

Healthy Living, Your Links to Personal and Professional Success

Witthorne Notes; Direct quotes from Witthorne in italics.

Presented at 2012 Wellness in Your Workplace Symposium

Todd Witthorne:

- Works for Cooper Aerobic Center in Dallas
- Likes to begin with quote from David Hume:
 - “A wise man proportions his beliefs to the evidence.”
 - Will try to present data as it relates to health and wellness
- Dr. Kenneth Cooper coined the word “aerobics”
 - *“He was the first person to quantify the value, the true proven measurable value of being fit and being healthy.”*
 - Dr. Cooper wrote the book *Aerobics*, in 1966 and published in 1968
 - Center has largest database on exercise in the world

Squaring off the Curve:

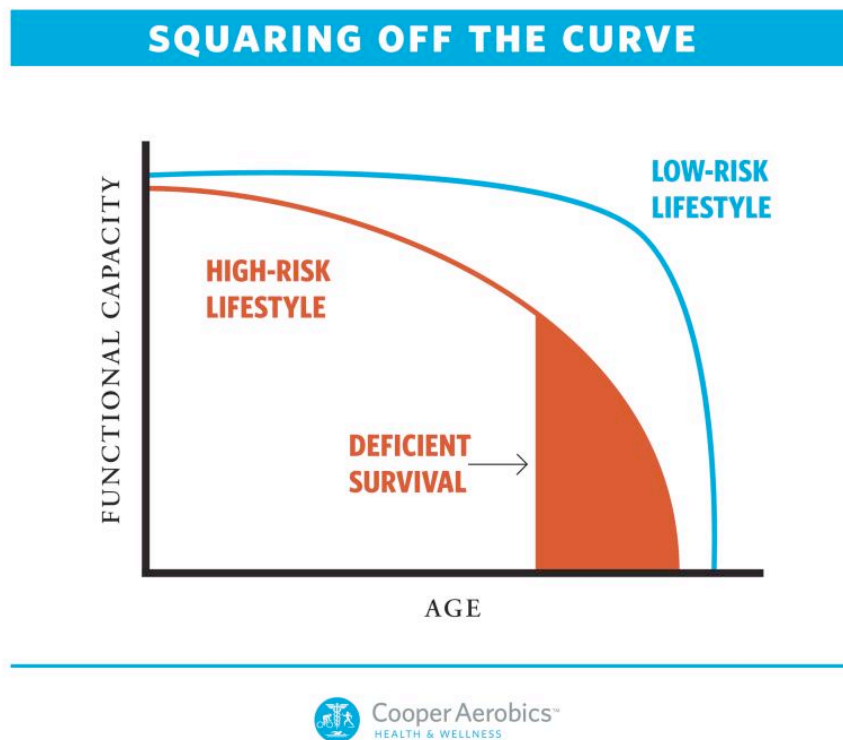


Image Source: http://sphotos.xx.fbcdn.net/hphotos-prn1/546142_10150858918106584_2104364248_n.jpg

- Most of us reach peak of fitness in mid-twenties

- *“If you look at the data, 93 to 97% of Americans live on the red curve. That means eventually, at some point, they’re going to spend the last five, ten, fifteen years of their life in what has been defined as “deficient survival.” And you all know exactly what I’m talking about. You may have a relative, a friend, somebody that you are close to, that is in that state right now. They’re alive, they’re breathing, but they’re not really functioning, they’re not making a difference.”*
- *“I believe that we’re all here for a reason, and that’s to have a positive impact on the lives of other people. And if you’re in that area, that deficient survival area, you’re not going to be able to do that.”*
- Green Curve: Low Risk Lifestyle
 - Reach peak, live long and healthy life, then drop off curve suddenly
 - Known as: Compression of morbidity: compress sickness into a short period of time

Two Takeaways:

- On green curve live 6-9 years longer
- Exceptional survival, push back the onset of disability by 10-13 years

Habits Influence:

