



AMERICAN COLLEGE OF
Lifestyle Medicine

What Is Lifestyle Healthcare?

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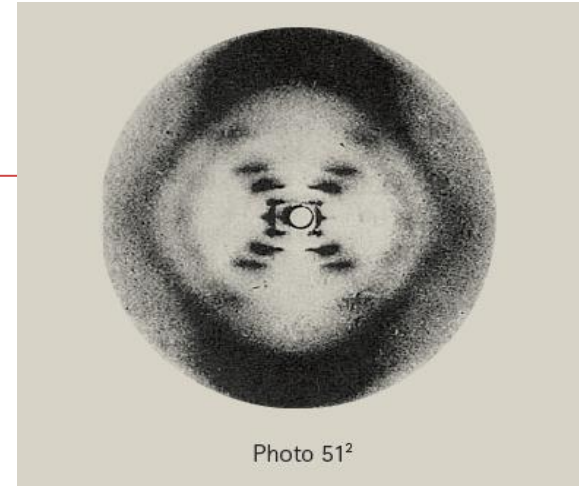
Associate Professor and Chair, Lifestyle Medicine Department

Department of Physical Therapy



Who was Rosalind Franklin?

- X-ray crystallographer
- Worked in England in the 1950s
- Franklin took the clearest X-ray photographs of DNA fibers ever seen to that date
- The “X” pattern of her famous “Photo 51” gave Watson and Crick the intuition that led to the double helix
- While Watson, Crick and their colleague, Maurice Wilkins, received the Nobel Prize, Rosalind Franklin was never given credit for her role in their discovery
- She died in 1958 of ovarian cancer, at age 37, perhaps from radiation exposure from her work. One thing is certain -- she died without ever knowing the true magnitude of her contribution to the science of life



1912 Chicago Medical School



710 S. Wolcott in Chicago

1980: University moved from Chicago to North Chicago – 3333 Green Bay Road in North Chicago



Dr. WM School College of Podiatric Medicine



**2001 FUHS/CMS Merges with
Dr. William M. Scholl College of
Podiatric Medicine**

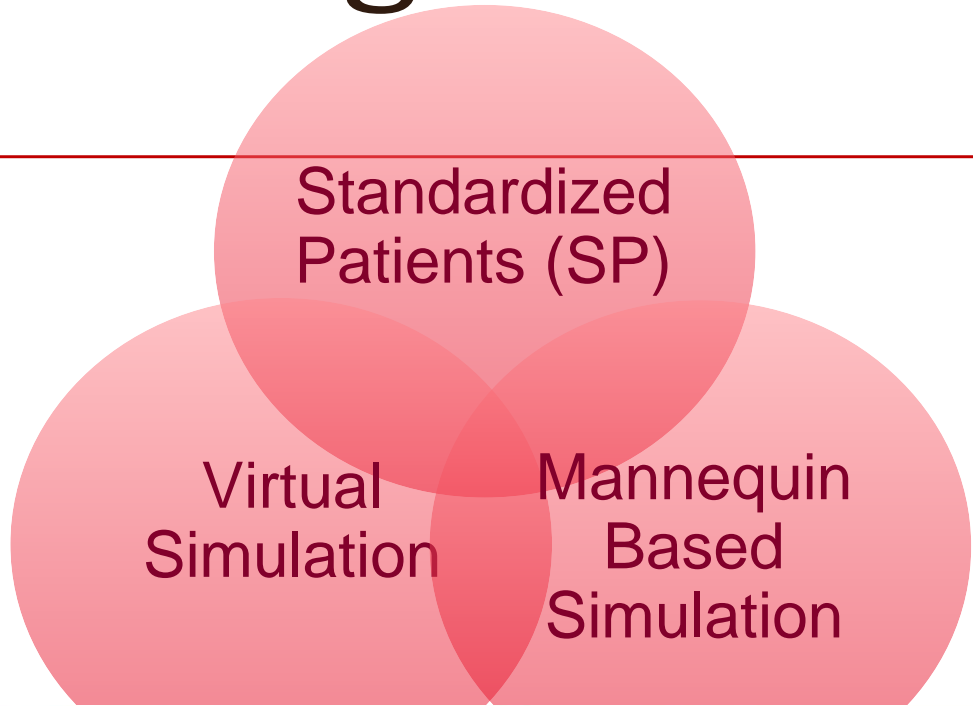


State of the Art Facility

- Labs and Classrooms
- Education and Evaluation Center
- Simulation Lab
- Anatomy Lab



Premier Learning Environment



The Colleges

- Chicago Medical School
- College of Nursing
- Dr. WM Scholl College of Podiatric Medicine
- College of Pharmacy
- School of Graduate and Postdoctoral Studies
- College of Health Professions
 - Doctor Physical Therapy
 - Physician Assistant
 - Pathologist Assistant
 - Psychology
 - Online Programs: Nutrition, Lifestyle Medicine, Health Administration



Learning Objectives

- Define Lifestyle Healthcare/Medicine
- Compare and contrast lifestyle healthcare/medicine to other fields of healthcare and medicine
- Explain the concept of evidence-based lifestyle medicine
- Describe the unique role of lifestyle medicine in healthcare
- Understand the true causes of chronic diseases
- Understand the six pillars of lifestyle healthcare/medicine



Three Important Questions

- How does the healthcare system work in the United States?
- Can anything be done to help address the current situation of healthcare in the United States?
- Who are the change agents who must help lead the way to implement the proposed solutions?



