

WELCOME

GINA GAMBARO

Director, Business Development

Asking a question is easy!

- About the topic being presented —
 - ❖ Click on the **Q&A** icon at the bottom of your screen
 - ❖ Type your question & hit Enter
 - ❖ Questions will be answered at the program's end, or offline if time runs out

- About technical issues or CE credit —
 - ❖ Click on the **Chat** icon at the bottom of your screen
 - ❖ Type your question & hit Enter
 - ❖ Our team will reply to your question right away

Housekeeping notes

- ▶ This webinar is being recorded for on-demand access later, after the series' conclusion
- ▶ To earn CE, you must attend the entire session
- ▶ **For those sharing a computer**
 - Complete a manual sign-in sheet before the program ends
 - Go to **Chat** to request the sign-in sheet
 - Each participant must complete an evaluation to obtain CE credit
 - Instructions will also be emailed to the program registrant

2020 WEBINAR SERIES

Plants or Pills? The Truth About Dietary Supplements

BARB BANCROFT, RN, MSN, NP

PLANTS or PILLS



**RIGHT NOW
CHOCOLATE
IS GOOD FOR
YOU AND
ROMAINE
LETTUCE
CAN KILL
YOU:**

**I'VE BEEN
TRAINING MY
WHOLE LIFE
FOR THIS
MOMENT**

Some numbers

- ▶ 79 percent of adults over 55 consume dietary supplements/complementary/alternative therapies;
- ▶ The most commonly used products vary by year and by study—in 2019 the top products included multivitamins, vitamin D & calcium, vitamin C, curcumin (active ingredient in turmeric), creatine and other protein supplements, omega-3 fatty acids, melatonin, magnesium, vitamin B complex or single vitamin B12
- ▶ 39% take supplements for overall health and wellness benefits
- ▶ Source: Council for Responsible Nutrition, September 30, 2019

Lots of reasons for taking dietary supplements or alternative therapies

- ▶ *“I just wanna be healthier, so I’m taking 57 pills a day, is that OK?...”* 🤖
ANSWER: NO.
- ▶ *“I have a lousy diet so I’ll take a multivitamin to fill in for what I don’t get in my diet...”* ANSWER: Don’t bother. Multivitamins don’t make you live longer, don’t prevent cancer, nor do they prevent heart disease
- ▶ *“I can’t remember anything anymore...I need something for my brain... and, I don’t want dementia.”* Should I take ginkgo? ANSWER: No. Floss your teeth & I have a few more suggestions.
- ▶ *“This COVID-19 thing is scary, I need something to boost my immune system.”* 🧑‍⚕️ Wear a mask. Maybe Vitamin D and Vitamin C supplements (only for severe COVID-19).

Lots of reasons for taking dietary supplements or alternative therapies with comments...

- ▶ *"I got ol' bones, Barb...I need calcium and vitamin D."* ANSWER: OK, and start weight-bearing exercises, eat calcium-containing foods and take a vitamin D 800-1000 IU supplement.
- ▶ *"I'm on statin drugs and my muscles hurt—should I stop the statin or should I try Co-Q10 ..."* ANSWER: Try Co-Q10 (50-100 mg/day), but don't stop the statin—switch statins, reduce the dose, or take the statin every other day. Check your vitamin D levels and your TSH.
- ▶ *"I can't sleep...any ideas?"* ANSWER: Turn off your iPhone, iPad, iPod, iMac 2 hours before bedtime, and take low-dose melatonin (0.2 mg up to 5 mg) at the same time.
- ▶ *"These hot flashes are miserable and I don't want to take hormone therapy..."* ANSWER: WHY NOT? OK, try S-equol OTC...it's a soy-based product and may work in about 40% of women.
- ▶ *"My doctor tells me that I need to build up my muscles because I lose muscle mass every year...is that true??"* ANSWER: Yep. If you're going to use Ensure, Boost, etc make sure that they are refrigerated and cold when given to the patient—taste more like a cold milk shake than a warm glass of chalk.

A few helpful hints on buying supplements -- Buyer Beware #1...

