

Rossmoor Wellness Group

Exercise & Healthy Aging

Use the FITT Principle to start or improve safe and effective exercise

	Aerobic	Strength	Flexibility & Balance
Frequency	≥3 days per week, trend to ≥5 days per week *	≥2 days week	2 to 3 days per week
Intensity	Moderate to vigorous **	50% to 80% of 1RM ****	To point of light to mild tension
Time	≥150 minutes/week (moderate-intensity) ***	5 to 30 repetitions, 3 to 14 seconds/rep, 1 to 3 sets	10 to 40 seconds per stretch or position
Type	Rhythmic, continuous physical activity	Body & external weights; all muscle groups *****	Stretch, balance, yoga, all major muscle groups

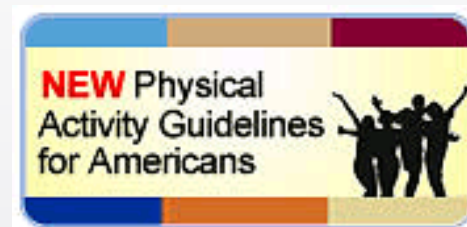
Learning Objectives

- Participants will be able to:
 1. Consider selecting one (1) type of exercise to start or improve
 2. Use the **SMART** system to set an exercise goal
 3. Be able to describe the **FITT** components used for a safe and effective exercise program
 - **F**requency, **I**ntensity, **T**ime, **T**ype



Agenda

- Brief Review of the Science
 - References, Health Benefits of Exercise
- **SMART** Goal Setting
- Ready to Go
 - Tice Creek Fitness Center
- **FITT** Principle
 - Aerobic exercise, strength training, balance, flexibility
- Questions and Answers





References and Resources



Physical Activity Guidelines for Americans



- Chapter 4: Active Adults

- <https://health.gov/paguidelines/guidelines/adults.aspx>

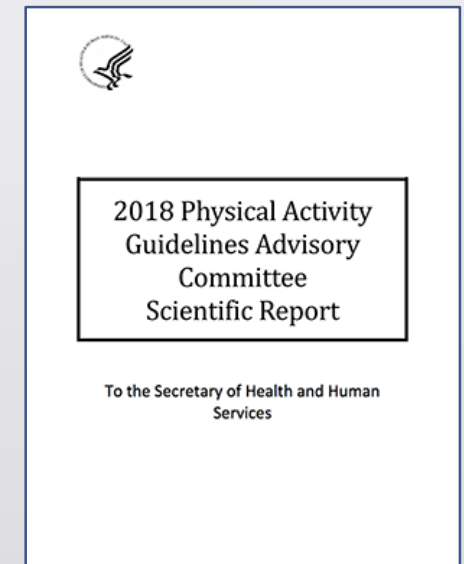


- Chapter 5: Active Older Adults

- <https://health.gov/paguidelines/guidelines/older-adults.aspx>

- 2018 Scientific Report for PAG Advisory Committee

- <https://health.gov/paguidelines/second-edition/report.aspx>
- Chapters 3. Brain Health and 9. Older Adults
- https://health.gov/paguidelines/second-edition/report/pdf/09_F-3_Brain_Health.pdf
- https://health.gov/paguidelines/second-edition/report/pdf/15_F-9_Older_Adults.pdf





Terminology

- Physical Function
 - Ability to conduct daily lives with energy and without undue fatigue
- Multicomponent Physical Activity
 - Combinations of balance, flexibility, strength, endurance, gait speed, chair rise time and physical function training, and recreation



SMART Goal

Create your own healthy aging exercise program - Identify a **SMART** goal and write:

- **S**: A specific **FITT Type** of exercise you feel strongly about doing
- **M**: How will you measure it?
- **A**: How realistic is it?
- **R**: How does the goal meet your needs and interests?
 - [“Health is not the benefit”](#) – Marshall Kreuter, PhD.
- **T**: A target date to achieve it
- Who will support your efforts?
- What might be obstacles and solutions to achieving the goal.



First – Be Sure You're Good to Go

- Check with your doctor
- Complete Rossmoor's Tice Creek Fitness Center forms
 - Physician Release
 - PARQ – Physical Activity Readiness Questionnaire
 - <http://www.ticefitnesscenter.com/clearance-forms/>
- Schedule Training Sessions at Tice Creek Fitness Center
 - Web site: <http://www.ticefitnesscenter.com/>
 - Apps for your phone – Google Play and Apple iTunes



Provides for all types of healthy aging exercise:

- **aerobic,**
- **muscle-strengthening and**
- **multicomponent.**



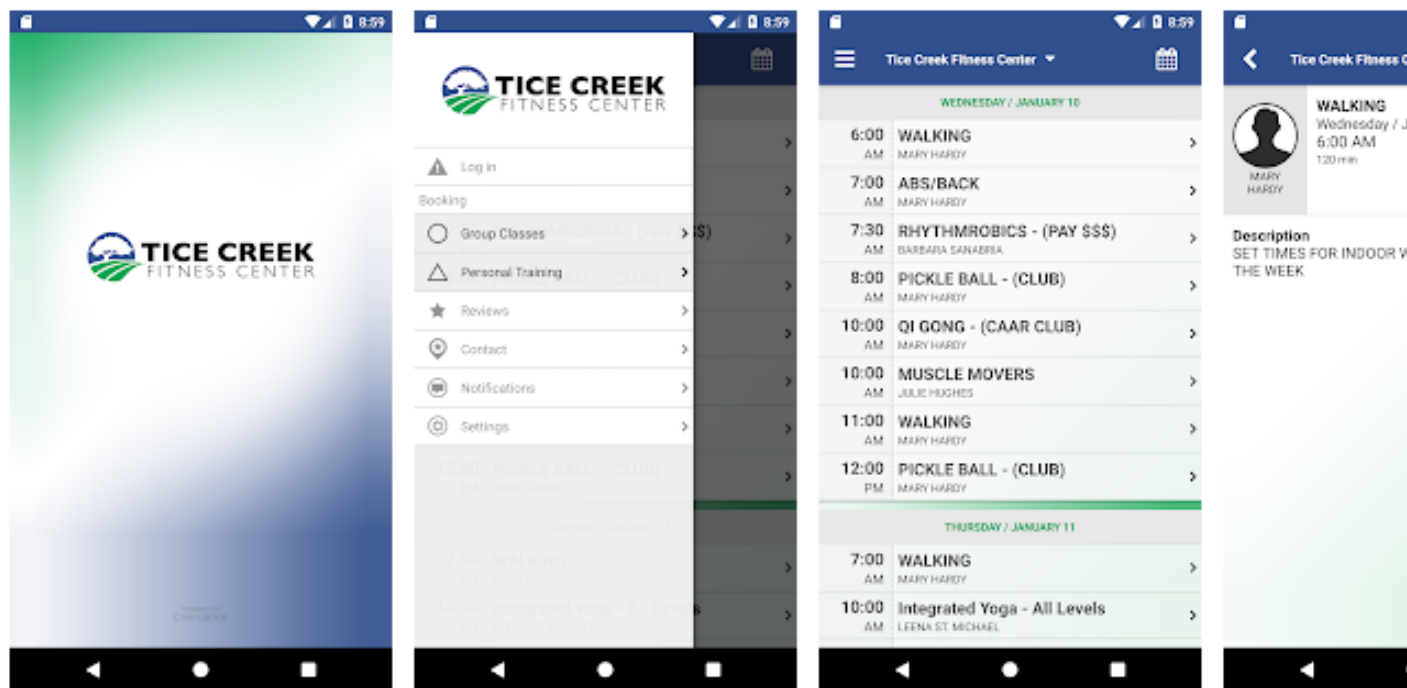
Tice Creek Fitness Center

Branded Apps by MINDBODY Health & Fitness

Everyone

This app is compatible with all of your devices.

Installed



Tice Creek Fitness Center App

- Plan and schedule your classes
- View and sign-up for classes
- Click through to our social pages

Optimize your time and maximize the convenience of signing up for classes from your device!



Benefits of Exercise

"**Grade: Strong**" evidence from the 2018 Scientific Report for the National Physical Activity Guidelines Advisory Committee.




Older Adult Health Benefits: **PAGAC Grade: Strong*** Evidence in the 2018 Scientific Report

1. Reduced risk of **falls**
2. Improved **physical function** and reduced age-related loss of physical function
3. Inverse dose-response relationship between volume of aerobic physical activity and risk of **physical functional limitations**
4. Aerobic, muscle-strengthening, and multicomponent physical activity improves **physical function**
5. Physical activity improves measures of physical function in older people with **frailty** and **Parkinson's** disease



Older Adult Health Benefits: **PAGAC Grade: Strong*** Evidence in the 2018 Scientific Report

6. Moderate-to-vigorous physical activity have a transient benefits for **cognition, attention, memory, crystalized intelligence, processing speed, and executive control**
7. Greater amounts of physical activity are associated with a reduced risk of developing **cognitive impairment, including Alzheimer's** disease



Older Adult Health Benefits: **PAGAC Grade: Strong*** Evidence in the 2018 Scientific Report

7. Physical activity improves health-related **quality of life**
8. Acute bouts of exercise can reduce **state anxiety**
9. Regular participation as well as longer durations of moderate-to-vigorous physical activity can reduce **trait anxiety** in adults and older adults
10. Physical activity interventions reduce **depressive symptoms** in individuals with and without major depression across the lifespan
11. Acute bouts of physical activity and regular physical activity improve **sleep**



FITT Principle

Frequency, Intensity, Time and Type for aerobic, muscle strengthening and multicomponent exercise.

Create Your Own Exercise Program: Use the **FITT** Principle

- **FREQUENCY**
 - the number of times you engage in the activity per week
- **INTENSITY**
 - how hard your workout must be to achieve the desired results
- **TIME**
 - how many minutes or repetitions of an exercise are required to attain the desired fitness level
- **TYPE**
 - what kind of exercise should be done

