extracted by one investigator, confirmed by another, and pooled in meta-analysis using Review Manager software (Cochrane collaboration).
Results: 6136 articles were of potential interest, and 19 met the inclusion criteria. 7 articles compared the safety of Denosumab to BP in post-menopausal OP. There was no significant difference when comparing Denosumab with bisphosphonates in any adverse events (AAE) (RR=0.98, 95% CI=0.95–1.01) serious adverse event (SAE) (RR=1.04, 95% CI=0.81–1.33). Regarding Denosumab versus placebo in post-menopausal OP, 7 studies were included and there was no significant difference in AAE (RR=0.98, 95% CI=0.94–1.01), SAE (RR=1.03, 95% CI=0.96–1.11), however cellulitis was more frequently found with Denosumab (RR=8.03, 95% CI=1.44–44.79). No cases of osteonecrosis of the jaw (ONJ) had been reported. 5 articles were pooled to compare Denosumab with BP in patients with bone metastases and no significant difference was found in AAE (RR=0.99, 95% CI=0.98–1.00), SAE (RR=0.99, 95% CI=0.95–1.03), and ONJ (RR=1.40, 95% CI=0.92–2.13). 4 articles were selected concerning patients treated with placebo or Denosumab in breast and prostate cancer without bone metastases. Although no significant difference was found in AAE (RR 1.01, 95% CI=0.99–1.03), use of Denosumab was associated with a significantly increased risk of hypocalcemia (RR 5.20, 95% CI=1.34–20.13) and of cholecystitis (RR 3.43, 95% CI=1.01–11.69).
Conclusions: In post-menopausal OP, Denosumab had a relatively good safety profile although significantly more cellulitis occurred when compared with placebo. For patient with cancer, Denosumab was associated with more hypocalcemia and cholecystitis than placebo.
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FRI0562 PROPORTION OF HIP AND NON-HIP MAJOR FRACTURES: COSTS AND QUALITY OF LIFE

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Background: FRAX® country specific risk estimates are a mainstay of current treatment decisions and public health policies in osteoporosis. Because the registries of major non-hip fractures (NHF) is poor in most countries, this estimate is based on the gender- and age-specific ratio of hip fractures (HF) to NHF observed in a prospective population-based study performed in Malmo, Sweden[1]. FRAX® presumes, therefore, that the ratio of incidence and cost of hip/major osteoporotic fractures is similar, in every country, to that observed in Sweden. This major assumption has seldom been questioned.
Objectives: This retrospective single-centre observational study aimed to assess the proportion of HF vs. NHF and the impact of wrist and vertebral fractures, in terms of costs and health-related quality of life (HrQoL), 1 year after the fracture in Portugal.
Methods: We revised the records of all patients observed in an emergency department through a period of 3 months and included those aged 50+ diagnosed with a fragility (low energy) HF or NHF. A telephone interview was conducted in a randomly selected subsample of patients from each type of fracture 1 year after fracture. A questionnaire with socio-demographic data, resource consumption over 1st year and HrQol (EQ-5D) was applied to patients or their caregivers. Direct and indirect costs were estimated from a societal perspective.
Results: In the study period, 1760 patients were observed by the orthopaedics emergency team. Of these, 435 patients had suffered a fracture (129 fragility HF, 152 NHF and 154 fractures that were not considered low-trauma and were therefore excluded). Humerus fractures were also excluded, to mirror the Swedish study. The randomly selected subsample of patients consisted of 66 NHF (55 with wrist and 11 with clinical vertebral fractures). Patients were mostly females in all types of fractures (58% to 82%). The mean age at fracture was higher in HF (81.6±8.59 vs. 69.1±10.06). Falls were the cause of fracture in 97% of cases. Inpatient care was provided to 100% of HF patients vs. 25.8% of NHF patients. The proportion of fractures, average fracture-related costs for the 1st year, and the mean impact upon HrQoL are shown in Table 1.
Conclusions: The proportion HF/NHF observed in Portugal is similar to the Swedish reference values (0.44/0.56). The highest cost were attributed to hip fractures in both countries, followed by vertebral fractures and lastly by wrist fractures. The HrQoL mean loss was higher for vertebral fractures in both countries. The reported costs of vertebral fractures are much higher than in Portugal which may significantly affect the calculation of cost-effectiveness thresholds for intervention.
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Abstract FRI0562 – Table 1. Proportion, costs and HrQoL per type of fracture in Portugal and Sweden

	Portugal			Sweden		
Type of fracture	Hip	Wrist	Vertebral	Hip	Wrist	Vertebral
Number (%) of observed fragility fractures	129 (51)	100 (39)	26 (10)	278 (44)	276 (43)	81 (13)
Costs (€) per patient, 1st year (95% CI)	13,434 (12,290; 14,576)*	2220 (1626; 2575)	5390 (1947;6412)	14,221 (12,912; 15,790)	2147 (1923; 2477)	12,544 (10,059; 16,324)
Weighed mean cost (€)	13,434	2867		14,221	4558	
Average loss of HrQoL mean (95% CI)	0.29 (0.22; 0.36)*	0.11 (0.06; 0.15)	0.38 (0.24; 0.52)	0.23 (0.21; 0.26)	0.10 (0.08; 0.12)	0.30 (0.25; 0.36)

*Based on data published elsewhere[2].

FRI0563 USE OF TERIPARATIDE AS A CALLUS ACCELERATOR IN NONUNION OF LOWER LIMB

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Background: The use of teriparatide in fracture management by high-energy trauma with loss of bone substance and muscle and skin with possible nerve/vascular lesions is poorly documented. The aim of our study is to evaluate how the intermittent administration of teriparatide may affect the bone consolidation newly generated and compression in patients with bone loss and my-skin during treatment reconstruction with the technique of resection Ilizarov-lengthening.
Objectives: In large trauma or in the outcomes of these,in which there is loss of bone substance and muscle and skin the technique of reconstruction of Ilizarov (1 mm/day) is used; the main problem is the long time required to reach complete healing with optimal bone consolidation newly generated and the compression outbreak of ensuring the mechanical strength necessary to be able to remove the external fixator (1). The rationale of this study, therefore, was to evaluate the influence of treatment with teriparatide, administered subcutaneously 1 dose 1 time/day from a pre-filled syringe of 20mcg and for a period of three months, the evolution radiographic, on the healing time and the external fixator removal and on the functional recovery quality in multiple trauma patient.
Methods: In our prospective study, we evaluated two groups of patients: Group 1: 9 patients treated with PTH during bone transport; Control Group 2: 10 patients treated with bone transport.
Results: The group 1 compared to the 2 (control group) showed a bone radiographic progression slower newly-generated in the first month of administration of teriparatide; subsequently it was observed an acceleration of bone maturation but not uniform; after about 3 months, the bone maturation accelerates further also at the level of the compression outbreak if already in compression, allowing the removal of the fixator about 1.5 months earlier than the estimated time. This is due to the reduction of the time allowed for "elongation stage" bone that physiologically is around 1mm/day, thus ensuring an optimal functional recovery.
Conclusions: The action of teriparatide (2) on bone healing is derived from increased differentiation of cells responsible for bone callus formation, chondrocytes and osteoblasts, mediated in part by increased activation of genes that produce the Wnt, Osterix and Runx2, all fundamental elements in the osteoblastogenesis. Although the sample examined is small for the specificity of the described treatment, the data reported showed that the intermittent administration of teriparatide is able to accelerate the timing for the "elongation stage" bone and therefore the bone healing and reconstructive treatment times in serious loss of substance.
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