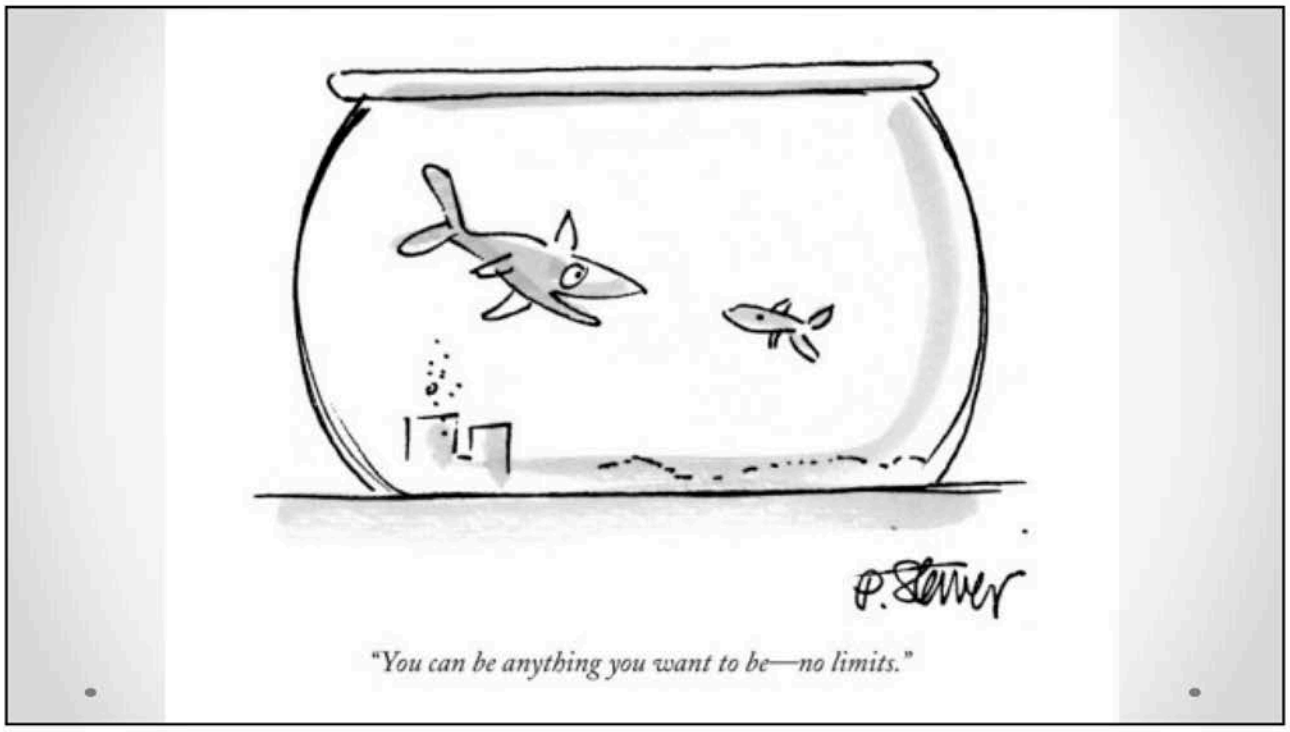

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Cardiac Risk Reduction Clinic
Cardiac Rehabilitation Program

Cardiovascular Wellness Program

SACRAMENTO STATE

Road Map to Health: Lifestyle Modifications for the Reversal of Hypertension and Diabetes

Javier E. López, MD, MAS
Themis Yiaslas, PsyD
Radhika Bukkapatnam, MD

California Department of PublicHealth

VA | U.S. Department of Veterans Affairs

2

Today's Objectives (as always)

- What is the evidence for the "blue" route to improve blood pressure, diabetes and life expectancy?
- What are the modifiable risk factors for cardiovascular health?

3

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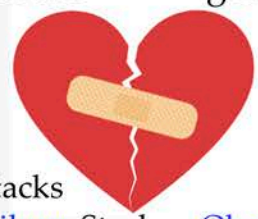
CDPH and CDC- Call to action

- How do we lower blood pressure and glucose in the blood?

