

Hormone Replacement Therapy (HRT): benefits and risks

In the past, there have been concerns raised about HRT and potential risks to various aspects of women's health. More recently published findings show that, although not entirely risk free, HRT remains the most effective solution for the relief of menopausal symptoms and it is also effective for the prevention of osteoporosis. In certain age groups it may provide protection against heart disease. For most, it is low risk.

This WHC fact sheet sets out the known facts about HRT. It summarises the results of studies regarding its safety and addresses the controversy that still surrounds it, together with current thinking about its suitability. It is written specifically for women wishing to understand more about HRT.

The British Menopause Society (BMS) medical advisory council strongly recommends that you discuss both the benefits and the risks of HRT, for you individually, with your healthcare professional. The types of HRT available are detailed below.

Concerns over the safety of HRT – a history

HRT was first available in the 1940s but it became more widely used in the 1960s, creating a revolution in the management of the menopause. HRT was prescribed commonly to menopausal women for the relief of symptoms such as hot flushes, night sweats, sleep disturbance, psychological symptoms, genitourinary symptoms – urinary frequency and vaginal dryness – and for the prevention of osteoporosis.

In the 1990s, two of the largest studies of HRT users were undertaken, one clinical randomised trial in the USA [Women's Health Initiative (WHI)] and one observational questionnaire study in the UK [Million Women Study (MWS)]. The results of these two studies, published during 2002 and 2003, raised concerns regarding the safety of HRT. The safety concerns revolved around two main issues: 1) that the extended use of HRT may increase the risk of breast cancer and 2) that the use of HRT may increase the risk of heart disease.

In the years since then, research has more clearly shown that the risks of HRT are low for most people. There are newer types of HRT available now, with lower doses, and UK HRT prescribing has increased again.

Trial data published in 2020 showed a significant reduction in breast cancer diagnosis and mortality in women using estrogen only HRT. Like the conclusions of the NICE menopause guideline 2015 (updated 2024), trials found that women on combined estrogen and progestogen HRT had an increased risk of breast cancer diagnosis but no significant increase in mortality. The Collaborative Group on Hormonal Factors in breast cancer 2019 reported that those with obesity had a higher breast cancer risk associated with both estrogen only and combined HRT. Large observational trial data suggest that micronised progesterone and dydrogesterone are likely to be associated with a lower risk of breast cancer compared to that seen with other progestogens.

With regard to cardiovascular risk and HRT, recent data has been reassuring. A large controlled trial from Denmark reported in 2012 has demonstrated that healthy women taking combined HRT for 10 years immediately after the menopause had a reduced risk of heart disease and of dying from heart disease. The Cochrane data-analysis has shown a reduction in cardiovascular events and deaths in women taking either estrogen only or combined HRT within 10 years of menopause or under 60 years of age. In addition to this, the Cochrane group and the follow up data from the WHI found that there doesn't appear to be an increased risk in cardiovascular events or mortality in women initiating HRT more than 10 years after the menopause.

Evidence from the Collaborative Group on Hormonal Factors demonstrated that there may be a slight increased risk of some types of ovarian cancer associated with HRT use but this is small and equates to around one extra case of ovarian cancer per 1,000 HRT users.

Hormonal status can affect cognitive function and over the years there has been conflicting evidence regarding the risk of dementia and HRT use. Based on the current evidence, women can be reassured that HRT is unlikely to increase the risk of dementia or be detrimental to cognitive function in women initiating HRT under the age of 60 years.

In the UK, women are now more informed about menopause and HRT and they expect better menopause care; there is celebrity support promoting women's health; and GPs and other healthcare professionals are actively seeking menopause education programmes, such as those delivered by the BMS. Menopause care is still not uniformly as good as it should be across the country, but it has definitely improved since the BMS first published its Vision for menopause care in the UK in 2017 (updated 2024).

HRT today – the key points

The balance of benefits and risks always needs to be assessed for any treatment option, but that balance appears to have shifted favourably for HRT. Users can be reassured provided that:

- HRT is taken for the correct reasons, i.e. to alleviate the symptoms of the menopause. It has a role in the prevention of osteoporosis and long-term use is often required.

- The dose and duration of HRT use should be made on an individual basis after discussing the benefits and risks. No arbitrary limit should be set on duration of use.
- HRT users are assessed by their prescriber at least once a year.

