



Lifestyle IS Medicine

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Learning Objectives

1. Define the 6 pillars of Lifestyle Medicine (LM)
2. State the impact of evidence-based comprehensive LM programs on halting and reversing chronic disease
3. Demonstrate how to integrate LM strategies into clinical practice
4. State the importance of assessing readiness, using motivational interviewing and supporting patients in realistic goal-setting to change lifestyle behavior

What is Lifestyle Medicine?

- **Definition:** The use of evidence-based lifestyle therapeutic intervention as a primary modality
- **Delivery:** Clinicians, trained and certified in this specialty to prevent, treat, and often reverse chronic disease
- **Guidelines:** Almost all clinical practice guidelines for the top chronic diseases recommend Lifestyle Medicine as the first line of treatment



Why Lifestyle Medicine?

Focuses on conditions that drive 80% of healthcare costs



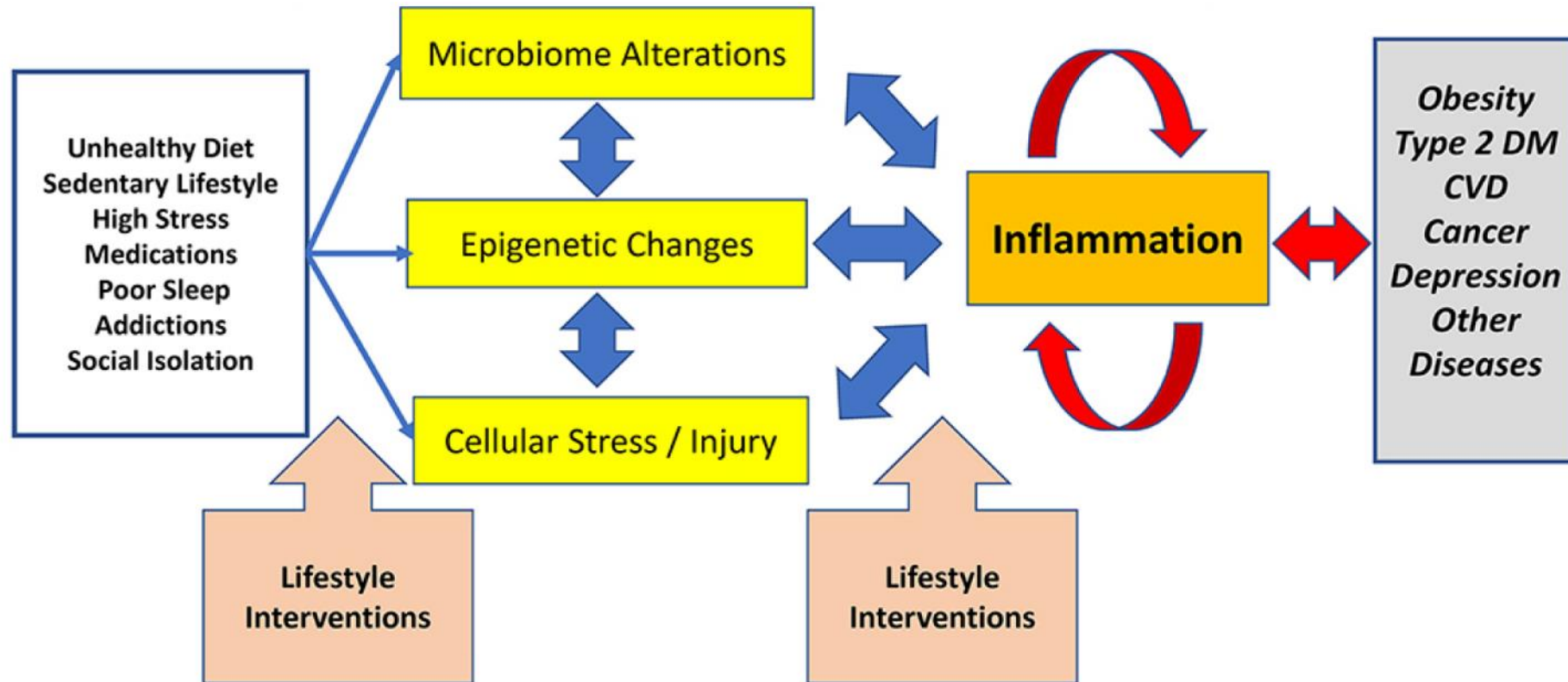
1. Allergies
2. Arthritis
3. Asthma
4. Back Pain
5. Cancer
6. Congestive Heart Failure
7. Coronary Artery Disease

Drive 15 Chronic Conditions

8. Depression
9. Diabetes
10. High Cholesterol
11. Hypertension
12. Kidney Disease
13. Lung Disease (COPD)
14. Obesity
15. Sinusitis

Accounting
for **80%**
of total costs for all
chronic illnesses
worldwide

Lifestyle Associated Pathogenesis



Six Pillars of Lifestyle Medicine



Activity



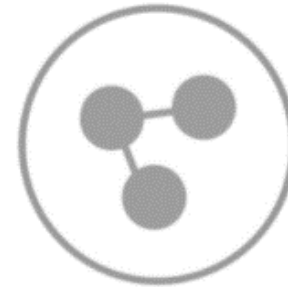
Nutrition



Sleep



Risky Substances



Social
Connection



Stress
Management



Nutrition

Nutrition – A Brief Review

A CASE FOR AVOIDING THE STANDARD AMERICAN DIET

What is the Standard American Diet (SAD)?

Too Much

Salt, saturated fat, refined grains, ultra-processed foods and calories from fats and added sugars