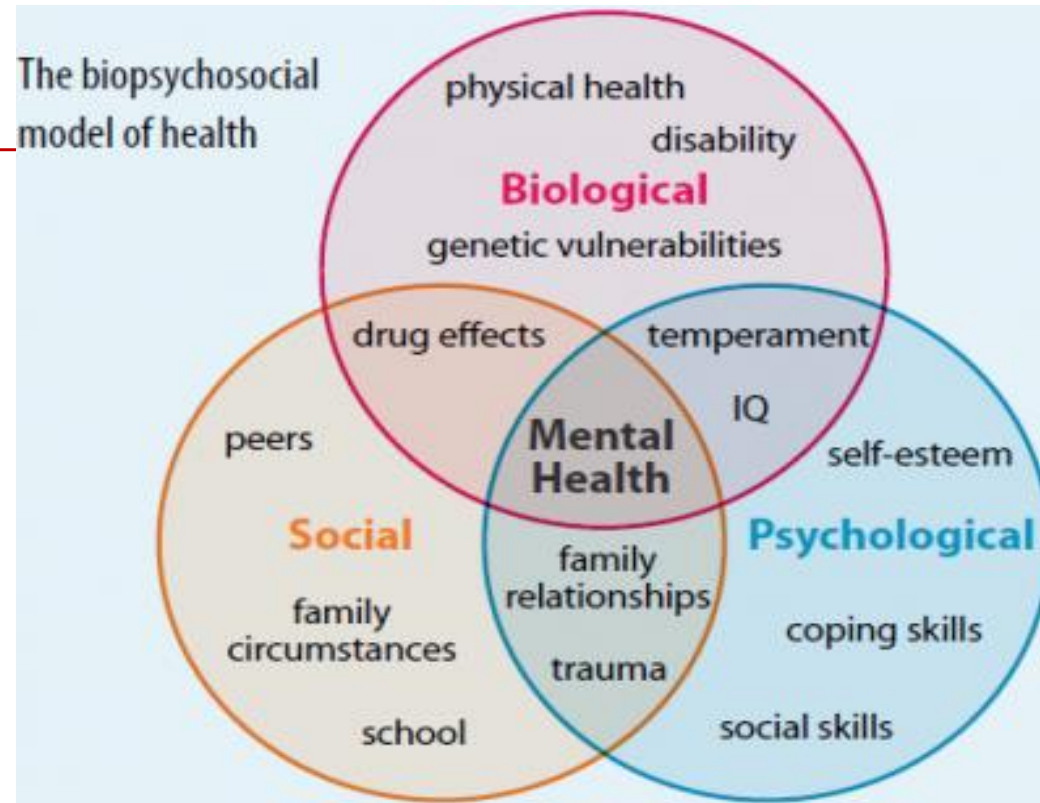
The Untied States Healthcare System



- **Biomedical Model:** Focuses only on physical aspects of disease process – treatment is based on pathology or the pathological process. Assumes that **psychological, social, environmental and spiritual influences are all independent** of the disease process. Treatment is aimed at curing the underlying pathophysiology and pathoanatomy
- Have you seen this?
- What do you think?????



Biopsychosocial Model



- Supports the idea that biological, psychologic and social variables are key factors to health and illness
- Mind and body cannot be separated, they both influence the state of health
- This model helps to explain differences in outcomes for individuals with persistent pain
- Encourages HCP and patients to work together to find solutions to problems in order to enhance the healing process – What do you think???



Case #1

- 45-year-old with 2-year history of intermittent low back pain, that their primary care provider has ruled out any sinister nature.
- General health: Pt. has stage one hypertension: 130/84 mmHg is average measurement. In addition, total cholesterol is 220; LDL 120 and HDL 55. Fasting glucose was 125. BMI is 31.
- Present job is a legal assistant at a personal injury law firm and currently they are short staffed. Physical activity level is aerobic activity 15 minutes; 3 times per week. Does not perform any strengthening activities.
- Pt. would like to become healthier and is fearful of having a heart attack or stroke because their father died of an AMI at age 55.



THE TIMES THEY ARE CHANGING

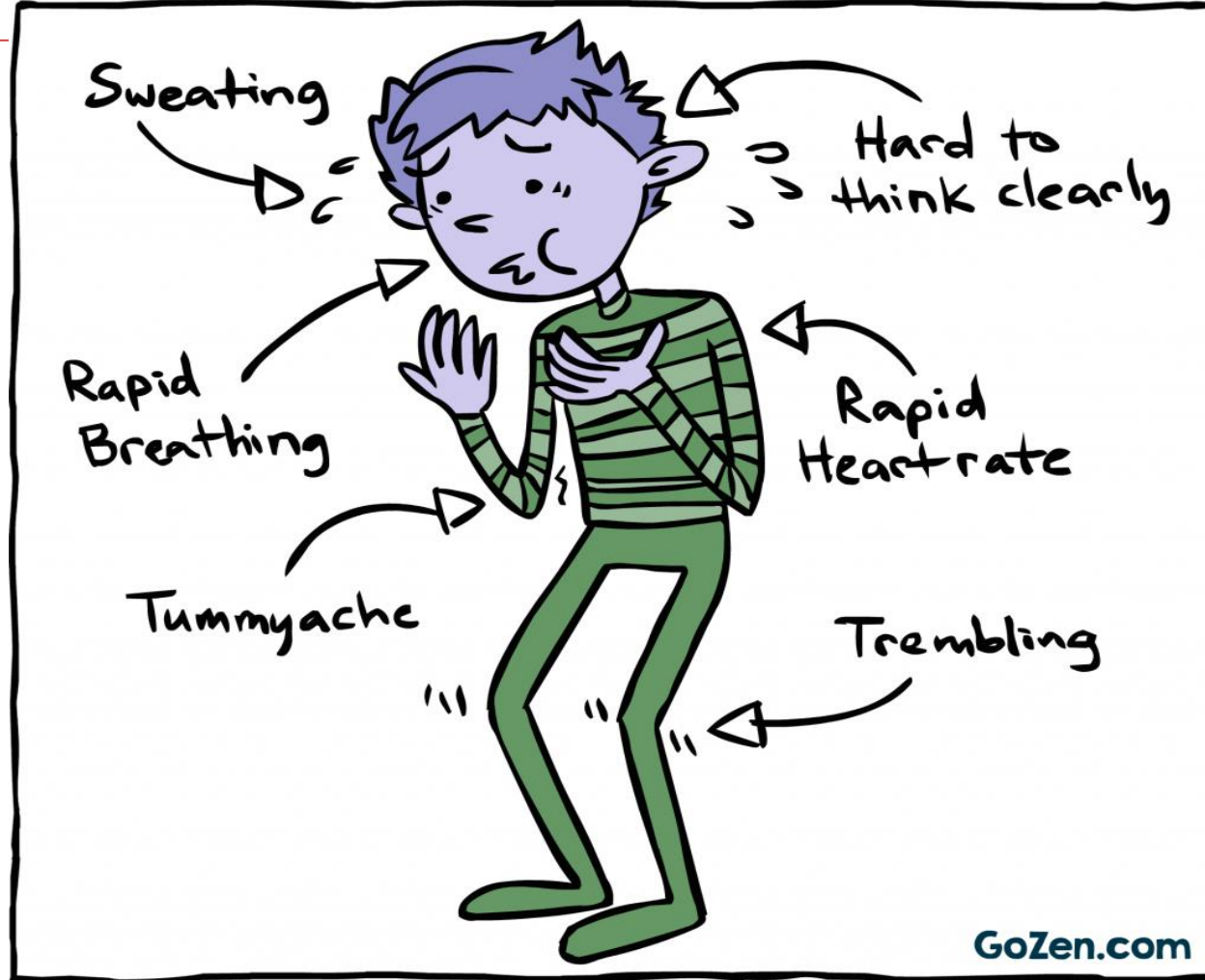
What Is Lifestyle Healthcare?



