

Fall Prevention and Reduction of Fear of Falling

Proactive Approaches to Health & Wellness

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St. Mary's Wellness Center
USI 7th Annual Mid-America Institute on Aging
August 14, 2014

Take Out Your Pens...
QUIZ TIME!

1) True or False: The United States is a worldwide leader on average life expectancy

2) Regarding Healthcare:

Per Capita Spending to Average Life Expectancy
Rank United States: *Ahead, Behind or Approximately Same*

- a) Australia b) Italy c) Cuba

3) Causes of Illness

Total = 100%

- Genetics Causes _____%
- Unable to Access Care Causes _____%
- Environmental Causes _____%
- Health Behaviours / Lifestyle Choices Causes _____%

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4) What % of US healthcare costs are spent on chronic – largely preventable diseases?

- a) 35%
- b) 75%
- c) 25%

5) What % of all physician visits are related to stress?

- a) 30-50%
- b) 60-90%
- c) 10-35%

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6) According to The New England Journal of Medicine (2007), Angioplasties and stents do not prolong life or prevent heart attacks in -----% of stable patients who receive them

- a) 95%
- b) 65%
- c) 35%

and

Bypass surgery prolongs life in less than

- a) 3%
- b) 20%
- c) 55%

7) Changing lifestyle behaviours could prevent _____ of all heart disease (Lancet, 2004 Sep)

- a) 90%
- b) 20%
- c) 65%

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8)

_____ is the leading cause of hospital admissions and injurious death for age 65 and above, with annual direct medical costs associated with it totaling nearly \$30 billion dollars in the US (2010) (Center of Disease Control Prevention)

9) Check health problems now seen in children, due to obesity, that culturally in the past were regarded as adult or later-in-life conditions:

- High Blood Pressure*
- Type 2 Diabetes*
- Elevated Blood Cholesterol Levels*
- Depression*

10)

One in a) Five b) Three c) Ten

American kids and teens are currently overweight or obese which is

- a) One b) Two or c) Three times the rate in 1963

11)

True or False: Approximately 50% of the states in the US have an obesity rate of 10-20%

12) True or False:

Obesity issues are rather simple. Obesity occurs when a person consumes more calories from food than he or she burns; overeating and under exercising/sedentary behavior.

13) The average sugar consumption per person per year in America is _____

- a) 150 lbs
- b) 75 lbs
- c) 35 lbs

14) True or False: Cardio exercise has consistently by proven through research to be the most effective way to lose weight.

15)

Please Put "T" or "F" for true or false;
What conditions/symptoms have been linked to Stress and/or High Levels of Hormone Cortisol/Low Levels of DHEA:

- 1) Impaired function of The Immune System
- 2) Decreased Bone Density
- 3) Fat Deposited in Abdomen
- 4) Increased Blood Sugar
- 5) Increased Triglycerides
- 6) Impaired Wound Healing
- 7) Increases Sensations of Pain
- 8) Problems with Memory
- 9) Weight Gain
- 10) Increased Resistance to Insulin
- 11) Increase Cholesterol
- 12) Increased Blood Clotting
- 13) Poorer Sleep
- 14) Increased Performance

ANSWERS

1) True or False: The United States is a worldwide leader on average life expectancy

2) Regarding Healthcare:

Per Capita Spending to Average Life Expectancy

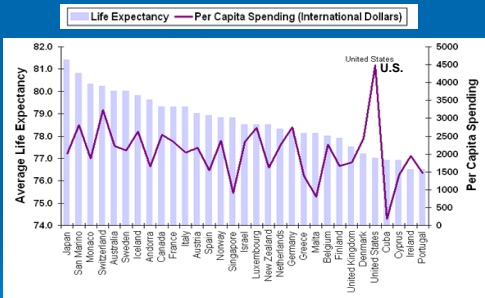
Rank United States: Ahead, Behind or Approximately Same

a) Australia

b) Italy

c) Cuba

The Economics and the Outcomes



UC Project for Global Inequality

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3) Causes of Illness

Genetics causes 20%

Unable to Access Care causes 10%

Environmental Causes 20%

Health Behaviours / Lifestyle Choices causes 50%

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4)

