ANTI-INFLAMMATORY FOODS, VITAMINS and SUPPLEMENTS IN JOINT DISEASE

After reading over this conclusive, but not exhaustive list of recommended foods for healthy living, you may discover that your diet is in dire need of repair. Eating healthy is part of your stem cell transplant treatment and if you want to get the most from your treatment, your lifestyle has to match your desire to avoid expectation-result mismatch. It doesn’t have to be all or none; these are just guidelines to help you understand the concepts behind healthy habits to preserve your joints and your lifestyle.

Osteoarthritis and Rheumatoid Arthritis

People with rheumatoid arthritis (RA) have immune systems that harm the lining of their joint, damaging tissues and causing inflammation, stiffness and pain. A Mediterranean diet’s tasty fare like olive oil, fish, greens and other vegetables lowers inflammation and relieves symptoms. While less common than the wear and tear type of arthritis known as osteoarthritis (OA), the same concepts apply when trying to lower inflammation naturally.

INFLAMMATION is the natural healing response to injury and without it, our tissues can’t heal. Acute inflammation is typically a protective and localized response to infection or injury. It’s designed to heal the body and restore normal tissue function. When inflammation is out of control, it can even be destructive, cause pain and damage tissues, rather than repair them. Chronic inflammation can be responsible for joint pain that doesn’t respond well to conventional treatment modalities.

Mesenchymal stem cell injection therapy (MSCT) is an alternative medical treatment that may help you to return to a higher level of activity. Combining MSCT with other conservative treatment options, like an anti-inflammatory diet and low-impact exercise may optimize non-operative arthritis care.

FATTY FISH – Oily fish like tuna, salmon, trout and mackerel are high in omega-3 fatty acids, the good fats. Healthy choices like fish, prepared using healthy cooking options like baking or broiling can add to health and vitality. Consumption may lower the risk of heart disease, depression, dementia, and alleviate the symptoms of arthritis. In a 2009 study from the University of Hawaii, men who ate baked or boiled fish (as opposed to fried, dried, or salted) cut their risk of heart disease by 23% compared to those who ate the least.
Not a fish fan? A fish oil supplement can be substituted. However, based on a 2013 study, if your diet is high in processed foods and vegetable oils, fish oil supplements may actually incite inflammation.

**COLORFUL PRODUCE**—Keep it simple. Eat fruits and vegetables of different colors. Think raspberries, blueberries, watermelon, carrots, spinach, onions, green peppers and yellow peppers. The natural chemicals that give fruits and vegetables their hue are strong antioxidants.

**DARK LEAFY GREENS**—Kale, collard greens, spinach, and broccoli are all healthy choices when prepared right. Kale is one of the healthiest and most nutritious plant foods available to us. These are rich in Beta-carotene, vitamin C and calcium. Studies have suggested that vitamin E may play a key role in protecting the body from pro-inflammatory molecules called cytokines—and one of the best sources of this vitamin is leafy greens.

A single cup of raw kale (about 67 grams or 2.4 ounces) contains:

- Vitamin A: 206% of the RDA (from beta-carotene).
- Vitamin K: 684% of the RDA.
- Vitamin C: 134% of the RDA.
- Vitamin B6: 9% of the RDA.
- Manganese: 26% of the RDA.
- Calcium: 9% of the RDA.
- Copper: 10% of the RDA.
- Potassium: 9% of the RDA.
- Magnesium: 6% of the RDA.

Then it contains 3% or more of the RDA for Vitamin B1 (Thiamin), Vitamin B2 (Riboflavin), Vitamin B3 (Niacin), Iron and Phosphorus.

This is coming with a total of 33 calories, 6 grams of carbs (2 of which are fiber) and 3 grams of protein.

The majority of the small amount of fat in kale and other healthy greens is the omega-3 fatty acid (alpha linolenic acid) that has been identified as another healthy choice.