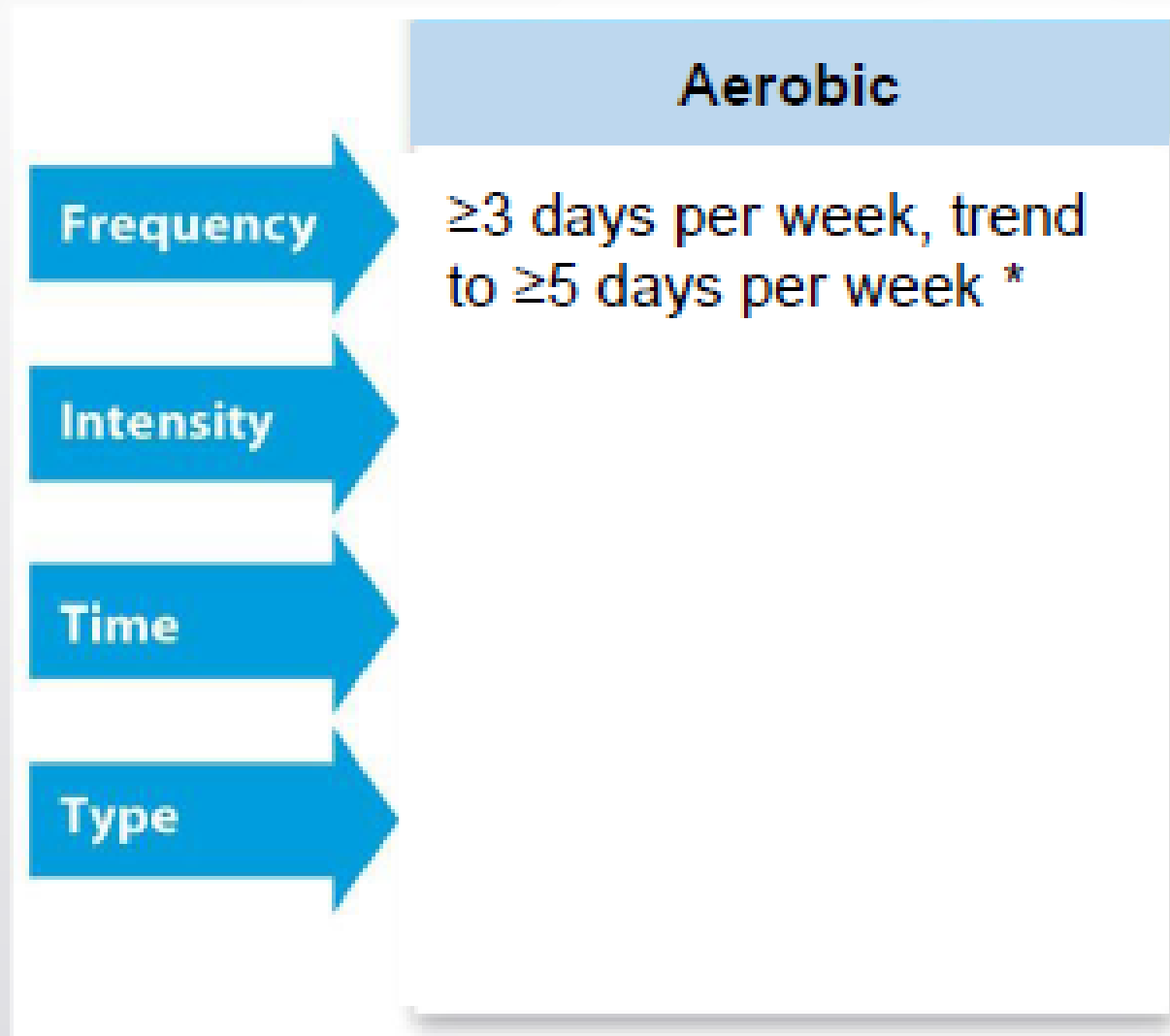


Frequency

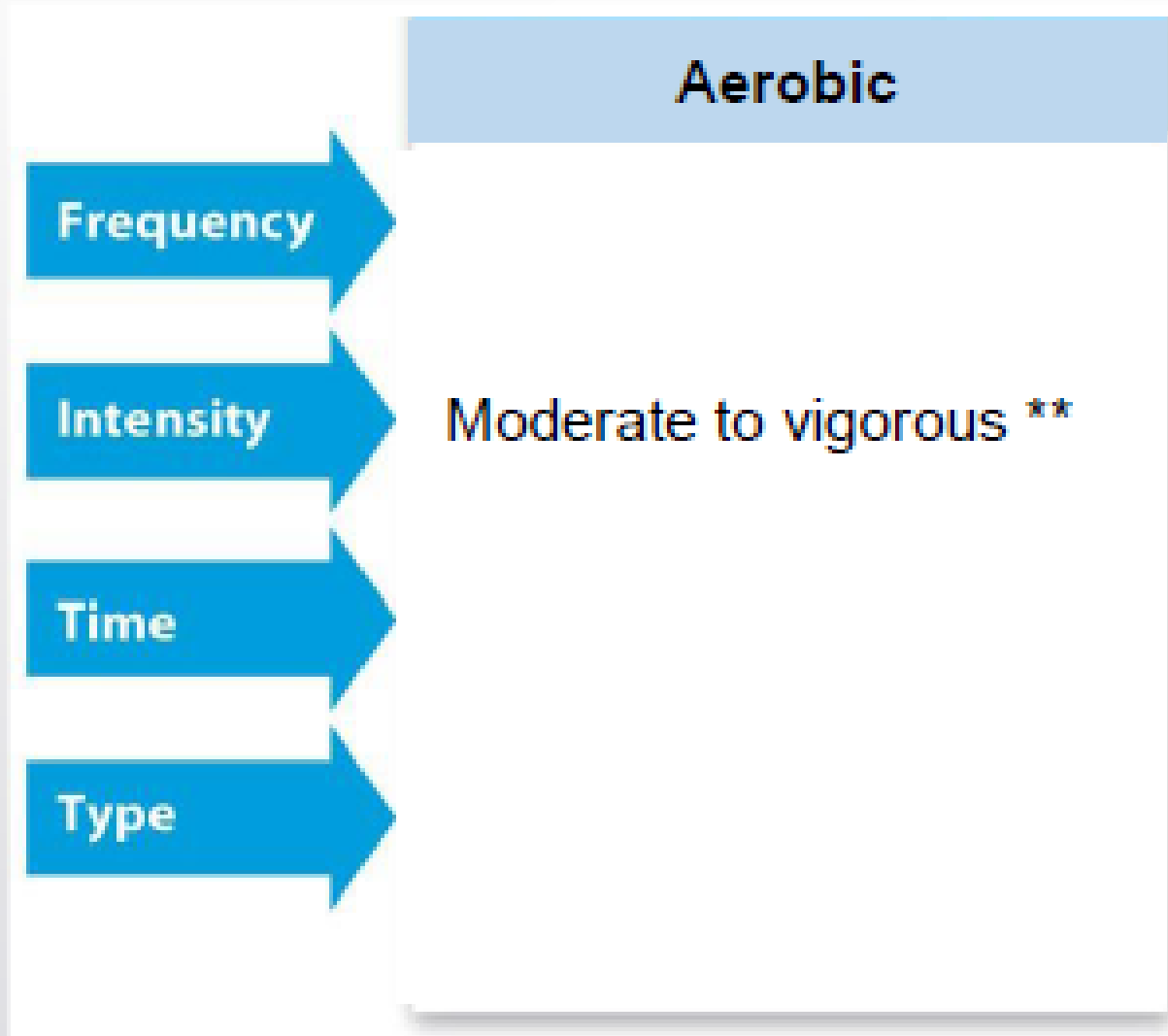
Intensity

Time

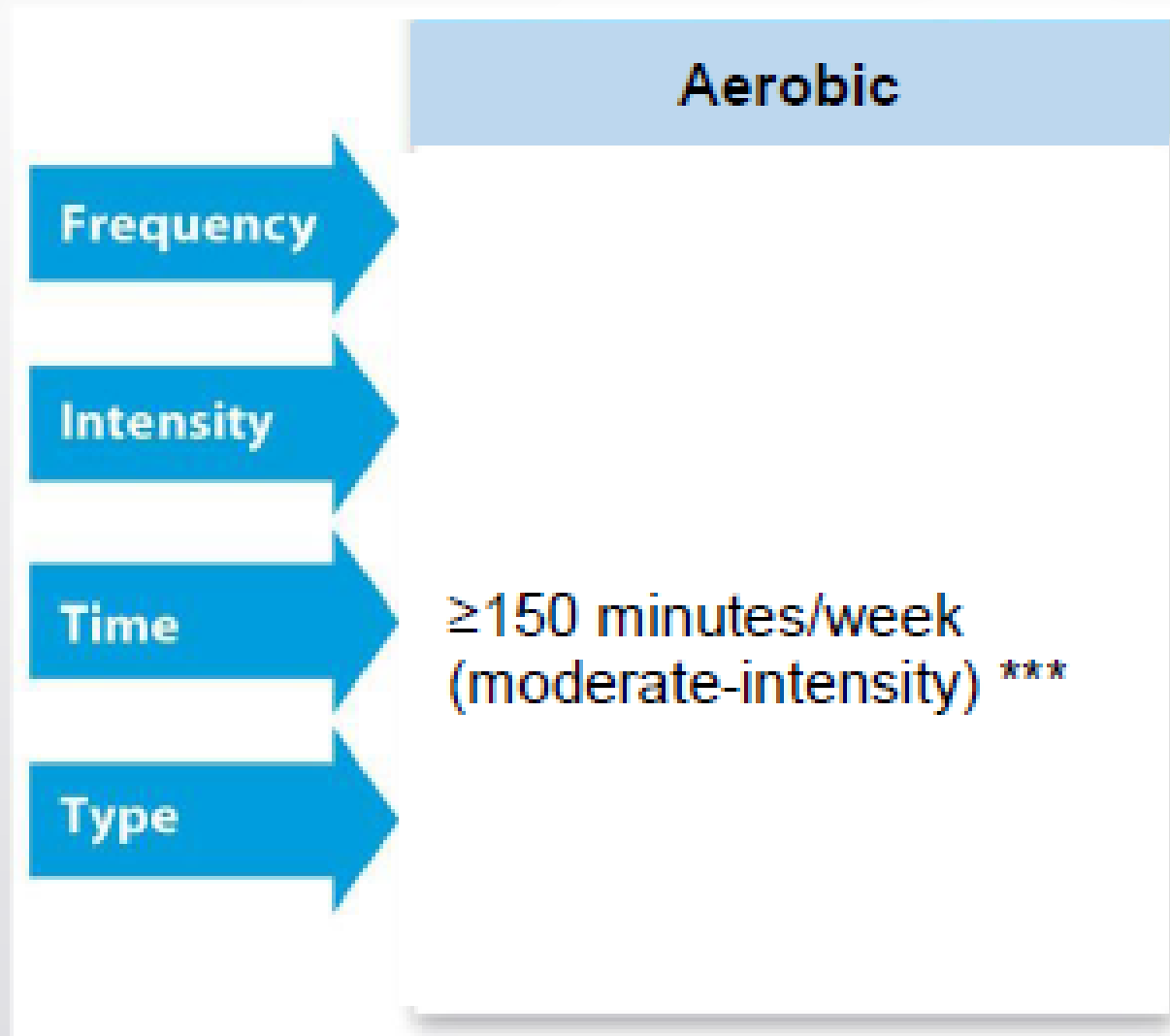
Type



- Likely 5, 6 or 7 days per week may be most effective
- Inactive adults may need to start with 5 minutes several time per day and 5, 6 or 7 days per week

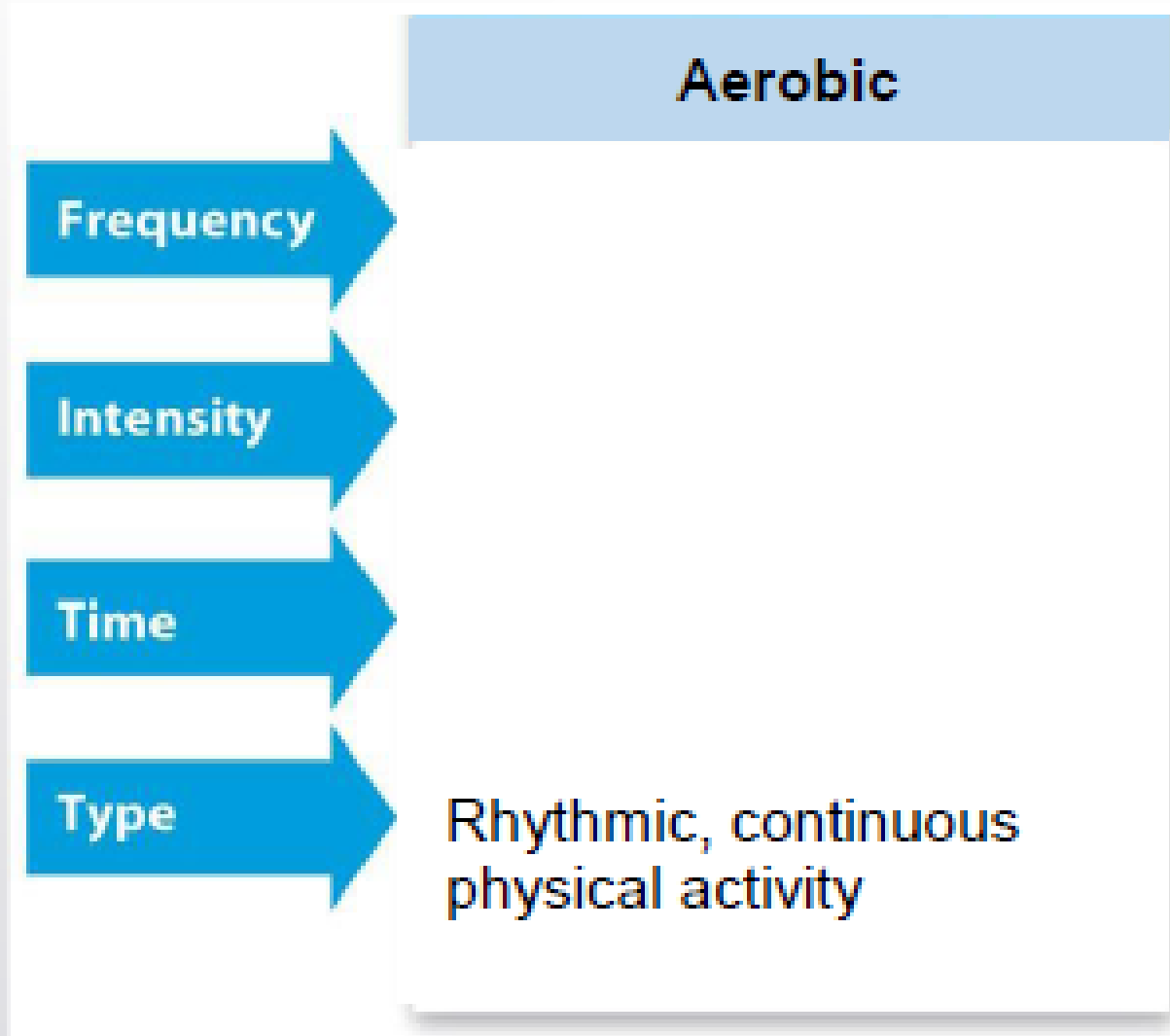


- Use talk test, perceived exertion or heart rate
 - www.cdc.gov/physicalactivity/basics/measuring/index.html
- Moderate would allow some talking. You would not be able to sing.
 - 50% to 70% of MHR
- Vigorous would make talking difficult
 - 70% to 85% of MHR
- Moderate may be best for brain health