- ▶ As with ANYTHING IN LIFE...If it sounds too good to be true, it's generally not true.
- ▶ CLAIM: *This pill can prevent anything from a hemorrhoid to a heart attack,*
- ▶ *Take this potion—it's a cure for everything from a bunion to brain fog to a brain tumor...*
- ▶ Don't believe it. Prevagen doesn't help.



Buyer Beware #2— Supplements are not regulated by the FDA

- ▶ Manufacturers can sell these products without submitting evidence of their purity, potency, safety, or efficacy.
- ▶ They may contain more or less product than they claim, they may be contaminated with lead or other heavy metals, they may be adulterated with pharmaceutical agents
- ▶ Most reputable companies submit their products voluntarily for approval by private testing organizations like the USP (United States Pharmacopeia), the National Science Foundation (NSF) International, or ConsumerLabs.com)
- ▶ READ THE LABEL...If approved by one of the above, it contains what the label says...If not, gently put the product back on the shelf and look for another product with a certified “stamp of approval” – “DOCTOR-APPROVED” means nothing.



Top-rated Supplement Brands on Overall Consumer Satisfaction:

- ▶ Catalog/Internet Brand: **Life Extension**
- ▶ Direct Selling (MLM) Brand: **USANA**
- ▶ Discount/Warehouse Brand: **Kirkland (Costco)**
- ▶ Food/Drug/Mass -- Broad Product Line: **Nature Made**
- ▶ Grocery Store Brand: **Trader Darwin (Trader Joe's)**
- ▶ Health Food Store Brand: **Herb Pharm**
- ▶ Pharmacy Brand: **Walgreens**
- ▶ Vitamin Store Brand: **Vitamin Shoppe**

This is NOT an endorsement by Barb Bancroft. This list was provided by the website Consumer.Lab, accessed 08/11/2020.

Top-rated Supplement Brands on Consumer Satisfaction with Specific Types of Supplements:

- ▶ Calcium: **Kirkland (Costco)**
- ▶ CoQ10: **Life Extension**
- ▶ Joint Health: **Puritan's Pride**
- ▶ Melatonin: **Life Extension**
- ▶ Multivitamin: **Puritan's Pride**
- ▶ Omega-3s: **Carlson**
- ▶ Probiotic: **Jarrow**
- ▶ Vitamin D: **Life Extension**
- ▶ Source: ConsumerLab.com

Buyer Buyer #3: Be aware of adulterated products

- ▶ The FDA found 746 adulterated brands between the years 2007-16
- ▶ EXAMPLE: PC-SPES was hailed as the “be all and end all” for “prostate health,” containing a *“blend of 8 beneficial Chinese herbs”*...
- ▶ Did it work? YES!! It lowered PSA levels and decreased the size of the prostate. Fabulous.
- ▶ The bad news: It was not because of the *“blend of 8 beneficial Chinese herbs”* contained in the product.
- ▶ The manufacturer of PC-SPES also added diethylstilbestrol (a potent estrogen) that stopped the growth of the prostate, but boosted breast development and the risk of prostate cancer; it also contained warfarin which increased the risk of bleeding), and indomethacin causing gastric ulcers)—not to mention, giving estrogen to men accelerates atherosclerotic heart disease and an increased risk of angina and MI.



Weight loss product adulterated with aristocholic acid

- ▶ Aristocholic acid – an herbal product used in traditional Chinese medicine (TCM) for thousands of years; extracted from the birthwort family of plants— but is currently classified as a mutagen, carcinogen, and nephrotoxin in today’s world of alternative therapies—it is NOT clinically beneficial. It’s associated with rapidly progressive kidney disease and is currently classified as a Class I human carcinogen by the World Health Organization – causing cancers of the uroepithelial cells of the urinary tract and liver cancer.
- ▶ Aristocholic acid nephropathy (AAN), formerly known as “Chinese Herb Nephropathy,” was first reported in the early 1990s with an epidemic of rapidly progressive tubulointerstitial nephritis resulting in renal failure in group of young female patients in Belgium taking the same weight loss pills from a single weight loss clinic in Brussels. The pills contained a myriad of Chinese herbs, but AA found was the culprit.
- ▶ It continues to be used in unregulated herbal products from China...read the label.
- ▶ (Jadot I, et al. An Integrated View of Aristolochic Acid Nephropathy: Update of the Literature. *Int J Mol Sci*. Feb 2017; 18(2):217)

