BUT WHAT ABOUT CALCIUM?

This is a question I get often when I recommend removing dairy from people's diets either to address gut dysfunction; alleviate allergies; or heal inflammatory conditions such as eczema, asthma, and myriad mental health issues.

It's interesting that we've become a culture that consumes calcium-leeching foods and looks to supplementation to build this important mineral in the body.

Sadly, more research is revealing that the body cannot properly absorb calcium from supplements. This form of calcium is showing to lead to more calcification in the bones (making them more brittle) and arteries (giving less access for the necessary blood flow).

So where should we get our calcium? From the best place, of course. . . FOOD!

CALCIUM ABSORPTION:

Below are some suggestions for maximizing your calcium absorption through food intake and food elimination, with brief detailing further below:

- consider eliminating or at least limiting foods that contain caffeine
- eliminate or limit refined carbohydrates and sugars (all of which increase the excretion of calcium from the body)
- balance animal protein with more vegetable proteins from beans, nuts, whole grains and seeds
- increase fruit and vegetable intake (especially the latter)
- moderate dairy intake (if using, full fat is preferable and raw is best)
- moderate wine and citrus intake
- eliminate soft drinks completely
- add whole soy foods in moderation and if not contraindicative with your medical regime (tempeh, miso, edamame are best as they are not as processed) for their isoflavones, which have been shown to increase bone density
- add alfalfa (sprouts on salads, etc.)
- add green tea (good vitamin K content which helps with calcium absorption)

Sugars:
Sugar intake alters the calcium-phosphorus ratio in the blood, causing the phosphorous level to drop. When not enough phosphorous is present in the blood, the body cannot properly absorb calcium.

Protein:
A diet high in protein but low in alkalizing fruit and vegetables is known to have an acidic effect in the blood. The focus should not necessarily be on lowering protein intake (we all have different needs for protein consumption), but instead on increasing consumption of low-glycemic fruits and vegetables for a more balanced diet.

Fruits/veggies:
These foods provide vitamin K, which activates osteocalcin—a protein that anchors calcium into the collagen matrix—along with magnesium, zinc, potassium, and fibers that aid the body in the absorption and assimilation of minerals. Leafy greens and broccoli are especially great sources of vitamin K and folic acid, which also helps with bone nutrients, not to mention that they are calcium powerhouses!

Dairy:
Contrary to popular sentiment, the calcium in dairy foods comes in an unbalances relationship with phosphorous. Therefore a lot of the calcium from dairy is incompletely absorbed or incorrectly assimilated. The full-fat and raw dairy sources are better because of they are rich in the fat soluble vitamins that aid in calcium absorption.

Wine/citrus:
Because of the natural acidity of these foods, they require the buffering action of calcium during metabolism. Without something to counter that action (this is a viable place to use dairy, ie. wine with cheese) the acidity can decalcify the system. Steer clear of citrus juices altogether if you are concerned about bone density, though lemon in water is actually good with a meal, it provides just the right amount of acidity.

Note On Phosphorous:

Phosphorus is an essential mineral affecting many body functions including energy, metabolism, DNA synthesis, and calcium absorption and utilization. It is readily available in most foods, especially high protein foods. However, more important than the total phosphorus content of a food is its ratio of calcium to phosphorus. Too little calcium and too much phosphorus have been linked to osteoporosis. These foods include red meat, poultry, and soft drinks. (Soft drinks typically contain about 500 milligrams of phosphorus with no calcium to offset it.) The higher the phosphorus level compared to calcium, the greater amount of calcium is lost in the urine.

BEST FOOD SOURCES OF CALCIUM (EASY TO ASSIMILATE):

- beans
- nuts (almonds and brazil nuts are highest)
- greens (parsley, collards, dandelion, kale, etc.)
- sea vegetables (hijiki, kelp, wakame are highest)
- sesame seeds/tahini
- canned salmon and sardines with bones
- soup made with bones + one 1 tspn. apple cider vinegar to draw the calcium from the bones

SUPPLEMENTATION:

Supplementation for bone support goes beyond calcium. Calcium is only one of at least 12 minerals that build strong bones. Bones are made of:

Calcium	Potassium	Magnesium	Manganese	Silica	Iron
Selenium	Boron	Phosphorous	Sulfur	Chromium	Zinc

Osteoporosis is not defined by a loss of calcium, but by a loss of minerals.

Although calcium plays an important role in bone health, adequate amounts of magnesium are needed for bones to be able to metabolize calcium normally.

The fat soluble vitamins (A, D, E, K) and the essential fats are also key.

Note On Magnesium:

It's common knowledge that vitamin D is essential for efficient calcium utilization. For many years magnesium has been recognized as valuable in calcium absorption, but its absolute necessity has been underscored in several recent human experiments. In one, calcium and vitamin D were abundantly supplied while magnesium was withheld; all subjects in the experiment except one became calcium deficient. When magnesium was reintroduced in the diet, calcium levels rose dramatically.

Turns out magnesium plays a large role in the absorption of calcium by activating enzymes that play a role in healthy bone formation, regulating the transport of calcium, and it plays a role in converting Vitamin D into its useable form, which in turn, enhances calcium absorption.

Calcitonin is a hormone that increases calcium in the bones and keeps it from being absorbed into the soft tissue. Magnesium stimulates calcitonin production and therefore increases calcium in the bones while drawing it out of the soft tissue. Many forms of arthritis are characterized by excess calcium appearing in the soft tissues while skeletal calcium is lacking.

A magnesium-rich diet is generally a great cure for these types of osteoarthritis as well as most forms of calcium deficiency.

The food groups in order of their magnesium content are:

- dried seaweed (wakame, kombu, kelp, hijiki, arame. . .)
- beans (mung, aduki, black, lima)
- whole seed-grains (buckwheat, millet, quinoa)
- nuts & seeds (almonds, cashews, filberts, sesame seeds)
- high chlorophyll foods! (wheat or barley grass, spirulina, blue-green algae, chlorella)
- raw chocolate
- bone broths!

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