

Webinar 7 Handout:

UNDERSTANDING SUPPLEMENTS: PART I

I'm very clear with my stance on supplementation: I believe **supplements should do just that - supplement the diet.** Whole foods that are not overly processed or refined, including fruits, vegetables, whole grains, lean proteins and healthy fats, should be the source for most of our nutrients. Ideally, we would all eat the perfect amounts and balance of foods to obtain optimal nutrition. Most of us don't live in perfect eating worlds, but I do think it's realistic for a good majority of us to meet most of our needs very well through food alone, and for this reason I always recommend real food first.

Nutrients in food work differently than nutrients in supplements. Whole foods are complex, containing a variety of the micronutrients your body needs — not just one. An orange, for example, provides vitamin C plus some beta carotene, calcium and other nutrients. Vitamin C supplements lack these other micronutrients. And, we are still learning the true power of how all of these nutrients work together. Whole foods also contain fiber and other substances important for good health. Fruits and vegetables, for example, contain naturally occurring substances called phytochemicals, which may help protect you against cancer, heart disease, diabetes and high blood pressure. Many of these phytochemicals act as antioxidants — substances that slow down oxidation, a natural process that leads to cell and tissue damage. Just like you can't spray a multivitamin on a sugar cereal and call it healthful, you can't pop a pill and expect it can replace the avocado you should be eating. There is no pill, powder or tincture that can compare with the perfect nutrient packages we find in whole foods.

That being said, I do believe there is a time and a place for supplementing a diet. Supplements can serve as “insurance” for a healthy diet. If your lifestyle, palate, time, energy or priorities make it hard for you to get all the nutrition you need through foods, some supplementation may be appropriate. I believe most people should be taking an omega-3 supplement, ubiquinol, a probiotic and vitamin D (more on these below). Supplements may also be a medical tool for people in nutrient deficient states.

Before we get to the nitty gritty, some notes:

- If your clients are on any meds for a medical condition, or if any nutritional supplements have already been recommended or prescribed, discuss any and all drug-nutrient interactions. You may need to consult the medical provider. A pharmacist is a great resource to go over drug interactions as well.
- Supplements can be harmful in large doses and/or interact with different medications you might be taking so it is important to understand what your clients are taking and for what reason. More isn't always better.
- The bioavailability of the nutrient must always be considered before taking a supplement. This just means how readily your body can absorb and use the nutrient. If urine is dark in color or smells odd, chances are your body is getting rid of some or all of it. (Some vitamins will warn you of discoloration in the urine. This may be a normal side effect.) Discuss this with your clients.
- Supplements are regulated differently from food. Though FDA works to ensure we have a safe supply of dietary supplements, supplements do not have to be standardized (different brands can have variations in the pills with regard to dosing, sourcing and active ingredients). Advise clients to steer clear from questionable small-name brands and don't be fooled by fancy packaging. Always read the ingredients and supplement facts label so you know exactly what and how much you are getting in each dose.
- When choosing supplements, look for two things
 - GMP seal: if you don't see the seal, contact the company for details
 - No fillers or added colors

We'll talk more about supplement regulations in Understand Supplements Part II.

On the next few pages you'll find my top supplement recommendations. I recommend them because they are often lacking in the typical Western diet.

OMEGA-3:

Research has shown that omega-3 fatty acids are beneficial for heart health. They help to manage symptoms of hypertension and are useful in lowering cholesterol. Some studies suggest they slow plaque buildup in the heart and may even reduce the risk of heart attack and stroke. Omega-3s are also important for immune functioning, brain health and inflammatory response. Salmon and walnuts are two of the richest natural sources of omega-3s, however if you have a fish or nut allergy, it may be hard to get the recommended amount of omega-3s in through foods.

There are three main types of omega-3 essential fatty acids. Eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) come mainly from fish and are less common in the diet.

Alpha-linolenic acid (ALA) is the more common omega-3 found in plant foods. You can use it to generate EPA and DHA in your body, but the conversion rate is poor. Studies show about 8% of dietary ALA is converted to EPA and 0-4% is converted to DHA in men, while approximately 21% of dietary ALA is converted to EPA and 9% is converted to DHA in women (the difference may be related to the effects of estrogen). Though we do require EPA and DHA, research suggests ALA is more beneficial than we once thought and has been linked to heart health and stroke risk reduction. ALA is found in vegetable oils, nuts (especially walnuts), chia seeds, flax seeds, and in small amounts in leafy vegetables. You can also get some from grassfed meat. The most bioavailable omega-3 supplementation comes in the form of fish oil, which contains EPA and DHA.

The American Heart Association suggests that you dig into 3.5 ounces of fatty fish twice a week, and notes fish oil supplements may be beneficial to those with heart conditions (though specific recommendations must be personalized). There is also hopeful evidence that omega-3 fatty acids can fight depression, improve sleep and boost libido -- scientists are also studying the effects of omega-3 supplementation on mood because these wonderful fatty acids are the building blocks of the brain.

If you recommend omega-3 supplementation for your clients, do your research! Different forms and doses are recommended for different conditions. For example, fish oils may have different EPA and DHA ratios, and flaxseed oil is rich in ALA, but not DHA or EPA. Flaxseed oil supplements may require up to six pills per dose, compared to one fish oil supplement, but they may be a good choice for your client with a fish allergy. There are good supplements out there, just make sure you match the best one for each client.

