

FITNESS

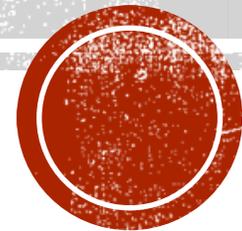
MYTHBUSTERS

Addressing common sayings and beliefs surrounding
health and fitness

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SAYING #1: “NO PAIN, NO GAIN”

- Exercise, by nature, is stressful. In order for the body to benefit from exercise, we must put abnormal stress on it.
- This adaption from this stress improves the body's efficiency so that the next time we encounter this stimulus, it is not as stressful.
- This process is often uncomfortable.
- **HOWEVER**, it should **NOT** be painful.



DISCOMFORT VS PAIN

Discomfort:

- Exercise should be challenging, but not unbearable
- Temporary in duration (even soreness)
- Decreases over time and repetition

Pain:

- Greater intensity
- Typically lingers
- Does not decrease (or even increases) over time
- More likely to occur in a joint
- Often in areas that are not directly being targeted



OTHER CONSIDERATIONS

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MAX EFFORT ACTIVITY

Feels almost impossible to keep going. Completely out of breath, unable to talk. Cannot maintain for more than a very short time

9

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VERY HARD ACTIVITY

Very difficult to maintain exercise intensity. Can barely breathe and speak only a few words

7-8

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VIGOROUS ACTIVITY

Borderline uncomfortable. Short of breath, can speak a sentence

4-6

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MODERATE ACTIVITY

Breathing heavily, can hold a short conversation. Still somewhat comfortable, but becoming noticeably more challenging

2-3

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LIGHT ACTIVITY

Feels like you can maintain for hours. Easy to breathe and carry a conversation

- The higher the intensity of exercise, the more challenging it is to differentiate “good” vs “bad” discomfort
- Utilize Rate of Perceived Effort (RPE) to avoid pushing yourself past a safe intensity
- Normal discomfort will typically match your RPE



MYTH
“NO PAIN, NO GAIN”

BUSTED

**SOME DISCOMFORT IS NORMAL
PAIN IS NOT**



BELIEF #2: “IF I DON’T GET SORE, I DIDN’T WORK HARD ENOUGH”

Post-exercise Muscle Soreness

- Also known as D.O.M.S. (Delayed Onset Muscle Soreness), this soreness typically lasts 2 – 5 days
- Severity can range from mild to severe
- Exact cause is unknown, however it is believed to be the result of microscopic tears to muscle tissue during exercise (It is NOT the result of lactic acid build up)



BELIEF #2: “IF I DON’T GET SORE, I DIDN’T WORK HARD ENOUGH”

What we DO know:

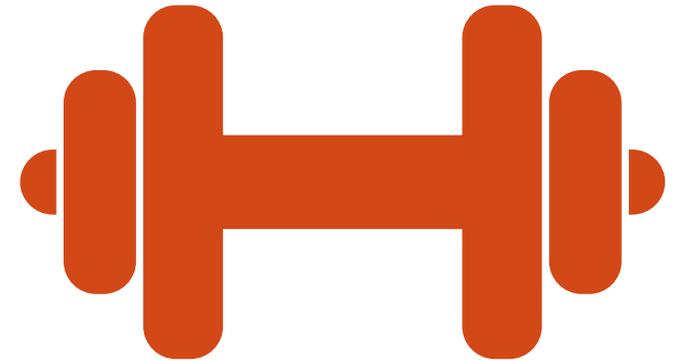
- DOMS is more intense and lasts longer when experiencing new types of exercise
- The intensity and duration of new exercise can also affect DOMS
- **HOWEVER**, there is no correlation between progress and muscle soreness



OTHER CONSIDERATIONS

Rather than using soreness as an indicator of an “effective workout” consider:

- RPE during the workout
- Performance compared with previous exercise (repetitions, weight, distance, etc.)



**“IF I DON’T GET SORE,
I DIDN’T WORK HARD
ENOUGH”**

**MYTH
BUSTED**

**MUSCLE SORENESS IS A POOR INDICATOR
OF EFFECTIVENESS OR PROGRESS**





BELIEF #3: “I NEED TO STRETCH BEFORE I EXERCISE”

Warming up before exercise essential, but why?

