

Nutritional and Herbal  
Supplements That Seniors  
Commonly Use  
(Benefits and Dangers)

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# Questions

- ▶ What supplements are most commonly used by senior patients?
- ▶ What are barriers to discussing supplement intake with your patients?
- ▶ Are you aware of any potential dangers?

# Supplements Among our Elderly

- ▶ A dietary supplement a “products taken by mouth that contain a ‘dietary ingredient.’ Dietary ingredients include vitamins, minerals, amino acids, and herbs or botanicals, as well as other substances that can be used to supplement the diet” (FDA, 2015).
- ▶ There is an increasing number of supplements being used by seniors
- ▶ Objective: To become better informed about some of the supplements that seniors are using, and knowledgeable about the potential benefits and risks.



# Supplement Usage

- ▶ In the U.S. 77% of the adult population report taking at least one dietary supplement (CRN, 2019).
- ▶ Supplements can be purchased over the counter, without a prescription
- ▶ Research shows limited patient disclosure about dietary supplement intake to their provider
- ▶ Providers seldom inquire on use and safety of dietary supplements
- ▶ Risk of unintentional supplement misuse or harm
- ▶ This increases their risk of interactions with their prescription medication (Tarn et al., 2014).
- ▶ Supplements can be on the market without FDA approval (FDA, 2019).
- ▶ FDA places the responsibility on the manufacturing companies to remain compliant in producing good quality, safe supplements

# Questions Patient's Have

- ▶ Q: Is it better to get vitamins from food or supplements?
- ▶ A: Supplements work best when taken with a well balanced diet but should not take the place of healthy foods.
  
- ▶ Q: Should I take a Multivitamin?
- ▶ A: Many elderly patients are not getting the daily recommended doses of vitamins and nutrients, and it does not hurt to take a multivitamin.
  
- ▶ Q: Can I take too many Vitamins?
- ▶ A: Vitamins are mostly safe to take, but Fat-soluble vitamins are more likely to be toxic if taking too much, because they are stored in the body, where as water-soluble are excreted

# Multivitamin

- ▶ Recommended for adults over 50.
- ▶ When choosing a supplement, select one that meets 100 of the RDA.
- ▶ A multivitamin contains fat-soluble: vitamins A, D, E and water-soluble: vitamins B1, B2, B6, B12, niacin, pantothenic acid, biotin, folic acid , and Vitamin C.
- ▶ They will also usually have minerals such as zinc, magnesium, copper, and calcium in them.
- ▶ Risk: Multivitamins can be harmful in excess because they offer a large amount of fat-soluble vitamins
- ▶ Caution in liver or kidney disease



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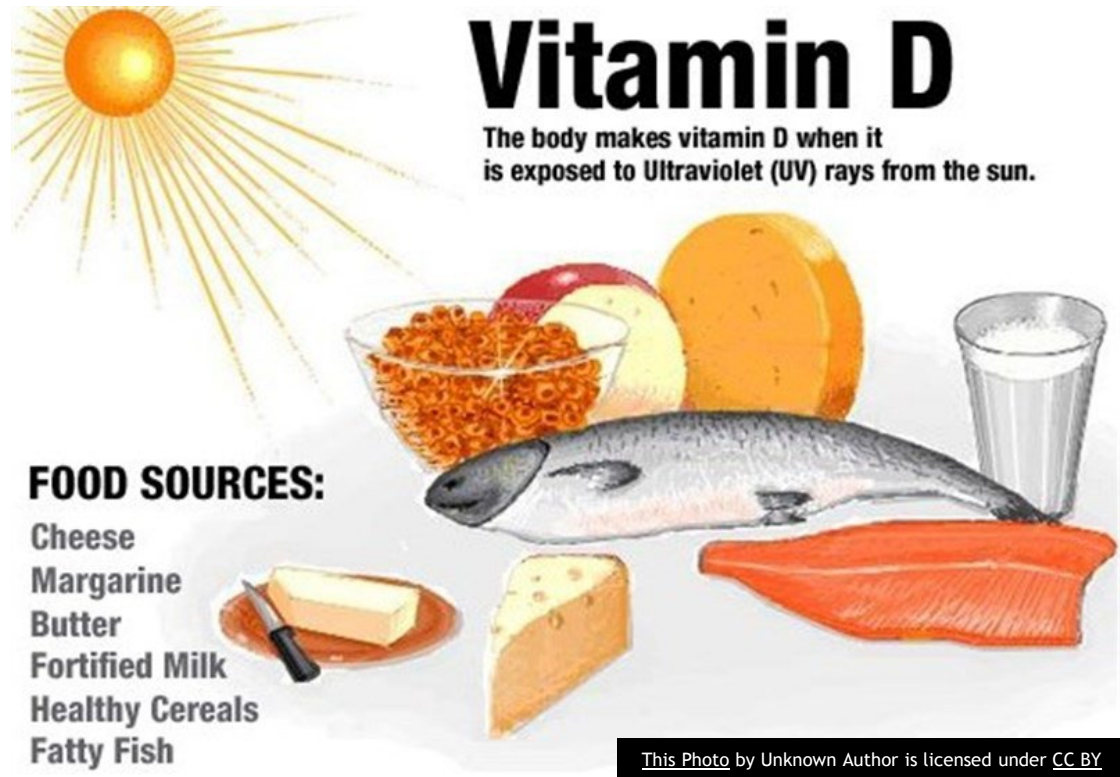


