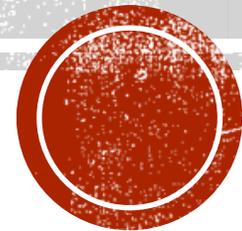


FITNESS

MYTHBUSTERS

Better Nutrition and Exercise



Charles Burroughs

Fitness Services Coordinator

University Recreation



SAYING #1: “DON’T EXERCISE ON AN EMPTY STOMACH”

- **Should you eat before exercise? If so, when?**
- **What should you eat before exercise?**

- “fasted state”
- Often in regard to strength training and building muscle
- It is commonly believed that exercising on an empty stomach can hinder your progress



FOOD IS ENERGY



FOOD = ENERGY

Different macronutrients are utilized by the body in different ways.

- Protein
- Carbohydrates
- Fats





“The Builder”

- Protein (amino acids) is necessary to build and rebuild muscle tissue
- Also utilized to growth skin, hair, nails, organs, and more!
- Not typically used as energy during exercise



“The Powerhouse”

- Carbohydrates are the most utilized source of energy in the body
- The body’s process for converting carbs to energy is fast and efficient
- Simple vs. Complex Carbohydrates
- Because of this, it is used as energy in moderate to high-intensity exercise



“The Reserves”

- Fats are the second most used energy source
- The body’s process for converting fats to energy is slow, but has a high yield
- It is used most in activities that with a low energy demand (walking)

FUEL FOR WORKOUTS

- The type of fuel necessary for exercise depends on the intensity
- Our bodies typically have enough stored energy for most workouts, therefore eating before is not necessary
 - This includes cardiovascular exercise of low to moderate intensity, and resistance training
 - Some research even suggests that fasted cardiovascular exercise can improve hormone regulation and weight loss

“WHEN DO I NEED TO EAT BEFORE EXERCISE?”

Activities that are long in duration (greater than 90 minutes), such as:

Hikes

Marathons

Bike rides



Intense activities where performance is crucial:

Powerlifting

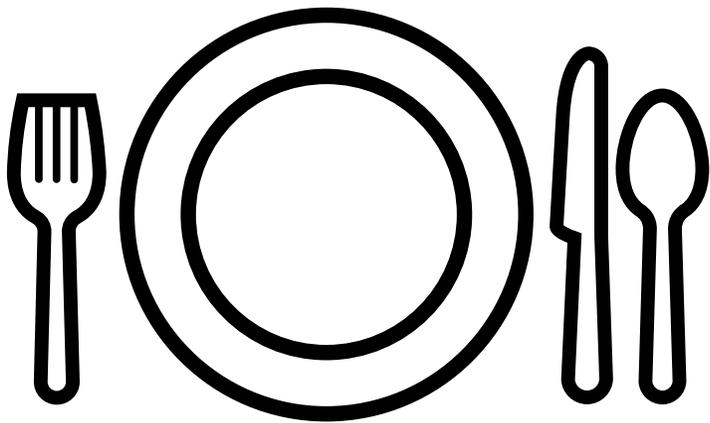
Sporting events



Most nutrients take 2-3 hours (or more) to begin absorption for energy

Simple carbs can be absorbed in minutes, and so can provide quick energy





OTHER CONSIDERATIONS

- When exercising in a fasted state
 - Monitor fatigue
 - Avoid extensive high intensity training (more than 45 min of RPE 8+)
 - Post-exercise “refuel” becomes more important
- When eating before exercise
 - Avoid eating full meals less than 90 minutes before
 - Simple carbs can be consumed 5-30 minutes before for extra energy



**“DON'T EXERCISE ON
AN EMPTY STOMACH”**
MYTH
BUSTED

**WORKING OUT IN A FASTED STATE IS NOT
DETRIMENTAL FOR MOST INDIVIDUALS IN MOST
SITUATIONS.**



**SAYING: “YOU
NEED TO EAT 30
MINUTES AFTER
A WORKOUT TO
GET THE BEST
RESULTS”**

- Often believed that there is a short “anabolic window” after exercise, in which:
 - Muscles are more “absorbent” to protein and building muscle
 - All consumed carbs are stored in muscles to be used for energy
 - Calorie burning is higher immediately after exercise

POST-EXERCISE EATING

Eating after exercise does “refuel” the body

- Replenishes muscle glycogen stores
- Rebalances blood sugar
- Regulates hormones
- Protein synthesis for repairing/building muscle

- Prior research has shown this short anabolic window occurs immediately after exercise



POST-EXERCISE EATING

HOWEVER...

- The original research only observed participants who fasted before exercise
- New research shows eating any time from 2 hours before to 8 hours after will have similar effects





OTHER CONSIDERATIONS

- Choose foods that fulfill all three types of macronutrients
- Simple carbohydrates can alleviate some blood sugar issues resulting from exercise
- If fasted during exercise, try to eat sooner after a workout
- Listen to your body after workouts