If women start HRT around the time of menopause, the risk is very small and there appear to be cardiovascular and bone protective benefits. It is not usually appropriate for women over 60 to be starting HRT but as the WHI study showed, women initiating it over 60 years of age do not seem to be at increased risk of cardiovascular events or mortality.

Many women seek advice on the effects of HRT on sexual activity and desire. Whilst there is no definitive answer, case studies indicate that the estrogen in HRT can help to maintain or return sex drive. It will also help other menopausal symptoms such as vaginal dryness and pain with intercourse. If vaginal symptoms are the only problem, the use of local vaginal estrogen or dehydroepiandrosterone (DHEA) may be preferable.

Types of HRT available

There are more than 50 types of HRT available. HRT can be taken orally (tablets), transdermally (through the skin by patch, gel or spray) or vaginally (for the relief of vaginal or bladder symptoms).

Cyclical (or sequential) HRT is used for those who are still having some periods naturally but need to start HRT. Estrogen is taken every day and progestogen for part of the month. At the end of each course of progestogen there is some bleeding. Progestogen regulates bleeding and protects the endometrium (womb lining) from harmful pre-cancerous changes.

Estrogen only HRT is normally prescribed for women who have had their womb removed (hysterectomy). The benefits of HRT to alleviate menopause symptoms are derived from the replacement of estrogen; progestogen is only necessary to protect the womb lining.

Continuous combined HRT (combining an estrogen and a progestogen) is prescribed continuously to achieve period-free HRT for those whose natural periods have stopped. Those who start on cyclical HRT should change to continuous combined when their periods have stopped as it is thought to reduce the risk of endometrial cancer even more so than cyclical HRT.

Tibolone is a synthetic form of period-free HRT which may have similar benefits to continuous combined HRT. It is taken continuously in tablet form.

Local estrogen, including vaginal tablets, creams, gels or rings, is used for treating local urogenital problems, such as vaginal dryness, irritations, bladder problems or infections.

Testosterone, in the form of a gel or spray, is indicated for women with decreased libido. A testosterone product specifically for women is not yet available in the UK but doses of a male product can be titrated for female use. It should be used in conjunction with conventional estrogen containing HRT and women with a uterus require a progestogen to protect the womb lining.

Bioidentical HRT

Bioidentical hormones contain molecules identical to those produced by the body. In fact, most traditional HRT preparations used in the UK are actually bioidentical, containing 17-beta estradiol which is the natural human estrogen or micronised progesterone which is the natural human progesterone.

However, in practice, the term 'bioidentical HRT' is often used for preparations made by compounding pharmacies which are claimed to be safer than 'traditional HRT'. There is no evidence that compounded bioidentical HRT is more effective than HRT preparations produced by pharmaceutical companies and licensed for use by UK regulatory authorities. In fact, they may actually be less safe as their production is not monitored or regulated in the same way.

Bioidentical hormone preparations are often compounded following salivary hormone measurements and are therefore claimed to be 'customised' to the individual woman. The accuracy and usefulness of such tests are questionable and the use of compounded bioidentical hormone preparations that have not been licensed by the UK regulatory authorities is not recommended.

Summary

Women wishing to start HRT should discuss the benefits and risks of treatment with their healthcare professional to determine what is right for them, taking into account their age, medical history, individual risk factors and personal preferences.

For the majority of women who use HRT for the short-term treatment of menopausal symptoms, the benefits of treatment are considered to outweigh the risks.

The lowest effective HRT dose should be taken, with duration of use depending on the clinical reasons for use. There is no mandatory age at which HRT should be stopped, or a set time after it cannot be taken. The decision to continue on HRT should be made by you and your prescriber.

HRT remains licensed for osteoporosis prevention and can be considered the treatment of choice for women starting treatment below the age of 60 years, and especially for those with a premature menopause.

Women on HRT should be re-assessed by their doctor at least annually. For some women, long-term use of HRT may be necessary for continued symptom relief and quality of life.

Many primary care settings (GP surgeries, medical centres) will have a healthcare professional with a special interest in women's health, with knowledge of HRT prescribing. However, if you feel that you need more guidance with regard to the benefits and risks of HRT, you may request advice from another clinician in the practice or request a referral to a local secondary care menopause clinic.

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This Women's Health Concern fact sheet provides information and guidance, to be used in consultation with your own healthcare professional. It has been developed by the medical advisory council of the British Menopause Society and it will be updated when guidance changes and/or new data becomes available.

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Women's Health Concern is the patient arm of the BMS

We provide independent advice to inform and reassure women about their gynaecological, sexual and post reproductive health.

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