



Your DNA is not your Destiny

**Dramatically Lower Your Risk of Getting
Grandma's Bad ABCs**

**(Bad Arthritis, Bad Brain, Bad Cancer)
Using Food.**

New Pioneer Food Cooperative

Dr. Terry L Wahls

July 8, 2010

Disclaimer

- The FDA has not evaluated any of the claims or statements made in this presentation, on my web site or by me. Nor are these statements or claims intended to "diagnose, treat, cure or prevent any disease," because only an FDA approved drug can legally make such a claim in the U.S.
- The Wahls Diet recommends 9 or more cups of vegetables and fruit per day, more than the American Dietetics Association (5 to 9 servings per day).

Conventional Medicine

Cardiology Pulmonary
Endocrinology Urology/Nephrology
Gastroenterology Hepatology
Neurology Allergy
**Organ System
Diagnosis**
Signs and Symptoms

Functional Medicine

Genetic Predisposition

Fundamental Physiological Processes

Clinical Imbalances

Immune /Inflammatory
Mitochondria
Digestion/ Gut Bacteria
Toxic Load
Cell membrane
Hormonal and Neurotransmitter
Mind-Body

Environmental Inputs

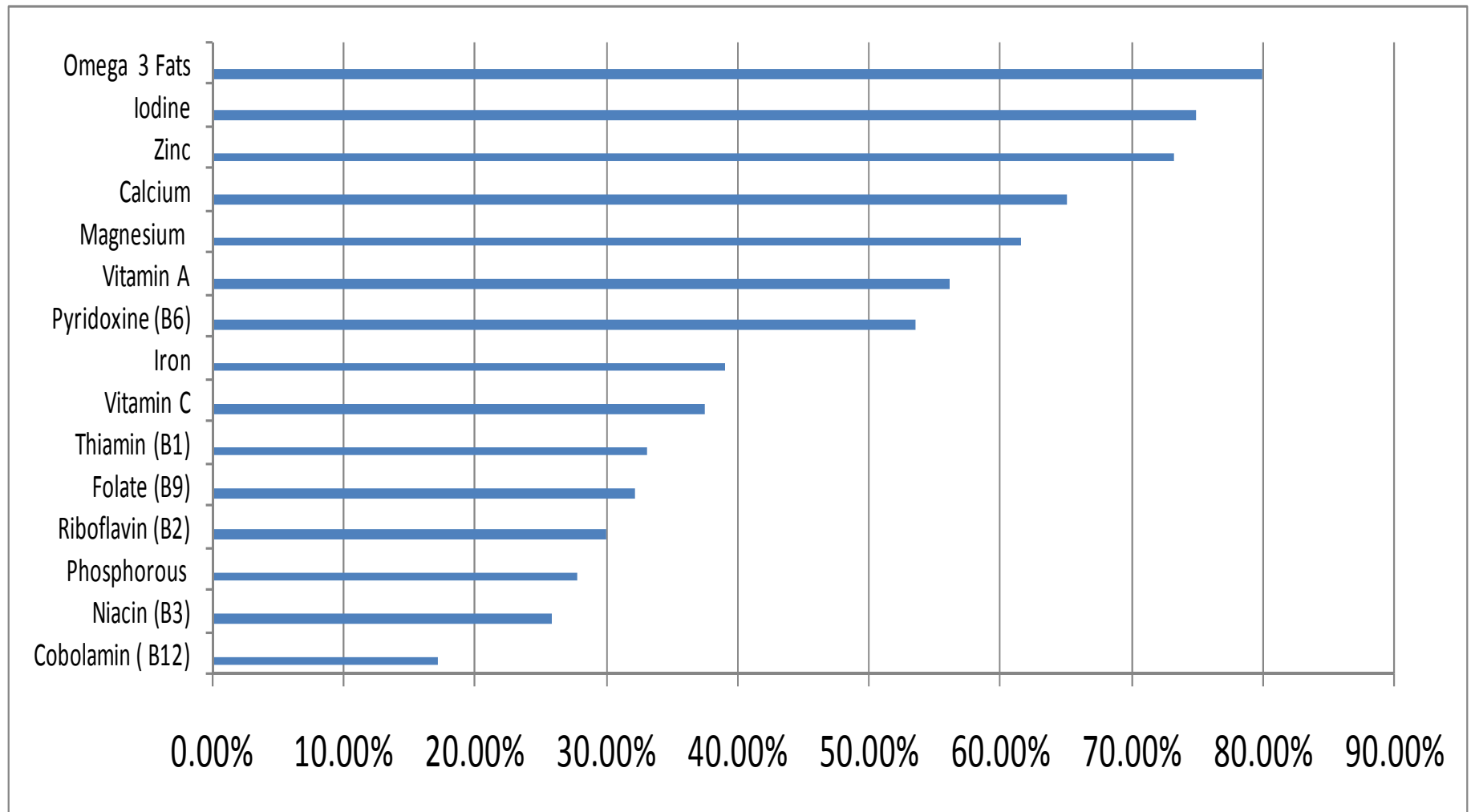
Diet/ Nutrients
Air/Water
Toxins
Exercise
Trauma
Psychosocial

