



Glencoe Regional Health Services

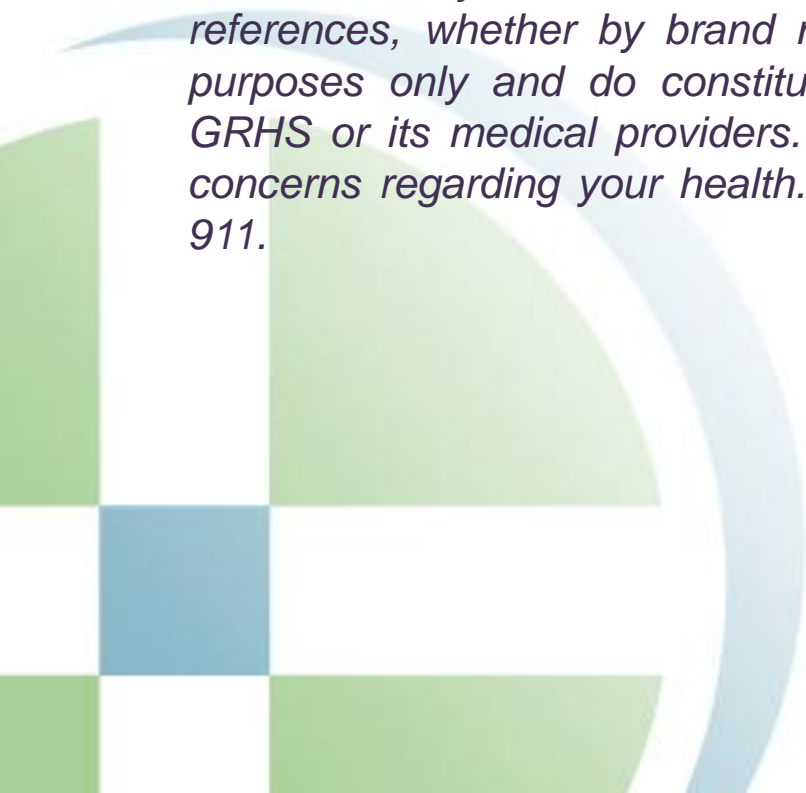
# Stand Up To Osteoporosis



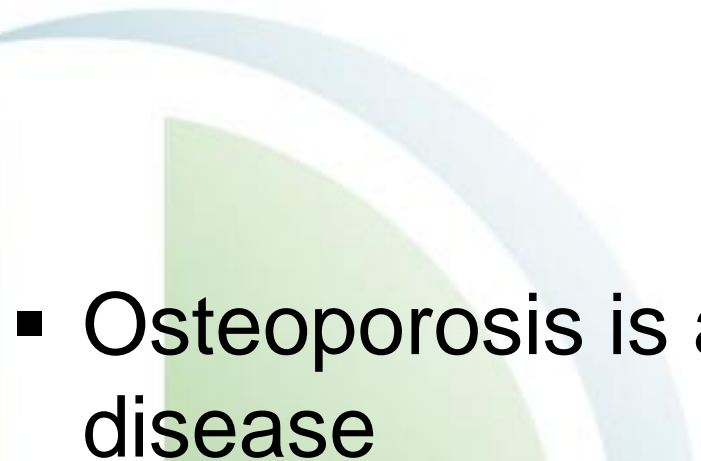
**Presented by:**  
**Laura Olson, BSN, MD**  
**April 19, 2010**

## Important Notice

*The information contained in this document is for informational purposes only. It is not intended to diagnose or treat specific patients and should not be used as a substitute for the medical care and advice of your health care provider. In addition, this document may contain references to specific products and/or medications. Such references, whether by brand name or generically, are provided for informational purposes only and do constitute endorsement, recommendation, or approval by GRHS or its medical providers. Always consult a medical professional if you have concerns regarding your health. If you are experiencing a medical emergency, dial 911.*




# Osteoporosis - Definition

- A skeletal disorder characterized by compromised bone strength predisposing to an increased risk of fracture
  - Osteoporosis is a chronic, progressive disease
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# Osteoporosis - Facts

\* One in two women over 50 years of age will experience an osteoporotic fracture in their remaining lifetime

