



INTEGRATING RISK FACTORS AND HEALTHY LIFESTYLE APPROACHES

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DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIP(S) WITH INDUSTRY

- Health Equity Advisory Council for Janssen (unpaid)

REFERENCES TO OFF-LABEL USAGE(S) OF PHARMACEUTICALS OR INSTRUMENTS

- Nothing to disclose



“Let food be thy medicine and
let thy medicine be food.”

Hippocrates 440 BCE

LEARNING OBJECTIVES

- Understand the complex factors that lead to obesity
- Compare dietary approaches to reduce cardiovascular events
- Explore the relationship between dietary approaches and longevity

OUTLINE

INTEGRATING RISK FACTORS AND HEALTHY LIFESTYLE APPROACHES

- Individualize cardiovascular risk
- Weight management isn't just calories in < calories out
- Dietary approaches for reduction in cardiovascular risk
- Overall approach for heart health
- When lifestyle alone isn't enough and meds are needed



1 INDIVIDUALIZE CV RISK

CASE:

65 YEAR OLD WOMAN WITH FAMILY HX OF CAD

- 65 yo post-menopausal woman presents for a cardiovascular wellness evaluation given that her brother had a MI at age 54.
 - 30 pack year history of tobacco use, now just occasional
 - Follows a Mediterranean diet
 - Walking limited by exertional leg fatigue after 2 blocks

CASE:

65 YEAR OLD WOMAN WITH FAMILY HX OF CAD

- **Physical Exam:**

- BP 107/71 and BMI 32 mg/k2
- Decreased pedal pulses

- **Labs:**

- LDL 135 mg/dl, HDL 32 mg/dl, TG 75 mg/dl
- Pre-diabetes with A1c 6.2%, eGFR 75
- ASCVD 10-year risk: 3%
- EKG normal with heart rate 58 bpm

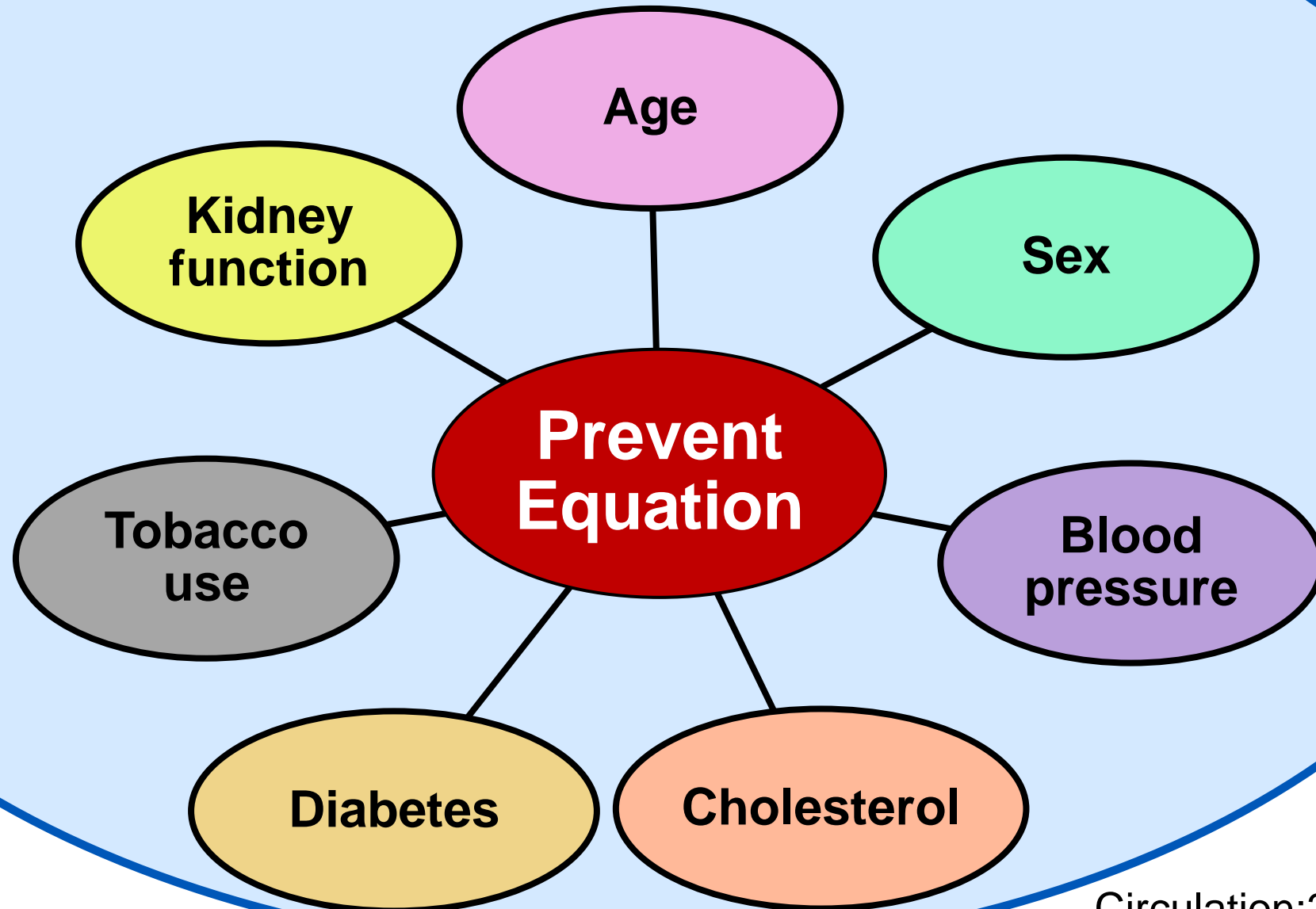
PREVENT™ Online Calculator

Welcome to the American Heart Association **Predicting Risk of cardiovascular disease EVENTS** (PREVENT™). This app should be used for primary prevention patients (those without atherosclerotic cardiovascular disease or heart failure) only.

PREVENT RISK CALCULATOR: DIFFERENCES FROM ASCVD RISK SCORE

- Integrates Cardiovascular-kidney-metabolic syndrome (includes eGFR)
- Includes risk for heart failure as well as ASCVD
- 10-year and 30-year risk for individuals between 30-79 years
- Integrates Social Deprivation Index
- Calibrated across broad sociodemographic subgroups
- Sex-specific but race free

Social Determinants of Health



QUESTION:

WHAT DO YOU RECOMMEND AS A NEXT STEP?

- A. Start statin therapy
- B. Recommend increasing exercise and weight loss alone
- C. Check lipoprotein (a) to guide LDL goal
- D. Coronary CTA given limited walking ability (2 blocks)
- E. ABI testing
- F. D and E

WHAT ARE SOME **RISK-ENHANCING FACTORS** FOR MANAGEMENT OF CHOLESTEROL?

**Premature
ASCVD**

M < 55 yo

F < 65 yo

LDL-C

160-189 mg/dl

**Metabolic
Syndrome**

CKD

**(eGFR 15-59
ml/min/1.73m²)**

**Chronic
inflammatory
conditions**

**Premature
menopause &
Pre-eclampsia**

hsCRP > 2 mg/dl
Lp (a) > 50 mg/dl
Apolipo B > 130 mg/dl
ABI < 0.9

SEX-SPECIFIC RISK FACTORS FOR CVD

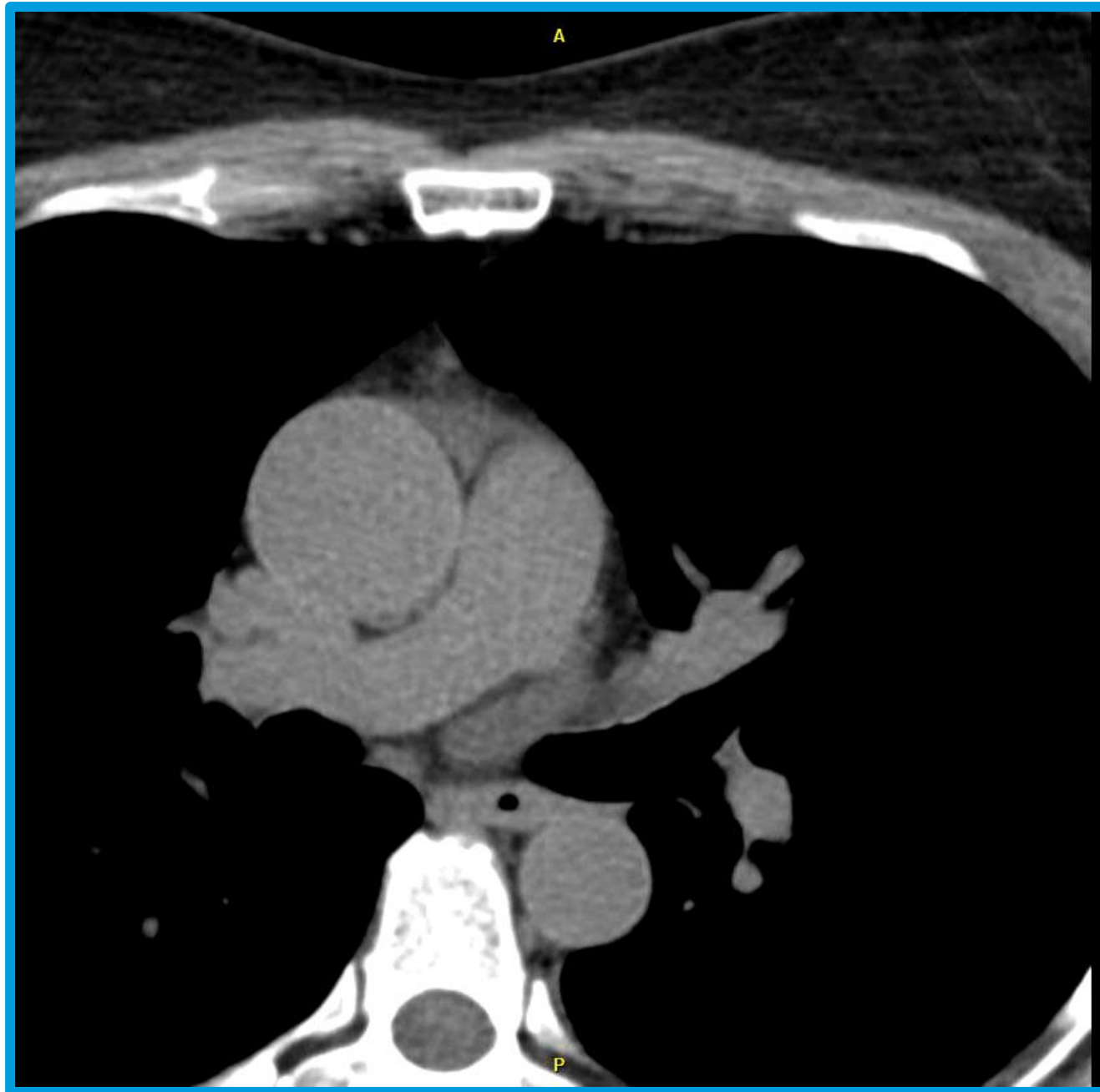


- **Pregnancy-related factors** (preeclampsia, gestational diabetes or hypertension, miscarriages, preterm delivery)
- **Menstrual cycle history** (age at start of menarche and menopause)
- **Hormone medications** (contraception, hormone therapy)
- **Polycystic ovarian syndrome**
- **Autoimmune disorders**
- **Chemotherapy or radiation therapy** for breast cancer

HEALTH DISPARITIES

Race and ethnicity → social, cultural, environmental, systemic, and demographic constructs

