Fat Soluble Vitamins
Previously...

• Water soluble vitamins – B vitamins and Vitamin C

• Fat soluble vitamins – A, E, D and K
  – Last time we looked at Vitamin A
  – Useful for: vision, immune system function, cell growth, and even treatment of acne

• Let’s look at the other fat-soluble vitamins
A Closer Look: Vitamin E

• Used for: prevention of strokes, heart disease, cataracts, and cancer
  – Strong antioxidant vitamin

• Did you know? Natural vitamin E exists in 8 forms, although only alpha-tocopherol can be labeled as “Vitamin E” on food and supplement labels

• New research on people with mild to moderate Alzheimer’s disease
  – Took 2,000 IU of Vitamin E daily
  – Preserved their function – dressing and bathing without help, for example, longer than people taking no vitamin E OR those taking a prescription drug for Alzheimer’s
  – The vitamin E group slowed their disease progression by 6 months over the two year study
A Closer Look: Vitamin K

• Used for: blood clotting, bone formation
  – Vitamin K is required for normal blood clot formation (to prevent you from bleeding to death from a cut, for example)
  – Vitamin K keeps calcium in the bones and out of the arteries

• Two primary forms of vitamin K
  – Vitamin K1: phylloquinone
  – Vitamin K2: menaquinone
  • In a clinical trial of women with osteoporosis, after 6 months supplementation the vitamin K2 group increased bone density by 2% while the placebo group had a 7% DECREASE in bone density

• Did you know? Dark circles under the eyes are often considered a sign of low vitamin K or low vitamin B12 levels
A Closer Look: Vitamin D

• Useful for: bone formation, cancer prevention, mental function, immune system and cold and flu prevention
  – Some estimates are that up to 75% of US teens and adults are vitamin D deficient

• Vitamin D for Weight loss?
  – Women with the highest levels of vitamin D lose nearly twice as much weight, and lose it faster, as women deficient in vitamin D
  – Vitamin D forces fat cells to release stored fat to create energy

• Get at least 20 minutes in the sun – no sunscreen! – or supplement with at least 5,000 IU vitamin D3 daily
Quick News Headline
Pomegranate
4 Reasons to Love Pomegranate

- Prevents heart disease
  - Blood pressure was lowered by over 12%
  - 30% percent reduction in atherosclerotic plaque
  - Control group (no pomegranate) saw their atherosclerotic plaque increase by 9%
- Prevents cancer
  - In one study, pomegranate seed oil reduced the activity of aromatase, an enzyme which aids in estrogen formation, by 60-80%
  - Pomegranate seed oil showed a 90% inhibition of estrogen-sensitive breast cancer cells and a 70% inhibition of breast cancer cell spread, in a recent (in-vitro) test
  - Pomegranate may be equivalent to tamoxifen in preventing breast cancer recurrence!
- Anti-aging
  - Rich in antioxidants to prevent free radical damage to the skin
- Menopause
  - Prevents bone density loss and reduces hot flashes
Metabolic Syndrome
Are you an apple or a pear?
Why is the Apple Shape a Problem?

• Fat deposits
  – Pear shape – fat under the skin (subcutaneous fat)
  – Apple – fat in and around other abdominal organs such as the liver (visceral fat)

• Fat cells in the abdominal area are more “metabolically active” than subcutaneous fat cells
  – Release more fatty acids, hormones and inflammatory compounds
  – Higher estrogen production can increase risk of breast cancer; more inflammation increases risk of all chronic disease (heart, cancer, Alzheimer’s, etc)
The Apple Shape and Metabolic Syndrome

• Metabolic Syndrome is a group of conditions, rather than a single disease
• For the official diagnosis, you will have at least 3 of these five components:
  – Abdominal obesity (apple shape)
  – High blood pressure
  – High triglycerides
  – Low HDL cholesterol
  – High blood sugar levels (insulin resistance)

Having one component of metabolic syndrome means you're more likely to have others. And the more components you have, the greater are the risks to your health.
“Every Man’s Disease”

• One in five Americans has Metabolic Syndrome
  – By age 60 to 70, 40% of Americans will have Metabolic Syndrome
• “It’s as common as pimples or the common cold” according to one health expert
• **Did you know?** Drinking one or more diet sodas a day was associated with a 34% increase in risk of metabolic syndrome!

• Metabolic Syndrome means **double the risk of heart and blood vessel disease**
• Metabolic syndrome means **5 times the risk of diabetes**