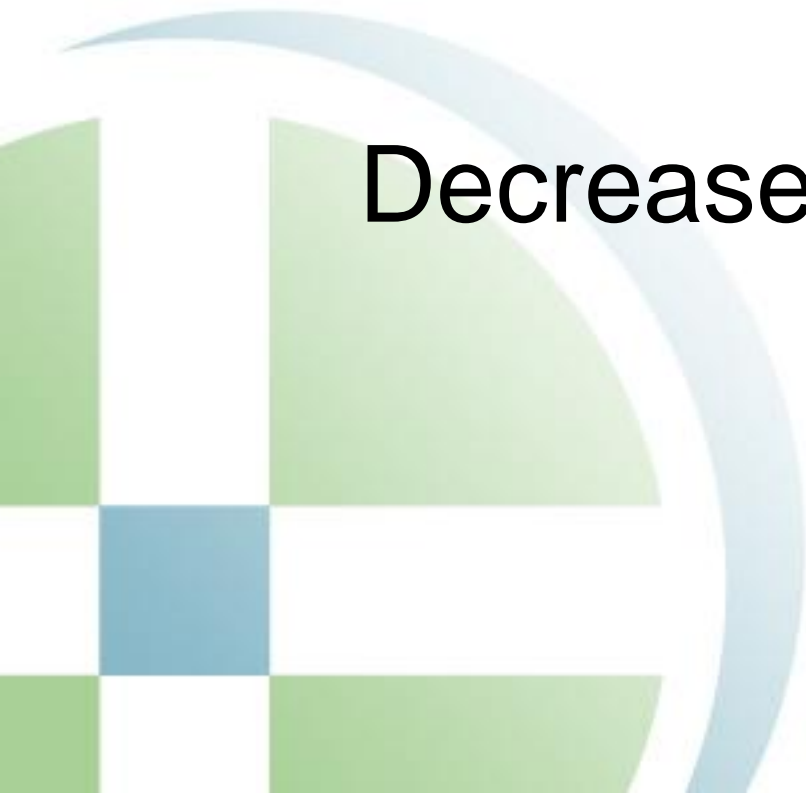


# The Goal

Fracture Prevention

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Decreased Risk Factors



# Fracture Risk Factors

1. Age
2. T-Score
3. Prior fracture after age 50
4. Steroid use
5. Parental history
6. Current smoking
7. Alcohol
8. RA
9. BMI less than 21
10. Low Calcium Intake
11. Low Vitamin D levels
12. Certain diseases

# Age

- Prediction over 10 years

Age 70 T-Score = -2.5 25%

Age 50 T-Score = -2.5 12%



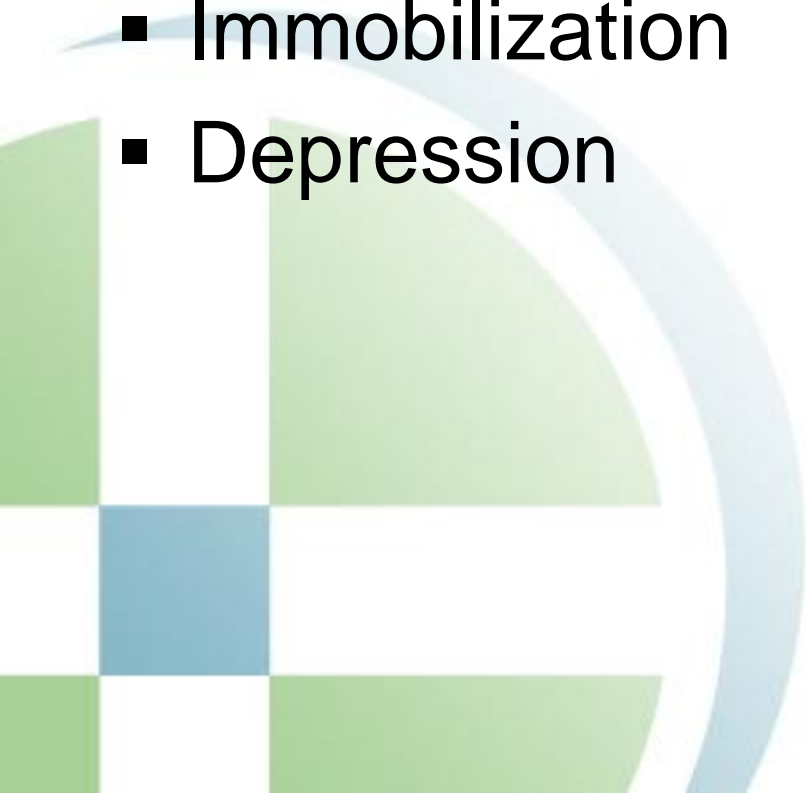
# Fractures - Fact

- \* Vertebral fractures are the most common and unrecognized fracture type. Measure height yearly after age 50