Too Little

Whole vegetables and fruits, whole grains, legumes, nuts & seeds



HEALTHFUL PLANT-BASED DIET

Low energy-density

Low saturated fat, high fiber content

High dietary fiber

Especially cereal fiber

Appropriate fat composition

Low saturated fat, high unsaturated fat

High levels of antioxidant nutrients

Polyphenols, carotenoids, Vitamins C & E

High levels of certain micronutrients

B-vitamins, Magnesium, Potassium

Low levels of certain dietary factors

Heme iron, nitrates, nitrites

Help with weight
loss/maintenance

Enhance
glycemic control

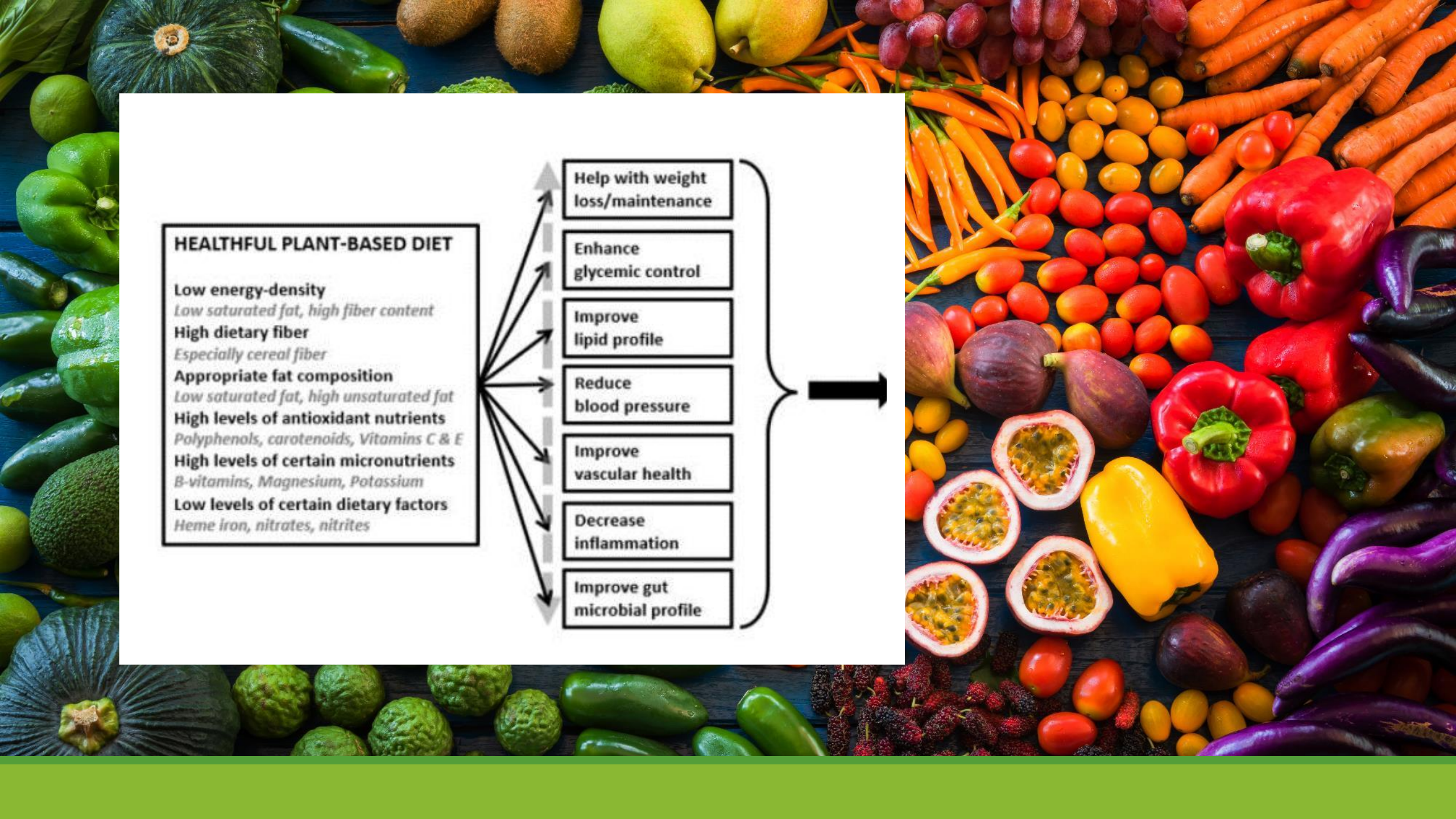
Improve
lipid profile

Reduce
blood pressure

Improve
vascular health

Decrease
inflammation

Improve gut
microbial profile





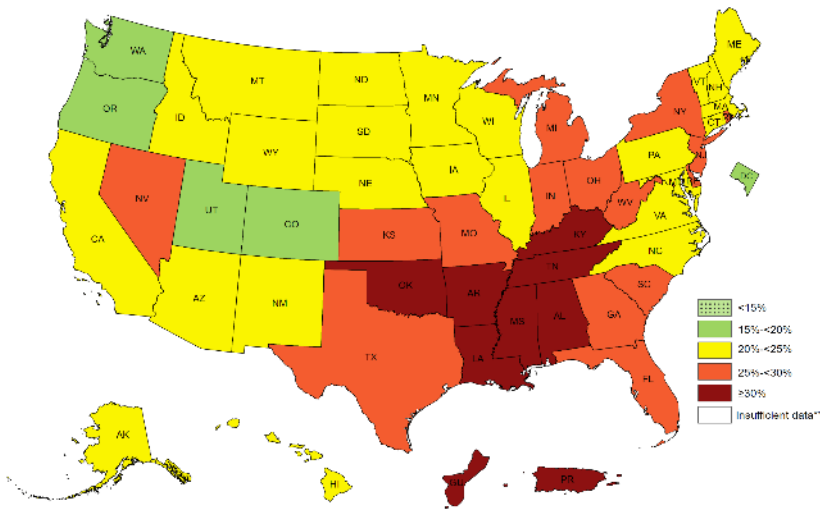
Activity

Physical Activity

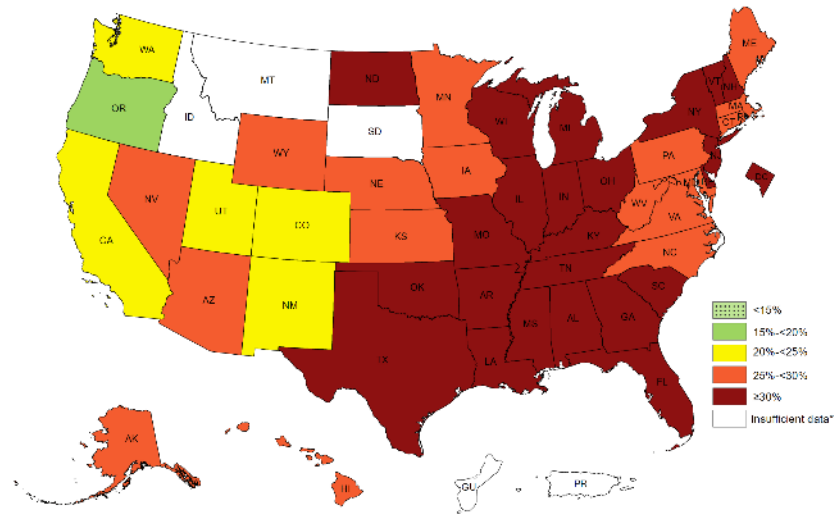
THE JOY – AND HEALTH – OF MOVEMENT

The sad facts about activity levels

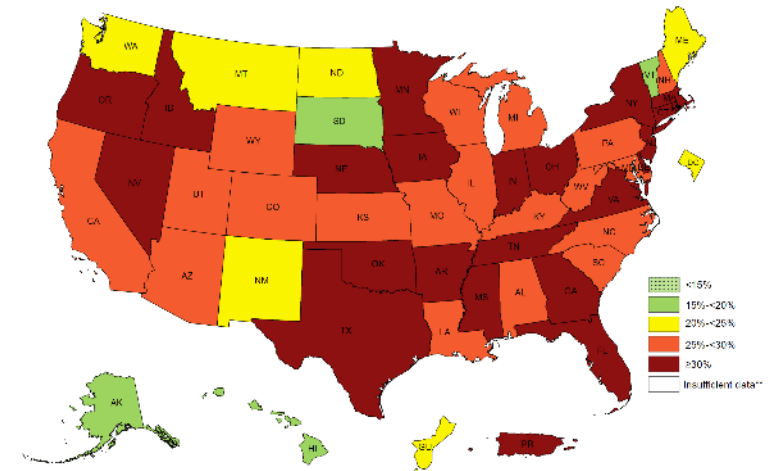
All adults



Non-Hispanic Black



Hispanic



Less than 5% of US adults participate in 30 minutes of physical activity each day, and only one in three adults get the recommended amount of physical activity each week.