High blood pressure

High glucose



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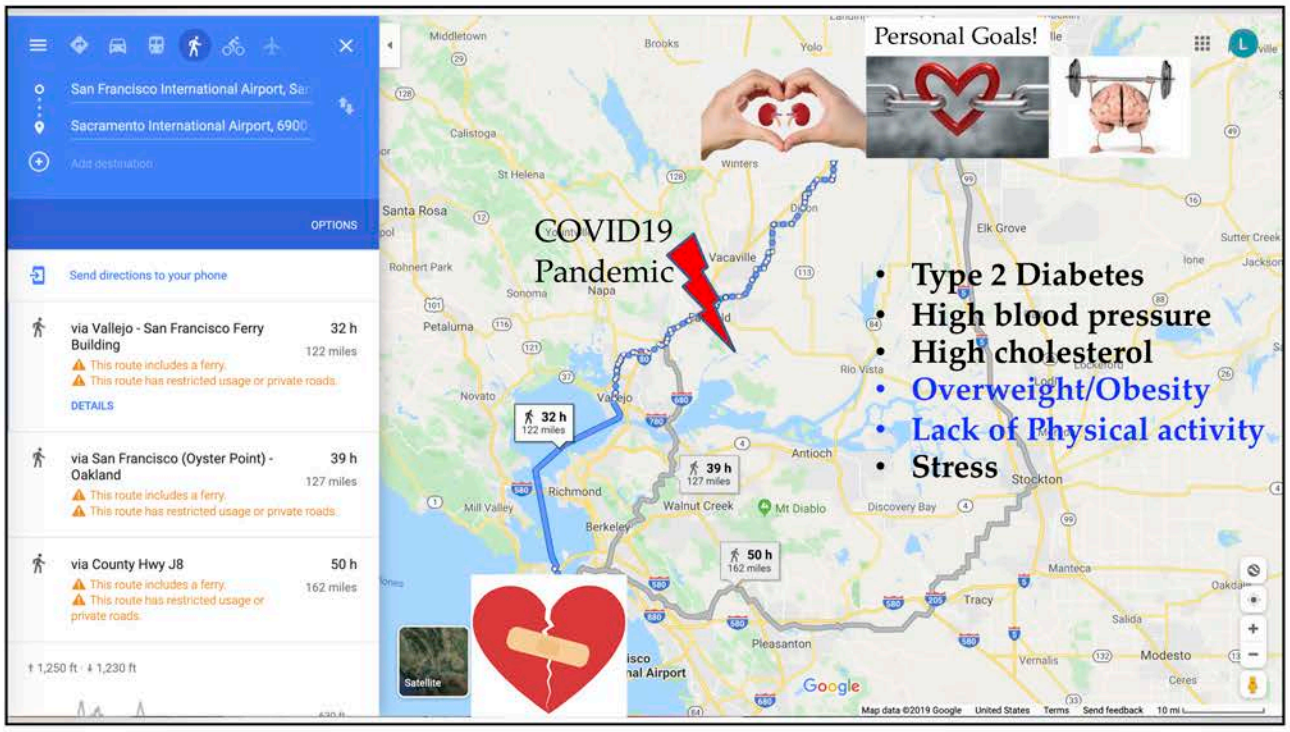
Heart attacks
Heart Failure, Strokes, Obesity
Peripheral arterial disease
Amputations, Erectile Dysfunction
Dementia, Kidney failure
Premature Death

4



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Nine Modifiable risk factors

1. History of high blood pressure
2. History of Diabetes
3. Elevated Cholesterol
4. Truncal Obesity or belly fat
5. Lack of exercise
6. Lack of fruits and vegetables
7. Smoking
8. Alcohol use
9. Psychosocial stress

- What we can measure these, they are the result of what we do, environment and genetics-
- Starting point in the journey

- What we can do- tools for the journey to your personal goals

6

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Circulation

ACC/AHA CLINICAL PRACTICE GUIDELINE

2019 ACC/AHA Guideline on the Primary Prevention of Cardiovascular Disease

A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines

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Endorsed by the American Association of Cardiovascular and Pulmonary Rehabilitation, the American Geriatrics Society, the American Society of Preventive Cardiology, and the Preventive Cardiovascular Nurses Association

ACC/AHA Task Force Members, see page e623

Key Words: AHA Scientific Statements ■ guidelines ■ antihypertensive agents ■ aspirin ■ atherosclerosis ■ atherosderotic cardiovascular disease ■ atrial fibrillation ■ behavior modification ■ behavior therapy ■ blood cholesterol ■ blood pressure ■ body mass index ■ cardiovascular team-based care ■ cardiovascular ■ cardiovascular disease ■ cholesterol ■ chronic kidney disease ■ coronary artery calcium score ■ coronary disease ■ coronary heart disease ■

7

3.2. Exercise and Physical Activity

Recommendations for Exercise and Physical Activity
Referenced studies that support recommendations are summarized in Online Data Supplements 6 and 7.