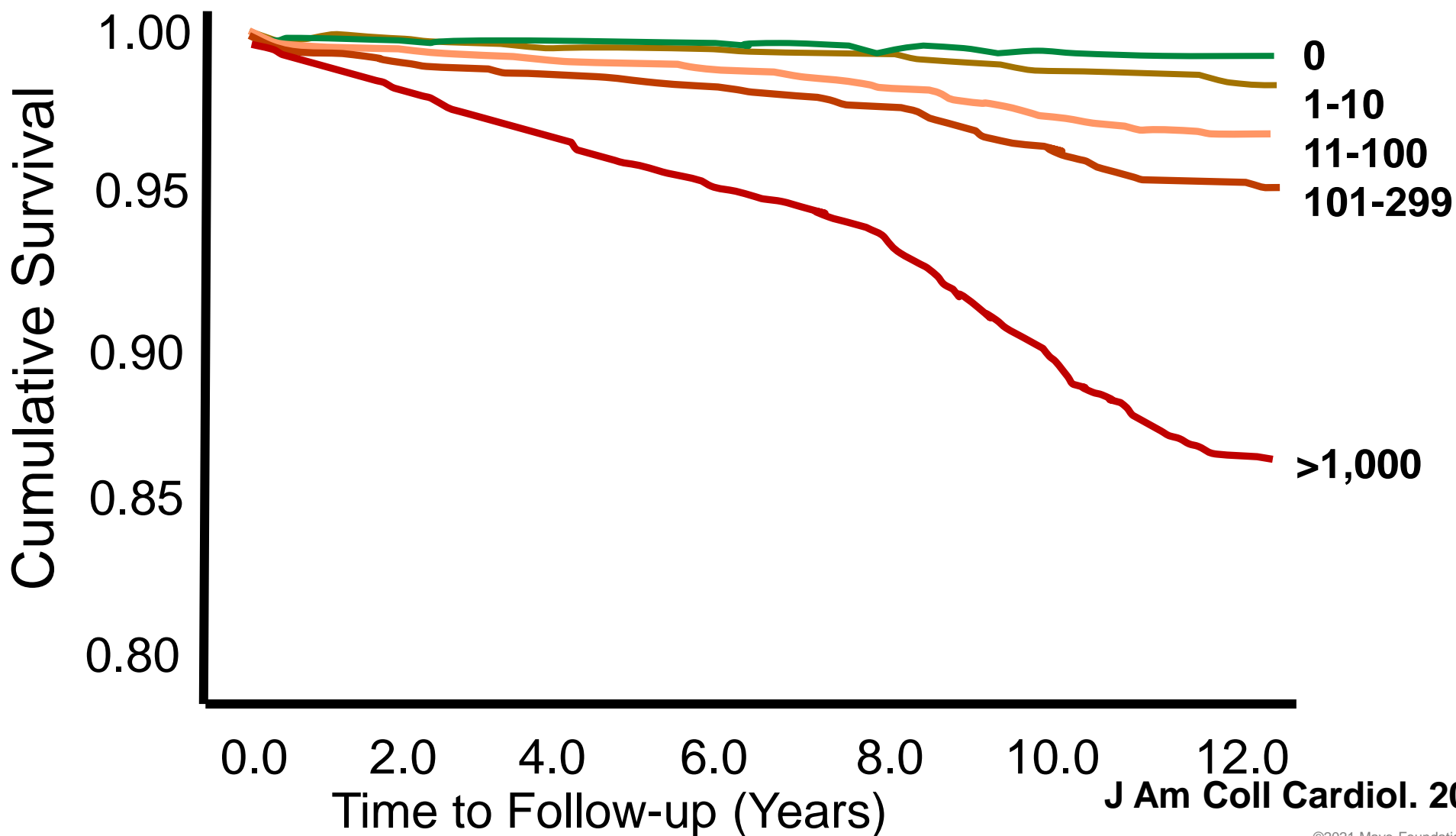




Calcium Score:
1257

CORONARY CALCIUM:

↑CACCS = ↓Survival



J Am Coll Cardiol. 2007;49(18):1860-1870




PATIENT CASE

- Her ABI's are abnormal at 0.85 right and 0.79 on the left
- Lipoprotein a is elevated at 175 nmol/L (uIn 75 nmol/L)

WHAT DO YOU RECOMMEND FOR HER LDL CHOLESTEROL GOAL?

- A. < 100 mg/dl
- B. < 70 mg/dl
- C. < 55 mg/dl
- D. As low as you can go

VERY HIGH RISK FOR FUTURE ASCVD EVENTS

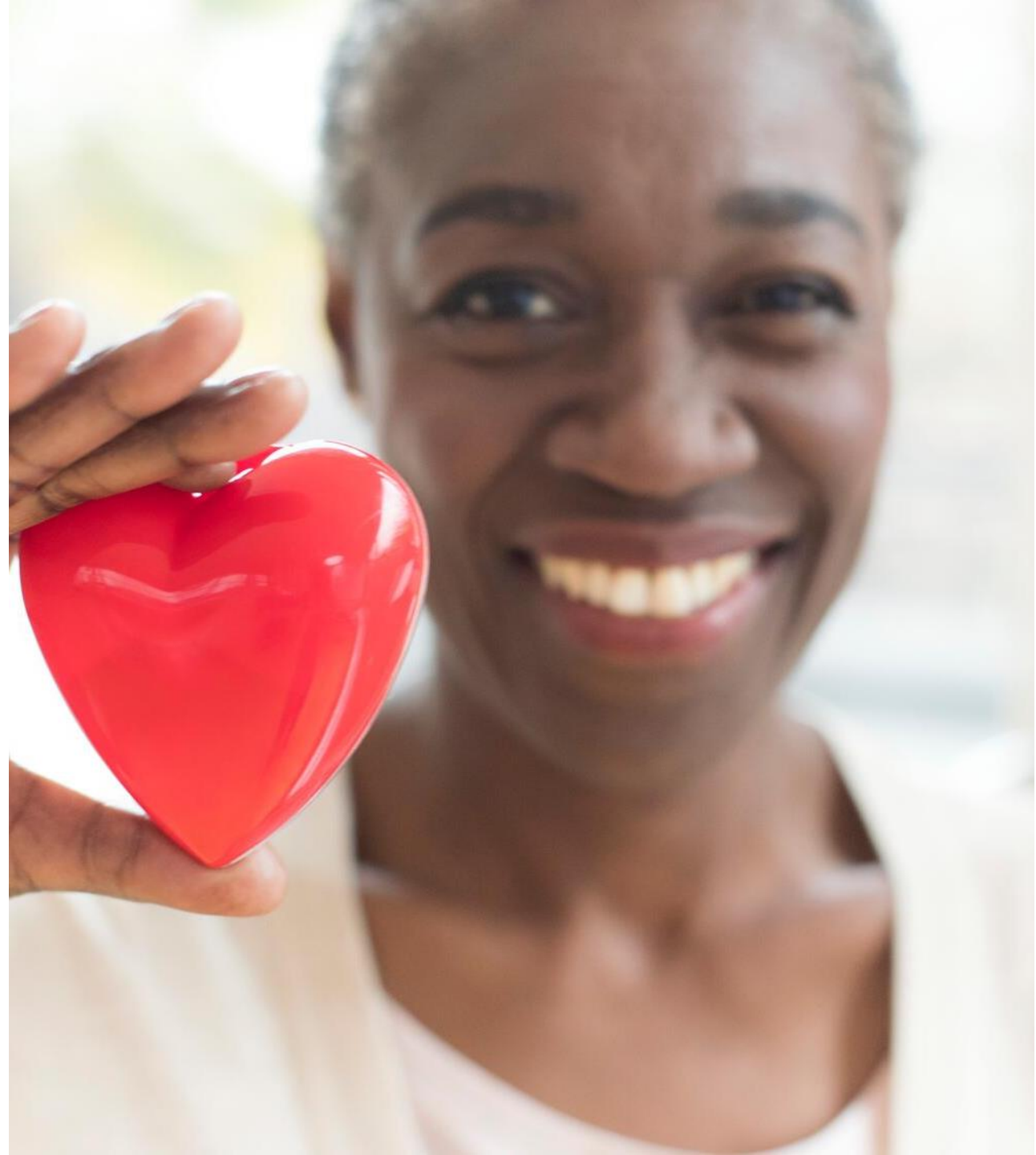
Major ASCVD Events	High-Risk Conditions
ACS within last 12 months 	≥ 65 years old
Myocardial infarction	Familial hyperlipidemia
Ischemic stroke	CABG or PCI
 Symptomatic PAD	Diabetes
Amputation or prior revasc	HTN
	CKD eGFR < 60 ml/min/1.73m ²
	 Tobacco use current
	LDL > 100 on max statin + ezetimibe
	CHF

Very High Risk =

- 2 Major ASCVD
- 1 Major + 2 High-Risk Conditions

TAKE HOME PEARLS #1

- XX

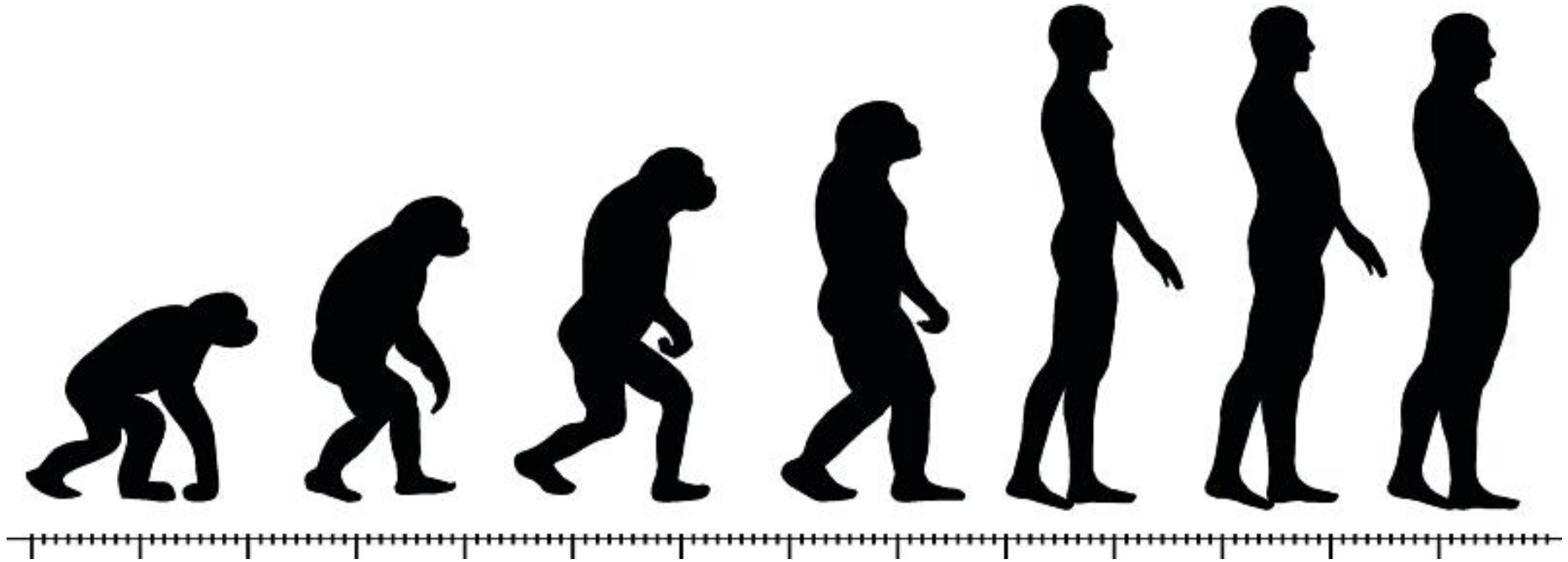




2

**WEIGHT MANAGEMENT ISN'T JUST
CALORIES IN < CALORIES OUT**





Since 1970 daily calorie intake in the US increased by 20% (425 Kcal/day)

WHY DO WE MAKE LESS-HEALTHY FOOD CHOICES?