Physical Activity

Exercise as a Vital Sign (EVS)

Several quick, clinical tools have been developed and studied to elevate the importance of discussing exercise in healthcare encounters

When providers routinely use EVS in clinic visits:

- 1) Patients are more likely to increase their physical activity**
- 2) Patients show subsequent improvements in risk factors like BMI and HbA1c**

Exercise as a Vital Sign asks two questions:

- 1) On average, how many days per week do you engage in moderate to strenuous exercise (like a brisk walk)?”
- 2) On average, how many minutes per day do you engage in exercise at this level?



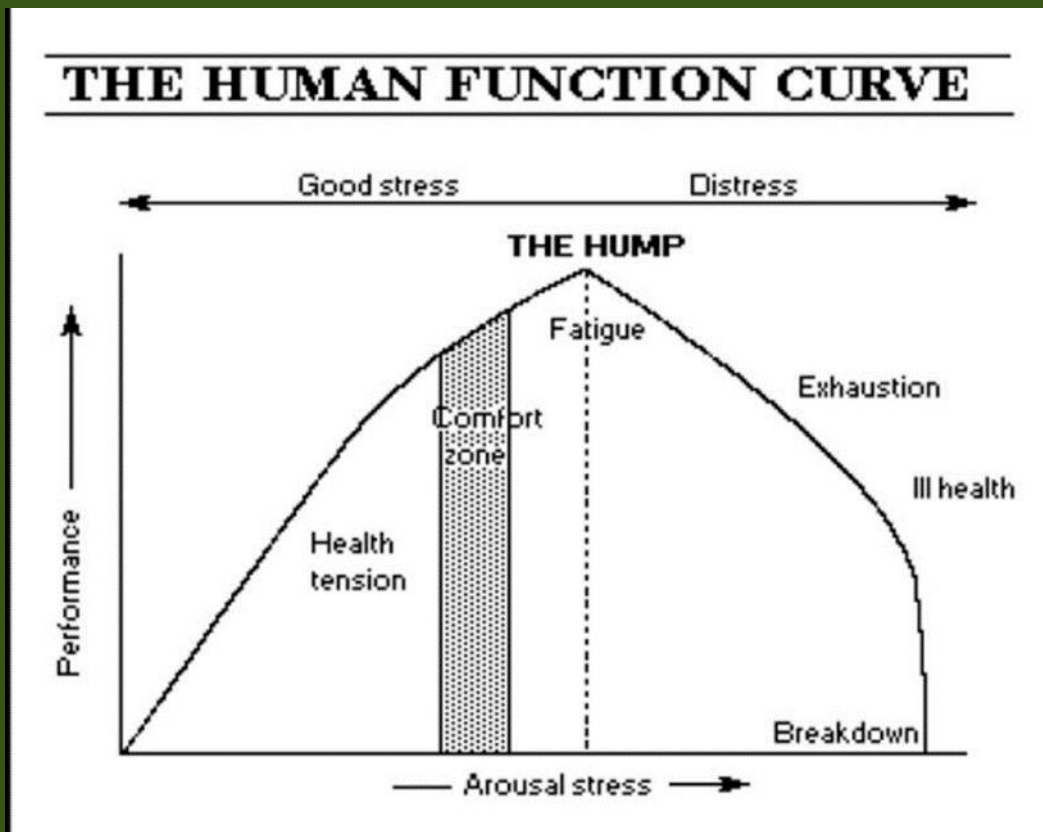
Stress
Management

Stress Management

IT'S ALL IN THE MIND!

What is “stress”?

Definition: Stress is the perception of a **real or imagined** threat to your body or your ego.



“Humans are the only creatures that create stress with their own minds”