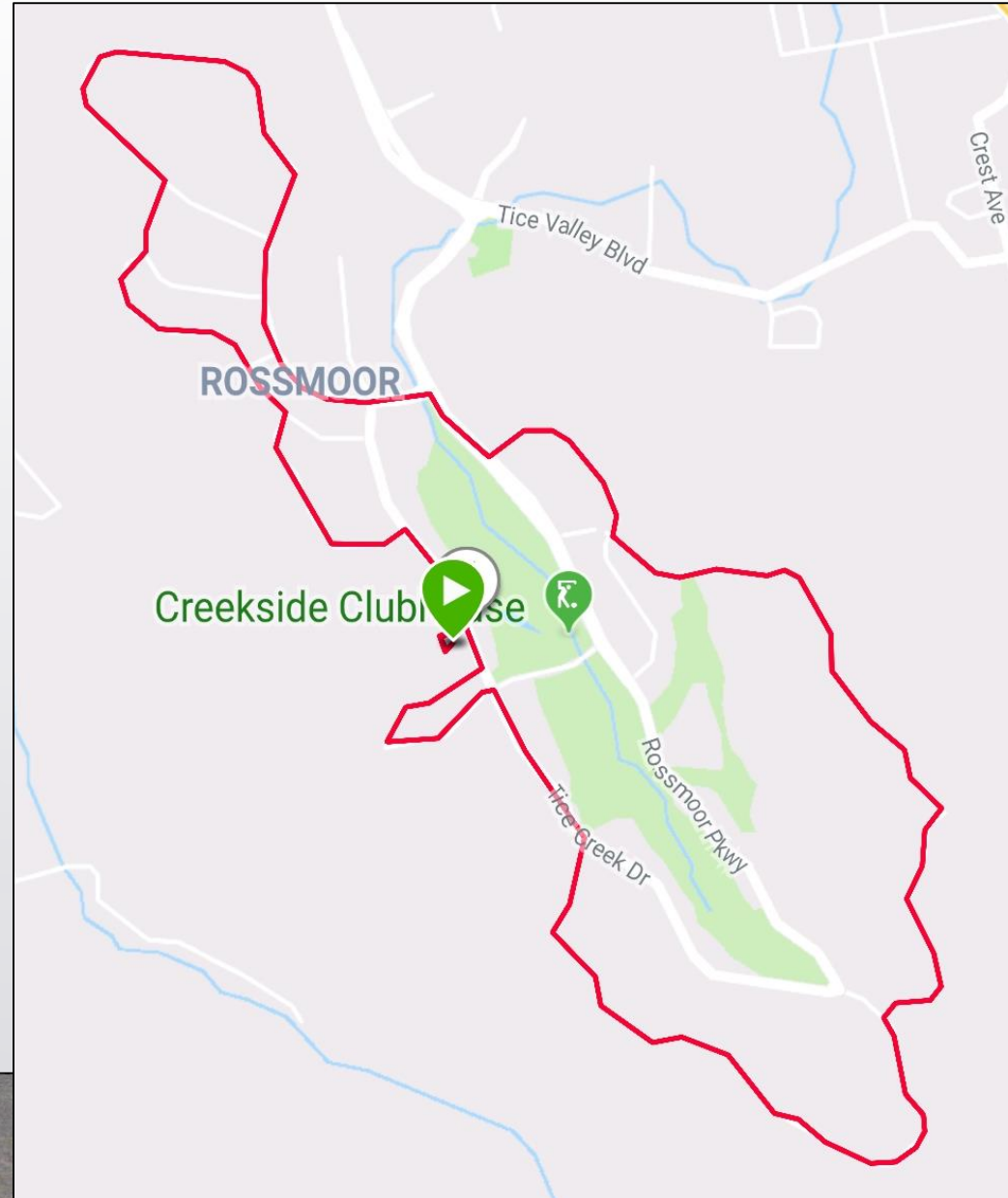
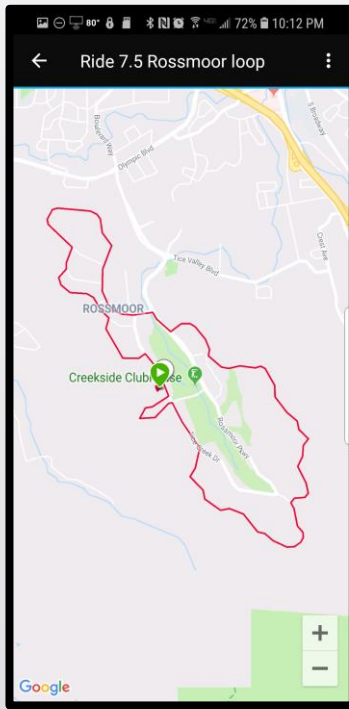
For substantial health benefits, adults should do

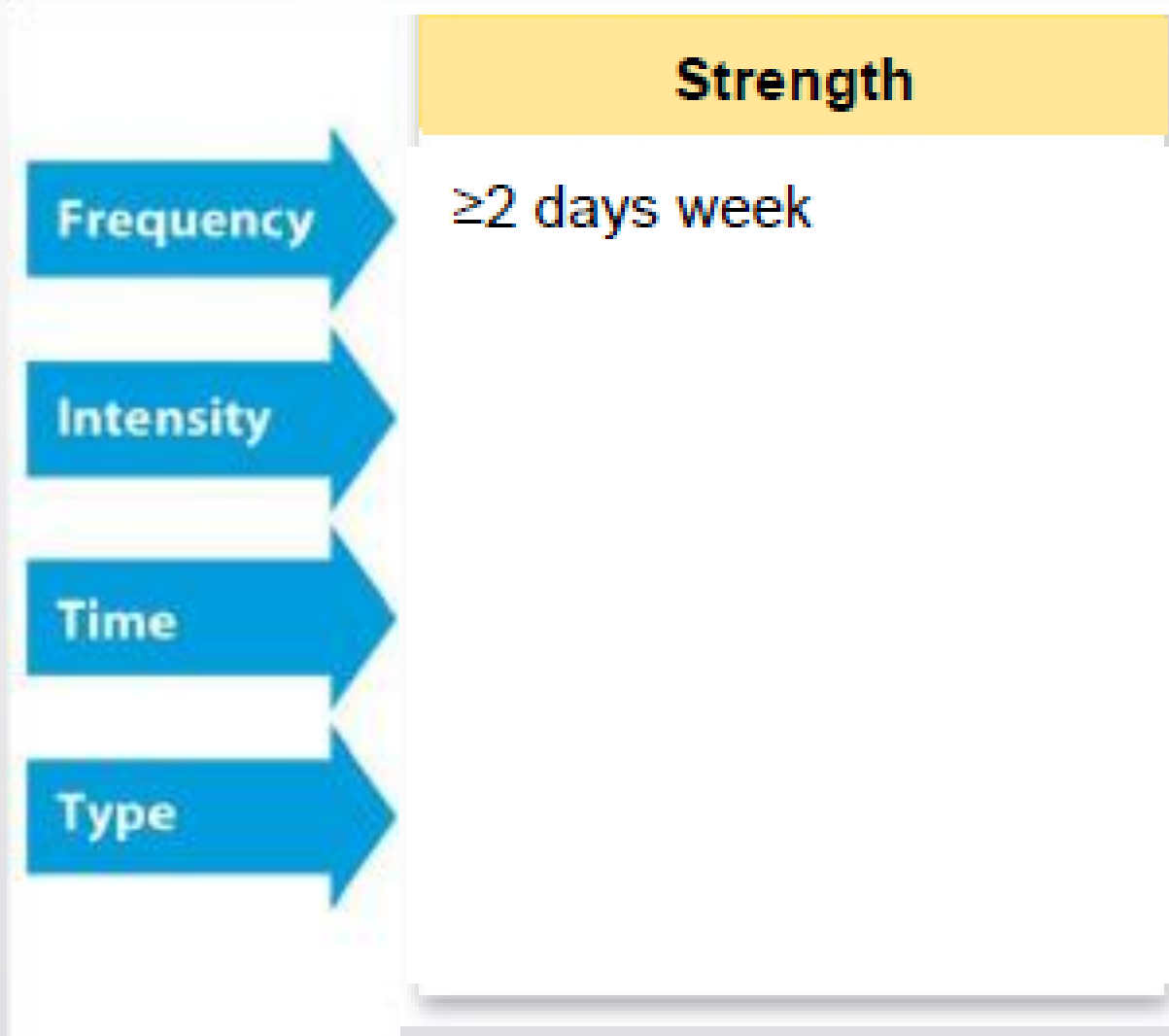
- **150 to 300** minutes a week of **moderate**-intensity, or
- **75 to 150** minutes a week of **vigorous**-intensity
- Aerobic activity should be performed in episodes of at least **10** minutes, and preferably, spread throughout the week.



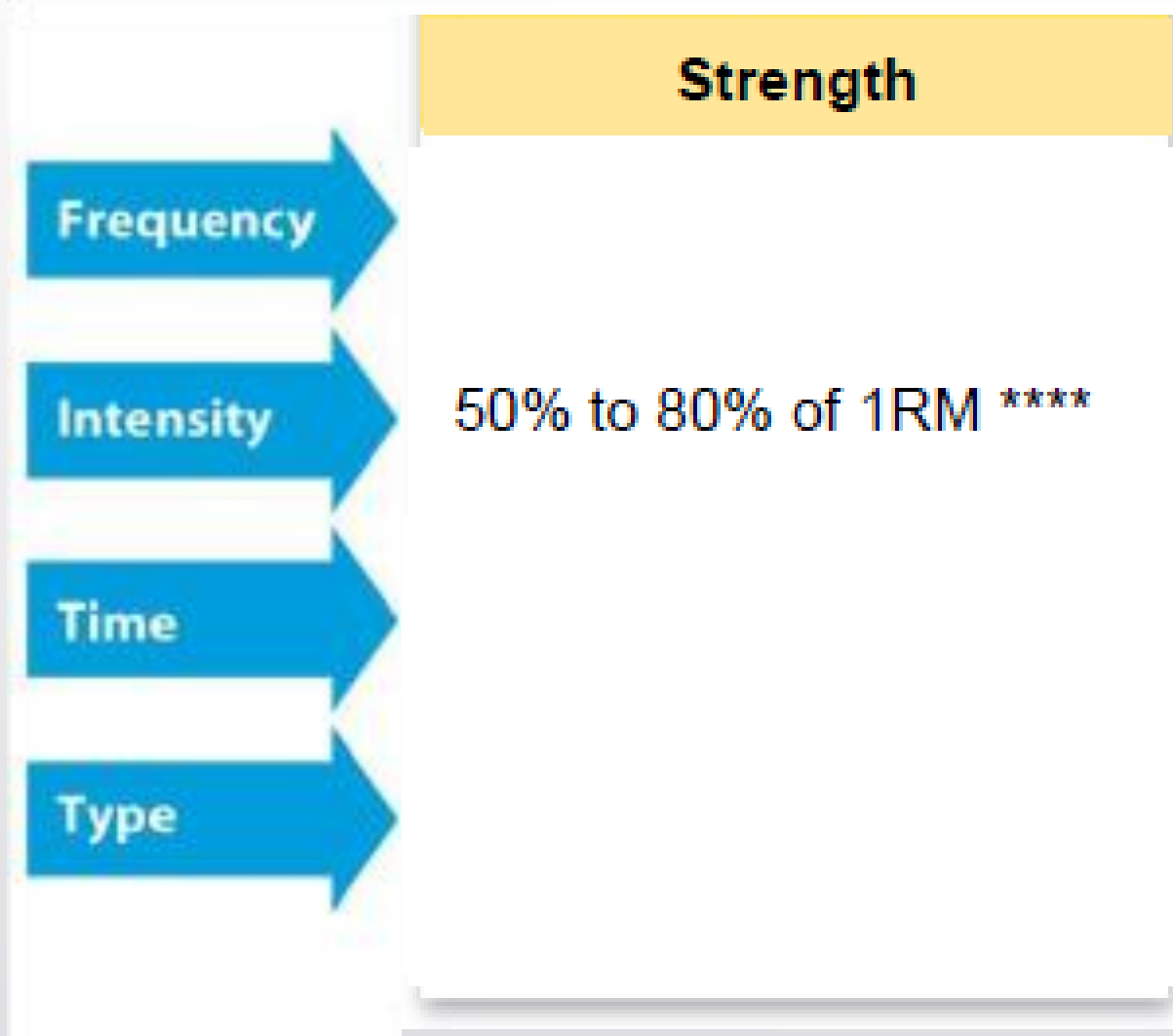
- Most rhythmic & continuous
 - Walking
 - Cycling – indoor, road, paths, trails
 - Swimming
 - Rowing
 - Jogging
 - Water aerobics
 - Aerobic dance
- Others (some stop & go)
 - Tennis, pickleball
 - Pushing lawnmower
 - Golf without cart
 - Gardening
- [PA Guidelines Video](#) (4:46 min)

Walk, Jog, Bike, Wheelchair Rossmoor





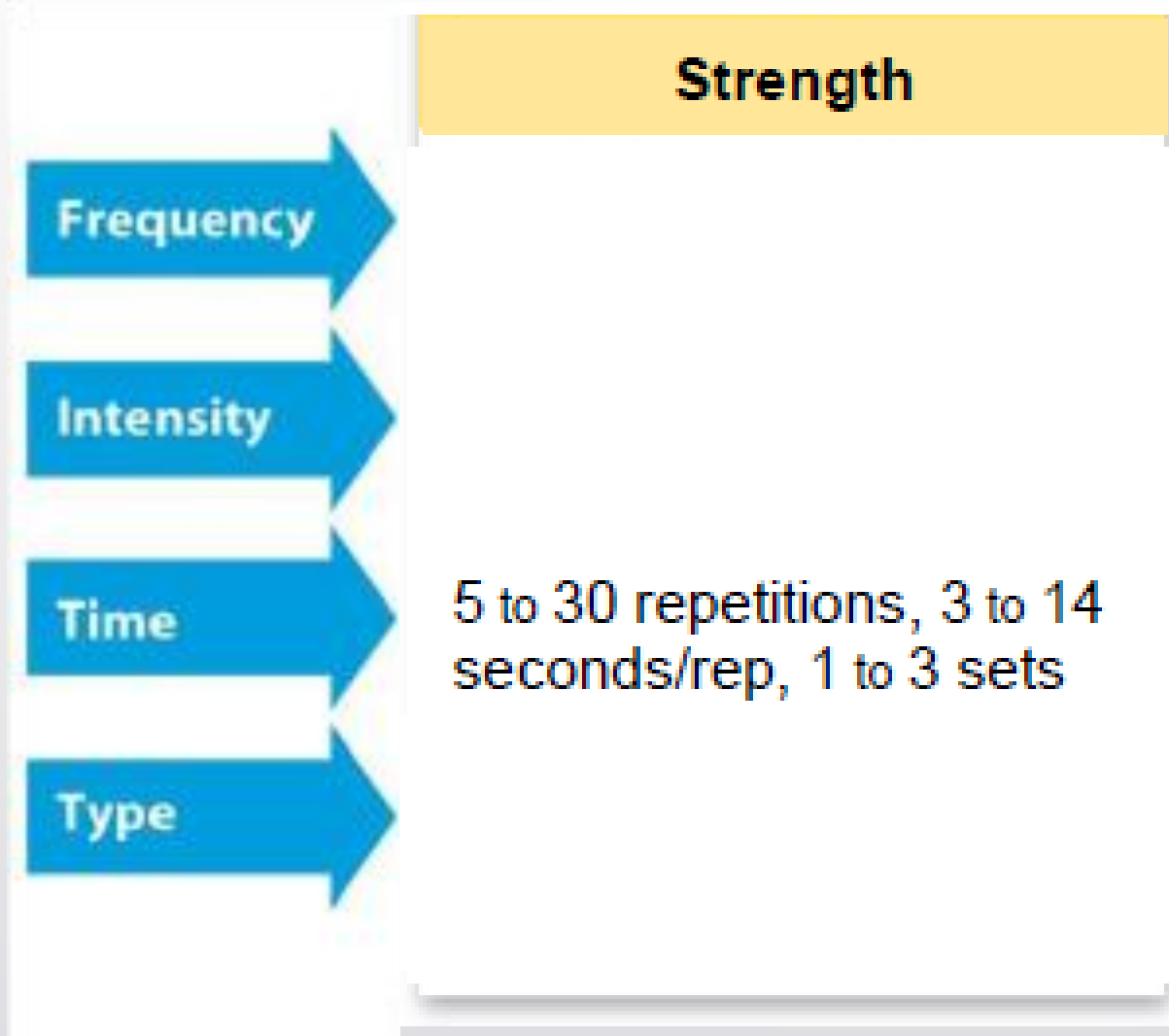
- Every 3rd or 4th day
- DOMS – Delayed Onset Muscle Soreness
 - If use resistance to your RM (**R**epetitions **M**aximum, can't do another repetition in same form as first repetition)
 - May get DOMS
 - Complete recovery likely by 3rd or 4th day



