



# Supplements 101: The 5 Best-Selling Supplements

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# An Introduction

- How many of you are currently taking a supplement?
- Utah is known nationally for its supplement industry
  - Xango
  - Noni



# Purpose of Presentation

1. Information to make consumer-savvy choices

a. Use of supplement

b. Cautions/Side Effects

c. Dosage

2. Provide resources for further questions



# Before We Begin...

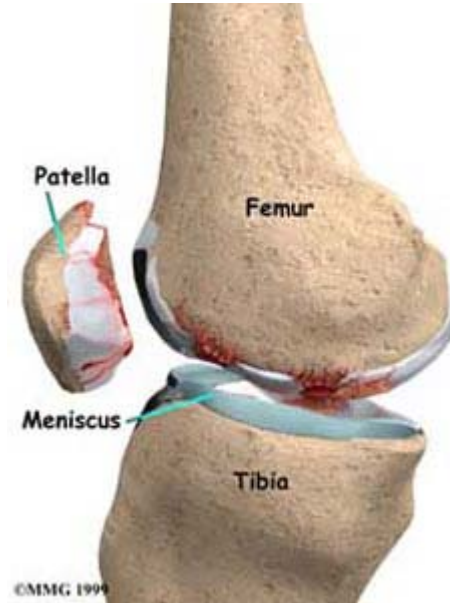
- Supplements not meant to replace foods, but to supplement diet
- Use peer-reviewed non-biased scientific trials to determine effectiveness
  - Double blind
  - Placebo controlled

*“If it doesn’t have a side effect, it probably doesn’t work.”*

# Extra Caution Advised To:

- Pregnant
- Breastfeeding
- Elderly
- Children
- Those taking other prescription medication
- Talk with your doctor before taking a supplement –
  - Drug interact
  - Cost
  - Effectiveness







# Glucosamine: 288 Million

- Glucosamine sulfate is a natural compound found in healthy cartilage
- Often combined with chondroitin
- Common Use: Pain reduction in joints for those with osteoarthritis

# Scientific Data

- Scientifically Backed:

- Knee osteoarthritis

- Osteoarthritis general

- More research needed for:

- Rheumatoid arthritis

- Temporomandibular joint (TMJ) disorders



# Standardization

## ■ Standardization:

- Measuring the amounts of chemicals in products to try and make preparations similar
- Should measure active ingredient, but not always so
- Not a drug in the USA so no quality testing

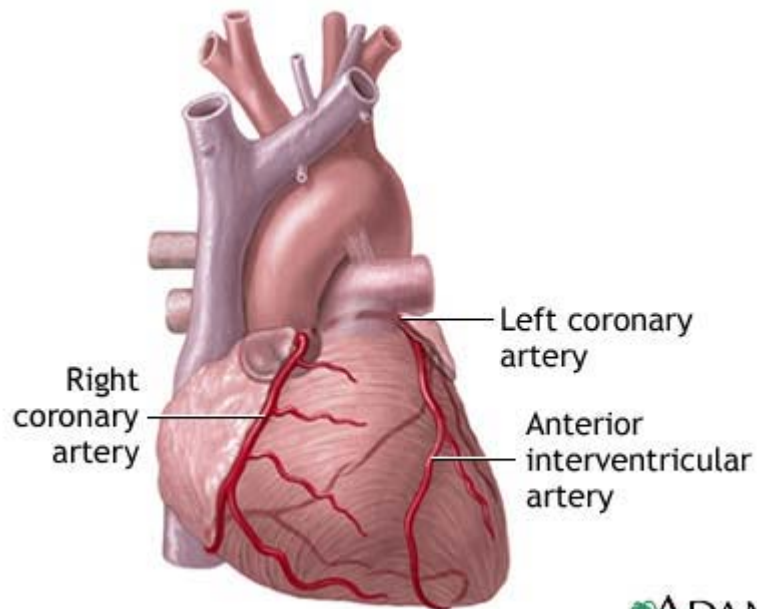
# Dosage and Side Effects

## ■ Dosage

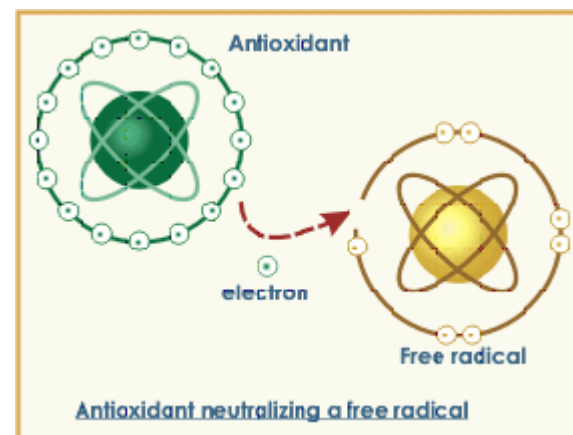
- In most studies, 500 mg glucosamine sulfate was used 3x/day for 30-90 days

## ■ Side Effects

- Well-tolerated
- Upset stomach, drowsiness, insomnia...
- In theory, may increase risk of bleeding and cataract formation



ADAM.