— Andrew Weil, MD

Health Effects of Chronic Stress



Cardiovascular Disease



Immune Dysfunction



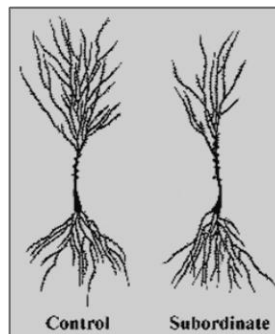
Cognitive Problems



Digestive Issues



Weight Gain

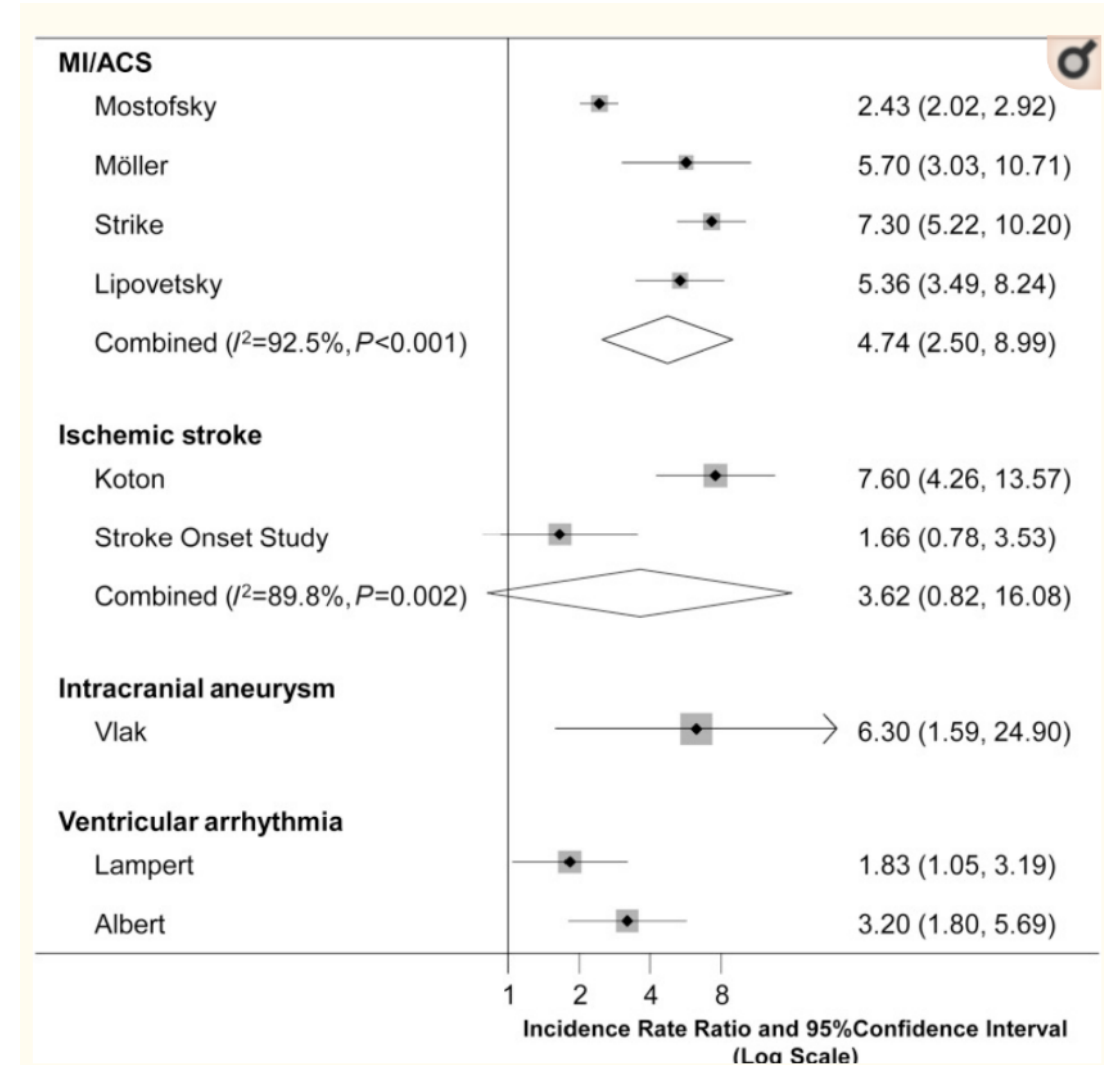


Lab rats experiencing chronic stress show clear neuronal atrophy

Health Impacts of Anger

- Anger isn't always expressed as rage
 - Hurt, disappointment, sense of betrayal
- Anger increases cortisol, which increases heart rate, BP and CVD risk
- Every time we relive or continue to think about an event or situation that hurt us or made us angry, we experience the physiological effects of anger – over and over again

Short-term risk of CV events in the 2-hr following an outburst of anger



Managing Stress

“Keep Your Boat Afloat”

- **Limit your exposure to things you find stressful** (as much as possible)
 - Learn to say “no”
 - Lower your expectations
- **Clarify your worries**
 - Determine what is in your control
 - Determine where you are putting your attention
 - Talk to someone
- **Stress management strategies**
 - Exercise
 - Progressive muscle relaxation
 - Deep breathing (vagal stimulation)
 - Mindfulness practices





Sleep

Sleep and Rest

THE POWER OF RESTORATION AND REJUVENATION

HOW SLEEP AFFECTS YOUR HEALTH

SLEEP DEPRIVATION

IMPAIRED COGNITION

Lack of sleep impairs memory and your ability to process information.

HIGHER LEVELS OF ANXIETY

Lack of sleep raises the brain's anticipatory reactions, increasing overall anxiety levels.

STROKE RISK

When you sleep 6 hours or less a night, your chance of a stroke increases 4x.

INCREASED RISK FOR DIABETES

Lack of sleep increases cortisol and norepinephrine, both are associated with insulin resistance.

INCREASES SYMPTOMS OF DEPRESSION

A lack of sleep disrupts neurotransmitters to the brain which regulates mood.

INCREASED RISK OF BREAST CANCER

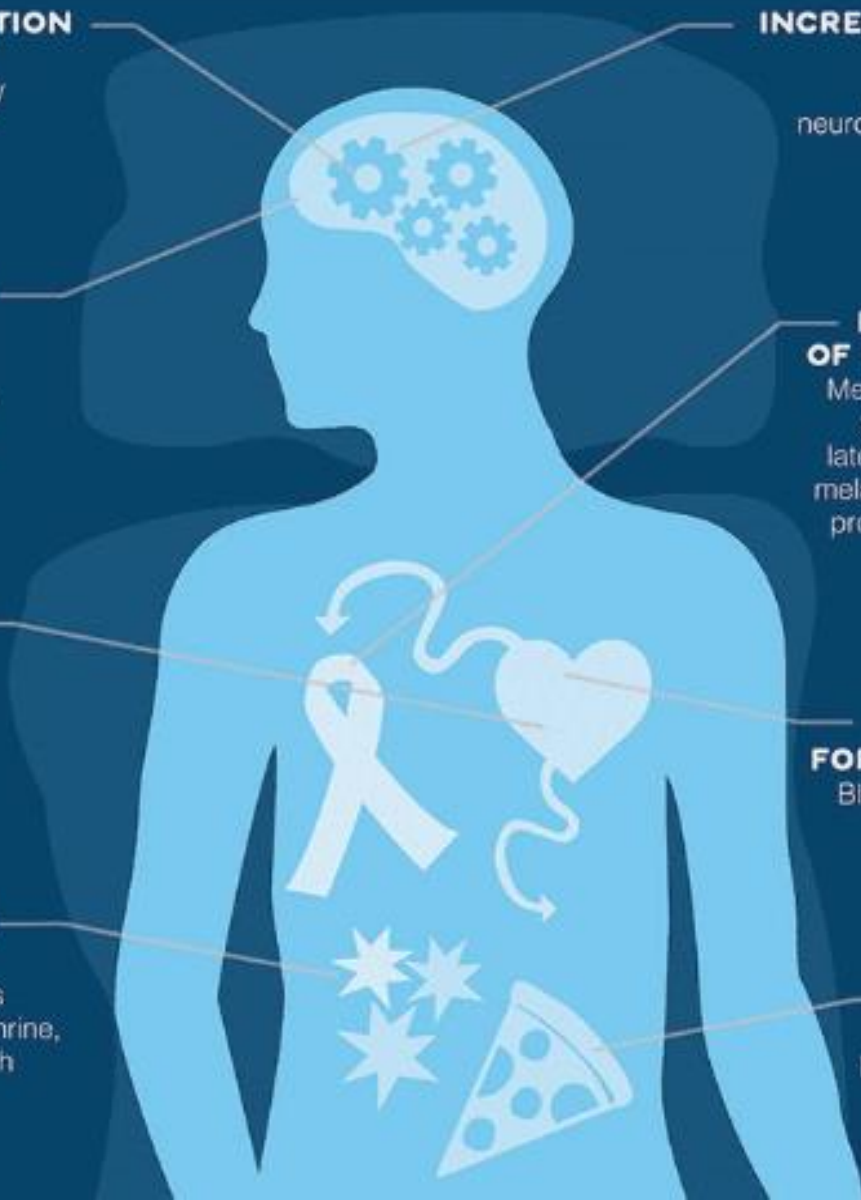
Melatonin decreases when you are exposed to light late at night. A decrease in melatonin disrupts estrogen production which can lead to breast cancer.

