



# Research Week 2022

## Inpatient administration of IV bisphosphonate therapy for treatment of osteoporosis in elderly hip fracture patients – A Quality Improvement Initiative

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### Abstract

#### Background

The American Academy of Orthopaedic Surgeons recommends that elderly patients who sustain a hip fracture should be evaluated and treated for osteoporosis. Despite research supporting the use of bisphosphonates for osteoporosis treatment and secondary fracture prevention in elderly patients, osteoporosis continues to be under-diagnosed and inadequately treated.

#### Purpose

Our quality improvement initiative aims to increase OHSU's rate of successfully implementing bisphosphonate therapy by developing and implementing an inpatient protocol facilitating appropriate osteoporosis diagnosis and administration of a one-time intravenous bisphosphonate infusion for elderly patients admitted for hip fracture surgery.

#### Methods

Patients  $\geq 50$  who presented to OHSU with a low-energy hip fracture and received surgical treatment were considered potential candidates for inpatient IV bisphosphonate therapy. We created a custom elderly hip fracture admission order set in Epic which prompts admitting services to order IV zoledronate on post-op day three. We identified patients using CPT and ICD codes. Through manual chart review, we assessed our primary outcome measure of inpatient IV zoledronate administration and process and balance measures.

#### Results

Upon retrospective data review during the 6 months prior to initiation of our protocol, no patients admitted to OHSU for hip fracture received inpatient IV bisphosphonates

and only 8% of patients were prescribed a bisphosphonate in the post-operative outpatient setting. To date, after initiation of our protocol, 42% of eligible patients received inpatient IV bisphosphonates after hip fracture surgery and 56% of patients were appropriately diagnosed with osteoporosis during their admission.

## Conclusion

Despite multiple clinical practice guidelines recommending the use of bisphosphonate therapy for osteoporosis treatment, there is poor compliance with these recommendations from prescribing providers. After implementation of our inpatient protocol, early data shows an increase in osteoporosis diagnosis and treatment for elderly hip fracture patients admitted to OHSU.