Fatigue

Pleasure

Cost

Stress

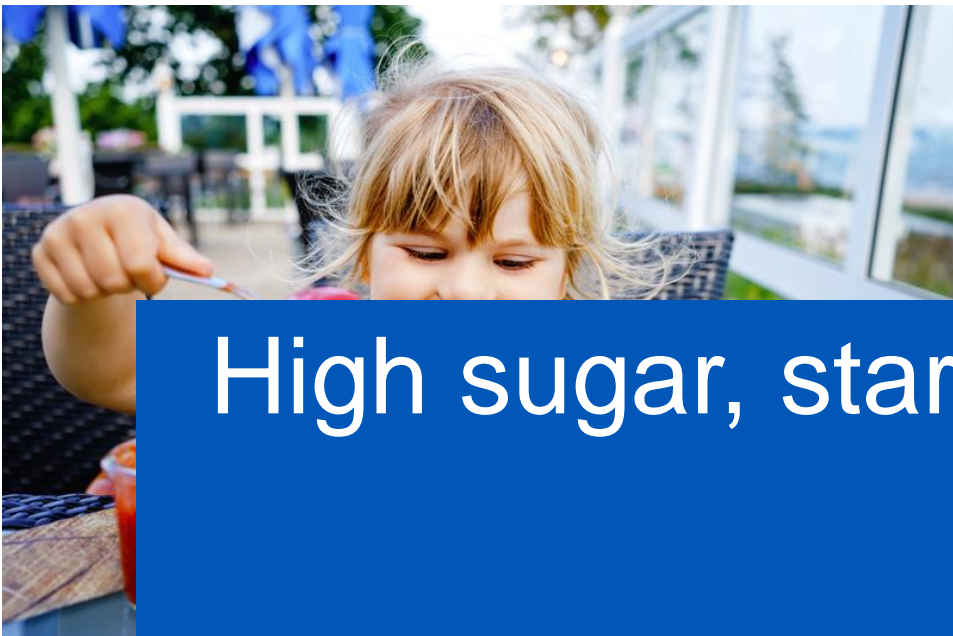
Reward

Time

**Lack of
Confidence**

Social Pressure

Insurmountable



High sugar, starch, saturated fat and protein



Insulin resistance, hyperglycemia, high IGF-1,
high cholesterol

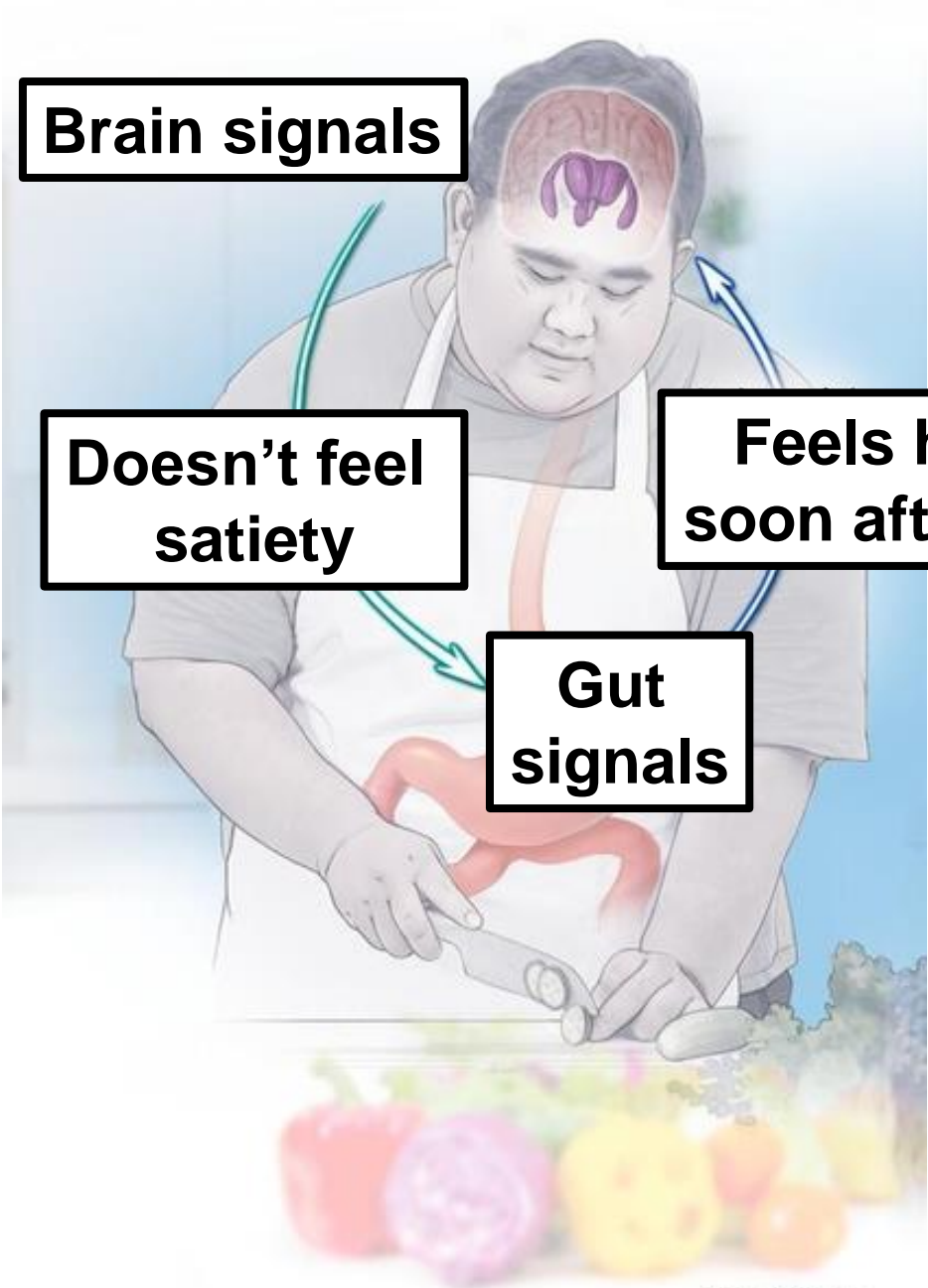


Brain signals

Doesn't feel satiety

Feels hungry soon after eating

Gut signals





39% to 49% of the world is
overweight or obese

PATIENTS WITH OBESITY: INCREASED CV RISK (PRIMARY PREVENTION)



CVD events
earlier age

Live with
CVD longer

Shorter than
avg life span

INCREASED RISK WITH OBESITY

OSA

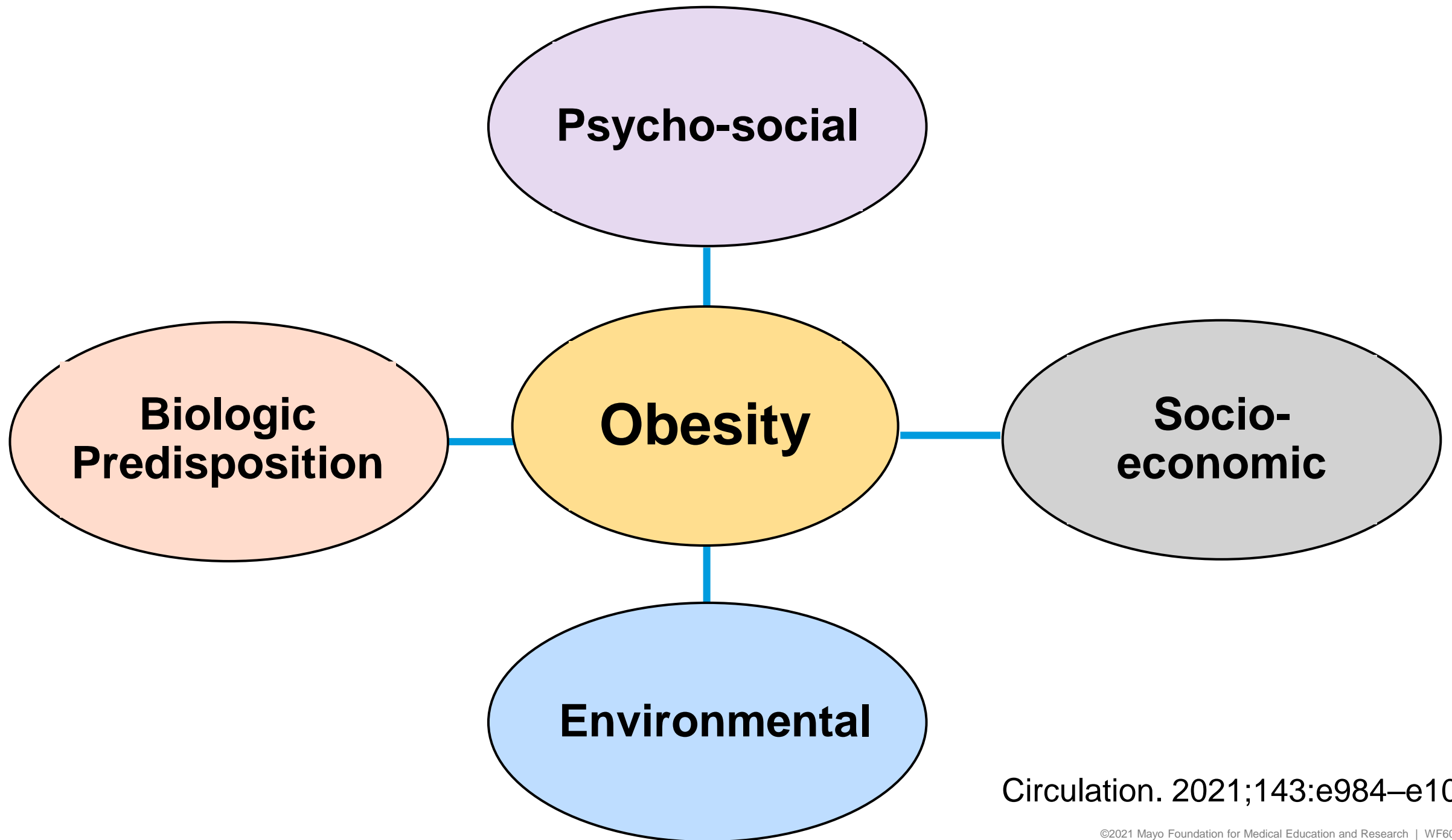
Osteoarthritis

Depression

**Breast &
Ovarian
Cancer**

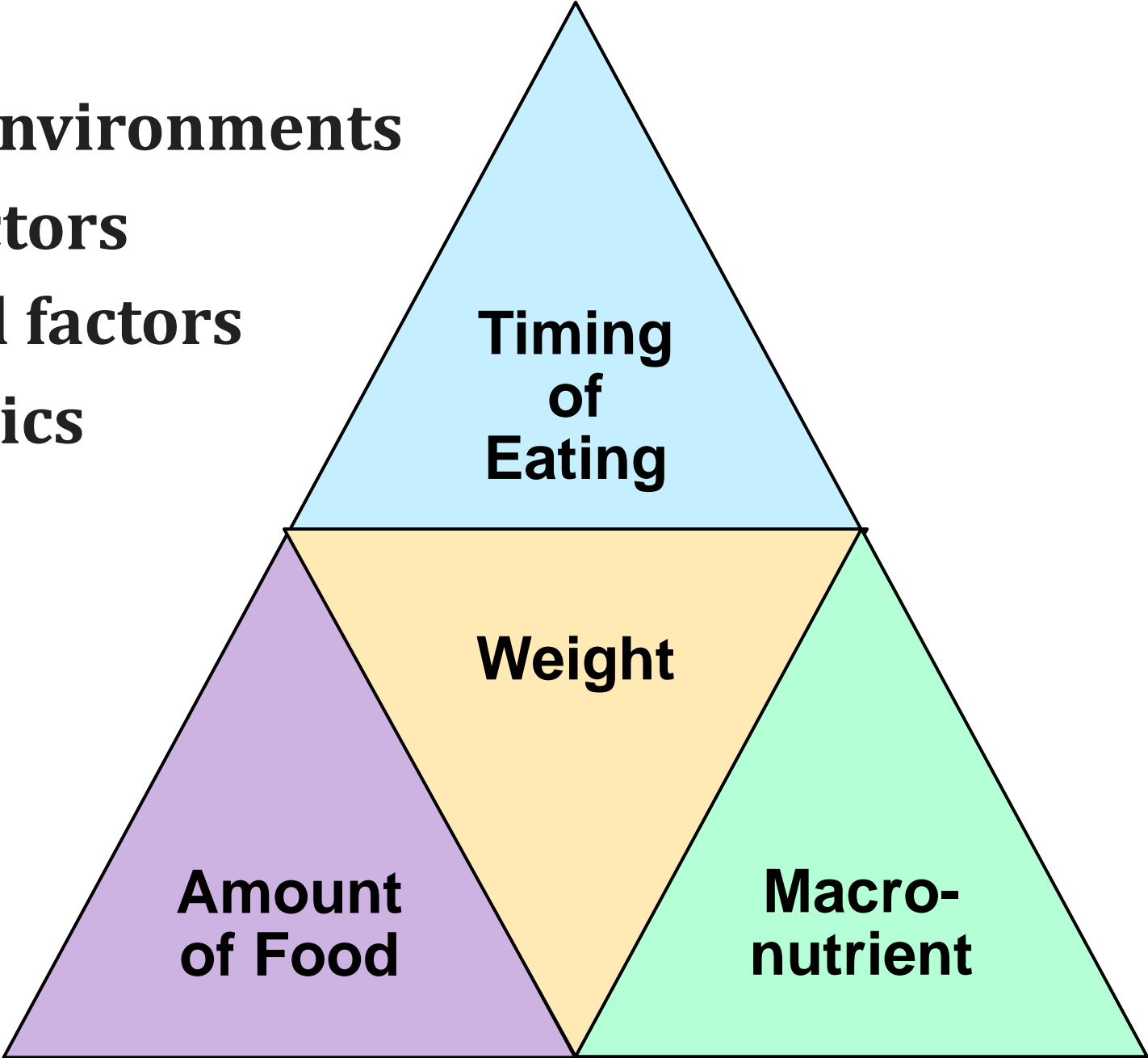
**Prostate
Cancer**

**Liver, Kidney
and Colon
Cancer**



Circulation. 2021;143:e984–e1010

Obesogenic environments
Biological factors
Psychological factors
Socioeconomics



Energy Deficit = Weight Loss



Eat Less and Move More?

PATIENT CASE

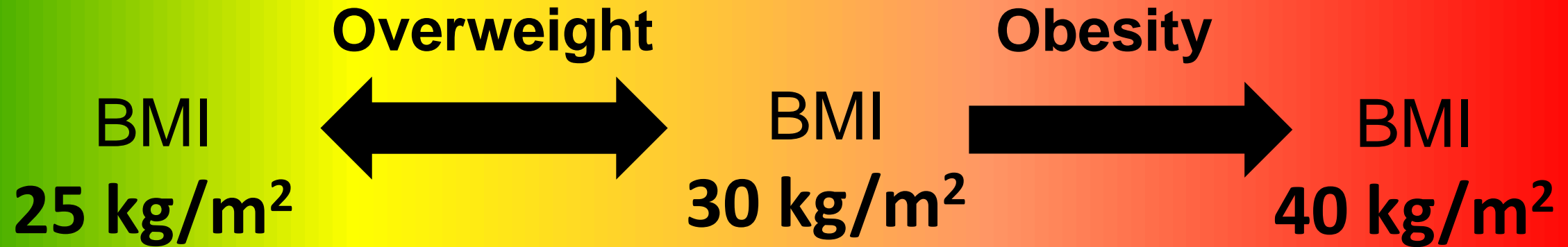
- 68 year old woman with a history of type 2 diabetes, hypertension, hyperlipidemia and obesity (**BMI 39 mg/kg²**)
 - **Medications:**
 - Metformin 1000mg bid,
 - Lisinopril 20mg daily, HCTZ 25mg daily
 - Rosuvastatin 20mg daily
 - **Labs:**
 - A1c 7.8%
 - Cholesterol (mg/dl): Total 225, HDL 39, TG 212 and LDL 98

QUESTION

- What dietary approach do you recommend for weight loss and improvement in metabolic parameters?
 - A. Ketogenic diet
 - B. Mediterranean diet
 - C. Paleo diet
 - D. Vegetarian or Vegan diet
 - E. Calorie restriction alone



WORLD HEALTH ORGANIZATION CRITERIA FOR OBESITY



Problem #1: Variation by sex, age, and race/ethnicity

Circulation. 2014;129(suppl 2):S102–S138.