INCREASED RISK FOR HEART DISEASE

Blood pressure decreases when you sleep.

WEIGHT GAIN

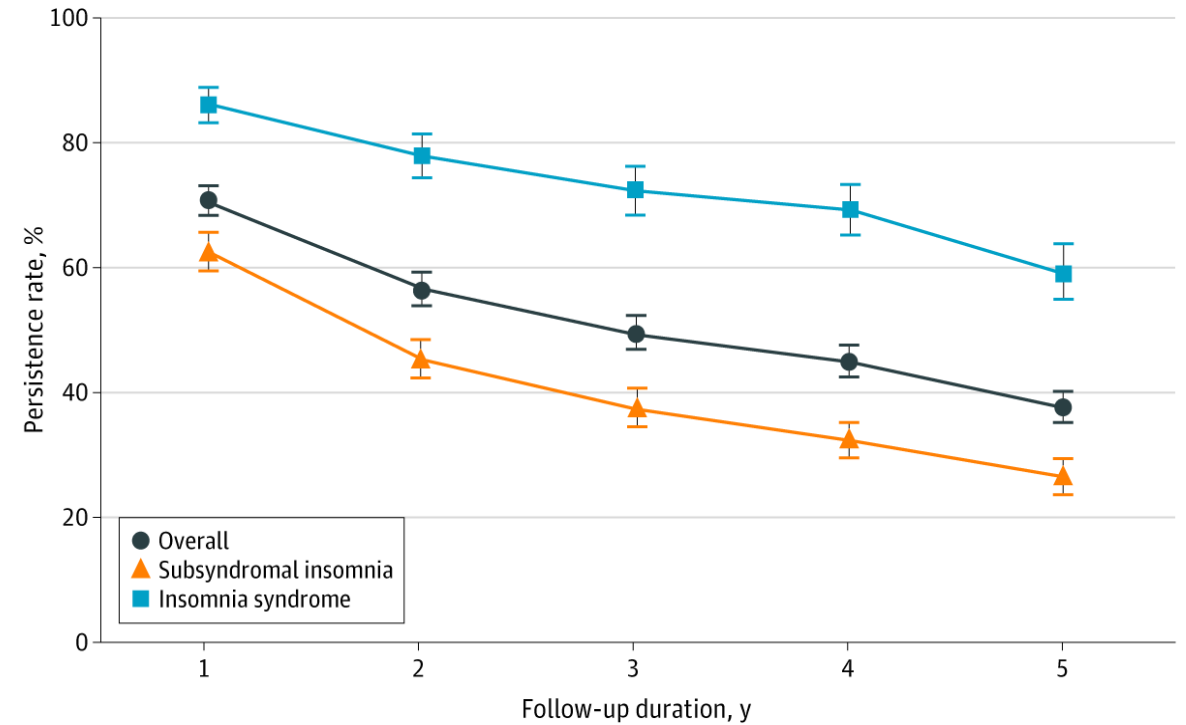
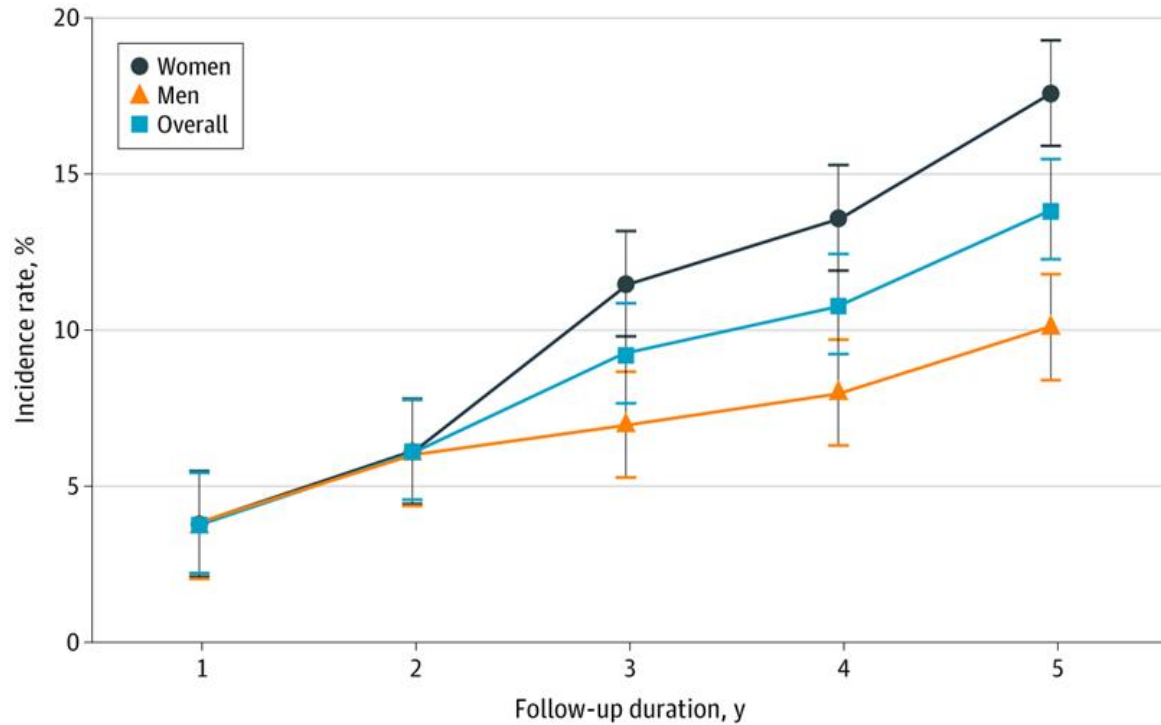
Sleep helps balance hormones that make you feel hungry and full.



