



ACOFP 58th
ANNUAL CONVENTION
& SCIENTIFIC SEMINARS

VIRTUAL

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 acofp '21
ANNUAL CONVENTION & SCIENTIFIC SEMINARS



Wellness: Vitamins, Supplements, and more

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Disclosures







WE ARE LOVE HEALTH

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 - *“The Orthopedic Stem Cell Experts”*
- Kresser Institute Trained Clinician and Kresser Institute medical advisory board
- DrAxe.com medical advisory board
- Love Health Partner

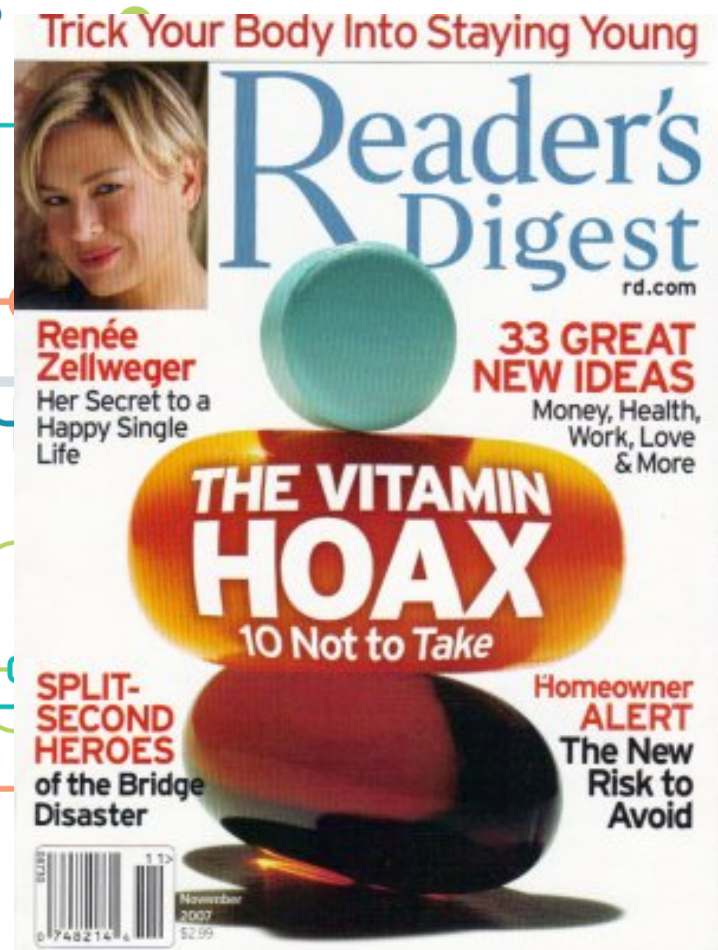


SOCIAL MEDIA INFO

- Employed by Regenexx Tampa Bay/Sarasota
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Vitamins and Supplements: Do They Work?

o The picture is mixed, but thumbs up for vitamin D and fish oil



Slate



BRIEFING NEWS & POLITICS ARTS LIFE BUSINESS &

HOME / MEDICAL EXAMINER : HEALTH AND MEDICINE E

The Vita Myth

Do supplements really do any good?



Objective

- Identify the ten most common supplements that are used today
- Discuss the best practices for identifying a quality supplement supplier
- Identify some of the most common conditions that benefit from quality supplementation



10 of the most common nutraceuticals

- Fish oil
- Vitamin D
- Probiotics
- Alpha Lipoic Acid
- Co-Q10
- L-Carnitine
- DHEA
- Glucosamine Sulfate
- Curcumin
- Melatonin

Targeted Supplementation

- **How do you know if someone needs a nutrient?**
 - History and Physical Exam
 - Lab testing
 - Serum levels
 - Functional cellular need
 - Genetic testing (SNPs)
- **What is the best way to obtain a nutrient?**
 - In general , through food





