

How Effective are Radiologists at Recommending Bone Mineral Densitometry in Patients with Fragility Fractures?

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Hip fractures

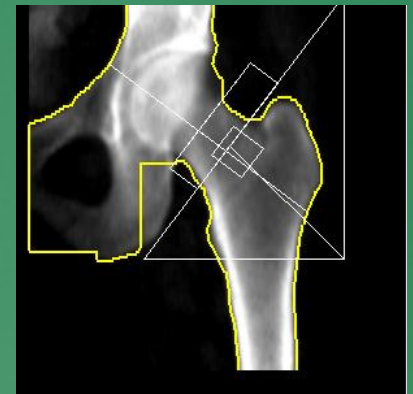
- One of the most common ER diagnoses made by radiology
- Hip fractures accounted for 30% of all US hospitalizations in 2003¹
- Risk of another fracture within one year is 5-10%²
- Significant preventable morbidity and mortality

1. Agency for Healthcare Research and Quality. Healthcare Cost and Utilization Project. www.ahrq.gov/data/hcup (August 01, 2007).

2. Papaioannou A, Wiktorowicz ME, Adachi JD, et al. Mortality, independence in living, and re-fracture, one year following hip fracture in Canadians, J SOGC 2000;22;591-7.

Bone mineral densitometry (BMD)

- Guidelines for recommendation are well established
- Plays important role in prognosis and management after fracture





ELSEVIER

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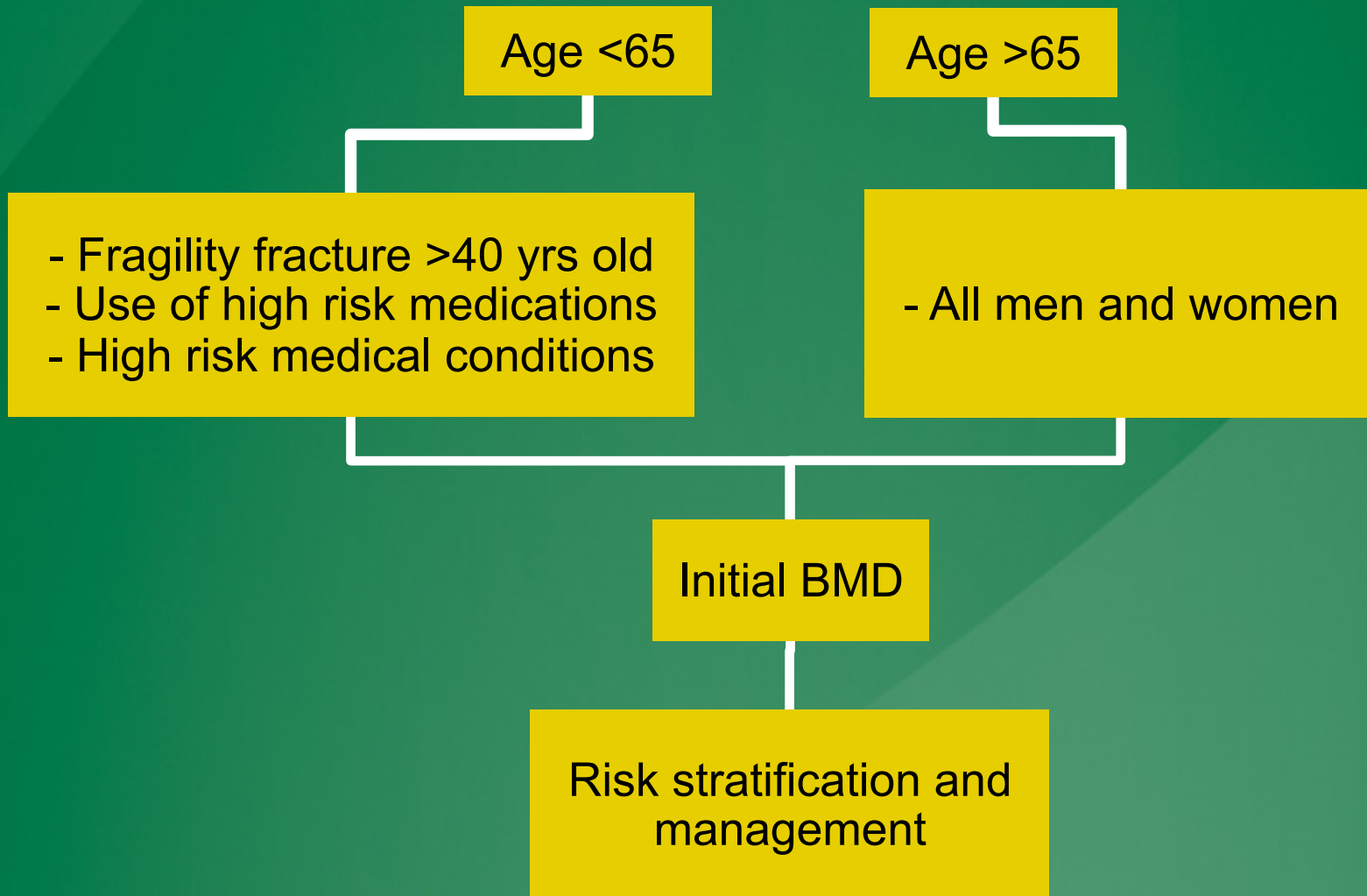
Health Policy and Practice / Santé: politique et pratique médicale

