

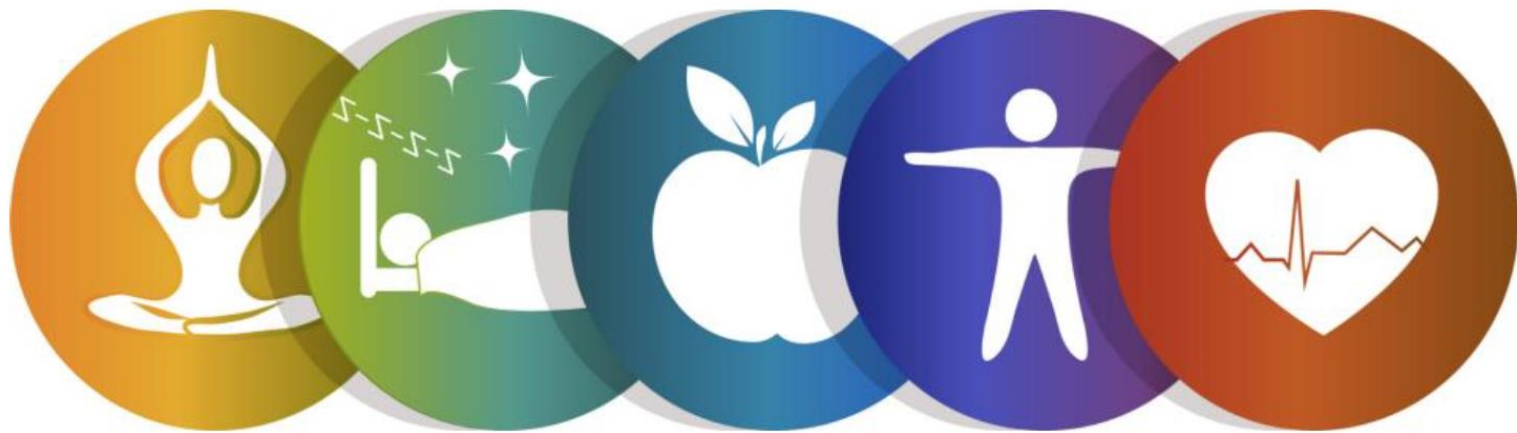
# REHABILITATION FOR THE ORTHOPAEDIC PATIENT

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Orla Ní Mhuircheartaigh







# The Role of Physical Activity in Chronic Disease: The Evidence



**Article**

August 21, 1996

# Surgeon General's Report on Physical Activity and Health

JAMA. 1996;276(7):522. doi:10.1001/jama.1996.03540070018010

**\* Repeated burst of high intensity physical activity were protective against CHD, in particular sudden cardiac death \***