- 30% of health genetic
- 70% of health is habit and environment
 - Habits will help determine which curve you are on
 - *“What’s interesting to know, is that there is no one on the face of the earth that has a bigger impact on your health than you do. No one, out of seven billion people. So you’re quality of life, the things that you like to do, are really up to you. It’s not up to your doctor. It’s not up to your spouse. It’s certainly not up to the government, it’s up to you.”*
 - *“And so, these are the things that I think are very important when you look at the data: What do you want to do? How long do you want to do it? And understand that you’re in charge of that. And, we all have an ability to change wherever we happen to be. If you’re on the red curve, not a problem, you can get on the green curve, but you’re going to have to change. And change is difficult for a lot of people.”*

Physical Activity is Often Optional:

- P.E. is usually not daily
- 2 out of 10 Americans have a job that requires caloric expenditure
 - Most sit, use computer

What is Preventable:

- “It’s easier and less expensive to maintain good health than it is to regain it once it’s lost,” - Dr. Cooper
- Number one killer in U.S. is heart disease
 - Number one symptom is a fatal heart attack.
- The economics of health is prevention
 - *“We have to prevent whatever you can. What is preventable? 80% of cardiovascular disease and diabetes. 60% of cancers. 90% of obesity. Three quarters of healthcare costs are confined to those four conditions. So when we hear about the rising cost of healthcare we recognize that this is preventable. This is a function of our environment of collectively our society. We’re not treating ourselves very well.”*

U.S. Obesity and Overweight:

- 68% of Americans are overweight or obese (Johns Hopkins University, *Obesity* 2008)
- Body Mass Index: Number calculated by weight, height, and age
 - 18-25 is considered average, healthy weight
 - 25-30 is considered overweight
 - 30 or > is considered obese
 - *“If you’re in fine shape then the BMI is not very accurate. But we also know that most Americans are not real fit and they are not lifting weights. So BMI collectively is, as an overall tool, is not too bad.”*
- 34% overweight; 34% obese in U.S.
 - Continue at these rates by:
 - 2020; 75% of Americans overweight or obese
 - 2030; 86% of Americans overweight or obese

Metabolic Syndrome:

- Individually conditions not that big of a deal
- Collectively these become a problem
- Syndromes:
 1. Waist circumference: (men: >40 inches; women: >35 inches)

- *“We know the weight that you carry around your midsection, your belly, it’s different from other fat. You know that the fat that you carry in your hips and your legs, what’s called femoral fat, it’s different from your visceral fat. Your visceral adiposity. That fat is angry fat, that fat causes problems. It’s very metabolically active. So maybe the scale is not as important as the tape measure.”*
 - 2. Triglycerides (>150 mg/dL)
 - 3. Blood sugar (>100 mg/dL)
 - 4. Blood pressure (> 130/85 mmHg)
 - 5. HDL cholesterol- good cholesterol (men: <40 mg/dL; women: <50 mg/dL- women naturally have higher levels)
(AHA/ATP III)
- *“Now, it’s not up to me, or I would change this, I would rename it to the physical inactivity syndrome. Because every time you move, every step that you take, every time you improve your physical activity level, these numbers will respond accordingly cause the body is beautifully designed. So if you got off the couch and if you walked the dog, even if you didn’t have one, these numbers are going to change. And they’re going to change for the better.”*
 - American College of Cardiology in December 2006:
 - “It is clear that the metabolic derangements, associated with obesity are creating a future population of adults who will become diabetic early in life, develop cardiovascular complications by middle age and become disabled well before retirement age. These findings create a scenario that suggests that we will have a large number of middle-aged adults who will be disabled by cardiovascular disease, who will require increased health care with its associated costs, unable to afford health insurance, and unable to be gainfully employed.”

