

OTB Symposium: resident involvement in osteoporosis

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Disclosures



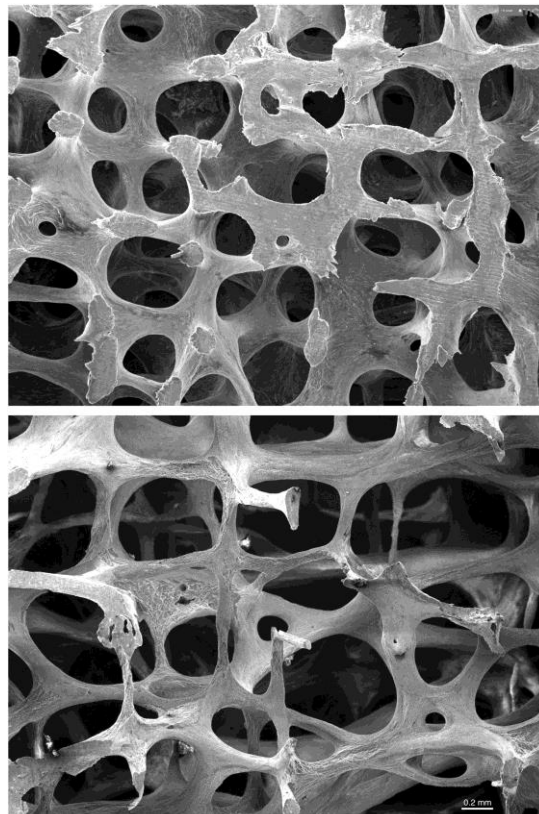
- Nothing to disclose

Objective



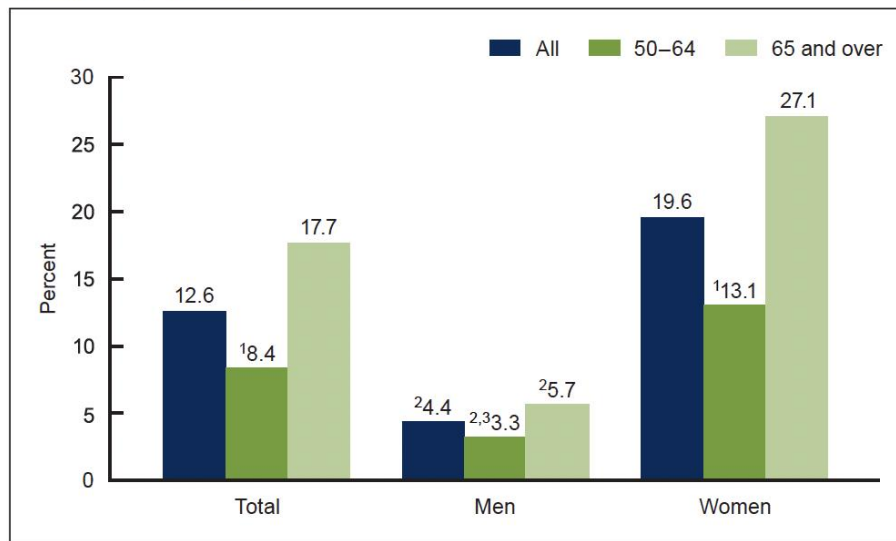
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- Discuss resident involvement in osteoporosis and bone health care.



Comparison of normal and osteoporotic bone architecture (3rd lumbar vertebrae). Marrow and other cells have been removed. Note the extensive pitting caused by osteoclasts in the osteoporotic bone (lower panel). © Tim Arnett, University College London (t.arnett@ucl.ac.uk)

Figure 1. Prevalence of osteoporosis among adults aged 50 and over, by sex and age: United States, 2017–2018