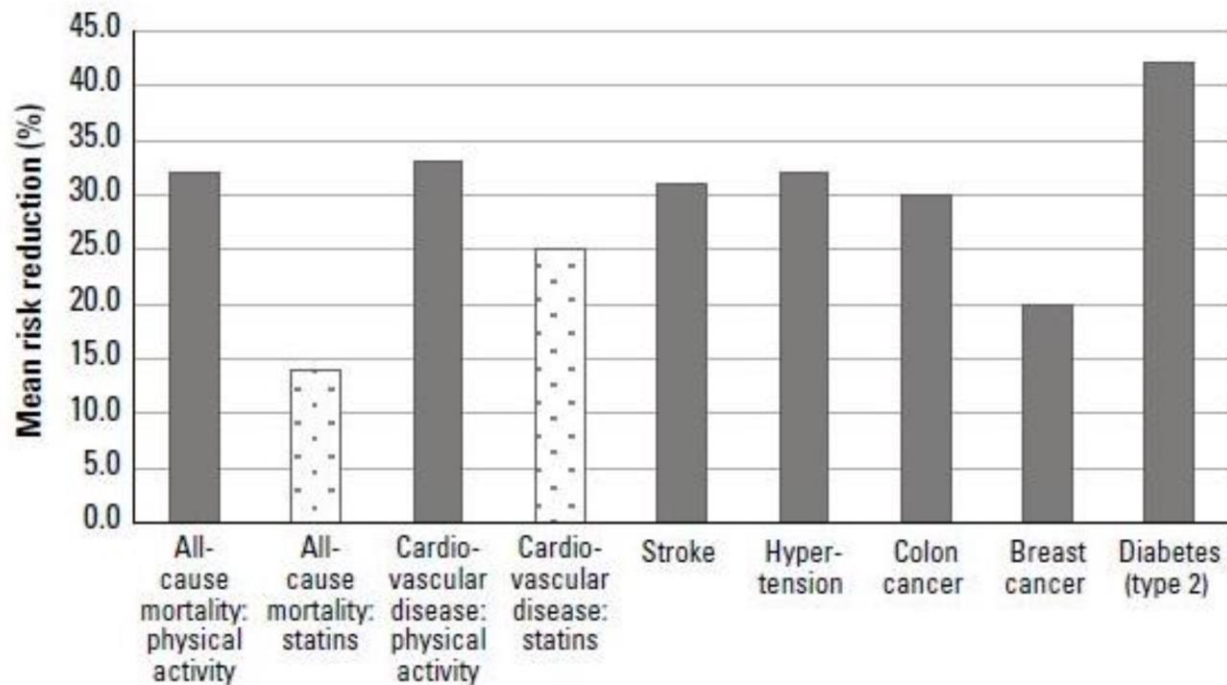
# Minimum amount of physical activity for reduced mortality and extended life expectancy: a prospective cohort study

Chi Pang Wen\*, Jackson Pui Man Wai\*, Min Kuang Tsai, Yi Chen Yang, Ting Yuan David Cheng, Meng-Chih Lee, Hui Ting Chan, Chwen Keng Tsao, Shan Pou Tsai, Xifeng Wu



- 15mins/day - 3 years increase in life expectancy
- 14% reduction all cause mortality
- Extra 15 mins/day walking 4% greater reduction in mortality
- Circa 500,000 participants