What Do You Know About LM?



Everybody Loves A Quiz!



Lifestyle Medicine Defined

- Lifestyle medicine is a coordinated team-based approach to healthcare that integrates the six pillars of wellness to treat, reverse, and prevent chronic lifestyle-related diseases.
- It is an evidence-based approach to preventing, treating and even reversing diseases by replacing unhealthy behaviors with positive ones – such as eating healthfully, being physically active, managing stress, avoiding risky substances, adequate sleep, and having a strong support system.
- www.lifestylemedicine.org



The 6 Pillars of Lifestyle Medicine



How do we all fit into this puzzle?

- What areas do you see your strengths?
- What areas do you want to improve?
- How much time does your healthcare professional talk about these with you?



Field of Lifestyle Medicine

- LM recognizes the link between lifestyle medicine and health outcomes
- Uses science behind health behavior change
- Emphasizes value of lifestyle medicine coaching by all health professionals
- Is evidence based



How Much Training in Health Professions Educational Programs?

- Nutrition and Eating Patterns
- Physical Activity and Exercise Prescription
- Sleep
- Stress Resilience
- Social Connectedness



Training in Health Professions Educational Programs

- Behavioral Change
- Motivational Interviewing
- Health Coaching
- Addictive Behaviors



Exercise Courses in Medical Schools: 2000s

2001-Medical school leaders including Deans and Directors of Medical Education reported

- 72 out of 128 medical schools participated in questionnaire
- 6% of medical schools polled reported having a core course addressing the exercise prescription



Just an example: Reported Competence of Medical Students

10% of graduates could design an exercise prescription



Connaughton AV, Weiler RM, Connaughton DP. Graduating medical students' exercise prescription competence as perceived by deans and directors of medical education in the United States: implications for Healthy People 2010. *Public health reports*. 2001;116(3):226

Reported Physical Activity Curriculum in Medical Schools

2002-Assistant Deans of Medical Education reported

- 102 medical schools participated in the questionnaire
- 13% of medical schools provide a curriculum in physical activity
- 6% of medical schools had a required curriculum
- 76% of medical schools had no plans for one



LIFESTYLE MEDICINE

Definitions: Other Fields of Healthcare and Medicine



Lifestyle Medicine/Healthcare

- Aimed at treating the cause of most of modern diseases
- Most modern diseases are caused by lifestyle, lifestyle changes must be part of the cure
- Lifestyle change is prescribed as the first line and most important therapy for disease treatment and reversal
- Evidence based meds and other modalities are used, but only to supplement changes in lifestyle
- LM elements and interventions are based on the six pillars!



Conventional Medicine/Healthcare

- Medications or surgical interventions are the highest level of care
- Disease is thought to occur due to pathogens, environmental factors or genetic predisposition
- Treatments acute for targeting pathogens or long-term for controlling disease
- Diseased focused approach.
 - Patients are recipients of care and not required to make significant changes
- Providers are responsible for care and out comes
 - Patients are passive receivers of medical services



Complementary & Alternative Healthcare

- Not considered part of conventional healthcare
- Uses complimentary together with conventional medicine and/or alternative in place of conventional medicine treatments that historically are not well researched, or evidence based
- Evidence based complimentary modalities are appropriate and should be utilized; whereas non-evidence based alternative treatments should be excluded



Integrative Healthcare

- Addresses the patient's whole-person needs (physical, social, emotional, mental, environmental, and spiritual) through a combination of conventional, complimentary, and alternative medicine
- “Integrates” experience based complementary and alternative medicine methods with evidence based conventional methods
 - Some see this as a strength, others view it as a weakness of practicing conventional evidence-based medicine



Functional Healthcare

- Focuses on physiologic and biochemical functions of the body
 - From cells to organ systems
- Investigates the balance and processes of cellular metabolism, digestive function, detoxification, and control of oxidative stress
- Emphasizes testing of various hormones and metabolites that are not well proven or generally accepted within evidence-based medicine
 - There is still some controversy over this testing and its meaning