What % of US healthcare costs are spent on chronic – largely preventable diseases?

b) 75%

5)

What % of all physician visits are related to stress?

b) 60-90%

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a) 95%

and

Bypass surgery prolongs life in less than

a) 3%

7) Changing lifestyle behaviours could prevent _____ of all heart disease (Lancet. 2004 Sep)

a) 90%

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8) ----- Is the leading cause of hospital admissions

and injurious death for age 65 and above, with annual direct medical costs associated with it totaling nearly \$30

billion dollars in the US (2010) (Center of Disease Control Prevention)

Falls

9) Check health problems now seen in children, due to obesity, that culturally in the past were regarded as adult or later-in-life conditions:

- YES - High Blood Pressure
- YES - Type 2 Diabetes
- YES - Elevated Blood Cholesterol Levels
- YES - Depression

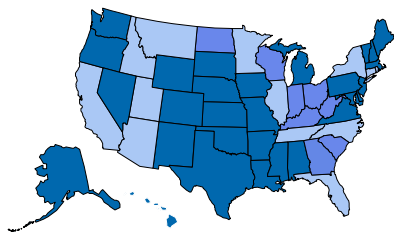
10)
One in b) Three
American kids and teens are currently overweight or obese which is
c) Three times the rate in 1963

11)
True or False: Approximately 50% of the states in the US have an obesity rate of 10-20%

Obesity Trends* Among U.S. Adults

BRFSS, 1985

(*BMI ≥30, or ~30 lbs. overweight for 5' 4" person)



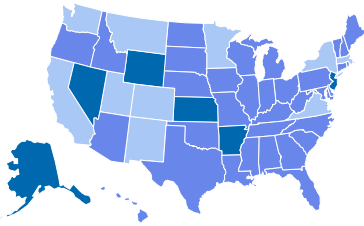
Source: Behavioral Risk factor Surveillance system, CDC



Obesity Trends* Among U.S. Adults

BRFSS, 1990

(*BMI ≥30, or ~30 lbs. overweight for 5' 4" person)



■ No Data ■ <10% ■ 10%-14%

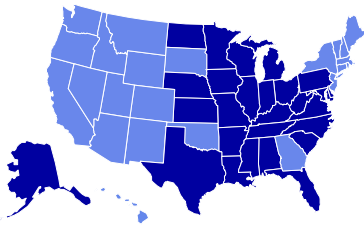
Source: Behavioral Risk factor Surveillance system, CDC



Obesity Trends* Among U.S. Adults

BRFSS, 1995

(*BMI ≥30, or ~30 lbs. overweight for 5' 4" person)



■ No Data ■ <10% ■ 10%-14% ■ 15%-19%

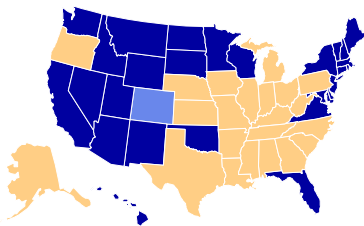
Source: Behavioral Risk factor Surveillance system, CDC



Obesity Trends* Among U.S. Adults

BRFSS, 2000

(*BMI ≥30, or ~30 lbs. overweight for 5' 4" person)



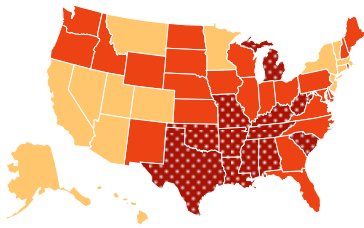
■ No Data ■ <10% ■ 10%-14% ■ 15%-19% ■ ≥20%

Source: Behavioral Risk factor Surveillance system, CDC



Obesity Trends* Among U.S. Adults

BRFSS, 2005
 (*BMI ≥30, or ~30 lbs. overweight for 5' 4" person)



■ No Data
 ■ <10%
 ■ 10%–14%
 ■ 15%–19%
 ■ 20%–24%
 ■ 25%–29%
 ■ ≥30%

Source: Behavioral Risk factor Surveillance system, CDC



11)
 False....no states at 10%-20%

12)
 Obesity issues are rather clear & simple. Obesity occurs when a person consumes more calories from food than he or she burns; overeating and under exercising/sedentary behavior.