Chronic Disease / Starvation Connection

- At least one trillion cells in human body
- Trillions of chemical reactions
- Dependent on amino acids, vitamins, minerals, fatty acids and carbohydrates
 - Many of which are *essential*
 - Many of which we no longer eat
 - Deficiencies of micronutrients are associated with
 - Brain drain – depression, dementia, difficulty learning
 - Obesity, diabetes, heart disease, high blood pressure
 - Autoimmune diseases

Americans ARE Starving

% >2 yrs old intake below Recommended Daily Allowance



Cordain Am J Clin Nutr. 2005 Feb;81(2):341-54

Altern Med Rev. 2008 Jun;13(2):116-27

Essential Nutrient Insufficiencies linked with Top Causes of Death in the U.S.

- Alzheimer's: Mg, Se, Cu
- Cancers: Mg, Zn, Se, Cu, **Vitamin D**
- Chronic Lung diseases: Mg, Se
- DM: Ca, Mg, Zn, Se, Cr, **Vitamin D**
- Heart Disease: Ca, Mg, Zn, Se, K, Cr, Cu, **Vitamin D**
- Kidney disease: Zn, Se
- Liver disease: Zn, Se
- Hypertension: Ca, Mg, Zn, Se, K, Cr, Cu, **Vitamin D**

Nutrition Risk Factors

- Bacterial Overgrowth risk factors
 - Antibiotic use
 - High carb diet
 - Autoimmune diagnosis
 - Acid lowering meds
- Genetic Risk factors
 - FH brain/ heart/ arthritis
 - Higher nutrient needs
- Intake of the following
 - Vitamins
 - Omega 3
 - Supplements
 - Acid lowering medication
 - Sun exposure
 - Sun screen use
 - Toxin exposures

How many international units (IU) vitamin D required for optimal health?

RDA 400-1200 IU

- Protects against spontaneous fractures
- But October through April
 - We can't make in Iowa
- Pigmented skin
 - Too far north
 - Can't make

Enough sun to turn skin pink
without sunburn

- Makes 20,000 IU D3
- Deficiency = < 20
- Insufficiency = 20-30
- Beach life guard = 70-100

Long Latency Problems Associated with Vitamin D in Lowest Quartile

Vitamin D < 35

- **2.5 X risk of heart attack**
- Giovannucci E, Liu Y, Hollis BW, Rimm EB. Arch Intern Med. 2008 Jun
- **Cancer risk increased**
- 222% Breast (deficient Vit D)
Rossi M, McLaughlin JK, Laggiou P, et al. Annals of Oncology 2009 20(2):374-378.
- 253% Colon -Holick MF. Clin J Am Soc Nephrol. 2008 Sep;3(5):1548-54.

Vitamin D > 50

- **Reduce MI by 142%**
— **(92,00 heart attacks prevented)**
- **Reduce Breast CA 30-50%**
- **Reduce Prostrate CA 52%**
- Rossi M, McLaughlin JK, Laggiou P, et al. Ann Oncol. 2008 Aug 18.
- Giovannucci E. Cohorts. Ann Epidemiol. 2008 Feb 19.
- Li H, Stampfer MJ, Hollis JB, et al. PLoS Med. 2007 Mar;4(3):e103.