Osteoporosis Canada 2010 Guidelines for the Assessment of Fracture Risk

Suggest BMD after “major fragility fracture”

(ie. fracture of hip/spine/humerous/forearm after low energy mechanism such as fall from standing)

Current Standards of Care



Aim of Audit

Determine the rate of BMD recommendation
by radiologists reporting acute hip fractures in
at risk patients

Target 80% compliance

Cycle 1: Data Collection

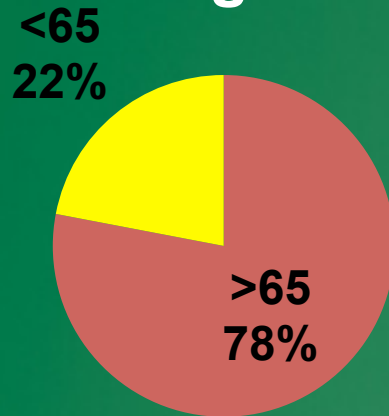
Retrospective search of imaging database at the University of Alberta Hospital (Nov 2012 – Feb 2013)

Inclusion criteria

- greater than 40 years old
- new proximal femur fracture
- low energy mechanism (or no mechanism stated)

Cycle 1 - Results

Age

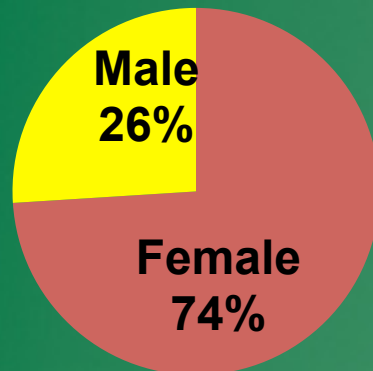


50 patients

- 78% >65 years old

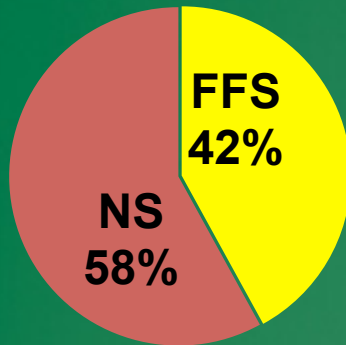
- 74% female

Gender



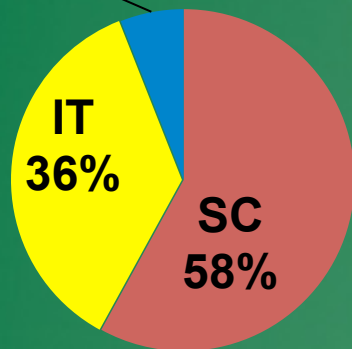
Cycle 1 - Results

Mechanism



- 42% fall from standing (FFS)
- 58% not specified (NS)

Fracture



- 36% intertrochanteric (IT)
- 58% subcapital (SC)
- 6% other

Cycle 1 - Results

- 10 fragility fractures in patients <65 years of age
- 8 reports noted findings of osteoporosis/osteopenia

Zero recommendations for BMD were made.

