

**Preventing the Recurrence of Breast Cancer - Nutrition and Lifestyle Choices -
Live Strong Group - YMCA
Peter Brodhead CN, ETMS**

Email: questionspeterbrodhead@gmail.com
Updated 10/1/23

Blood Work -

Vitamin D levels - get a 25OH Vitamin D test and keep your blood level between 50 - 80 - note new research is finding that African American women may not need to have their blood work as high

Check your Homocysteine - this is a great indicator to many of the liver detoxification systems especially methylation. If Homocysteine levels are above normal a person might be susceptible to higher chronic inflammation. It is especially important to support liver health - B-Vitamins B6, B12 and Folate are important cofactors and are important for enzymes involving estrogen conjugation.

Omega 3 Index - measures the amount of omega 3 fats in your red blood cells - higher Omega 3's correlates to lower inflammation in the body.

Other markers that can be looked at - discuss this with your physician first

Check your Fibrinogen levels periodically - when cancer is active often Fibrinogen levels go up and the blood gets "thicker"

Check your copper levels - ceruloplasmin - when cancer gets active it uses copper to support angiogenesis (a blood vessel network to feed a tumor) the pathway is called VEGF - Vascular Endothelial Growth Factor. Zinc and Molybdenum (trace minerals) can help lower copper levels.

Check your hsCRP (highly sensitive C reactive protein)— an inflammation marker mostly used in cardiovascular disease.

Aromatase Inhibition - these are natural compounds that inhibit the over production of estrogen and block its conversion from other hormones such as DHEA and testosterone. They are important in inhibiting ER+ breast cancers.

Foods that inhibit the aromatase enzyme are: Lignans found in flax seeds and flax seed meal

Genistein found in soy especially fermented soy products such as miso and tempeh

Chrysin found in carrots, passion flower (great tea for bedtime), red clover

All mushrooms white, crimini, portabella, shiitake block the aromatase enzyme especially white button mushrooms - remember to cook them the chitin has to be completely broken down to be properly absorbed - they have been found to inhibit aromatase activity dose dependently. Of medicinal mushrooms Coriolus Versicolor - Turkey Tail has the best research in increasing survival when used concurrently with chemotherapy. Breast, Lung, Gastric, Colorectal, Esophageal.

Pomegranates, Grapes and small amounts of red wine, Green Tea, Extra Virgin Olive Oil.

Hops - found in IPA beer, Licorice root

Ursolic Acid found in Yerba Mate tea and Sage and Holy Basil, Ginkgo Biloba CAPE a flavonoid compound found in Bee Propolis. The supplements - Quercetin also helps with tamoxifen resistant Breast Cancer, Resveratrol and Grape Seed and skin extract.

Calcium D glucarate - found in apples, grapefruit, grapes, bean sprouts, cauliflower, and cabbage family - stimulates the detoxification of excess estrogen by the liver.

Note: if using Tamoxifen - Black Cohosh has anti-cancer properties anti-apoptotic and can help with less sweating and increased the time by 4.5 years of recurrence-free survival compared to non-users

Avoid Endocrine Disruptors - which are substances not naturally found in the body that interfere with the production, release, transport, metabolism, binding, action or elimination of the body's natural hormones. Phthalates - plasticizers that make plastics pliable such as Saran Wrap, Bisphenol A (BPA) and BPS - activates mTOR, EGFR - Stat-3 (growth factors in many cancers) and DDT and its derivatives that are still in the environment are some of the more commonly known hormone disruptors - Sauna can rapidly detoxify these plastic compounds. *for more information ask me to send you the audio presentation - Endocrine Disruptors - Leo Tashdan (sp) MD - Medicines from the Earth Conference 2019*

p53 mutation - the guardian of the genome - when tested for it you want "wild type" - The most common genetic mutation in human cancers, that of the p53 gene, is responsible for 30 - 70 % of all cancers. Studies show that the foods most strongly associated with p53 mutations include fast food, high-glycemic index foods, red meat, and foods contain trans fats. Mutations in the p53 gene can be prevented or even repaired by foods or food concentrates which include "superfoods" such as Quercetin found in apple skin (always eat organic), green tea, broccoli, and red onions, as well as other plants and proanthocyanidins and resveratrol which are found in grape seed and skin and isothiocyanate derived from cruciferous vegetables.

Cancer - IQ - returning cancers tend to have a "higher IQ" and are more difficult to treat - so prevention is the best approach.