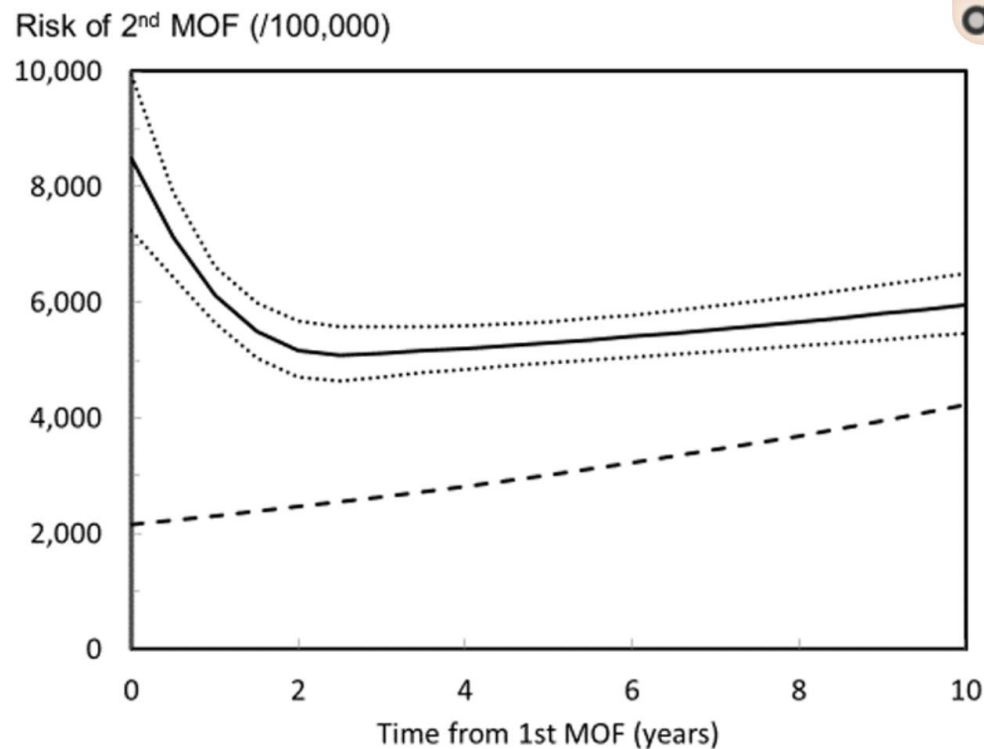
¹Significantly different from adults aged 65 and over.

²Significantly different from women.

³Estimate potentially unreliable due to relative confidence interval width greater than 130%.

NOTES: Osteoporosis is defined as occurring at the femur neck or lumbar spine or both. Estimates for adults aged 50 and over were age adjusted by the direct method to the 2000 U.S. Census population using age groups 50–64 and 65 and over. Crude estimates are 12.0% for total, 4.2% for men, and 18.8% for women. The age-adjusted prevalence of osteoporosis at the femur neck only is 6.3%, lumbar spine only is 4.3%, and both is 2.0%. Access data table for Figure 1 at: <https://www.cdc.gov/nchs/data/databriefs/db405-tables-508.pdf#1>.

SOURCE: National Center for Health Statistics, National Health and Nutrition Examination Survey, 2017–2018.



[3]

- Resident involvement – why?



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Metabolic Bone Disease

0.5-1.5%

Osteoporosis, vitamin D, diabetes, Paget's disease, hyperparathyroidism

*Must include at least one item

[return to table of contents](#)



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CLINICAL RESEARCH

A Resident-led Initiative Improves Screening and Treatment for Vitamin D Deficiency in Patients with Hip Fractures

**Drew A. Lansdown MD, Amanda Whitaker MD, Rosanna Wustrack MD,
Aenor Sawyer MD, Erik N. Hansen MD**

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Preoperative severe vitamin D deficiency is a significant independent risk factor for poorer functional outcome and quality of life 6 months after surgery for fragility hip fractures

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Abstract

Summary Hip fractures are common in the elderly, and many patients with hip fractures have low vitamin D levels. This study found that severe vitamin D deficiency is linked to poorer recovery of function and quality of life after hip fracture surgery.

Introduction Vitamin D deficiency is prevalent in hip fracture patients and associated with increased mortality and complications. However, there is limited long-term data on how vitamin D levels affect functional outcomes after hip fracture surgery. The aim of this study is to ascertain the association between vitamin D levels and recovery from hip surgery.