Insomnia

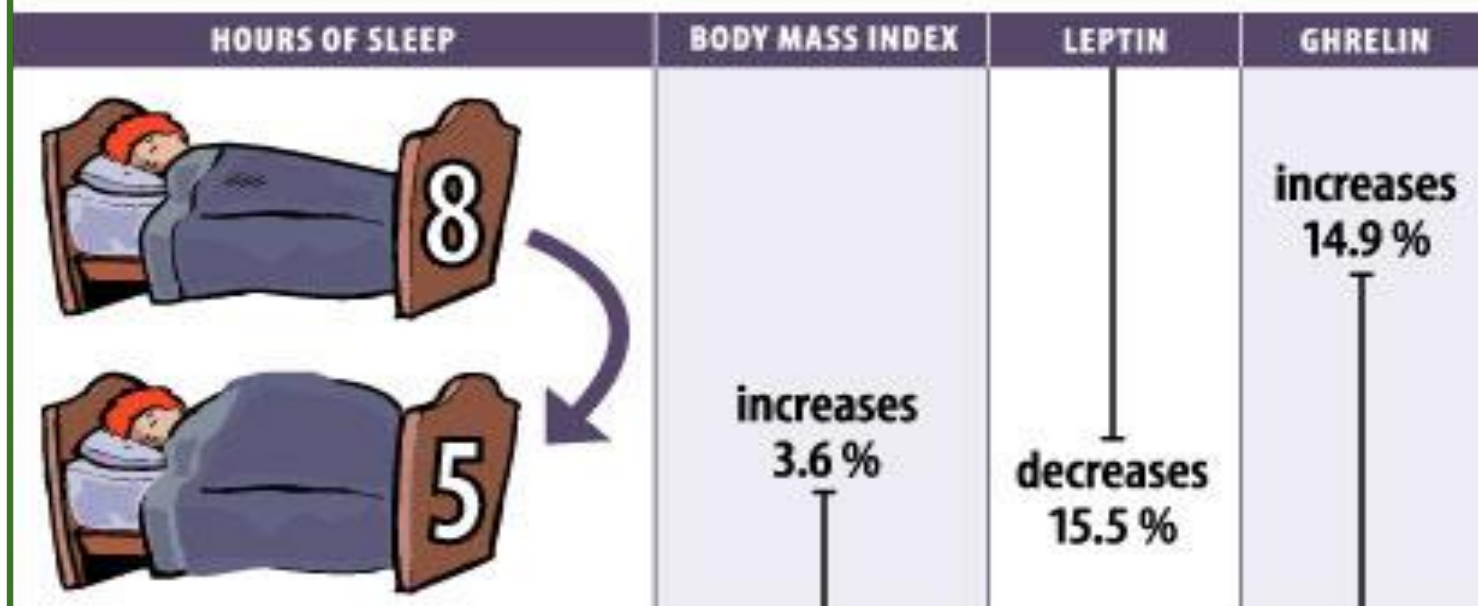
A common – and persistent problem in adults

N=3073, mean age 48.1 yr (18-95 yr)



You snooze, you lose

After crunching the numbers on more than 1,000 participants in a study, researchers found that roughly eight hours of sleep correlates with a lower body mass index, lower levels of ghrelin (a hormone that triggers appetite) and higher levels of leptin (a hormone that signals that the body is full).



Rest is important, too!

- Alternating periods of activity and rest is essential for health
- Because our culture has overridden these natural rhythms, we need to deliberately re-create them

Four types of rest:

1. Moment rests – “a mindful breath”
2. Daily rests
3. Weekly rests
4. Annual rests – vacations, retreats



“Sustained high performance is achieved by assuming the mentality of a sprinter not a marathoner.”

– Loehr and Schwartz



Risky Substances

Risky Substances

BEHAVIORAL AND ENVIRONMENTAL CHALLENGES

Addictive Substances Management

- More than 40 million Americans meet criteria for addictive use of nicotine, alcohol or other drugs
- Another 80 million meet criteria for “misuse”
- Risky substance use significantly increases risk for chronic diseases
 - Cardiovascular disease
 - Stroke
 - Diabetes
 - Asthma
 - Arthritis
 - Chronic pain
- Use the “5 A’s” to address tobacco or alcohol use in primary care
 - Ask, Advise, Assess, Assist, and Arrange



Environmental Toxins and Health

Endocrine Disrupting Chemical Exposure (BPA and Phthalates)

- Associated with Metabolic Syndrome, obesity, asthma
- Impossible to completely eliminate exposure
 - Using BPA-free plastic bottles and cans, avoiding microwaving in plastic, and reducing intake of animal foods and processed foods can significantly reduce exposure

Pesticide Exposure

- Associated with cancers, neurodegenerative diseases and reproductive effects
- A 2019 study found that just 6 days of eating organically-grown food instead of conventionally-grown food reduced pesticide levels in adults and children by an average of 60%



Social
Connection

Positive Social Connection

**THE UNAPPRECIATED HEALTH BENEFITS OF
RELATIONSHIPS**

Importance of Relationships for Health



Research shows that social relationships can have as much impact on health as blood pressure, smoking, physical activity, or obesity

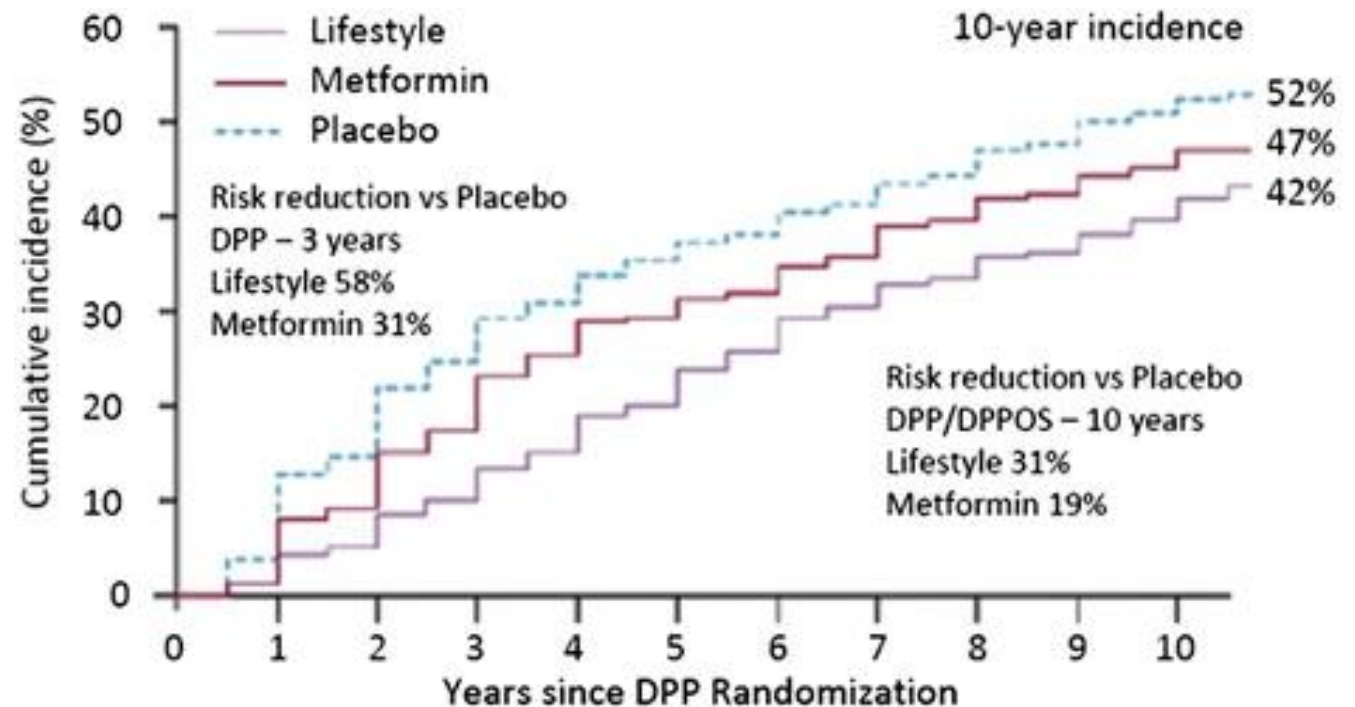
- In one meta-analysis of 148 longitudinal, population-based studies, researchers found a **50% increase** in survival of people with robust social relationships, regardless of age, gender, or country of origin
- People with few social ties are 2-3 times more likely to suffer from major depression than people with strong social bonds
- Blue Zones
 - Emphasis on community and social relationships

