Measuring the State of Your Body So You Can "Tune" Your Body to Have a Healthier Longer Life

www.xconomy.com/san-diego/2010/05/12/how-internet-pioneer-larry-smarr-lost-20-pounds-by-becoming-a-quantified-self/

HEALTH IT, PEOPLE, WIRELESS

How Internet Pioneer Larry Smarr Lost 20 Pounds by Becoming a "Quantified Self"

Luke Timmerman 5/12/10



2000



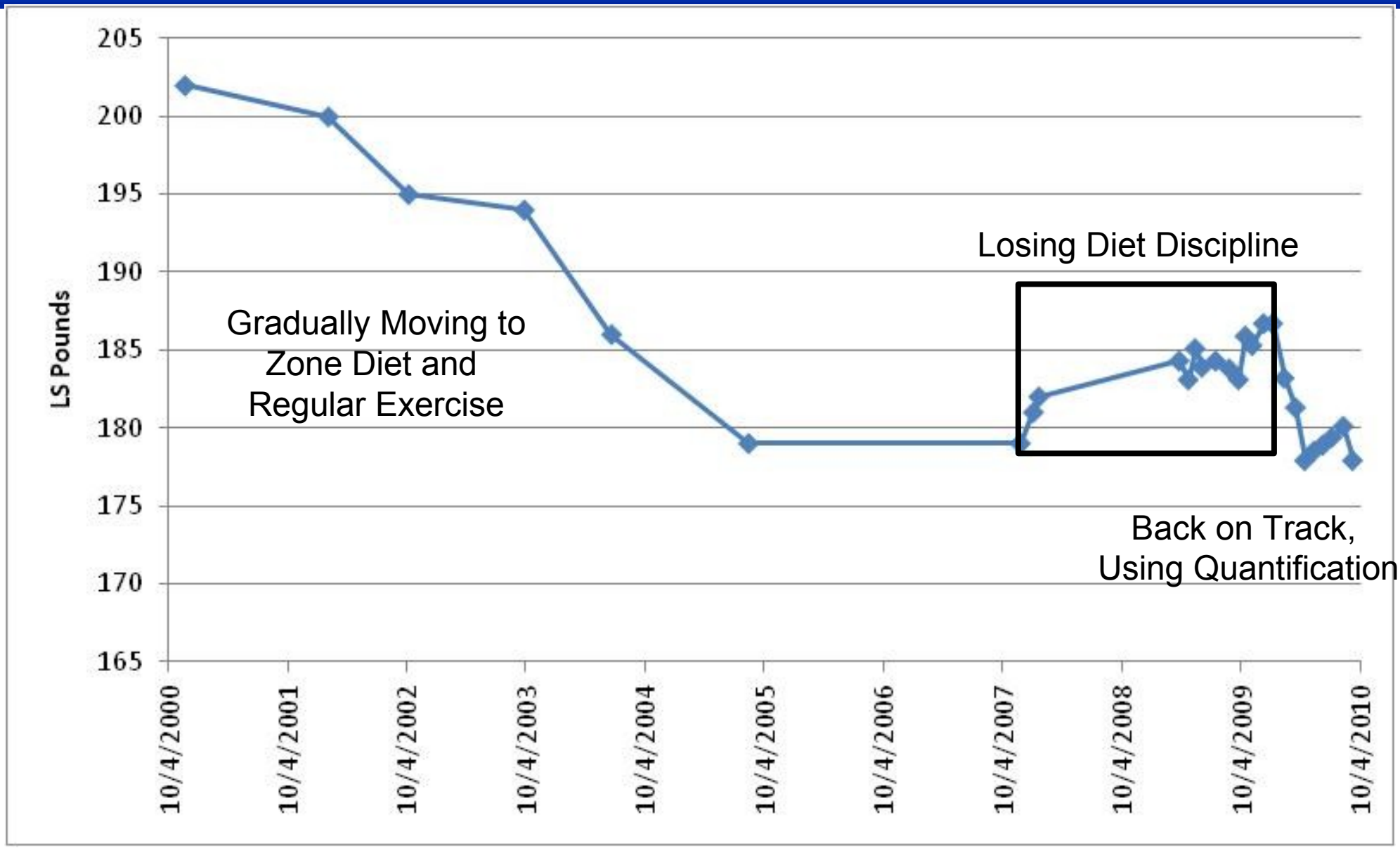
2010

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After 20 Years in the Midwest,
I Arrived in La Jolla Ten Years Ago

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My First Goal was to Lose Weight Through Understanding Nutrition and Increasing Exercise



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Goal: Reduce Your Body Fat Through Nutrition and Exercise



