



The Bread and Butter Behind Bone Health



FAMILY HEALTH CENTER

MANAGED BY



- Why bone health is important
- Nutrients that support bone health
- Food sources
- Supplementation
- Bone health throughout the life stages
- How to apply in your everyday lifestyle



The human body is made of 206 bones

By about age 35, people reach their peak bone mass.

Bones stop growing in length during puberty

**BONES!
BONES!
BONES!**

Babies are born with 300 bones

Bones are strong, but teeth are stronger

Bones are made up of calcium, phosphorus, sodium, and other minerals

There are 26 bones in the human foot

**FACTS YOU
DIDN'T KNOW**

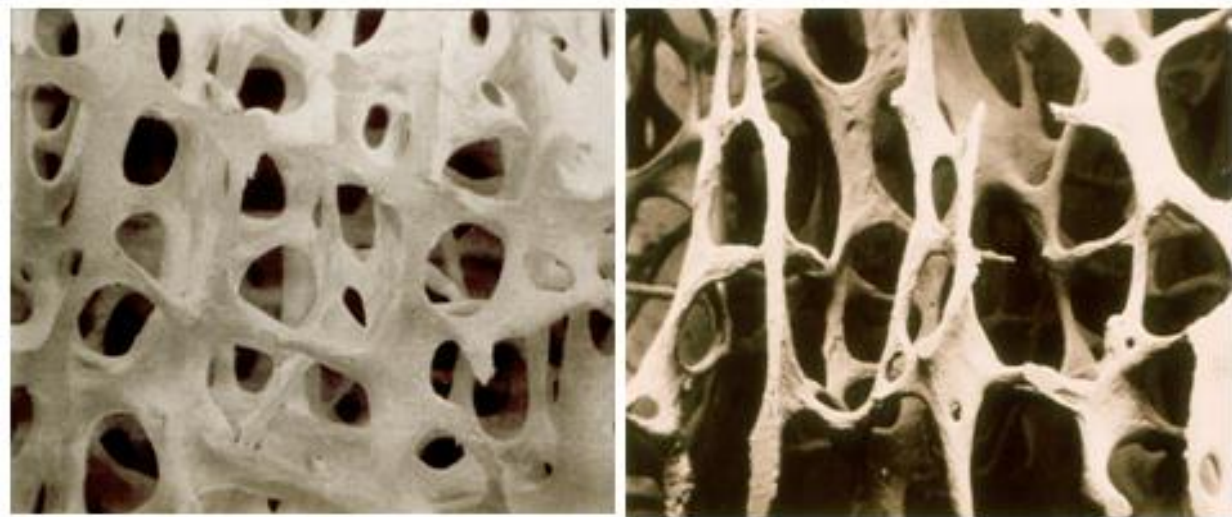
- Our bones support us and allow us to move
- Bones keep us on our feet (literally!)
- Bones protect our brain, heart and other organs
- Prevent osteoporosis and other bone-related diseases
- Moving is fun!



- Weight bearing exercises
- At least 30 minutes, at least 3-4 days per week
- Wear a weighted vest or use hand weights during exercise
- Eat foods rich in bone nourishing nutrients (more on that later!)



- "Porous bone"
- Silent disease-often not noticed until a bone breaks
- Weakens the bones to the point where they break easily
- Bone mass stops increasing around 30
- Osteoporosis is often not noticed until after age 50