Mind-Body Medicine/Healthcare

- Investigates the interactions between body and mind – behaviorally, emotionally, mentally, socially, and spiritually
- Treats with modalities such as relaxation, hypnosis, visual imagery, meditation, yoga, biofeedback, spiritually, and tai chi
- Some mind-body medicine is solidly evidence based, while other aspects are unproven



THE TIMES THEY ARE CHANGING

The Role of Lifestyle Healthcare



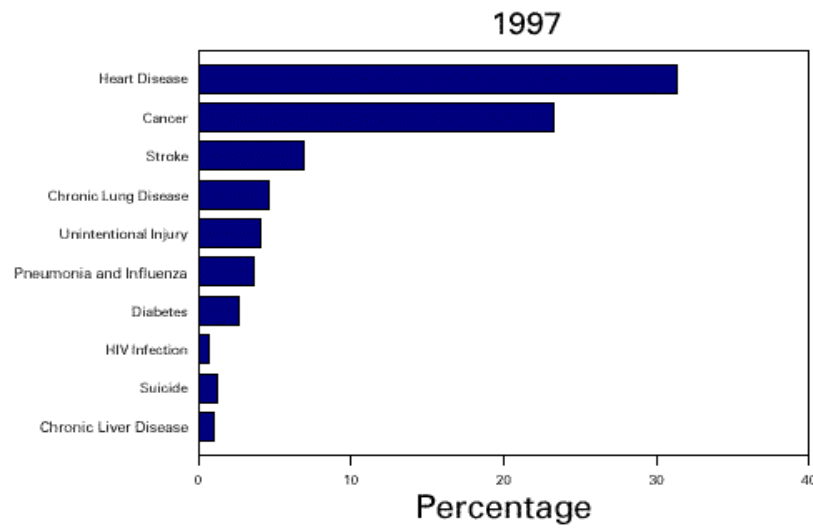
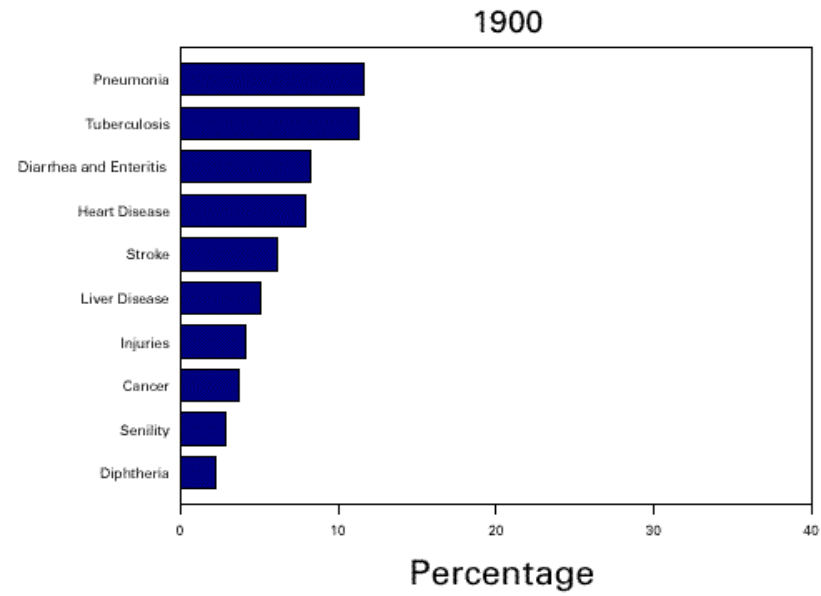
Life Expectancy

- 1900--- about 50 years old
- Now--- about 80 years old
- Quality vs. Quantity
 - Life Expectancy-- 77.9 years
 - Healthy Years– 66.2 years
 - Impaired Life Years– 11.7 years



Frates B, Bonnet JP, Joseph R, Peterson JA. Understanding lifestyle medicine. In: Frates B, ed. *Lifestyle Medicine Handbook: An Introduction to the Power of Healthy Habits*. Monterey, CA: Healthy Learning; 2019:20.

FIGURE 2. The 10 leading causes of death as a percentage of all deaths — United States, 1900 and 1997



Frates B, Bonnet JP, Joseph R, Peterson JA. Understanding lifestyle medicine. In: Frates b, ed. *Lifestyle Medicine Handbook: An Introduction to the Power of Healthy Habits*. Monterey, CA: Healthy Learning; 2019:21.

Chronic Disease in U.S.



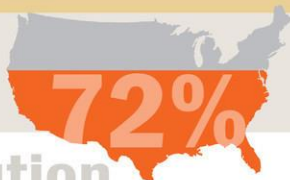
Problem



Chronic diseases - heart disease, cancer, diabetes, stroke, & Alzheimer's are the leading causes of disability and death



72% of Americans are Overweight or Obese
 36 million men and 29 million women are overweight
 32 million men and 36 million women are obese