12) Not so simple or clear....

The issue is: regulation of Fat (Adipose) Tissue.
 Fat accumulation is regulated fundamentally by insulin and carbohydrates (sugars)
 Hormones/Insulin/Fat Storage.

Paradigms: A disorder of excess fat accumulation

13) The average sugar consumption per person per year in America is _____
 150 lbs* (Institute of Integrative Nutrition Presentation, Mark Hyman, MD)

14) Cardio exercise has consistently been proven through research to be the most effective way to lose weight.

False

Three month study, women did 45 minutes of cardio a day, 5 days a week, and lost no more weight than those who dieted alone.

Utter AC, et al. Influence of diet and/or exercise on body composition and cardio respiratory fitness in obese women. Int J Sports Nutr. 1998 Sep; 8(3) 213-22.

Subjects did 50 minutes of cardio, 5 days a week, and once again lost no more weight than those who dieted alone.

Redman et al. Effect of calorie restriction with or without exercise on body composition and fat distribution. J Clin Endocrinol Metab. 2007 Jan 2

One year study, subject performed aerobic exercise for 60 minutes/day, 6/week and only lost 3.5 pounds on average in an entire year.

McTernan et al. Exercise Effect on Weight and Body Fat in Men and Women. Obesity 2007 June - 15:1496-1512.

**15) Please Put "T" or "F" for true or false;
What conditions/symptoms have been linked to Stress
and/or High Levels of Hormone Cortisol/Low Levels of DHEA:**

- 1) Impaired function of The Immune System
- 2) Decreased Bone Density
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- 13) Poorer Sleep
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**High Cortisol – Low DHEA
Linked To:**

Obesity (Marin 1992)	National Concern
Diabetes (Nestler, 1992)	
Hypertention (Shafagoi, 1992)	Relevant to Falls?
Heart Disease (Barret-Conner 1986)	
Cancer (Bhatavdekar, 1994)	
Alzheimer's (Nasman, 1995)	

Research - those who are regularly stressed have:

- A five-fold increased risk of dying from heart-related problems
- Double the risk of developing diabetes in men
- A 65% increased risk of developing dementia
- Double the chance of developing obesity

Sobering

Macro Healthcare Change
&
Micro Healthcare Change

The Real Healthcare Recovery Plan

Chronic conditions consume more than
75% of healthcare costs and
are largely effected **by health behaviors**

Our current model is
problem based and disease oriented.

The current healthcare model doesn't work because
we do not have a **core competency in optimizing health**

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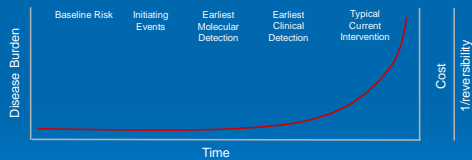
Approximately
95 cents of every dollar
spent to treat disease *after*
it had already occurred

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Reactive...vs...Proactive...

"MACRO"

Short Term/Long Term Healthcare Opportunities for Intervention



Source: Ralph Snyderman, MD, Chancellor Emeritus, Duke University

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Micro...

TYPE 2 DIABETICS

Reactive vs. Proactive

Micro Healthcare Change

Individuals do not change their lifestyle choices and health behaviors until we know **what matters to them**

Behavior changes are sustainable when they have **deeply personal significance**

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Micro

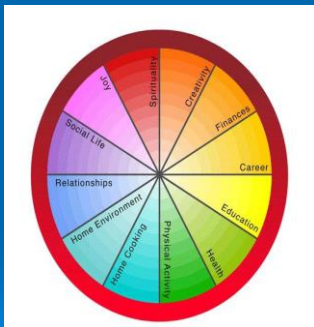
CHANGE....Reactive vs. Proactive & Deeply significant

There is Research

There are
Options

There Are Choices





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A Transformative Model Healthcare /“Health” “Care”

Contemporary

- Disease oriented
- Find it, fix it
- Biomedical interventions
- Reactive
- Sporadic
- Individual left to enact
- Physician-directed

Integrative Care

- Health oriented
- Identify risk, minimize it
- Whole person approaches
- Proactive
- Lifelong planning
- Support in implementation
- Partnership-based

Source: Ralph Snyderman, MD, Chancellor Emeritus, Duke University
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No quiz...
just questions....