# Vitamin C (Ascorbic acid)

- ▶ Water Soluble (Excess will be excreted)
- ▶ Antioxidant
- ▶ Helps fight off infections
- ▶ Helps prevent some types of cancer (kills free radicals)
- ▶ Helps your body absorb iron
- ▶ Deficiency: Weight loss, fatigue and joint pain, scurvy, slow healing, fractures, and reduced resistance to colds and infections
- ▶ Adverse Reactions: Large Doses can cause GI upset
- ▶ Drug Interactions: Concerns that it could reduce the effects of chemotherapy drugs



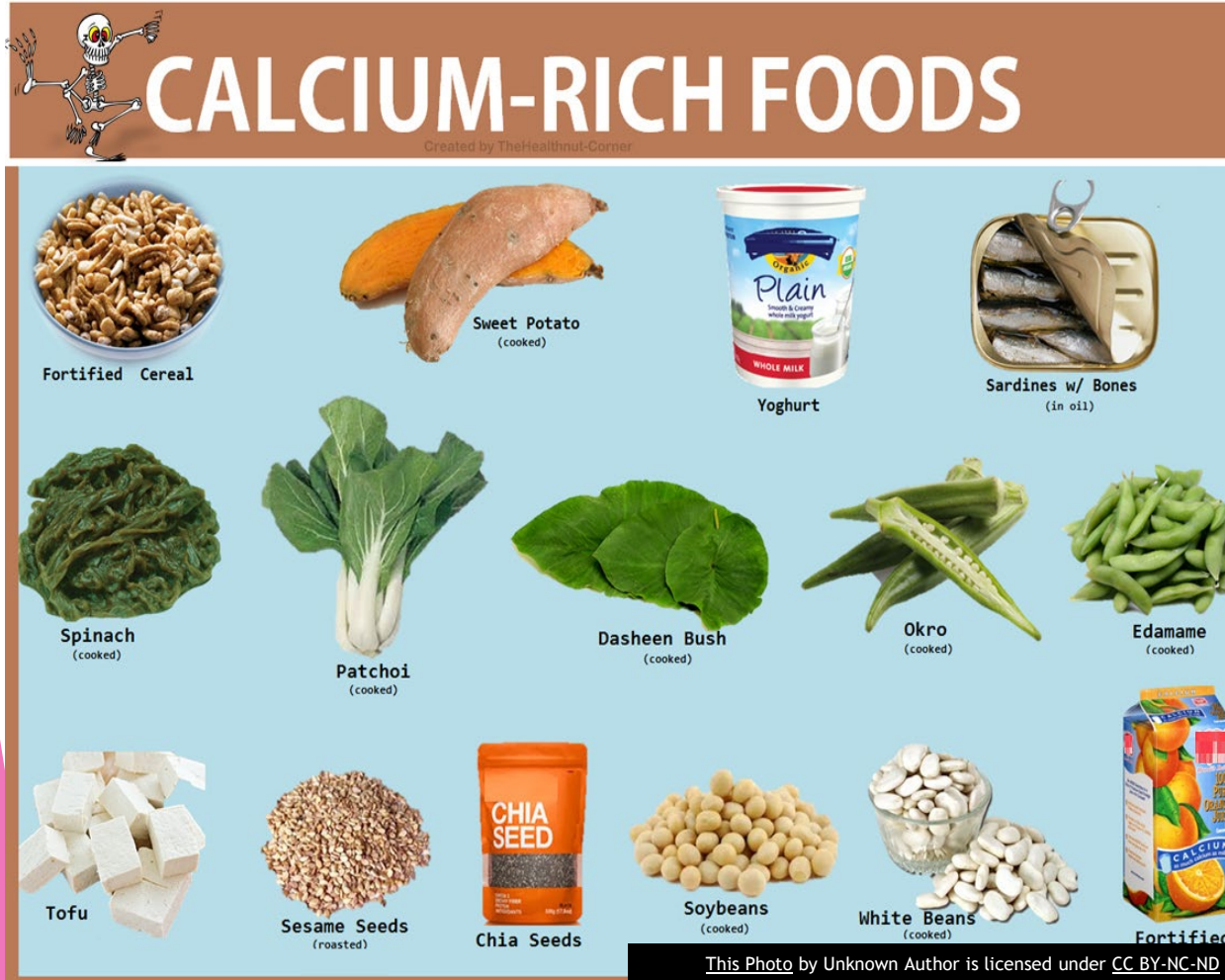
# Vitamin D



- ▶ Fat-Soluble, so more risk for toxicity
- ▶ Symptoms of deficiency: muscle weakness, pain, fatigue, depression, thin bones, hair falling out.
- ▶ Who is at risk: Elderly and low exposure to sun
- ▶ Vit D2 (ergocalciferol) comes from Plant source
- ▶ Vit D3 (Cholecalciferol) comes from sun
- ▶ Adverse Effects of too much: weakness, dry mouth, GI symptoms, unsafe high levels of calcium in the blood
- ▶ Drug Interactions: Possible interactions with statins, digoxin, diltiazem, and corticosteroids (interfere due to increase Calcium or decreasing absorption)