Targeted Supplementation

- **Are these substances bioactive?**
 - Yes
 - However, does the product contain what it says it contains and is it formulated to be well absorbed?
 - Not regulated by FDA because they are “natural”
 - Therefore, illegal for manufacturer to make claims about impact on disease
 - Don't confuse this with actual effect



Targeted Supplementation

- Major problem
 - use of synthetic forms, dyes, preservatives, fillers, additives, excipients
 - Studies have generally neglected to account for this

Product Details

Ingredients

Directions

Warning

Calcium Carbonate, Starch. Contains Less than 2% of: Acacia, Cholecalciferol (Vit. D3), Croscarmellose Sodium, DL-Alpha Tocopherol, FD&C Yellow 6 Aluminum Lake, Magnesium Stearate, Medium-Chain Triglycerides, Polyethylene Glycol, Polyvinyl Alcohol, Sucrose (Adds Trivial Amount of Sugar), Talc, Titanium Dioxide, Tricalcium Phosphate.

- Check www.consumerlabs.com
- Get to know reputable manufacturers



Targeted Supplementation

- **What about the studies that say that supplementation is dangerous or a hoax?**
 - Avoid sensational headlines
 - Some things are more dangerous than others
 - In general, much much safer than prescription drugs
 - Strong incentive to run studies that are negative

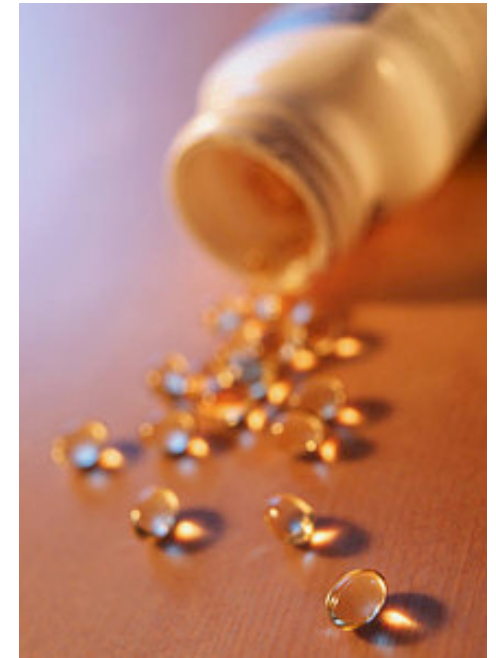


Targeted Supplementation

- **What is the best overall approach?**
 - In general, think of supplements as supportive of physiological functions rather than as drugs
 - However, there are many cases where they can be utilized as a drug

Supplements aka Nutraceuticals

- Substituting a natural substance (like an herb or vitamin) in place of a pharmaceutical agent
 - “one pill to cure one ill”
 - may occasionally have merit
- Not the preferred approach
 - Better to evaluate antecedents, triggers, and mediators as part of the history and physical exam and laboratory testing to determine which nutrients to use





Fish Oil

“Dietary supplementation with omega-3 fatty acids significantly reduced the risk of cardiovascular deaths, sudden cardiac death, all-cause mortality, and nonfatal cardiovascular events.”



Fish Oil Speaks to our Genes

“A high EPA+DHA intake changed the expression of 1040 genes ... EPA+DHA intake resulted in a decreased expression of genes involved in inflammatory- and atherogenic-related pathways, such as nuclear transcription factor kappaB signaling, eicosanoid synthesis, scavenger receptor activity, adipogenesis, and hypoxia signaling”





Fish Oil and other conditions

- From Randomized, Double Blinded Clinical Trials
 - Depression
 - Bipolar
 - Hot Flashes
 - Auto immune disease
 - E.g. Rheumatoid Arthritis
 - High Blood Pressure
 - High Triglyceride
- Other
 - Asthma, dysmenorrhea, osteoporosis, crohns

Vitamin D

Strong evidence of connection between Vitamin D levels and the following:

- Mortality
- Blood Pressure
- Cancers (breast, colon, prostate, others)
- Autoimmune diseases (e.g. Multiple Sclerosis)
- Type 2 Diabetes
- Muscle weakness and pain
- Osteoporosis
- Falls
- Seasonal affective disorder
- Tooth retention
- COVID-19?