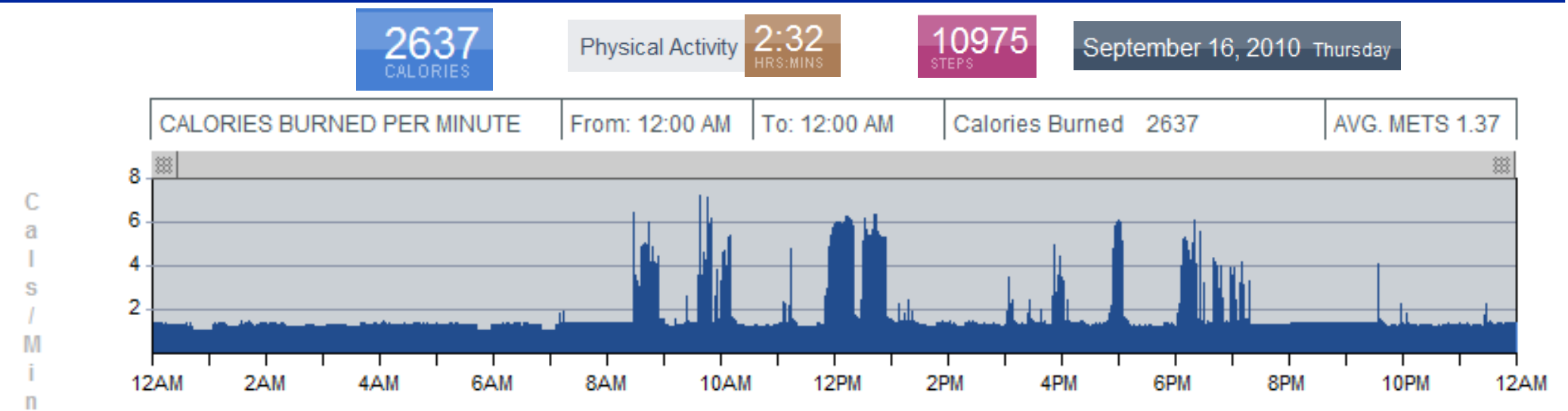
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I Lost 1/3 of My Original Body Fat

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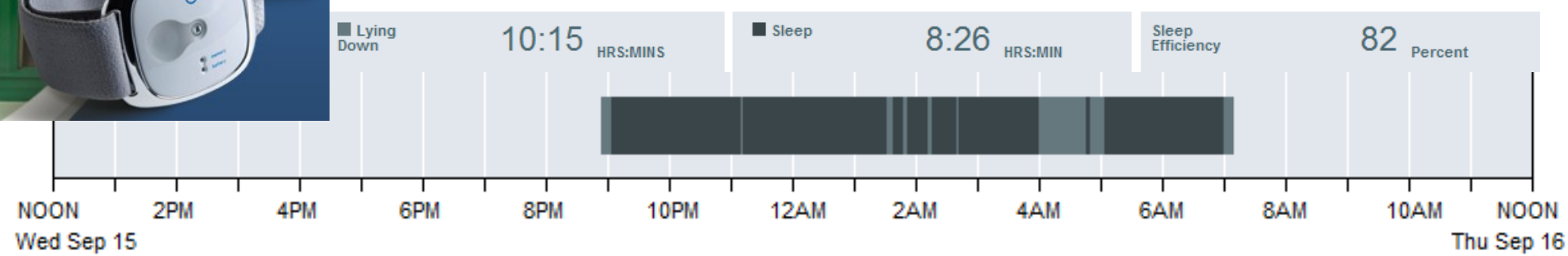
Going Digital -- Recording My Metabolic Self

BODYMEDIA®
Know your Body. Change your life





7 Week Ave:
2550 Calories Burned/Day
1:31 hr Physical Activity/Day (>3 METs)
7755 Steps/Day (~3.9 Miles)



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Measure Quantity and Quality of Sleep--
7 Week Ave: 6:55 hrs with 81% Efficiency

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Goal: Quantify Your Food Intake So You Can "Tune" Your Glucose/Insulin System and Lower Inflammation

Computed Average Over 12 Days When at Home for Maximum Accuracy
Measure All Food and Drink Components,
Then Use USDA Lookup to Compute Each Item

calories	fat	carb	protein		fiber	sugar	sodium
kcal	g	g	g		g	g	mg
1441	46	122	80	0	26	53	1358