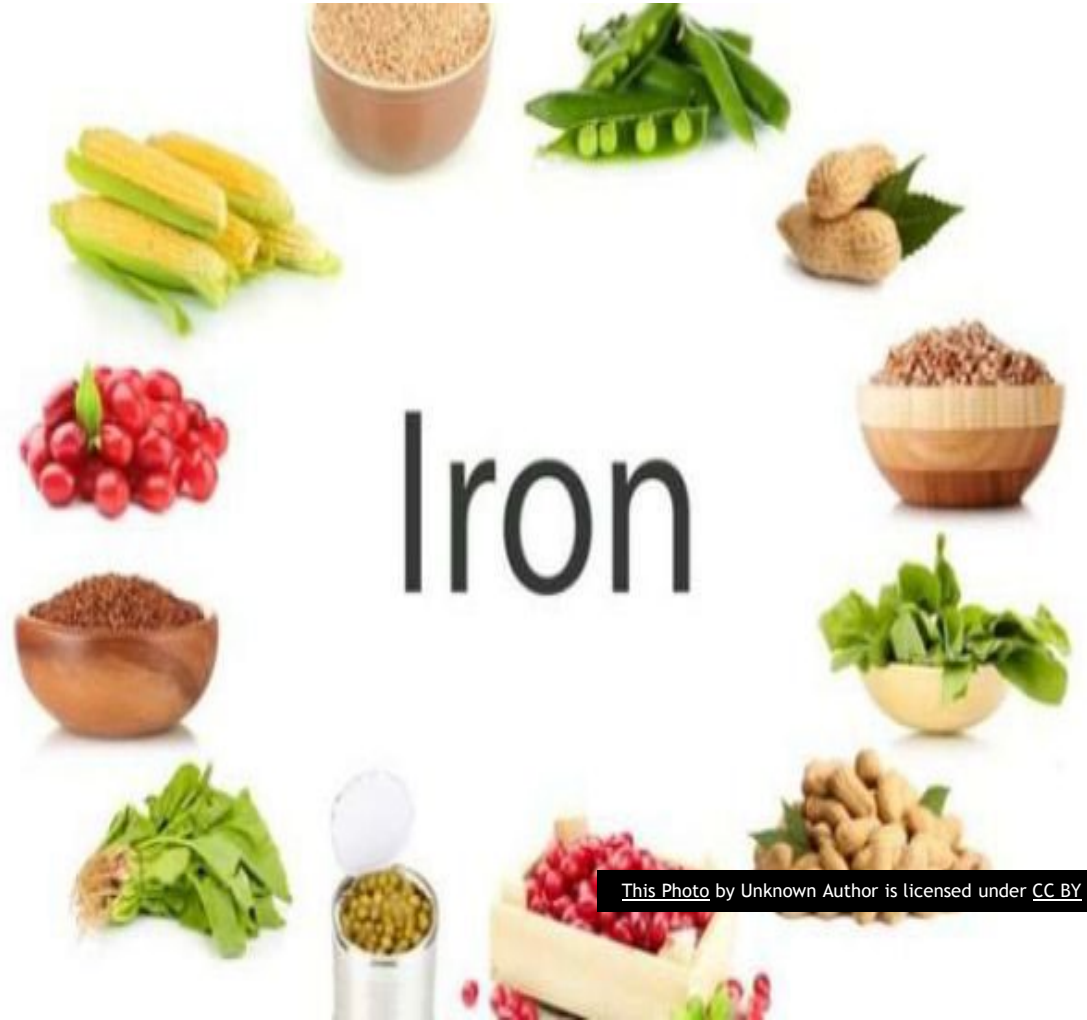
# Calcium



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- ▶ Fat-Soluble, so more risk for toxicity
- ▶ Symptoms of deficiency: Fatigue, lightheaded, dizzy, brain fog, pins and needles, confusion, muscle cramps, seizure
- ▶ Calcium Regulation: Parathyroid hormone, Vit. D, and Calcitonin
- ▶ Who is at risk: Woman, people with GI disorders, people with low Vit. D, Hypoparathyroidism.
- ▶ Adverse effects of too much: GI, renal stones, weakness, fatigue, dysrhythmia, coronary calcification.
- ▶ Drug Interactions: Glucocorticoids (decrease absorption Ca). Calcium decreases absorption of tetracycline
- ▶ Need to also supplement with Vit D.

# Iron



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- ▶ Both water and Fat soluble
- ▶ Symptoms of deficiency: Dizziness, fatigue, lightheaded, palpitations, tachycardia, brittle nails, pallor, shortness of breath.
- ▶ Who is at risk: Woman, the very young, elderly, people with GI bleed, child birth, menstruating.
- ▶ Adverse Effects: GI symptoms, constipation, black stool, yellow teeth
- ▶ In severe cases of too much iron: Organ failure, seizure, death.
- ▶ Drug Interactions: Iron can cause other drugs to not work as well including: antibiotics, drugs for Parkinson's, and seizure meds. Meds that decrease stomach acid will impair iron absorption.
- ▶ Vit. C will help enhance the iron absorption

# Vitamin B12 Cobalamin



- ▶ Water Soluble
- ▶ Important for: Nerve function, production of RBCs, fat and protein metabolism, prevention of anemia, DNA reproduction, energy
- ▶ Supplementation: Vegetarians and Elderly (often have trouble absorbing), pernicious anemia, HIV
- ▶ Deficiency: anemia, nerve damage, hypersensitive skin, weakness, numbness/tingling, nausea, weight loss, irritability
- ▶ Adverse Reaction to too much: GI side effects and headache
- ▶ No drug interactions, but many meds can decrease Vit B12 absorption: Colchicine, Metformin, antibiotics, anti seizure meds, H2 Blockers (antacids)