COR	LOE	Recommendations
I	B-R	1. Adults should be routinely counseled in healthcare visits to optimize a physically active lifestyle.[S3.2-1,S3.2-2]
I	B-NR	2. Adults should engage in at least 150 minutes per week of accumulated moderate-intensity or 75 minutes per week of vigorous-intensity aerobic physical activity (or an equivalent combination of moderate and vigorous activity) to reduce ASCVD risk.[S3.2-3–S3.2-8]
IIa	B-NR	3. For adults unable to meet the minimum physical activity recommendations (at least 150 minutes per week of accumulated moderate-intensity or 75 minutes per week of vigorous-intensity aerobic physical activity), engaging in some moderate- or vigorous-intensity physical activity, even if less than this recommended amount, can be beneficial to reduce ASCVD risk.[S3.2-5,S3.2-6]
IIb	C-LD	4. Decreasing sedentary behavior in adults may be reasonable to reduce ASCVD risk.[S3.2-3,S3.2-9–S3.2-11]

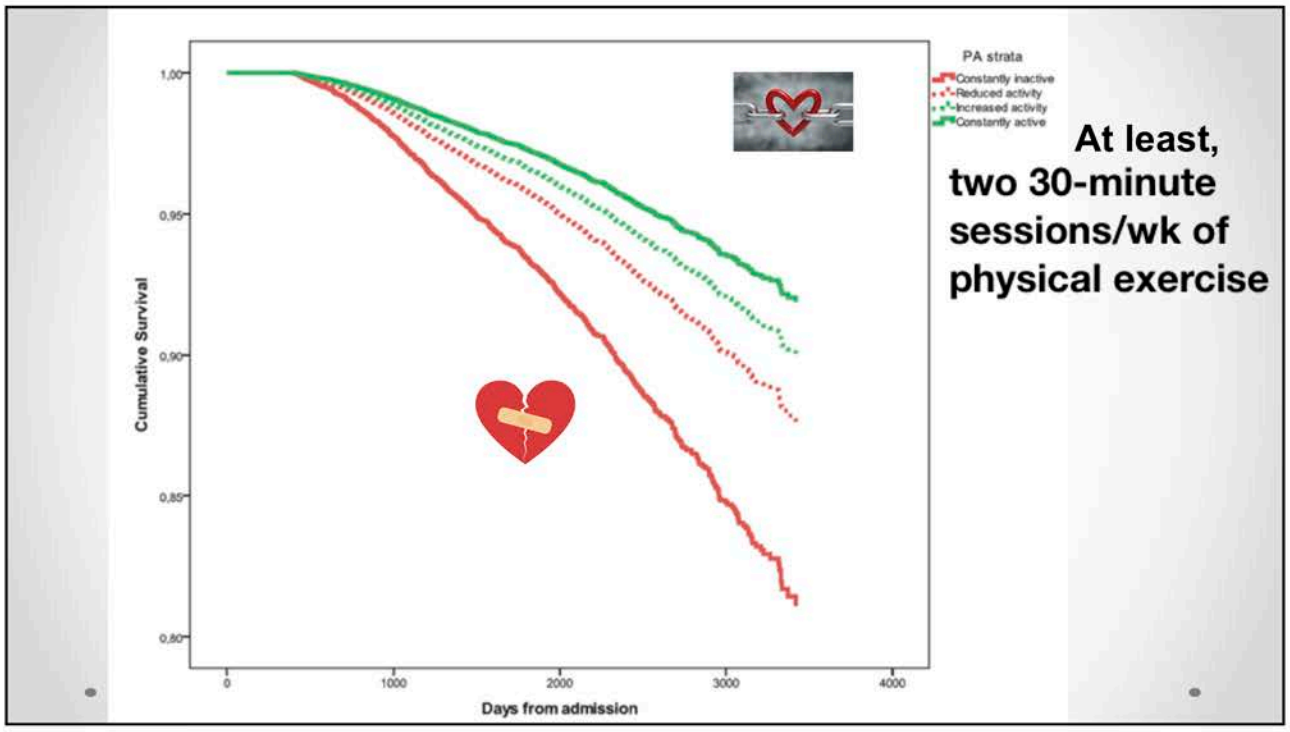
Table 4. Definitions and Examples of Different Intensities of Physical Activity

