



Eating for Bone Health

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The Importance of Bones

- Provides structure to the body
- Protects vital organs from injury
- Gives muscles something to anchor to
 - Muscle weakness can also cause bone weakening
- Helps regulate hormones
 - Calcium and phosphorus levels
- Acts as a storehouse for minerals



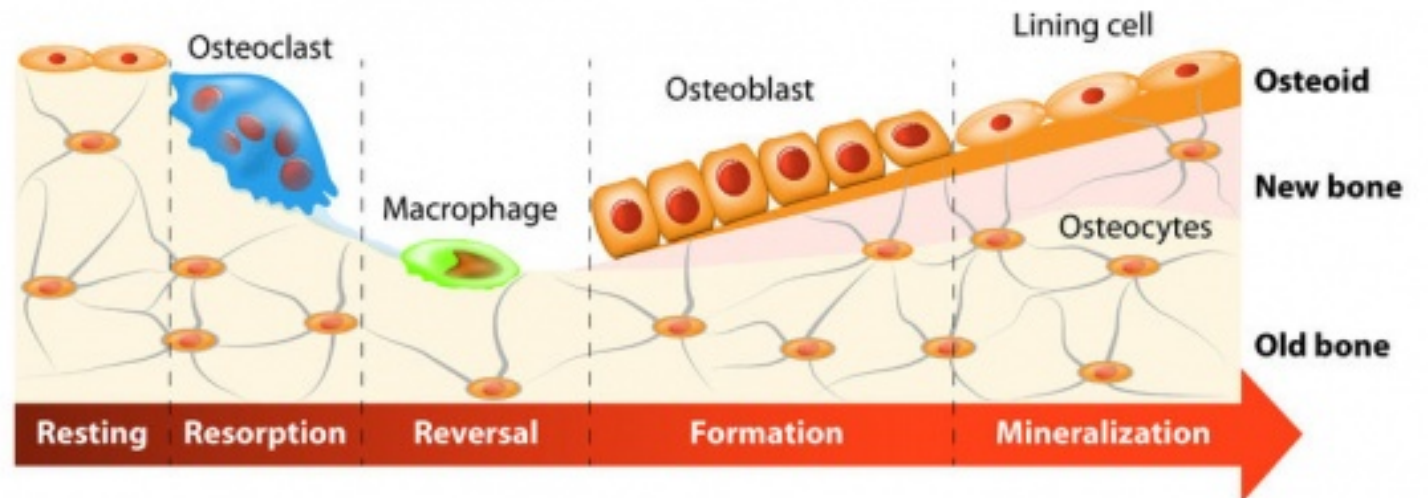
Why is Bone Health Important?

- Did you know that your bones are continuously being broken down and then rebuilt?
- This process is called bone remodeling
- When you are younger, your body is more efficient at building bone versus breaking the bone down.
- Around 30 years of age, you hit peak bone mass, from there your body slowly becomes less efficient at building bone
 - Your body will start breaking down more bone than it builds

Bone Remodeling



The bone remodelling process





Why is Bone Health Important?

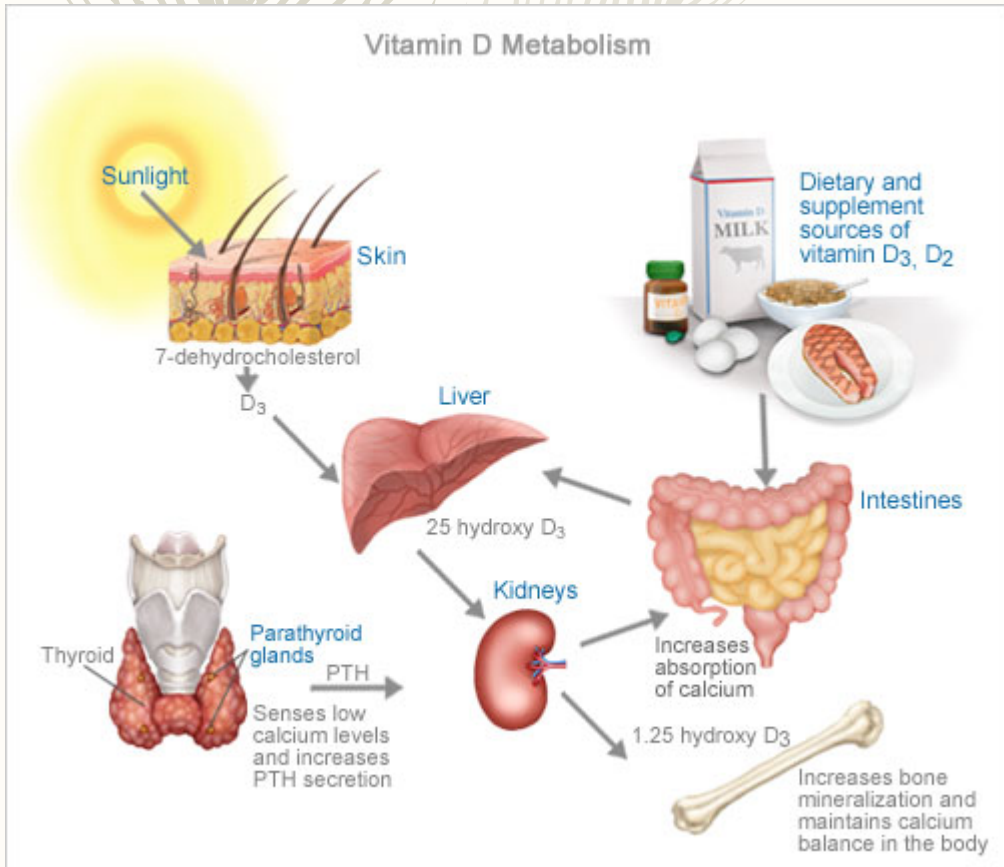
- As you age, your body breaks down the bone and you begin to lose bone mass
- Eating to support optimum bone remodeling and bone mass is crucial to lower the risk of osteoporosis, osteopenia, and unwanted fractures
- Osteoporosis - a medical condition in which the bones become brittle and fragile from loss of tissue, typically as a result of hormonal changes, or deficiency of calcium or vitamin D.
- Osteopenia - reduced bone mass of lesser severity than osteoporosis.