Buyer Buyer #3: Be aware of adulterated products

- ▶ Most adulterated supplements are marketed for weight loss (with diuretics and diarrheal agents), sexual enhancement (with sildenafil or tadalafil), or sports supplements (with anabolic steroids)—
- ▶ These are the same categories that epidemiologists have found to be responsible for a disproportionate number of the reported 73,000+++ emergency department visits attributed to dietary supplements each year in the United States.
- ▶ GUYS! Beware of ordering sexual enhancement drugs on the internet—especially if they come from New Zealand. 44-90% are bogus.



*Cohen P. JAMA Netw Open. 2018;1(6):e183329.
doi:10.1001/jamanetworkopen.2018.3329*

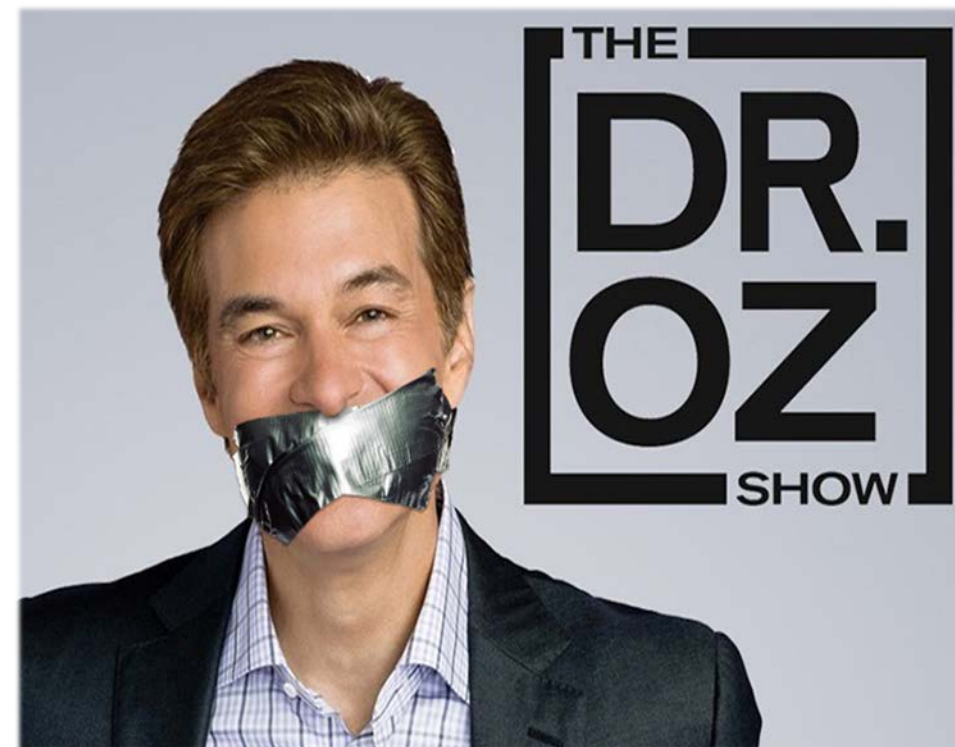
Buyer Beware #4 – be skeptical of celebrity endorsements

- ▶ Larry King (Larry King Live) promoted Garlique (garlic in a pill) to prevent heart attacks – and he's had at least 3 heart attacks (that we know of)—
- ▶ How's that Garlique working out for ya' Larry?
- ▶ Natural forms of garlic work much better than PILL forms for many supplements



Buyer Beware #4 – be skeptical of celebrity endorsements

- ▶ The CDC released new guidelines this week that include a "duct tape mask" for Mehmet Oz, MD -- television's "Dr. Oz" -- to wear.
"These new guidelines should have been in place years ago," the agency's Stephanie Harper, MD, told reporters. "We're hoping to significantly slow down the spread of false information. False information has become possibly our biggest obstacle in fighting the outbreak, and Dr. Oz is now part of the problem. The best way to solve it is duct tape, the good stuff."
- ▶ Over 60% of the information spread by Dr Oz is NOT evidence-based medicine...from weight loss products to COVID-19 recommendations



Does anyone hear “quacking” in the background?



