

Menopause and diet:

Vitamin D

Vitamin D is pivotal in maintaining skeletal health and deficiency associated with cardiovascular disease (CVD), diabetes and cancer.

Sources and supplements

- **Skin synthesis** through exposure to sunlight is the major natural source of vitamin D. Regular midday sun exposure without sunscreen for around 15 minutes, three or four times per week during summer, is generally sufficient
- **Foods** such as oily fish, eggs and dairy products are rich in vitamin D. The recommended daily allowance is 600IU for adults, increasing to 800IU for individuals aged 71 years or older
- **Supplements** or **fortified foods**

Monitoring

- The monitoring of serum vitamin D levels is not recommended, unless high-dose supplements are used or for conditions such as renal disease

Risk factors for vitamin D deficiency

- Low exposure to sunlight, dark skin and skin aging, poor dietary intake
- Kidney disease/renal failure, malabsorption, obesity
- Certain medications (e.g. anti-convulsants, antiretrovirals)

Vitamin D and skeletal health

- Vitamin D **supplements** should be considered for postmenopausal women of any age if they have low levels of vitamin D and osteoporosis and/or are at high fracture risk

Serum 25-hydroxyvitamin D levels less than 20 ng/ml (50 nmol/l) and 10 ng/ml (25 nmol/l) are considered to constitute vitamin D deficiency and severe deficiency, respectively.

- There is no evidence that supplements prevent fractures in women who are not deficient or are at low fracture risk

Vitamin D and CVD

- **Deficiency** is associated with CVD, dyslipidemia, type 2 diabetes and metabolic syndrome
- **Supplements** do not decrease CVD risk, although they do have a modest beneficial effect on glucose metabolism and lipids

Vitamin D and cancer

- **Deficiency** may be associated with increased incidence and mortality of several types of cancer, such as colorectal, lung and breast cancer
- **Supplements** do not affect cancer outcomes, except for a modest decrease in cancer-related mortality

Vitamin D and menopause

- **Deficiency** may be associated with hot flashes, sleep disorders, depression and sexual problems
- **Supplements** have no effects on menopausal symptoms except for a modest effect on vulvovaginal atrophy

Further information

EMAS (2023). Position statement. Vitamin D and menopausal health <https://doi.org/10.1016/j.maturitas.2022.12.006>

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