**BRIGHT BERRIES**—Essentially all fruits fight inflammation due to a high fiber content and antioxidant properties. Berries contain anthocyanins that have an added anti-inflammatory benefit. Red raspberry extract has actually been shown to prevent arthritis development in animal studies. Açaí Berries are low in calories, have virtually no fat and are loaded with healthful components that fight inflammation in arthritis and related conditions.

**JUICE FROM SOUR CHERRY**—Sour or ‘tart’ cherries are typically enjoyed in juice form and have been used for osteoarthritis, muscle pain, exercise, gout, insomnia, to increase urine production, and to aid digestion. Sour cherry fruit contains ingredients that are thought to reduce inflammation and also contains melatonin which can help regulate sleep patterns. Aside from being extremely tasty, tart cherry juice is a powerful anti-inflammatory. A 2012 from the Oregon Health & Science University suggested that tart cherries have the highest
anti-inflammatory content of any food. Consuming 1.5 cups of tart cherries or drinking 1 cup of tart cherry juice daily has been recommended as the serving size necessary to experience health benefits.

**GARLIC**-Garlic has been used to treat too many problems to list. It works by producing a chemical called allicin, which is also responsible for the smell. While there is insufficient scientific evidence to make any real claims, some work has suggested it can reduce muscle soreness in athletes and may increase endurance in young athletes. It has been tried for osteoarthritis.

**ONIONS**-Onions are low in calories, have virtually no fat and are loaded with healthful components that fight inflammation in arthritis and related conditions. Onions are also one of the richest sources of flavonoids — antioxidants that mop up free radicals in your body’s cells before they have a chance to cause harm. The compound quercetin, found in abundance in onions, has been shown to inhibit inflammation-causing leukotrienes, prostaglandins and histamines in osteoarthritis (OA) and rheumatoid arthritis (RA). One of its powerful compounds may also give a boost to bones. Known as GPCS for short, gamma-L-glutamyl-trans-S-1-propenyl-L-cysteine sulfoxide was shown to inhibit the breakdown of bone in a study published in the Journal of Agriculture and Food Chemistry. Researchers at the University of Berne, Switzerland, speculate that GPCS might work the same way as alendronate (Fosamax), which is used to treat osteoporosis and reverse corticosteroid-induced bone loss. Disease-fighting chemicals are highest in shallots and yellow and red onions, and lowest in white and sweet onion varieties.

**BEETS** — Along with their strong antioxidant properties, beets and beet root juice have been shown to reduce inflammation as well as protect against cancer and heart disease. Beets have also been used to enhance athletic performance.

**PEPPERS**- Peppers, such as chili and cayenne, are rich in capsaicin, a chemical that has been to reduce inflammation. However, peppers are part of the nightshade vegetable group* which may exasperate inflammation in patients with rheumatoid arthritis.

**NUTS** — All nuts are packed with antioxidants, which can help your body fight off and repair the damage caused by inflammation. Almonds and walnuts in particular are helpful for their additional inflammation-fighting properties. While all nuts are good for you, they are also very high in calories. Limiting consumption to a handful a day is a good rule of thumb.

**FLAXSEEDS**-Flaxseeds are the richest source of plant based Omega-3 fatty acids, also known as alpha-linolenic acid, in the world.

A 1 ounce (3 tbsp) serving of flaxseeds contains:

- Omega-3 (ALA) 6,338mg
- Fiber 8g
- Protein 6g
- Vitamin B1 31% RDA
Manganese 35% RDA

Magnesium 30% RDA

Phosphorus 19% RDA

Selenium 10% RDA

Flaxseeds contain vitamin B6, Iron, potassium, copper and zinc, all essential to wound healing. This flax seed nutrition profile makes it easy to see why it’s one of the most nutrient dense foods on the planet.

SUNFLOWER SEEDS—When unsalted, enjoy sunflower seeds for a crunchy snack loaded with vitamin E, magnesium, and thiamine.

TURMERIC—Turmeric is a common spice in asian foods. The health benefits are derived from the chemical that makes the spice yellow and is called curcumin. Turmeric has been taken by patients for arthritis, joint pain, fatigue, fibromyalgia. One study suggested that curcumin extract worked as well as Ibuprofen taken as needed for knee aches and pains.