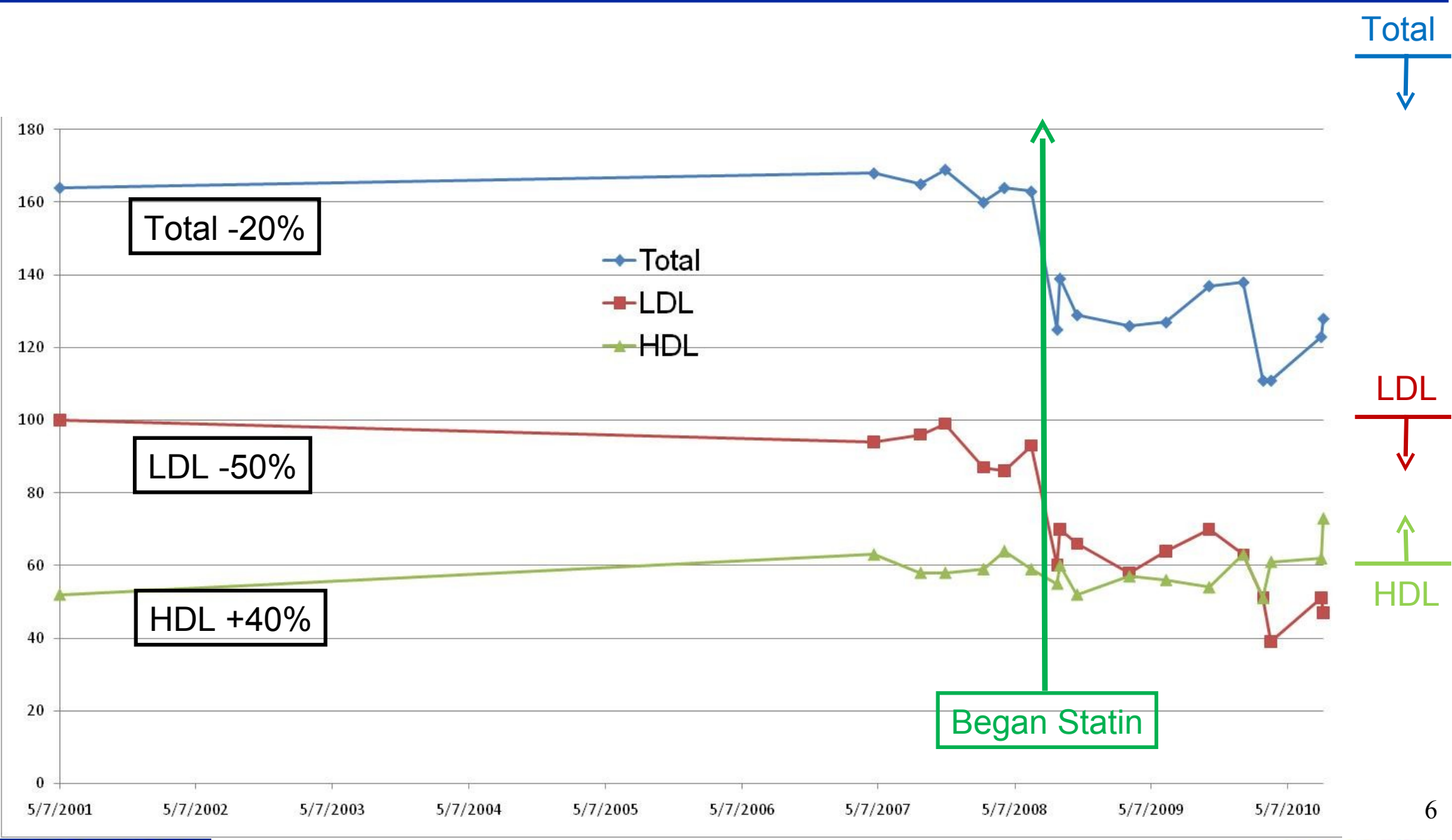
Still Need to Lower Sugar &
Increase Protein and Decrease Fat by 15%

- **Quality of Food**
  - **All Organic and Mostly Locally Grown**
  - **Carbs are Low Glycemic Index**
    - **No Added Sugar or Refined Flour – Mostly Fruits and Vegetables**
  - **Proteins are Lean**
    - **Meat is Grass Fed – No Corn or Antibiotics**
    - **Fish is Wild, Often Locally Caught**
  - **Fats are Omega-3 Rich**
    - **Supplemented by 7g Daily Pharmaceutically Purified Fish Oil Pills**

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Goal: Change Your Cholesterol Levels to Lower LDL, Raise HDL, While Lowering Total