- Injury prevention
- Improved performance

A proper warm up prepares the body for rigorous activity by:

- Increasing body temperature (elasticity)
- Increasing blood circulation (energy transport)
- Loosening and lubricating joints





- Warming up should last between 5 – 20 minutes
- Intensity should be light to moderate (RPE: 2 – 5)
- Two components:
 - Cardiovascular (heart rate)
 - Dynamic stretching (targeted muscles and joints)

WARMING UP

Dynamic Stretching

- “Flowing” movement to increase/maintain elevated heart rate
- Stretches are held only 1 – 10 seconds, and no longer than 15 seconds
- Targets muscles to be worked out
- Utilizes full range of motion for relevant joints





WHAT ABOUT STATIC (SLOW) STRETCHING?



It is best for:

- **elongating tight muscles**
- **Improving joint flexibility and mobility**
- **Boosting recovery from exercise**

HOWEVER:

- **Increases risk of injury immediately after**
- **Best performed either after a workout or by itself**



CONFIRMED
“I SHOULD DYNAMICALLY STRETCH
BEFORE EXERCISE”

**DYNAMIC STRETCHING IS AN IMPORTANT PART OF
WARMING UP, HOWEVER STATIC STRETCHING
SHOULD BE SAVED FOR AFTER A WORKOUT**



SAYING #4 “LIFTING WEIGHTS WILL MAKE ME BULKY”

- What is resistance training?
- It is a form of exercise that focuses on muscular fitness and improving strength, power, hypertrophy, or endurance
- Resistance training is necessary to build muscle
- To achieve “big muscles”, lifting weights is also required
- **HOWEVER**, achieving significant muscle gain requires a mixture of purposeful training, nutrition, and appropriate hormone levels



BUILDING MUSCLE

Building muscle (hypertrophy) is a slow and intentional process, it requires:

- A caloric surplus (especially protein)
 - High training volume
 - High hormone levels (HGH, Testosterone, IGF, etc)
 - Appropriate bone size and density
-
- It is nearly impossible for most women (and men over 40) to gain large amounts of muscle without additional supplementation



BENEFITS OF RESISTANCE TRAINING

What most individuals will experience from lifting weights

- Increased strength
- Improved muscle control and coordination
- Increased bone density
- Higher metabolism



