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BEFORE WE START,  
***PLEASE STAND UP!***



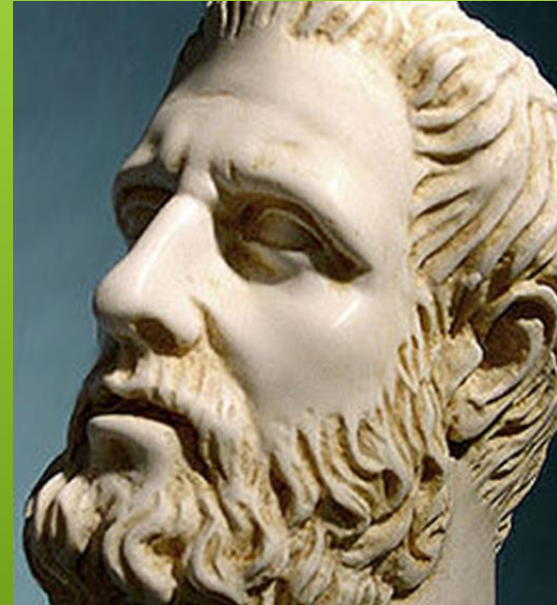
PHEEL GOOD  
WITH  
PHYSICAL ACTIVITY

The Mind – Body Connection



# *NEWS ALERT FROM THE FATHER OF MEDICINE!*

- ▶ Hippocrates said, “ Eating alone will not keep a man well, he must also take exercise.”
- ▶ Overwhelming scientific evidence that physical activity is beneficial for physical health



460 – 370 BC



- ▶ Virtually all individuals can benefit from regular physical activity

- ▶ Physical fitness should be a priority for all people of all ages



# PHYSICAL ACTIVITY AND “HEALTH”

- ▶ Exercise is important for maintaining:
  - ▶ Cardiovascular health
  - ▶ Muscular strength
  - ▶ Flexibility
  - ▶ Balance
  - ▶ Appropriate weight



# WHY EXERCISE?

- ▶ Exercise also has important benefits for your **mind**

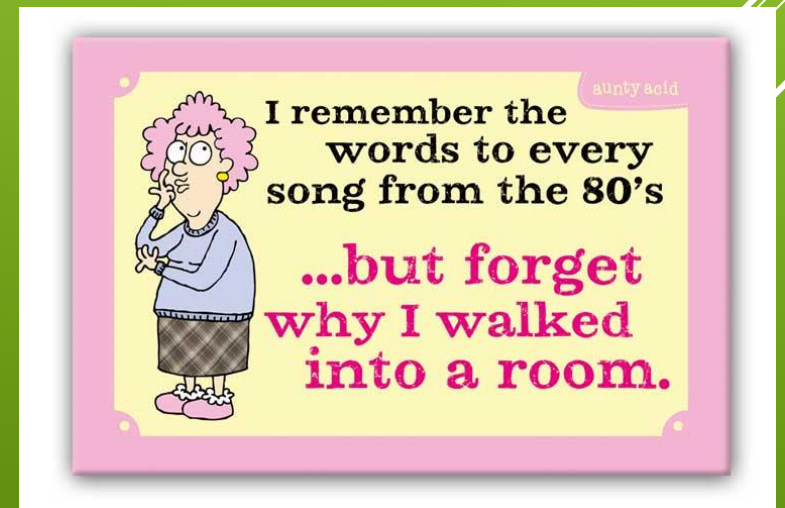


## EXERCISE & **MOOD**

- ▶ Exercise helps **improve memory and increase concentration**
  - ▶ 30 minutes, moderate intensity aerobic exercise, 5 days a week
  - ▶ Exercise stimulates certain parts of the brain
  - ▶ Causes a release of “brain-derived neurotrophic factor” (BDNF)
  - ▶ BDNF rewires memory circuits so they work better
  - ▶ No pill for BDNF

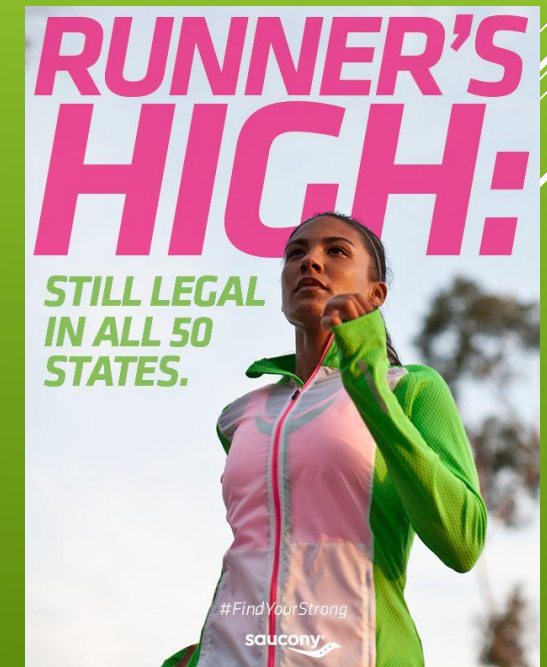


# MEMORY & CONCENTRATION



- ▶ Four decades of research has shown that regular exercise can:
  - ▶ **Decrease depression**
  - ▶ **Increase mood and self-esteem**
- ▶ Aerobic exercise, moderate to high intensity, 3 – 5 days a week
- ▶ Exercise causes an increase in the release of “endorphins” and serotonin in the brain
  - ▶ Endorphins are chemically similar to morphine and acts as an analgesic (pain killer)
  - ▶ Both bind to receptors in the brain causing “euphoric” feeling (runner’s high)