Suggestion

- Recommend initial BMD when a new diagnosis of hip fracture is made, especially in patients <65 years of age, except with history of high energy mechanism

Education

- departmental research day
- radiologist partnership meeting
- e-mail to division members

Facilitation

- standard macro placed in all dictation accounts

“If this patient has a mechanism in keeping with fragility fracture (fall from standing height or equivalent) then further workup for osteoporosis including bone mineral densitometry should be considered.”

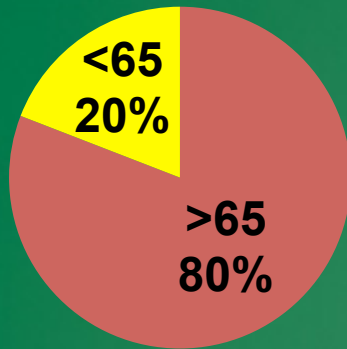
Retrospective search of imaging database at the University of Alberta Hospital (Aug 2013 – Dec 2013)

Inclusion criteria

- greater than 40 years old
- new proximal femur fracture
- low energy mechanism (or no mechanism stated)

Cycle 2 - Results

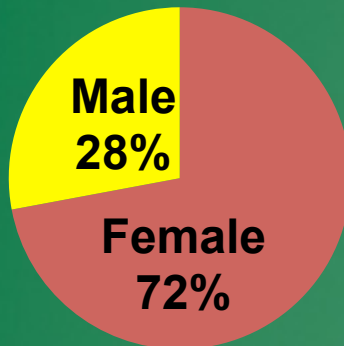
Age



68 patients

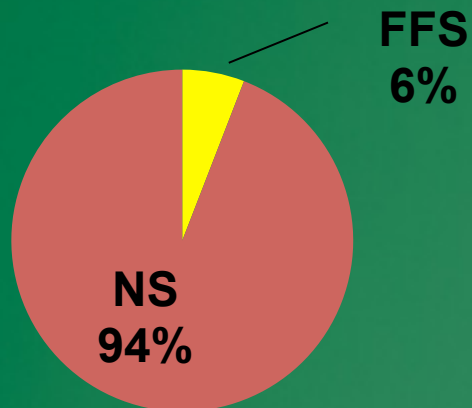
- 80% >65 years old
- 72% female

Gender



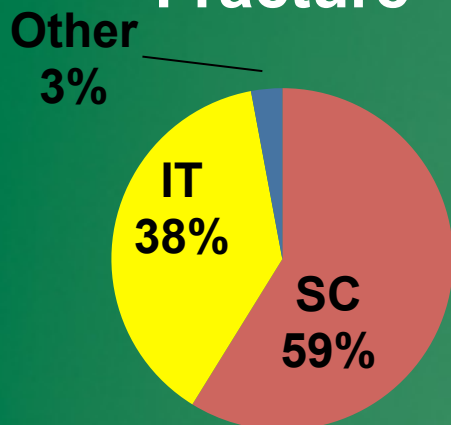
Cycle 2 - Results

Mechanism



- 6% fall from standing (FFS)
- 94% not specified (NS)

Fracture



- 38% intertrochanteric (IT)
- 59% subcapital (SC)
- 3% other

Cycle 2 - Results

- 13 fragility fractures in patients <65 years of age
- 9 reports noted findings of osteoporosis/osteopenia

Still **Zero** recommendations for BMD were made

Conclusion

Radiologists at our institution failed to recommend BMD despite indications to do so and educational interventions

Suspected obstacles

- lack of motivation
- inadequate education

Discussion

Action Plan

Strengthen motivation

Re-educate

Re-audit

Questions?