PROBIOTIC:

New research is looking at gut flora and weight management and we are learning how important it is to have a GI tract brimming with microbes to maintain a healthy weight. Your gut has over 400 types of probiotic bacteria (good guy bugs in your belly) that help fight bad bacteria found in your intestines; they also promote good digestion, which we all need! Probiotics may also help with infections of the digestive tract, enhance immune function, and control inflammatory bowel disease. Most people use probiotics to prevent diarrhea, gas, and cramping caused by medications or antibiotics, and if travelling sometimes throws you off your regular bowel habits, it's a good idea to take one while on the road.

You'll find these friendly bugs naturally in most fermented dairy foods like yogurt, sauerkraut and kefir. Make sure these foods are made with live active cultures; here is where you may be fooled by marketing and packaging only to find no active ingredients. These cultures may be killed off during pasteurization and heat processing, so look for the LAC seal (below) to make sure you are getting those living bugs in!

A daily probiotic may be a great tool for anyone who does not eat probiotic-rich foods. A supplement can help make sure you are getting enough probiotics to maintain a healthy digestive tract. When choosing a probiotic supplement, avoid those that make blanket claims, such as "contains 600 billion live cultures" and choose one that lists the complicated names of the cultures, such as *Saccharomyces bolardii*. You also want to make sure the label says the cultures are living (many brands do not have live cultures, which does you no good).



When you are shopping for a probiotic supplement, there are different strains of bacteria that manage different conditions. You may recommend one probiotic strain for your client with IBS and another strain for someone managing traveller's constipation. I recommend the International Scientific Association for Probiotics and Prebiotics (ISAPP) to match the best probiotic to my client's condition. You'll notice that dosing and recommended use varies among the brands, so take them according to the package directions.

VITAMIN D3:

Hot vitamin of the moment, vitamin D is blazing trails in the research world and gaining tons of media attention these days because most people don't get enough of it. In fact, in 2018 it will become a mandatory nutrient listed on food packaging to draw attention to how hard it is to get. Vitamin D is a fat soluble vitamin and is famously known as the vitamin we can synthesize from a little bit of sun exposure. It's a complicated vitamin because you hear about two forms: vitamin D2 is the form of vitamin D you get from eating fortified foods, and vitamin D3 is the kind we synthesize in our skin from sun or UV exposure. Since the body makes this form of vitamin D, it is actually considered a hormone and not a vitamin. Vitamin D is responsible for regulating calcium and phosphorus in the body. Both D2 and D3 can be converted to the active form in the blood, called 25-hydroxyvitamin D3. Not everyone gets the sun exposure that they need to make enough of this vitamin, especially during winter months and at higher latitudes, so we recommend getting it in through foods such as: eggs and sardines, salmon and sardines, and fortified foods such as dairy and breakfast cereals. We used to think vitamin D was mostly responsible for bone health (we fortify foods to prevent rickets), but lately we are learning more about the role of this amazing vitamin in our bodies.

Vitamin D does a lot of things in the body:

- Helps calcium and phosphorus work in developing bones and teeth
- Helps maintain healthy nervous and muscular systems by regulating calcium in the blood
- Prevents us from losing calcium and phosphorus in urine
- Stimulates bone cells to mature and enhances skeletal functioning
- Helps with maintenance of bones in ears for hearing
- Assists in maintaining a healthy immune system

Vitamin D may have a role in the following illnesses (more research is needed):

- Vitamin D deficiency has been linked to depression, but cause and effect is still under investigation
- There is a possible correlation between the role of vitamin D and insulin in the regulation of blood sugar
- There is research looking at vitamin D and cancer prevention and treatment
- A relationship possibly exists between vitamin D and obesity, but cause and effect is still under investigation

Most people can benefit from taking a vitamin D supplement, especially those who do not eat vitamin D-rich foods, and those who live at higher latitudes where sun exposure is not as strong. The most bioavailable supplements contain vitamin D3. Vitamin D is a fat soluble vitamin, meaning you need some fat in your diet to help you absorb it (one reason consuming fat is important.).

It's not possible to get vitamin D toxicity (hypervitaminosis D) from sunlight and research suggests toxicity is very unlikely in most healthy people at intake levels lower than 10,000 IU/day. However, the tolerable upper intake level (UL) is 4,000 IU/day (100 µg/day) for all adults and certain medical conditions including primary hyperparathyroidism, sarcoidosis, tuberculosis, and lymphoma can increase the risk of side effects including hypercalcemia.

UBIQUINOL:

Ubiquinol not only works as an antioxidant but is crucial in the body's production of energy. It is the very fuel that makes your heart beat. With age, our bodies progressively produce less CoQ10 and struggle to convert it into Ubiquinol, which is the usable form of CoQ10. This leaves us with less than ideal levels of this energy-producing nutrient. Research has shown that ubiquinol circulating in your body improves the health of your ticker and can alleviate many of the side effects associated with statin medications, such as muscle weakness and soreness. Ubiquinol is found in foods you may already eat like peanuts, spinach, lean meats, and sardines. However, you would need to consume 50 cups of spinach or 120 cans of sardines to reach the recommended 100mg of ubiquinol each day! There are no known safety risks to taking this supplement, so it gets the green light from me. The recommended supplementation is 100mg per day. I recommend it for clients who are on statin medications and those with a family history of heart disease, over the age of 25.

Remember that deciding to use supplements is personal and you will have some clients eager to use them, while others may be wary. Meet your clients where they are and closely monitor their symptoms to see how they are responding.