Methods Patients who underwent hip fracture surgery from January 2012 to December 2016 and had vitamin D levels assessed during admission were included. Retrospective analysis was performed on patients' demographic data such as age, gender and clinical parameters such as preoperative vitamin D, haemoglobin levels, Charlson Comorbidity Index (CCI), and type and site of surgery. Patients were divided according to four different vitamin D levels—severe vitamin D deficiency (≤ 10 ng/mL), mild deficiency (10–20 ng/mL), insufficiency (20–30 ng/mL), and normal (>30 ng/mL). Functional outcomes were measured by Harris Hip Score (HHS), Parker Mobility Score (PMS), and individual domains of 36-Item Short Form Health Survey (SF36). Univariate and multivariate analyses were conducted to examine the association between vitamin D deficiency and functional outcome scores.

Results Out of 664 patients identified, 9% had severe vitamin D deficiency and 39% mild deficiency. Patients with severe vitamin D deficiency had significantly poorer baseline and 6-month PMS and SF36 Physical Functioning (PF). In multivariate analysis, severe vitamin D deficiency was associated with lower 6-month PMS and SF36 PF.

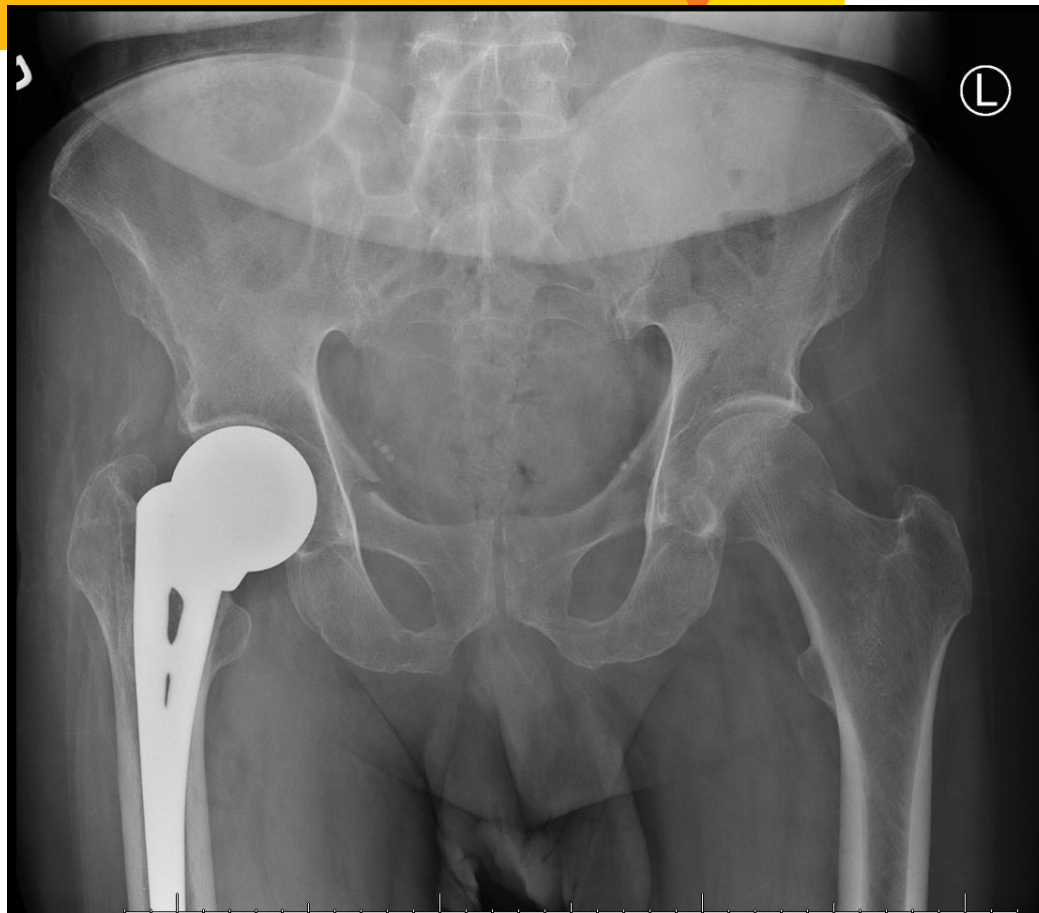
Conclusion Preoperative severe vitamin D deficiency is an independent risk factor for poorer recovery of function and quality of life after hip fracture surgery.