Cause

Eliminate

- Poor Diet**
- Sedentary Behavior**
- Smoking**

Prevent

80% of heart disease & stroke
80% of type 2 diabetes
40% of cancer

Solution

Restore Health

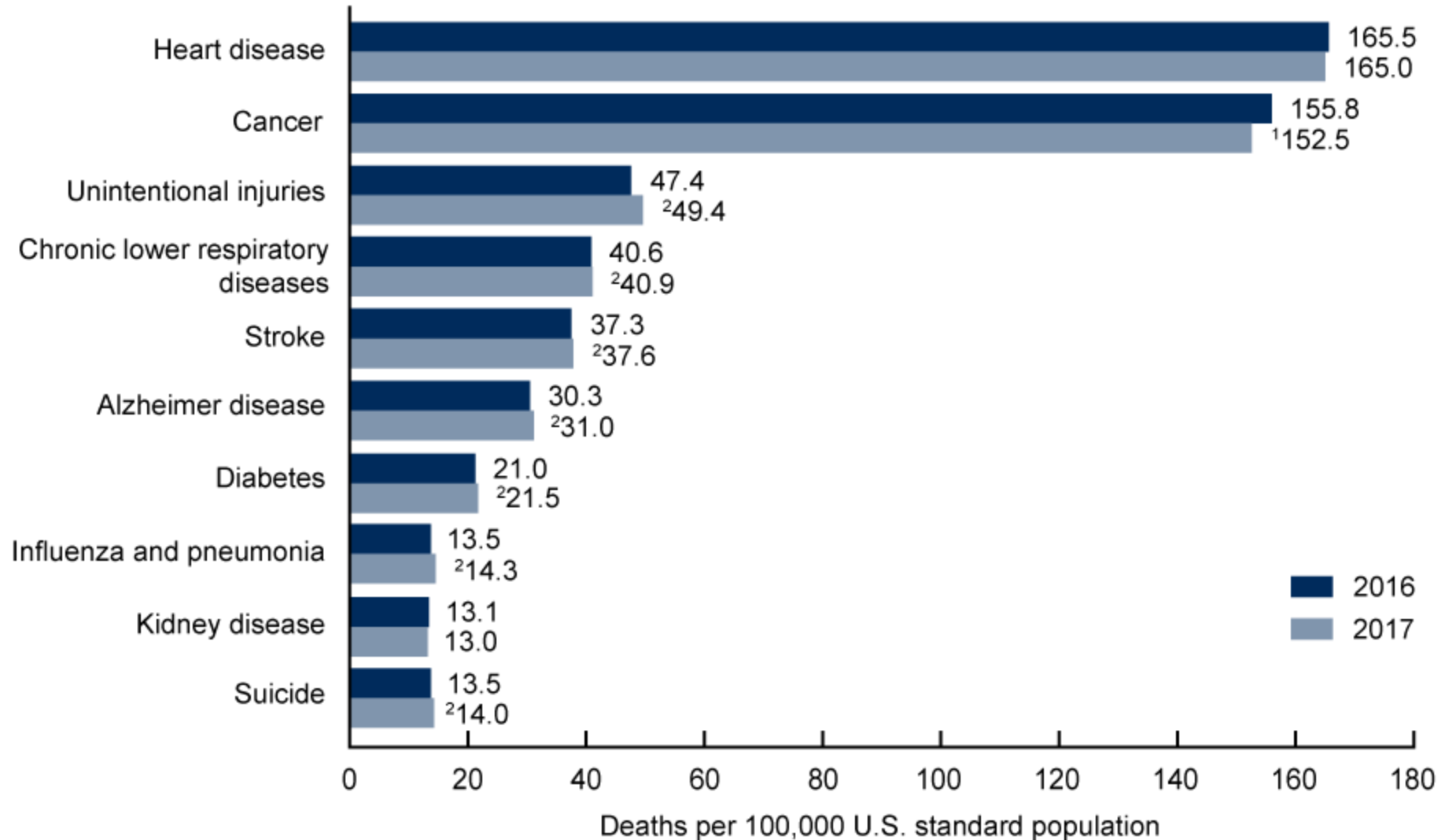
- 1** Whole-food, plant predominant diet
- 2** 150 mins/wk of moderate exercise
- 3** 8 hours of restful sleep
- 4** Daily relaxation time to lower stress
- 5** No Smoking
- 6** Regular connection to positive people

Why?????



Lifestyle Medicine providers treat and reverse chronic disease

The Causes of Death



What is Really Causing Death?

- Lifestyle practices are the **most important determinants of health outcomes**
- Improving unhealthy behaviors is essential for effective care
 - Must establish a trusting relationship – therapeutic alliance
 - Patient support – IP Team, family/friends, community
- **80% of premature deaths attributable to 3 factors**
 - Tobacco use
 - Poor eating pattern
 - Lack of physical activity



What is Really Causing Death?

- Only 3% of individuals have healthy levels of **all four health behaviors**
 - Non-smoking 76%
 - BMI <25 40%
 - Fruits and veggies/day 23%
 - Regular physical activity 22%
 - All 4 3%



A ROADMAP FOR SUCCESS



Healthcare Expenditure on Prevention

- What percentage of healthcare dollars are spent on prevention?
 - 3%
- What percent of our healthcare costs are related to preventable conditions?
 - 75%
- Institute of Medicine recommended we increase federal funding for public health and prevention by \$12 billion annually.



Assessing Behavioral Change

- What % of cardiovascular disease can be prevented or delayed with dietary choices and lifestyle modifications?



70%



Adequate Physical Activity Levels in US

Adults Aged 18 and Older Engaging in Adequate* Physical Activity by Age and Sex, 2007–2009



*Adequate physical activity is defined as 2.5 hours per week of moderate-intensity activity or 1.25 hours per week of vigorous-intensity activity, or an equivalent combination of both, plus muscle-strengthening activities on 2 or more days per week.

Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey, 2007-2009. Analysis conducted by the Maternal and Child Health Information Resource Center.