Chi Pang Wen et al Lancet Vol. 378-9798 1244-1253 Aug 2011



**Figure 2. Risk reduction for all-cause mortality and chronic disease seen in physically active subjects.**

Source: BCMJ, Published Online April, 2016

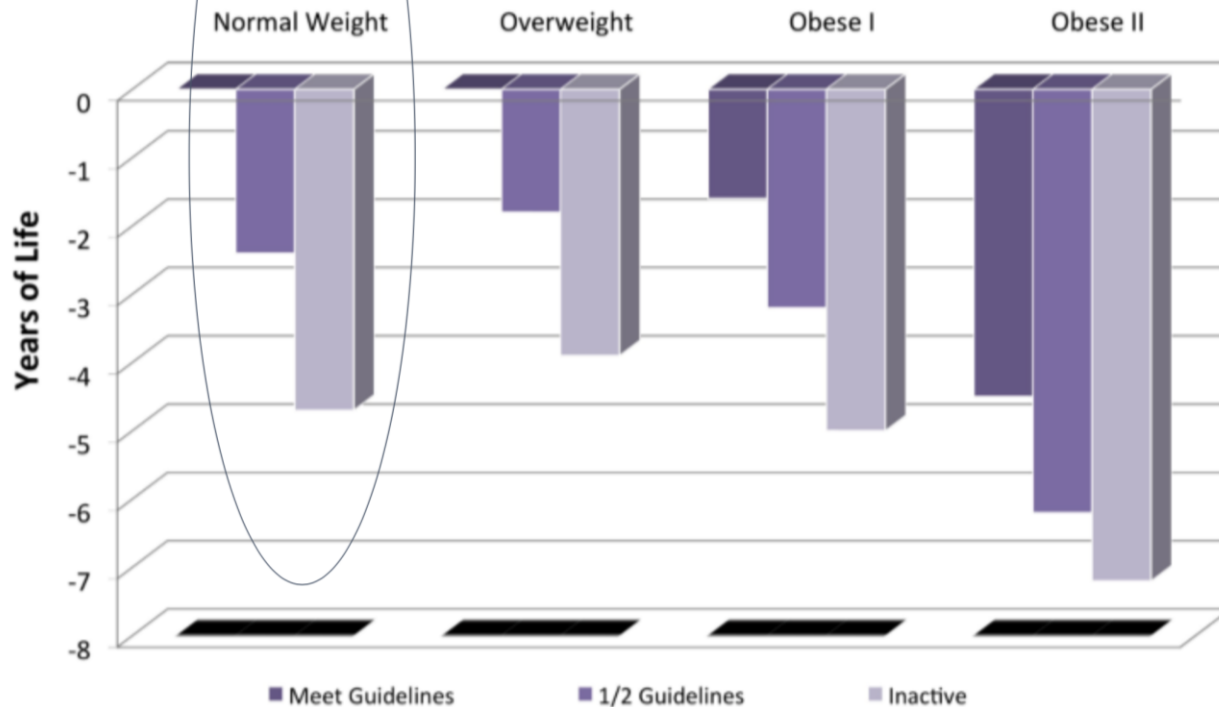




National Institutes  
of Health

2016

## Effect of Body Weight & Physical Activity on Life Expectancy



Obese class I = BMI 30-34.9 Obese class II = BMI 35+

# Exercise is **SAFE!**

**\*Relative risk is increased**

**\*Absolute risk is low**

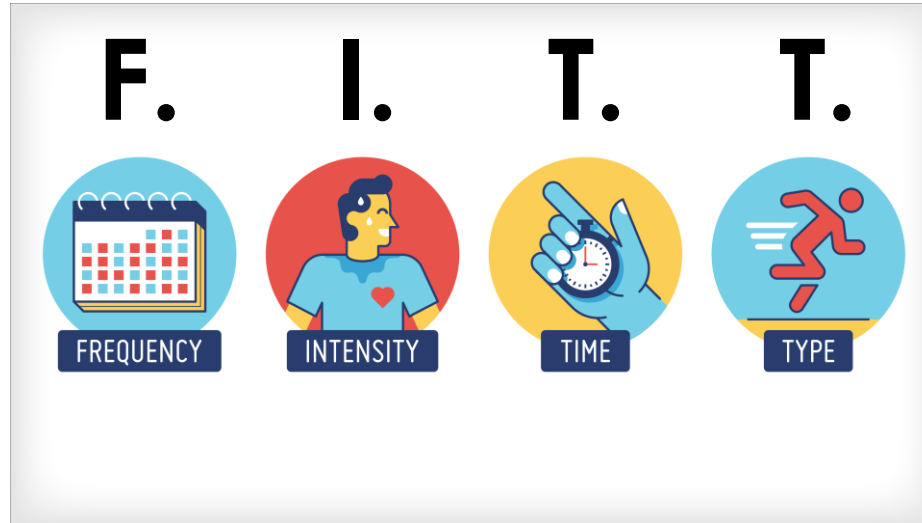
Study / Population	Prevalence of SCD and/or MI
Physicians' Health Study (men)	1 in every 1.5 million episodes of vigorous activity
Nurses' Health Study (women)	1 in every 36.5 million hours of moderate or vigorous exercise
Joggers in RI	1 death per 396,000 hours of jogging
YMCA participants	1 death per 2,897,057 person-hours of exercise
Marathon and half-marathon runners	0.20 cardiac arrests and 0.14 SCD per 100,000 runner-hours
Supervised Cardiac Rehabilitation Programs	1 cardiac arrest per 116,906 patient-hr, 1 fatality per 752,365 patient-hr, and 1 major complication per 81,670 patient-hr of exercise participation



ACSM, Thompson *JAMA*; Siscovick *NEJM*; AHA Scientific *Circulation*



Exercise prescription refers to a specific plan of a fitness related activity designed for a specific purpose