Probiotics

- For ulcerative colitis, reduction of adverse effects of antibiotics, eczema, H. Pylori
Grade A (Strong Scientific Evidence)
- For irritable bowel syndrome (IBS), cirrhosis, colon cancer, dental caries, diarrhea, growth in children, immune enhancement, gastrointestinal and respiratory infections, acute pancreatitis. sinusitis
Grade B (Good Scientific Evidence)



Alpha Lipoic Acid

- For Diabetes (improve blood sugars)
Grade A (Strong Scientific Evidence)
- For neuropathy associated with diabetes or cancer treatment
Grade A (Strong Scientific Evidence)



CO-Q10

- For High Blood Pressure
Grade B (Good Scientific Evidence)
Many other possible indications





L-Carnitine

- L-Carnitine
 - For stable angina
 - Grade B (Good Scientific Evidence)
 - For peripheral vascular disease
 - Grade B (Good Scientific Evidence)
 - Many other indications (for acetyl-L-carnitine)



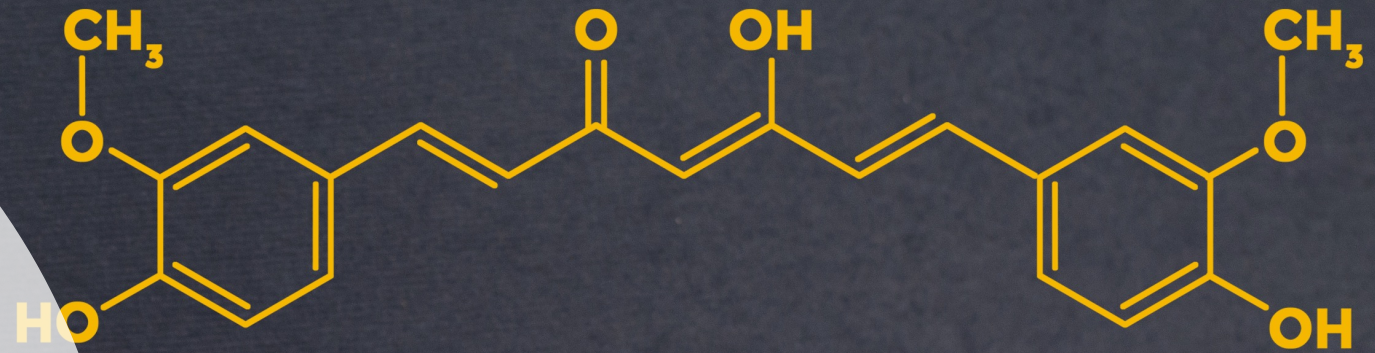
DHEA

- Depression
- Obesity
- Lupus
- Bone density
- Grade B (Good Scientific Evidence)