Evidence-based Lifestyle Medicine Programs

THE IMPORTANCE OF BEING INTENTIONAL

Diabetes Prevention Program (DPP)

- Intensive lifestyle intervention program for individuals with pre-diabetes
- Target: Diet, physical activity and cognitive-behavioral strategies designed to promote up to 7% weight loss
- **58% reduction** in diabetes incidence at 3 years – sustained **31% reduction** at 10 years
- Nationwide DPP implemented through the CDC, reimbursable



Ornish Program Lifestyle Heart Trial

- RCT of intensive lifestyle medicine intervention (diet, exercise, stress, relationships) for coronary heart disease patients
- 1-year results – 91% reduction in angina episodes and 3% reversal of stenosis in intervention group vs 165% increase in angina and 3% increased progression of stenosis in controls
- 5-year results – 7.9% decrease in stenosis in intervention group vs 27.7% increase in controls; intervention group was **2.5 times less likely** to have a cardiac event than controls

- CMS reimbursable

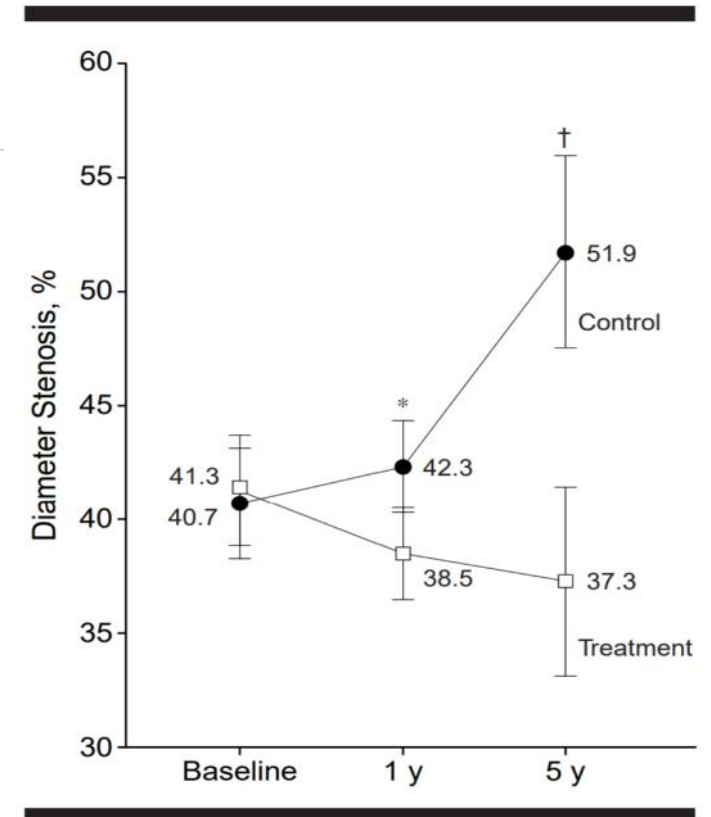


Figure 1.—Mean percentage diameter stenosis in treatment and control groups at baseline, 1 year, and 5 years. Error bars represent SEM; asterisk, $P = .02$ by between-group 2-tailed test; dagger, $P = .001$ by between-group 2-tailed test.

Complete Health Improvement Program (CHIP)

- Founded in the U.S. in 1988
- Comprehensive lifestyle intervention using education, behavioral science and social support to address the root cause of chronic disease
- Has served more than 80,000 participants and published more than 40 scientific papers on program design and outcomes



Decrease in risk factor levels after 30d in >5000 CHIP Participants

Risk Factor	Baseline mean (SD)	Mean change	% change
Cholesterol (mg/dl)			
Normal (<200)	182.5(15.7)	-17	-9.3
High (200-239)	215.6(10.5)	-27.1	-12.6
Very high (>280)	306.6(27.2)	-60.7	-19.8
Triglycerides (mg/dl)			
Normal (<150)	95.5(29.7)	-13.8	-8.1
Borderline (150-199)	171.9(13.9)	-50.3	-18.6
Very high (>500)	634.7(114.2)	-279.9	-44.1
Fasting glucose (mg/dl)			
Normal (<100)	90.7(9.9)	-2.1	-2.3
Impaired (100-125)	116.1(15.5)	-10.1	-8.7
Diabetes (>126)	164.0(42.2)	-32.6	-19.9



Clinical Results (Average)

- Weight loss of 17 lbs.
- BMI decrease of 6.7 points
- LDL-C dropped 21 mg/dl
- Total Chol. dropped 28 mg/dl
- BP normalized in most cases

CHIP: Healthcare cost impact



Per Participant Economics

Total Savings	\$2,500
Program Cost	\$1,350
Net Savings	\$1,150

Courtesy: Lee Health

- Initial investment = \$37,800
- Within 12 months: For every \$1 invested, \$1.85 saved
- 12 months post-CHIP intervention health expenditure savings = \$70,155*

Putting it into Practice

BEHAVIOR CHANGE:

THE FOUNDATION OF LIFESTYLE MEDICINE

What not to do...

Patient: Doctor, I don't feel well and I'm not sure why.



Doctor: I want you to meditate for 20 minutes, twice a day, exercise for at least 30 minutes a day, avoid processed foods, eat plenty of organic fruit and veg, spend more time in nature and less indoors, stop worrying about things you can't control and ditch your T.V. Come back in 3 weeks.



Motivation

All providers should be comfortable using basic motivational interviewing techniques

Assess patient's readiness to change

Build intrinsic (vs. extrinsic) motivation

Motivational Interviewing

Confidence in the ability to make a change is a good predictor of whether a person will enact that change

“A collaborative, person-centric form of guiding to elicit and strengthen motivation for change” - Miller and Rollnick

Ask open ended questions:

- ✓ “What matters to you most about this change?”
- ✓ “How confident are you that you will make this change?”
- ✓ “How important is it to you to make this change?”