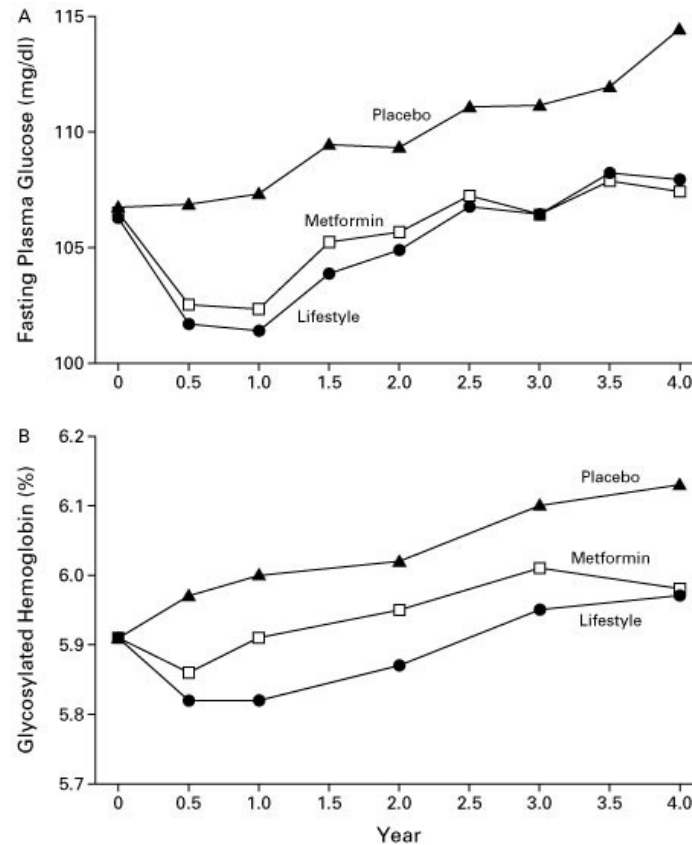
Diabetes Prevention Program

- Landmark Study funded by NIH, published in 2002 in the New England Journal of Medicine.
- Reduction in the Incidence of Type 2 Diabetes with Lifestyle Intervention or Metformin.
- 3234 nondiabetic patients with elevated fasting and post-load plasma glucose levels
- Randomly assigned to placebo, Metformin, or lifestyle intervention.



Knowler WC, Barrett-Connor E, Fowler SE, et al. Reduction in the incidence of type 2 diabetes with lifestyle intervention or metformin. *N Engl J Med.* 2002;346(6):393-403.

Lifestyle vs Metformin



Fasting Plasma Glucose Concentrations (Panel A) and Glycosylated Hemoglobin Values (Panel B) According to Study Group.

Changes in fasting glucose values over time in the three groups differed significantly ($P < 0.001$). Glycosylated hemoglobin values in the three groups differed significantly from 0.5 to 3 years ($P < 0.001$).



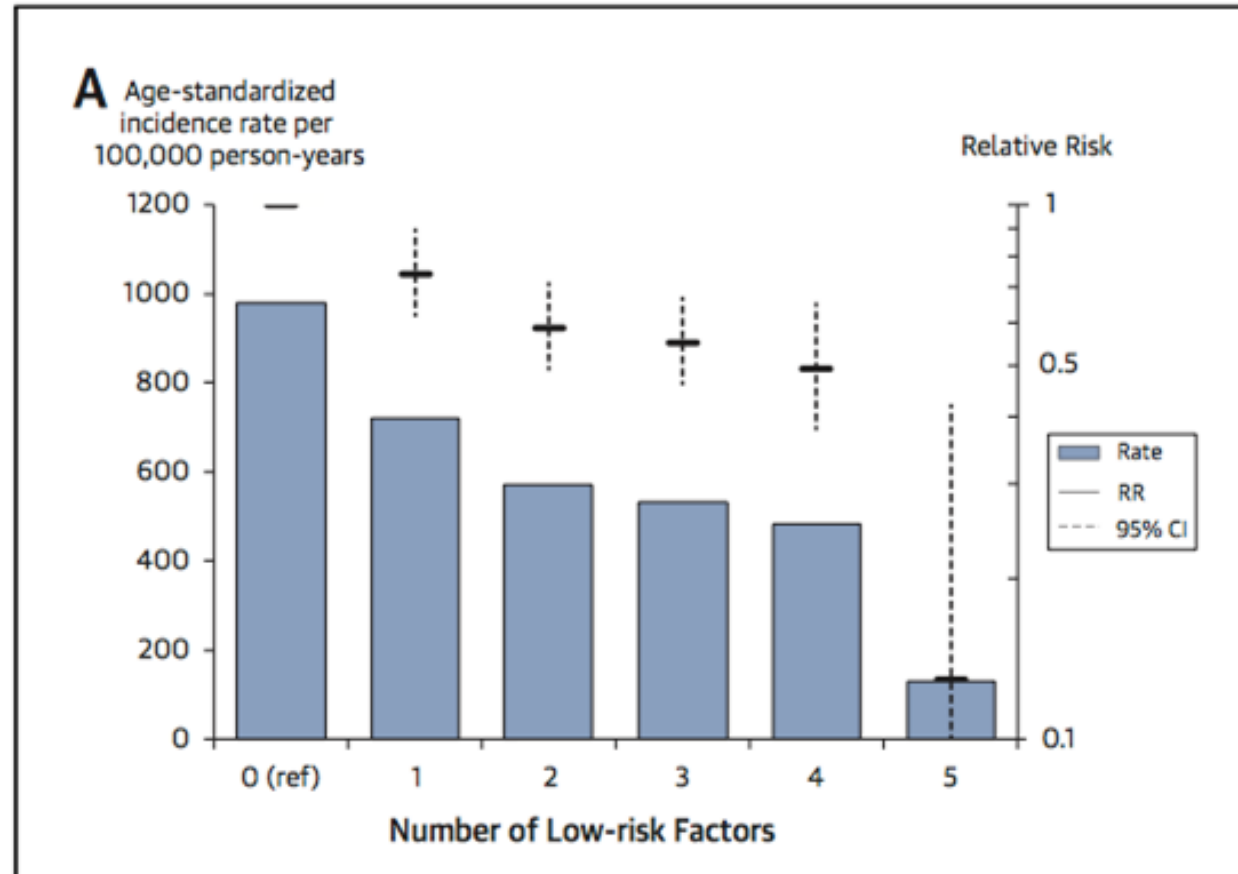
Low-Risk Diet and Lifestyle Habits in Primary Prevention of MI

- 20,721 Swedish men (45 to 79 years old)
- Prospective study (1996-2009) looking at 5 low-risk behaviors (healthy behaviors) – 13 years
- 1) Healthy diet
 - Top quintile of Recommended Food Score
- 2) Moderate ETOH
- 3) No smoking
- 4) Physical activity
 - Walking/bicycling 40 min/day and exercising > or = 1h/week
- 5) No abdominal adiposity
 - Waist circumference < 95 cm (37.4 inches)



Akesson A, Larsson SC, Discacciati A, Wolk A. Low-risk diet and lifestyle habits in the primary prevention of myocardial infarction in men: a population-based prospective cohort study. *J Am Coll Cardiol.* 2014;64(13):1299-1306.

