

Calcium

- ⇒ Calcium is also important for bone and teeth maintenance, (99% of the calcium is found in our bones and teeth) regulating blood pressure and normalizing the pH of our blood.
- ⇒ **Food Sources:** Milk, yogurt, and cheese, kale, broccoli, chinese cabbage, canned sardines and salmon.
- ⇒ **Dose:** Adults 19–50 years = 1,000 mg. Supplemental calcium carbonate is inexpensive, but is absorbed best when taken with food. Calcium citrate, a more expensive form of the supplement, is absorbed well on an empty or a full stomach.

B Vitamins

- ⇒ B Vitamins are essential for energy metabolism.
- ⇒ **Food Sources:** Whole grains, beans, vegetables, liver, meat, and eggs
- ⇒ **Dose:** Varies. However, excessive B Vitamins are flushed out through urine. Actually, too much B6 chronically can lead to nerve damage. The only justification for taking any isolated vitamin supplement is if you are deficient to start with.

Vitamin D

- ⇒ Important player in regulating the levels of minerals such as phosphorous and calcium for bones, skin, muscle and immunity.
- ⇒ **Food sources:** fatty fish (such as salmon, tuna, and mackerel) and Vit D fortified fluid milk are among the best food sources. Vitamin D3 supplements are most effective. High doses vitamin D2 or D3 >10,000 IU show to be less effective.
- ⇒ **Dose:** Our best source of Vit D is SUNLIGHT from 10-15 minutes of unprotected sunlight exposure. RDA: 19–50 years 600 IU

Look for these supplement label signs to choose a more reputable brand.



Avoid supplements with sensational claims! If it sounds too good to be true, it probably is! Be an informed consumer by referring to these resources!

Natural Medicines Comprehensive Database
www.naturaldatabase.com

The National Center for Complementary and Alternative Medicine
<http://nccam.nih.gov>

Consumer Lab www.consumerlab.com

U.S. Pharmacopeia www.usp.org

NSF International www.nsf.org

Human Performance Resource Center (DoD) <http://hprc-online.org>

Products with DMAA http://hprc-online.org/dietary-supplements/files/DMAA_List.pdf

References:
<http://ods.od.nih.gov>

<http://naturaldatabase.therapeuticresearch.com>



Marci McGill RDN, CSSD, LD

Nutrition Services Director

Freeman School District

Supplements are just that...Supplements

Freeman Fuel philosophy: Food is Fuel. Training starts in the kitchen and is an important team player. The benefits of considering food first before supplements include: lower disease rate, superior nutrient absorption, and last, but not least, optimal athletic performance and recovery. Supplements are just that...supplements; meaning they should not take the place of a healthful well-rounded, clean diet. If you are looking for an ergogenic aid that claims weight loss and muscle gain all in one neat little package...sorry, there's not one. Popping a pill or pounding a powder alone will not do the trick. Building muscle and weight management comes as a result of consistent and disciplined training, effort, and good nutrition to realize your full potential! Read on to discover that supplements are actually found in everyday foods. However, if you do take a supplement, be educated on the risks and benefits. Remember, no amount of supplementation can undo an inadequate diet!

Why Food First?

For optimal performance and recovery a mix of carbs, fat and protein at each meal provide:

- ◆ Carbs from whole grains, fruit and low fat dairy are fuel for high intensity training.
- ◆ Fruit/Veg provide nutrients as the maintenance crew keeping all systems “go”.
- ◆ Protein is found in both plant and animal foods such as beans, whole grains, and chicken which is essential for building and repairing lean tissue and supporting our immune system.
- ◆ Healthy fats are found in nuts, avocado, and salmon which provide the essential fatty acids for cell repair, regulate blood sugar, and absorb Vitamins A, D, E, K.

Why be Cautious with Supplements?

- ⇒ FDA does not regulate supplements or energy drinks
- ⇒ Supplement manufacturers do not need to prove the safety or efficacy of the product before placing on the market.

Why do you need a boost...ask yourself?

- Are you eating well?
- Sleeping well?
- Overstressed?

Dehydration, undernourishment, and lack of sleep can increase stress making us think we need a quick fix from a supplement.

Good News! Many supplements are found in everyday foods!

Creatine Monohydrate (CM)

- ⇒ Creatine is involved in making the energy muscles need to work. Research does show CM to aid in improving exercise performance and increasing muscle mass. Specifically in exercise requiring short bouts of high intensity; with no benefit to endurance exercise.
- ⇒ **Food Sources:** Our bodies actually produce 1-2g/d from an omnivorous diet! Fish and meats are good sources of creatine as well.
- ⇒ **Dose:** Typical dosage is 20g/day for 7 days; then, 5 grams per day for 20-21 days. However, taking high doses of supplemental CM might adversely affect kidney, liver, or heart function or contribute to hypertension. Check with your doctor before taking.

Branched Chain Amino Acids (BCAA)

- ⇒ Branched-chain amino acids (3 of the 9 essential amino acids) involved in the building of protein in muscle as well as providing energy during prolonged exercise. Supplementation of BCAA's are not effective for improving performance. Food Sources: meat, dairy, and legumes (beans). Dose: 68-144mg/d which is easily acquired from consuming 2-3 oz meat or 8oz glass of milk per day!

OMEGA-3 Fatty Acids: ALA, EPA, and DHA

- ⇒ Most often used for conditions related to the heart and blood system. Evidence suggests that fish oil lowers high triglycerides, and it also seems to help prevent heart disease and stroke when taken in the recommended amounts. Ironically, taking too much fish oil can actually

increase the risk of stroke. Consult with physician before taking.

- ⇒ **Food Sources:** ALA is the most prominent omega-3 fatty acid in the human diet from plant sources, primarily, found in walnuts, and flaxseed. On the other hand, EPA and DHA are from animal sources from fatty fish or fish oil supplements. Mackerel, tuna, salmon, sturgeon, mullet, bluefish, anchovy, sardines, herring, and trout are best. They provide about 1 gram of omega-3 fatty acids in about 3.5 ounces of fish.
- ⇒ **Dose:** American Heart Association (AHA) recommends 8 oz of fatty fish per week. Supplement use: AHA recommends .5 – 1 grams/day of EPA and DHA per day.

Whey Protein Powder

- ⇒ Whey protein contains essential amino acids which are involved in building and repairing lean tissue and support immunity.
- ⇒ **Food Sources:** 3 servings per day of fluid milk, yogurt, or cottage cheese.
- ⇒ **Dose:** Some research shows that taking whey protein 1.2-1.5 grams/kg in combination with strength training can increase lean body mass. However, high doses >2g/kg/day can cause increased stool frequency, nausea, thirst, bloating, and cramps.



Food Is Fuel