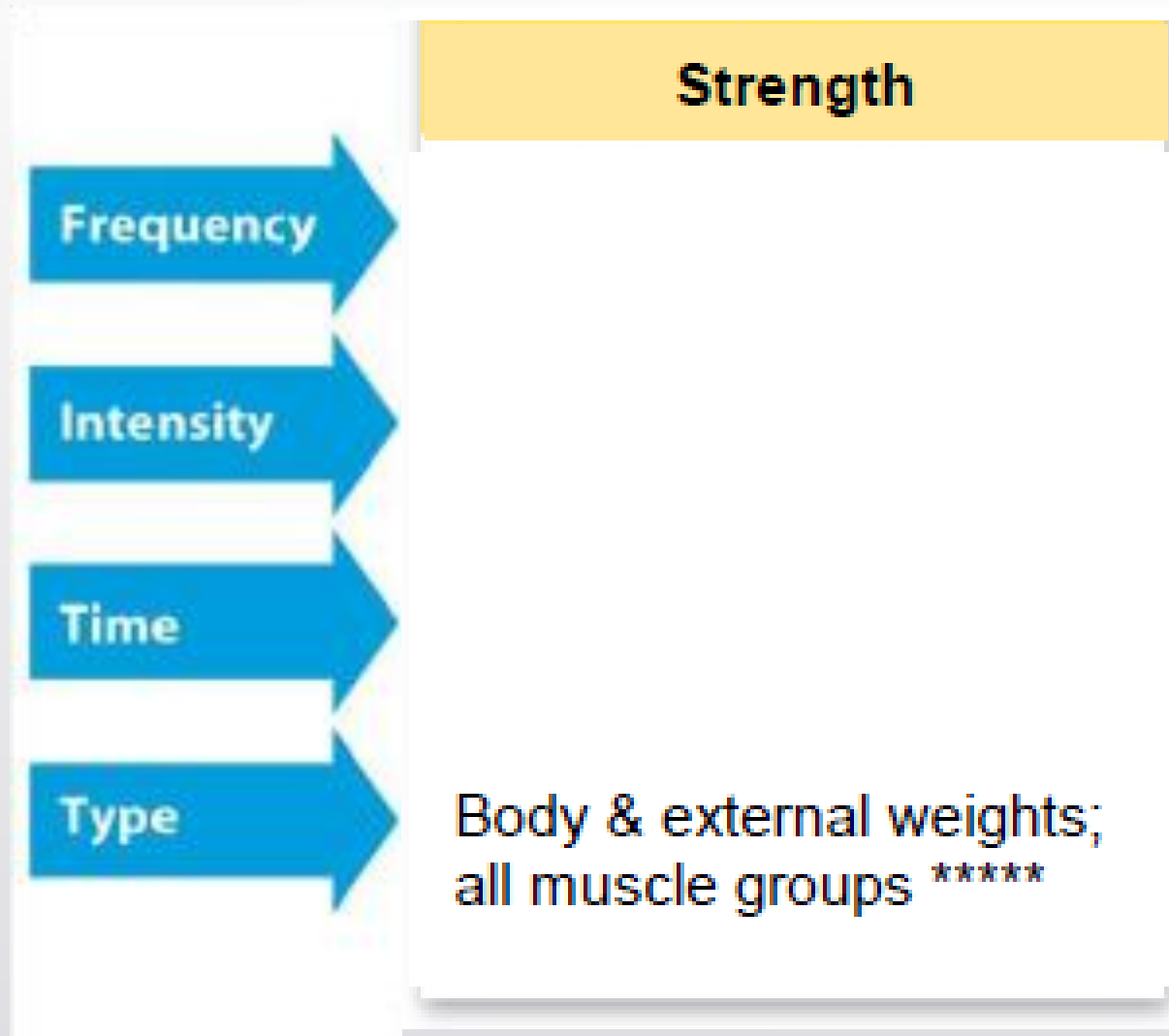
- 50% of 1 RM would allow about 30 repetitions (reps)
- 80% of 1 RM would allow about 10 reps

ACSM Position Statement: 8 to 12 reps per set to induce muscle fatigue





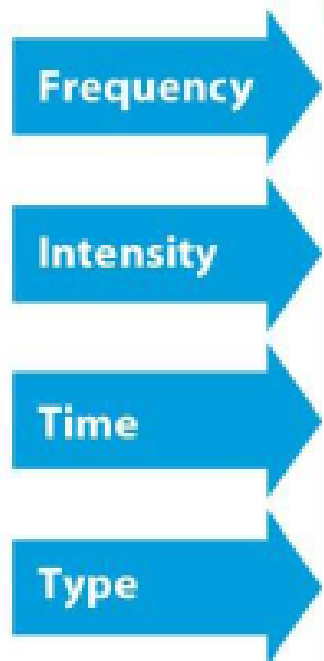
- 3 to 14 seconds per rep
- 10 reps at 80% 1RM intensity in 24 to 50 seconds
- 30 reps at 50% 1RM intensity in 90 to 150 seconds
- 4 to 6 slow repetitions with 14 seconds per repetition can be effective and safe



- Machines, body weight, bar/dumbbells, bands
- All Muscle Groups
 - Alternate exercises for
 - Lower
 - Upper
 - Front
 - Back
- Multiple joint exercises
 - Shoulder and elbow
 - Hip and knee

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Multicomponent Physical Activity



**Multicomponent
Physical
Activity**

Flexibility & Balance

2 to 3 days per week

To point of light to mild tension

10 to 40 seconds per stretch or position

Stretch, balance, yoga, all major muscle groups

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Questions and Answers

This PowerPoint and other resources are available at:

www.healthedpartners.org/ceu/pa-healthyaging

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Jim Grizzell, MBA, MA, MCHES, ACSM-EP-C, F-ACHA - jimgrizzell@healthedpartners.org

Learning Activity

- What is one (1) **FITT** principle you might try to do to improve or maintain your health in the next three (3) months?

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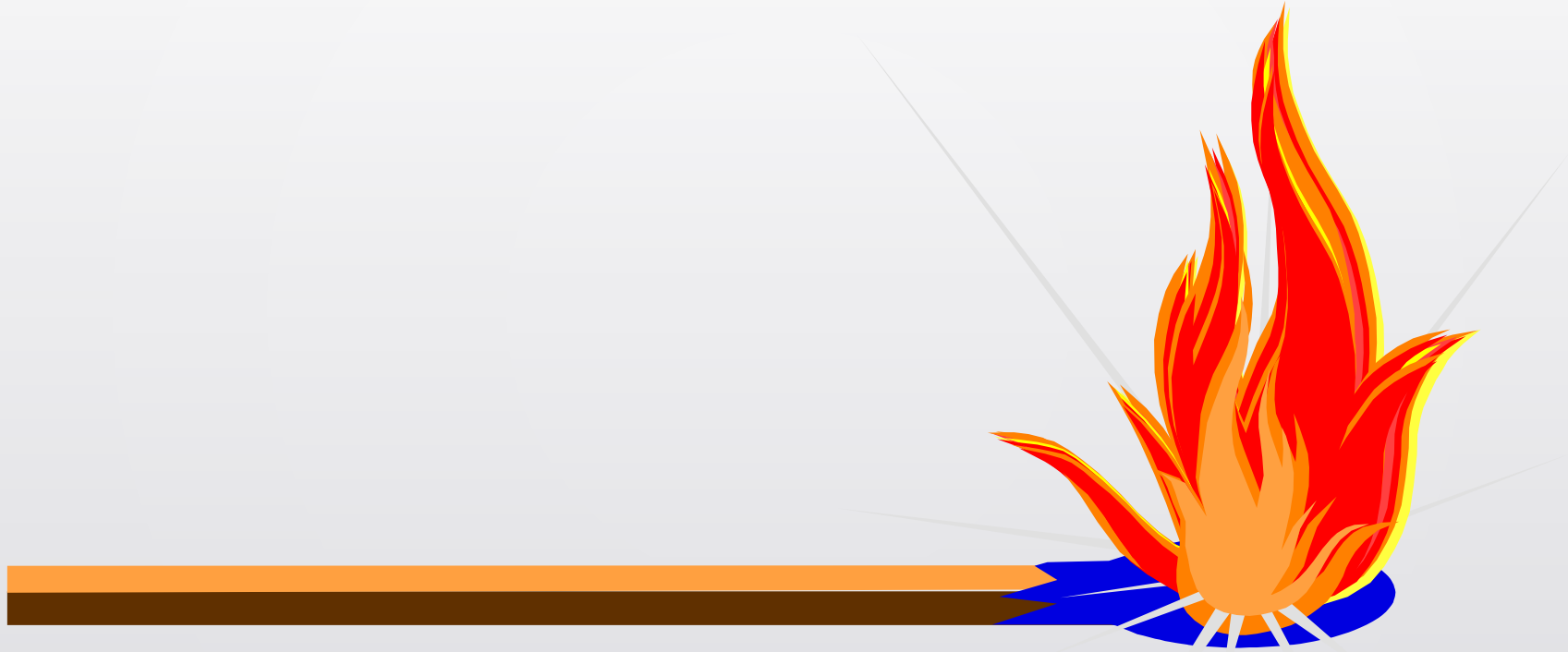


Table E-1. 2018 Physical Activity Guidelines Advisory Committee Grading Criteria (page E-21)

Criteria	Strong	Moderate	Limited	Not Assignable
Applicability	Study populations, exposures, and outcomes are directly related to the question	Some of the study populations, exposures, or outcomes, are directly related to the question	Most of study populations, exposures, and outcomes relate to the question indirectly	All of the study populations, exposures, and outcomes relate to the question indirectly
Generalizability (to the U.S. population of interest)	Studied population, exposure, and outcomes are free from serious doubts about generalizability	Minor doubts about generalizability	Serious doubts about generalizability due to narrow or different study population, exposure, or outcomes studied	Highly unlikely that the studied population, exposure, and/or outcomes are generalizable to the U.S. population
Risk of bias or study limitations (as determined by NEL BAT and/or AMSTAR _{EXP})	Studies are of strong design; free from methodological concerns, bias, and execution problems	Studies are of strong design with minor methodological concerns OR studies of weaker study design	Studies of weak design OR inconclusive findings due to design flaws, bias, or execution problems	Serious design flaws, bias, or execution problems across the body of evidence
Quantity and Consistency (of the results across the available studies)	Many studies have been published and the results are highly consistent in direction and approximate size of effect	A moderate number of studies have been published with some inconsistency in direction or size of effect	Few studies have been published with some inconsistency in direction or size of effect	Findings are too disparate to synthesize OR single small study unconfirmed by other studies
Magnitude and precision of effect	The magnitude and precision of the estimated effect provide considerable confidence in the accuracy of the findings	The magnitude and precision of the estimated effect provide confidence in the accuracy of the findings	The magnitude and precision of the estimated effect provide some but not a lot of confidence in the accuracy of the findings	Magnitude and precision of effect cannot be determined

