

## Healthy bones start in childhood

### Did you know?

- 99% of calcium in the body is found in bones and teeth.
- Calcium is needed for strong bones
- Have you heard about Peak Bone Mass?
- Peak Bone Mass is when you have the most bone and strongest bone in your lifetime
- Peak Bone Mass happens between 16-25 years of age
- Someone with a high Peak Bone Mass will have strong bones
- To have strong bone you need to have enough calcium, vitamin D and physical activity

### Do you

- Shun the sun?
- Use sunscreen?
- Have milk allergies?
- Eat only vegetarian?
- Breastfeed your baby?
- Drink a lot of soda?
- Have dark skin?
- Take medications that block vitamin D from being made?
- Have a high body weight?



**Pediatric Orthopaedic Society of North America (POSNA)**

#### **Bone Health Study Group**

Make sure to visit our website for more helpful tips.

[www.orthokids.org](http://www.orthokids.org)

Visit Orthokids.org → Health and Fitness → Vitamin D & calcium for good bone health



Pediatric Bone Health Study Group  
wishes you strong bones for life

## Vitamin D and Calcium

*Work hand in hand to promote Bone Health*



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## Facts:

- Vitamin D deficiency is increasing in the United States
- Vitamin D is made by your skin when you spend time in the sun: You need at least 10-20 minutes, 2-3x a week, including face, hands, and arms (Darker skin needs more time)
- Vitamin D may help protect against different cancers, asthma and allergies
- Vitamin D toxicity is rare but very high doses of vitamin D and calcium can cause kidney stones or hypercalcemia

### Vitamin D and calcium deficiency can cause:

- Bone Pain
- Muscle weakness and spasms
- Bone deformity (bending bones)
- Fractures
- Fatigue/Depression

### Where can I get Calcium?

- Milk (300 mg in 1 cup)
- Soy beverages (98 mg in 1 cup)
- Yogurt (290 mg in 3/4 cup)
- Orange Juice fortified with calcium (350 mg 1cup)
- Cheese (1 piece = 200 mg)
- Cottage cheese (156 mg in 1 cup)
- Almonds (93 mg in 1/4 cup)
- Green vegetables: calcium present but can't be used well in the body
- Tofu (347 mg in 150 g)
- White beans (119 mg in 3/4 cup)

### Where can I get Vitamin D?

- 90% should come from sunlight. You need sun like a flower.
- Vitamin D is found in small amounts in food, which is too little for most people
- Vitamin D supplements

• Ask your doctor about your bone health

• You may need extra calcium or vitamin D

• To have strong bones, you need both calcium and vitamin D.

• Without enough Vitamin D, only 10-15% of calcium from your diet can be used in your body

## How much do I need?

### USDA RECOMMENDED DAILY INTAKE

#### Calcium

0-12 months	250 mg/day
1-3 years	700 mg/day
4-8 years	800 mg/day
9-18 years	1,300 mg/day
≥19 years	1,000mg/day

#### Vitamin D3 (International Units: IU)

*Helpful recommendation based on Endocrine Society guidelines*

#### By Age

0-1 year	400 IU/day
1-8 years	600-1000 IU/day
9-13 years	1,000-2,000 IU/day
14-18 years	1,500-2,000 IU/day
Adults	2,000 IU/day

### What do Vitamin D lab values mean (Vitamin D 25 hydroxy)?

Vitamin D Deficient	< 20 ng/ml
Vitamin D Insufficient	20-29 ng/ml
Vitamin D Normal	30-100 ng/ml

*The Endocrine Society considers the optimal range for Vitamin D to be 40-60 ng/ml*