And who could forget the other celebrity endorsement? Trumps rambling “science” on vitamin D?

- ▶ *“So, supposing we hit the body with a tremendous, whether it’s ultraviolet or just very powerful light...and, then I said...supposing you brought the light inside the body, which you can do either through the skin or in some other way.”*
- ▶ Almost as good as his suggesting to take Lysol internally.



BUT...Vitamin D does boost the immune system and...

- ▶ May help prevent our immune systems from becoming dangerously overactive—in other words, vitamin D supplements may prevent the “cytokine storm” that occurs in severely ill COVID-19 patients.
- ▶ This means that having healthy levels of vitamin D may protect patients against severe complications, including death, from COVID-19.
- ▶ Vitamin D deficiency may one reason for the disproportionate numbers of people of color and elderly individuals being at higher risk for acquiring and dying from COVID-19
- ▶ **Levels have not been established for this function, but suffice it to say we should all attempt to get our levels within the normal range**



(Ali Daneshkhah et al. The Possible Role of Vitamin D in Suppressing Cytokine Storm and Associated Mortality in COVID-19 Patients, *MEDRXIV* (2020).

Buyer Beware #5 ... “If a little bit is good, MORE IS BETTER” mentality

- ▶ For example: Know the RDA (recommended daily amount) for vitamins and make sure your patients are aware that certain vitamins are not safe if taken in mega-amounts
- ▶ *“Barb, I’m getting a cold...should I take 3,000 mg of vitamin C? NOOOOOOO. Excess vitamin C can increase the risk of gout and kidney stones. OUCH.*
- ▶ Your kidney can only handle 500 mg of Vitamin C at one time...doesn’t do you any good to take 2,000 at one time—your kidney will reabsorb 500 mg, the toilet will get the other 1500 mg.
- ▶ And vitamin C doesn’t prevent a cold...ZINC does...REALLY? what kind of zinc?

ZINC for the prevention and treatment of common colds

- ▶ Zinc is better than on any other supplement for preventing and treating the common cold.
- ▶ Zinc lozenges (not zinc pills) as the zinc is released more slowly; the slow-release form prevents viruses from replicating or binding to cells in the nasopharynx.
- ▶ Colds were one to three days shorter in adults who sucked on zinc lozenges vs. placebo lozenges every few hours throughout their colds.
- ▶ taking at least 75 milligrams of zinc acetate or zinc gluconate at the first sign of a scratchy throat or snuffle. Both types work but zinc acetate worked significantly better than zinc gluconate.

(Turner RB, Cetnarowski WE. Effect of Treatment with Zinc Gluconate or Zinc Acetate on Experimental and Natural Colds. *Clinical Infectious Diseases*. 15 Nov 2000; 5(31):1202-1208).

Buyer Beware #6: Supplements can interact with prescription and OTC drugs—taking a patient history

- ▶ When taking a history of the use of supplements approach the topic in a non-judgmental way...
- ▶ *“We know that herbal products, vitamins, fish oil, and other types of supplements are very popular today...some of these products can either interfere with some of the drugs you are taking or can make the drugs that we may give you more potent. Are you taking any alternative therapy, over-the-counter supplement that we need to be aware of—multivitamins, melatonin, fish oil, calcium?”*

Example: supplements that interact with acetaminophen

- ▶ Kava, Siberian ginseng, resveratrol, feverfew, garcinia, boswellia, St. John's wort, vitamin C, and cannabidiol could potentially increase the blood levels of acetaminophen and risk hepatotoxic effects
- ▶ Supplements with the potential for liver toxicity—green tea, high doses of niacin (don't forget RED BULL, MONSTER), or vitamin A, echinacea, black cohosh, red yeast rice, conjugated linoleic acid (CLA), noni, gotu kola, chaparral, comfrey, coltsfoot, kava
- ▶ Milk thistle and calcium-d-glucarate could speed the excretion of acetaminophen and potentially reduce its effectiveness

The stacking effect: Supplements that have different actions but have a similar side effect and can potentiate prescription drug side effects—platelet dysfunction for example:

- ▶ Glucosamine for joints – does it work? Give it 2-3 months before making your decision
- ▶ Ginkgo for increased blood flow to brain and legs—does it work? Study found: ginkgo was no better at slowing cognitive decline in memory, attention, use of language, or executive function (planning and organizing (JAMA 302:2663, 2009)
- ▶ Grapeseed extract for anti-inflammatory purposes—why take grapeseed extract?