# Omega 3

- ▶ More of a fat soluble
- ▶ Benefits: Lower Blood pressure, lower triglycerides, slow development of plaque in arteries, reduce chance of abnormal heart rhythm, lower chance of heart attack or stroke.
- ▶ Symptoms of deficiency: Fatigue, poor memory, dry skin, heart problems, mood swings depression, poor circulation.
- ▶ Who is at risk: Much of the world's population. Usually caused by not consuming enough.
- ▶ Foods: Seafood, nuts, seeds, plant oils.
- ▶ Adverse effects of too much: low blood pressure, thinning blood, bleeding or increase risk of bruising, GI side effects.
- ▶ Drug Interactions: No known drug interactions.



# Magnesium

- ▶ More water soluble
- ▶ Benefits: Combat depression, boost performance, support healthy blood sugar, heart health, anti-inflammatory, muscle relaxation, regulate nervous system.
- ▶ Symptoms of deficiency: loss of appetite, nausea, fatigue and weakness, muscle spasms, hyperexcitability, sleepiness, abnormal heart rhythm
- ▶ Who is at risk: Alcoholism, CHF, diabetics, chronic diarrhea
- ▶ Foods: Nuts, spinach, seeds, beans, dark chocolate, peanut butter, whole wheat, avocado
- ▶ Adverse effects of too much: Loose stools, abdominal cramping, abnormal heartbeat, low blood pressure, slowed breathing, coma.
- ▶ Drug Interactions: Medications that slow blood clotting (anticoagulants and antiplatelets), magnesium can slow blood clotting. Can cause decrease absorption of antibiotics. Can increase side effects of beta blockers or calcium channel blockers







# Probiotics

- ▶ Good bacteria that helps keep your body healthy and working well.
- ▶ Benefits: Fight off bad bacteria, improve irritable bowel syndrome, boost immune system, reduce inflammation, decrease allergies, help with constipation.
- ▶ Symptoms of deficiency: Digestive issues, constipation, diarrhea, heartburn, bloating, sleep issues, mood swings, depression, food cravings.
- ▶ Who is at risk: People who are taking an antibiotics.
- ▶ Foods: Yogurt, sauerkraut, kefir, sourdough bread, some cheeses
- ▶ Adverse effects of too much: Diarrhea, gas, headache, nausea.
- ▶ Drug Interactions: No known drug interactions. Can make antifungals more effective.

# Melatonin

- ▶ Natural Hormone that is highly lipid and water solubility
- ▶ Benefits: Used to promote sleep
- ▶ Adverse Effects of too much: headache, dizziness, nausea, and drowsiness, mild tremor, anxiety
- ▶ Drug Interactions: Anticoagulants/anti-platelets, anticonvulsants, contraceptives, diabetes medications, immunosuppressants.
- ▶ Caution in elderly or those with dementia, as it increases risk of falls
- ▶ It is safe for short term use and studies finding that it may also be safe for long term use.







# HERBS

- ▶ Many have a belief that herbal products are safe because derived from nature
- ▶ There is also peer influence to take herbs
- ▶ False claims from manufacturers
- ▶ Safety
  - ▶ Many patients do not inform their provider
  - ▶ Inappropriate or incorrect manufacturing process
  - ▶ FDA does not require reporting of adverse reactions from herbs
  - ▶ Mixtures are NOT standardized
  - ▶ Difficult to identify ingredients
  - ▶ Contamination



# Ephedra

- ▶ One of the most dangerous of all Herbs
- ▶ Banned in the US in 2004 by FDA
  - ▶ Used as a anorexiant, decongestant
  - ▶ Palpitations, MIs, death
  - ▶ Drug interactions
    - ▶ Theophylline, digoxin, caffeine



# Tumeric

- ▶ From a plant root in the ginger family.
- ▶ Decreases inflammation
- ▶ Improves memory
- ▶ Lessens pain
- ▶ Fight free radicals
- ▶ Lowers risk of heart disease
- ▶ Fight depression

## ▶ Adverse Effects:

- ▶ Nausea, diarrhea or risk for ulcers in high doses. May cause excess bleeding during surgery.