Heart  
Disease

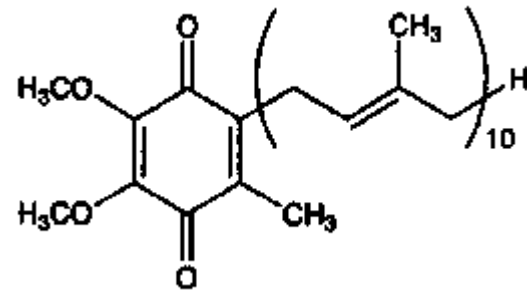
The text 'Heart Disease' is displayed in a serif font. To the right of the word 'Heart' is a red heart icon containing a white female symbol (a circle with a cross) and a white male symbol (a circle with an arrow).

# CoEnzyme Q 10: 41 Million



- Produced in the body and needed for basic functioning of cells
- Levels may lower with age and chronic diseases
- Levels may rise with supplementation, but replacement may not be beneficial
  - Like working in a factory and having only X number of machines

# Scientific Data



- Scientifically Backed:

May cause small decreases in blood pressure

- Epidemiological Data show low levels of CoQ 10 in hypertensives - more data needed

- Further evidence/better research needed:

Chest Pain, Exercise Performance, Heart Conditions

# Dosage and Side Effects

- Dosage:

- 50-1200 mg taken in divided doses daily

- Side Effects:

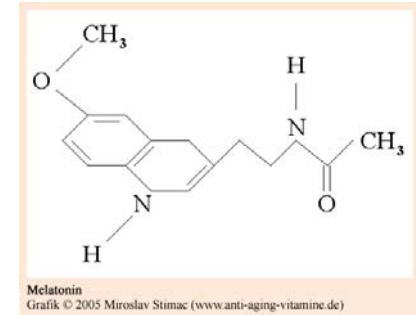
- Well tolerated

- Upset stomach, headache, fatigue...

- May lower blood sugar, may decrease blood pressure



# Melatonin: 31 Million



- Hormone produced in the brain that stimulated by darkness and suppressed by light. Levels are highest prior to bedtime.
- Possesses antioxidant activity

# Scientific Data



- Scientifically Backed:

- Jet Lag

- Reduced # of days until normal sleep pattern
    - Reduces amount of time to fall asleep
    - Reduces daytime fatigue

- \*Results greatest when traveling east and crossing more than 4 time zones

- Need more research:

- Insomnia in the elderly
  - Sleep aid in healthy people

# Dosing and Side Effects

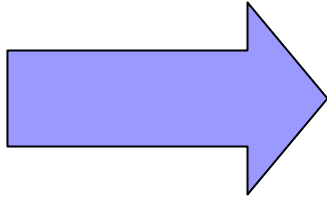
## ■ Dosing:

- Jet lag: 5 mg, started on day of travel, taken every 24 hours for several days
- Insomnia in elderly: 0.1-0.3 mg taken 30-120 min before bed
- Sleep aid in healthy: 0.1-0.3 taken 30-60 min before bed

## ■ Side Effects:

- Generally regarded as safe
- Blood Clotting abnormalities
- Increased risk of seizure
- Disorientation

This is a signaling molecule-



# Amino Acids: 21 Million



- Amino Acids are building blocks of proteins
- Powder form for sport performance/body building
- 20 different amino acids, get varying amounts from protein containing foods
  - Animal products, grains, legumes

# Scientific Data

- Scientifically Backed:

- Increases muscle size
- Weight gain

\*Must have training along with supplement

Will not make you look like a body builder unless you have type of body to do so.

Increase in calories, be careful



# Dosing and Side Effects

## ■ Dosing:

- 1-2 scoops of powder (2-4 Tbsp) before work out, variable upon brand
- Usually mix with water or milk\*
- Usually whey protein