When you can drink a BIG glass of wine?



The stacking effect: Supplements that have different actions but have a similar side effect and can potentiate prescription drug side effects—platelet dysfunction for example:

- ▶ Garlic and ginseng for general well-being
- ▶ Vitamin E for heart health (but it doesn't help and can make heart failure worse!)
- ▶ St. John's Wort for depression but interacts with 60% of all drugs
- ▶ Feverfew (used for migraines)—with other products perhaps
- ▶ Fish oil (greater than 3 grams/day) can decrease the ability of platelets to aggregate especially if the patient is taking other G's + ASA and/or NSAIDS and/or clopidogrel/Plavix; pasugrel/Effient

IMPORTANT—LAB TEST

- ▶ The “G’s” don’t reduce platelet counts, in other words they don’t cause thrombocytopenia—platelet counts are normal
- ▶ However, they cause ***qualitative*** platelet dysfunction—platelet counts are normal, but the platelets won’t aggregate (stick)—petechiae, bruising, blood in the urine, occult blood in the stool, nose bleeds

Manuka honey from the New Zealand manuka bush—clinical uses

- ▶ Manuka honey's potent antibacterial properties set it apart from traditional honey—the active ingredient, methylglyoxal, is responsible for these antibacterial effects.
- ▶ Approved by the FDA as an option for wound treatment in 2007; Multiple studies have shown that manuka honey can enhance wound healing, amplify the regeneration of tissue and decrease pain from burns
- ▶ Helps prevent MRSA from colonizing wounds (*J Antimicrob Chemother.* 2014 Mar; 69(3): 603–615.
- ▶ Also noted for its antiviral, anti-inflammatory and antioxidant benefits.

Manuka honey—clinical uses

- ▶ When used in combination with conventional wound treatment, heals diabetic ulcers more effectively than conventional treatment alone.
Caution: Diabetics (may contribute to hyperglycemia) and individuals with bee allergies should discuss with their healthcare provider before using it.
- ▶ (Alam F, et al. Honey: a potential therapeutic agent for managing diabetic wounds. Evid Based Complement Alternat Med. 2014; doi: 10.1155/2014/169130. Epub 2014 Oct 15)



A note on wound care:

- ▶ Sense of smell peaks at 2 p.m.
- ▶ Don't change a smelly wound dressing at that hour.
- ▶ You'll regret it.



Manuka honey and periodontal disease

- ▶ Inhibits the growth of various species of oral bacteria that contribute to periodontal disease. **Why do we care about so much about periodontal disease?**
- ▶ Potential link between *Porphyromonas gingivalis*, a bacteria associated with periodontal disease and Alzheimer's. Brain tissue, spinal fluid, and saliva from Alzheimer's patients—both living and deceased—contained *P. gingivalis*. Gingipains, the toxin produced by *P. gingivalis*, was found in 96 percent of the 53 brain tissue samples examined, with higher levels detected in those with the pathology and symptoms of Alzheimer's disease. *P. gingivalis* also stimulated the production of amyloid plaques. (*Science Advances*, (1/23/19))
- ▶ English HK, et al. The effects of manuka honey on plaque and gingivitis: a pilot study. *J Int Acad Periodontol*. 2004 Apr;6(2):63-7.

What else can you do to prevent Alzheimer's dementia?

FLOSS YOUR TEETH!!



Let's not leave out turmeric (curcumin)—a powerful antioxidant and anti-inflammatory spice

- ▶ Curcumin is the main active ingredient in turmeric; the majority of studies using “turmeric extracts” contain mostly curcumin with dosages usually exceeding 1 gram per day.