If you were just made aware of a medically researched
“technique” that has clinically shown to:

- Reduces pain
- Reduces stress
- Improves quality of life
- Improves sleep
- Enhances immune system
- Shown to be beneficial for lowering blood pressure

Wisconsin Medical Journal



Mayo Clinic has included “another new technique” ...

as one of the three central action step plans their promoting on
their DVD Wellness Solutions Line

- Mayo Clinic Wellness Solutions for Diabetes
- Mayo Clinic Wellness Solutions for Heart Health
- “ Mayo..” High Blood Pressure
- “ Mayo..” Fibromyalgia
- “ Mayo..” Arthritis
- “ Mayo..” Menopause
- “ Mayo..” Irritable Bowel Syndrome
- “ Mayo..” Back Pain
- “ Mayo..” Insomnia

EVIDENCE RATING

- Decreases stress and anxiety** **A**
- Improved physical and quality-of-life measures in elderly **A**
- Improves functional status and symptoms in low back pain **A**
- Improves subjective and objective outcomes in asthma **A**
- Improves oxygen saturation in patients with COPD **B**
- Decreased fatigue in Multiple Sclerosis patients **B**
- Is beneficial in patients with eating disorders **B**



Hope for brighter tomorrows...

Harvard Medical School & Brigham & Women's Hospital: 2012 Juniors and Seniors:

- Control Group
 - 1) scored higher for mood problems or anxiety
 - 2) self-reported more negative emotions
- Experimental Group reported
 - 1) self-reported fewer negative emotions
 - 2) scored lower for mood problems and anxiety

2003 study of 5th graders:
reduced feelings of helplessness and aggression
increase emotional balance
reduced fears

Other Kid/Teen Studies:

Teens who had suffered traumatic abuse,
showed significant decreases in depression & anxiety

Food disorder teens- *75% reported an increased sense of well-being*

Anorexic adolescents
reduced starvation-induced stress
safely reintroduced physical activity for weakened body
minimized fatigue
corrected distorted self-perceptions

Teen musician performance anxiety and mood disturbance reduction




What if there were easy tools & techniques that had to do with

- the power of the heart /emotions
- heart function and cognitive performance
- 20 + years of published research including peer-reviewed journals such as American Journal of Cardiology, Stress Medicine, Preventive Cardiology and Journal of the American College of Cardiology
 - Increase in cortical facilitation (*brain's ability to process information*)
 - Increase in creative problem solving, intuition.
 - Increase functioning in the Immune System
 - A decrease in the level of stress hormone (Cortisol)
 - An increase in vitality hormone (DHEA) (*di-hydro-epi-andro-sterone*)

Studies:

Blood Pressure in Hypertensive Employees (HP)
20% reduction in diastolic and systolic blood pressure

Stress and Health Risk Reduction in Correctional Officers
Significant reductions in
 total cholesterol
 mean heart rate
 blood pressure.



Patients with Type 2 Diabetes who received ----- reported a host of improvements:

- Far more likely to take their medication
- Their blood sugar levels improved
- They felt more engage in their own health, with a greater understanding of the resources available to them and more confidence that they could impact their health.
- They had an increased sense of social support and tangible support
- Were more likely to exhibit "benefit finding"
- Stress and depression went down
- Exercise went up

Duke Integrative Medicine, Duke University Medical Center
Supported by drug maker **GlaxoSmithKline**.

Integrative Health Coaching for Patients with Type 2 Diabetes
Randomized Clinical Trial

Spurred by the fact that 50% of people with Type II diabetes do not take their medication as prescribed and 90% of them do not adhere to all aspects of their overall treatment regimen.