## Types of Exercise

### Aerobic



**Aerobic**

**30 mins x 5 days**

### Resistance



**World Health  
Organization**

### Flexibility



**Resistance**

**x2 days 30 mins**

# Borg Scale



Rate of Perceived Exertion	
10	<b>Max Effort Activity</b> Feels almost impossible to keep going. Completely out of breathe, unable to talk.
9	<b>Very Hard Activity</b> Very difficult to maintain exercise intensity. Can barely breath and speak a single word.
7-8	<b>Vigorous Activity</b> On the verge of becoming uncomfortable. Short of breath, can speak a sentence.
4-6	<b>Moderate Activity</b> Feels like you can exercise for hours. Breathing heavily, can hold short conversation.
2-3	<b>Light Activity</b> Feels like you can maintain for hours. Easy to breathe and carry a conversation.
1	<b>Very Light Activity</b> Anything other than sleeping. watching TV, riding in a car, etc.

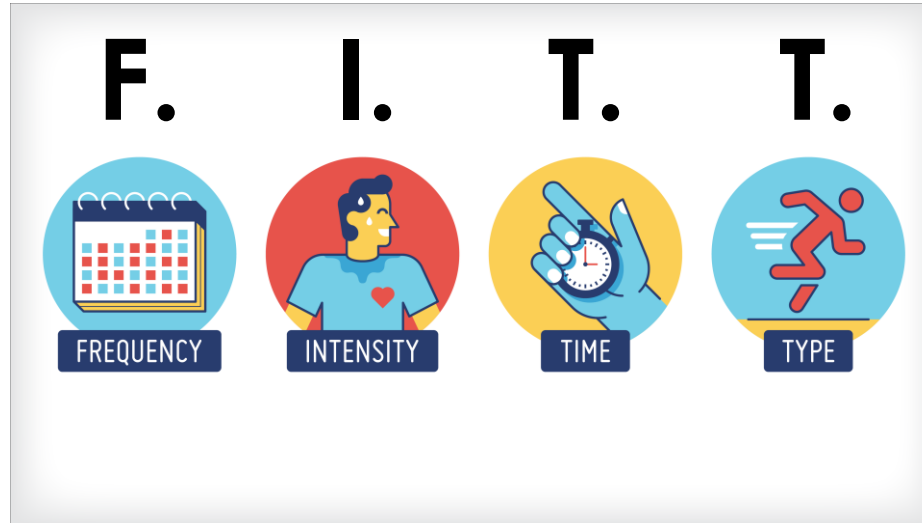
**Moderate Activity**

At least 150-300 minutes a week

**Vigorous Activity**

At least 75-150 minutes a week

Exercise prescription refers to a specific plan of a fitness related activity designed for a specific purpose



# Determine a Starting Point...



**Steps a Day**

**Hours Sedentary**

**Routine**

**Equipment / Environment**

**Physio Assessment**



# Have a Realistic Goal...



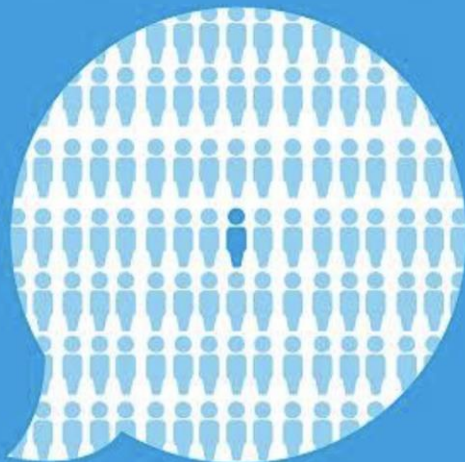
**Achievable Timelines**

**Target Events**

**Physiological Markers**

**Training Diary**

**TO GET ONE SMOKING PATIENT  
TO GIVE UP CIGARETTES<sup>1</sup>**



**DOCTORS NEED TO ADVISE  
50-120**

**TO GET ONE INACTIVE  
PATIENT TO MEET  
RECOMMENDED  
ACTIVITY LEVELS<sup>1</sup>**



**DOCTORS NEED TO ADVISE  
12**

1. Thornton JS et al. Br J Sports Med 2016; doi:10.1136/bjsports-2016-096291.



# Questions ?