Incidence of MI for the Addition of any Healthy Behavior in Men



Akesson A, Larsson SC, Discacciati A, Wolk A. Low-risk diet and lifestyle habits in the primary prevention of myocardial infarction in men: a population-based prospective cohort study. *J Am Coll Cardiol.* 2014;64(13):1299-1306.

Healthy Lifestyle Change and Subclinical Atherosclerosis in Young Adults

- Coronary Artery Risk Development in Young Adults (CARDIA) Study
- Prospective cohort study with 3,538 subjects
- Ages 18-30 and followed 20 years (1985-2006)
- Looked at healthy lifestyle factors (HLF)
- Healthy weight, low alcohol intake, healthy diet, physically active, nonsmoker



Spring B, Moller AC, Colangelo LA, et al. Healthy lifestyle change and subclinical atherosclerosis in young adults: Coronary Artery Risk Development in Young Adults (CARDIA) study. *Circulation*. 2014;130(1):10-17.

Healthy Lifestyle Factors and Incidence of Coronary Artery Calcium

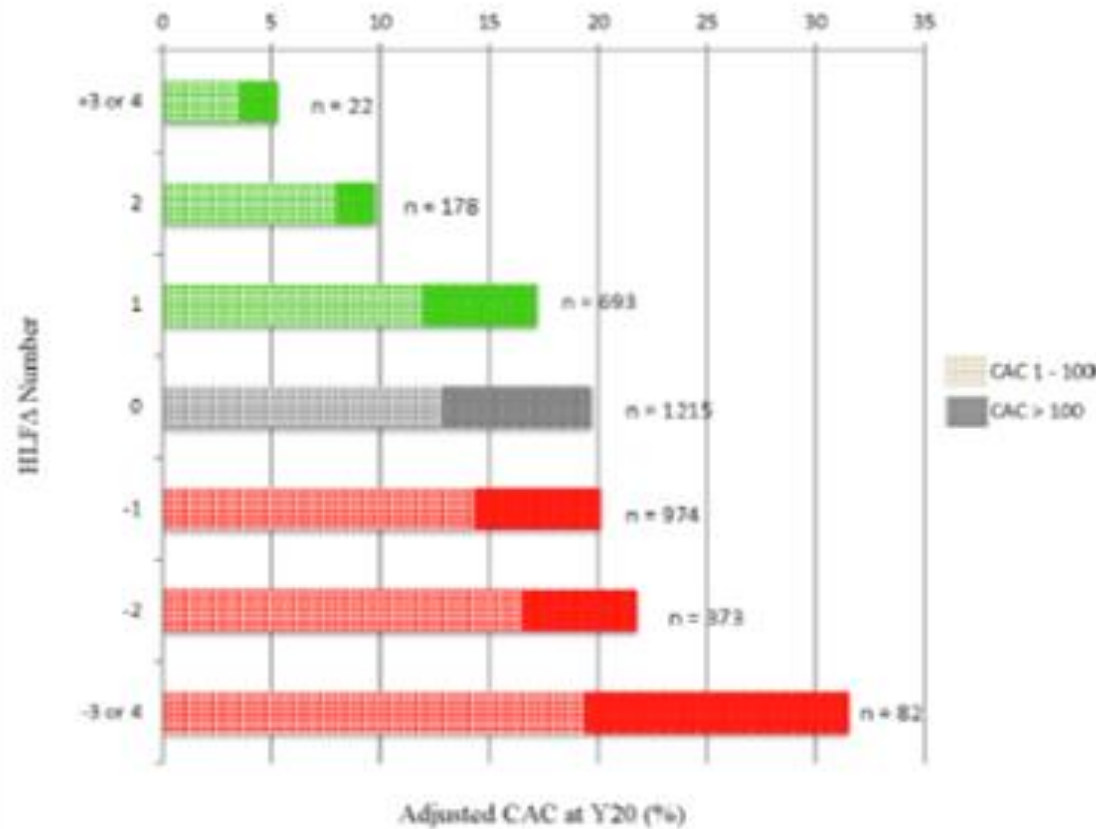


Figure 1. Graded relationship observed between healthy lifestyle factor (HLF) change (from year 0 to year 20 [Y20]) and incidence of coronary artery calcium (CAC) at year 20. Green indicates those who had increased HLFs; gray, those whose HLFs stayed the same; and red, those who had decreased HLFs. Checked section indicates CAC between 1 and 100; dotted section, CAC >100. Adjusted for age, race, sex, and baseline number of HLFs and based on imputed data.



Spring B, Moller AC, Colangelo LA, et al. Healthy lifestyle change and subclinical atherosclerosis in young adults: Coronary Artery Risk Development in Young Adults (CARDIA) study. *Circulation*. 2014;130(1):10-17.

5 Healthy Habits

- No Smoking
- BMI \leq 25kg/m²
- Eat > 5 servings of fruits and vegetables/day
- Alcohol ~ 1 drink/day
- Physical Activity/Exercise > 150 minutes/week

Frates B, Bonnet JP, Joseph R, Peterson JA. Understanding lifestyle medicine. In: Frates B, ed. *Lifestyle Medicine Handbook: An Introduction to the Power of Healthy Habits*. Monterey, CA: Healthy Learning; 2019:28.



The Six Pillars and Useful Information



NUTRITION Food is Medicine. Choose predominantly whole, plant-based foods that are rich in fiber and nutrient dense. Vegetables, fruit, beans, lentils, whole grains, nuts and seeds.