Learn about the cancer pathways - NF-kB - the "master switch" to inflammation. Bcl-2 - the cancer marker when up-regulated allows a cancer cell to more readily evade a chemotherapy drug - broccoli sprouts, chaga mushrooms, hops,, fish oils, sage, rosemary, basil, green tea, ginger, saffron, hibiscus, Pau d'arco, quercetin - apples - onions ect. own-regulate this marker. VEGF (Vascular Endothelial Growth Factor) stimulates a blood vessel network to feed a tumor - Ellagic acid found in pomegranate, raspberries, strawberries, pecans, walnuts, cranberries - inhibits VEG-F as does Turmeric, EGFR (epidermal growth factor), Her-2 neu, IGF -1, PDGF, bFGF, KI-67, these last 2 are major players in inflammation - COX-2 & LOX-5. Neutrophil to Lymphocyte ratio in blood work can tell you a lot. Learn what foods, nutrients and botanicals inhibit the expression of these.

IL-6 - is an inflammatory marker that can be measured and is directly correlated with increased disease progression and metastasis of most cancer types, including breast cancer. EGCG from green

tea inhibits this marker. The flavonoids Luteolin and Apigenin inhibit it - good dietary sources of luteolin and apigenin include: Celery heart, hot peppers, rutabaga, spinach, fennel, parsley, chives, peppermint, thyme.

Her2Neu - expression can be regulated by EGCG from Green Tea, Curcumin from Turmeric, Hydroxytyrosol, Oleic acid, Squalene, and Oleuropein from Olives and Olive leaf - eating olives daily is very important for Her2Neu+ breast cancer patients. EPA/DHA/GLA from fish oil and borage oil (GLA), Anthocyanidins (the deep blue color in blueberries and black color in blackberries and purple corn and purple potatoes)Delphinidin from blueberries and black currants. Luteolin from parsley, artichokes, celery. Fisetin from strawberries and Apigenin from parsley, thyme, chamomile, tea and peppermint. Quercetin - found in apples, onions and many other foods. There is a study on the herb Chapparral from Emory Univ in Atlanta found that NDGA a compound found in it showed benefit in suppressing Her2Neu+ breast cancer. Patients on Herceptin do better when their natural killer cell numbers are normal (AHCC a mushroom extract from Japan supports NK cells. Echinacea supports NK cells.)

BRCA1 - resveratrol can help normalize gene expression, coffee, turmeric, cucumber family of vegetables, DIM from Broccoli, Genestein from Fermented Soy products and melatonin can be supportive.

Beta Blockers and cancer - recent research has shown that beta blocker drugs can reduce the incidence and recurrence of cancer - most likely from lowering stress hormones - its the stress that activates cancer and by lowering them - its supportive of less cancer. Stress management is huge in cancer. Learn about the Vagal nerve and how to stay in a parasympathetic nervous system mode as much as possible.

Broccoli - is loaded with phytonutrients that function as redox/antioxidants, protecting healthy cells while inducing apoptosis in cancer cells. Triggers the production of enzymes that can detoxify and clean free radical residues, toxins and other carcinogens. Organic broccoli seeds and sprouts are exceptionally rich sources of sulforaphane - Isothiocyanates - Inhibit cancer by: Potent cell and hepatic detoxifiers, promote the elimination of potential carcinogens. Redox regulators of GSH (glutathione) Normalizes gene behavior and expression. Selectively induces cancer cell apoptosis. Regulates histones, down- regulate cancer cell HDAC. Also inhibits bladder cancer. Down-regulates surviving, EGFR (epidermal growth factor) and HER2/neu. G2/M cell cycle accumulation and apoptosis. Sulforaphane blocked the Hedgehog pathway inhibited VEGF and increased the expression of E-Cadherin and suppressed Bcl-2. PEITC - b-phenylethyl isothiocyanate - possesses anti-tumor activity of HER2-positive breast cancer models. Specificity of inducing apoptosis in HER2-expressing tumor cells in vitro and vivo and enhancing the effects of doxorubicin against HER2 cancers. DIM - is the bioactive form of Indole-3- carbinol (I3C)which is a compound found in cruciferous vegetables - it combines with Herceptin to treat breast cancers with high levels of HER-2/neu DIM enhanced the effectiveness of Herceptin by significantly reducing cell viability, which was

associated with apoptosis-induction and significant inhibition of colony formation, compared with single agent treatment. These compounds are also involved with gene repair. *Rhonda Patrick Phd. - Podcast (Found my fitness) on Sulforophane is quite technical but excellent if interested I can send it to you.*

Turmeric - the spice that is part of curry powder is a “super food” for the cancer survivor. There are at least 3 curcuminoids found in turmeric that have outstanding effects at inhibiting numerous inflammation pathways NF Kappa Beta, Cox-2, LOX-5 to name a few. In cancer research it has been found to positively influence over 100 different cancer pathways. Turmeric has also been found to help with the detoxification of heavy metals and environmental toxins. If you add a small amount of fine ground black pepper to the powder you can double the bio-availability of it. The newest food rage is Golden Milk which is made from Turmeric. It has been recently found that the probiotic bacteria in you GI tract convert Turmeric to its active form.