The Worsening Landscape of Cardiovascular Disease:

- Conditions we are suffering from are starting earlier due to lifestyle
 - 18.4% of 4 year olds are obese.
(Archives of Pediatrics & Adolescent Medicine, April, 2009)
 - >20% of Hispanic and African American children
 - Diagnosis of Type II diabetes before age 14 shortens lifespan by 17- 27 years
 - 90% of diabetes is Type II, which is preventable

Rate of Diabetes:

- 2010: 26 million diabetics: 10 % of the U.S. population
 - 79 million pre-diabetics
 - By 2050, 1 out of 3 of Americans will be diabetic (CDC)
- Annual healthcare costs of diabetes:
 - \$2,669 without diabetes
 - \$5K pre-diabetics
 - \$10K diabetics without complications
 - \$12K undiagnosed diabetics
 - \$30K diabetics with complications (United Health Care Studies, 2010)

Eating Ourselves to Death:

- Most people not getting enough vitamins in diet, what are we eating?
 - 19% of calories are consumed in an automobile
 - *"Food that is cheap, convenient, and tastes fantastic. It doesn't taste good, it tastes fantastic. And it's designed to taste that way. They get it, they understand that. These food companies are in the business to sell things. They're not in the business to have you live a long and healthy life to the fullest. They're in the business of you liking what they're selling. And ideally, craving what they're selling. Because if you crave it that's good."*
- *The End of Overeating* by David Kessler
 - Nucleus accumbens or hedonic hotspot
 - Fat, salt, and sugar: increases 'cravability' because releases dopamine and *"brain lights up like a Christmas tree."*
- Grocery now has 60-70K food items.
 - Food engineered to cause cravings
- As consumers, we have to understand what is going on

Carbohydrates and Sugar

- Brain needs carbs
 - *"People start thinking about fuel and our brain needs glycogen, which is a primary source of fuel for the body. Glycogen comes from glucose, which comes from carbs. So fruits and vegetables are fantastic. Highly processed carbs, that's a different story."*

- US. Sugar consumption
 - 1882: 6.3 lb/year/person
 - 1999: 107.7 lb/year/person
 - 2012: ~ 100 lb/year/person
(U.S. Department of Commerce and USDA; Guyenet & Landen, 2012)
 - Amount of sugar in one soda:
 - In 1882 it took us 5 days to consume that amount of sugar
 - Today it takes about 7 hours
 - Flavor manipulation and fast food: highly caloric

Lowering Metabolic Syndrome:

- DASH: Dietary Approach to Stopping Hypertension
 - 4-5 servings of both fruit and vegetables every day
 - Lowers cholesterol, blood pressure
 - Lowers risk of: stroke, osteoporosis, heart failure, cancer, and kidney stones
- Government Effort in 2000: 'Healthy people 2010'
 - Goal: Get Americans to consume 2 servings of fruit and 3 servings of vegetables per day
 - Today:
 - 32.5% eat 2 servings of fruit
 - 26.35% eat 3 servings of vegetables
(Morbidity and Mortality Report, September 2010)

How to get People to Change:

- Easier and less expensive to eat poorly
 - Culturally, the food and not physical activity can be emphasized
 - Make it cool to be healthy
 - Education, policy, and personal responsibility

HEB Efforts:

- Elementary school teachers:
 - Underpaid and stressed
 - Get teachers healthy and model for kids

- Change the curriculum and change the policy for the schools
- What can we do to make a difference?
- Personal change and then change for the masses
- HEB: Commitment to Education
 - 76K employees, many in south Texas
 - Collective aggregate data: lots of people who are ticking time bombs
 - One-day seminar for mid-upper level management
 - Demonstrate importance of embracing wellness
- Slim Down, Show Down:
 - Medically based, 12 week program
 - Open participation
 - 400 applied, 12 chosen
 - Partnered together
 - Measured on (?): Weight, cholesterol, and getting people involved
 - Winner: judged on how many people got involved

Get a Move on:

- Balke treadmill stress test
 - Dr. Jarett Berry, Cardiologist, UTSW Medical Center
 - If fit in mid-life, double chance of surviving to 85
 - If not fit in 50s, projected lifespan 8 years shorter
(A.H.A. Prevention Conference, March 2010)

Exercise and the Brain:

- 3 hours a week of brisk walking:
 - Increase production of new brain cells
 - Increase connectivity
 - Increase plasticity
- Book: *Spark*: Exercise and effect on brain growth:
 - Improves memory and learning
 - Increases levels of neurotransmitters: improves focus, attention, mood, and emotion
(Harvard Psychiatrist John J Ratey)

