



Title	Teriparatide and Bisphosphonates for Treatment of Osteoporosis in Women: A Clinical and Economic Analysis
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Aim

To assess the clinical and cost effectiveness of teriparatide relative to the bisphosphonates for the primary and secondary prevention of osteoporotic fractures in postmenopausal women.

Conclusions and results

Evidence indicates that the main benefits of bisphosphonate therapy, relative to placebo, lie in the secondary prevention of osteoporotic fractures. Etidronate is associated with a reduction in vertebral fractures. Risedronate reduces vertebral, hip, and nonvertebral fractures. Alendronate was associated with reductions in vertebral, nonvertebral, hip, and wrist fractures. Etidronate, risedronate, and teriparatide were more costly and less effective than alendronate. Etidronate was more costly and less effective than both drug and no drug therapy options in all scenarios. Compared to no drug therapy, alendronate costs an additional 169 600 Canadian dollars per quality-adjusted life year (QALY) for a 65-year-old woman. In a 90-year-old, alendronate therapy is less costly and more effective than no drug therapy.

Recommendations

Not applicable.

Methods

The clinical literature was systematically reviewed to compare teriparatide to bisphosphonates or placebo. Net health impact was estimated using a decision-analytic model in terms of QALYs. An economic evaluation compared teriparatide to bisphosphonates, or no drug therapy. The base-case for this analysis was an 80-year-old woman with at least one previous osteoporotic fracture. The budget impact of funding teriparatide and bisphosphonates in public drug plans was also assessed.