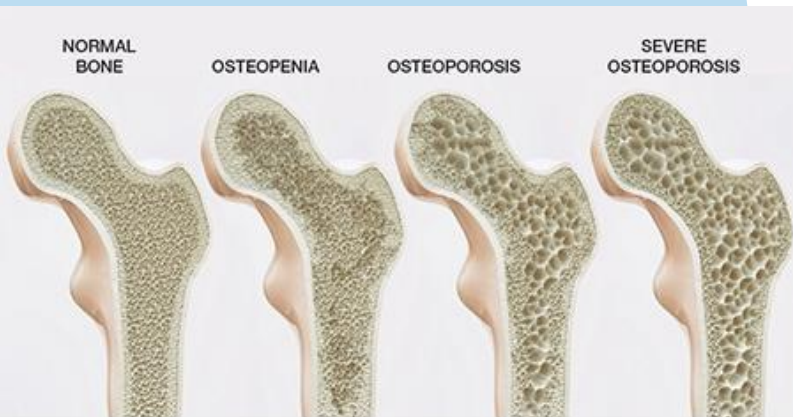
Healthy bone

Osteoporotic bone

**Bone health goal:
keep as much bone
as possible for as
long as you can!**

Factors you **CANNOT** control:

- Age
- Female
- Ethnicity-White or Asian
- Family history
- Small body frame



Factors that you **CAN** control

- Smoker
- Alcohol
- Inadequate calcium and/or vitamin D
- Certain medications
- Extended bed rest or physically inactive
- **Osteopenia** (low bone mass)

Factors that lead to Vitamin D deficiency:

- Age
- Mobility (lack of time outside)
- Skin color
- Human breast milk
- Certain medications

Did you know? D3, or cholecalciferol, is the most absorbable form of vitamin D in supplement form

Vitamin D is best absorbed with a fat source. So, take your supplement with a meal!

Factors that lead to Calcium deficiency:

- Poor intake over a long period of time
- Certain medications
- Dietary intolerance to calcium-rich foods
- Hormonal changes

Calcium citrate is the best option for calcium absorption!

Nutrient	Sources	Amount per day*
Vitamin D	Fatty fish, fortified foods, egg yolks, some mushrooms (chantarelle, portabella, maitake)	600 IU*



Food	Serving	Vitamin D (IU)
Maitake mushrooms, raw	1 cup, diced	786
Portabella mushrooms, grilled	1 cup, sliced	634
Soy milk, original, fortified with vitamin D	8 oz	120*
Milk, low-fat, fortified with vitamin D	8 oz	117*
Chanterelle mushrooms, raw	1 cup	114
Orange juice, fortified with 25% of the DV for vitamin D	8 oz	100*
Cheese, American, fortified with vitamin D	1 oz	85
Yogurt, fortified with 20% of the DV for vitamin D	6 ounces	80*
Egg	1 whole, medium	41
Ready-to-eat cereal, fortified with 10% of the DV for vitamin D	¼ - 1 cup	40*
Oyster mushrooms, raw	1 cup, sliced	25
Cheese, Swiss	1 oz	6

*More heavily fortified products provide more of the RDA. Check product labels as amount of added vitamin D can vary. All nutritional information from USDA National Nutrient Database for Standard Reference or manufacturer labeling. Note: Sensible exposure to sun is an important source of vitamin D.

Nutrient	Sources	Amount per day*
Calcium	Dairy, fortified foods, sardines/canned salmon, dark green vegetables, seeds, almonds	1200 mg



- Calcium-fortified foods are a good option for people who don't like or can't tolerate dairy products. But they are more like supplements than natural sources of calcium.
- High doses of supplemental calcium increase the risk of certain kinds of kidney stones.

Nutrient	Sources	Amount per day*
Magnesium	Green vegetables, seeds, nuts, legumes, whole grains, avocado, Chocolate, green leafy vegetables (such as spinach), legumes, milk, yogurt and milk products, nuts, seeds, and hard water. It is added to some fortified breakfast cereals and foods.	400-420 mg men 310-320 mg women*



Nutrient	Sources	Amount per day*
Phosphorus	Soybeans, fish, meat, eggs, whole grains, cereals, dairy products, eggs, fish, meat, poultry, legumes (lentils, kidney beans, peas), nuts, and grains (bread, tortillas, brown rice, oatmeal), and vegetables such as potatoes and asparagus.	700 mg



Nutrient	Sources	Amount per day*
Boron	almonds, apples, avocados, bananas, broccoli, celery, pears, grape juice, legumes (peanuts, beans, green peas), nuts, peaches, potatoes, prune juice, raisins, and tomatoes.	1 to 13 milligrams