Vitamin D for Optimal Health

Work up of low Vitamin D

- Check Parathyroid hormone (PTH), calcium
- Definitions Total vitamin D
 - < 20 severe deficiency
 - >150 toxic
- Goals
 - Normalized PTH levels
 - > 50 Vitamin D
 - Upper half of class

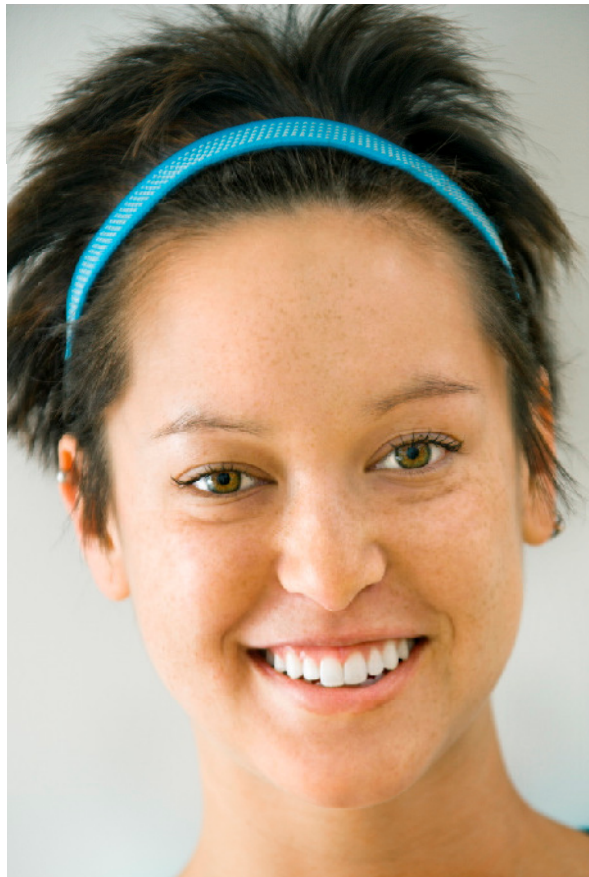
Treatment

- D3 -4000 IU / day or more
- **Or** D2 50,000 IU weekly
- Recheck Total D every 1-3 M
- Maintenance Tx
 - Follow total vitamin D
 - Usual dose needed
 - 50,000 IU D2 twice monthly
 - OR 4000 IU D3 daily
 - Some need much more

Essential Fats – Ω 3, 6, 9 Ratios

Skin and Brain Health

Healthy skin, brain requires
balance of Ω 3, 6, 9 Ratios



Psoriasis

Atopic Dermatitis

Treatment options

A & D ointment

Essential fats

Omega 3 , Omega 6

Omega 9

Most Americans have too
many omega 6 fats

Ω3 Fats Lower Inflammation

Omega 6 and Omega 3

- Both necessary
- Omega 6
 - Seeds (corn, soy beans)
 - Grain fed meat (corn fed)
 - Farmed (grain fed) fish
- Omega 3
 - Green leaves & algae
 - Grass fed meat
 - Wild fish
 - Game

Restore balance Omega 6:3

- Ideal ratio 3:1
- **American ratio up to 45:1**
- To improve your ratio
 - Stop using vegetable oil
 - Switch to grass fed meat
 - Fish oil capsules
 - Salad dressing no guilt
 - Flax oil, lime juice, soy sauce
 - Healthy sauté
 - Broth or coconut oil

Mineral Problems –

Especially with acid lowering medications

Often Insufficient

MACRO: >100 mg

- Ca, Na
- Mg, K
- P, Cl, S

MICRO-Trace 1-100 mg:

- Fe, Zn, Mn, Cu, Fl

Ultra-Trace: <1mg

- Se, Mo, I, Cr, B, Co

Demineralization

- Acidity draws calcium from skeleton
 - Bromine in soda, flour
 - High meat diet draws calcium
- Alkalinity retains calcium in skeleton
 - Green leaves
 - Teas
- Greens have plenty of calcium, Mg, Zn
- Seaweed has I, Se, Mg