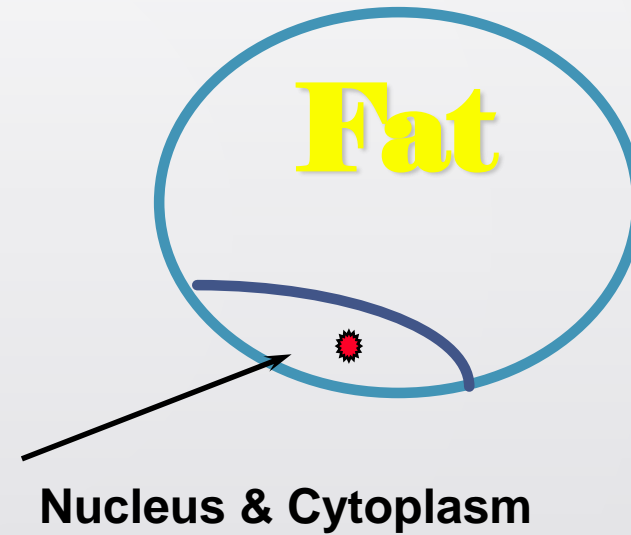


How to Burn the Most Fat



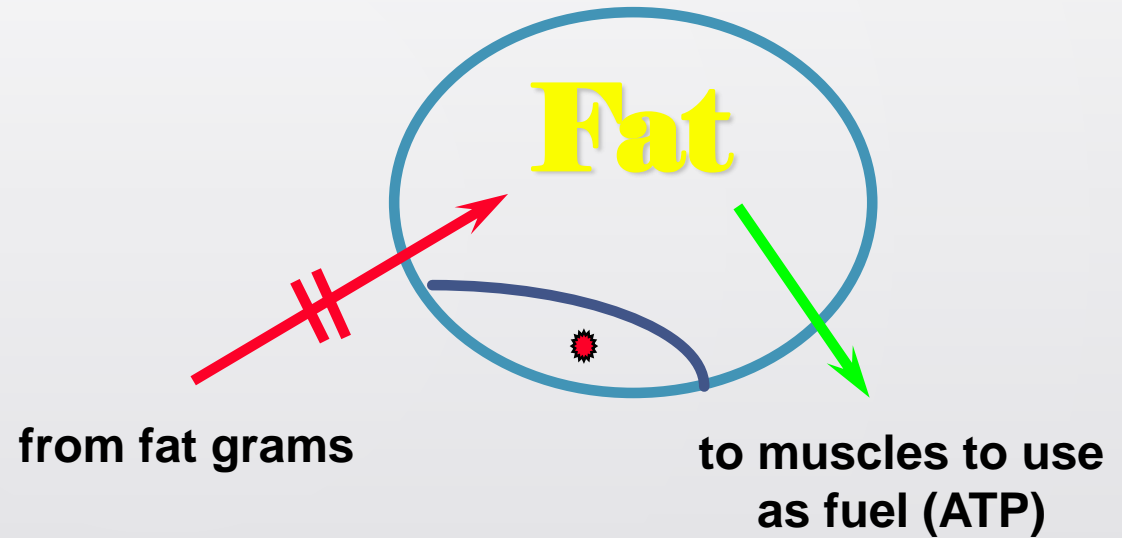
Fat Cells

- 30 - 40 billion
- Volume from fat: 83% to 95%

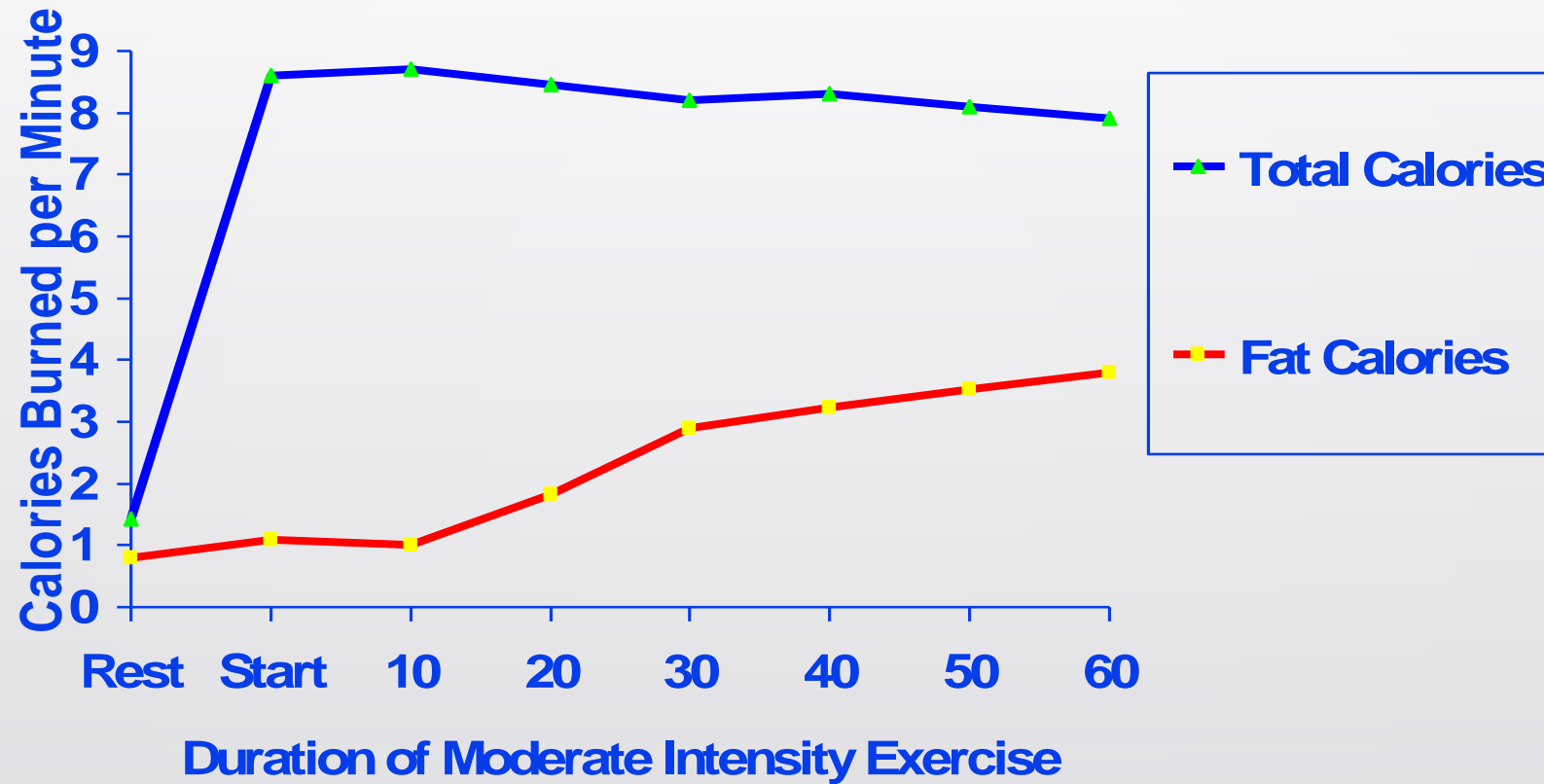


Fat Cells

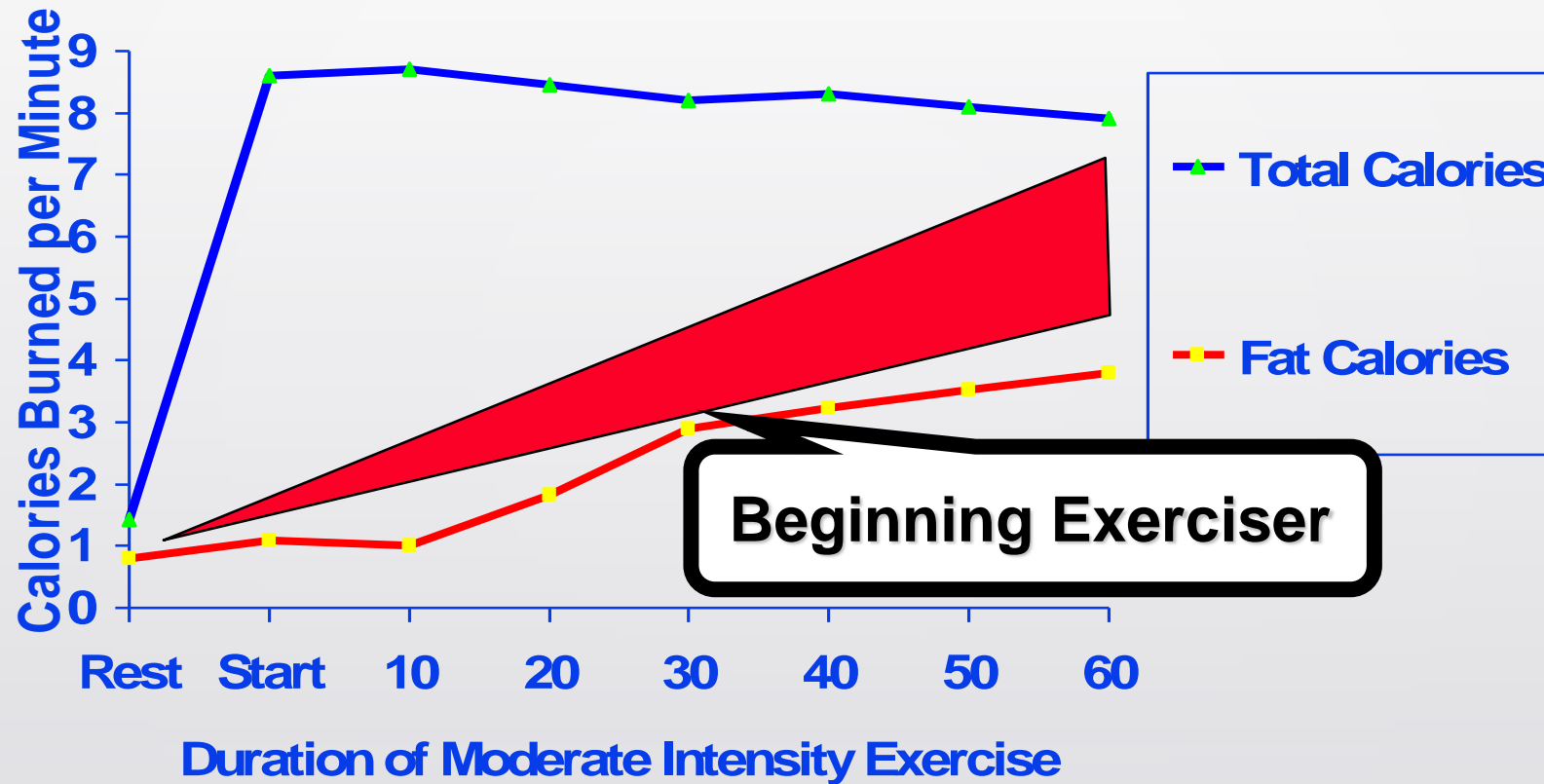
- 30 - 40 billion
- Volume from fat: 83% to 95%
- Goal
 - get fat out to muscles
 - don't replace all of it