SUBSTANCE ABUSE The well-documented dangers of any addictive substance use can increase risk for many cancers and heart disease. Positive behaviors that improve health include cessation of tobacco use and limiting the intake of alcohol.



SLEEP Lack of, or poor-quality sleep can lead to a strained immune system. Identify dietary, environmental and coping behaviors to improve sleep health.



RELATIONSHIPS Social connectedness is essential to emotional resiliency. Studies show that isolation is associated with increased mortality. Considering a patient's home and community environment improves overall health.

6 WAYS TO TAKE CONTROL OF YOUR HEALTH

Being mindful of your food choices, managing your stress, being physically active, avoiding risky substance use, getting plenty of sleep and having a strong emotional support system in your life — are “just what the doctor ordered” to powerfully prevent, treat, and, often, even reverse chronic disease and select autoimmune conditions.



EXERCISE Regular and consistent physical activity that can be maintained on a daily basis throughout life—walking, gardening, push ups and lunges—is an essential piece of the optimal health equation.



STRESS Stress can lead to improved health and productivity—or it can lead to anxiety, depression, obesity, immune dysfunction and more. Helping patients recognize negative stress responses, identify coping mechanisms and reduction techniques leads to improved wellbeing.



1. Eat Better

- Nutrition, especially a diet rich in whole, predominantly plant-based foods such as vegetables, fruits, beans, nuts, and seeds.

HEALTHY EATING PLATE

HEALTHY OILS
Use healthy oils (like olive and canola oil) for cooking, on salad, and at the table. Limit butter. Avoid trans fat.

VEGETABLES
The more veggies – and the greater the variety – the better. Potatoes and French fries don't count.

FRUITS
Eat plenty of fruits of all colors.

WHOLE GRAINS
Eat a variety of whole grains (like whole-wheat bread, whole-grain pasta, and brown rice). Limit refined grains (like white rice and white bread).

HEALTHY PROTEIN
Choose fish, poultry, beans, and nuts; limit red meat and cheese; avoid bacon, cold cuts, and other processed meats.

WATER
Drink water, tea, or coffee (with little or no sugar). Limit milk/dairy (1-2 servings/day) and juice (1 small glass/day). Avoid sugary drinks.

STAY ACTIVE!

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Harvard T.H. Chan School of Public Health
The Nutrition Source
www.hsph.harvard.edu/nutritionsource

Harvard Medical School
Harvard Health Publications
www.health.harvard.edu

2. Move More

- Physical activity, with regular exercise that you enjoy, can do daily, and maintain throughout your life.



Adults need a mix of physical activity to stay healthy.

Moderate-intensity aerobic activity*

Anything that gets your heart beating faster counts.



AND

Muscle-strengthening activity

Do activities that make your muscles work harder than usual.



* If you prefer vigorous-intensity aerobic activity (like running), aim for at least 75 minutes a week.

If that's more than you can do right now, **do what you can.** Even 5 minutes of physical activity has real health benefits.

Walk. Run. Dance. Play. **What's your move?**

3. Sleep Well

- Restorative sleep, for the prevention of reduced immunity and other health issues. It's not just about how many hours you are lying in bed, but the quality of the sleep you are getting.



4. Less Stress is Best

- Stress management, with a focus on learning coping mechanisms and stress reduction methods to improve your well-being.

STRESS MANAGEMENT

TIPS & TRICKS



TIPS COMPILED FROM THE CANADIAN MENTAL HEALTH ASSOCIATION WEBSITE

5. Be Socially Connected

- Social connectedness, for emotional health. Unfortunately, many of us became more isolated during the pandemic. But studies show that people with a strong network of social support have a better chance of succeeding in making and maintaining healthy lifestyle changes.

5 WAYS THAT HUMAN CONNECTION BENEFITS US.

1 MAKES US HAPPIER



The Harvard Study of Adult Development, an 80 year study, has shown that our relationships and how happy we are in them, has a powerful influence on our health.

2 STRENGTHENS RESILIENCE



We are all going to go through challenges in life, whether personal or part of a global pandemic. Research suggests that positive relationships and supportive environments have an important role to play in strengthening our resilience.

3 MAKES US HEALTHIER



Social connection is related to our social health, which is one component of our our mental and physical health. From heart disease, to diabetes, to dementia, to suicide and more. Staying socially connected is an important part of staying healthy.

4 HELPS FIND SOLUTIONS



Two heads are better than one the old saying goes...and it's true. Not only does speaking with others get us out of our own head, it can help us brainstorm ideas on how we can overcome the challenges that we may be facing.

5 BUILDS EMPATHY AND COMPASSION FOR OTHERS



When we spend time with others, we build the opportunity to better understand them and the struggles they may be facing. This understanding can lead us to more empathy and compassion and recognizing the role we can play in connecting and supporting.



Avoid the Risks

- Avoidance of risky substances, such as tobacco and addictive drugs, and limiting other substances such as alcohol and caffeine.



Case #1 - Revisited

- 45-year-old with 2-year history of intermittent low back pain, that their primary care provider has ruled out any sinister nature.
- General health: Pt. has stage one hypertension: 130/84 mmHg is average measurement. In addition, total cholesterol is 220; LDL 120 and HDL 55. Fasting glucose was 105. BMI is 31.
- Present job is a legal assistant at a personal injury law firm and currently they are short staffed. Physical activity level is aerobic activity 15 minutes; 3 times per week. Does not perform any strengthening activities.
- Pt. would like to become healthier and is fearful of having a heart attack or stroke because their father died of an AMI at age 55.



Learn More about Lifestyle Medicine at RFUMS

- Email me: Jeffrey.Damaschke@rosalindfranklin.edu
- Look at the LM certificate program: [Here](#)
- Look at the LM MS degree program: [Here](#)



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