More on minerals

Iodine

- Brain health
- Breast health
- Hormonal health
- Critical for removal of toxins
- U.S. soil iodine deficient
 - Table salt decline
 - Most Americans have insufficient intake

Mineral sources

- Bone broth, shell broth
- Mg - green leaves, nuts
- Selenium, zinc
 - Nutritional yeast , nuts
 - Greens , organ meat
- Iodine and trace minerals
 - Sea vegetables
 - Dried kelp, dulse
 - Shell fish, shell broth
 - Iodized sea salt
 - Iodized salt

Zinc Deficiency Signs

- **Head: Hair thinning with scaling**
- **Face: acne**
- **Eyes: Photophobia, night blindness**
- **Nose: loss of smell**
- **Mouth: loss of taste, angular stomatitis**
- **Hands: cracks, splitting on the end of fingertips**
- **Fingernails: thin, weak, bend easily, crack and chip, white spots**
- **Nervous system/Psych: memory loss, apathy, depression**

Toxins

- >85,000 registered EPA Toxic Substances Control Act.
- \approx 2,800 manufactured, >1 million lbs/ yr
- <50% tested for human toxicity
- <7% tested neurodevelopmental toxicity
- Mitochondria take out the trash
- We are all toxic
 - >200 chemicals in cord blood



Nutritional Exam – Toxic Load

Teeth



Amalgams

- Mercury load
- IF SNP affecting S/ B vitamins present may have problems clearing mercury especially if Iodine deficient

Healthier mitochondria micronutrients

- Bioenergetics – ATP
- Trash removal
- B vitamins
 - Riboflavin (B2)
 - Niacinamide (B3)
 - Coenzyme Q
 - Antioxidants (colors)
 - Minerals
 - Green leaves, nuts, sea vegetables



Minerals

Bone (or shell) broth

- 1 - 3 tablespoons of vinegar
- Bones, clam shells, shrimp tails, chicken feet
- Anti-inflammation spices
 - Parsley, sage, rosemary, thyme, basil, bay, fenugreek, ginger, turmeric, cloves, coriander, cumin
- Vegetable drawer scraps, peelings, stale salad
- Dried seaweed such as kelp or dulse
- Simmer on low – 2 to 72 hours
- Strain:
 - Discard vegetables, could recycle bones, shells
- If cooking a whole bird / fresh bone with meat on it
 - Remove meat after 40 minutes to an hour and return bones to pot

Healing power of broth

- Lining of the small bowel
 - Healing & improve digestion
 - Free amino acids – glutamine & others
 - Collagen
- Alkalinizing – decreases need to draw minerals from bones to keep blood in a neutral pH & helps muscle aching
 - Phytonutrients from vegetables
 - Alkalinizing minerals in the broth (bones/ seaweed)
 - Heals lining of the bowels and stomach
 - Lessens body aches

See Food Allergies and Autoimmunity Lecture for more info

- Gluten sensitivity difficult to diagnose
- Blood tests not reliable
- Associated with neurological, psychological, autoimmune problems, irritable bowel, chronic fatigue, chronic pain

Less Inflammation

Better blood flow to brain, joints and extremities






Replace gluten grains with greens, onions

- Poor circulation a common problem with autoimmune diseases
- White potatoes, sugar, gluten grains
- High-fructose corn syrup
 - Sticky RBCs
 - Slow blood flow
 - Less oxygen to brain
- Diet rich in kale, cabbage, onions
 - Greater blood fluidity
 - Better blood flow
 - More oxygen to brain



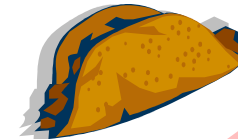
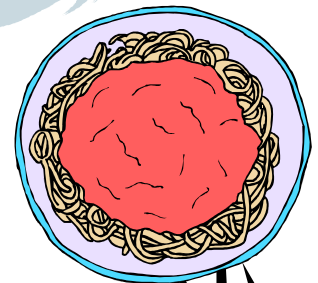
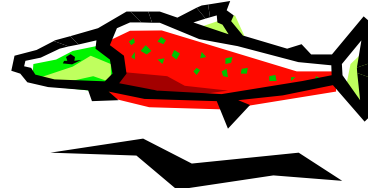
Nutrient score per calorie – Dr. Joel Fuhrman