Curcumin

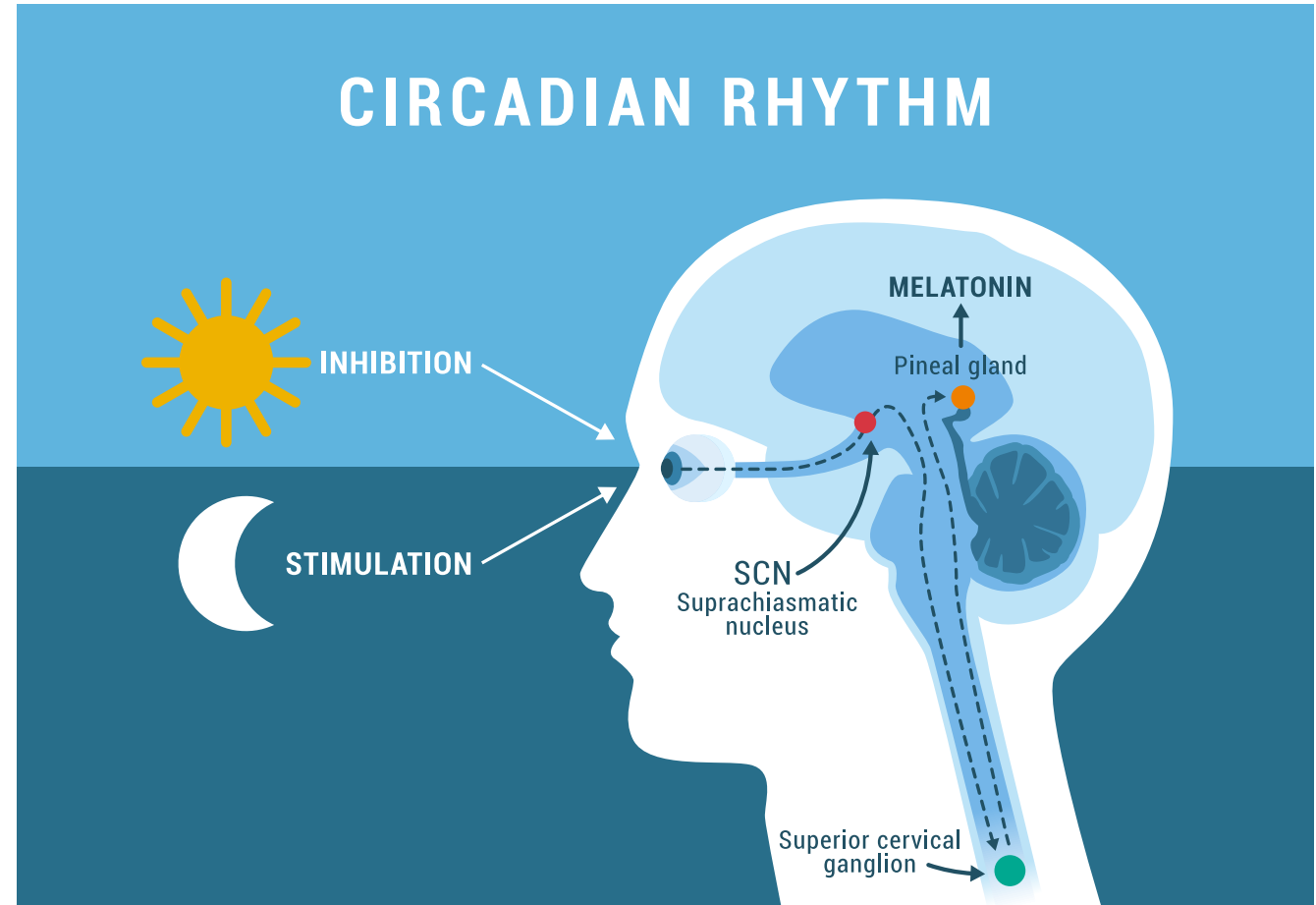
- Acts as a potent anti-oxidant and anti-inflammatory when combined with piperine (increases bioavailability)
- “Research suggests that curcumin can help in the management of oxidative and inflammatory conditions, metabolic syndrome, arthritis, anxiety, and hyperlipidemia.”



Curcumin

Melatonin

- Has been shown according to some studies to help with jet lag and insomnia but we can't recommend for sleep and sleep efficacy.





Glucosamine Sulfate

- For Knee Osteoarthritis (mild-moderate)
 - Grade A (Strong Scientific Evidence)



How To Use Supplements

Many different ways

- Supplements **as a drug** based on specific disease indications:

- Oral: Examples:

- **Niacin** → lipids
- **Metanx** (L-Methylfolate, P5P, and MethylB12) → peripheral neuropathy
- **Alpha Lipoic Acid** → diabetic neuropathy
- **Lycopene** → benign prostatic hyperplasia
- **Chondroitin** → knee osteoarthritis
- **Fish Oil** → Triglycerides
- **Milk Thistle** → protection against liver toxicity from Chemo
- **N Acetyl Cysteine** → OCD, trichotillomania, cocaine addiction, polycystic ovaries



