Vitamin D Deficiency for the Orthopedic Trauma Surgeon

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Disclosures
• None

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
**Magic Pill**

*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**

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Insufficiency or Deficiency?

Whose at Risk

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

<table>
<thead>
<tr>
<th>Age</th>
<th>Male</th>
<th>Female</th>
<th>Pregnancy</th>
<th>Lactation</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–6 mo</td>
<td>400 IU</td>
<td>400 IU</td>
<td>400 IU</td>
<td>400 IU</td>
</tr>
<tr>
<td>6 mo–2 years</td>
<td>200 IU</td>
<td>400 IU</td>
<td>400 IU</td>
<td>400 IU</td>
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<tr>
<td>2–5 years</td>
<td>600 IU</td>
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<tr>
<td>5–18 years</td>
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<td>19–50 years</td>
<td>600 IU</td>
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</tr>
<tr>
<td>51–70 years</td>
<td>800 IU</td>
<td>800 IU</td>
<td>800 IU</td>
<td>800 IU</td>
</tr>
<tr>
<td>&gt;70 years</td>
<td>1,000 IU</td>
<td>1,000 IU</td>
<td>1,000 IU</td>
<td>1,000 IU</td>
</tr>
</tbody>
</table>

*adequate intake (AI)*

Postmenopausal Women

African-Americans

Obese

Immunocompromised

Alcoholics/Cirrhosis

CKD/ESRD
Why Should We Care?

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

Who to Screen/ What Dose?

- No Consensus
Why

- 26% relative reduction in incidence of hip fracture
- 12% - 15% reduction for all fractures & 30% decrease in hip fractures (daily dose of Vit D 700–800 IU)

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
Who to Refer

- Anyone with documented insufficiency/deficiency

![Diagram]

Once Step Further

- Who Should Get DEXA?

![Image]

References

- Mow, T. S. (2015). Vitamin D insufficiency is to be vitamin D deficient: an exaggregating enough
- Uptodate.com Vitamin D Deficiency in Adults