<http://www.drfuhrman.com/>

- 1000: kale, collards, mustard greens
- 700: romaine, spinach, leaf lettuce
- 480: parsley 
- 420: sweet red, green peppers 
- 380: clams, oysters, mussels 
- 330: cabbage, kohlrabi, turnips 
- 234: cranberries
- 212: strawberries 
- 130-190: blue berries and black berries 



- 70: iceberg lettuce
- 70: peach
- 40: tuna, salmon
- 27: hamburger, chicken, beef, pork, lamb
- 18: pasta with red meat sauce
- 18: bread whole grain or with enriched flour
- 16: Big Mac Cheese burger
- 15: tacos, tostadas, enchiladas, burritos
- 11: milk shakes, malts, frozen yoghurt
- 7: French fries
- 5: Sports drinks with “added vitamins”
- <http://www.drfuhrman.com/>



Health on a budget

Maximize nutrients / kcal

- Every day
 - Green leaves
 - Sulfur rich vegetables
 - Kelp, sea weed, shell fish
 - Bright colors

Maximize nutrients / dollar

- Cabbage
- Onions
- Carrots
- Beets
- Organ meats
- Root vegetables store well
- Bulk dried onions, garlic
- Dried green leaves/ parsley
- Dried Mushrooms, seaweed
- Dried greens supplements
- Dried colored supplements

#1-Plateful of Greens

Plateful of Greens Each day

- B Vitamins
- Vitamin C, A, K
- Magnesium
- Trace Minerals
- Nutrient scores
- Kale 1000
- Leaf lettuce 700
- Spinach 700
- Parsley 480



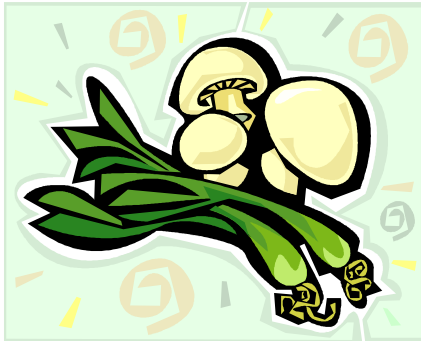
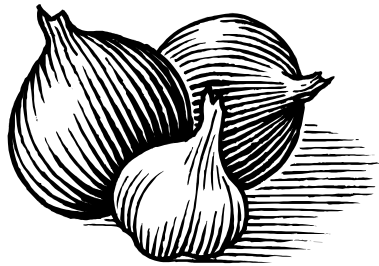
#2: Eat sulfur foods

Neurotransmitter support

Garlic, onion, leeks, chives etc.

Broccoli, kale, brussels sprouts etc.

- Nutrient score 330






Mushrooms



#3 - Eat 3 Different Colors Each Day

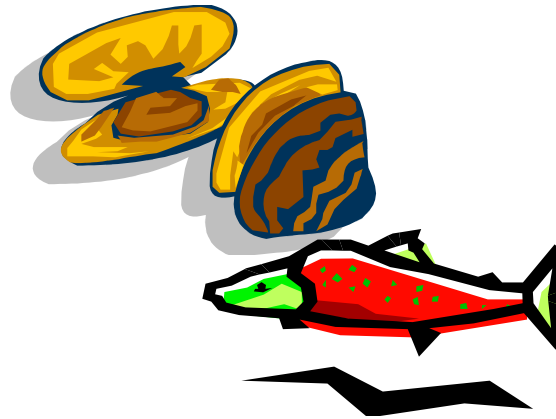
Support for mitochondria trash removal

- Nutrient score per calorie – Dr. Joel Fuhrman
<http://www.drfuhrman.com/>
- Each day – Blue/ Red/ Yellow-Orange
- 420: sweet red, green peppers 
- 234: cranberries 
- 212: strawberries
- 130-190: blue berries and blackberries 

#4 – Get Your Iodine Eat from the Sea

**Iodine, selenium, zinc,
Magnesium**

- 400+ : seaweed
- 380: clams, oysters, mussels
- 40 Salmon , tuna



Brown Seaweed -- kelp, wrack

Red Seaweed -- dulse, irish moss

Eat, tea, spa baths.