Nutrient	Sources	Amount per day*
Copper	Avocados, chickpeas (hummus), nuts (cashews), mushrooms, beef liver, oysters, potatoes, wheat-bran cereals, whole grains, tofu, and chocolate.	1100 mcg women 1400 mcg men



Nutrient	Sources	Amount per day*
Potassium	Fruits, vegetables, scallops, beans, whole grains, avocados, bananas, beans, broccoli, cereals, dried apricots, lentils, milk and yogurt, nuts, soybeans, orange juice, prunes, raisins, spinach, and tomatoes.	3500-4700 mg



Nutrient	Sources	Amount per day*
Zinc	Sweet potato, beef liver, spinach, carrots, cantaloupe, mangos, fortified foods, eggs, beans, eggs, fortified cereals, legumes, milk and dairy products, red meat, poultry, fish and seafood (crab, lobsters, oysters), and whole grains.	8 mg women 11 mg men 2-8 mg children



Nutrient	Sources	Amount per day*
Vitamin A	Sweet potato, beef liver, salmon, spinach, carrots, cantaloupe, mangos, fortified foods (cereals, margarine, dairy), eggs	700-900 micrograms



Nutrient	Sources	Amount per day*
Vitamin K	Kale, greens, spinach, broccoli, brussels sprouts, beef liver, green beans, prunes, kiwi, soybean oil, hard cheeses, avocado, green peas, parsley, cabbage	90 mcg women 120 mcg men



If Vitamin K2 wasn't there to pick up where Vitamin D leaves off, you'd have rampant calcium traveling through the blood stream potentially causing mischief

Centrum WOMEN

Centrum Women is specially formulated to help support the health needs of women and their demanding lifestyle!

Directions for use

Take one tablet daily with water, preferably with food. Do not exceed the recommended daily dose. A healthy lifestyle and a varied and balanced diet are important. This product should not be used as a substitute for a varied diet and a healthy lifestyle. If taking other supplements, please read the label, since they may contain the same ingredients. Suitable for adult women. This product is not suitable for pregnant or breast feeding women.

Store out of sight and reach of young children.

Store dry and not above 25° C. Always replace lid after use. For best before date, see side of carton. The container inside this pack is sealed for your safety. Do not use if the foil is broken. Free from azo-dyes, gluten and wheat.

RDA = Recommended Daily Allowance

Each tablet contains	Quantity	% RDA
Vitamin A (RE) (25% as Beta-Carotene)	667 µg	83 %
Vitamin E (α-TE)	16 mg	133 %
Vitamin C	120 mg	150 %
Vitamin K	24.5 µg	33 %
Vitamin B1	1.32 mg	120 %
Vitamin B2	2.1 mg	150 %
Vitamin B6	1.75 mg	125 %
Vitamin B12	3 µg	120 %
Vitamin D	5 µg	100 %
Biotin	62.5 µg	125 %
Folic Acid	300 µg	150 %
Niacin (NE)	16 mg	100 %
Pantothenic Acid	7.5 mg	125 %
Calcium	320 mg	40 %
Phosphorus	105 mg	15 %
Magnesium	100 mg	27 %
Iron	5 mg	36 %
Iodine	100 µg	67 %
Copper	500 µg	50 %
Manganese	2 mg	100 %
Chromium	40 µg	100 %
Molybdenum	50 µg	100 %
Selenium	30 µg	55 %
Zinc	5 mg	50 %

Ingredients: Dicalcium Phosphate; Calcium Carbonate; Magnesium Oxide; Bulking Agents: E 460, E 468; Vitamin C; Starch; Modified Starch; Vitamin E; Nicotinamide; Ferrous Fumarate; Maltodextrin; Bulking Agents: E 464, E 1200; Calcium D-pantothenate; Zinc Oxide; Manganese Sulphate; Emulsifier: E 470; Anti-caking Agents: E 551, E 553b; Vitamin B2; Gelatine; Vitamin B6; Vitamin B1; Vegetable Oil; Beta-Carotene; Cupric Sulphate; Sucrose; Vitamin A; Glucose Syrup; Folic Acid; Chromium Chloride; Sodium Molybdate; Potassium Iodide; Sodium Selenate; Biotin; Vitamin K; Vitamin D; Vitamin B12; Colours: E 171, E 120, E 133.