Keywords Functional outcome · Hip fracture · Vitamin D

A case



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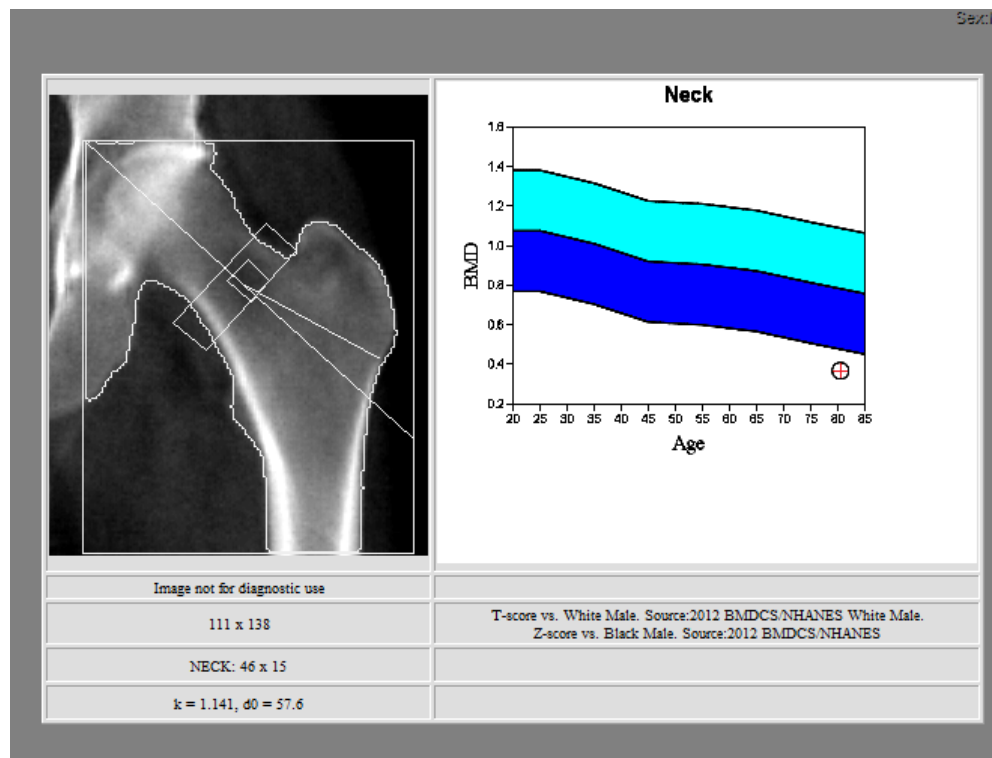
MISC CHEMISTRY