GINGER and CINNAMON—Ginger possesses numerous therapeutic properties including antioxidant effects, an ability to inhibit the formation of inflammatory compounds, and direct anti-inflammatory effects. The efficacy of dietary ginger and cinnamon as anti-inflammatory agents and their effectiveness in reducing muscle soreness has been investigated in limited studies on humans.

OLIVE OIL—Olive oil is an important food in the Mediterranean diet, which has been linked to better health and a lower risk of chronic disease. Components of olive oil called phenolics reduce inflammation in the body and can lower the incidence of cancer, stroke and heart attack. Nutrition experts recommend getting 25-35% of your daily calories from fat, including oil. Most should be in the form of monounsaturated fat, like olive oil.

COCONUT OIL—is another great choice of cooking oils.

OATMEAL—Whole grains like oatmeal are linked to lower levels of inflammation. Refined grains, such as white flour, have the opposite effect. Try Quinoa, brown rice and barley. Consuming most of your grains as whole grains, as opposed to refined, white bread, cereal, rice, and pasta may reduce inflammation. Whole grains have more fiber, which has been shown to reduce levels of C-reactive protein, a marker of inflammation in the blood, and typically have less added sugar. But a 2013 Harvard study found that not all products labeled “whole grain” are much healthier than their refined counterparts. To be sure you’re getting the benefits, look for foods with a whole grain as the first ingredient without added sugars.

AVOCADOS—Provide a source of monounsaturated fats like nuts but have less calories.

Other Foods—Low or non-fat plain yogurt and milk are high in Calcium and Vitamin D and play a role in tissue healing and metabolism. Buying plain, fat-free Greek yogurt gives you the healthiest choice and you can determine exactly what goes in it.
**FOODS TO AVOID**

Foods that create and/or aggravate inflammation are those which are processed, high in sugar and/or contain gluten (such as bread, pasta, cereal crackers, pretzels, baked goods, etc). Trail mixes and granolas can contain high levels of sugar. Carefully choose high fiber varieties and observe portion sizes. Dried fruits are tasty but can contain high levels of sulfur and sugar. Flavored soy milk may also contain high levels of sugar.

Avoid energy drinks and choose water instead. Energy drinks aren’t regulated by the FDA an often contain heavy doses of added caffeine.

Highly processed deli meats can be high in nitrates and sodium so be sure to identify what kind of turkey or other meat you are really being served. In general, turkey is the healthiest deli meat. Avoid the London broil and the roast beef.

**GLUTEN FREE**- Gluten-free products are all the rage these days. Although some gluten-free products are healthy, the label ‘gluten free’ does not equate to health. If it’s packaged or processed, gluten or no gluten, its not as healthy as other whole foods you could be eating. The best gluten-free foods aren’t products at all. They’re fresh fruits and vegetables.

**Other unhealthy foods in disguise** can include low-fat muffins, chicken wraps, any sandwich that’s loaded with mayo, cheese or fat-packed sauces, frozen dinners, canned soups, veggie pizza, spinach pasta, wheat bread products that don’t say ‘100% whole wheat”, diet soda, reduced fat peanut butter, fruit cocktail, fruit juices, baked beans, pretzels, veggie chips, protein bars, sports drinks, flavored teas, flavored rice cakes, frozen yogurt, organic snack foods and cookies, flavored nuts, fast-food salads, protein shakes, croutons, signature sushi rolls with cream cheese, mayo or anything fried, veggie burgers, veggie omelettes, turkey burgers, fruit snacks, multigrain chips (still better than potato chips!) and margarine. Basically just look out for added sugars, fats and salts and you can find sometime to tempt your palette.

*Many reasonable peer-reviewed resources can be found on the internet when learning about anti-inflammatory foods and supplements, appropriate dosing, drug-supplement interactions and risks associated with each. Any questions or concerns should be directed to your MD for clarification.*

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Last revised 10 April 2016