Explore strontium supplements

Life Extension
Pure Encapsulations
AlgaeCal
Solaray

Strontium (Citrate) 90...
\$25.00
Professional ...

Euromedica Strontium - 6...
\$20.95
Supplement ...

Kent Marine Strontium &...
\$26.99
Marine Depot

Best Naturals Strontium...
\$16.99
Walmart

Vital Nutrients - Strontium...
\$23.80
PureFormula...

Strontium (680Mg) 60...
\$13.99
All Star He...

Ads · Shop supplements for healthy bones

Life Extension Bone Restore wit...
\$18.00
Life Extension
★★★★★ (981)

AlgaeCal Plus Natural Calcium...
\$69.00
AlgaeCal
★★★★★ (626)

Life Extension Dr. Strum's Intensive...
\$42.00
Life Extension
★★★★★ (12)

Who can benefit from a vitamin supplement?

- People who live far north or south of the equator (vitamin D)
- Those already at risk for deficiency (calcium), middle-age and older adults
- Older adults may be less effective at synthesizing vitamin D
- Individuals with:
 - Restricted access to food
 - Chronically poor appetite
 - Conditions causing nutrient malabsorption
 - Pregnancy and breastfeeding
 - Bariatric surgery
 - Some vegan or vegetarian diets
 - Restrictive diets

Supplements can be a good insurance policy, but how much is too much?

- Increased risk for kidney stones (calcium supplementation)
- Increased risk of heart attack (calcium supplementation)
- Excess vitamin A stored in the body can increase osteoporosis risk
- Expensive
- Large doses of vitamin D should only be taken under the supervision of a provider
- Some supplements may have unintended side effects and interact with certain medications



Calcium for children:

- 1-3 years old: 700 mg/day (2-3 servings)
- 4-8 years old: 1,000 mg/day (2-3 servings)
- 9-18 years old: 1,300 mg/day (4 servings)

Vitamin D:

- Kids >1 year: 600-1,000 IU/day

Magnesium:

- 1-3 years old: 80 mg/day
- 4-8 years: 130 mg/day
- 9-13 years: 240 mg



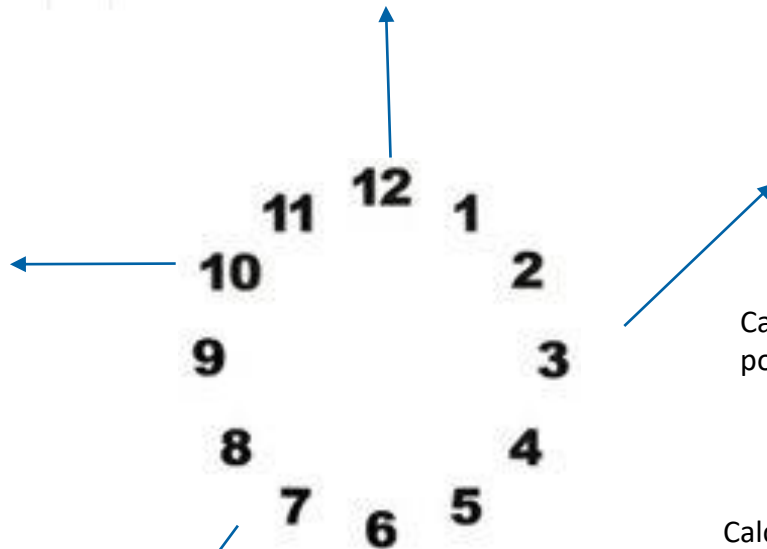
Calcium, boron and magnesium (and vitamin C in the veggies)!