PROBLEM #2

BMI DOESN'T TELL YOU ABOUT CENTRAL ADIPOSITY



Waist circumference (WC):
> 102cm men and > 88cm women

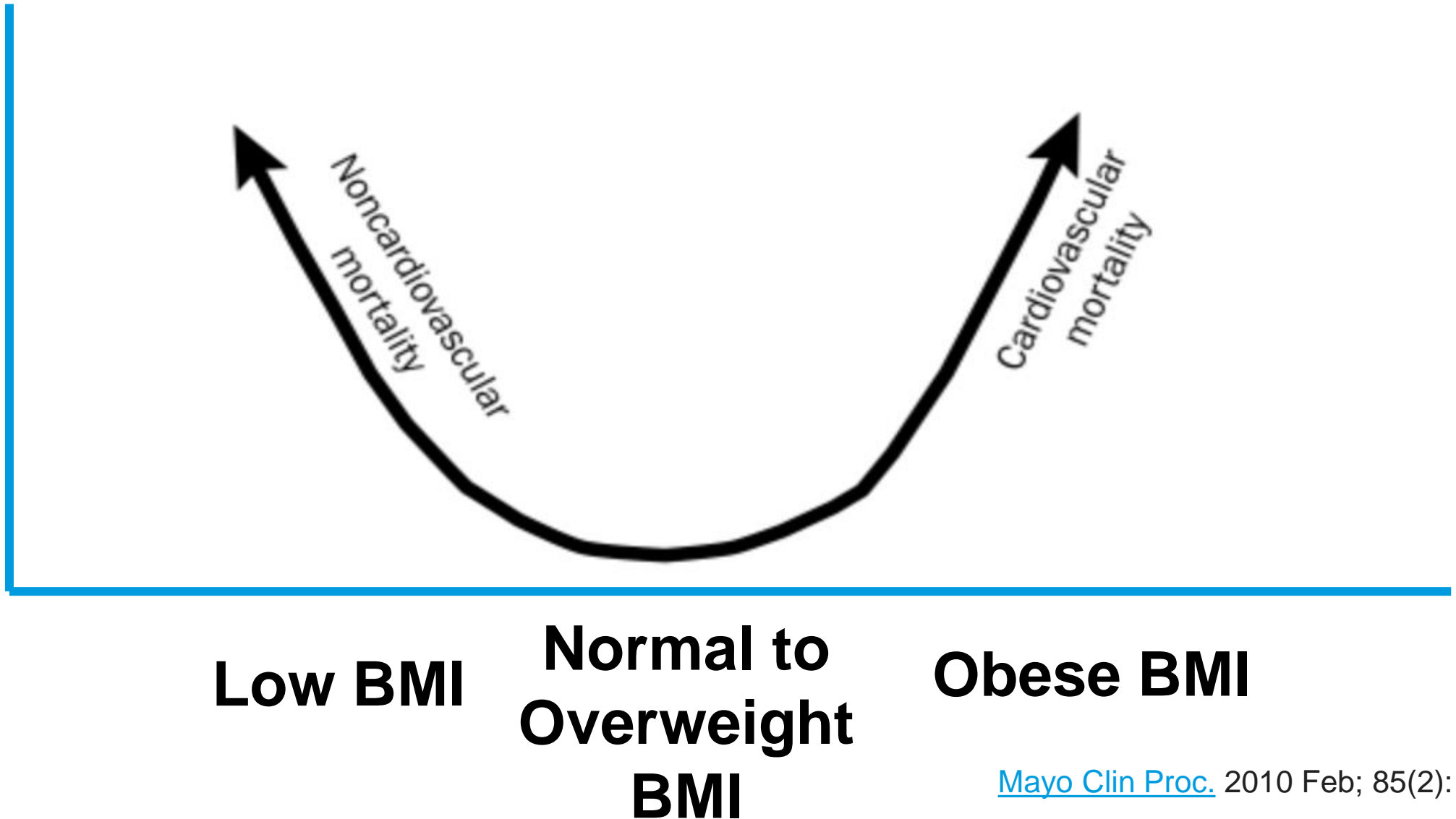
Waist to hip ratio (WHR):
 ≥ 0.90 men and ≥ 0.85 women

An axial CT scan of the abdomen showing a large amount of central adiposity (visceral fat) surrounding the abdominal organs. The text is overlaid on the image.

Regardless of BMI, **central adiposity** is associated with a **greater risk of CAD and cardiovascular mortality**

PROBLEM #3

WHAT IS THE OBESITY PARADOX?



[Mayo Clin Proc.](#) 2010 Feb; 85(2): 112–114.

PROBLEM #3

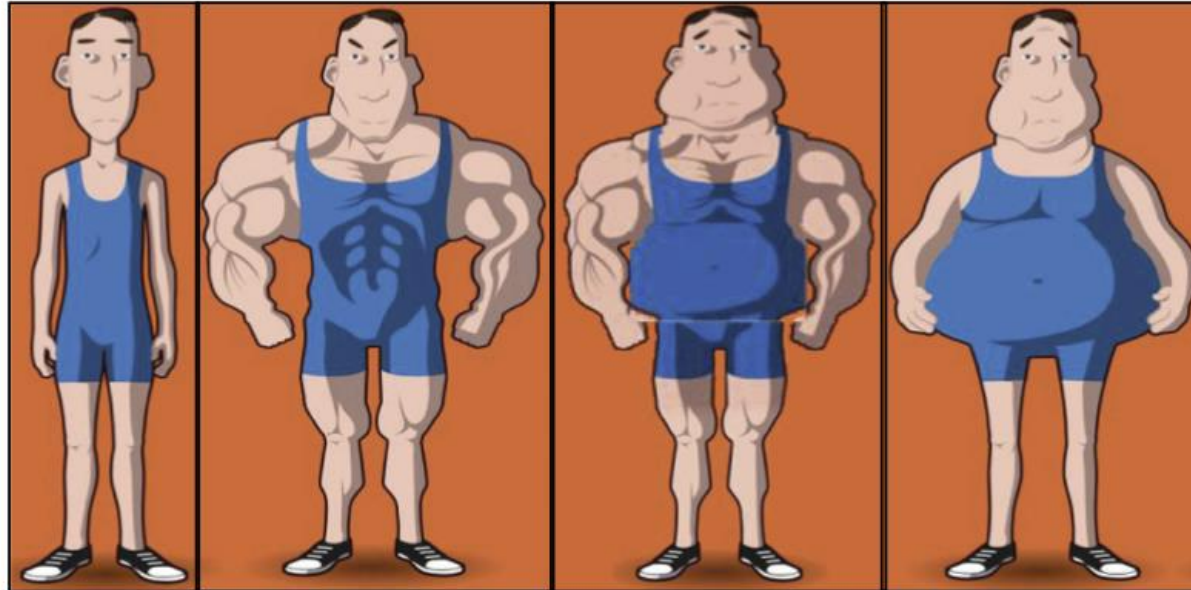
OBESITY PARADOX

- Overweight or obese individuals with symptomatic CVD:
 - **BMI doesn't consistently predict ≤ 10 yrs CVD outcomes**
- Up to 5 years after PCI, BMI > 25 kg/m² independently predicts survival compared with normal weight

BODY COMPOSITION

LEAN MASS IS KEY FOR CARDIO FITNESS

Body Composition and Obesity Phenotypes



	Normal weight	Athlete	Nonsarcopenic Obese	Sarcopenic Obese
BMI (kg/m ²)	18.5-25	≥30	≥ 30	≥ 30
Fat Mass	Normal	Decreased	Increased	Increased
Lean Mass	Normal	Increased	Increased	Decreased
Cardio - Respiratory Fitness	Normal	Increased	Mild Impairment?	Severe Impairment?

VISCERAL ADIPOSITY

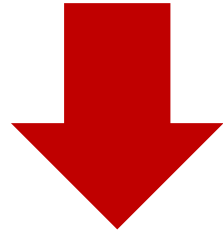
HOW TO REDUCE THIS?

150 min per week of exercise



JAMA Oncol. 2015;1:766–776

HOW DOES OBESITY

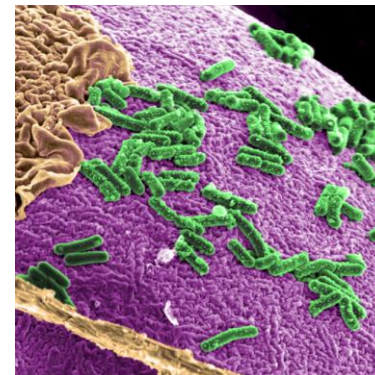


CARDIOVASCULAR DISEASE?

Blood Pressure
Cholesterol
Glucose

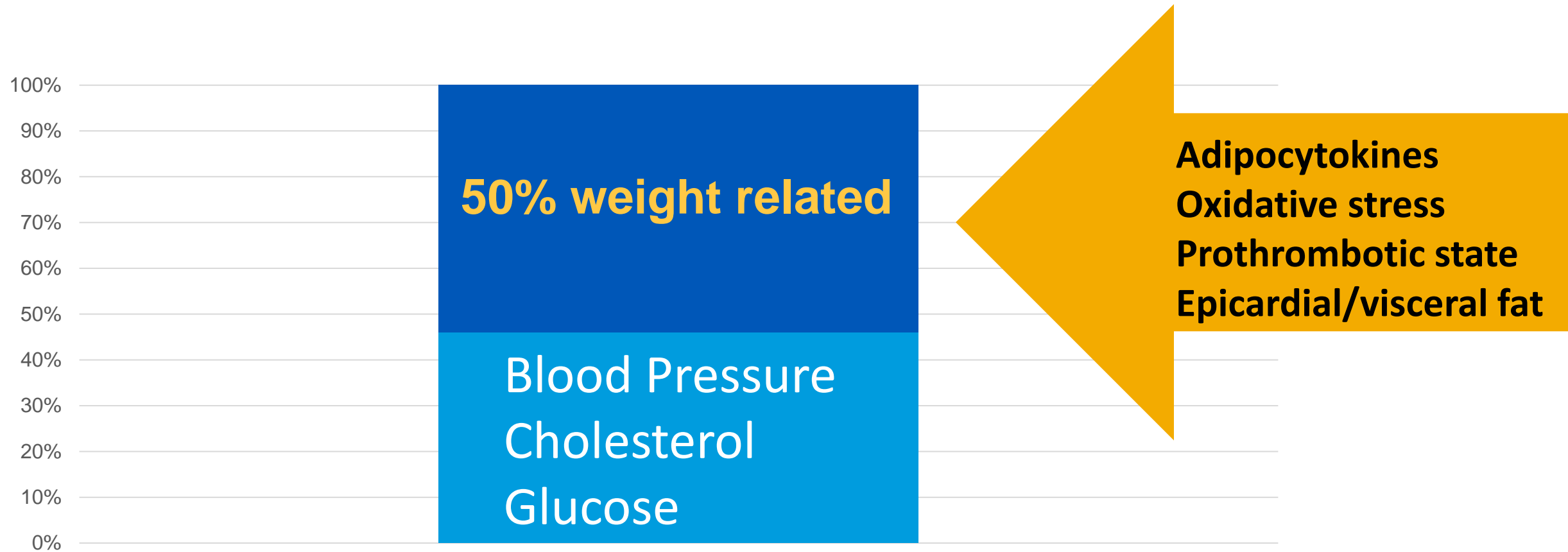


Adipocyte dysfunction
↑ Leptin
Altered lipolysis
Insulin resistance



META-ANALYSIS (21 STUDIES) OF 1.8 MILLION INDIVIDUALS

ASSOCIATIONS OF OVERWEIGHT AND OBESITY WITH CAD



Lancet. 2014;383:970–983

Obesity → Insulin Resistance → Dyslipidemia & Metabolic Syn



Adipocyte dysfunction
↑ Leptin
Altered lipolysis
Insulin resistance

Insulin resistance
↑ O₂ demand



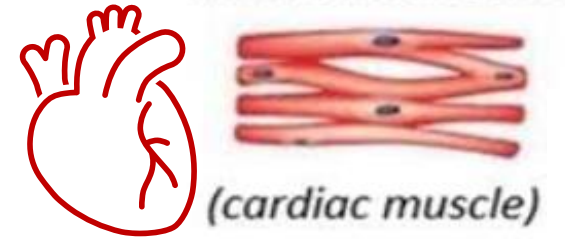
(skeletal muscle)

Liver steatosis

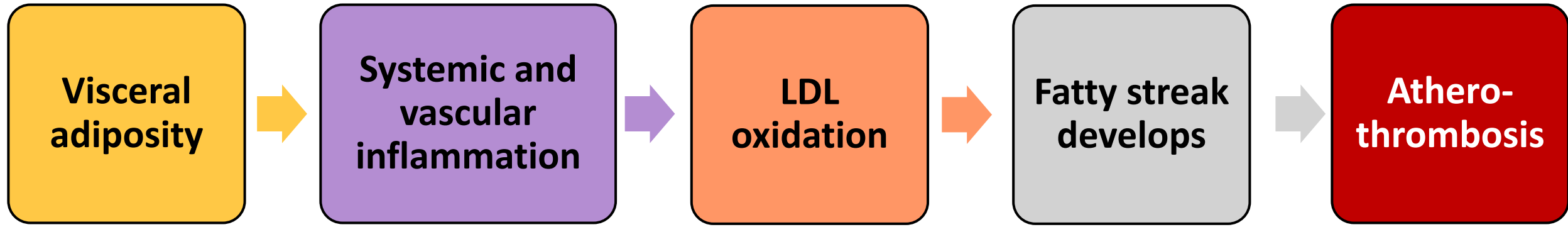


↑ De novo lipogenesis
↑ VLDL secretion
Insulin resistance

Myocardial fat deposition
Insulin resistance



(cardiac muscle)



