**Review: prophylactic use of vitamin D reduces falls in older people**


**Q** Is prophylactic use of vitamin D effective for preventing falls in older people?

**CONCLUSION**

Prophylactic use of vitamin D is effective for reducing falls in older people.

A modified version of this abstract appears in *ACP Journal Club*.

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**METHODS**

**Data sources:** MEDLINE and the Cochrane Controlled Trials Register (1960 to February 2004), EMBASE/Excerpta Medica (1991 to February 2004), and the American Society for Bone and Mineral Research conference abstracts (1995–2002); bibliographies of relevant studies; and experts in the field.

**Study selection and assessment:** randomised controlled trials (RCTs) that compared prophylactic use of any type of vitamin D with a control condition in community dwelling or institutionalised older people (mean age of study participants had to be >60 y) and included a methods section that stated how falls (the outcome) were defined and ascertainment. Individual study quality was assessed using specified criteria that included allocation concealment, blinding, and withdrawals.

**Outcomes:** low trauma falls defined as unintentionally coming to rest on the ground, floor, or other lower level.

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**MAIN RESULTS**

5 RCTs (n = 1237) (mean age 70 y, 81% women) met the selection criteria. Comparisons included cholecalciferol (800 IU/d) plus calcium (1200 mg/d) with placebo (1 RCT); cholecalciferol (400 IU/d) plus calcium (800–1000 mg/d) from dairy products with placebo (1 RCT); calcitriol (0.5 μg/d) with placebo (1 RCT); and 1α-calcidiol (1 μg/d) with placebo (1 RCT). Meta-analyses using fixed and random effects models showed that fewer participants in the vitamin D group than in the control group had ≥1 fall (table). Furthermore, a sensitivity meta-analysis of the 10 “potentially appropriate for inclusion RCTs” (n = 10 001) showed that fewer participants in the vitamin D group than in the control group had ≥1 fall (relative risk reduction 13%, 95% CI 4 to 20).

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**Vitamin D prophylaxis v a control condition (eg, calcium or placebo) in older people***

<table>
<thead>
<tr>
<th>Outcome (3 mo to 3 y)</th>
<th>Weighted event rates</th>
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<tbody>
<tr>
<td></td>
<td>Number of RCTs (n)</td>
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<tr>
<td>Participants who had ≥1 fall</td>
<td>5 (1237)</td>
</tr>
</tbody>
</table>

*RCTs = randomised controlled trials. Other abbreviations defined in glossary; weighted event rates, RRR, NNT, and CI calculated from data in article using a random-effects model.