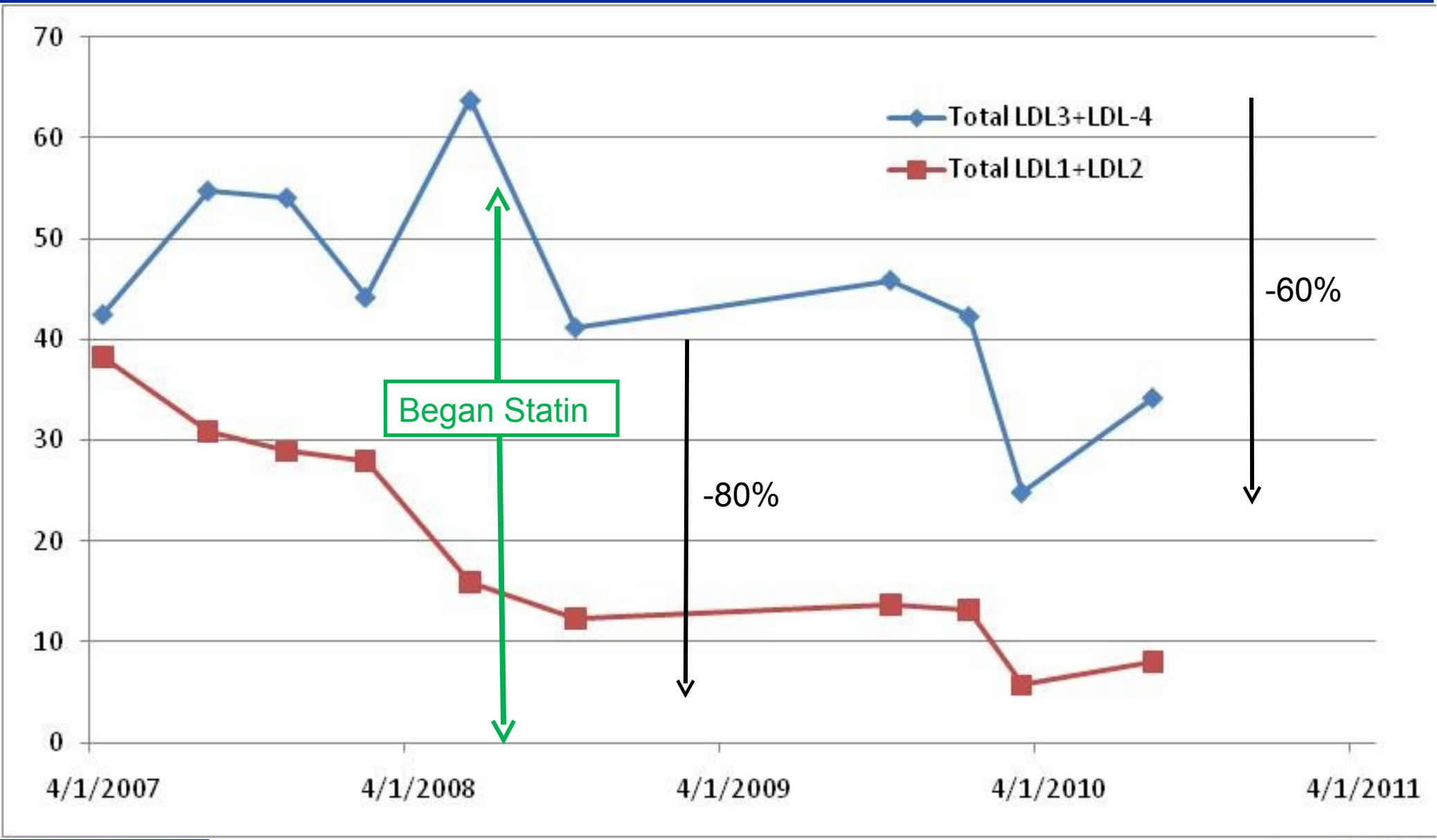


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Raising “Good” HDL Seems Most Difficult

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Goal: Make Major Reductions in LDL Subfractions to Avoid Future Plaque Deposits



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Data Source: Scripps Clinic of Integrative Medicine

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Goal: Lower Triglycerides and Cholesterol Ratios to Reduce Future Risk of Diabetes and Heart Disease

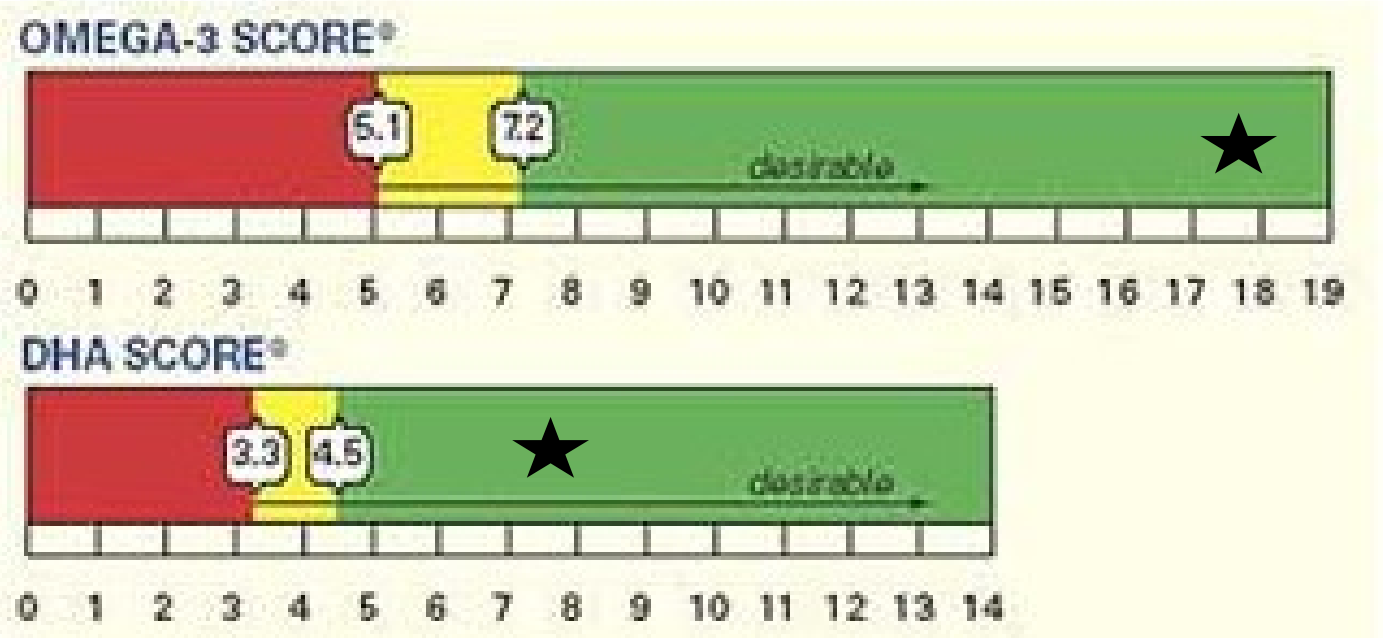
- **TG**
  - Best <150
  - My TG ~35
- **TG/HDL**
  - Average American Has a Ratio of ~3.3
  - Those With a Ratio of >4 Are Pre-Diabetic or Have Type 2 Diabetes
  - My Ratio 0.5
- **Total Cholesterol/HDL**
  - Ratio Should be <4.6
  - My Ratio 1.75