Important Nutrients for Bone Health

- Vitamin D
- Calcium
- Magnesium
- Protein

Vitamin D



- Vitamin D is a hormone that can be produced from sunlight as well as a fat soluble vitamin you get from some foods
- Vitamin D helps your body absorb Calcium
 - If you eat enough Calcium, but remain deficient in Vitamin D, bone mass will go down
- Vitamin D recommendations:
 - Under 50 – 400 to 800 IUs
 - Over 50 – 800 to 1,000 IUs
- Good sources of Vitamin D include dairy, egg yolk, salmon, mackerel



Calcium

- Calcium is a mineral
- Required to create more bone and maintain healthy bone tissue
- Helps muscles contract and blood to clot
- 99% of the Calcium found in your body is stored in bones and teeth
- If there is not enough Calcium in the diet, your body begins to break down bones to create the amount it needs
 - This leads to weak and fragile bones
- Calcium recommendations
 - Under 50 – 1,000 mg daily
 - Over 50 – 1,200 mg daily



Calcium

- Good sources of Calcium include

- Dark leafy greens

- Broccoli

- Soy beans

- Figs

- Oranges

- Canned fish

- Dairy

- *Yogurt*

- *Cheese*

- *Milk*



Magnesium

- Magnesium
 - Acts as a structural component of bones
 - Helps to regulate calcium and Vitamin D levels
 - Main storage for magnesium is in the bones and teeth
 - Recommended daily amount:
 - *over 30 years old*
 - Females – 320 mg
 - Males – 420 mg
 - Good sources: whole grains, green leafy vegetables, nuts



Protein

- Protein is vital for muscle building and prevention of muscle loss
- As we age, muscles begin to break down. Maintaining healthy muscle has been found to help slow bone density break down
- Maintaining strong, supporting muscle also helps in lowering of injury and potential fractures
- Suggested to spread your protein intake throughout the day
 - 20-30 grams per meal
 - 3 oz of chicken breast has 21 grams of protein



Foods to Support Bone Health

- Dark leafy greens
 - 1 cup cooked collard greens has 200 mg Calcium and Vitamin K
- Vitamin C
 - 1 medium grapefruit has 88 mg of Vitamin C and been linked to lower osteoporosis risk
- Fresh figs
 - 5 fresh figs have 90 mg of Ca and other important nutrients
- Canned fish
 - Soft small bones are not removed during the canning process and are a great source of Calcium



Foods to Support Bone Health

- Almonds
 - Almonds have 111 mg of Ca and has been linked to lower risk of osteoporosis
- Plums
 - Eating prunes, or dried plums, daily has been linked to slowing down the breakdown of bones
- Omega 3 fatty acids
 - Studies have found foods high in these fatty acids have bone boosting benefits.
 - Includes olive oil, blueberries, fish oil, flaxseed oil



Foods to watch

- Salty foods
 - High salt foods have been found to inhibit calcium absorption and lead to bone loss.
 - Avoid highly processed foods, packaged foods, canned foods, etc
- Sodas
 - Sodas are high in phosphorus, high phosphorus intake has been linked to lower calcium absorption
 - *This results in bone loss*
 - The carbonation in sodas can also lower bone density
- Caffeine
 - Caffeine in coffee, teas, sodas, etc can interfere with calcium absorption and lead to bone weakening



Conclusions

- Your bones are a vital part of your body
 - They help maintain hormone homeostasis
 - They support and protect your organs and body
- Eating a varied diet high in nutrient-dense foods is crucial for bone health
 - Whole grains, fruits, vegetables, dairy, lean proteins
- If you have a family history of low bone density, there are foods you can include in your diet to promote bone health