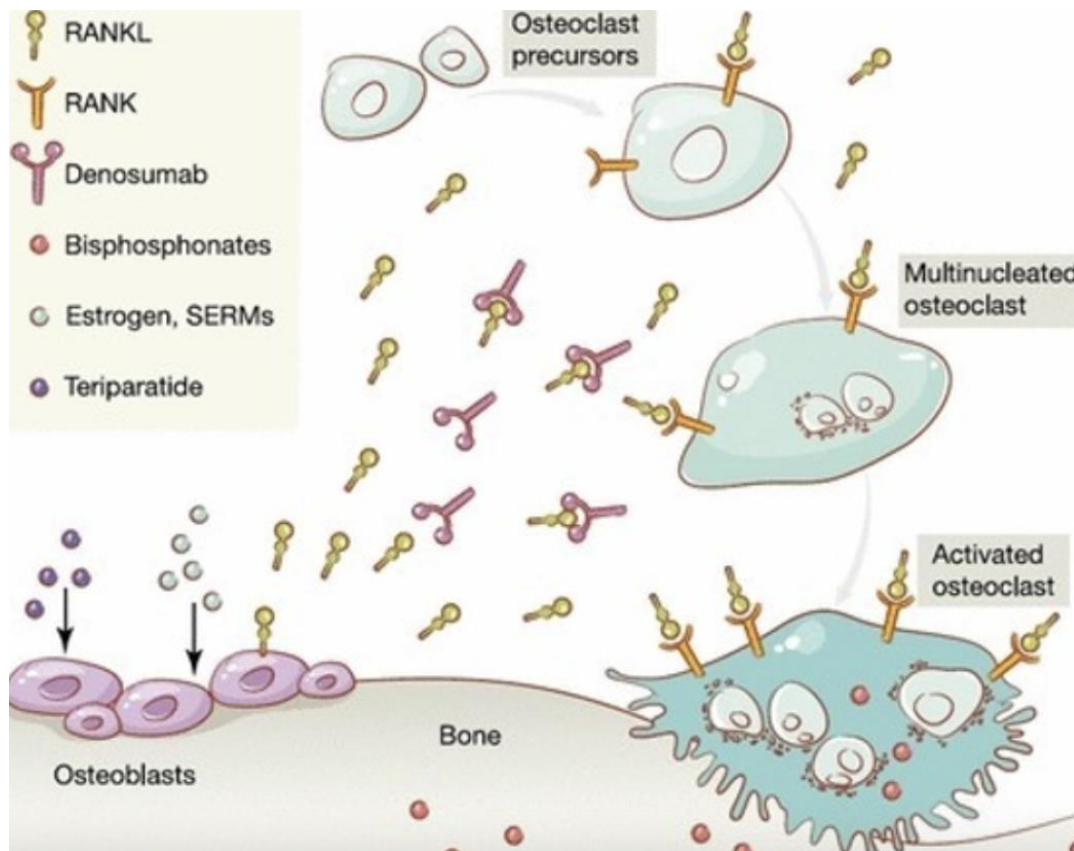
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<input type="checkbox"/> PTH Intact			
<input checked="" type="checkbox"/> Vitamin D, 25 OH			6.2 ng/mL * L
<input type="checkbox"/> N-Telopeptide, serum			

A case, continued



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A case, continued – 1 year later



Another case





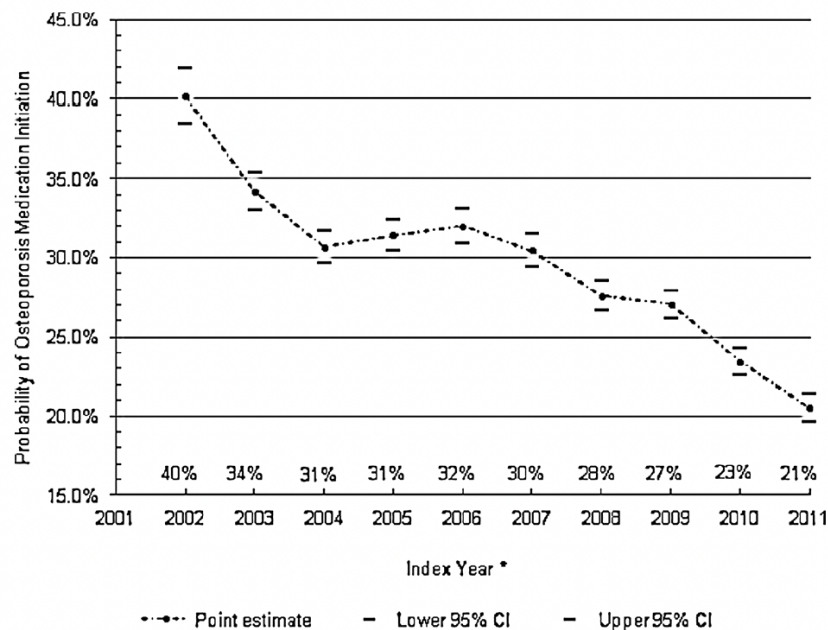


Fig. 2. Annual unadjusted probability of osteoporosis medication use within 12 months after discharge (Kaplan-Meier method).

- Education about osteoporosis needs to be part of the resident curricula
- Residents are a different generation than the attending physicians - we can do better!

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Any questions?