Stress Reduction Programming

Self Awareness/Mindfulness Practices

Health, Wellness, Well-being Programs

Integrative Practices
Complimentary Practices
Holistic Practices
Holistic Care
Body Mind Spirit Practices

Leading Medical Publications

JAMA – Journal American Medical Association
New England Journal of Medicine
Archives of Internal Medicine
New England Journal of Medicine
Duke
Harvard
Stanford
University of Massachusetts
National Institute of Health
US Dept of Health & Human Services
American Journal of Psychiatry
Journal of Nursing Administration
Journal of Affective Disorders
Neurology
Biological Research for Nursing
Journal of Gerontology
Journal of General Internal Medicine
American Journal of Hypertension

Experiential



There is Research

There are
Options

There Are Choices



FALLS..Leading cause of hospital admissions for people age 65 and older:

- with 1 in 3 experiencing a fall each year
- Older adults are hospitalized for fall-related injuries five (5) times more often than they are for injuries from other causes
- 2.4 million nonfatal fall injuries treated in Emergency Dept. (2011); 689,000 had to be hospitalized
- 20-30% suffer moderate to severe injuries that make it hard to get around or live independently and increase their risk of early death

Center of Disease Control Prevention

FALLS

Average **hospitalization costs** for a fall injury is **\$34,294** (2012)

Annual **direct** medical costs associated with falls **\$30 billion dollars in the US** (2010)

Significant U.S. challenge; elderly population is expected to double by 2030

Center of Disease Control Prevention

FEAR OF FALLING

Major health problem among community-dwelling older persons

Prevalence of this fear ranges from **29%-77%**.

Indicates importance of developing effective strategies to reduce fear of falling among elderly adults

Journal of Advanced Nursing, Nov. 2010

Elderly fallers – as compared with nonfallers, have:

significantly weaker muscles strength

in ankle dorsiflexors, hip flexors, or knee extensors

marked decrease in ankle range of motion

greater postural sway

have significantly more disabilities in performing activities of daily living than nonfallers

A PERSONS ABILITY TO BALANCE CAN BE INFLUENCED BY MANY FACTORS SUCH AS:

- Vision
- Inner-ear functioning
- Blood Pressure
- Muscle Strength
- Posture
- Brain integration
- Medical Condition
- Medication
- Depression
- Diabetes

GOOD NEWS

Although Risk of Falls
and
Fall Related Injuries
Increases With Advancing Age

They Are Not Inevitable Consequences of Aging

(Carter et al., 2001; Nied & Franklin, 2002)



There is Research

There are
Options

There Are Choices



National Institute on Aging & Emory:

Tai Chi program reduced risk of falling by 47.5%.

Oregon Research Institute:

Risk for multiple falls in Tai Chi group 55% lower than that of stretching control group

Tufts:

Tai Chi is effective in treating knee osteoarthritis



Tufts:

Tai Chi Improves Pain & Functional Status in Adults with Rheumatoid Arthritis: Pilot single-Blinded Randomized Controlled Trial

American College of Rheumatology (ACR) 20 response criterion, functional capacity, health-related QOL & depression index. 12 wks/Tai Chi,. ACR 20% response compared to 0% control.

New England Journal of Medicine: Tai Chi beneficial in easing the pain of fibromyalgia



Wisconsin Medical Journal: Therapeutic Benefits of Tai Chi Exercise Research Review:

- Improved Balance & Fall Prevention
- Pain Reduction - Stress Reduction - Improved Quality of Life
- Improved Aerobic Capacity
- Blood Pressure Reduction
- Improved Sleep Quality
- Physical Function including activity tolerance & cardiovascular function
- Enhancing immune system
- Improving flexibility & strength



Research In Sports Medicine:

An International Journal: Review of Tai Chi as an Effective Exercise on Falls Prevention in Elderly, Jan 2012

24 Articles Reviewed



All studies reported significant improvement with the Tai Chi intervention except for one study*

Majority of the studies demonstrated

- Significant improvement in number of falls and fear of falling and
- Significant improvement in laboratory-based balance measures.

Journal Advanced Nursing, Nov 2010

In addition to reducing risk of falls and Fear of Falling (FOF), improving balance...