# Prevent Falls

- Change meds
- Correct vision and hearing
- Environmental changes
- Maximize strength balance and gait
- Assess fall risk . . .
  - Poor eyesight?
  - Poor hearing?
  - Poor balance?
  - Muscle weakness?

# Diseases that put you at risk

- Diabetes
  - Epilepsy
  - Immobilization
  - Depression
- 

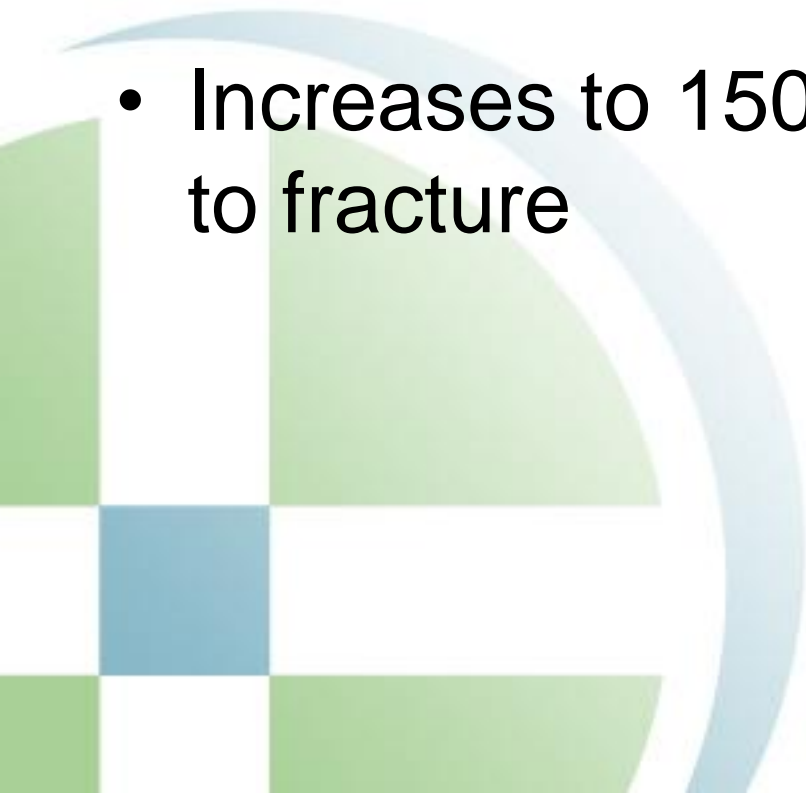
# Prevent Osteoporosis

1. Increase Calcium intake
2. Increase Vitamin D levels



# Calcium – Recommendations

- National Osteoporosis Foundation recommends 1200 MG of Calcium/day
- Increases to 1500 MG/day if high risk prior to fracture



# Calcium - Sources

- 3 servings of dairy each day . . .
    - Milk
    - Cheese
    - Yogurt
  - Other sources are . . .
    - Broccoli
    - Salmon
    - Supplements
    - \* Orange Juice
- 