"The Ratio of Triglycerides to HDL Cholesterol (TG/HDL-C) is the Single Most Powerful Lipid Predictor of Extensive Coronary Disease." [Clinics 2008; v.64: 427-432]

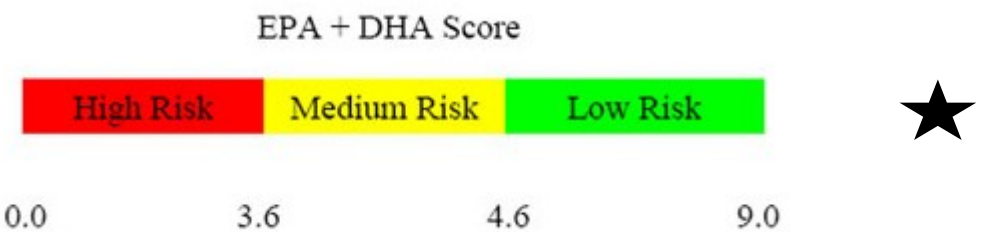
Goal: Improve My Omega-3 Scores To Protect Against Future Heart Disease

Graphics from www.anne-marie.ca/ratiokits/

If your Omega-3 Score is at least 7.2 and your DHA Score is at least 4.5, you are 32% less likely to develop heart disease



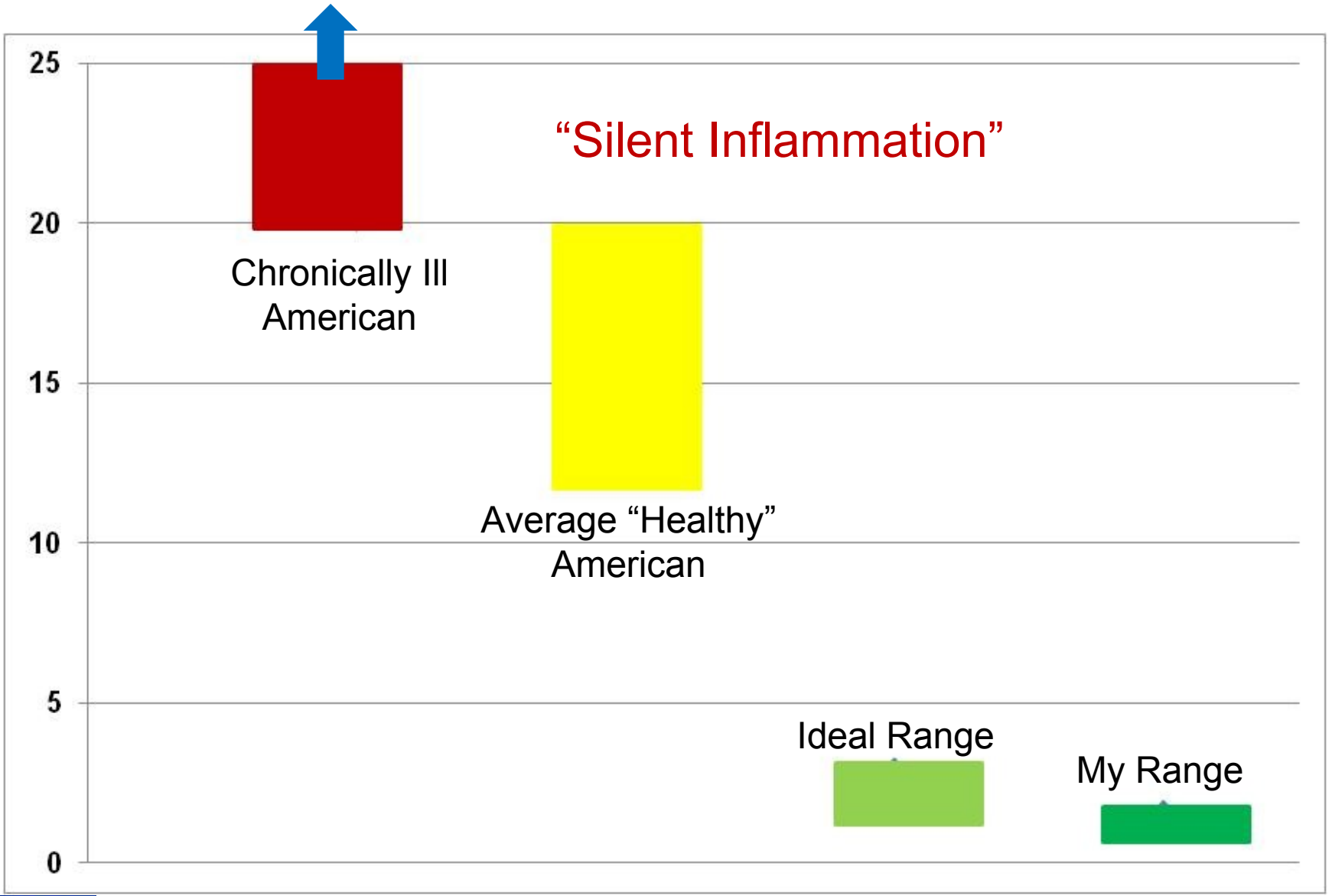
If your EPA+DHA Score is at least 4.6, you are 70% less likely of dying from a heart attack.