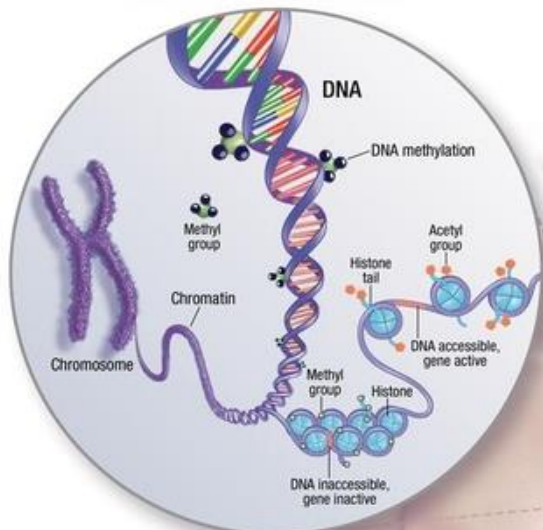
GUT MICROBIOME AND CV DISEASE



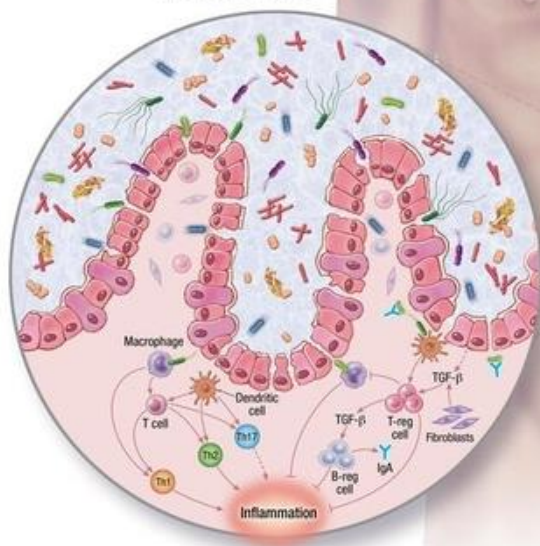
10 Trillion Microorganisms

Image from MAM

GENETICS/EPIGENETICS



MICROBIOME



ADIPOSE TISSUE

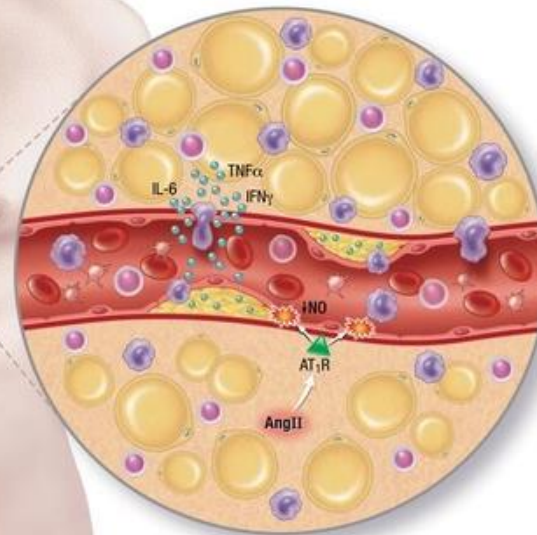


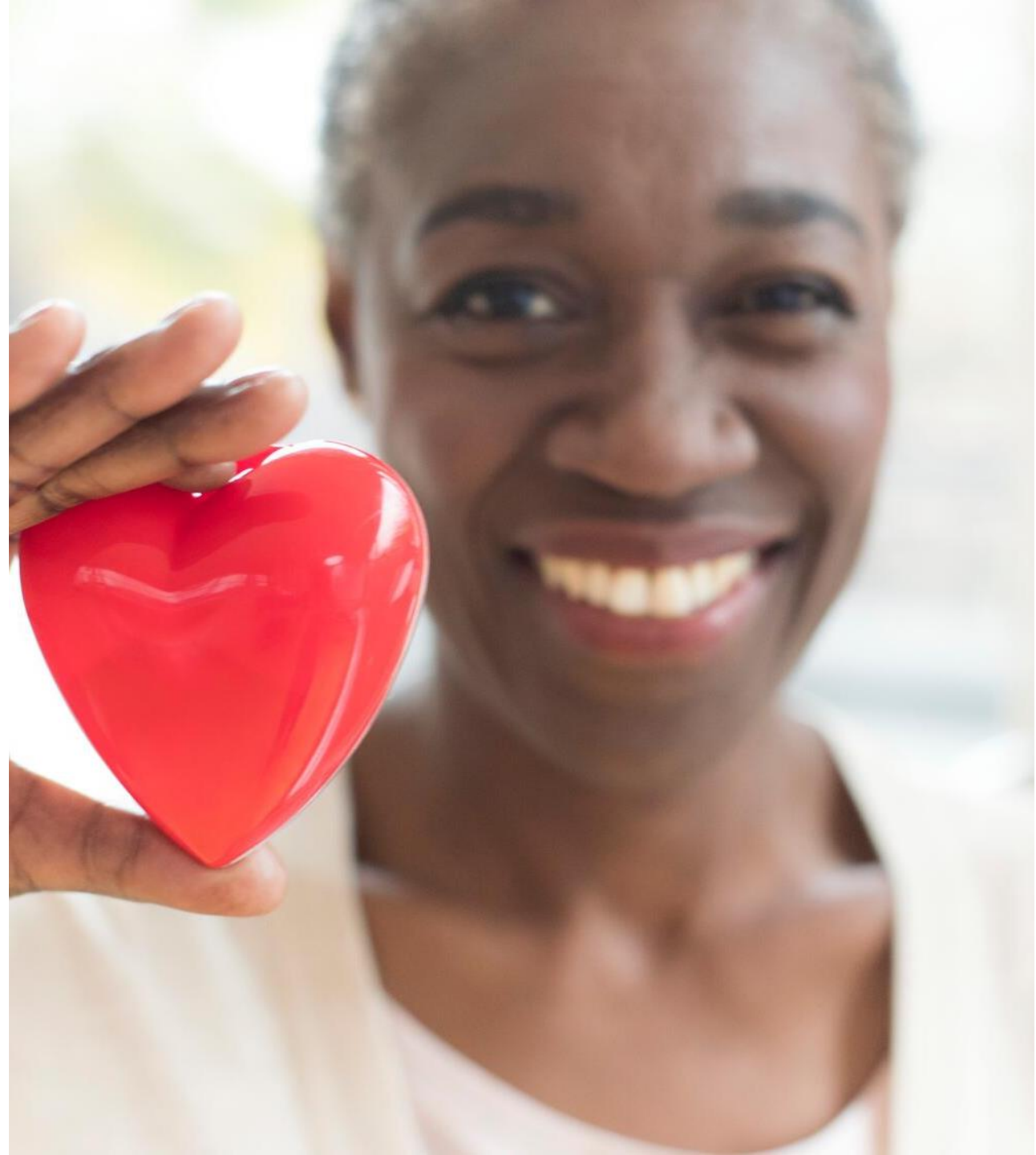
Image from MAM


Circulation 2017; 135, 1671–1673

© MAYO CLINIC

TAKE HOME PEARLS #2

- BMI is limited as a tool
- Visceral adiposity is associated with insulin resistance and metabolic syndrome
- Influence of the gut microbiome





3 **DIETARY APPROACHES FOR REDUCTION IN CARDIOVASCULAR RISK**

QUESTION

- What dietary approach do you most often recommend (or what do you personally follow?)
 - A. Low-fat diet
 - B. Low-carb or ketogenic diet
 - C. Mediterranean diet with primarily plant protein and fish
 - D. Mediterranean diet with non-red meat animal protein
 - E. Paleo diet
 - F. Vegetarian
 - G. Vegan

Weight Loss	Diet
-0.98 to -7.05 kg	Low-carb
-1.75 to -2.24 kg	Mediterranean diet
-1.54 kg	Low-fat diets
-1.42 kg	DASH diet

[Adv Nutr.](#) 2020 Jul; 11(4): 815–833

LOW CARB/KETOGENIC DIETARY APPROACH

- Low Carb: 50–130 g/day or 10%–45% total calories
- Ketosis: Carb <20–50 g/day or < 10% total calories
- Daily protein intake 0.8–1.5 g/kg IBW
- Rest of calories from fat sources

Meta-analysis of Ketogenic diet vs Balanced Diet:
No difference in BMI or lipids (6 weeks to 24 mos)

LOW CARB DIET WITH ANIMAL FOOD SOURCES HIGHER ALL-CAUSE MORTALITY

- Study of 85,168 women (aged 34–59 years at baseline) and 44,548 men (aged 40–75 years at baseline)
 - Without heart disease, cancer, or diabetes
 - Followed for approx. 20 years
 - Low carb diet with either primarily animal or plant protein

LOW CARB DIET WITH ANIMAL FOOD SOURCES HIGHER ALL-CAUSE MORTALITY

- **Low-carb diet with animal food sources:**

- Higher all-cause mortality (HR 1.23 [CI, 1.11 to 1.37], *P* for trend = 0.051)
- Higher CV mortality (HR, 1.14 [CI, 1.01 to 1.29]; *P* for trend = 0.029)
- Increased cancer mortality:
 - Men 66% increased risk
 - Women 26% increased risk

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- Higher CV mortality (HR, 1.14 [CI, 1.01 to 1.29]; P for trend = 0.029)
- Increased cancer mortality:
 - Men 66% increased risk
 - Women 26% increased risk

- **Low-carbohydrate diet with a higher content of plant-based food:**

- Lower all-cause mortality (HR 0.80 [CI, 0.75 to 0.85]; P for trend \leq 0.001)
- Lower CV mortality (HR 0.77 [CI, 0.68 to 0.87]; P for trend $<$ 0.001)

HIGH PROTEIN DIET

- NHANES III study of 6,381 adults ages 50+ followed for 18 years

High Protein

20%+ calories

Mod Protein

10-19% calories

Low Protein

< 10% calories

HIGH PROTEIN DIET

Ages 50–65

High protein intake

- 74% increase all-cause mortality (HR: 1.74; 95% CI: 1.02–2.97)
- 4X risk of cancer mortality (HR 4.33; 95% CI: 1.96–9.56)
- If plant protein was used instead of animal, no increased risk

Ages > 65 with

High protein intake

- 28% reduction in all-cause mortality (HR: 0.72; 95% CI: 0.55–0.94)
- 60% reduction in cancer mortality (HR: 0.40; 95% CI: 0.23–0.71)

VEGAN & VEGETARIAN DIETS

- Reduced risk of cancer, hypertension, diabetes
- Less greenhouse emissions gas for equicaloric diet
- Increased risk of fractures
- Balancing adequate protein especially > 65 years
- Can be difficult for patients to follow life-long

Segiovia-Siapco et al. Eur. J. Clin. Nutr. 2019;72, 60–70.

MEDITERRANEAN DIET



MEDITERRANEAN DIET

More of:

- ✓ Vegetables & fruits
- ✓ Whole grains
- ✓ Plant-based protein
- ✓ Fish

Limit:

- ✓ Sugar,
- ✓ Sodium
- ✓ Red and processed meat

Diet	MACE	Hazard Raio
Mediterranean+Nuts	3.4%	0.72 (95% CI, 0.54-0.95)
Mediterranean Olive Oil	3.8%	0.69 (95% CI, 0.53-0.91)

N Engl J Med 2018; 378:e34

Eur J Clin Nutr. 2018;72:30-43





INTERMITTENT FASTING

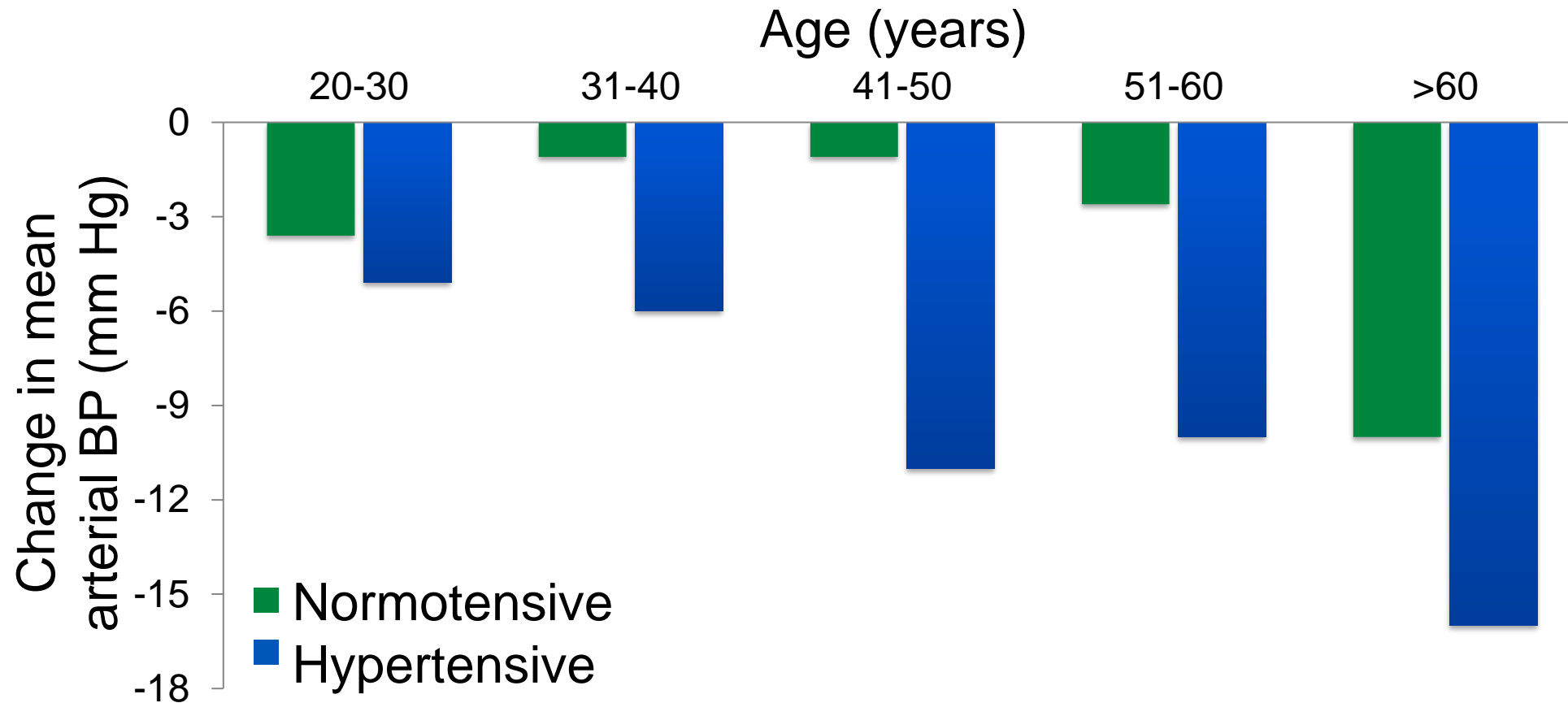
- TRE: time restricted eating
 - Weight loss of 7–11 pounds over 10 weeks
- Alternative day fasting
- 5:2 schedule of days eating:fasting
- Periodic fasting (2–5 days intermittently)