How To Use Supplements

Many different ways

- **Intravenous: Examples:**

- **Magnesium** → asthma, preeclampsia, cardiac dysrhythmia
- **N-Acetyl-cysteine (NAC)** → tylenol overdose, nephroprotective against contrast dyes, cystic fibrosis, mucolytic, prevent reperfusion injury after CABG
- **Omega-3** → atrial fibrillation prevention after CABG surgery
- **Vitamin C** → high dose (cancer adjunctive therapy)
- **Glutathione** → parkinson's disease
- **Alpha Lipoic Acid** → diabetic neuropathy, burning mouth syndrome



How To Use Supplements

Many different ways

- Supplements for treatment of a deficiency
- Examples:
 - **pernicious anemia** → B12
 - **iron deficiency anemia** → iron
 - **Hypo/hyperkalemia** → potassium
 - **Pellagra** → niacin
 - **Scurvy** → vitamin C
 - **Beri Beri** → thiamine



How To Use Supplements

Many different ways

- Supplements for the treatment of suboptimal levels based on functional need
 - Examples:
 - Elevated homocysteine → B12, Folate, B6, B2, NAC, betaine
 - Elevated methylmalonic acid → B12
 - Elevated lipid peroxides → Vitamin E mixed form



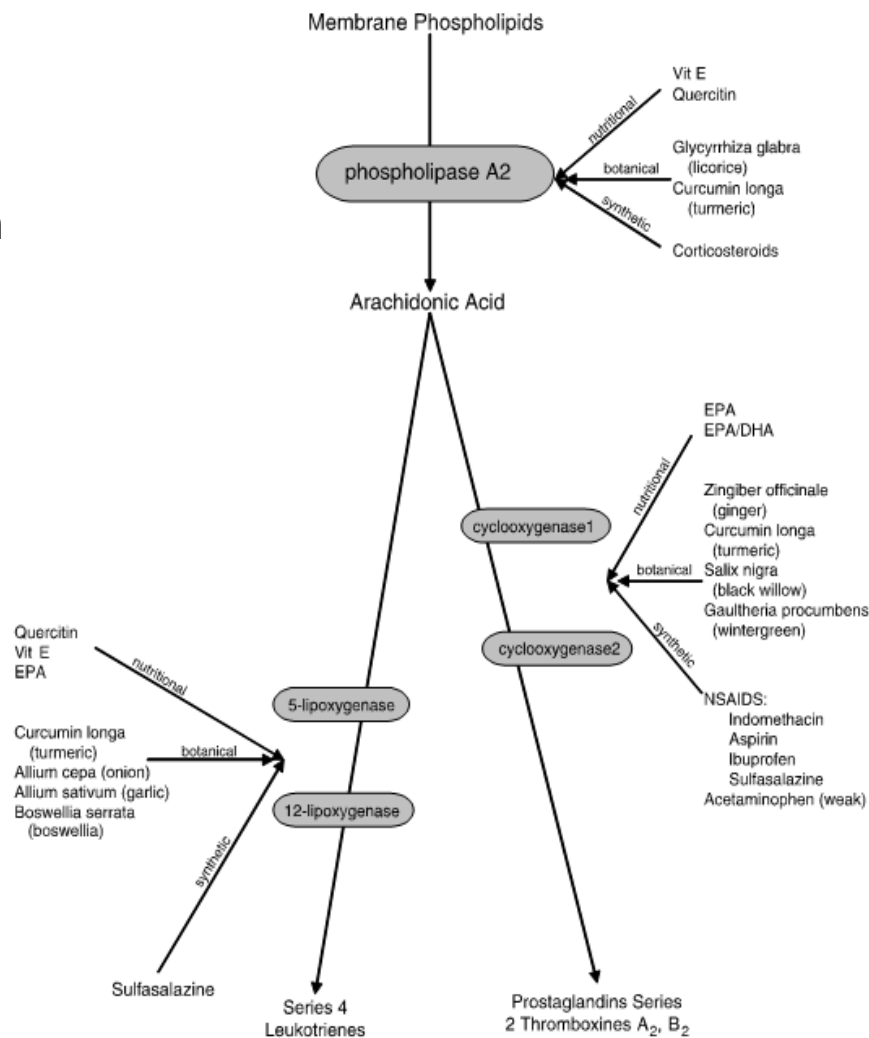
How To Use Supplements

Many

- Supplements to modulate inflammation (cox-2, etc)