¼ to 1 teaspoon dried kelp/ day

- Monitor thyroid status as replacing iodine will change the amount of thyroid medication required

#5 Eat More Omega 3 & Less Omega 6

Omega 3 sources

- Wild salmon/ herring
- Grass fed meat
- Omega / DHA eggs
- Game
- Flax oil/ seeds
- Hemp oil/ seeds
- Greens
- Hemp oil/ lime juice dressing

Omega 6

- Vegetable oil
- Corn fed meat
- Fried foods
- Processed foods

- Switch to grass fed meat/
- Stop commercial salad dressings

#6 Replace Grains with Greens/ Colors

- Nutrient score of greens 480 to 1000
- Nutrient score of colored vegetables 300 +
- Nutrient score of colored fruit 150 to 240
- Nutrient score of whole grains 18
- Nutrient score of white enriched flour 18
- Food allergy risk
 - Gluten grains – wheat/ barley/ rye
 - Dairy, eggs, peanuts

7 Eat Local Organic Foods

- Ask for organics
 - Community sponsored agriculture
 - Farmer's market – ask for organic
 - Local health food stores
 - Local grocers
- Grow your own greens/ herbs
 - Community gardens
 - Containers
- Mushroom kits – www.fungi.com
- Sprouts -Broccoli sprouts
<http://www.sproutpeople.com/index.html>

Seven Food Rules for Each Day

- #1 -Plateful of greens
- #2- Plateful of sulfur (cabbage/onion/mushrooms)
- #3 Eat colors (blue/ red and yellow-orange)
- #4 Iodine – dried kelp / sea food
- #5 More omega 3 / Less omega 6
- #6 Reduce Food Allergy Risk
 - Replace gluten grains with greens/ color
 - Replace dairy with nut milks
- #7 Eat Organic

Three Habits

- #1 Cortisol lowering
 - Quiet time
 - Skin contact
- #2 Better sleep
 - Epsom salts bath
 - Melatonin/ chamomile tea
- #3 Brain Nerve Growth Factors
 - Exercise
 - Learning

The Wahls Way™

- More Vegetables and fruit → goal is **9 cups**
 - 3 green, 3 colored, 3 sulfur (mushrooms, cabbage / onion)
 - Variety, variety, variety!
- Fish & Shellfish – Low mercury
- Nuts or nutritional yeast daily
- Minerals – kelp / dulse / iodized sea salt
- Organ meats 1x week
- Bone broth daily
- Reduce starch / sugar in favor of vegetables / fruit

Supportive strategies for brains, bones and body

- Sun or **Vitamin D 2000 IU /d** (Follow levels if taking more)
- Exercise – opposing gravity 30 minutes
- **Check with your doctor first....**
 - Vitamin D/ sunshine
 - Omega 3
 - Algae/ dried kelp
 - B complex vitamins / sulfur amino acids

Dr. Wahls Newsletter

- Go to www.mindingmymitochondria.com
- Sign up for Dr. Wahls Newsletter – those who sign up in the month of July– I plan to send a copy of the power points within the newsletter.

For more information

Resources

- Breads from Anna
<http://www.breadsfromanna.com/>
- [Vitamin D Council](http://www.vitamindcouncil.org/)
 - <http://www.vitamindcouncil.org/>
- The Institute for Functional Medicine
 - <http://www.functionalmedicine.org/>
- The Whole Life Nutrition Cookbook
 - <http://www.wholelifefoodnutrition.net/>
- [Seaweed: Nature's Secret to Balancing Your Metabolism, Fighting Disease, and Revitalizing Body and Soul](#)
- The Worlds Healthiest Foods
 - <http://www.whfoods.com/>

<http://www.terrywahls.com/>

- Minding My Mitochondria
- 2nd Edition
 - Science of why this stuff matters + cookbook
- Abundant Health
 - August 21, 2010
- www.mindingmymitochondria.com
- Food As Medicine
 - Lectures/ handouts CD , DVD

Available at Amazon

