



WHAT MOTIVATES US

Health/Health Crisis

Environment

Animals



Enlightenment

Relationships



What's In It For Us?

- Less obesity, heart disease and potentially cancer
 - Lower consumption of industrial chemicals, fat, cholesterol and GMO foods
 - A smaller carbon footprint
 - Less support for factory farming
- 

Am I Getting Enough?

- Anyone can get anemia, osteoporosis and symptoms of malnutrition
- Embrace a whole foods diet
 - Choose fresh, organic (local if possible), seasonal produce
 - Cook with whole grains like quinoa, brown rice, millet, kamut and spelt
 - Use less salt, add less fat and eat less processed foods

Should I Still Eat Dairy?

- Relax and release your inner moo
 - Milk fat is 65% saturated
 - Milk proteins are highly allergenic
 - Dairy foods contain high levels of hormones, antibiotics, IG-1 and BGH
 - Moo manure leads to massive land and water pollution
 - Baby cows are taken from their moms, moms are kept perpetually pregnant



What Can I Do To Protect My Bones?

- Watch out for calcium thieves – meat protein and salt
 - Quit smoking
 - Limit alcohol
 - Exercise
 - Limit caffeine


- Vegetarians and vegans should meet the calcium intakes recommended for their age groups

- 9-18 years 1300 mg/day


- 19-50 years 1000 mg/day

- 51 and over 1200 mg/day

- 40 to 70% of the calcium is absorbed from kale, collards, broccoli and turnip greens vs. 32% from dairy products
- Aim for **16 mg of calcium** for every **1 gram of protein**

- 
- Excellent sources of calcium include:
 - Bok choy, broccoli, mustard greens, collard greens, kale, okra, white beans, green soy beans, almond butter, figs, turnip greens, blackstrap molasses and fortified beverages


Good sources of calcium include:

- Sea vegetables – hijiki or arame, romaine lettuce, navy beans, garbanzo beans, pinto beans, tempeh, tofu, almonds and tahini
- 

Vitamin D

- Maintains correct blood calcium levels
- May have a role in cancer prevention
- Sources include sunshine, fortified foods and supplements
- Recommended intakes are:
 - 1 – 2,000 IU/day

Light skinned people need 10-15 minutes of sunlight each day

- 
- Darker skin requires 30 minutes each day
 - SPF of 8 and above prevents Vitamin D production
 - Wearing too much clothing, staying indoors, using sunscreen, living in smoggy cities at higher latitudes may incur need for supplements and fortified foods

Where Do You Get Your Protein?

- People typically eat 50 to 100% more protein than their bodies need
- The RDA is .8 – 1.0 gram/kg body weight
- More protein is needed during pregnancy, lactation, muscle building and illness
- Optimal protein intake should be 12 – 15% of calories

Protein in Plant Foods

- 1 cup cooked lentils or beans (black, garbanzo, navy, kidney, pinto) = 14 to 18 grams of protein
- 1 cup cooked soybeans = 28 grams of protein
- 1/2 cup peanuts = 17 grams of protein
- Lentils, split peas and most beans are very low in fat while high in protein, iron, zinc and fiber



The Quality of Plant Proteins

- There are nine indispensable amino acids
- Complementing proteins is not necessary however ensure a diversity of high protein foods throughout the day
- Quinoa, tofu, beans, nuts, seeds, and amaranth all provide IAA that we need during the day



Iron in Vegetarian Diets


- Iron carries oxygen in the body, helps to regulate metabolism and resist infection
- Iron deficiency is common in athletes – especially endurance athletes
- Female athletes are at the highest risk
- The effects of anemia include fatigue, a weakened immune system and reduced ability to concentrate

Recommended Iron Intake

- Women age 19 – 50 *32.4 mg/day*
- Women over 50 *18.0 mg/day*
- Men, all ages *18.0 mg/day*

*Higher than for nonvegetarians given a lower absorption from plant foods

*Vegetarians can easily meet these recommendations and may absorb with greater efficiency over time



Factors Reducing Iron Absorption

- All dairy products
- Black tea (contains tannins)
- Some herbal teas (peppermint, chamomile)
- Coffee & cocoa
- Excessive phytates

Factors Increasing Iron Absorption


- Vitamin C containing foods with high iron foods
 - citrus, tomatoes, and vitamin C juices
- Soaking, sprouting, and leavening breads reduces phytates
 - high phytate foods are also high in iron
- Use cast iron, stainless steel cookware
- Avoid high oxalate foods

Maximizing Iron Intake

- Adzuki beans, black beans, lentils, garbanzo beans, kidney beans, soybeans, pumpkin seeds, quinoa, blackstrap molasses – are all great sources of iron
- Have a high iron food with a high vitamin C food/beverage
- Use foods that are yeasted, sprouted, fermented (tempeh) and soaked
- Avoid iron inhibitors