- Tai Chi has benefits in physical and psychological functioning
- Tai Chi found to reduce FOF significantly more than other exercise programs for older adults



Journal Advanced Nursing, Nov 2010



- 94% of the elders who participated in a 12-week Tai Chi intervention improved their functional status and confidence
- 100% of participants agreed that the Tai Chi movements were appropriate and safe to perform and they intended to continue doing the activity and to recommend it to others



European Journal of Physical and Rehabilitation Medicine (Tuzun et al., 2010)

Title: Yoga might be an alternative training for the quality of life and balance in postmenopausal osteoporosis

STUDY RESULT

Yoga education has a positive effect on pain, physical functions, social functions, general health perception and balance.

YOGA-BASED EXERCISE PROGRAM TO REDUCE THE RISK OF FALLS IN SENIOS: A PILOT AND FEASIBILITY STUDY

The Scripps Research Institute, La Jolla, CA, Brown et al.,
 Division of Arthritis Research Division of Biomathematics,
 Dept of Molecular and Experimental Medicine

45 minutes, 8 weeks (68-97 years old)



- 14 of 22 Improved Berg Balance Scale
- 13 Of 22 Improved Activities-Specific Balance Confidence Scale
- 15 of 22 Improved One Leg Standing Test

Exit Questionnaire:

- Improvement in posture (25%)
- Improvement in Breathing (21%)
- Stepping or Walking Improvement (15%),
- Coordination (13%), Flexibility (13%).

Health Benefits Within

- Blood Pressure Reduction
- Circulation Improvement
- Pulse Rate Reduction
- Immunity Strengthened
- Gastrointestinal Function Improve
- Post Surgery Pain Decrease
- Respiration Rate Decrease



DISEASE PREVENTION

- Reduction in risk of heart disease
- Osteoporosis
- Type II Diabetes
- Possible slowing on Alzheimer's onset

Symptom Reduction/Alleviation

- Asthma
- Arthritis
- Headaches
- Fibromyalgia
- Chronic Fatigue
- Eating Disorders
- Parkinson's
- Migraines
- Scoliosis
- Chronic Bronchitis
- Epilepsy
- Sciatica
- Obsessive Compulsive disorders
- Back pain
- Menopausal Symptoms
- Improves Birth Outcomes
- Shortens Labor

Health Benefits External:

- Improve posture
- Increase strength
- Increase energy
- Sleep pattern improvements
- Balance Improvement



Body Chemistry:

- Lowers Cholesterol
- Supports strong lymphatic system
- May lower glucose levels
- Lowers levels of triglycerides
- Increase red blood cells





ENERGY



ENERGY

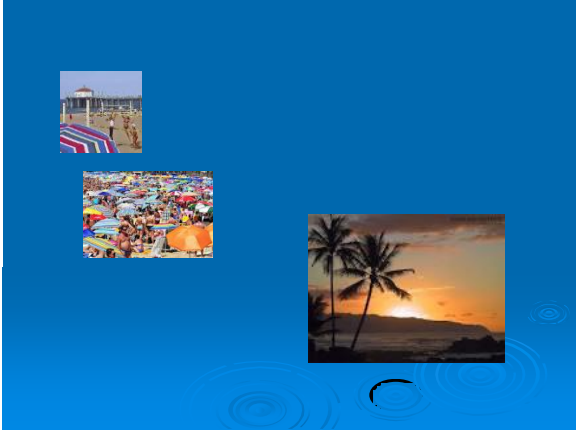
- Immersed/surrounded
- Take it for granted



MEDICINE



Reading Energy....



Energy

- Awareness of Energy*
- Moving Energy*
- Generating/Releasing Energy*
- Balancing Energy*
- Energy Management*

Experiential

Reminder.....
60-90%
Of all physician's visits related to
STRESS

But...Are We All
Desensitized to the Word????



What conditions/symptoms have been linked to Stress and/or High Levels of Hormone Cortisol/Low Levels of DHEA:

- 1) Impaired function of The Immune System
- 2) Decreased Bone Density
- 3) Fat Deposited in Abdomen
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Sobering







There is Research

There are Options

There Are Choices









Opportunities
Self-Care
Self-Inquiry
Self-Awareness
Lifestyle Behavior Change







**Awareness
Choice
Action
Practice
Value
Beliefs**

If you do not make any changes in your life what does your health and well-being look like in 3-5 years?

Thank You