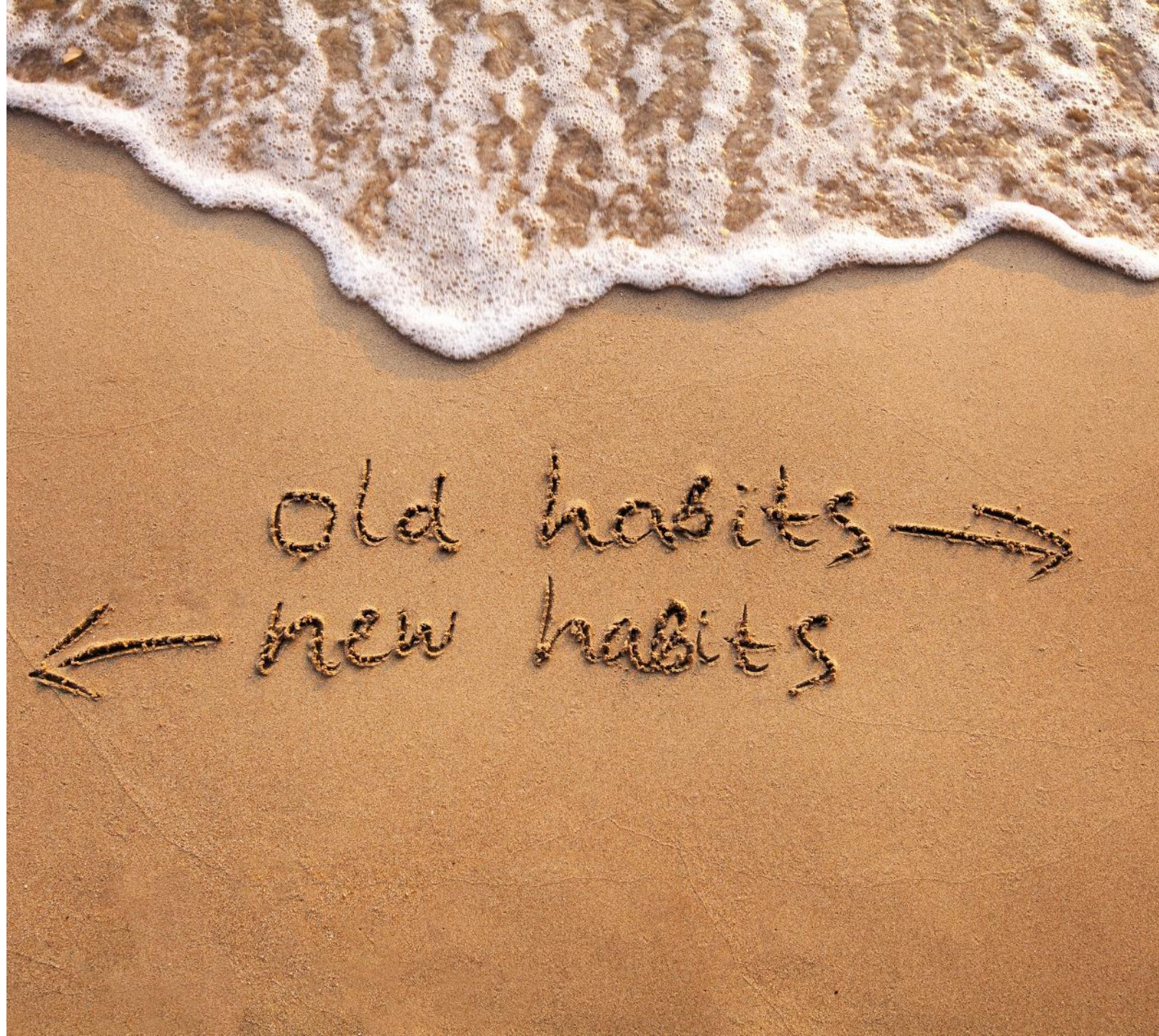
How does habit formation work?



It's relatively simple: Repeat an action consistently in the same context

What do you need to build a lasting habit?

- A reason to take action
- Appropriate context and a cue (“trigger”)
- Frequency and consistency



Managing the Process of Creating Habits

- The patient should choose the behavior they want to become habitual
- Encourage small, manageable behavior changes first
 - Simpler actions become habits more quickly; builds self-efficacy
- Overtly address lapse and relapse
 - Failure is discouraging unless you normalize it as a healthy part of the process
- Offer encouragement throughout the process

Goal Setting

- Setting clear goals is an essential part of behavior change
- Help patient set SMART goals
 - **S**pecific
 - **M**easurable
 - **A**chievable
 - **R**elevant
 - **T**ime-bound

NOT “SMART”	“SMART”
“I’m going to lose 50 pounds.”	“In 2 months, I’m going to lose 6-8 pounds by reducing my portion sizes and taking a daily walk.”
“I’m going to stop eating meat.”	“Next week, I’m going to prepare 3 vegetarian dinners.”

Addressing Common Barriers



- **Barriers to healthy eating**
 - Lack of time to plan/prepare/cook
 - Cost of healthy food (largely a myth)
 - Lack of food availability, i.e., food deserts and swamps
 - Unwilling or unable to cook at home, etc.
- **Barriers to exercise**
 - Lack of time
 - Find exercise aversive or boring
 - Lack confidence/low self-efficacy
 - Injury (or fear of injury)



Lifestyle Medicine in Clinical Practice

Behavioral science and coaching are foundational

- Start with a full assessment of lifestyle behaviors addressing the six domains of LM
- Consider a team approach
 - Health coach, nutritionist, exercise physiologist
- Consider shared medical appointments
 - Mechanism for reimbursement for group education and support sessions

Summary and Conclusion

- Lifestyle Medicine focuses on the root cause of chronic disease – lifestyle behaviors
- There are 6 central behaviors addressed by Lifestyle Medicine
- There is a strong evidence-base for Lifestyle Medicine
 - Both the individual behaviors and comprehensive lifestyle programs
- Behavior change is the foundation of Lifestyle Medicine
 - Providers can become skilled at briefly addressing motivation, habit formation, goal setting and other behavioral techniques during clinic visits, or can partner with health coaches



Activity



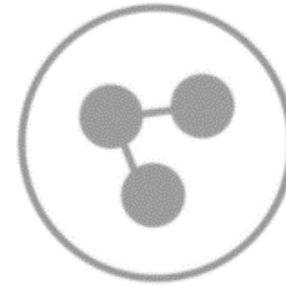
Nutrition



Sleep



Risky Substances



Social
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Stress
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Q & A