

00268 **The Burden of Recurrent Fragility Fractures in a Regional Hospital in Singapore**

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Aims: Following an initial fragility fracture, the risk of subsequent fracture increases by 1.6 to 4.3 fold. We aim to assess the burden of recurrent fractures in the Eastern Region of Singapore.

Methodology: Retrospective analysis of patients presenting to Changi General Hospital, Singapore with fragility fracture. Data were extracted from all admissions during the period of 2009 – 2015 using ICD 10 codes. Patient demographics, frequency and location of prior fractures, calcium, vitamin D and antiresorptive treatment initiation status 1-year post admission, and bone mineral density (BMD) evaluation were recorded. Patients were divided into first-onset or recurrent fractures.

Result: Between 2009-2015, there were 8,771 admissions for fragility fractures , median age 73.0 (50-105) years , 65 % female. Of these, 1686 (19.2 %) admissions were recurrent fractures (1-3 recurrent fractures). Average time to 1st recurrent fracture was 696 days (1 year 11 months). The most frequent sites of the 783 2nd fractures were hip and vertebrae at 37.9 % (n= 297) and 16.2 % (n= 127) respectively. Of the 297 2nd hip fracture, 52.1% (n= 153) patients had initially presented with a 1st hip fracture. Initiation of anti-resorptive treatment was low in both first and recurrent fracture population at 2.6% and 6.6 % ; as was BMD testing at 18.8% and 16.2 % respectively in both populations.

Conclusion: Nearly one fifth of all fragility fracture admissions in the eastern region of Singapore were recurrent fractures with an average time to next fracture of less than two years. The majority of 2nd fractures were hip fractures and more than half had initially presented with a first hip fracture. Diagnosing osteoporosis with a first fragility fracture is critical to prevent recurrent fractures. A fracture liaison service may reduce fracture recurrence by timely initiation of anti-resorptive therapy and BMD testing.