Curcumin -- for the brain

- ▶ Anecdotal evidence: Mice eating diets with curcumin had 80% less amyloid plaque in brains; Curcumin also boosts microglial function in the brain to clear excess amyloid; there is also a significantly lower rate of Alzheimer's disease in Asian populations that have diets high in curcumin.
- ▶ Could the benefits be related to the long-term exposure to turmeric in the Asian and Indian populations?
- ▶ (Alzheimer's Society, 2019)



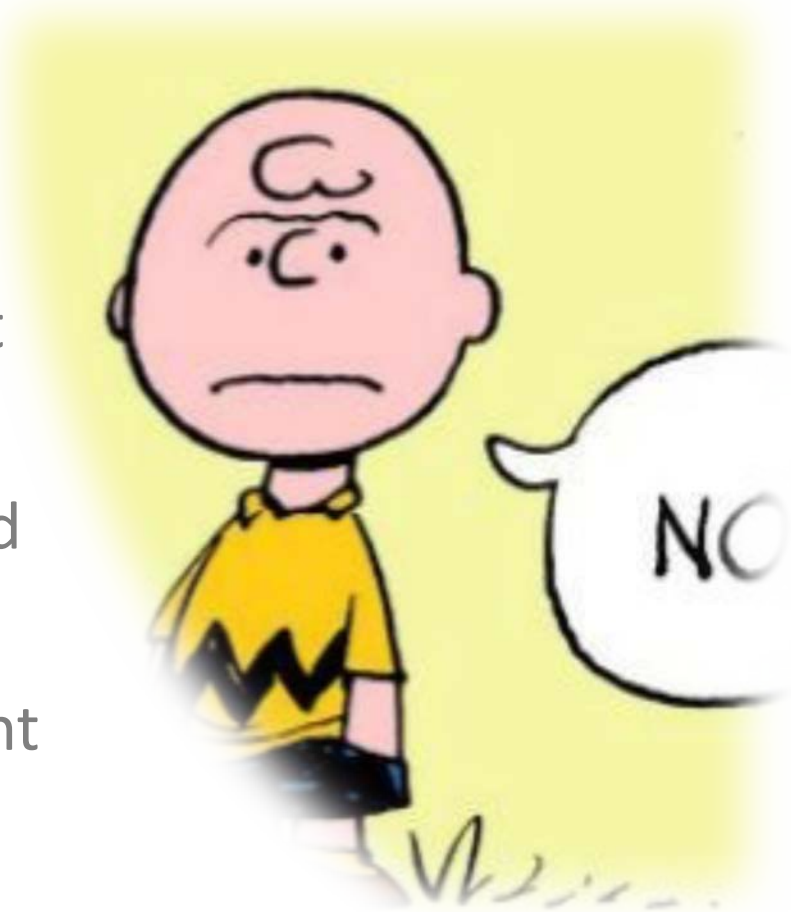
And sleep for prevention of dementia

Melatonin for sundowning and for sleep

- ▶ Melatonin supplements (take synthetic, not natural)—natural comes from animal pineal glands, synthetic may have more or less than they list on the label (66%)
- ▶ 3 mg in the late afternoon/early evening for sundowning. Has been shown to be moderately beneficial. There's absolutely NO HARM in trying melatonin in patients who are sundowning—few drug interactions (immunosuppressants, anti-coagulants—but not game changers), no side effects (maybe nausea, but not a game-changer).
- ▶ Of course, environmental contributors must also be addressed. Diminishing sunlight as the evening progresses combined with cataracts or glaucoma, hearing impairment, and fatigue can make sundowning worse. (Cardinali D, et al. Clinical Aspects of Melatonin Intervention in Alzheimer's Disease Progression. *Curr Neuropsychopharmacol* 2010 Sep; 8(3): 218–227)

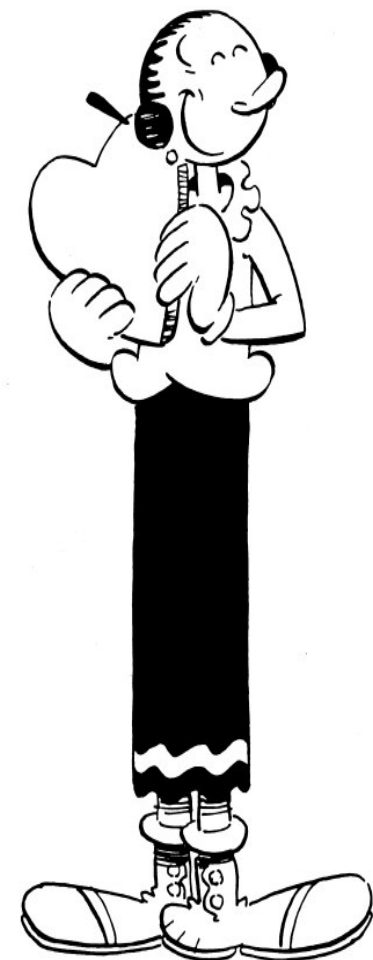
Antioxidants...buzzword...

