood drawn on cycle days 2–5

[b] Approximate expected level based on assays using current international pituitary standard

↑ = elevated; AMH = anti-müllerian hormone; FSH = follicle-stimulating hormone

The Stages of Reproductive Aging Workshop+10 staging system for reproductive aging in women. Harlow et al., 'Executive summary of the Stages of Reproductive Aging Workshop+10: Addressing the unfinished Agenda of Staging Reproductive Aging', *Climacteric*, 2012; 15: 105–14; *Fertil Steril*, 2012; 97: 843–51; *J Clin Endocrinol Metab*, 2012; 97(4): 1159–68; *Menopause*, 2012; 19: 387–95.

What do women experience when they go through the menopause?

All women experience the menopause at some stage in their life. It is estimated that more than 80% of women will be menopausal by the age of 54. Whilst not all women will experience menopausal symptoms when they go through the menopause, up to 80-90% will have some symptoms, with 25% describing them as severe and debilitating.

Symptoms

The most common symptoms are hot flushes and night sweats (vasomotor symptoms), experienced by 70-80% of women. Other symptoms include disturbed sleep and insomnia, low energy levels, low mood, anxiety, low libido and low sexual drive, impaired memory and concentration, a sensation of 'brain fog', joint aches, headaches, palpitations and vaginal dryness and urinary symptoms.

Menopausal symptoms last on average for more than 7 years and it is estimated that more than a third of women experience long-term menopausal symptoms which may continue for a number of years beyond that.

Long-term health

When the ovaries have stopped producing estrogen, the fall in hormone levels may have an effect on long-term health. Most commonly these changes affect the strength and density of bones, increasing the risk of the bone-thinning disease osteoporosis. The bones of the female skeleton depend on estrogen to maintain their strength and resistance to fracture. However, whilst a hot flush or vaginal dryness is obvious, there are no obvious symptoms of osteoporosis – the first sign may be a fracture of a bone. In addition, estrogen deficiency after the menopause has been shown to result in an increase in the risk of heart disease in women.

How do you diagnose the menopause?

Diagnosis of the menopause should be made following careful history taking: assessing the clinical presentation and basing it on a combination of menopausal symptoms and change in menstrual cycle pattern in women beyond the age of 45.

Hormonal testing (FSH) is not helpful in diagnosing the menopause for women over the age of 45, as the level of FSH can fluctuate from one month to another and may not give an accurate assessment. In those under 40 years of age suspected of Premature Ovarian Insufficiency (POI), FSH should be measured and the test repeated if results are ambiguous. For those between 40 and 45 years when early menopause is suspected, FSH may be useful to diagnose perimenopause, also taking into account other factors such as symptoms and cycle change. A single test may not be diagnostic.

What interventions are available to women going through the menopause?

The menopause transition can have a considerable impact on many women. The majority of women will experience menopausal symptoms and, for a significant proportion, troublesome symptoms may continue long-term. All women should be able to access advice on how to optimise their menopause transition. There should be a holistic and individualised approach in advising women, with particular reference to lifestyle advice and diet modification. This should be an opportunity to discuss the benefits and risks of their management options including Hormone Replacement Therapy (HRT) and alternative therapies.

Hormone Replacement Therapy (HRT)

HRT is the most commonly used treatment for managing menopausal symptoms and it has been shown to be the most effective intervention.

Estrogen

The hormone estrogen is the main component of HRT and it is effective in controlling menopausal symptoms. Estrogen can be given in the form of oral tablets or delivered through the skin (transdermally) in the form of a patch, gel or spray. Transdermal estrogen has a very neutral effect on the way the body breaks down the hormones and it does not increase the risk of blood clots compared to that in women who are not taking HRT. Transdermal estrogen should therefore be the preferred way of giving estrogen to women at increased risk of blood clots, e.g. those who are overweight or who have an increased background risk for blood clots.

When HRT is started, the dose of estrogen may need to be adjusted until the optimal replacement dose is achieved, as there may be varied absorption between different individuals. The three questions that need to be considered to determine the optimal HRT dose would therefore be:

- how much estrogen are we giving?
- how much of the estrogen is being absorbed?
- how much estrogen does the woman need for optimal symptom control?

Progestogen

Progestogen should also be given to women who have not had a hysterectomy, to protect the lining of the womb from the effects of estrogen. This can be given in a way that results in a monthly bleed (if the woman is perimenopausal and is still having periods) or in a continuous way that does not result in a monthly bleed for women who are menopausal.

Progestogens are available in the form of natural micronised progesterone tablets or as synthetic progestogens. Micronised progesterone is plant derived and is similar to the chemical structure of progesterone produced by the human ovaries (bioidentical). Micronised (natural) progesterone has some advantages over synthetic progestogens as it has a neutral effect on the risk of blood clots and theoretically a slightly lower risk of breast cancer compared to synthetic progestogens.

Synthetic progestogens are available in the form of oral tablets, patches or in the form of the progestogen releasing intrauterine device (IUD).

Testosterone

Testosterone in female replacement doses is effective in improving symptoms of low libido and low sexual drive. Testosterone in female physiological doses is unlikely to result in adverse side-effects and can be considered if replacement of estrogen does not help improve these symptoms.

