



## Additional content — Strontium ranelate (Protos) for postmenopausal osteoporosis: Differences between trial populations used for indirect comparisons between strontium and alendronate



This page contains additional information about the article *Strontium ranelate (Protos) for postmenopausal osteoporosis*, published in NPS RADAR, November 2007.

Women enrolled in TROPOS probably had a higher risk of fracture than those in FIT-2 because of the mixture of primary and secondary prevention populations, and the fact that they were older and had lower average BMD (see Table 1). In TROPOS, 55% had a previous fracture, however, only 71% of the whole population were X-rayed for vertebral fracture, hence the exact proportion is unknown. These factors may explain why the absolute risk of fracture differs between TROPOS and FIT-2, as seen by comparing the placebo fracture event rates\* (6.4% strontium; 2.2% alendronate). Though not identical, women in SOTI and FIT-1 showed more similarity in baseline fracture risk (see Table 2).<sup>14,16</sup>

\* The validity of an indirect comparison depends on the included trials being similar (assuming each trial is internally valid) because the drug's absolute treatment effects (defined by the absolute risk reduction or number needed to treat) are influenced by baseline risk.

**Table 1: Key characteristics of the TROPOS<sup>13</sup> and FIT-2<sup>15</sup> trials (used for primary prevention comparison)**

	TROPOS	FIT-2 (primary prevention)
<b>Baseline risk</b>	<ul style="list-style-type: none"> <li>Femoral neck BMD &lt; 0.60 g/cm<sup>2</sup></li> <li>55% of women had a previous fracture (vertebral or non-vertebral) confirmed by X-ray</li> </ul>	<ul style="list-style-type: none"> <li>Mean femoral neck BMD 0.59 g/cm<sup>2</sup></li> <li>No previous radiographic vertebral fracture confirmed by X-ray</li> <li>35% had a history of postmenopausal fracture</li> </ul>
<b>Vertebral X-ray before randomising</b>	No	Yes
<b>Number of women</b>	4932	4432
<b>Completed follow-up</b>	3320 (67%)	4134 (93%)
<b>Mean age</b>	77 years	68 years
<b>Study centres</b>	11 European countries and Australia	11 metropolitan areas of the United States

<b>Intervention</b>	Strontium (either 2 g once daily or 1 g twice daily) versus placebo for 3 years.	Alendronate 5 mg daily for 2 years then 10 mg daily versus placebo for 4 years
<b>Primary outcome</b>	New non-vertebral fracture (excluding skull, face, finger, toe and coccyx) as diagnosed by a physician.	One or more clinical fractures — pre-specified as vertebral, non-vertebral, hip, wrist and 'other' (excluding face or skull) as diagnosed by a physician.
<b>Secondary outcomes</b>	Non-vertebral fractures by site — specified during the study as hip, wrist, pelvis–sacrum, rib–sternum, clavicle, humerus  Study <i>not</i> powered for these outcomes.	Vertebral fractures diagnosed by X-ray.  Study <i>not</i> powered for this outcome.

TROPOS = Treatment of Peripheral Osteoporosis study<sup>13</sup>

FIT-2 = Fracture Intervention Trial<sup>15</sup>

**Table 2: Key characteristics of the SOTI<sup>14</sup> and FIT-1<sup>16</sup> trials (used for secondary prevention comparison)**

	<b>SOTI</b>	<b>FIT-1 (secondary prevention)</b>
<b>Baseline risk</b>	<ul style="list-style-type: none"> <li>• Mean femoral neck BMD 0.59 g/cm<sup>2</sup></li> <li>• All had vertebral fracture at baseline (confirmed by X-ray)</li> </ul> <p>In addition to 1 baseline vertebral fracture:</p> <ul style="list-style-type: none"> <li>• Mean of 2 previous vertebral fractures</li> <li>• 33% had a previous non-vertebral fracture</li> </ul>	<ul style="list-style-type: none"> <li>• Mean femoral neck BMD 0.57 g/cm<sup>2</sup></li> <li>• All had vertebral fracture at baseline (confirmed by X-ray)</li> </ul> <p>In addition to 1 baseline vertebral fracture:</p> <ul style="list-style-type: none"> <li>• 31% had multiple vertebral fractures</li> <li>• 57% had a history of postmenopausal fracture</li> <li>• About 30% had maternal history of fracture and previous falls.</li> </ul>
<b>Number of women</b>	1442	2027
<b>Completed follow-up</b>	1260 (87%)	1946 (96%)
<b>Mean age</b>	70 years	71 years
<b>Study centres</b>	11 European countries and Australia	11 metropolitan areas of the United States
<b>Intervention</b>	Strontium (either 2 g once daily or 1 g twice daily) versus placebo for 3 years.	Alendronate 5 mg daily for 2 years then 10 mg daily versus placebo for 3 years
<b>Primary outcome</b>	New radiographic or clinical vertebral fracture	New radiographic vertebral fractures
<b>Secondary outcomes</b>	Non-vertebral fractures (excluding skull, face, finger, toe and coccyx) confirmed by X-ray or hospital report  Study <i>not</i> powered for this outcome.	Any symptomatic vertebral or non-vertebral fracture confirmed by X-ray or bone scan  Study powered for this outcome.

SOTI = Spinal Osteoporosis Therapeutic Intervention study<sup>14</sup>

FIT-1 = Fracture Intervention Trial<sup>16</sup>

## References

References for this article are found on the page [Strontium ranelate \(Protos\) for postmenopausal osteoporosis, from NPS RADAR November 2007.](#)

**Date published:** 01/11/2007

The information contained in this material is derived from a critical analysis of a wide range of authoritative evidence. Any treatment decisions based on this information should be made in the context of clinical circumstances of each patient.

(c) NPS; not to be copied, republished, sold or redistributed without the written consent of NPS. Today's Date:  
17/7/2008