Intensity	METs	Examples
Sedentary behavior*	1–1.5	Sitting, reclining, or lying; watching television
Light	1.6–2.9	Walking slowly, cooking, light housework
Moderate	3.0–5.9	Brisk walking (2.4–4 mph), biking (5–9 mph), ballroom dancing, active yoga, recreational swimming
Vigorous	≥6	Jogging/running, biking (≥10 mph), singles tennis, swimming laps

**Sedentary behavior* is defined as any waking behavior characterized by an energy expenditure ≤1.5 METs while in a sitting, reclining, or lying posture. Standing is a sedentary activity in that it involves ≤1.5 METs, but it is not considered a component of sedentary behavior.

MET indicates metabolic equivalent; and mph, miles per hour.

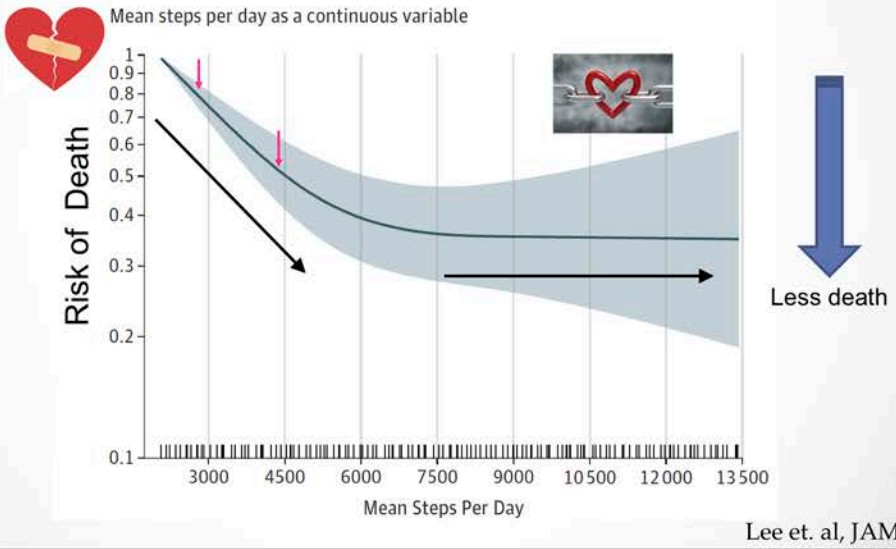
8



At least, two 30-minute sessions/wk of physical exercise

9

Evidence-based Step Counts



Lee et. al, JAMA, 2019

10

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Summary of last time

- At least- 2 x a week, 30 min of mod to vigorous intensity exercise + everyday healthy physical activity (PA)
- Everyday healthy PA would include at least 2,400 steps, and better if it included 4,700 steps per day (average over a week).
- Together, this ought to give you the 150 minutes per week of PA recommended by the AHA/ACC

11

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ACCEPTED MANUSCRIPT

Temporal trends in cardiovascular complications in people with or without type 2 diabetes: The Fremantle Diabetes Study

Wendy A Davis, Edward W Gregg, Timothy M E Davis

The Journal of Clinical Endocrinology & Metabolism, dgaa215,
https://doi.org/10.1210/clinem/dgaa215
Published: 30 April 2020 **Article history** ▾