Longo et al. Cell 2022: 185:1455

LOW SODIUM DIET



MEAN ARTERIAL BP ↓ WITH SALT RESTRICTION *BASED ON AGE AND AVERAGE BP*



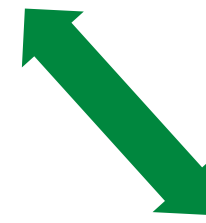
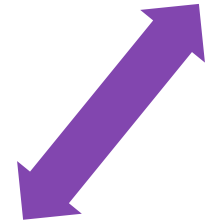
Hypertension. 2016;68:00-00.

NUTRITION AND LONGEVITY

Genetics
Size
Age
Sex
Health

Nutrient
Responsive
Genes/Pathways

Autophagy
Mitochondrial function
Translation
RNA processing
Stress response



Altering the
Quantity or Type
of Nutrients



Eating Patterns

WE WANT TO STOP...



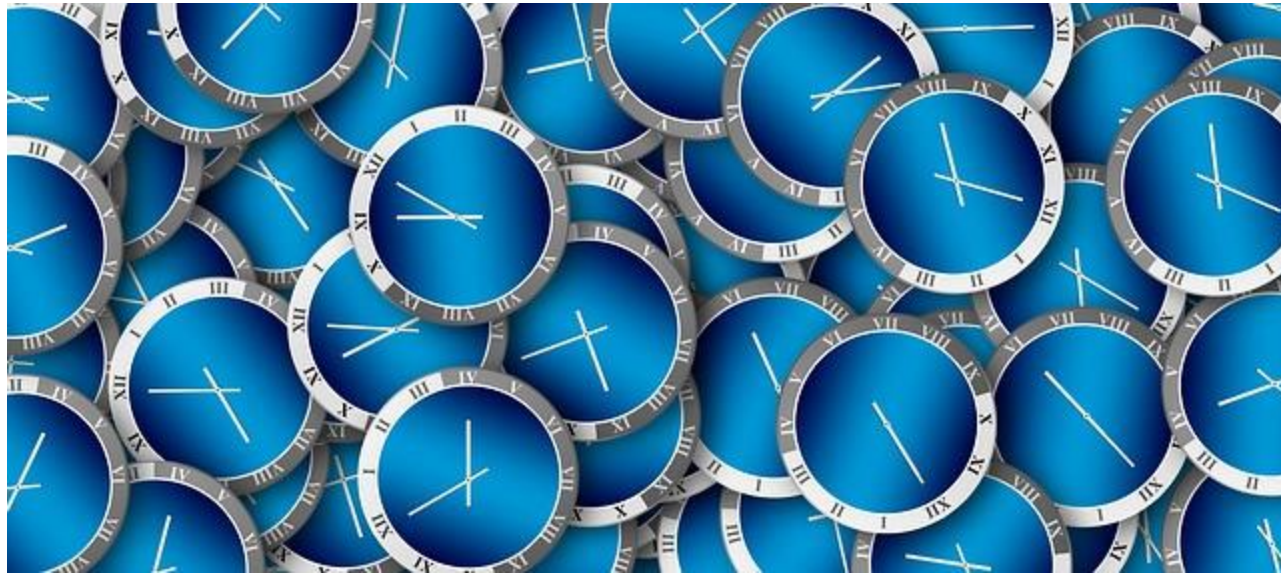
Metabolic
Dysfunction



Oxidative
Damage



Inflammation



8 YEARS

MODELING STUDY OF FOOD CHOICES ON LIFE EXPECTANCY

- Optimal diet:
 - Legumes
 - Whole grains
 - Nuts
 - Reduced red and processed meats

**Started age 20 = Increased life expectancy
+10.7 yrs females and +13 yrs in males**

Started age 60 = Increased life expectancy +8 yrs

LONGEVITY DIET

- Mid to high complex carbohydrates
- Low but sufficient protein intake (pesco-vegetarian-derived proteins)
 - Maybe higher protein > 65 years
- 30% healthy fat sources
- 12-13 hour daily fasting



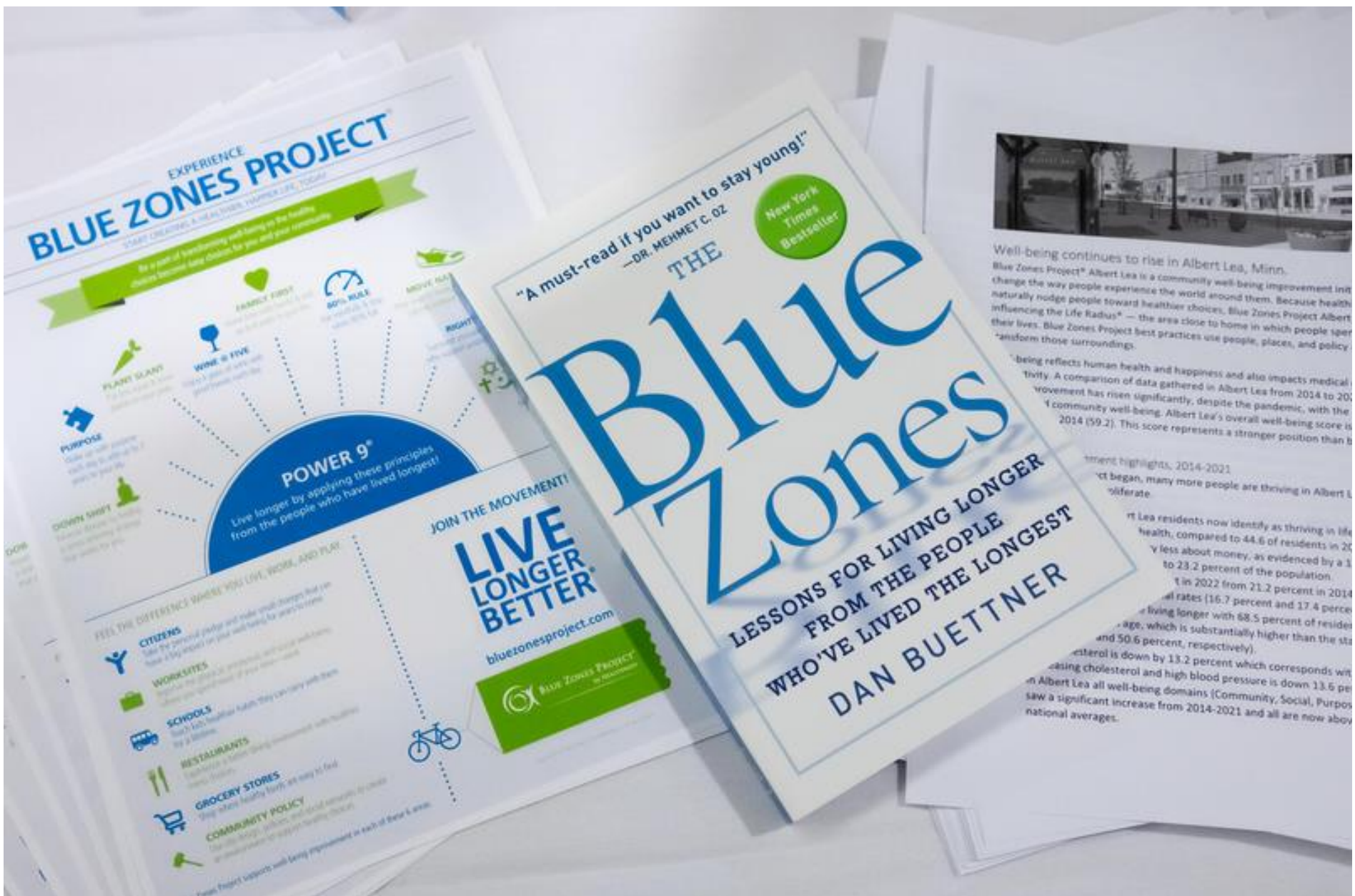
Longo et al. Cell 2022: 185:1455

100



Blue Zones:

Okinawans have 1% animal proteins in their diet
Sardinia and Loma Linda also have low animal proteins



EXPERIENCE BLUE ZONES PROJECT

START CREATING A HEALTHIER TOMORROW TODAY

By a group of groundbreaking scientists and leading health experts, *Blue Zones* offers the best lifestyle choices for you and your community.



- FEEL THE DIFFERENCE WHERE YOU LIVE, WORK, AND PLAY**
- CITIZENS**: Take the personal pledge and make small changes that can have a big impact on your well-being for years to come.
 - WORKSITES**: Support the good at work and work with well-being in mind in all aspects of your work-life.
 - SCHOOLS**: Teach both academic skills and life skills that can last a lifetime.
 - RESTAURANTS**: Encourage a variety of healthy food options.
 - GROCERY STORES**: Bring fresh healthy foods at easy to find prices.
 - COMMUNITY POLICY**: Use the best practices and local resources to create an environment that supports healthy choices.
- Blue Zones Project supports well-being engagement in each of these & more.

JOIN THE MOVEMENT!
LIVE LONGER BETTER
bluezonesproject.com

"A must-read if you want to stay young!"
—DR. MEHMET C. OZ

THE Blue Zones
New York Times Bestseller

LESSONS FOR LIVING LONGER FROM THE PEOPLE WHO'VE LIVED THE LONGEST
DAN BUETTNER



Well-being continues to rise in Albert Lea, Minn. Blue Zones Project[®] Albert Lea is a community well-being improvement initiative that changes the way people experience the world around them. Because health naturally nudges people toward healthier choices, Blue Zones Project Albert Lea is influencing the Life Radius[®] — the area close to home in which people spend their lives. Blue Zones Project best practices use people, places, and policy to transform those surroundings.

Well-being reflects human health and happiness and also impacts medical activity. A comparison of data gathered in Albert Lea from 2014 to 2021 shows that movement has risen significantly, despite the pandemic, with the 2021 community well-being score of 59.2. Albert Lea's overall well-being score is up from 57.1 in 2014 (59.2). This score represents a stronger position than the national average.

Well-being highlights, 2014-2021

- Well-being began, many more people are thriving in Albert Lea.
- Well-being rate increased from 44.6 percent in 2014 to 59.2 percent in 2021.
- Well-being is up from 21.2 percent in 2014 to 23.2 percent in 2021.
- Well-being rates (16.7 percent and 17.4 percent) are up from 15.7 percent and 17.4 percent in 2014.
- Well-being living longer with 68.5 percent of residents living longer than the national average, which is substantially higher than the state average (50.6 percent, respectively).
- Well-being cholesterol is down by 13.2 percent which corresponds with a decrease in rising cholesterol and high blood pressure is down 13.6 percent.
- Well-being in Albert Lea all well-being domains (Community, Social, Purpose, and Physical) saw a significant increase from 2014-2021 and all are now above national averages.

A world map with a blue color scheme. The landmasses are shown in a lighter shade of blue, and the oceans are in a darker shade. Five yellow rectangular callouts are overlaid on the map, each containing the name of a specific location. The locations are: Loma Linda, CA (North America), Nicoya, Costa Rica (Central America), Sardinia (Europe), Ikaria, Greece (Europe), and Okinawa, Japan (East Asia).

