

## **Low Rate of Teriparatide Supplementation for the Treatment of Osteoporotic Pelvic Fractures in Elderly Females**

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**INTRODUCTION:** Osteoporotic pelvic fractures in the elderly lead to pain and immobility resulting in decreased quality of life and overall worsening of frailty. The use of Teriparatide supplementation has been shown in high quality comparative trials to statistically shorten time to union by CT analysis, diminish VAS pain, and improve mobilization. This medication is usually prescribed by an endocrinologist or geriatrician in the outpatient setting. We hypothesize that elderly female patients who sustained a low energy LC pelvic fracture are not often given Teriparatide. The purpose of this study is to report on the rate of successful Teriparatide initiation in this patient population at a single center and to look for areas of improvement.

**METHODS:** A retrospective inpatient and outpatient chart review of all stable lateral compression pelvic ring fractures admitted from January 2012 to February 2021 was conducted. Males and those aged <60 were excluded. Patient variables including demographics, history of osteoporosis, pelvic ring injury details, and follow-up information on Teriparatide use were studied.

**RESULTS:** There were 118 female patients with a mean age of 79.1±10.5. Eighteen patients were not eligible for Teriparatide due to medical history, leaving 100 eligible patients. Mean body mass index was 24±4.7, 63% were never smokers, 61% had Medicare insurance, 52% were Caucasian, and the mean t-score was -3.14±1.1. Teriparatide use was recommended by the Orthopaedic service 75% of the time and 100% of those seen by the orthopaedic trauma service. Geriatrics or endocrine physicians documented an evaluation for potential use of Teriparatide in 18 (18%), the medication was prescribed for 10 (10%), and started in only 7 (7%) patients. Insurance did not approve the medication on 2 instances and in one instance the geriatrician discontinued it at follow-up as they did not deem it appropriate.

**DISCUSSION AND CONCLUSION:** Despite strong level one evidence that Teriparatide is beneficial for elderly osteoporotic women with low energy LC pelvic fractures, we failed to institute it in 93% of eligible patients. There is an opportunity for a multidisciplinary collaborative effort to increase the rate at which this patient population is evaluated for and receives this treatment. These efforts must include broader education around the treatment itself as well as the use of BMD to justify the medication. We were surprised to see our low rate of treatment and this study may prompt others to review their own systems.