FITNESS MYTHBUSTERS

Better Nutrition and Exercise

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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)
- 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?”**

<table>
<thead>
<tr>
<th>Activities that are long in duration (greater than 90 minutes), such as:</th>
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<td>Hikes</td>
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<th>Intense activities where performance is crucial:</th>
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<td>Powerlifting</td>
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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”

WORKING OUT IN A FASTED STATE IS NOT DETRIMENTAL FOR MOST INDIVIDUALS IN MOST SITUATIONS.
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
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
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
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
“You need to eat 30 minutes after exercise to get the best results”

Myth 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)
The amount of calories burned during exercise is affected 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
- Amount of muscle
- Heart rate
- Body temperature

While fitness devices (FitBit, treadmills, smartphones, etc.) can provide a rough estimate, they are rarely accurate.
- 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.
“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

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