- ▶ Given the name “anti”, which means “against”, antioxidants are powerful vitamins and chemicals that sop up “oxidants” or “free radicals.”
- ▶ Free radicals contribute to atherosclerosis, gene mutations and cancer, skin aging...and more...so it kind of makes sense that we would want to STOP free radicals from functioning...
- ▶ Should you go out and buy those expensive antioxidant formulas that you see on late-night TV? NO. period.
- ▶ Every nutrition expert in the world concurs that antioxidants are best ingested from food sources
- ▶ So what are the best food sources?



Foods are better as antioxidants—and there are lots of delicious ones

- ▶ Extra virgin olive oil contains powerful antioxidants. However, if it loses its “virginity” so to speak, and it is processed to create a milder, “light” olive oil, it also loses its antioxidant property—so make sure it’s EXTRA VIRGIN (buy the “good olive oil”)— *“yuck Barb it tastes terrible...”*
- ▶ DID YOU KNOW? People eat twice as many vegetables when sautéed in extra virgin olive oil than when cooked with butter or when steamed.



Foods are better as antioxidants—and there are lots of delicious ones

- ▶ Carotenoids (ex. beta carotene), the pigments that give many fruits and vegetables their yellow and orange colors, also act as antioxidants.
- ▶ Lycopene, a specific carotenoid found in tomatoes, is a powerful antioxidant that is “unleashed” when the **tomato is cooked**—proven to be heart healthy (Mol Nutr Food Res. 2012 Feb;56(2):296-303. doi: 10.1002/mnfr.769.



Foods are better as antioxidants—and there are lots of delicious ones

- ▶ Flavonoids are the largest group of phytonutrients (polyphenols), with more than 6,000 types. Along with carotenoids, they are responsible for the vivid colors in fruits and vegetables.
- ▶ Resveratrol, found in the skins of red and purple grapes is also a potent antioxidant. Hmmmmm...
- ▶ Back to the decision...wine or grapes?



WINE or GRAPES?

► Hello???

My doctor says I
need glasses.



Wine also saves marriages...😊 (grapes don't)

Secrets to a long happy marriage



A old woman was sipping on a glass of wine, while sitting on the patio with her husband, and she says, "I love you so much, I don't know how I could ever live without you"... Her husband asks, "Is that you, or the wine talking?"... She replies, "It's me... talking to the wine."

Debbie Downer... Can grape juice provide as much resveratrol as a glass of red wine?

- ▶ Sadly, yes.
- ▶ Four to 16 ounces of red grape juice daily (watch out for added sugars) is just as effective as 6 ounces of red wine for women and 12 ounces of red wine for men.



Top choices—anti-oxidants in foods

- ▶ EAT Berries: acai, black, blue, cran, rasp, straw, elder...anything with the last name BERRY (Juicing removes much of the antioxidant effect & the fiber)
- ▶ Beans—any bean that increases your basal flatal rate--lima beans, pinto beans, navy beans, black beans, red beans, etc.
- ▶ Dark Chocolate (don't forget the calories ☹)
- ▶ Kale still chewing the first piece of kale I ever tried—2016.
- ▶ Oranges (full of flavonoids)
- ▶ Spinach (lots of potassium)(Have you ever noticed that one pound of fresh spinach cooks down to about 1 cup?)



Antioxidants.