**DAIRY MAKES SENSE**



of your daily calcium in one  
8 ounce glass of milk

**That's nutrition  
you can bank on.**

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**DAIRY MAKES SENSE**



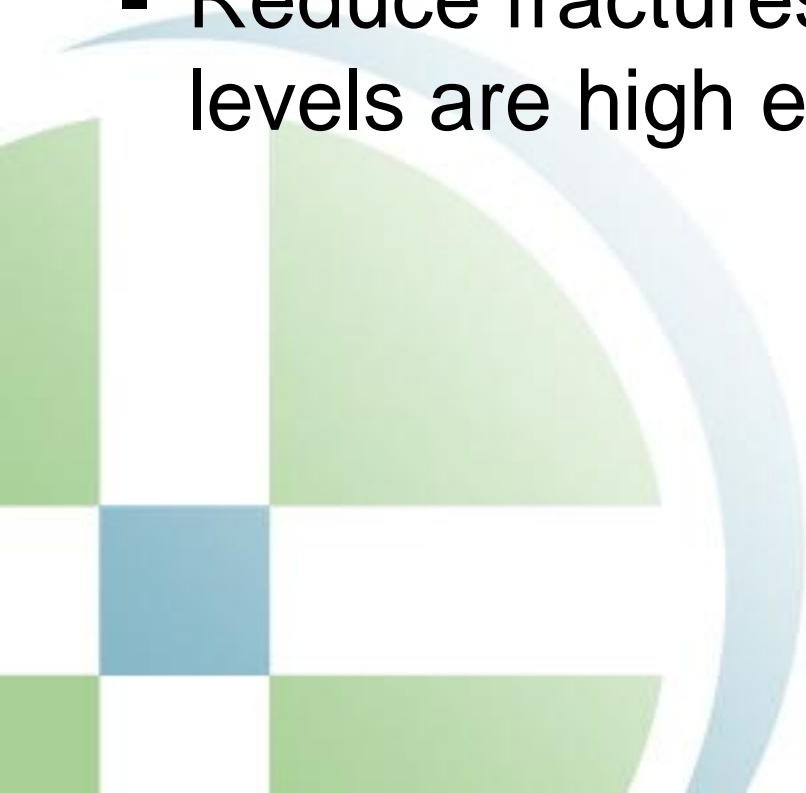
of your daily calcium needs  
in one cup of yogurt.  
That's nutrition you can bank on.

[dairymakesense.com](http://dairymakesense.com)



# Vitamin D - Benefits

- Helps regulate calcium absorption
- Reduce fractures by 50% when Vitamin D levels are high enough



# Vitamin D - Facts

\* Due to rickets in the early 20<sup>th</sup> Century, Milk has been fortified with Vitamin D since the 1930's

\* Vitamin D deficiency is common in Minnesota

# Vitamin D - Recommendations

- 400 IU/day based on 1 teaspoon cod liver oil measured by 25 (OH) Vitamin D
- Levels
  - < 20 mg/ml = Deficiency
  - 20-30 mg/ml = Insufficiency
  - 30+ mg/ml = Needed to optimize Calcium absorption
  - > 32 mg/ml = Decreases Colon Cancer risk
  - > 52 mg/ml = Decreases Breast Cancer Risk
  - 50-70 mg/ml = Assumed goal “Natural Level”