**“LIFTING WEIGHTS
WILL MAKE ME
BULKY”**

**MYTH
BUSTED**

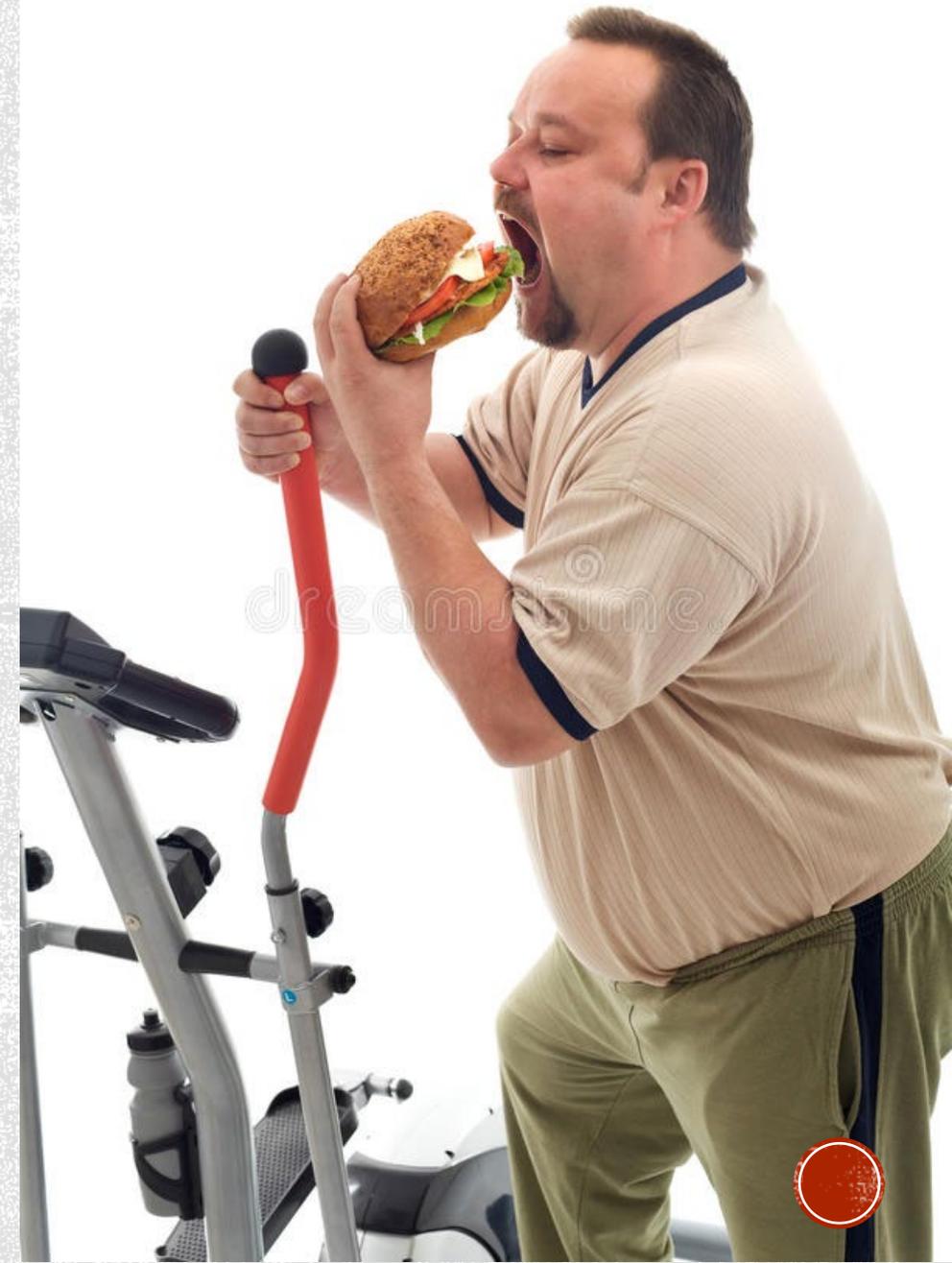
**LIFTING WEIGHTS IS ONLY ONE PART OF THE
RECIPE TO BUILDING MUSCLE**



BELIEF #5: “I CAN EAT MORE BECAUSE I EXERCISE”

This statement is generally based on two commonly held ideas:

- Calories burned during exercise
- Increased resting metabolism (RMR)



METABOLISM AT REST

Increased resting metabolism (RMR)

- Muscle Hypertrophy: increasing muscle mass increases RMR
 - However, muscle only contributes to 20% of your RMR, so adding one pound of muscle only burns about 4.5 - 7 calories per day at rest.
- Post exercise burning effects (EPOC)
 - Some types of higher intensity exercise result in a temporary boost in RMR for 12 – 24 hours after exercise. Studies showed that after workouts, participants experienced an excess of calories (50 – 100) burned.
- Reduced hormonal issues (insulin)
 - Studies suggest that exercise improves hormone regulation and reduce insulin resistance (which can make fat loss more difficult)



DURING EXERCISE

- The amount of calories burned during exercise is effected by MANY factors, just a few include:
 - Age
 - Weight
 - Gender
 - Fitness level
 - Exercise intensity
 - Exercise duration
 - Exercise selection
 - Muscles involved
 - Amount of muscle
 - Heart rate
 - Body temperature
- While fitness devices (FitBit, treadmills, smartphones, etc.) can provide a rough estimate, they are rarely accurate





METABOLISM **AND EXERCISE**

- The most significant change in metabolism comes from calories burned during exercise
- The two largest factors in determining the amount of calories burned during physical activity are duration and intensity
- People often overestimate the amount of calories they are burning through exercise OR underestimate the caloric content of their food
- The best way to determine how many calories you are burning is through both food, exercise, and body composition tracking.

OTHER CONSIDERATIONS

- First, consider your fitness goals
- We are only discussing calories, not nutritional content
- The best way to determine how many calories you are burning is through both food, exercise, and body composition tracking.



CONFIRMED
“I CAN EAT MORE
BECAUSE I EXERCISE”

**REGULAR EXERCISE DOES INCREASE YOUR
METABOLIC RATE, HOWEVER CAUTION SHOULD BE
USED WHEN INCREASING FOOD INTAKE**



QUESTIONS?



BE SURE TO CHECK OUT WHAT ELSE UNIVERSITY RECREATION HAS TO OFFER

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