

- ▶ Mark Baldis, Ph.D.
 - ▶ Faculty – Kinesiology Department / Exercise Science
 - ▶ Registered Clinical Exercise Physiologist
- ▶ Natasha Quamruddin, B.S.
- ▶ Megan Buettner, B.S.

BEFORE WE START,
PLEASE STAND UP!



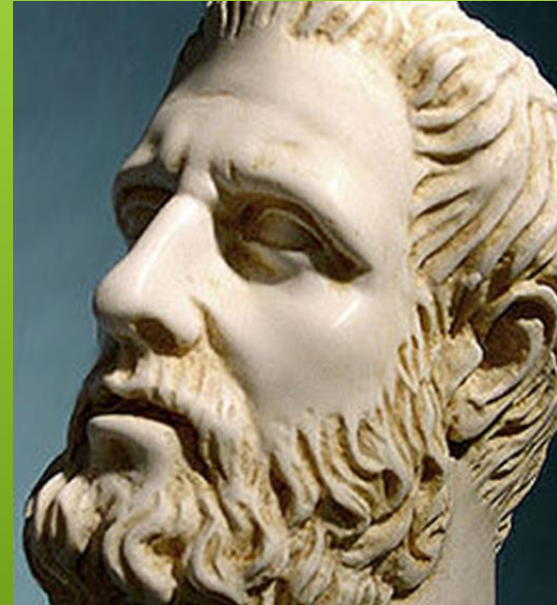
PHEEL GOOD
WITH
PHYSICAL ACTIVITY

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**

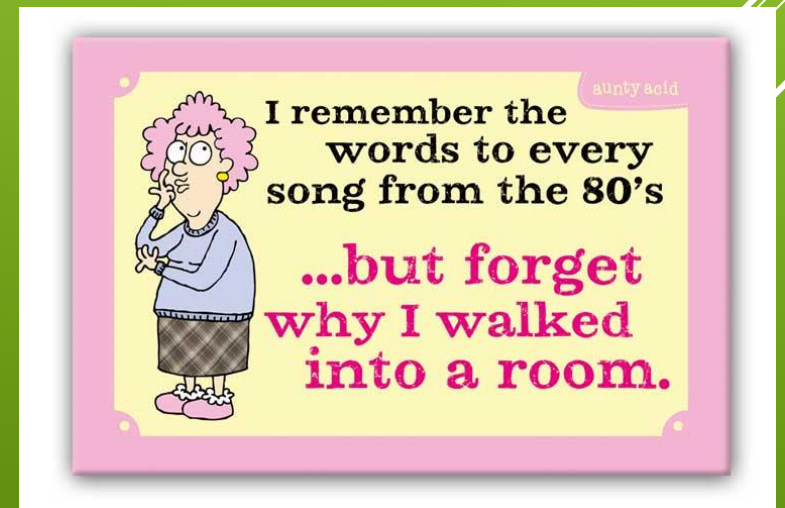


EXERCISE & **MOOD**

- ▶ 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

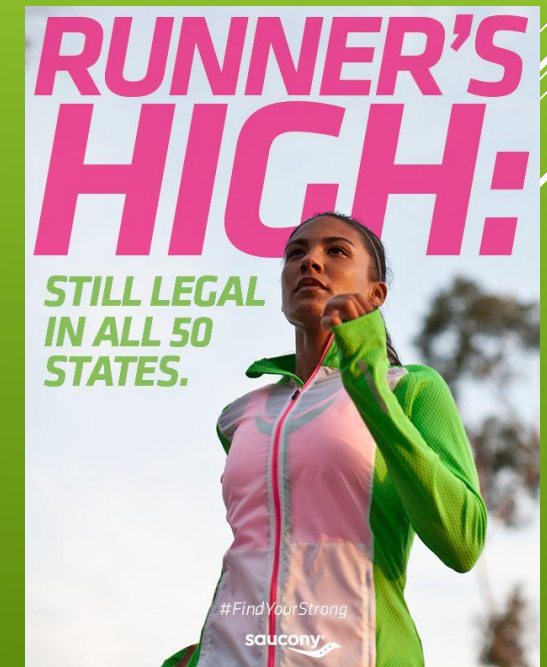


MEMORY & CONCENTRATION



- ▶ 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.

Obesity risk jumps

Stroke risk quadruples

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

Risk of death goes up

Risk of some cancers may increase

Diabetes risk goes up

Heart disease risk increases

Sperm count decreases

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.

AFTER A WHILE YOUR...

AFTER ONE NIGHT YOU'RE...

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