Feeling Blue:

- 1992: 14 million prescriptions for anti-depressants
- 2007: 233 million

- 11 million for children under age 18 (FDA)

Illuminate your Brain:

- After exercise kids:
 - Improve ability to filter out unnecessary information
 - Attend to relevant cues
 - Improve complex memory

Fitness level impacts quality of life:

- The higher the fitness level, the less incidence of:
 - Low Back Pain Frequent Headaches Difficulty Sleeping
 - Depression Anxiety Unexplained Fatigue
 - Impotence(men) Frequent Heartburn Sexual Problems
 - Decreased Sex Drive Chronic Joint/Muscle Pain
 - Awakening at Night to Urinate
 (ACLS, Cooper Longitudinal Study)

Exercise:

- 150 minutes/week
- 30 minutes a day/5 days a week
 - Or intense cardio 20 minutes a day/3 days a week
 - And 8-10 strength-training exercises with 8 to 12 repetitions/2 days a week
 (ACSM and AHA, 2007)
- You schedule you
- Balance your workout. Weight lifting is critical

Changing Gears:

- Nutritional supplements: Not replacements for anything
 - Omega-3 benefits, shown in numerous studies
 - Beneficial trends in:

Blood Pressure	Depression
Resting Heart Rate	ADD/ADHD
Risk of Arrhythmia	Vision, dry eyes
Sudden Death	Periodontal Disease
Triglycerides	Autoimmune diseases

LDL/HDL Cholesterol Fetal Development

- Correlation between
 - o Increased Omega-3 blood levels
 - o And lowered risk of sudden cardiac death
(Albert CM et al. *N Engl J Med* 2002;346:1113-1118)

- Brain size and Omega-3:
 - 1,575 dementia-free men and women, average age 67
 - Measured omega-3 levels in red blood cells
 - MRIs measured brain size
 - Low Omega-3: lower total brain volume
 - Performed worse on tests of visual and executive function and abstract memory
(*Neurology*, February 27, 2012)

- “We feel that omega-3’s reduce vascular pathology and thus reduce the rate of brain aging.” - Dr. Zaldy S. Tan, UCLA

- Omega 3 dosage:
 - Most experts recommend at least 1-2K mg EPA + DHA/day
 - From either fish or fish oil supplements
 - o Atlantic Salmon, Rainbow Trout, Tilapia, Orange Roughy

- Increase intake of vitamin D:
 - Steroid hormone
 - Only vitamin our bodies make
 - Regulates the update of calcium into our bones

- Vitamin D deficiency can contribute to:

Arthritis	Osteoporosis	Decreased Immunity
CV Disease	Hypertension	Depression
Decreased Immunity	Pain	Diabetes
Lung Function	Depression	A.M.D.
Periodontal Disease		
Cancer (breast, colon, ovarian, kidney, lung, bladder, pancreatic, prostate, & stomach)		

(*N Eng J Med*357;3, July 19,2007)

- If Vitamin D levels between 30-60 ng/ml, lower risk by:

- 80% Breast Cancer
 - 60% Colon Cancer
 - 49% Fracture
 - 72% Falls
 - 13% Blood Pressure
 - 77% Influenza
- (Harvard Medical School, 2010)

- Vitamin D Recommendations
(University of California San Diego):

- Serum target: 40-60 ng/ml
- Minimum oral intake of vitamin D3-30 degrees or <
- Adults: 2,000-2,400 IU (NAS NoAEL)
- Children 1-12 years: 2,000 IU
- Infants: 1,000 IU

Todd's Take Away:

- Walk the dog, Wear sunglasses!
- ZZZZ!/ Wake up hungry!/ Floss!
- H₂O, H₂O, H₂O!
- 5 is Fine, but 9 is Divine
- Eat Fish!, not Hotdogs!
- Vitamins and Cheeseburgers, don't mix!
- GAP! Know your numbers!