



For Women
For Health, For Menopause

“My mother has collapsed bones in her back – could HRT prevent that happening to me?”

GP and menopause specialist Dr Sarah Gray advises on how to counsel a patient who has concerns about osteoporosis and whether HRT will be of benefit.

Intended learning outcomes:

- Counsel the patient on the risks of osteoporosis and how HRT can be of long-term benefit as a first-line preventative measure.
- Advise on lifestyle changes to reduce the risk of osteoporosis

Q: “My mother has collapsed bones in her back – could HRT prevent that happening to me?”

A: Osteoporosis affects over 3 million people in the UK. Women are more at risk of osteoporosis than men, particularly if the menopause begins early (before the age of 45) or if they’ve had their ovaries removed¹.

Unfortunately, women lose bone rapidly in the first few years after the menopause and women’s bones lose strength at a faster rate after the menopause. This is due to decreasing estrogen levels because the female sex hormone is responsible for keeping bones strong. Peak bone density in women is also lower than in men, and in postmenopausal women, osteoporotic fractures are more common than stroke, myocardial infarction, and breast cancer combined².

Bones that break easily can be a sign of loss of bone strength with wrist, hip and spinal

fractures being some of the most common in those with osteoporosis.

Wrist and hip fractures can happen from a simple fall which may not have caused such damage earlier in life. Spinal fractures can occur when the vertebrae lose strength and compress as opposed to break³.

Consider spinal fractures if your patient presents with:

- Unexplained back pain and muscle spasms
- A curved spine or change in posture
- Height loss⁴

REFERENCES:

- 1 <https://www.nhs.uk/conditions/osteoporosis/> 2 Watts NB. Postmenopausal Osteoporosis: A Clinical Review. J Womens Health (Larchmt). 2018 Sep;27(9):1093-1096. doi: 10.1089/jwh.2017.6706. Epub 2018 Mar 27. PMID: 29583083. 3 <https://theros.org.uk/information-and-support/osteoporosis/symptoms/> 4 Levin et al, Estrogen therapy for osteoporosis in the modern era <https://pubmed.ncbi.nlm.nih.gov/29520604/> 5 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4520366/> 6 <https://theros.org.uk/information-and-support/bone-health/vitamin-d-for-bones/> 7 <https://theros.org.uk/information-and-support/bone-health/bone-health-checklist/> 8 Bone loss and wrist fractures after withdrawal of hormone therapy: The 15 year follow-up of the OSTPRE cohort. Saarelainen J et al. Maturitas 2016;85:49-55 <https://pubmed.ncbi.nlm.nih.gov/26857879/> 9 Bagger YZ, Tankó LB, Alexandersen P, Hansen HB, Møllgaard A, Ravn P, Qvist P, Kanis JA, Christiansen C. Two to three years of hormone replacement treatment in healthy women have long-term preventive effects on bone mass and osteoporotic fractures: the PERF study. Bone. 2004 Apr;34(4):728-35. doi: 10.1016/j.bone.2003.12.021. PMID: 15050905. <https://pubmed.ncbi.nlm.nih.gov/15050905/> 10 Yu Q et al Chronic Dis Transl Med 2015 1(1):9-13 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5643776/> 11 Menopause: diagnosis and management (nice.org.uk) 1.5.12 12 Overview | Osteoporosis: assessing the risk of fragility fracture | Guidance | NICE 13 <https://thebms.org.uk/publications/consensus-statements/prevention-and-treatment-of-osteoporosis-in-women/> 14 Menopause: diagnosis and management (nice.org.uk) 1.5.14

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Replacing estrogen at a low dose can improve bone mineral density and reduce fracture risk after menopause. The standard doses that most women need to relieve their symptoms will enable some bone that has already been lost to be built back⁵.

To support this, the patient requires sufficient calcium and vitamin D to help the process to occur⁶. Adequate calcium, vitamin D, and also weight-bearing exercise are important for bone health at all ages⁷.

Research

A 15-year follow up study on postmenopausal bone loss and wrist fractures after withdrawal of hormone therapy concluded that long-term use of HRT protects from bone loss. It found that women who stop HRT experience loss of bone mineral density and have increased risk of wrist fracture. It also identified that the longer HRT is taken for, the less bone loss and risk of wrist fracture⁸.

A 2004 study supported this link between HRT and bone loss, examining HRT in early postmenopausal years. It found that limited HRT administered in the early postmenopausal years (2-3 years) offers long-lasting benefits for the prevention of postmenopausal bone loss and osteoporotic fracture⁹. As much as 20% of BMD is lost in the 5-6 years around menopause¹⁰.

Recommended action

Give women advice on bone health and discuss these issues at HRT review appointments¹¹. (See the NICE guideline on osteoporosis: assessing the risk of fragility fracture¹²)

According to the British Menopause Society's Consensus Statement 'Prevention and treatment of osteoporosis in women'¹³:

- HRT reduces the risk of both spine and hip as well as other osteoporotic fractures
- Estrogen remains the treatment of choice for osteoporosis prevention in menopausal women, and especially in those with premature ovarian insufficiency.

Explain to women that their risk of fragility fracture is decreased while taking HRT and that this benefit:

- is maintained during treatment but decreases once treatment stops.
- may continue for longer in women who take HRT for longer¹⁴.

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- <https://www.nhs.uk/conditions/osteoporosis/> **2** Watts NB. Postmenopausal Osteoporosis: A Clinical Review. *J Womens Health (Larchmt)*. 2018 Sep;27(9):1093-1096. doi: 10.1089/jwh.2017.6706. Epub 2018 Mar 27. PMID: 29583083. **3** <https://theros.org.uk/information-and-support/osteoporosis/symptoms/> **4** Levin et al, Estrogen therapy for osteoporosis in the modern era <https://pubmed.ncbi.nlm.nih.gov/29520604/> **5** <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4520366/> **6** <https://theros.org.uk/information-and-support/bone-health/vitamin-d-for-bones/> **7** <https://theros.org.uk/information-and-support/bone-health/bone-health-checklist/> **8** Bone loss and wrist fractures after withdrawal of hormone therapy: The 15 year follow-up of the OSTPRE cohort. Saarelainen J et al. *Maturitas* 2016;85:49-55 <https://pubmed.ncbi.nlm.nih.gov/26857879/> **9** Bagger YZ, Tankó LB, Alexandersen P, Hansen HB, Møllgaard A, Ravn P, Qvist P, Kanis JA, Christiansen C. Two to three years of hormone replacement treatment in healthy women have long-term preventive effects on bone mass and osteoporotic fractures: the PERF study. *Bone*. 2004 Apr;34(4):728-35. doi: 10.1016/j.bone.2003.12.021. PMID: 15050905. <https://pubmed.ncbi.nlm.nih.gov/15050905/> **10** Yu Q et al *Chronic Dis Transl Med* 2015 1(1):9-13 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5643776/> **11** Menopause: diagnosis and management (nice.org.uk) 1.5.12 **12** Overview | Osteoporosis: assessing the risk of fragility fracture | Guidance | NICE **13** <https://thebms.org.uk/publications/consensus-statements/prevention-and-treatment-of-osteoporosis-in-women/> **14** Menopause: diagnosis and management (nice.org.uk) 1.5.14

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