Green Tea - when green tea is combined with turmeric you get a $1 + 1 = 3$. Green Tea is an excellent support for liver detoxification. In cancer research it has been found to help stimulate apoptosis (cellular suicide) in a cancer cell. The most powerful form of Green Tea is Matcha - which is a fine ground green tea powder 1/2 to 1 teaspoon is the equivalent of drinking numerous cups of green tea. EGCG is one of the potent compounds in green tea. It has been found to be synergistic with Tamoxifen. Green Tea also contains L-Theanine a unique amino acid that increases alpha waves in the brain - inducing a calm focused mental state. For risk reduction especially in premenopausal women. Drinking 3 - 5 cups of green tea per day or if taking capsules - 1 - 2 caps of a 330mg Green Tea extract containing 98% polyphenols, 80% catechins, and 45% EGCg (epigallocatechin gallate)

Astragalus Root - is used widely in Chinese Medicine and used as an immune system modulator and used when someone is undergoing cancer treatment. It has been found to inhibit breast cancer stem cells. Astragalus roots can be cooked in rice as part of the water and as a base in soup stocks. It has a mild pleasant flavor. Astragalus is a major botanical when someone has cancer and should be used in this food form in generous amounts daily.

Best overall diet: Follow the rules of the **Mediterranean diet** with extra - extra virgin olive oil. In the PREDIMED study of 4,282 of women 60 - 80 it was associated with a 68% lower risk of breast cancer. Plant based diets have been shown to reduce the risk of breast cancer. Eat loads of colorful high “polyphenol” foods. *Ask for my high polyphenol food list.* Eat lots of varieties of high fiber foods to enhance the variety of your probiotic species. Research at the MD Anderson in Houston Texas has discovered a cancer tumor biome - it has be found that the greater the diversity of the biome of the tumor the greater chance for successful treatment and outcome. A diverse tumor biome signals a weaker more vulnerable cancer and a longer and healthier survival for the patient. If you eat at least 20 grams of fiber a day and eat a large variety of different colorful foods over a weeks time (30 different vegetables, fruits, berries, grains, spices, and herbs including coffee and tea. ect.) you will develop a much more diverse biome.

Other Foods, botanicals and nutrients: Get moderate amounts of iodine in the diet kelp is the richest source but not too much stay under 1mg a day - iodine can support the proper conversion of estrogens. Drinking coffee lowers the risk of breast cancer. Peaches and Plums contain chlorogenic acid and neochlorogenic acid that fight breast cancer - eat only organic varieties. CLA a type of fat that comes from grass fed only cows found in dairy products - if you do drink milk use only grass fed. The herbs Fennugreek, Ginkgo, Gotu Kola, Nettle Leaf, Milk Thistle, the vitamin E co-factor Tocotrienols. Ursolic acid found in Sage and Holy Basil.

Intermittent Fasting - caloric restriction. One of the easiest and most effective ways to cut calories is to institute intermittent fasting into your daily life. It can be as simple as not eating for 13 to 14 hours. Eat early for dinner say at 7pm (Dinner should be our smallest meal)and then don't eat breakfast till 9 am. That's all you have to do. When you do this - the body turns on autophagy - and the body clears out old and dead cells and those that might mutate. This is also great for brain health as it clears out brain debris and helps prevent dementia ! IGF-1 is a growth factor in cancer this is turned down in fasting so is insulin. More anti-oxidants are replenished during sleep. The body goes into slight Ketosis for the 13th and 14th hour and this helps the process. Exercise after overnight fasting is even better. If you have to have coffee make it bulletproof coffee which will keep you in ketosis.