## ▶ Drug Interactions:

- ▶ Anticoagulants/Antiplatelets
- ▶ Diabetic medications
- ▶ Drugs that decrease stomach acid.





A close-up photograph of several bright green, fan-shaped Ginkgo biloba leaves attached to a thin brown stem. The leaves have a distinct vein pattern and are set against a blurred green background.

# Ginkgo Biloba

- ▶ Leaves of the ginkgo biloba tree
- ▶ Improves blood flow (brain and heart)
- ▶ Taken often for memory loss (Dementia)
- ▶ Protects against oxidative damage from free radicals (antioxidant)
- ▶ Inhibits effects of platelet activating factor

## ▶ Adverse Effects:

- ▶ Hypersensitivity reactions, gastrointestinal disturbances
- ▶ Spontaneous bleeding

## ▶ Drug Interactions:

- ▶ Anticoagulants/Antiplatelets
- ▶ Insulin



## St. John's Wort

- ▶ For the treatment of *mild-to-moderate depression*, data demonstrate that St. John's wort is:
  - ▶ Superior to placebo
  - ▶ As effective as low-dose tricyclic or SSRI antidepressants
- ▶ Adverse Effects:
  - ▶ Sun-exposure: Photosensitivity
  - ▶ *Insomnia*, vivid dreams, headache, dizziness
  - ▶ Dry mouth, GI symptoms, sexual dysfunction
- ▶ Drug Interactions:
  - ▶ MAOIs, SSRIs, Imitrex, tramadol : Increased serotonin
  - ▶ Cyclosporine: Decreased levels
  - ▶ Warfarin: Decreased INR (lab test)
  - ▶ Oral contraceptives or hormone replacement therapy: Breakthrough bleeding





# Echinacea

- ▶ **Uses:** Shortens the duration of common cold and flu (sore throat, fever, cough)
- ▶ **Adverse Effects:**
  - ▶ Stomach pain, fever, nausea, vomiting, unpleasant taste, and dizziness
- ▶ **Drug Interactions:**
  - ▶ Immunosuppressants: Interfere with therapy
  - ▶ Can cause hepatotoxicity, therefore should not be taken with other hepatotoxic drugs.

# Ginseng

- ▶ **Uses:** anti-inflammatory effects, regulates blood sugar, improves immune system, enhance brain function, benefits for some cancers.
- ▶ **Adverse Effects:**
  - ▶ Nervousness, insomnia, excitation, palpitations, affects blood pressure, lowers blood glucose, alters immune function
- ▶ **Drug Interactions:**
  - ▶ Antidiabetic agents
  - ▶ Warfarin





# Saw Palmetto

- ▶ Type of small palm tree
- ▶ May prevent hair loss
- ▶ May help with urinary incontinence
- ▶ Supports prostate health
- ▶ Decrease inflammation
- ▶ Regulates testosterone
- ▶ **Adverse Effects:**
  - ▶ Diarrhea, headache, fatigue, nausea, vertigo, decrease libido.
  - ▶ Very small chance of liver damage
- ▶ **Drug Interactions:**
  - ▶ Anticoagulants/Antiplatelets (this supplement affects blood's ability to clot.
  - ▶ Increase risk of bleeding. Stop use before surgery.







# Black Cohosh

- ▶ Type of flowering plant
- ▶ Helps with menopausal symptoms
- ▶ Decreases hormonal night sweats
- ▶ Helps with sleep
- ▶ Helps with heart palpitations
- ▶ Decreases anxiety and irritability

## Adverse Effects:

- ▶ Stomach upset, cramping, headache, rashes, vaginal spotting, weight gain, breast pain

## ▶ Drug Interactions:

- ▶ Reduces the effectiveness of statins



**“Ever since she’s been taking  
ginkgo biloba, she’s been remembering  
all our old arguments.”**



Questions are the path to learning

Questions

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