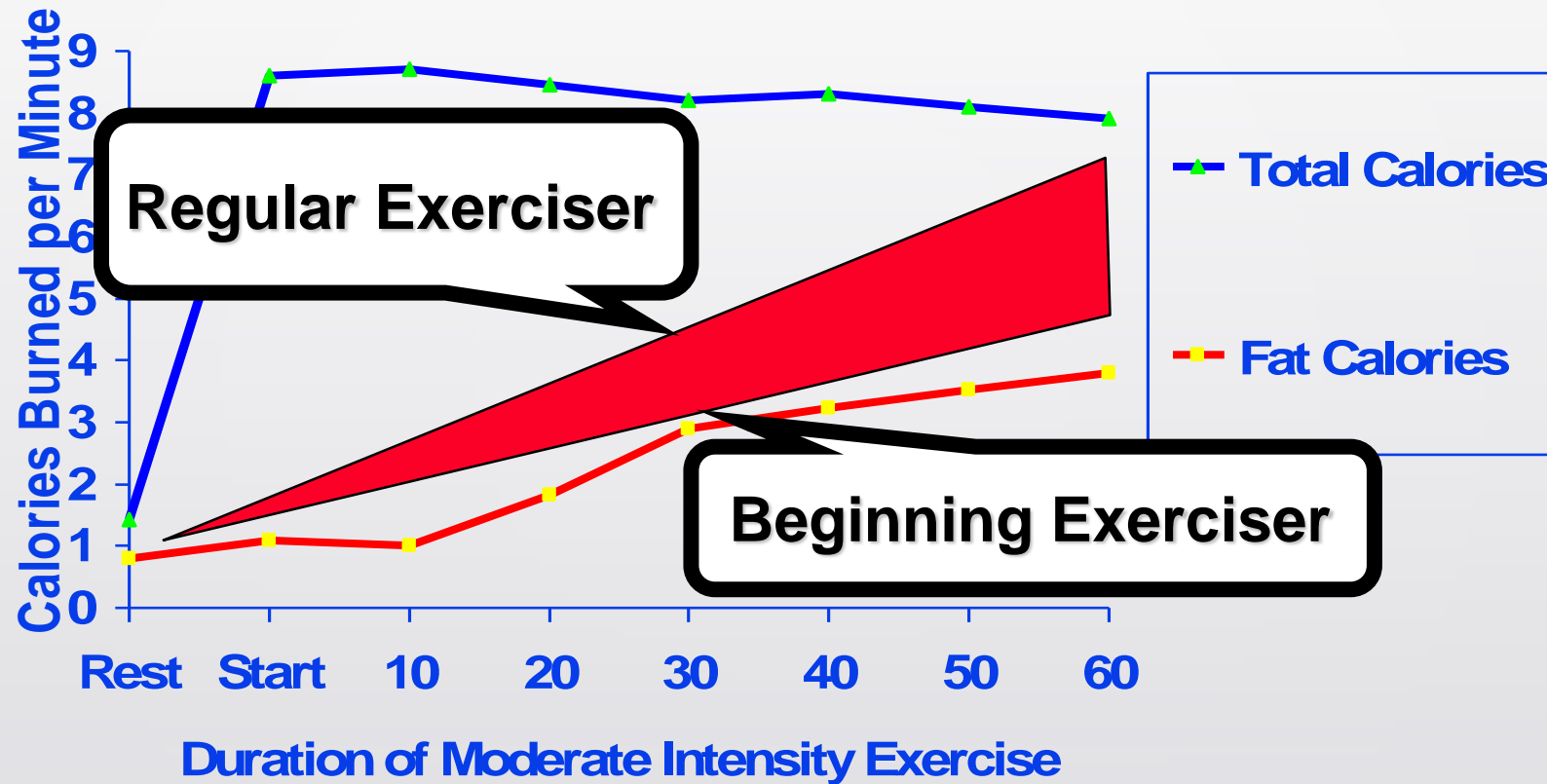
Calories Burned per Minute



Training Effect of Regular Exercise



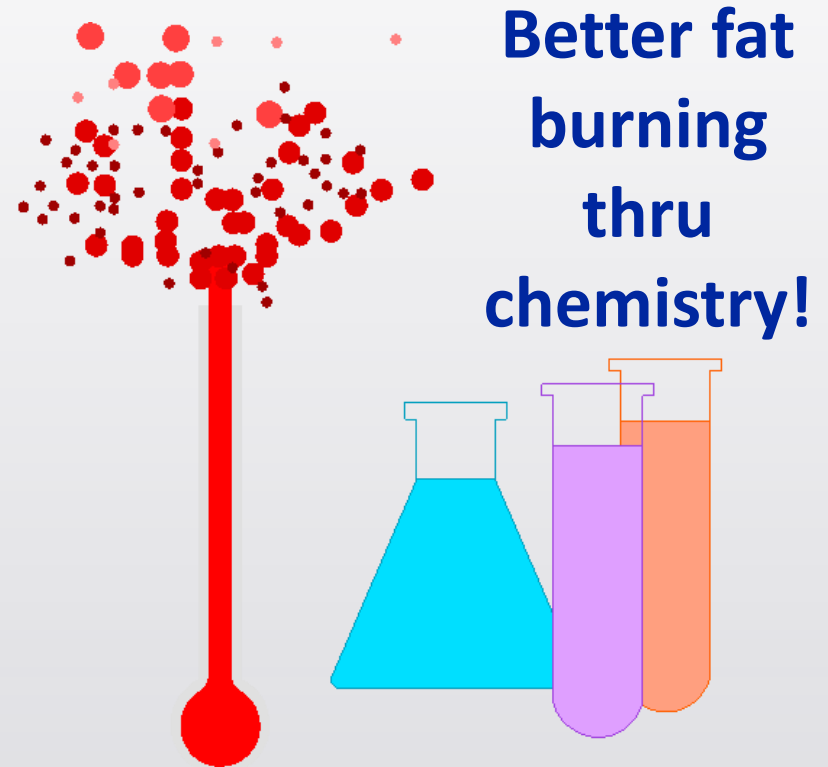
Training Effect of Regular Exercise



Training Effect of Regular Exercise

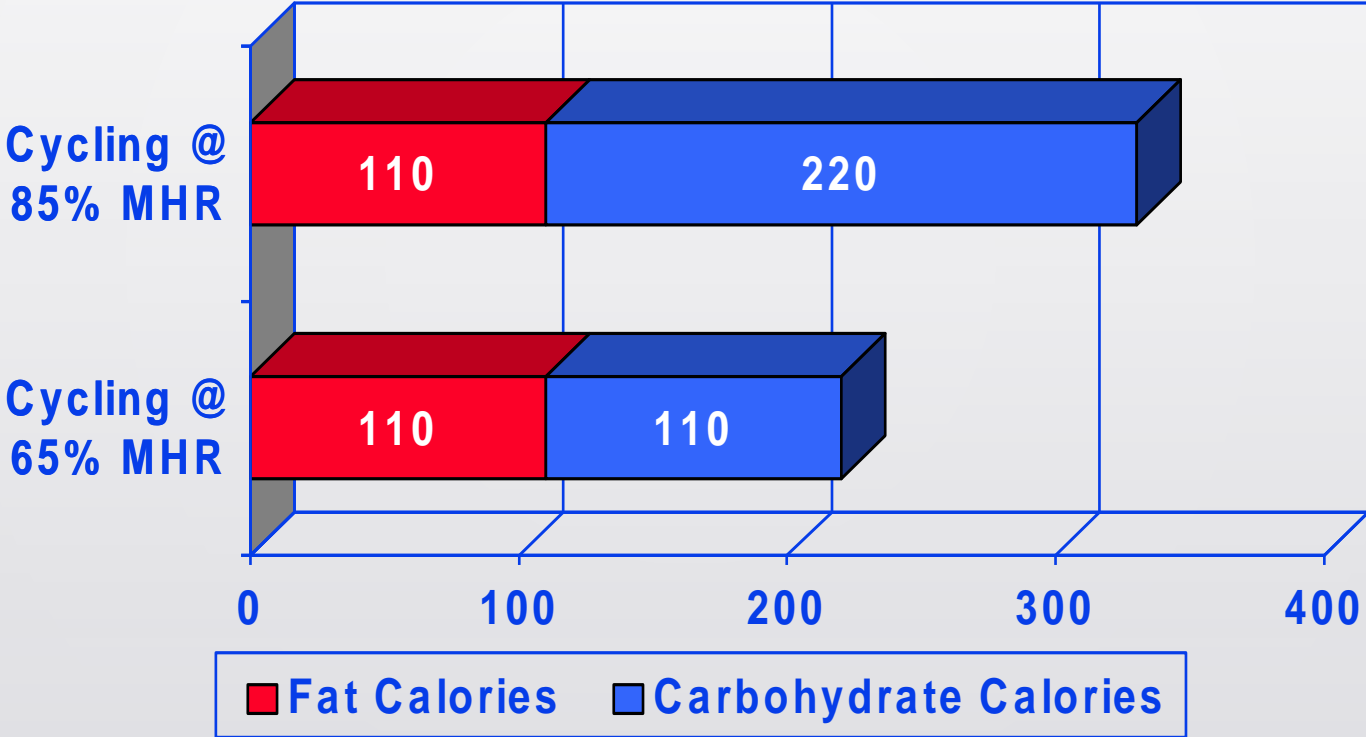
Mitochondria in Muscle Cells

- Non-Exerciser
 - 10% - 15% mitochondria
- Exercise Walker
 - 20% - 25% mitochondria
- Marathon Runner
 - 30% - 35% mitochondria

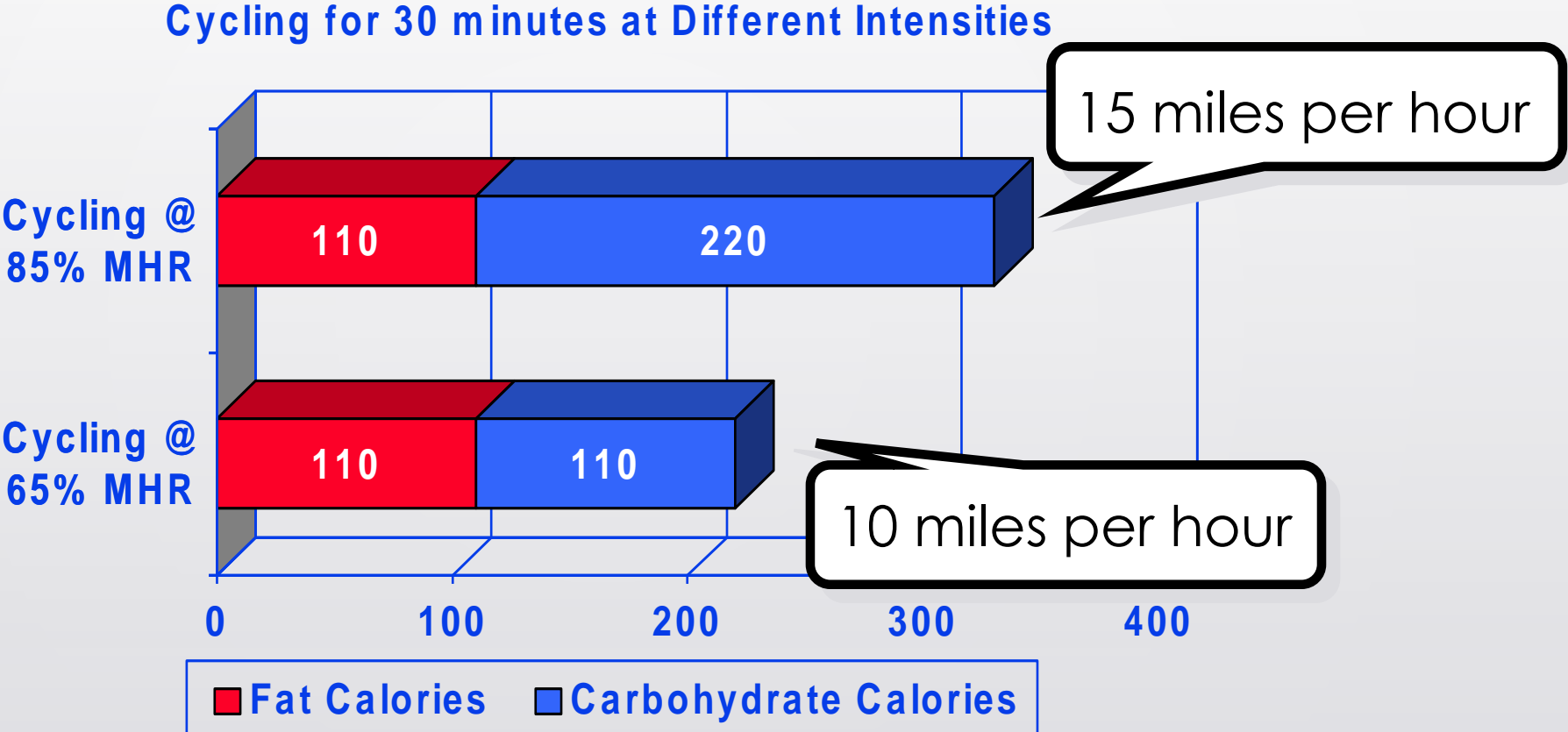


Burn More Calories at Higher Intensities

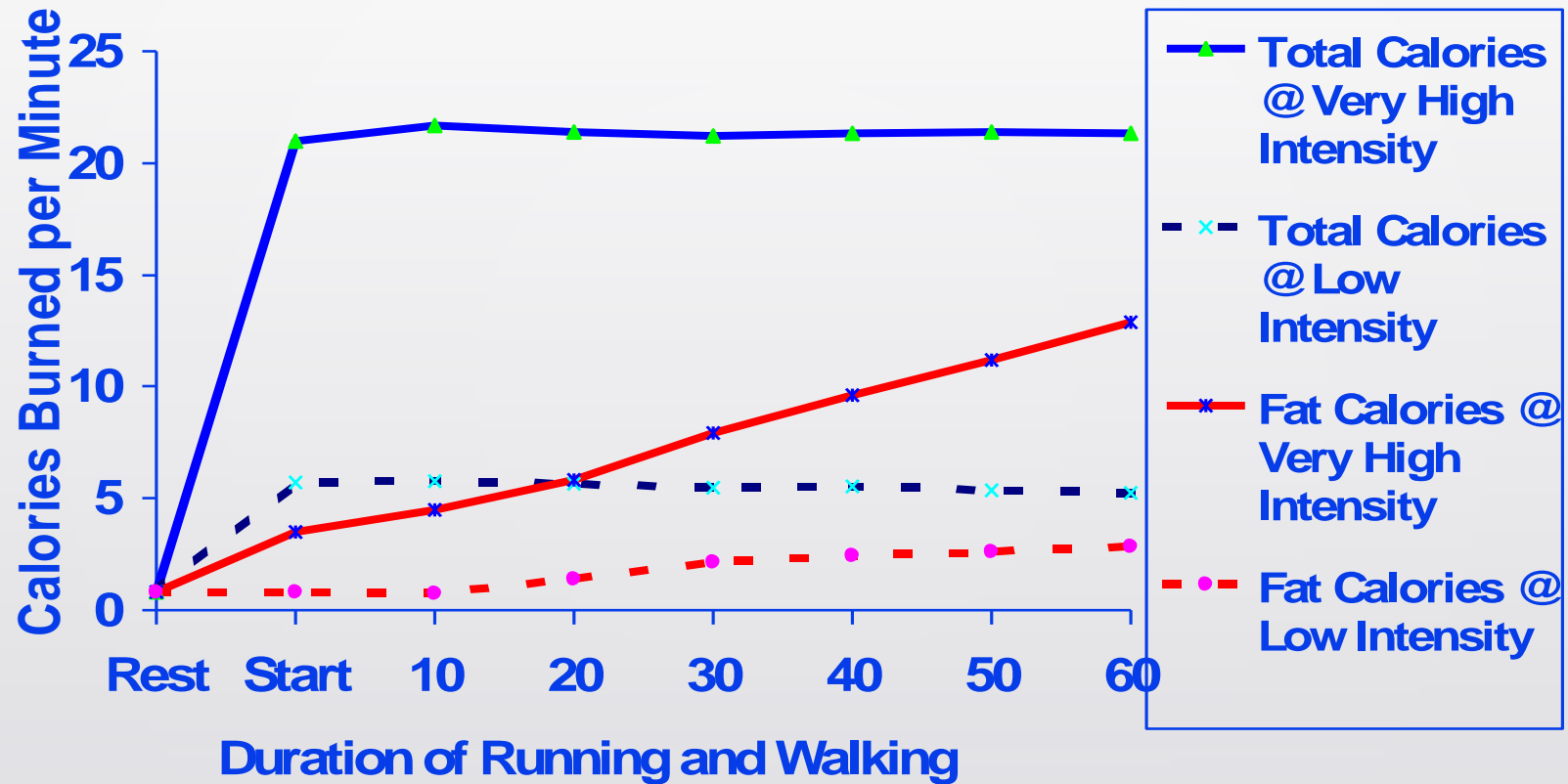
Cycling for 30 minutes at Different Intensities