★ = My Values

Ref: Based on Lemaitre et al., n-3 Polyunsaturated fatty acids, fatal ischemic heart disease, and nonfatal myocardial infarction in older adults: the Cardiovascular Health Study. Am. J. Clin. Nutr. 77:319-325 (2003).

Goal: Lower Ratio of Arachidonic Acid to EPA to Reduce Pro-Inflammatory Potential of Your Cells



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Range Source: Barry Sears
My Tests by Your Future Health

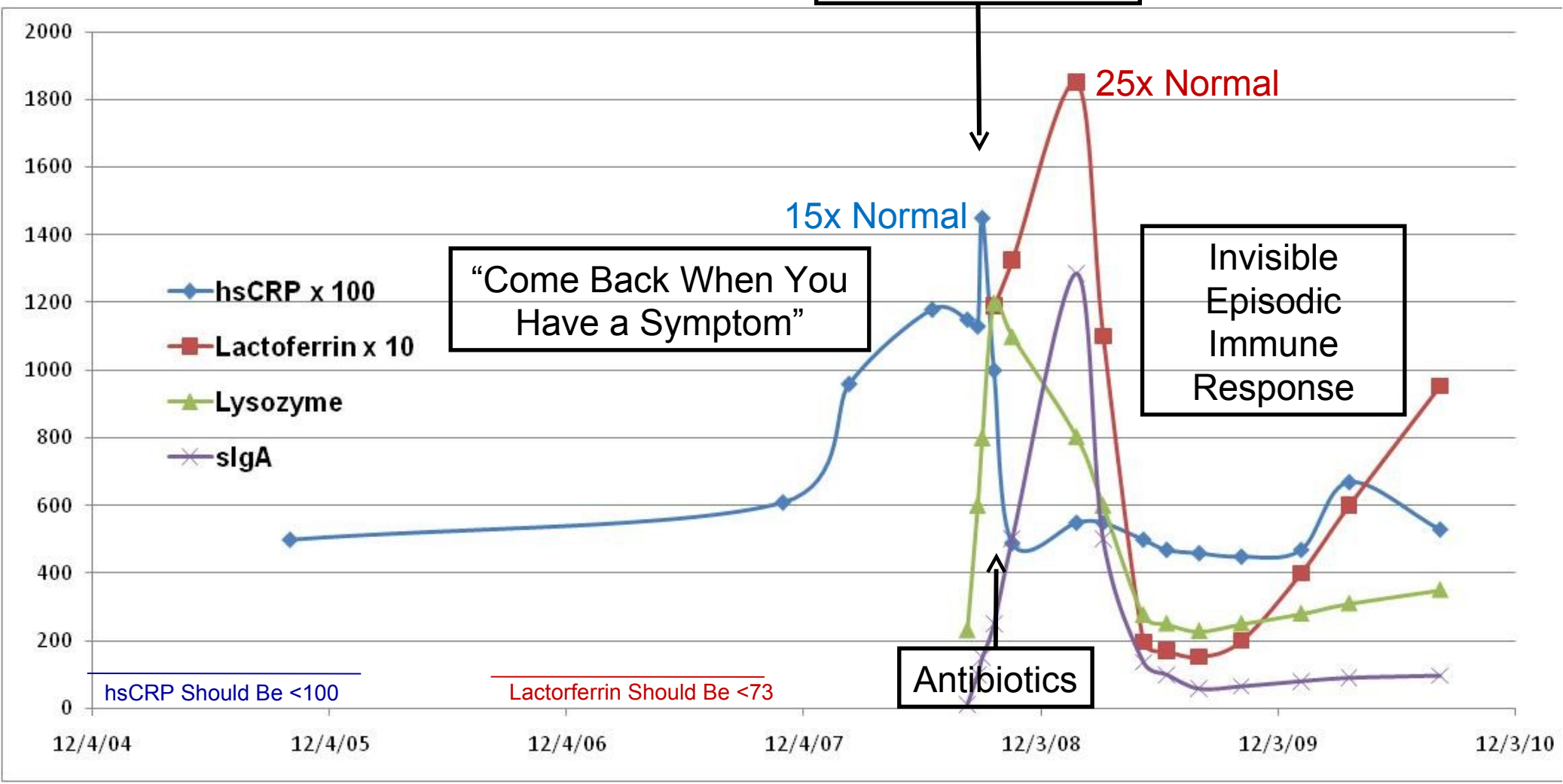
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Goal: Quantitatively Monitor the State of Your Inflammation and Immune System