MYTH
“YOU NEED TO EAT 30 MINUTES
AFTER EXERCISE TO GET THE
BEST RESULTS”
BUSTED

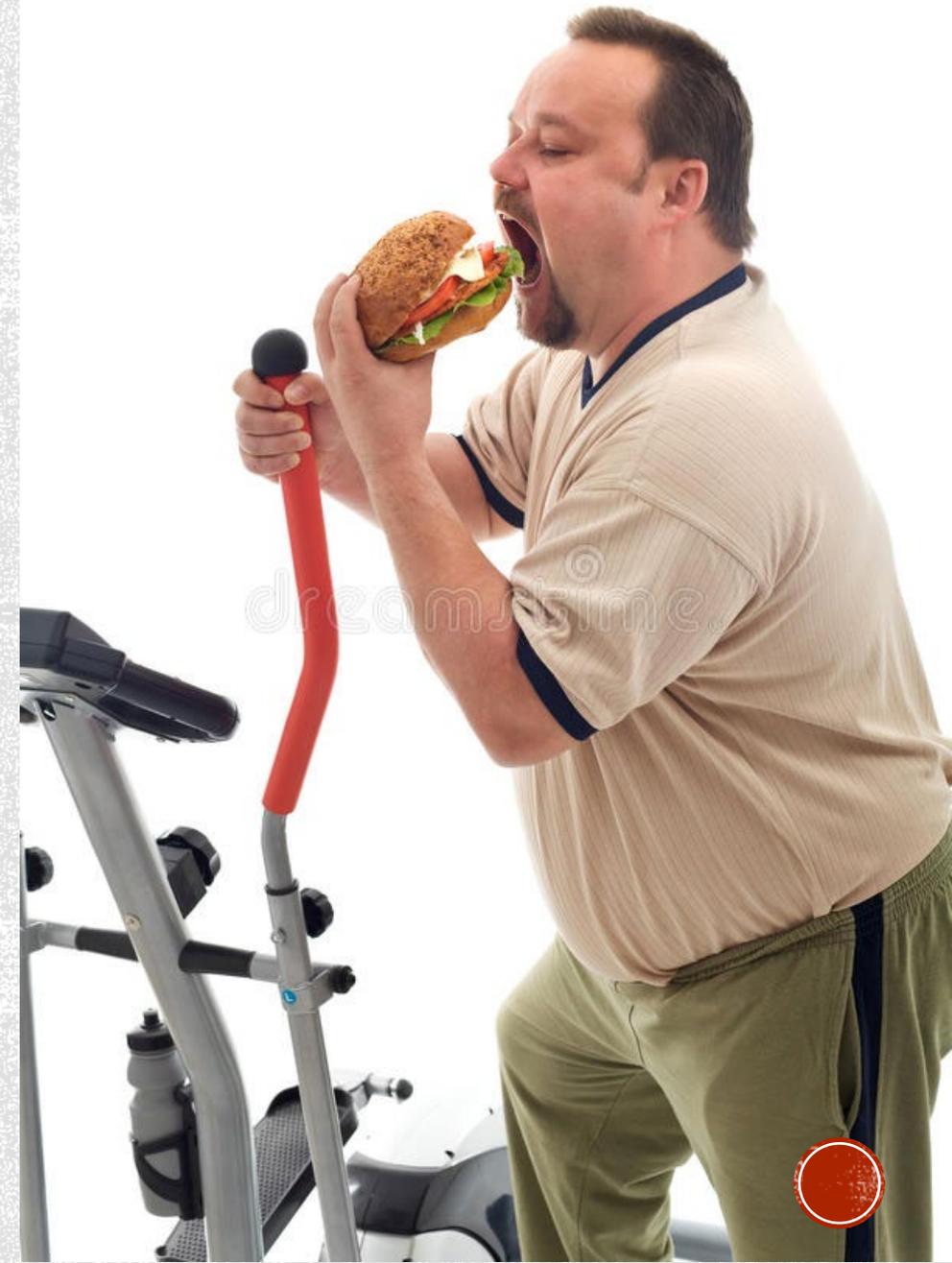
**WHILE YOUR BODY IS FAVORABLE FOR GROWTH AND
NUTRIENT ABSORPTION AFTER EXERCISE, THERE IS NO
SPECIFIC TIME IN WHICH THIS MUST OCCUR.**



BELIEF: “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

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
METABOLISM, HOWEVER CAUTION SHOULD BE
USED WHEN INCREASING FOOD INTAKE**



BELIEF: “TAKING SUPPLEMENTS IS NECESSARY TO REACH YOUR GOALS”

- There are many types of supplements in the fitness industry:
- Protein
 - Powders, bars, shakes, etc.
 - Whey, casein, soy, egg, plant, etc.
 - BCAAs and other amino acids
- Pre-workouts
 - Caffeine, beta-alanine, citrulline, nitric oxide
- Performance
 - Choline, carbohydrates, creatine
- Recovery
 - HMB, L-glutamine, glycerol, electrolytes



“WHAT DO THEY REALLY DO?”

- **Pre-workouts/Performance**
 - Stimulant
 - Increase blood flow and oxygen exchange
 - Increased stamina
 - Enhanced strength
- **Protein/Recovery**
 - Increased protein synthesis (muscle building)
 - Faster recovery
 - Reduced muscle soreness
 - Reduced fatigue



“ARE SUPPLEMENTS NEEDED?”

- Supplement:
“something that completes or enhances something else when added to it”
- Exercise supplements can ease problematic areas or help address deficiencies. Some supplements have been proven to assist recovery and performance.
- HOWEVER supplements cannot fix a poor diet
- Are they needed for exercise? No.



OTHER CONSIDERATIONS

- Ask the question, “Can I get this through my normal diet”
- The supplement industry is poorly regulated
- Do you your research
- Heavy reliance often results in unexpected deficiencies



QUESTIONS?



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

UA Recreation YouTube Channel:

<https://www.youtube.com/channel/UCfcDHwPTCFTfh-UWal88ZWg>

Follow us on Social Media for live classes and other updates!

- Instagram: <https://www.instagram.com/uarecreation/>
- Facebook: <https://www.facebook.com/UARecreation/>
- Twitter: <https://twitter.com/UARecreation>