Zinc

- Needed for:
 - for reproduction, growth, wound healing, and a strong immune system
- Infants and children show poor appetite and physical growth with deficiency

- 
- Recommended intakes are 8 mg/day for women and 11 mg/day for men
 - 20% of zinc consumed is absorbed
 - Pumpkin seeds and cashews are excellent sources; legumes, whole grains and wheat germ are also good sources

Boosting Iron, Zinc and Protein

- Toast with tahini and blackstrap molasses
- Hemp protein smoothie
- Marinated tofu with rice
- Ground pumpkin seeds on top of salad greens
- Vegetarian chili with tortillas
- Dahl with chapatis
- Shepherd's pie
- Lentil soup

Vitamin B12

- Animals do not make B12; bacteria do!
- B12 helps red blood cells mature, protects sheaths that cover nerves and helps to clear homocysteine
- Symptoms of deficiency include fatigue, weakness, loss of menstruation; long-term damage can be irreversible
- Deficiency occurs from reduced absorption or inadequate intake

B12 Absorption

- Reliant upon hydrochloric acid, pepsin and intrinsic factor
- Excess B₁₂ is stored in the liver (for up to 3 years, except in infants)
- Supplemental form of B₁₂ is easier to absorb
- A higher percentage is absorbed from a small amount versus a large dose
- RDA is 2.4 mcg/day – throughout the day
- Aim for 10 mcg/day from a single supplement

Sources of B12

- Nutritional Yeast (Red Star Vegetarian Support Formula), mini-flakes *1 TB: 1.5 mcg*
- Cereals, ready-to-eat, fortified, *1 oz: .6 – 6.0 mcg*
- Soymilk, nondairy fortified milk; *1/2 cup: .4- 1.25 mcg*
- Veggie “meats”, fortified: *.6 – 1.2 mcg*
- Supplements: *10mcg/daily; 2,000 mcg/weekly*

Assessing Deficiency

- Laboratory testing:
 - Serum B₁₂ – serum levels above 300 pmol/L or > 400 picograms/mL
 - Methylmalonic acid – levels < 370 nanomoles/L in blood or < 4 mcg/mg creatinine in urine

Iodine

- RDA is 150 mcg/day
- Half of the American population uses iodized salt
- Vegetarian diets tend to be high in goitrogens (soybeans, sweet potatoes, raw flax seeds, cruciferous veg, millet)
- Iodized salt and seaweeds are good sources
 - 1/10 tsp kelp provides 100% RDA

Essential Fatty Acids


- Omega -3's:
 - ALA (alpha-linolenic acid),
 - EPA
 - DHA
- Omega-6:
 - LA (linoleic acid)
 - Gamma linoleic acid
 - Arachidonic Acid

Why Do We Need Omega-3 Fatty Acids?

- Critical for the development of brain and nervous system
- Formation of healthy cell membranes
- Formation of eicosanoids which regulate organs

Where do Omega-3 Fatty Acids Come From?

- Microalgae, plants, walnuts, seaweeds, vegetable oils
- Nonvegetarians consume fish or fish oils

- 
- Alpha-linolenic acid – seeds and seeds oils (flax, chia, hemp, canola); nuts and nut oils (walnuts), green leaves of plants; sea vegetables; soybeans and soybean oil
 - EPA and DHA – fish (coldwater); eggs (chicks fed flax or microalgae), sea vegetables and DHA-rich microalgae

Sources of Omega-6 Fatty Acids

- Linoleic acid – seeds and seed oils (sunflower, hemp, grape, pumpkin, sesame); nuts and nut oils; soybeans and soybean oils
- Gamma-linolenic acid – primrose oil, borage oil, spirulina, hempseed oil
- Arachidonic acid – meat, poultry and dairy products

Recommended Intakes

- *12-18 grams* of omega-6 and *3 to 6 grams* of omega-3 fatty acids each day
- Joint WHO/FAO panel recommends 5 to 8% of calories from omega-6 and 1-2% omega-3
- Aim for ratio of 2:1 to 4:1 (no more than 6:1) omega-6:omega-3 each day

Getting Enough Omega-3's

- Consume good sources of ALA – flaxseeds, flaxseed oil, hempseeds, walnuts, green leafy vegetables.
 - 1 tsp flaxseed oil or 1 ½ TB flaxseeds
 - Include a direct source of EPA and/or DHA gelatin-free capsules available with 100 to 300 mg of DHA from microalgae
- *Reduce omega-6 sources relative to omega-3's

Beware of Faux Amis

- Do not replace meals with energy bars
- Do not use bagels, rolls, white pasta as a main dish or as a main calorie source
- Salads should be bulked up with energy dense foods (pumpkin seeds, baked tofu, sprouted legumes) for a main course
- Vegan desserts can be delicious (eg., Rice Dream) but choose more whole fruit smoothies and other home-made fruit desserts