**Loma Linda,
CA**

**Nicoya,
Costa Rica**

Sardinia

**Ikaria,
Greece**

**Okinawa,
Japan**

#1

Move Naturally



#2 Purpose



#3

Down-shift



#4

80% Rule



#5 Plant Slant



#6

Wine at 5



#7

Right Tribe



#8

Loved Ones First



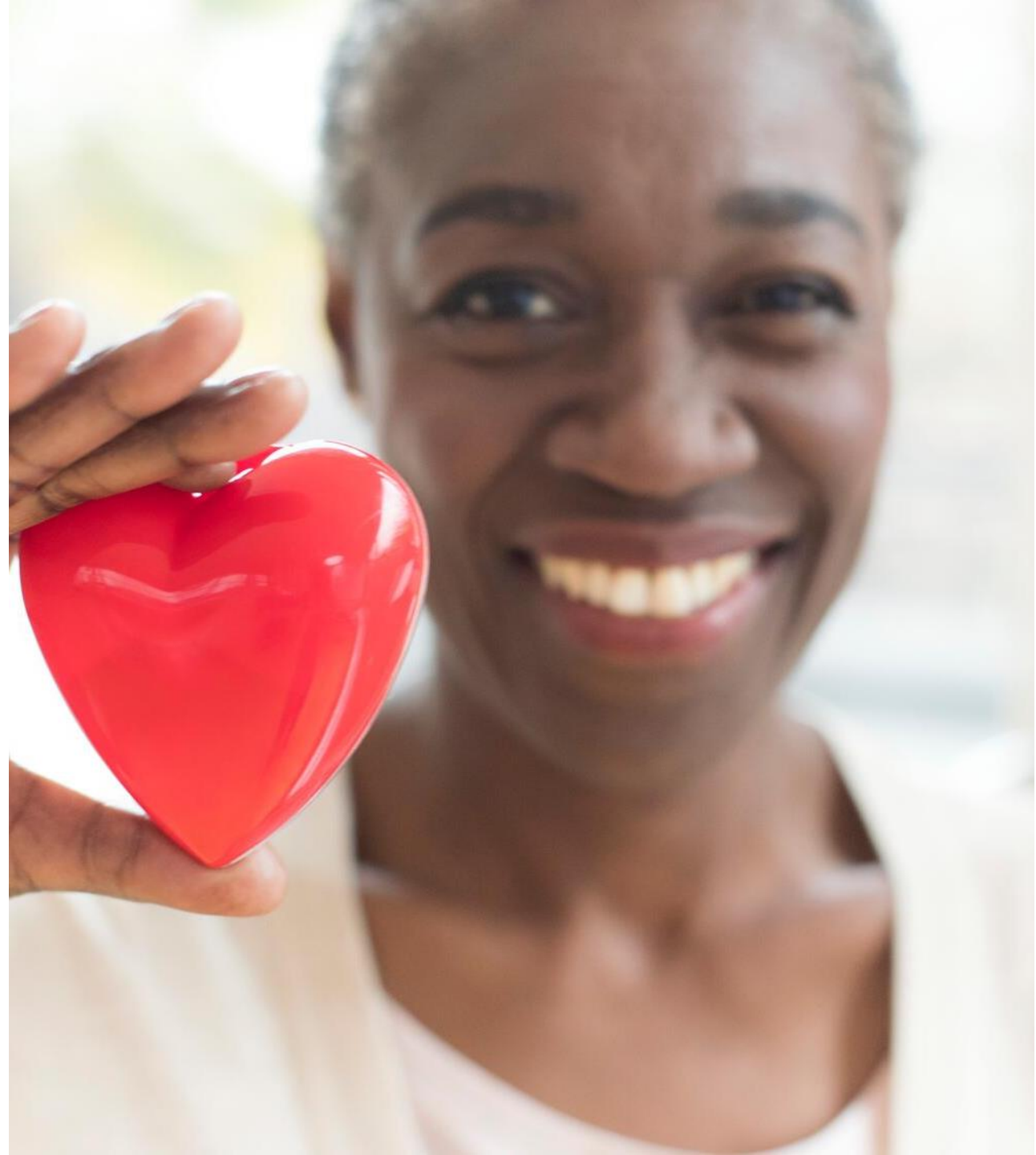
#9

Belong



TAKE HOME PEARLS #3

- Mediterranean diet reduces cardiovascular events
- Blue Zones 9 principles are more than just diet alone and are a blueprint for longevity





4 OVERALL APPROACH FOR HEART HEALTH

LIFE'S ESSENTIAL 8

Health Behaviors


Health Factors



TAKE HOME PEARLS #4

- Blood pressure $> 130/80$ HTN
- Blood sugar control
- Exercise 150 minutes/week
- No tobacco products
- Importance of sleep

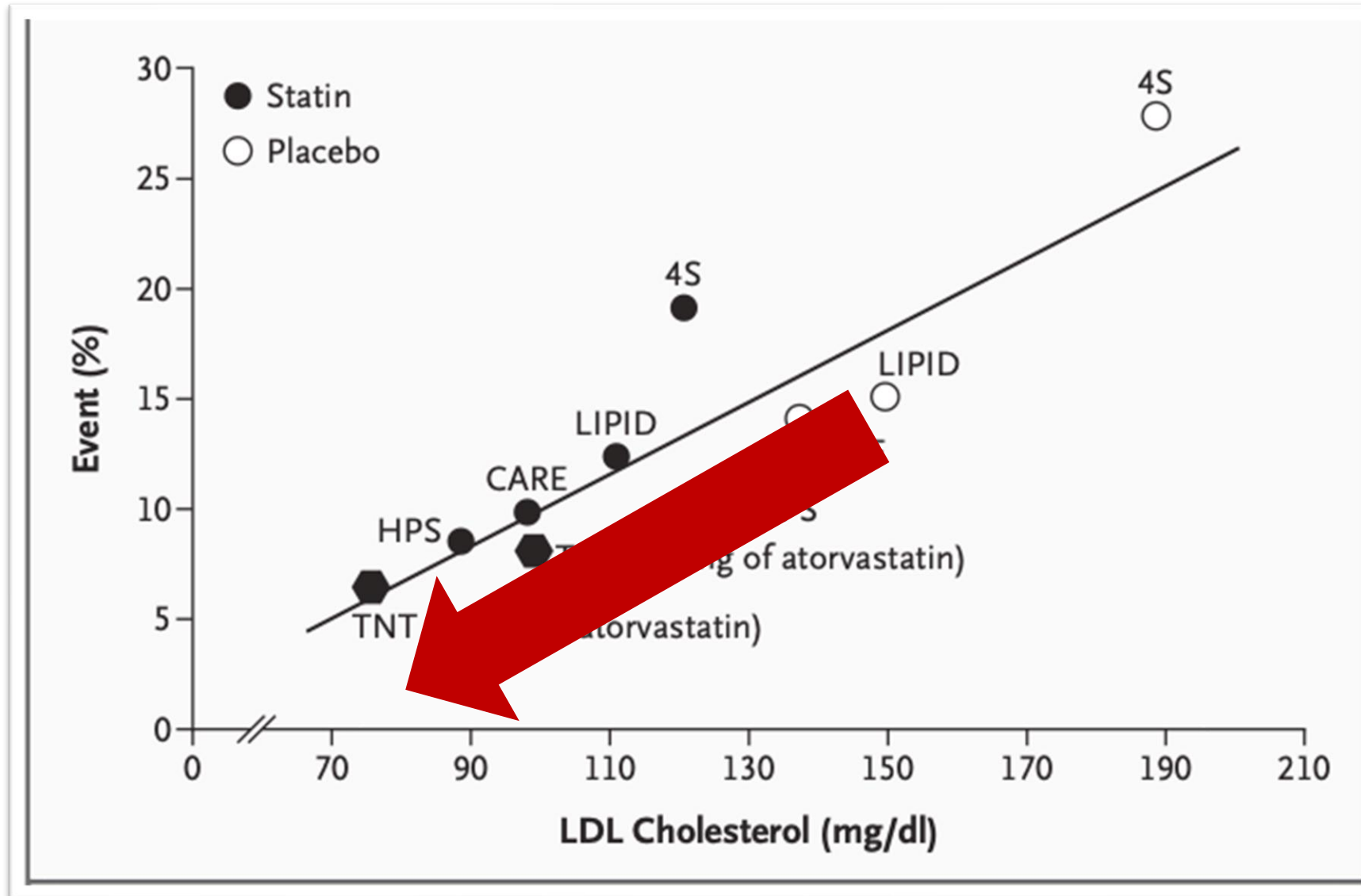




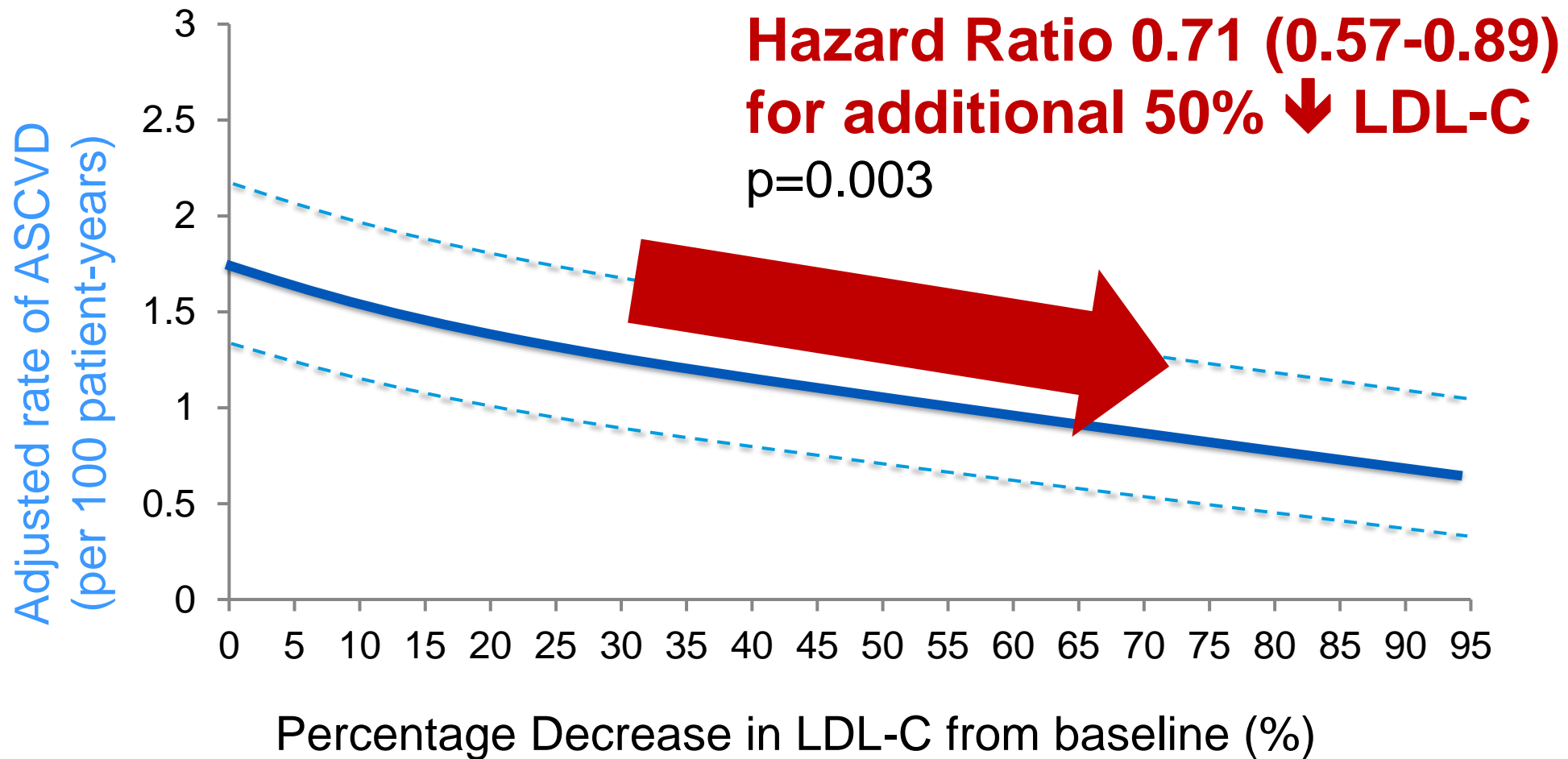
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**WHEN LIFESTYLE ALONE IS
ENOUGH AND MEDS ARE NEEDED**

LOWER LDL → LOWER EVENT RATES



FEWER ASCVD EVENTS WITH LOWER LDL (% CHANGE FROM BASELINE)



Statins

Ezetimibe

**Bempedoic
Acid**

**PCSK9i
Monoclonal
Antibody**

**PCSK9i Small
Interfering
RNA**

Lipid Lowering (healthy lifestyle for everyone)

Assess ASCVD Risk

Age 0-19y

Age 20-39y

Age 40-75y
LDL \geq 70-190
mg/dl

Age >
75y

Familial
Hypercholesterol =
Statin

If LDL-C > 160
mg/dl and Fam Hx
premature CAD =
Statin

Risk
discussion

Clinical
assessment &
risk discussion

Low
< 5%

High > 20% =
Statin

Borderline
5-7.5%

Intermediate
7.5-20%

*consider CAC

Diabetes age 40-75y =
Statin

LDL-C \geq 190 mg/dl =
Statin

Known ASCVD =
Statin

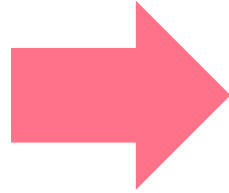
Use Risk Enhancers to determine statin benefit

Circ. 2019;139:e1082–e1143

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**Very high-risk
ASCVD**

*2+ ASCVD events or
1 major event with
high-risk conditions*



**< 50% LDL reduction and
LDL-C \geq 55 mg/dL**
*consider adding nonstatins
to max tolerated statins*



Ezetimibe

PCSK9
Inhibitor

VERY HIGH RISK FOR FUTURE ASCVD EVENTS

Major ASCVD Events	High-Risk Conditions
ACS within last 12 months	≥ 65 years old
Myocardial infarction	Familial hyperlipidemia
Ischemic stroke	CABG or PCI
Symptomatic PAD	Diabetes
Amputation or prior revasc	HTN
	CKD eGFR < 60 ml/min/1.73m ²
	Tobacco use current
	LDL > 100 on max statin + ezetimibe
	CHF