Burn More Calories at Higher Intensities



Burn More Fat at Very High Intensities

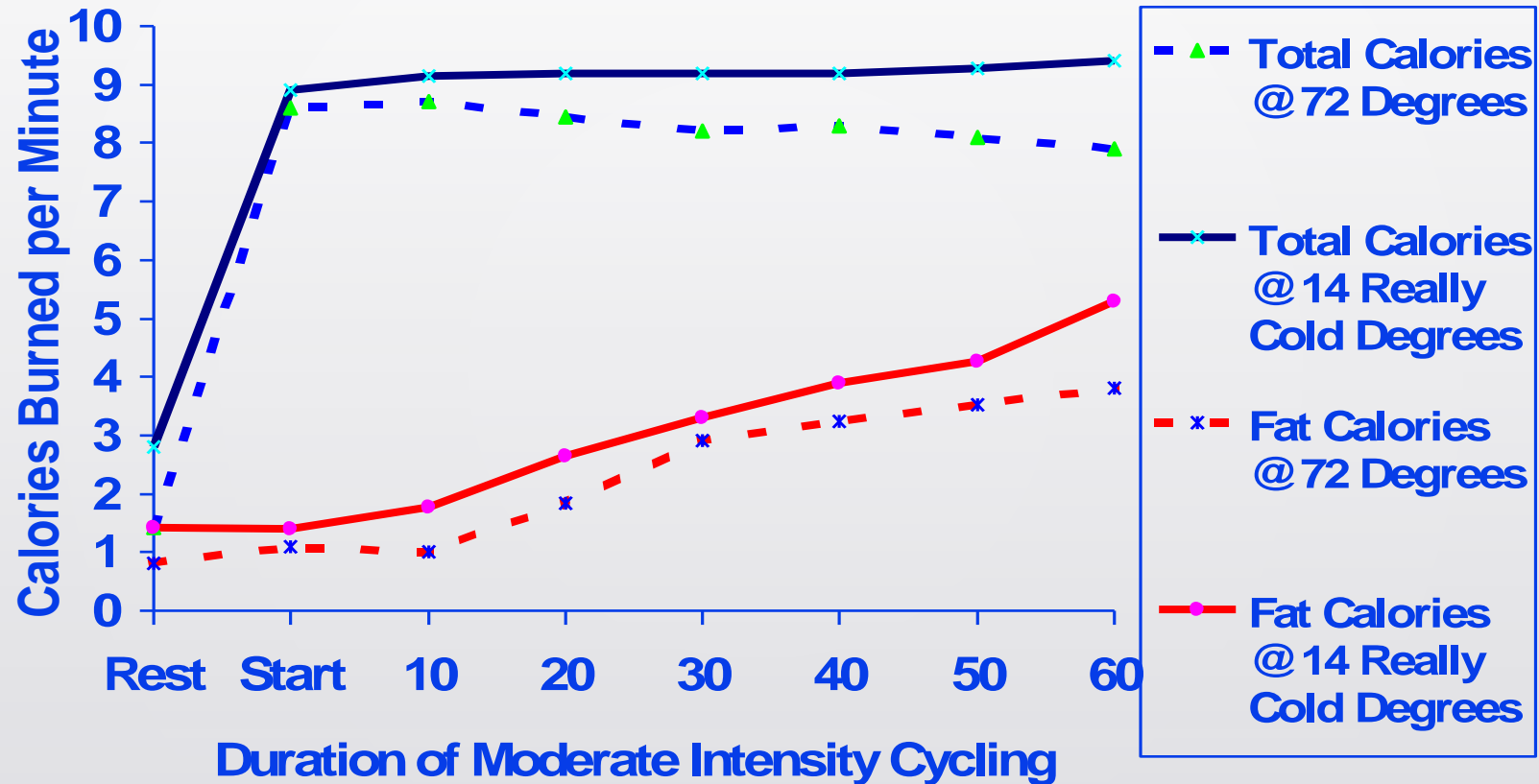


To lose fat, should I wear . . .

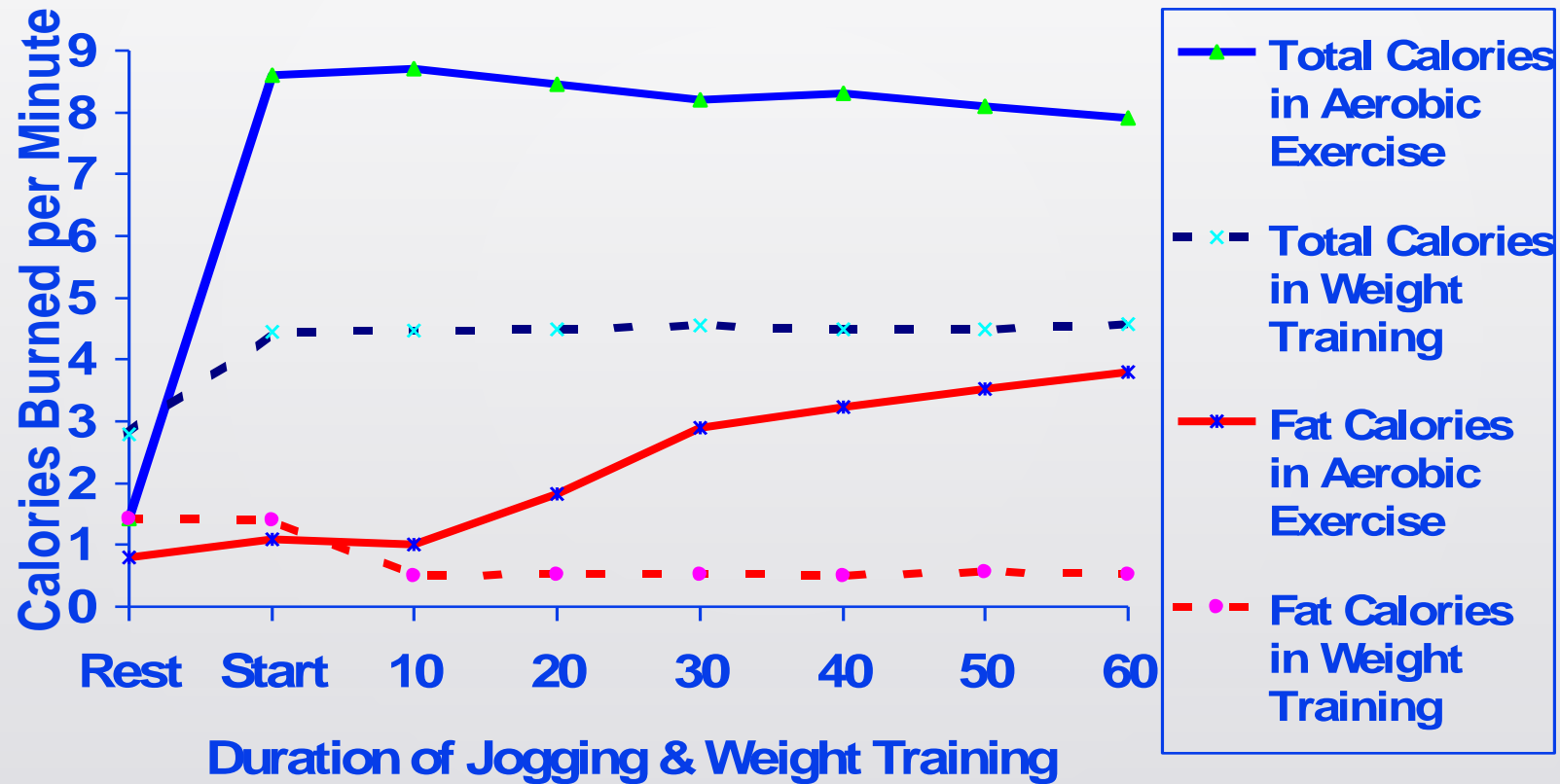
- sweats?
- vinyl suits?
- rubber belts?
- just shorts & a t-shirt?
- If I keep real warm do I melt fat
 - like melting butter in a pan on a stove?



Burn More Fat in Cold Temps



Burn More Total & Fat Calories with Aerobic Exercise





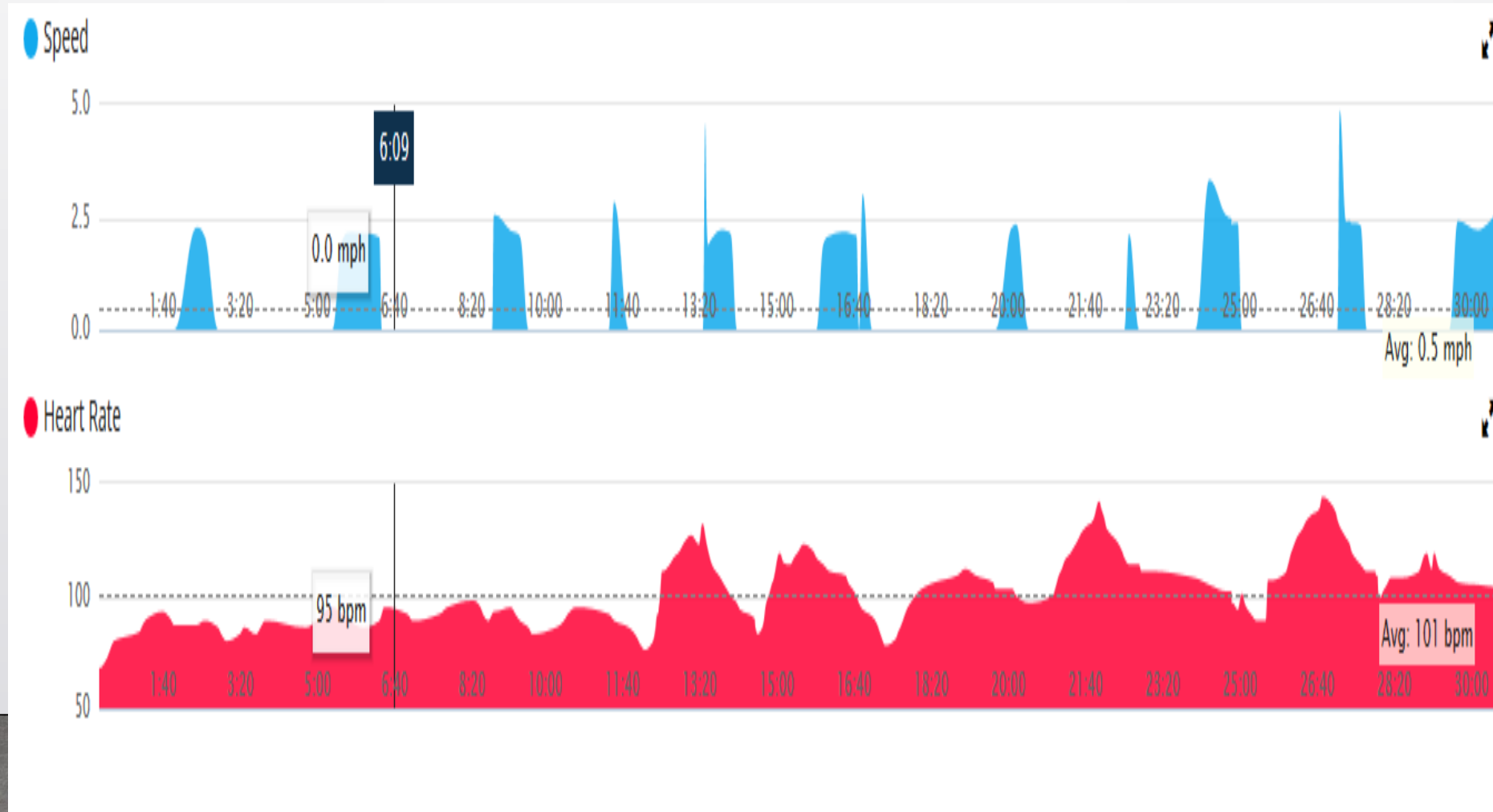
Time Efficient Recommended Strength Workout by Mary Schreiber, PhD

- Major muscle groups, big muscles and big muscle groups, multiple joint exercises
- Alternate exercises
 - lower, upper, front and back of body
- Rotate through all exercises for 1 to 3 sets

1. Abs (front)
2. Leg press (front & back upper legs) & calf press (back of lower legs)
3. Chest press (front chest, back of arms)
4. Leg extension (front upper leg)
5. Seated row (front of arms, back of shoulders)
6. Back extension (low back, butt)
7. Leg curl (back of lower legs)
8. Overhead press (top of shoulders, back of arms)
9. Dorsiflexion (front lower leg)
10. Lat pull (arms front, back)

