Vitamin D Deficiency for the Orthopedic Trauma Surgeon

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Disclosures

- None

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Poll the Audience

- Know your Vit D level
- Check Vit D on patients as a pre-op lab
- Check Vit D on delayed unions/nonunions
- Initiate Treatment

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Improve/Increase

- Energy
- Mental Clarity
- Mood
- Respiratory Function
- Dermatitis
- Immune System
- Bone Healing/Strength

Decrease/Prevent

- Bone Pain
- Muscle Pain
- Muscle Weakness
- Mood Swings
- Psychotic breaks/episodes
- Aging
- High Blood Pressure
- **CANCER**
- Infertility
- Osteoporosis
- Fractures
- Falls

Your Don't Need Magic Just Vitamin D!

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Vitamin D Deficiency

- 1 billion worldwide
- 65% of Canadians
- 77% of Americans

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Vitamin D Metabolism

https://www.researchgate.net
http://www.healingtherapies.info/
http://www.jci.org/articles/view/294
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NIH Office of Dietary Supplements

Vitamin D

Fact Sheet for Health Professionals

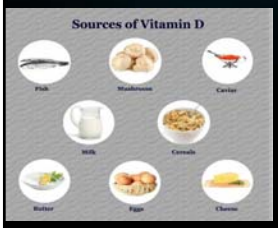
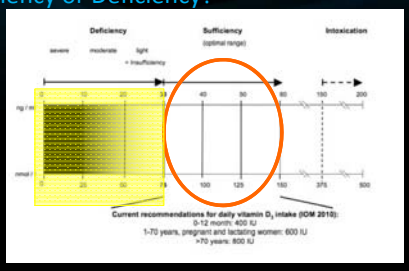


Table 2: Recommended Dietary Allowances (RDAs) for Vitamin D [1]

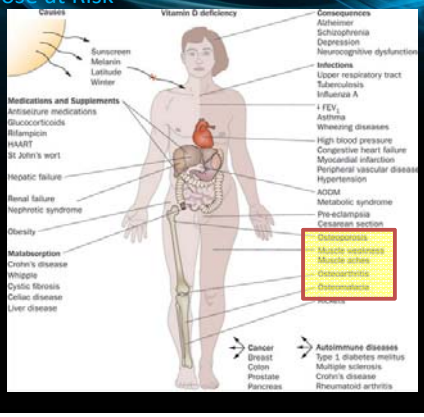
Age	Male	Female	Pregnancy	Lactation
0–12 months*	400 IU (10 mcg)	400 IU (10 mcg)		
1–13 years	600 IU (15 mcg)	600 IU (15 mcg)		
14–18 years	600 IU (15 mcg)	600 IU (15 mcg)	600 IU (15 mcg)	600 IU (15 mcg)
19–50 years	600 IU (15 mcg)	600 IU (15 mcg)	600 IU (15 mcg)	600 IU (15 mcg)
51–70 years	600 IU (15 mcg)	600 IU (15 mcg)		
>70 years	800 IU (20 mcg)	800 IU (20 mcg)		

* Adequate Intake (AI)

Insufficiency or Deficiency?



Whose at Risk



Why Should We Care?

- Low Vitamin D = Increased Risk of
  - Osteoporosis
  - Falls
  - Fracture Risk
  - Tibial Nonunions

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International Orthopaedics (SICOT) (2014) 38:1499–1504
DOI 10.1007/s00264-014-2338-6

ORIGINAL PAPER

Is there an association between periprosthetic joint infection and low vitamin D levels?

Gerrit Steffen Maier · Konstantin Horas · Jörn Bengt Seeger · Klaus Edgar Roth · Andreas Alois Kurth · Uwe Maus

Benjamin R. Childs, BS, Brendan A. Andres, and Heather A. Vallier, MD

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Who to Screen/ What Dose?

- No Consensus

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U.S. Preventive Services TASK FORCE

Population	Recommendation	Grade (What's This?)
Community-Dwelling Older Adults, Aged 65 Years or Older	The USPSTF recommends exercise or physical therapy and vitamin D supplementation to prevent falls in community-dwelling adults aged 65 years or older who are at increased risk for falls. No single recommended tool or brief approach can reliably identify older adults at increased risk for falls, but several reasonable and feasible approaches are available for primary care clinicians. See the Clinical Considerations section for additional information on risk assessment.	B

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Why

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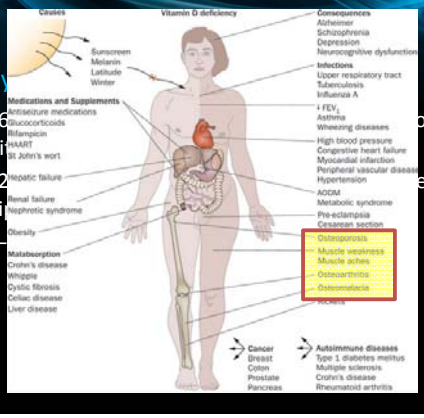

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What I recommend

- EVERYONE
  - Multivitamin
    - Most only have 200-500mg of Calcium
- Fragility Fracture, Over 65 &/OR Insufficiency (<30ng/mL)
  - 1200mg Ca
  - 1600 IU Vit D
- Deficiency (<20ng/mL)
  - ABOVE +
  - 50,000IU weekly x 8 weeks minimum

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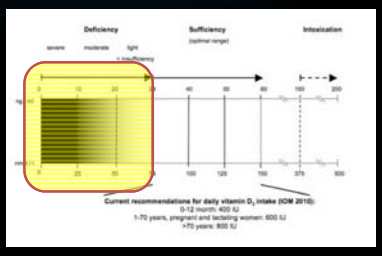
Who to Refer

- Anyone with documented insufficiency/deficiency



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Once Step Further

- Who Should Get DEXA?

Medicare.gov
The Official U.S. Government Site for Medicare

U.S. Preventive Services Task Force

All qualified people with Part B who are at risk for osteoporosis and meet one or more of these conditions:

- A woman whose doctor determines she's estrogen deficient and at risk for osteoporosis, based on her medical history and other findings
- A person whose X-rays show possible osteoporosis, osteopenia, or vertebral fractures
- A person taking prednisone or steroid-type drugs or is planning to begin this treatment
- A person who has been diagnosed with primary hyperparathyroidism
- A person who is being monitored to see if their osteoporosis drug therapy is working

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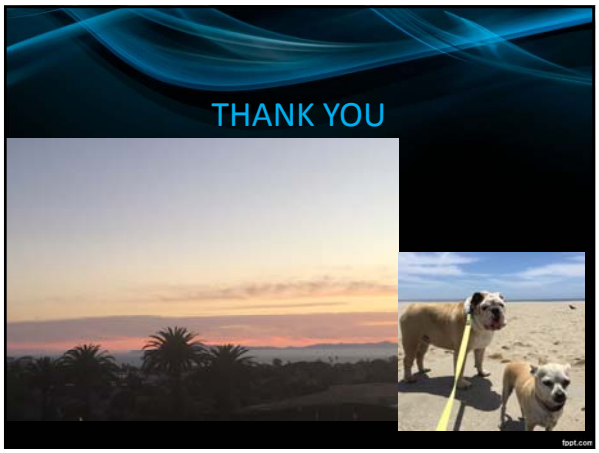
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