Examples:

- **Curcumin**
- **Boswellia**
- **Quercitin**
- **Omega-3**
- **Vitamin D**
- **Probiotics**
- **Ginger**





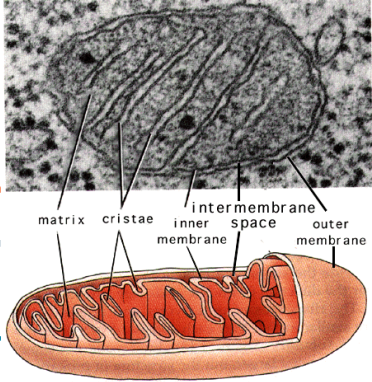
How To Use Supplements

Many different ways

- Supplements to support phase 2 detoxification (up regulate detox enzymes)
 - Examples:
 - **Sulforophane** (sulfation, gluronidation, glutathione conjugation)
 - **D-Limonene** (glucoronidaiton)
 - **NAC** (glutathine conjugation)
 - **Milk Thistle** (multiple effects)
 - **Selenium** (co-factor for glutathione)
 - **Alpha lipoic acid**



“Where’s the washroom? I need to detoxify.”

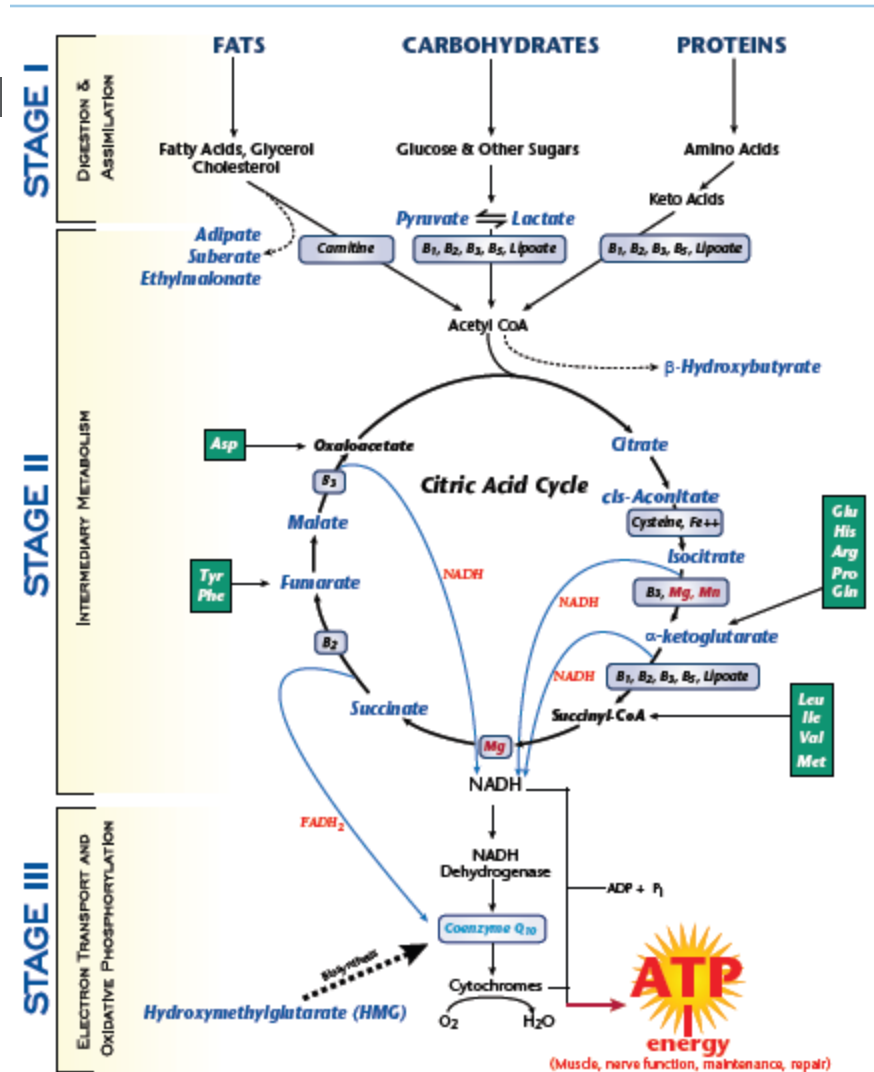


How To Use Supplements Many different ways

Supplements to support mitochondrial function

Examples:

- D-Ribose
- CoQ10
- L-carnitine
- Magnesium
- B's
- Resveratrol
- Alpha lipoic acid





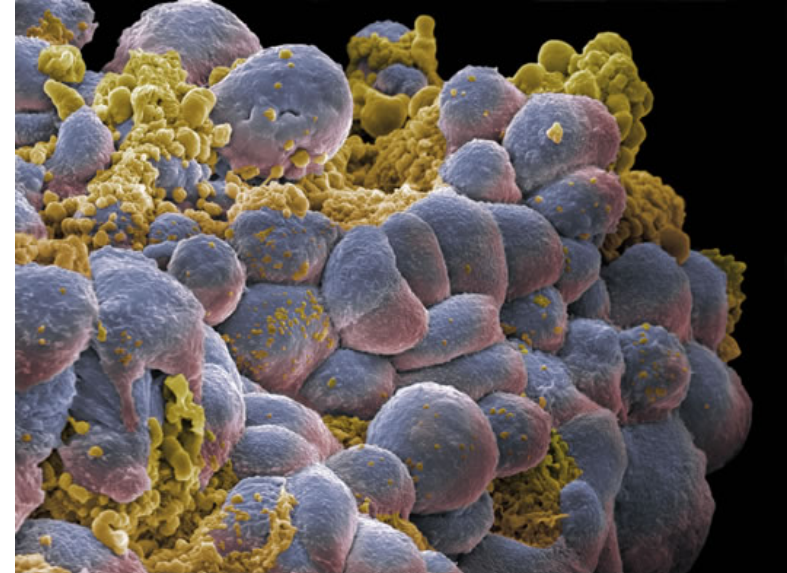
How To Use Supplements Many different ways

- Supplements to support insulin/glucose metabolism
 - **Examples:** Cinnamon, alpha lipoic acid, green tea, vitamin K, vitamin D, fibers
- Supplements to support endothelial function
 - **Examples:** Arginine, garlic, folic acid, vitamin C, vitamin E, CoQ10



How To Use Supplements Many different ways

- Supplements to support cancer cell apoptosis
 - **Examples:**
 - Curcumin
 - Sulforaphane
 - Fermented wheat germ
 - Modified citrus pectin
 - Green tea
 - Garlic
 - Etc.





How To Use Supplements Many different ways

- Supplements to support hormone production
 - Examples: **Selenium, iodine, zinc, vitamin D, arginine, boron**
- Supplements to support neurotransmitter function
 - Examples: **5HTP, L-tyrosine, Gaba, B6, taurine, NAC, vitamin D**
- Supplements to support GI balance
 - Examples: **probiotics, prebiotics, digestive enzymes, glutamine, aloe, DGL**



Conclusion

- Supplements when used correctly and from quality sources can be extremely beneficial to our patients.
- When joining or setting up a practice make sure that you have a reputable source for supplements.

SOCIAL MEDIA INFO

- Thank you to the ACOFP for having me present today

-  : @ACOFP

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