# Vitamin D - Sources

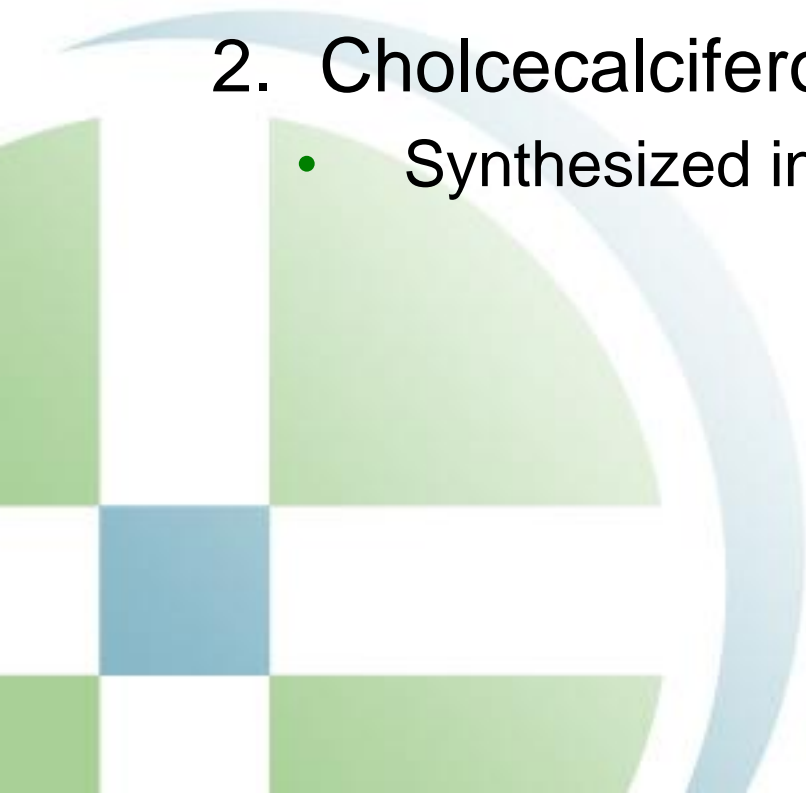
- 2 sources

1. Ergocalciferol (D2)

- Diet

2. Cholecalciferol (D3)

- Synthesized in the skin from the sun



# Vitamin D – Risk Factors

- Low sun exposure

- 20 minutes in summer midday sun = 10,000-20,000 IU Vitamin D
- Sunscreen at SPF 8 decreases Vitamin D by 95%
- At 42° latitude (Chicago), no Vitamin D synthesis November – February due to low angle of the sun



# Vitamin D – Risk Factors

- Medical Conditions

- Anorexia

- Obesity

- Vitamin D is stored in fat and does not have bioavailability

- Medications

- Anti-Seizure
- Steroids

- Ethnicity

- African descent > Hispanic
- Hispanic > Caucasian

# Vitamin D – Research

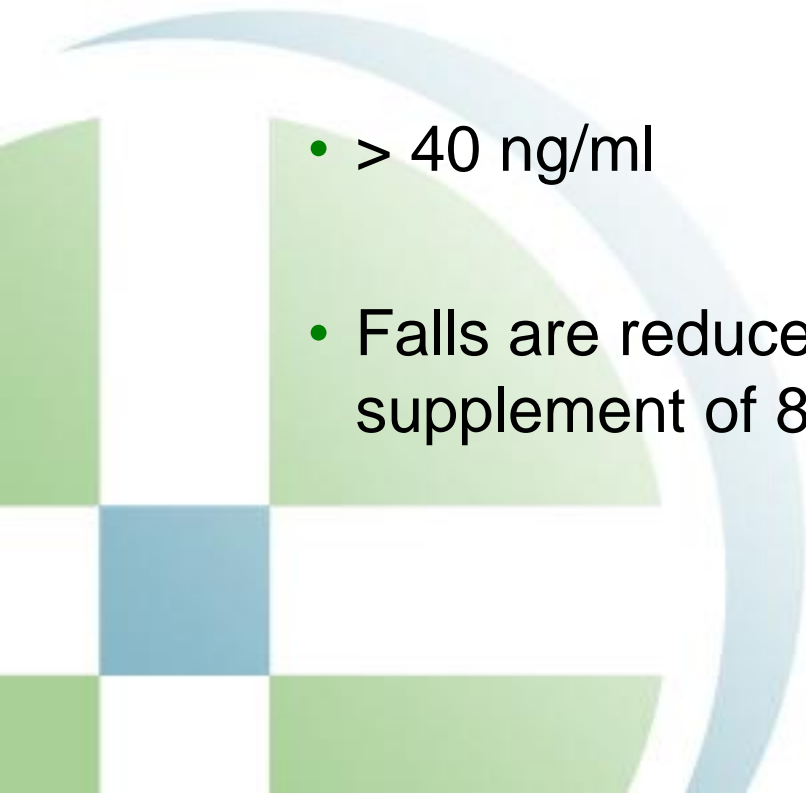
- Increases

- Muscle strength

- Decreased falls from proximal muscle strength

- > 40 ng/ml

- Falls are reduced in some trials > 50% with supplement of 800 IU/day



# Vitamin D – Research

- Decreases
  - Osteoporosis
    - 400 IU/day still not adequate
  - Cancer
    - Nebraska study showed decreased by 35%
    - 50% if levels > 30
  - Bone pain
  - Breast and colon cancer
  - Diabetes
  - MS
  - Depression
  - HTN

# Vitamin D - Replacement

- 50,000 IU of D2 weekly for 2-4 months



# Vitamin D - Supplement

- 700-10,000 IU/day only brought 50% of patients up to 36-40 ng/ml
- Probably required up to 2,000 IU/day



# Vitamin D – Food Sources

- Salmon (3oz.) 340 IU
  - Tuna (3 oz.) 150 IU
  - Milk (8 oz.) 100 IU
  - Yogurt (1 cup) 100 IU
  - Cod Liver Oil (1 tsp.) 400 IU
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**Questions?**



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**The End**

*Thanks for coming!*