hsCRP from Blood Tests

Symptom: Acute Diverticulitis

Others from Stool Tests



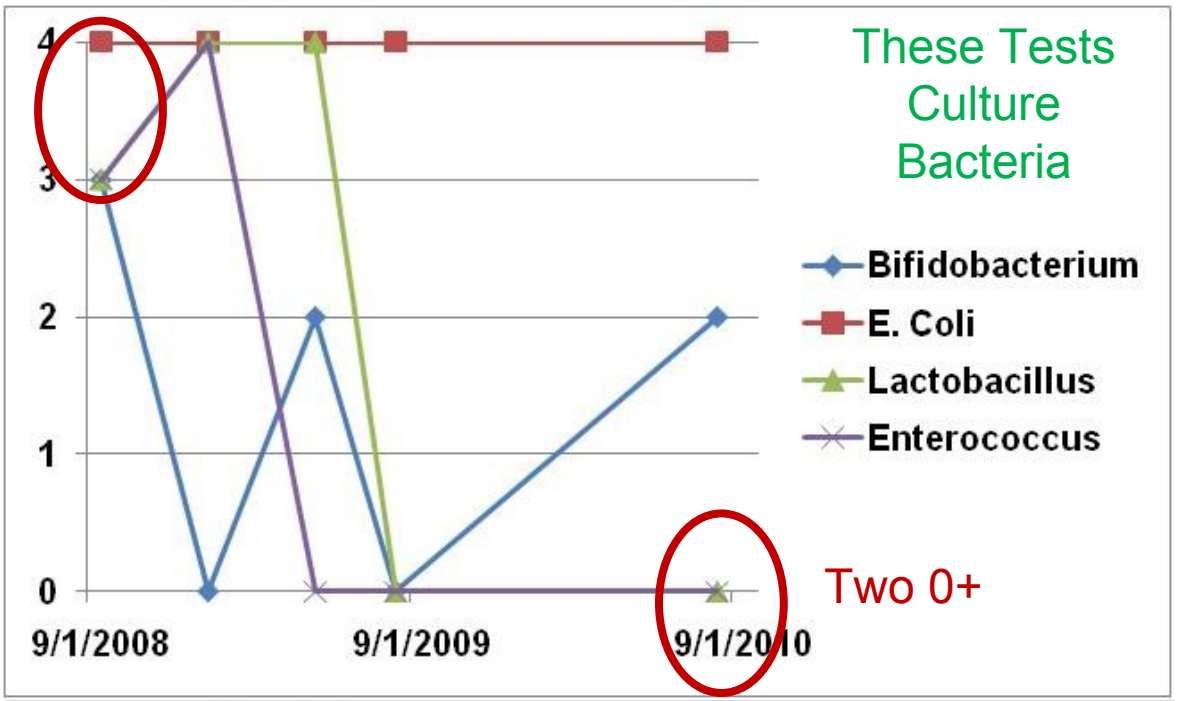
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Future Challenge: Danger of Persistent hsCRP Inflammation and Destabilized Microbiome

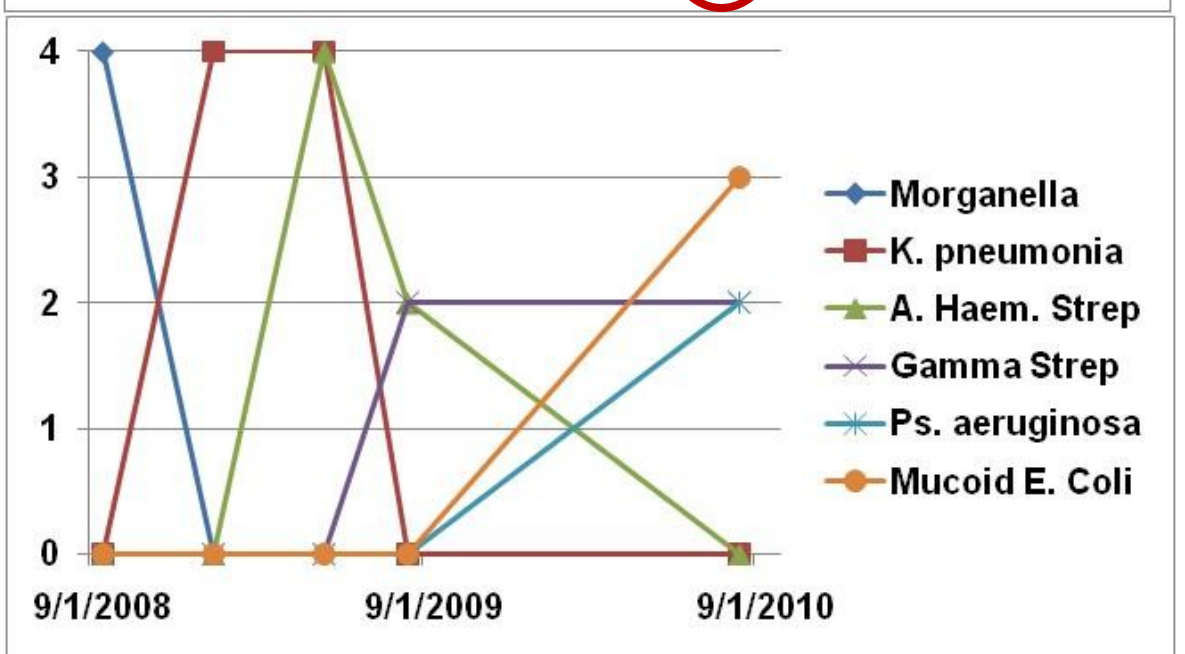
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Goal: Monitor the Colon Microbiome- an Ecological Battle Between Beneficial and Harmful Bacteria