## DEPRESSION & MOOD





- ▶ Did you know that chronic stress can lead to weight gain?
- ▶ Regular exercise can **reduce stress and anxiety**
  - ▶ Even a 5 minute bout can be begin to reduce anxiety
  - ▶ One study – 25 minute high intensity bout can alleviate anxiety for hours
  - ▶ Most research suggests that a 10 minute walk can be as good as a 45 minute workout



# STRESS & ANXIETY



- ▶ “I’m too tired to exercise!” “I need a nap.”
- ▶ Counterintuitive?
  - ▶ 70 studies analyzed – 90% of the studies showed that sedentary participants who completed an exercise program showed **decreased fatigue**
  - ▶ Effect was greater than the improvement from using stimulant medications used to treat fatigue
- ▶ 20 minutes, low to moderate intensity aerobic exercise, 3 days a week

## FATIGUE & ENERGY



- ▶ About 50% of people middle-aged and older complain of symptoms of chronic insomnia
- ▶ A study compared:
  - ▶ people who exercised regularly v. those who engaged in recreational activities requiring mental processing (i.e., going to a museum, cooking classes, etc.)
- ▶ 20 – 40 minutes, moderate intensity aerobic exercise, 4 days a week
- ▶ Exercise group reported **improved sleep and feeling less sleepy during the day**

# SLEEP

## Lose Sleep, Lose Your Mind And Health

**Early studies have linked lack of sleep to both colorectal and aggressive breast cancers.**

**Multiple studies have suggested a relationship between chronic sleep deprivation and increased obesity risk.**

**Research has linked short-term sleep deprivation with a propensity to load up on bigger portions, a preference for high-calorie, high-carb foods and a greater likelihood of choosing unhealthy foods while grocery shopping.**

**After a while your...**

- Risk of some cancers may increase
- Obesity risk jumps
- Stroke risk quadruples
- Diabetes risk goes up
- Heart disease risk increases
- Sperm count decreases
- Risk of death goes up

**After one night you're...**

- Hungrier and apt to eat more
- More likely to have an accident
- Not looking your best – or your most approachable
- More likely to catch a cold
- Losing brain tissue
- More likely to get emotional
- Less focused and having memory problems

**A SLEEP study evaluating 1,741 men and women over the course of 10 to 14 years found that men who slept fewer than six hours had a significant increase in mortality risk, even after adjusting for diabetes, hypertension and other factors.**

**A small, recent study of 15 men, published in the journal SLEEP, found that just one night of sleep deprivation was linked with signs of brain tissue loss.**

Sources: SLEEP, Cancer, University Hospitals, The New York Times, The Huffington Post, Annals Of Internal Medicine, UC Berkeley, Carnegie Mellon University, European Heart Journal, American Journal of Epidemiology, DrowsyDriving.org  
Photo: Getty

THE HUFFINGTON POST

- ▶ Whole-body, cross-lateral movements stimulate the area of the brain (pre-frontal cortex) used for **general learning and problem solving**
- ▶ 30 minutes of moderate intensity exercise
- ▶ Attention is improved as there is an **increase in concentration** and energy
  - ▶ Do you have children/grandchildren?
  - ▶ Concerns as PE and recess is being eliminated
  - ▶ Short breaks of 5 – 20 minutes

## ATTENTION & LEARNING



- ▶ Aerobics/Cardio class
- ▶ Walking (take your dog)
- ▶ Dancing
- ▶ Hiking
- ▶ Aquarobics
- ▶ Tai Chi
- ▶ Yoga
- ▶ Stretching (?)



**Moderate Intensity**

WHAT TYPE OF EXERCISE?



## “Talk Test”

- ▶ Too hard: cannot carry on a reasonable conversation
- ▶ Too easy: can sing during your workout
- ▶ Just right: **can carry on a reasonable conversation**



WHAT IS MODERATE INTENSITY?

- ▶ Scientific evidence that physical activity can **improve mood**
- ▶ **Aerobic activity**
- ▶ Only **20 – 30 minutes** of physical activity on **most days** of the week
- ▶ Only **moderate intensity** physical activity is necessary

TAKE AWAY MESSAGE

# QUESTIONS FOR EITHER OF US?

**Dr. Lisa Herzig**

**And**

**Dr. Mark Baldis**