1 Set of 11 Exercises in 30 Minutes

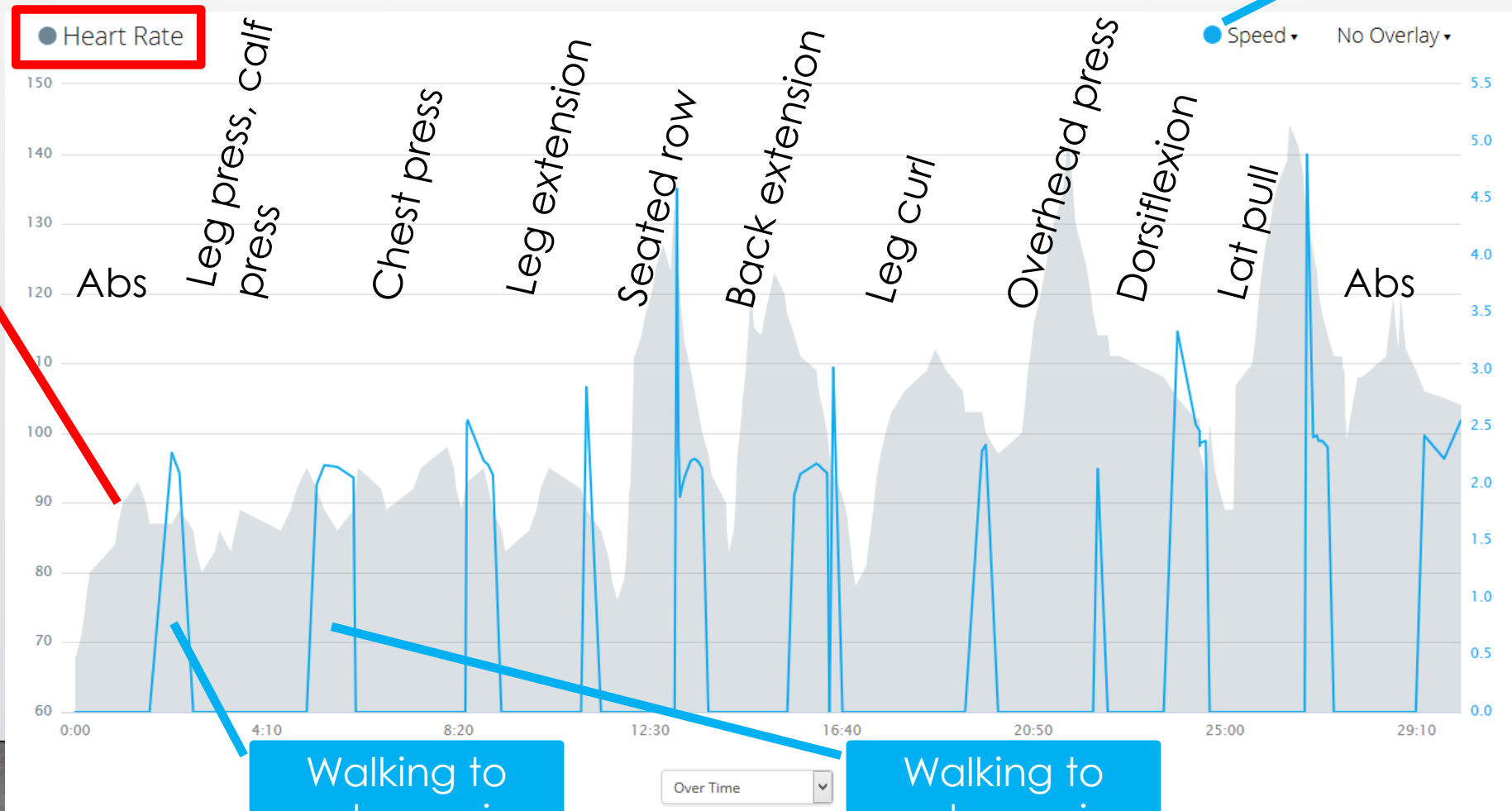
22,209 lb, 258 reps, 88 lb/rep, 299 calories



1 Set of 11 Exercises in 30 Minutes

22,209 lb, 258 reps, 88 lb/rep, 299 calories

Walking to next exercise

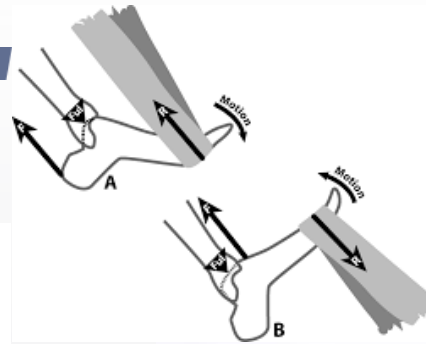
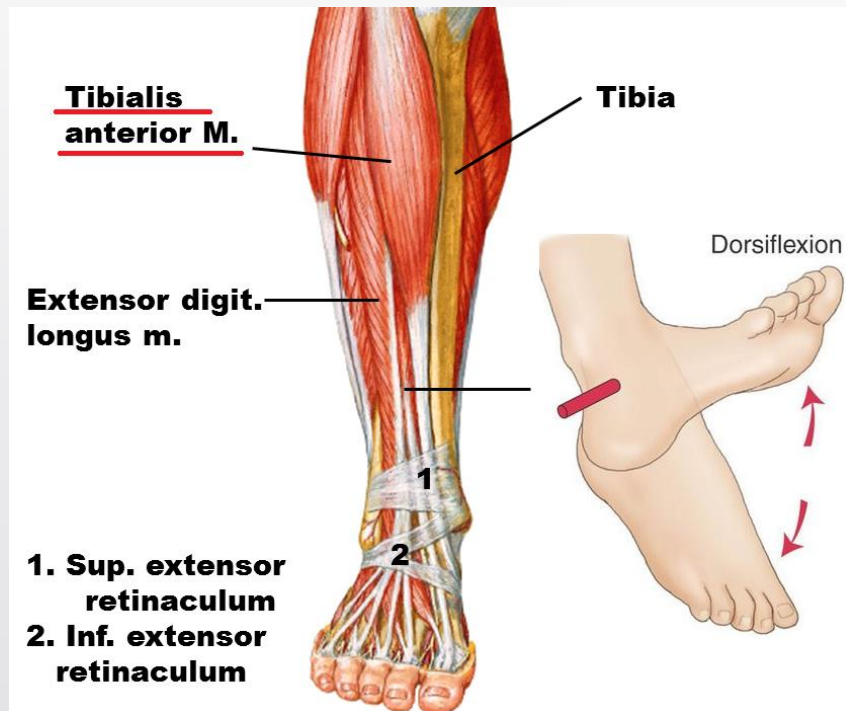


Heart Rate

Walking to next exercise

Walking to next exercise

Dorsiflexion

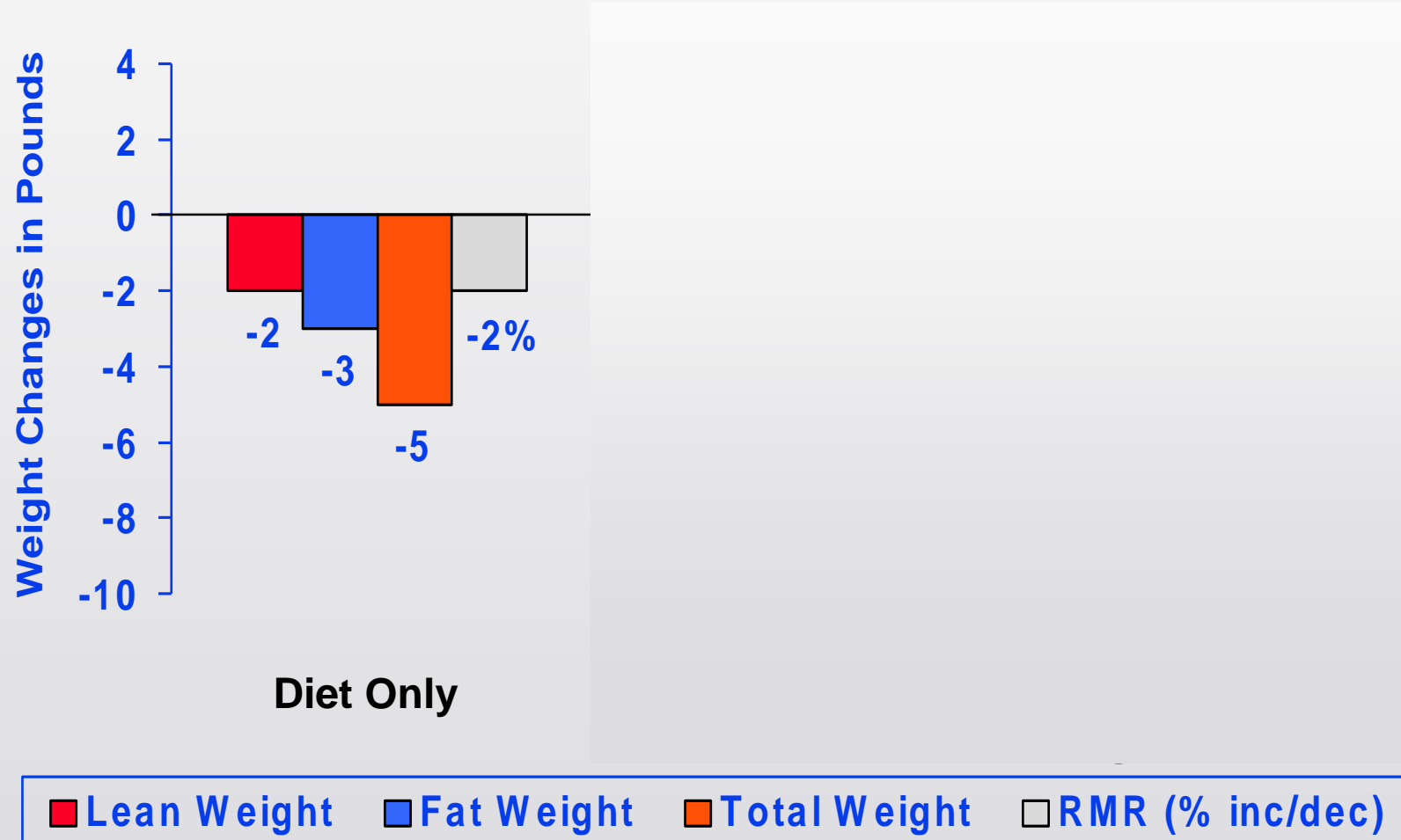


Solving the Riddle of the Shin Splint

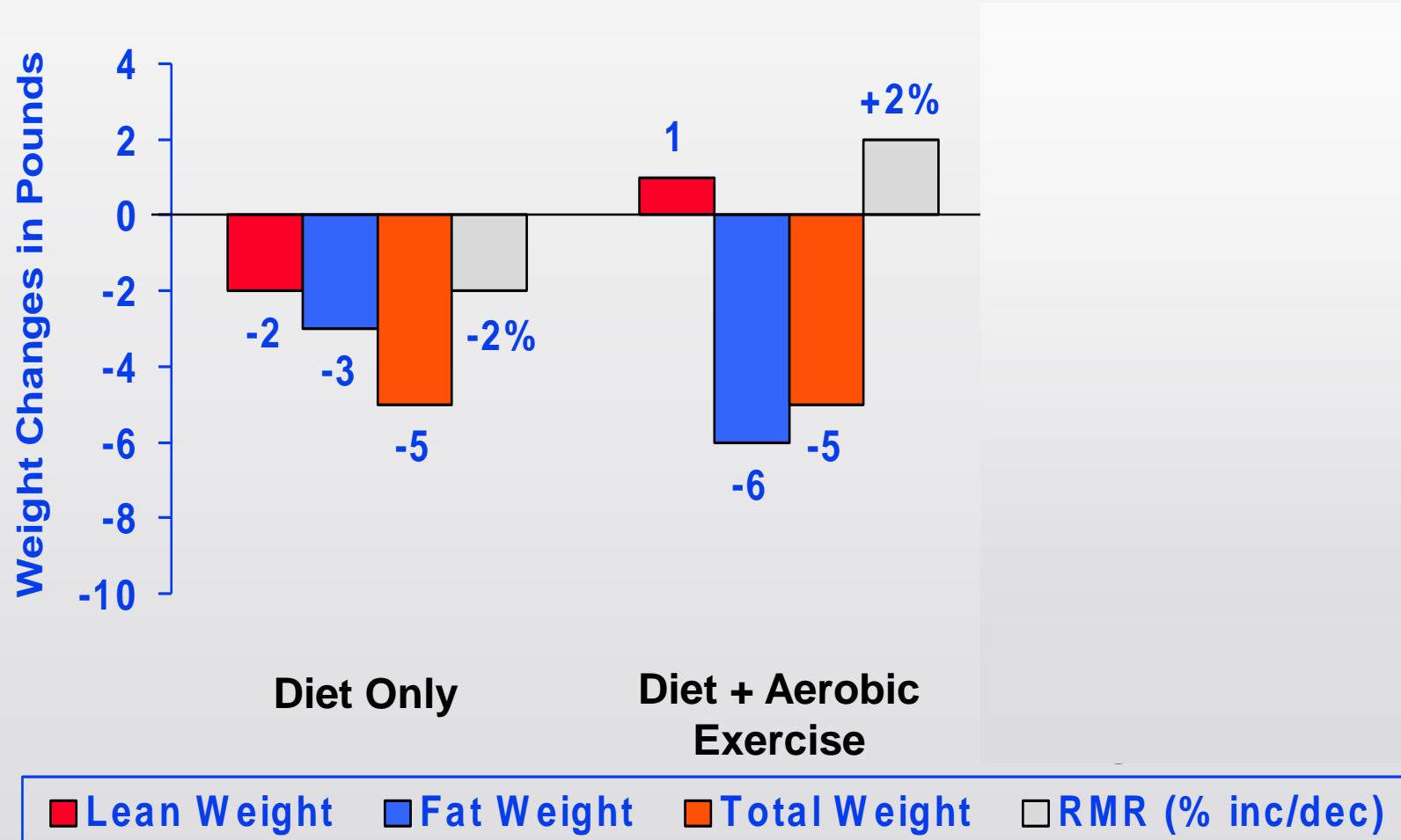
Strengthen the muscles on the front of the lower leg, the anterior tibialis. Use things like the D.A.R.D. (Dynamic Axial Resistance Device), and thera-bands in every color of the spectrum. Neither of these resistance protocols helped.

- <https://simplifaster.com/articles/solving-the-riddle-of-the-shin-splint/>
- <https://youtu.be/QdQvsmktewI>

Benefits of Combined Diet + Aerobic & Strength Exercise



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