- ▶ So let's ask the question one more time: Should you go out and buy those expensive antioxidant formulas that you see on late-night TV? Absolutely NOT.
- ▶ But... there's always exceptions to all "absolutely NOT" rule and that exception is:
- ▶ **"Anti-oxidant" supplements for age-related macular degeneration**

People with moderate to advanced age-related macular degeneration benefit from special antioxidant supplements

- ▶ Supplements should contain the following (not necessarily in the same amounts listed)(**AREDS 2**) (Age-Related Eye Disease Study 2 showed that supplementation with certain micronutrients reduces the progression of dry AMD into the more advanced stage in which vision loss occurs by 24%. This AREDS2 formula contains:
 - ▶ lutein 10 mg (carotenoid)
 - ▶ zeaxanthin 2mg (carotenoid)
 - ▶ vitamin C 500 mg
 - ▶ vitamin E 400 IU
 - ▶ zinc oxide 80mg or 25mg (these two doses work equally well), and
 - ▶ cupric oxide 2mg
- ▶ (American Academy of Ophthalmology, 2019) (Evans JR, Lawrenson JG. Antioxidant vitamin and mineral supplements for slowing the progression of age-related macular degeneration. Cochrane Database Syst Rev. 2017;7:Cd000254)



Speaking of Omega-3 fatty acids...should we all be taking fish oil supplements with EPA for general cardiovascular disease/health?

- ▶ Controversial. The AHA (American Heart Association) recommends 1 gram/day of the marine fatty acids for patients with established coronary artery disease. They also recommend the same amount for people with major cardiac risk factors—HTN, DM, hypercholesterolemia
- ▶ Canadian guidelines recommend increased dietary omega-3 consumption, but cite that the current evidence does not support omega-3 supplements to prevent CV events in patients with CVD. (*Can Fam Physician* 2012 Nov; 58(11): 1225.)
- ▶ **BOTH groups support EATING fish high in omega-3 fatty acids twice a week. If using fish oil supplements, choose wisely as all supplements vary widely in the amount of actual fish oil contained. (Don't choose cod liver oil—hahaha...who would? Yucky, but also very high in vitamin A—toxicity)**

Speaking of Omega-3 fatty acids...should we all be taking fish oil supplements for general cardiovascular disease/health?

- ▶ **Lower Triglycerides.** The most consistent evidence for EPA omega-3s and heart health is their ability to lower triglyceride levels. (Skulas-Ray, Ph.D., science advisory published in the American Heart Association journal *Circulation* (September 2019).

Krill oil -- Omega-3 fatty acids with a hefty price tag

- ▶ ...what are krill? ...miniscule shrimp-like crustaceans eaten by whales, seals, penguins, squid and fish;
- ▶ Krill oil, like all fish oil, contains EPA and DHA, the marine-based omega-3 fatty acids
- ▶ The good news: You may absorb 20-30% more omega3s from krill oil
- ▶ The bad news: at 10 times the cost
- ▶ OUCH.



Vegetarians and vegans—no fish?

- ▶ OK, so you are a vegetarian, vegan, allergic to seafood, or just plain don't like seafood.
- ▶ The omega-3 fatty acid in the non-marine based foods is alpha-linolenic acid (ALA). It has to be converted into omega-3 fatty acids in the body once consumed.
- ▶ Options: walnuts, avocados, green leafy vegetables, canola oil, soybean oil, flax oil, algae oil, tofu, **ground** flaxseeds, chia seeds
- ▶ seaweed and algae (one of the few plant groups that contain DHA and EPA)(Nori seaweed is the wrap used for sushi)



Thanks.

- ▶ Barb Bancroft, RN, MSN, NP\
- ▶ bbancr9271@aol.com
- ▶ www.barbbancroft.com



About CE credit

Administrator credit

This program has been approved for Continuing Education for one total participant hour by NAB/NCERS.

Approval #20210820-1-A68432-DL

Q & A

Obtaining CE credit

- ▶ Complete the evaluation at the conclusion of this program:
 - In your web browser
 - Also emailed immediately following this program
- ▶ For those sharing a computer to view the webinar:
 - Submit your sign-in sheet to the email address listed on the form
 - Each participant will then be emailed a link to the evaluation
 - Each person must complete an evaluation to receive CE credit
- ▶ Certificates should be emailed in about 30 days

Want more CE after this?

Join us for our next webinar:

Friday, September 25th

Details to Come!

ForumPharmacy.com

THANK YOU!