Menopausal hormone therapy:
Risk of venous thromboembolism

Venous thromboembolism (VTE), including deep-vein thrombosis (DVT) and pulmonary embolism (PE), is a serious event whose incidence rises with age.

Medical history

Relevant points for the assessment of VTE:

- Personal and family history
- Whether the episode was provoked or unprovoked, and confirmed objectively
- Whether a thrombophilia screen was undertaken
- Risk factors such as malignancy or connective-tissue disease
- Whether the woman (or family member) was anticoagulated at the time

Menopausal hormone therapy (MHT) for women with VTE

- **Oral estrogen alone** and **oral combined preparations** are associated with increased VTE risk
- **Estrogen-alone preparations containing estradiol** have a lower VTE risk than those containing **conjugated equine estrogens**
- For **combined oral preparations**, the risks are significantly greater for conjugated equine estrogen than for estradiol
- **Transdermal preparations** (estrogen alone or combined) are not associated with increased VTE risk
- Micronized progesterone and dydrogesterone may have a better VTE risk profile than other progestogens
- Topical estrogens are not associated with increased VTE risk
- Raloxifene, but not tibolone, is associated with increased VTE risk
- Ospemifene is **contraindicated** in women with active VTE or history of it
- Transdermal estrogen should be the first choice in **overweight/obese women** wishing to take MHT
- Systemic MHT, preferably with transdermal estrogen, and topical estrogens, can be prescribed for **women taking long-term anticoagulation**
- Surgery under general anesthesia (e.g. orthopedic and vascular leg surgery) is a predisposing factor for VTE and it may be prudent to stop MHT 4–6 weeks before surgery and restart it only after full mobilization. If MHT is continued, VTE prophylaxis is advised

A personal or family history of VTE is not absolute contraindication to MHT but the benefit–risk profile needs careful assessment.

Women at high VTE risk should be referred to a hematologist before initiating MHT.

Further information

EMAS (2025). CareOnline. Health at menopause and beyond https://emas-online.org/guidelines-and-education/#emas-care-online

Lumsden et al. (2025). European Society of Endocrinology clinical practice guideline for evaluation and management of menopause and the perimenopause https://doi.org/10.1093/ejendo/lvaf206

NICE (2024). Guideline NG23. Menopause: identification and management https://www.nice.org.uk/guidance/ng23

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