At present there are no testosterone preparations available for female use in the UK, although we anticipate one soon. As a result, gel preparations licensed for use in men are used in a female replacement dose of 5 mg a day. This is common practice in the UK currently, given the lack of alternative options, and it is backed by the Global Consensus Position Statement on the Use of Testosterone Therapy for Women (2019) and by the British Menopause Society.

What are the benefits of HRT?

HRT is the most effective treatment for the management of menopausal symptoms and has been shown to result in significant improvement in menopausal symptom control and quality of life.

In addition, HRT has been shown to result in significant improvement in bone density, protecting against osteoporosis and osteoporosis related fractures. HRT started in women under the age of 60 or within 10 years of the menopause has also been shown to result in significant reduction in the risk of heart disease and cardiovascular mortality.

What is the risk of breast cancer with HRT?

Combined HRT containing estrogen and progestogen is associated with a small increase in the risk of breast cancer. This risk is low in both medical and statistical terms, particularly compared to other lifestyle risk factors such as obesity and alcohol intake.

Estrogen only HRT (for women who have had a hysterectomy) has been shown to result in little or no increase in the risk of breast cancer.

Women are often concerned that if they have a member of their family who has had breast cancer that they should not take HRT. Having a family member who has had breast cancer may increase a woman's background risk for developing breast cancer but this would not be a contraindication to taking HRT.

The risk of breast cancer with HRT should also be considered in relation to the risk of breast cancer with other lifestyle factors. For example, the risk of breast cancer with drinking two units of alcohol a night is higher than that associated with taking HRT. Further, the risk of breast cancer with being overweight is significantly higher than the risk of breast cancer with taking HRT.

The decision whether to take HRT and the duration of its use should be made on an individualised basis after discussing the benefits and risks with each woman. It should be considered in the context of the overall benefits obtained from using HRT, including symptom control and improving quality of life, as well as considering the bone and cardiovascular benefits associated with HRT use.

For most women, the benefits in quality of life improvement, reduction in osteoporosis risk and reduction in risk of heart disease would outweigh the small increase in the risk of breast cancer. Women who take HRT have a reduced mortality compared to women who do not take HRT.

What are bioidentical hormones?

Bioidentical hormones refer to hormones that have a similar chemical structure to those produced by the human ovary. These have advantages over non bioidentical or synthetic alternatives in that they have a more neutral effect on the risk of blood clots and on risk of breast cancer. Regulated bioidentical hormones are available through the NHS as prescribed medications.

Regulated bioidentical hormones should be distinguished from compounded, custom-made bioidentical hormones which are not as stringently regulated and as a result there may be concerns about their purity and safety.

Women should be informed that if they wish to take bioidentical hormones, they should obtain a prescription for safe and effective regulated bioidentical hormones from their healthcare professional. Compounded bioidentical hormones should be avoided.

Lifestyle factors

A healthy lifestyle including exercise, diet modification and reducing alcohol intake can improve menopausal symptoms, in addition to improving heart and bone health.

The menopause transition should be seen as an opportunity to review and optimise lifestyle, dietary intake and exercise uptake. This should include:

- advice on a healthy diet, low in saturated fat and salt to reduce blood pressure, and rich in calcium and vitamin D to strengthen bones. Dietary supplements may be considered if dietary intake is not sufficiently balanced.
- regular exercise, to relieve stress and lower the risk of heart disease. Regular, varied exercise may include cycling, swimming, running or aerobics.
- stopping smoking, as smoking has been shown to increase the risk of an earlier menopause and trigger hot flushes. If women smoke, they also run a higher risk of developing osteoporosis and heart disease, which is the most common cause of death in women.
- drinking moderately, as alcohol increases hot flushes and is associated with an increased risk of breast cancer. Women should try not to drink more than 2 to 3 units of alcohol per day and keep at least one day a week alcohol-free.
- relaxation techniques such as meditation and yoga, to reduce stress levels and deal with anxiety.

Complementary & alternative therapies

A number of complementary & alternative therapies such as acupuncture, aromatherapy, herbal treatments, homeopathy, yoga and reflexology may help with troublesome menopausal symptoms. These would be an option for women who do not wish to take HRT, although most alternative therapies are less effective than HRT in controlling menopausal symptoms.

It is relevant to note that some herbal or natural remedies may contain ingredients that have estrogen-like properties, so would not be suitable for women who have a contraindication to taking HRT.

Complementary and alternative therapies are unlikely to have a significant impact on bone strength or heart health.

Cognitive Behaviour Therapy (CBT)

CBT is also an effective option in improving hot flushes, nights sweats and other menopausal symptoms and can be considered in women who do not wish to take HRT or are unable to take HRT.

Conclusion

Women experience the menopause in different ways. Some women experience minimal or no symptoms going through the menopause. However, many women experience menopausal symptoms that can significantly impact their quality of life.

There should be an individualised approach in assessing women going through the menopause, with particular reference to lifestyle advice and diet modification, together with discussion about the role of HRT.

All women should be aware that help and support is available. They should consult their healthcare professional to access advice on how they can optimise their menopause transition and to understand what options they have to manage their symptoms.

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This BMS Tool for Clinicians has been developed by the medical advisory council of the British Menopause Society. It will be updated when guidance changes and/or new data becomes available.

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