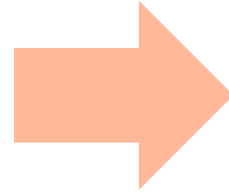
Very High Risk =

- 2 Major ASCVD
- 1 Major + 2 High-Risk Conditions

BACK TO OUR PATIENT

- She was started on rosuvastatin 20mg daily and Evolocumab with goal LDL < 55 mg/dl
- Started aspirin for symptomatic PAD
- Counseled regarding tobacco cessation options
- PET Stress showed normal perfusion
- Began a supervised exercise training program (SET) for her new diagnosis of PAD

**ASCVD
(but not very
high risk)**



**< 50% LDL reduction and
LDL-C \geq 70 mg/dL**
*consider adding nonstatins
to max tolerated statins*

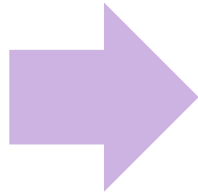


Ezetimibe



**PCSK9
Inhibitor**

**ASCVD +
Severe primary
hyperlipidemia
LDL-C \geq 190mg/dL**



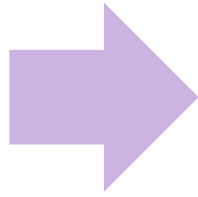
**Begin high-intensity statin,
if LDL-C remains \geq 70 mg/dL
*consider adding nonstatins***



Ezetimibe

**PCSK9
Inhibitor**

**Severe primary
hyperlipidemia
LDL-C \geq 190mg/dL**



**Begin high-intensity statin,
if LDL-C remains \geq 100 mg/dL
*consider adding nonstatins***

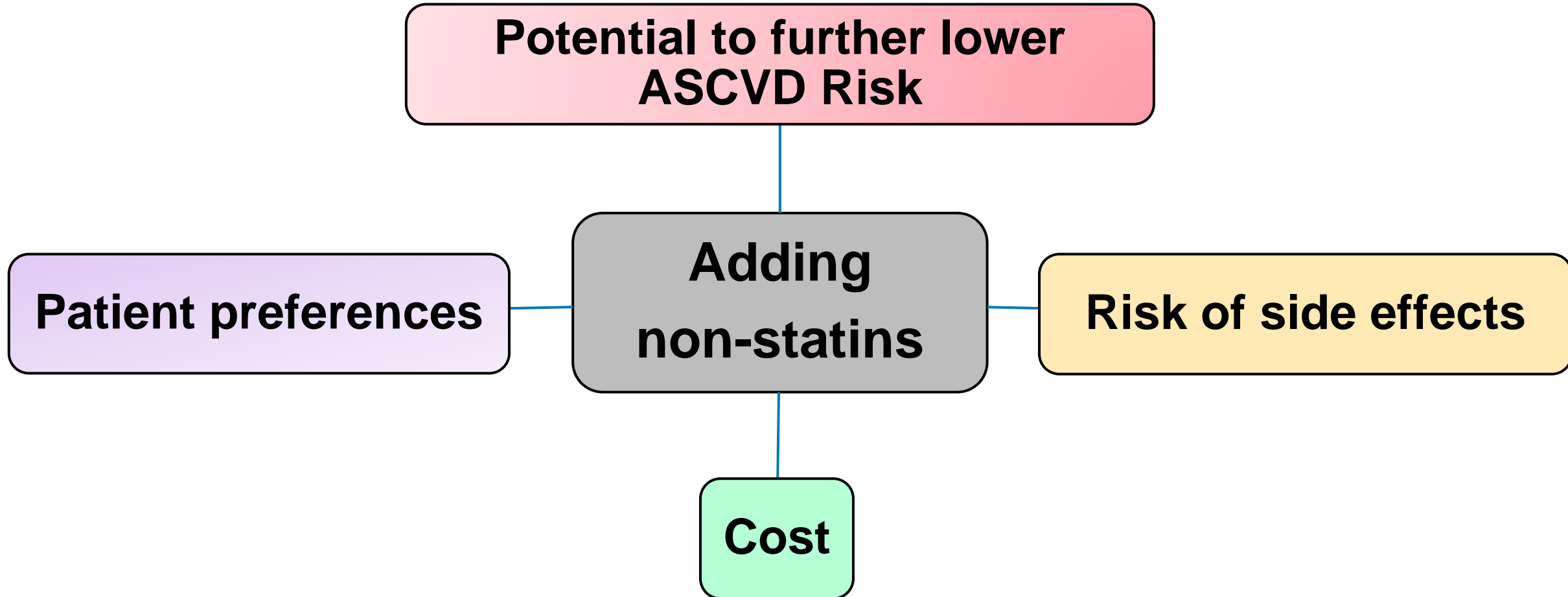


Ezetimibe



**PCSK9
Inhibitor**

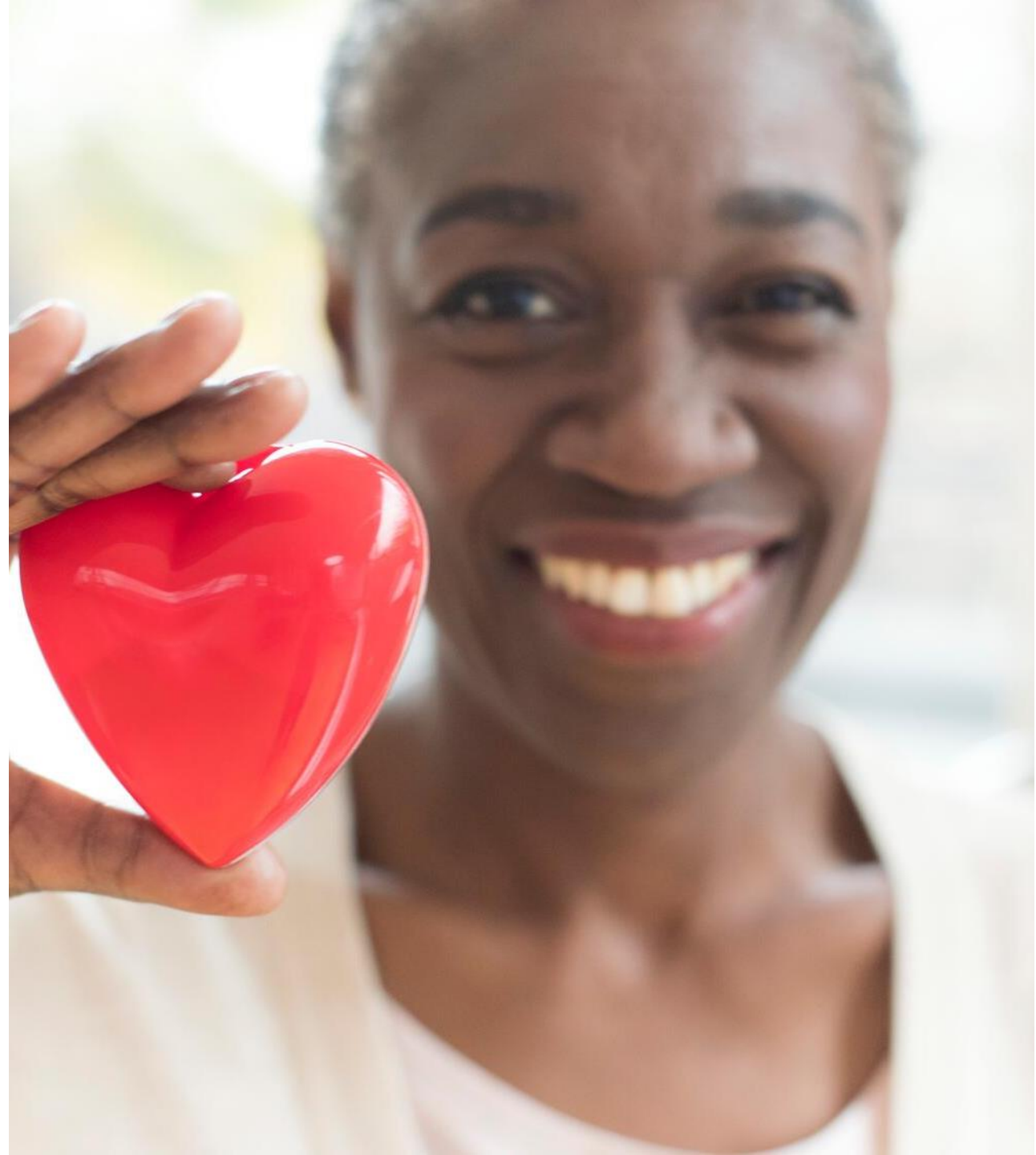
2022 ACC EXPERT CONSENSUS ON NON-STATIN MANAGEMENT OF LDL CHOLESTEROL



JACC 2022;80:1366-1418

TAKE HOME PEARLS #5

- In general, no LDL “floor” for how low for CV risk reduction
- Lower LDL = lower event rates
- Risk stratify based on Very High Risk for LDL < 55 mg/dl



WHAT WE HAVE DISCUSSED

INTEGRATING RISK FACTORS AND HEALTHY LIFESTYLE APPROACHES

- Individualize cardiovascular risk
- Weight management isn't just calories in < calories out
- Dietary approaches for reduction in cardiovascular risk
- Overall approach for heart health
- When lifestyle alone isn't enough and meds are needed

TAKE HOME MESSAGES

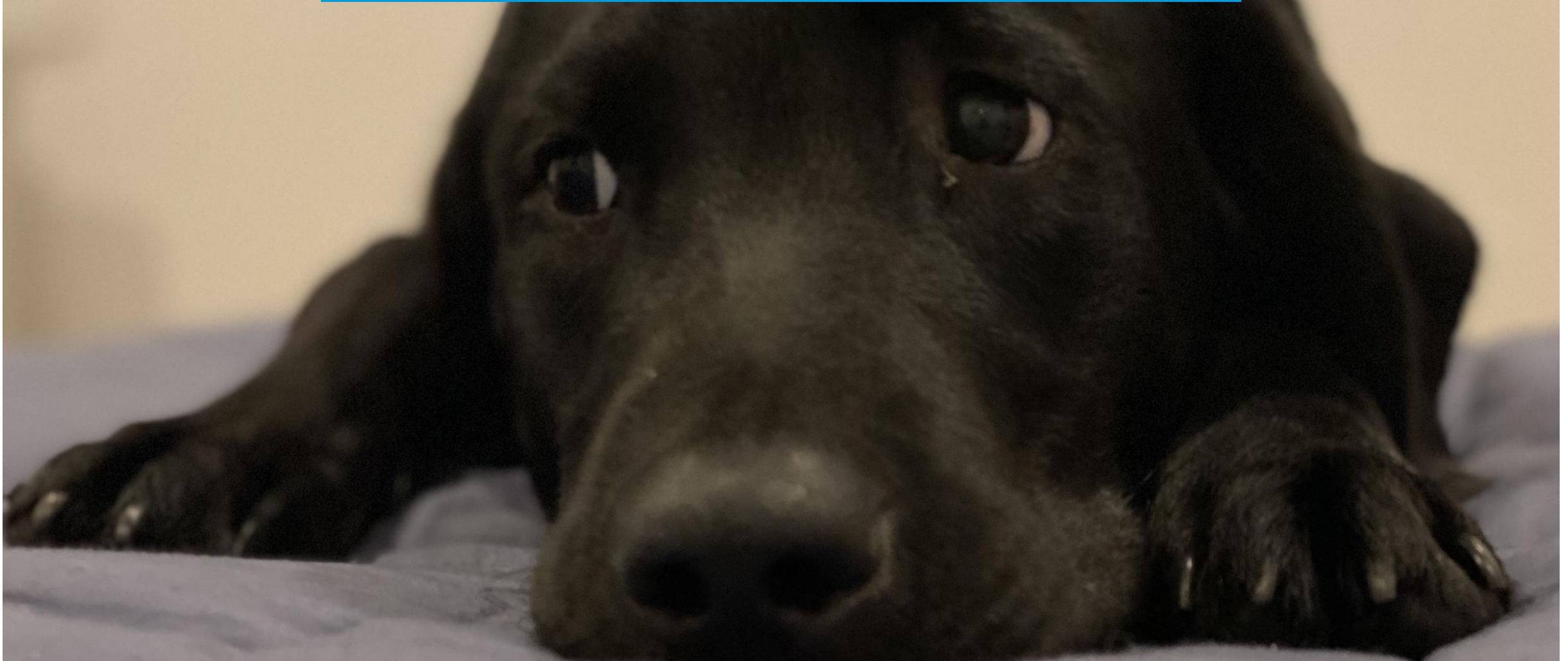
HOW TO EAT HEALTHY FOR A LIFETIME

- Mediterranean diet (Longevity diet) that is high in plants/plant protein with fish and low in other animal proteins
- Low in sugar and simple carbs
- Overnight fast for 12-13 hours
- Enjoy the birthday cake or celebratory foods
- Low salt
- 9 Blue Zone Principles of Living

WHO LIKES A CHALLENGE?

Challenge #1

Avoid Bedtime Ruminations



Challenge #2

Remember to Breathe





Challenge #3

Start the Day on Your Terms

Challenge #4

Embrace Life's Simple Joys



Challenge #5

Connect with Friends and Family



THANK YOU!



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