All 3+ or 4+



Two Years After 10 Days of Antibiotics Levaquin & Metronidaloze



Next Step Get DNA Microbe, Parasite, Yeast Test

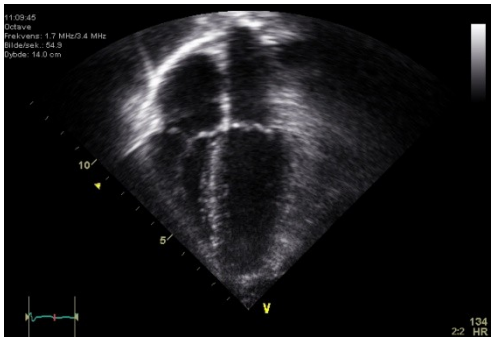
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Goal: Determine the Structural State of Each Internal Organ and Major Body Subsystems



Carotid Ultrasound Imaging
Plaque Thickness

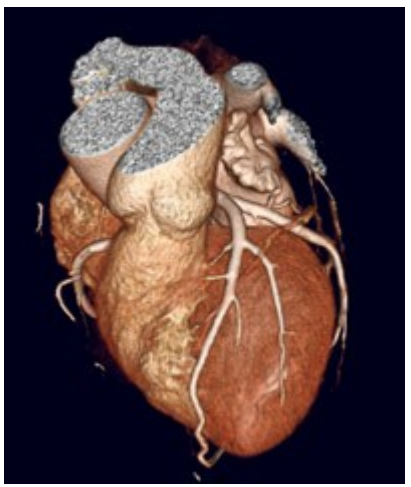


Stress Test with Echocariogram
Heart Fitness
Structural Weakness

Physical Colonoscopy
Detect Polyps
Colon Disease



64 Slice Heart CT Scan
Plaque Sites
Valve Anomalies





3D Full Body Scan
mm Accuracy
Small Tumors
Organ Damage
Plaque Sites
Virtual Colonoscopy



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What I Learned From Spending 3 Hours Inside of My Body

- **Awesome Experience Getting to Know Your Internal Body**
  - Dr. Harvey Eisenberg Body, Inventor Scan International 9/11/08
  - 3D Full Body X-Ray at Millimeter Scale
  - Has Performed 80,000 Scans
- **Highlights of Fly Through of Organs and Systems:**
  - No Cancer in 20 Different Organs-Can Detect at 0.5mm
  - Circulatory System Clear Except Small Plaques-Carotid, Femoral, & LAD
  - Lungs Perfect--Little Scar Tissue From Pneumonia 30 Years Ago
  - Need to Lose More Fat Around Heart and Under Diaphragm
    - Can Cause Sleep Apnea (Which Sleep Tests Show I Have Slightly)
  - Pancreas Has Slightly Lower Volume From Pre-Diabetes Degradation
  - Liver, Kidney, Adrenal Glands, Spleen, Sperm Creation All Normal
  - Prostate Slightly Enlarged-Take Saw Palmetto to Shrink Prostate
  - Colon Free of Polyps, Have Diverticula
    - Could Develop Diverticulitis (2 Weeks Before I Did!)

Goal: Measure Your Individual Genetic Predispositions to Future Health Risks



0 - 1%	>1 - 10%	>10 - 25%	>25 - 50%	>50 - 100%
Graves' disease You: 0.93% Avg: 0.55%	Lung cancer You: 8% Avg: 8%	Prostate cancer You: 17% Avg: 17%	Osteoarthritis You: 44% Avg: 40%	You have no results in this range
Glaucoma You: 0.78% Avg: 1.1%	Colon cancer You: 6% Avg: 6%	Diabetes, type 2 You: 12% Avg: 25%	Heart attack You: 38% Avg: 42%	
Macular degeneration You: 0.74% Avg: 3.1%	Psoriasis You: 6% Avg: 4.0%		Obesity You: 32% Avg: 34%	

You: 1.7%
Avg. 3.0%

You: 22.4%
Avg. 11.4%

You: 14.7%
Avg. 23.7%

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23andMe

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