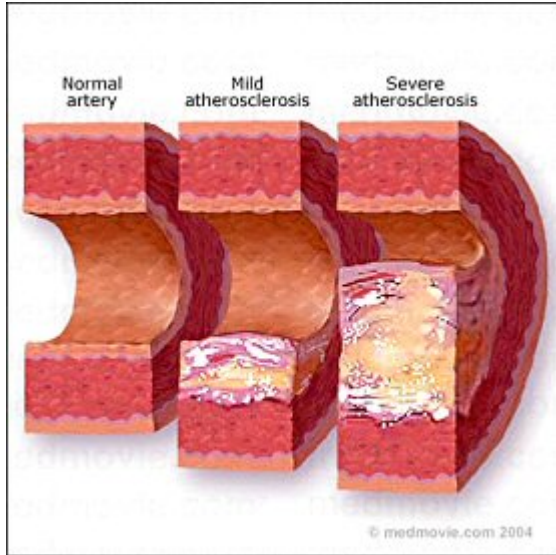
OR



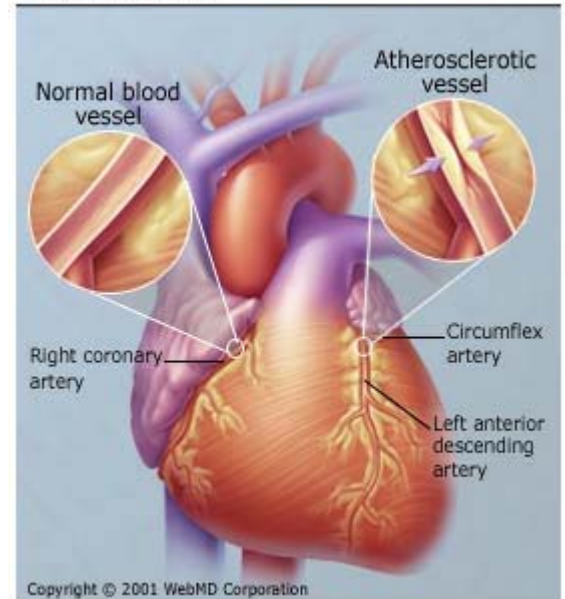
## ■ Side Effects:

- Well-tolerated
- Stomach cramping, diarrhea, weight gain

Consider whole foods



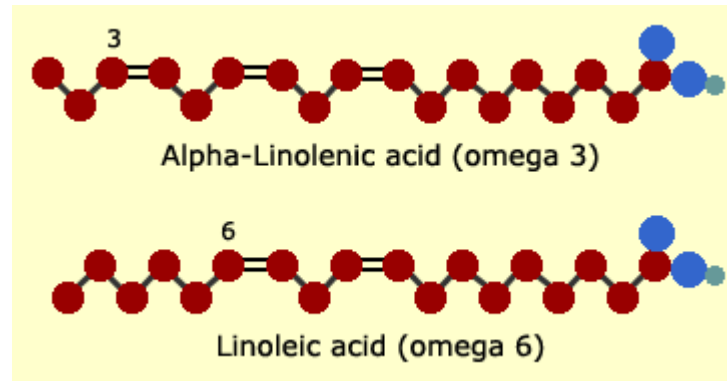
### Heart Disease



Hint:



# Omega 3 Fatty Acids: 14 Million



- A polyunsaturated fatty acid found in cell membranes
- Sources include fish oil and some plant/nut oils
- DHA and EPA found in fish oil, ALA found in plant/nut oils

# Scientific Data:



- Scientifically Backed:
  - Hypertriglyceridemia-additive effects if also taking a statin
  - Secondary heart disease prevention
  - High blood pressure
    - EPA/DHA data, not ALA
- Need more evidence:
  - Primary heart disease prevention
  - Rheumatoid arthritis
  - Stroke prevention
- Scientifically Lacking:
  - Diabetes
  - Hypercholesterolemia

# Dosing and Side Effects

## ■ Dosage:

- 2-4 g/day

- At doses >3 g/day, risk of bleeding increases and doctor should be consulted



## ■ Side Effects:

- Bleeding

- Environmental Contamination

- May increase LDL chol

- Long term fish oil supplementation (many months) may cause Vit E deficiency

# Other info to know about Omega 3s

- 90% of what the average American consumes comes from ALA, not EPA/DHA.
- Omega 3s and omega 6s compete with each other to be converted to active metabolites. Either decrease intake of omegas 6s or increase omega 3s

# Foods containing 1 g Omega 3s

## ■ Seafood:

- Cod 23 oz
- Haddock 15 oz
- Shrimp 11 oz
- Sardines 2-3 oz
- Crab 8.5 oz
- Salmon 2-5 oz
- Trout 3 oz

American Heart Association  
recommends 2 servings of  
fish/week

## ■ Plants/Nuts:

- Canola Oil 1 T
- Flaxseed Oil ½ t
- Olive Oil 10 T
- Walnuts 1.5 T



# References:

- MayoClinic.com
- National Institute on Aging
- What to Eat by Marion Nestle
  
- USU Extension:  
<http://extension.usu.edu/saltlake/>  
Link to Nutrition



# Jan 11: Herbal Supplements

- Top 10 Herbal Supplements
- What to watch out for in advertising
- Resources for Up-to-date information



Thank You