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12

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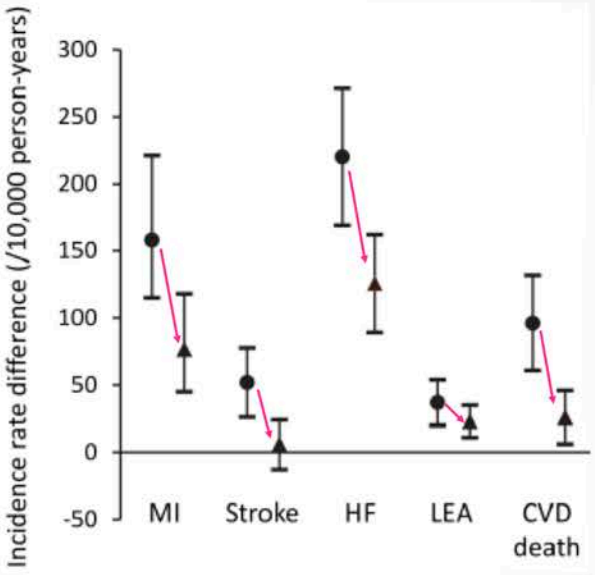

Participants with type 2 diabetes from the Fremantle Diabetes Study Phases I (FDS1; n=1291 recruited 1993-1996) and II (FDS2; n=1509 recruited 2008-2011) age-, sex- and zip code-matched 1:4 to people without diabetes.

13

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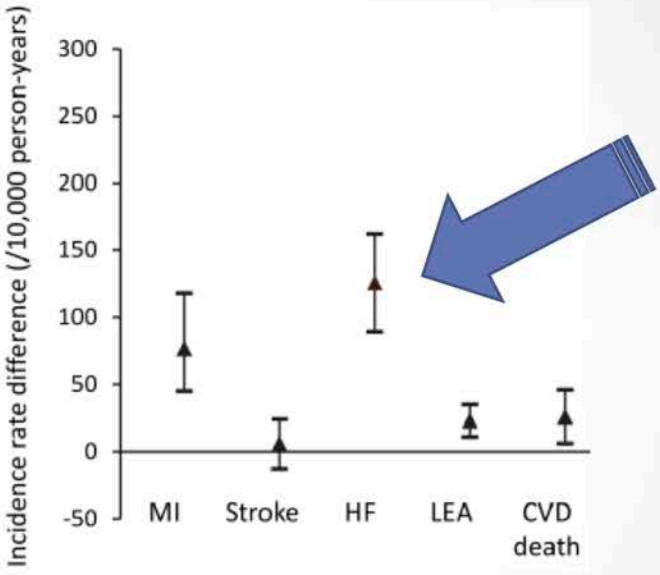

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14

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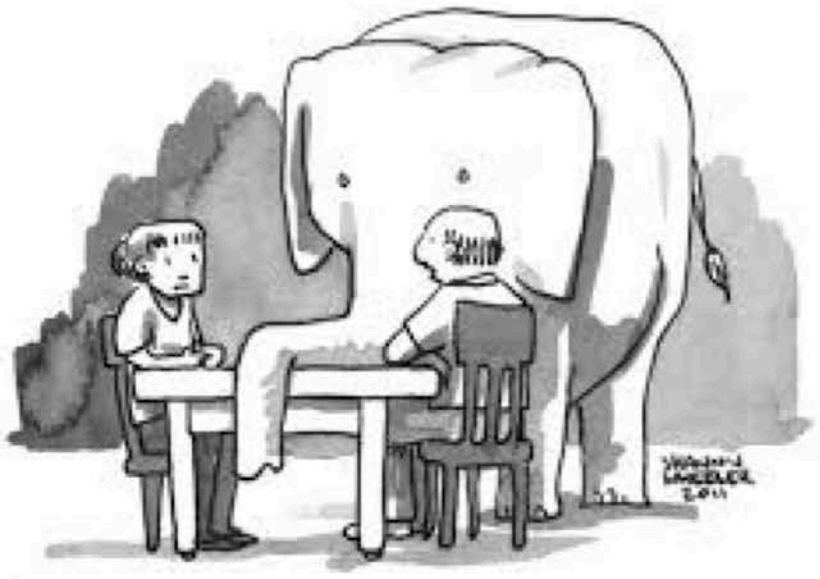

15

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ESC European Society of Cardiology

European Journal of Heart Failure (2019) **21**, 436–444
doi:10.1002/ejhf.1433

RESEARCH ARTICLE

Check for updates

Cardiorespiratory fitness, body mass index and heart failure incidence

Peter Kokkinos[1,2,3,4,5]*, Charles Faselis[3,6], Barry Franklin[7,8], Carl J. Lavie[9], Labros Sidossis[2], Hans Moore[1,3], Pamela Karasik[3,6], and Jonathan Myers[10,11]