Calcium, magnesium, boron, and potassium!



Calcium, phosphorus, vitamin A, potassium, zinc and Magnesium!



Calcium, vitamin D and Magnesium!



Calcium, vitamin D, vitamin A, zinc, vitamin K and Magnesium!

Food	Calcium	Vitamin D	Magnesium
Salmon	18 mg	815 IU	53 mg
Swiss cheese	221 mg	8 IU	11 mg
2 eggs	50 mg	88 IU	10 mg
Yogurt	187 mg		19 mg
Chia seeds	179 mg		95 mg
Banana	6 mg		53 mg
Mixed green salad	30 mg		24 mg
Tofu	434 mg		37 mg
Almonds	123 mg		80 mg
Totals	1248 mg	911 IU	472 mg

Meets recommendations!

Meets recommendations!

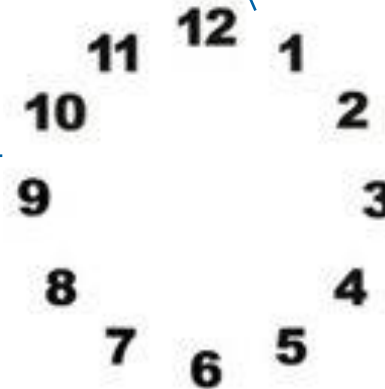
Meets recommendations!



Phosphorus, Potassium, Zinc, Calcium, and Vitamin A (bonus-more Vitamin C)!



Potassium, Boron, and Copper !



Calcium, Magnesium, Vitamin A, Vitamin K, and Potassium (and bonus-Vitamin C)!



Vitamin K, Calcium, Zinc and Phosphorus!



Magnesium, Phosphorus, Potassium, Zinc, and Vitamin K!



Food	Magnesium	Phosphorus	Potassium	Zinc	Vitamin K	Calcium	Vitamin A	Boron	Copper
Fortified cereal	42 mg	75 mg	293 mg	2.8 mg					
Berries	9 mg				29 mcg				
Plant-based milk	50 mg	220 mg	380 mg			450 mg*	150 mcg		
Eggs (2)	10 mg					50 mg			
Carrots							451 mcg		
Brown rice		150 mg	154 mg						
Chicken		300 mg		2.13 mg					
Beef		195 mg		4.8 mg					
Bell pepper			211 mg				37.5 mcg		
Apple			195 mg					.66 mg	
Nut butter	307 mg		847 mg					.48 mg	629 mcg
Raisins			322 mg					.95 mg	
Brussels sprouts					118 mcg	37 mg			

Nutrients in foods vs. vitamin and mineral supplements



Supplements are not designed to replace foods

do not offer the same nutritional benefits

Supplements:

they're meant to supplement — not replace — a healthy diet, they generally provide only concentrated amounts of specific nutrients

best way to ensure that you're meeting your vitamin and mineral needs

foods contain varying amounts and combinations of nutrients

Benefits of eating a variety of foods:

foods contain other essential nutrients, including protein, healthy fats, and fiber — all of which are needed for overall health and optimal bodily functioning

plant-based foods are rich in antioxidants and phytochemicals, two classes of compounds that are linked to benefits reduced inflammation and protection against chronic disease

“
**Let food be thy medicine
and medicine be thy food**

Hippocrates”





Regular weight-bearing exercises stimulates bones and makes them stronger.

- Running
- Dancing
- Hiking
- Tennis
- Gymnastics
- Basketball
- Soccer
- Weight training

Stick to the Bread and Butter!



- * Move more
- * Eat a variety of foods
- * Don't shy away from nutrient dense foods
- * Seek out help to stop smoking
- * Incorporate body weight exercise DAILY
- * Supplements may be indicated, but usually only effective/needed if deficient
- * Limit your alcohol consumption
- * Fuel your body with calcium intermittently, for optimal absorption/utilization
- * Get some sun, it is good for the soul and the bones!