Sauna - 20min - 2x a week up to 4x can support immunity and help the body detoxify BPA, Phalates and other estrogen mimickers as well as heavy metals. New research looks exciting - *Listen to Rhonda Patrick - Found My Fitness - Podcast for really interesting info on Sauna's and Health or ask me to send it to you.*

Avoid Pesticides - The Environmental Working Group has a dirty dozen list of the fruits and vegetables with the highest pesticide residues - this list gets updated regularly
The worst to least worst list is here <https://www.ewg.org/foodnews/list.php>
The clean 15 is here https://www.ewg.org/foodnews/clean_fifteen_list.php

Eat Organically Grown foods whenever possible and or affordable

Healthy Biome - this is a very exciting area of research a study from Canada published 7/16 showed that the biome of the breast itself could influence cancer - women with more beneficial bacteria had a lower rate of cancer. (*read my paper on probiotics and the biome Let's Get Cultured*). Eating a diet high in a large variety of fibers and including fermented foods in the diet can build a healthy biome.

Stem Cell inhibitors - Fish Oil helps prevent breast cancer metastasis to the bone. Turmeric with black pepper inhibits stem cells from forming and in breast cancer. Olive Oil inhibits HER2Neu stem cells in breast cancer. Sulforophane from broccoli family vegetables inhibits pancreatic cancer stem cells. Ginger inhibits stem cells. Propolis from bee hives inhibits breast cancer stem cells. High amounts of carotene rich foods especially Lycopene (the red found in red bell peppers, tomatoes, watermelon). Resveratrol a compound found in grapes inhibits breast cancer stem cells. Pomegranetes, Mulberry extracts Ashwaganda an herb from India inhibits stem cells it is also de-

stressing great before bedtime. Astragalus - see *above section*. Green Tea. Berberine a bitter compound found in Goldenseal, Barberry, Oregon Grape Root inhibits stem cells. Feverfew a botanical used to prevent migraine headaches inhibits stem cells. Fermented bread such as sourdough breads.

Purchase pH paper (nitrazine) and check your body pH - stay slightly alkaline minerals are what make you alkaline - the more minerals in your diet the more alkaline you become. *Ask for my handouts on how to become more alkaline*. When a tumor is growing it is acidic and producing lots of lactic acid. You want to make sure your body isn't a hospitable place for a tumor to grow in.

Stay committed to Exercise and Stress reduction !

Regular exercise 30min a day for 5 days a week. Moderate this includes brisk walking - try to move to the edge of your fitness level. Exercise increases oxygenation, moves the lymphatic system (*critically important for moving toxins out of the body and helping immunity*) lowers stress hormones and so much more. Exercise can reduce the recurrent **Studies have shown that it reduces the risk of cancer recurrence 50% - greater than any drug !**

Best Book: Life After Cancer - Dwight McKee MD - this is a great book on life after cancer co-written by the most progressive nutritionally oriented oncologist in the US. Chanchal Cabrera just published her book - Holistic Cancer Care which is excellent.

Last note: Many women who have undergone treatment for Breast Cancer have used drugs in the therapy that can damage the **heart** such as Adriamycin and Herceptin - nutritionally supporting the heart with nutrients such as CoQ10 - Ubiquinol being the best form, Ribose, Hawthorne extracts can be excellent support for preventing complications in the future.

Eat Brazil Nuts: They are the richest source of the trace mineral selenium - selenium. Selenium has cancer inhibiting properties in particular women with a BRACA1 mutation.

Stress Reduction: Meditation, Prayer, Forgiveness, Look into the Vagal Nerve and how to stimulate it - it regulates the parasympathetic response in the body and being in this state can really help the immune response. Google how to help the Vagal Nerve - simple things such as gargling - believe it or not shifts the nervous system - try it and notice how you feel, taking a cold shower, singing or chanting, deep breathing from the belly, laughter, positive socializing, yoga, meditation, QiGong, If you are Catholic - saying the Rosary, exercise, walking on the beach or in the woods even using a tongue depressor shifts the nervous system.

Put 2 cups of Epsom Salts in a tub of water and soak - a great de-stressing routine add a few drops of lavender oil to the tub - it's like getting a full body massage for a very low cost.

Lastly - a note on alcohol. Alcohol can be a cancer promoter especially in excess. In women 3 glasses of an alcoholic beverage daily is the same as smoking a pack of cigarettes a day. But a glass

of wine for example daily for life will only raise your lifetime risk from 3% to 3.5% and it can lower cardiovascular risk. If you eat 6 grams of vegetable fiber daily it will negate even that risk level this =’s to 1 cup of cooked collard greens. 1 stalk of broccoli = 9 grams of fiber. Overall for the lowest cancer risk don’t drink alcohol.