16

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Design

- Cardiorespiratory fitness and body mass index (BMI) were assessed in 20,254 US male veterans
- Mean age 58 yo +/- 11 years
- Everyone completed an exercise treadmill test
- None had heart failure or ischemia prior to test
- Follow-up evaluations were done 13.4 years latter

17

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Classified by peak MET on a maximal stress test (i.e. fitness)

- Least-fit (4.5+/-1.3 METs)
- Low-fit (6.7+/-1.3 METs)
- Moderate-fit (8.1+/-1.1 METs)
- High-fit (11.2+/-2.4 METs)

One **MET** is defined as 1 kcal/kg/hour and is roughly equivalent to the energy cost of sitting quietly

18

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Classified by BMI (i.e. obese)

- Normal weight (18.5–24.9 kg/m^2),
- Overweight(25–29.9 kg/m^2), and
- Obese(≥30.0 kg/m^2)

19

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Results

- **Heart Failure risk was significantly higher in the obese category [Hazard Ratio (HR) 1.22], but was no longer significant after further adjustment for fitness**
- **When compared to the least-fit, HF risk decline progressively with increased fitness within all BMI categories**
- **The risk was 63%, 66%, and 73% lower for high-fit individuals within normal weight, overweight and obese category**

20

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Heart Failure Risk over 13 years

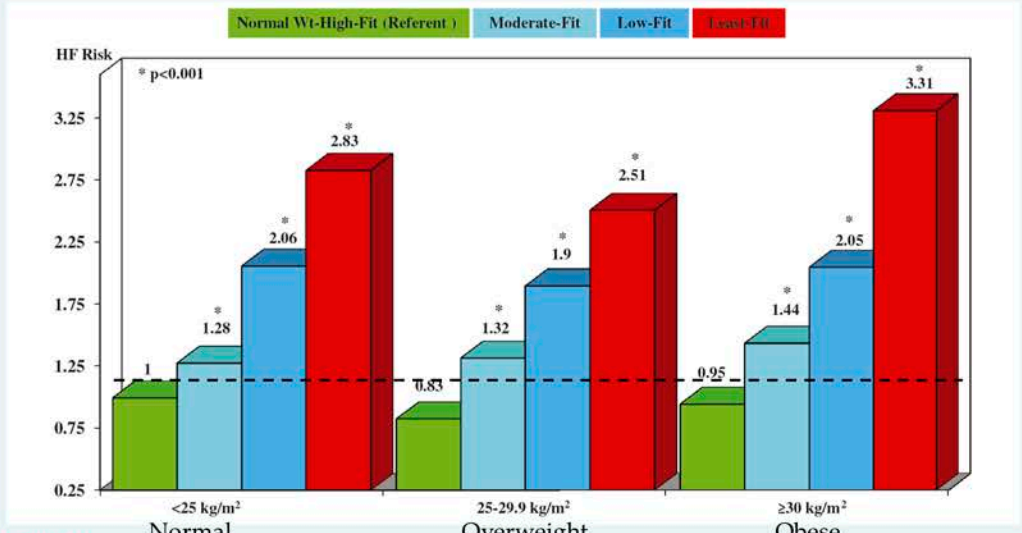

Figure 2 Risk of heart failure (HF) for cardiorespiratory fitness–body mass index interaction groups.

21

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Summary for today

- A lack of physical activity is a risk factor for heart attacks, diabetes and heart failure
- Obesity is a problem when it is associated with a lack of physical fitness.
- Physical fitness may negate the heart failure risk that comes from obesity.

22

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23

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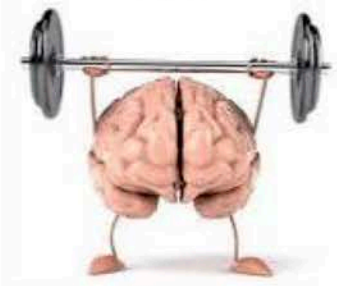
https://www.ted.com/talks/wendy_suzuki_the_brain_changing_benefits_of_exercise?language=es



24