



Does Exercise Help or Hurt Weight Loss Progress?

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- PhD - Nutrition with a concentration in Exercise Science
- Registered Dietitian
- Quit University position to follow this crazy dream :)
- CrossFitter, runner, yogi
- Mother of 2
- Passionate about health, nutrition and fitness





WHO WE ARE

Introduction to Stronger U

Nutrition coaching company

Change the way the world views food!

Started by Founder and CEO Mike Doehla in April 2015

Served ~40,000 members in ~ 50 countries

Questions We'll Answer

- Do you have to exercise to lose weight?
- Can exercise make weight loss more challenging
- Do I get to eat more if I exercise?
- What about the long-term effects - will exercise help me maintain my weight loss?
- What exercise should I do?



Nutrition and Weight Loss Basics



Energy Balance



- Calories Eaten/Energy In
 - Macronutrients
 - Protein, fat, carbohydrate
 - Alcohol (drug)
- Calories Burned/Energy Out
 - Basal Metabolic Rate (BMR)
 - Non-exercise activity thermogenesis (NEAT)
 - Thermic Effect of Food (TEF)
 - Exercise Activity Thermogenesis (EAT)

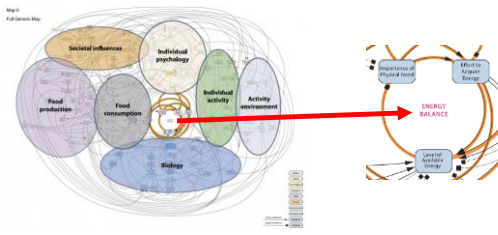


How Diets Work for Weight Loss

Diet	How It Works	Why It Works
Macro Counting/IFYM	Track and eat a specific amount of each macro (carbs, fat, protein)	Creates a calorie deficit
Keto Diet	Eat almost 0 carbs, high fat and moderate protein	Creates a calorie deficit
Intermittent Fasting	Eat for only a certain number of hours per day	Creates a calorie deficit
Paleo Diet	Eat no processed food or dairy	Creates a calorie deficit
Low Carb Diet/Atkins	Eat high protein, moderate fat, low carb	Creates a calorie deficit
Weight Watchers	Eat a certain number of "points" that represent an amount of food	Creates a calorie deficit



It's More Complex Than That



Exercise As A Benefit For Weight Loss



How Can Exercise Benefit Weight Loss?

- Energy expenditure/Calories burned
- Muscle mass increase/reduced loss
- Stress reduction/mental health



Energy Expenditure from Exercise

- Exercise burns calories
- Increasing NEAT may have a bigger impact than exercise
- May be able to eat a little more and still lose weight




How Much Does Exercise Burn?

Calories Burned in 30 MINUTES	
MALE	FEMALE
Swimming - moderate	346
Swimming - moderate	325
Walking - 3 mph	173
Mowing - push	278
Cardio/Pilates - moderate	218
Aerobics yoga	205
Walking - 4 mph	200
Cleaning Gutters	200
Chopping Wood	242
Ragging	273
Spinning - vigorous	218
Zumba	315
Cross fit	286
Rope jumping	299
Cycling - 14.5 mph	420
Rowing 12 mph	241
170 lbs - 5'10" - 40 years of age	135 lbs - 5'7" - 40 years of age




Effects on Muscle Mass

- During weight loss, you will lose both fat and fat-free mass
- Including resistance training exercise (and eating adequate protein), can reduce the amount of muscle loss
 - Some people can gain muscle while losing weight
- Benefits - reduces impact on metabolic changes
 - As you lose weight, you are smaller and your body needs to use less energy to sport your smaller size
 - Maintaining muscle keeps your BMR higher




Stress


- Chronic stress can impact weight
 - Changes in appetite
 - Changes in food cravings
 - Coping mechanisms that lead to increased energy intake and decreased energy output
- High cortisol levels actually breakdown both muscle and fat
 - Impacts recovery from exercise and performance improvements
 - Unhealthy coping mechanisms lead to fat gain
- Stress can impact sleep
 - Impact recovery, change appetite, affect capacity to adhere to your program



American Psychological Association
<https://www.apa.org/helpcenter/stress>



Exercise As A Challenge For Weight Loss



How can exercise "hurt" my weight loss efforts?

- Physiological/behavioral effects of exercise on energy expenditure
- Physiological effects of exercise on energy intake
 - Hunger/hormones driving intake
- Psychological effects of exercise on energy intake
 - Eating back calories burned/earned
- Sleep



Effects of Exercise on Total Energy Expenditure

- Adding exercise can increase total energy expenditure by increasing EAT, however,
 - May reduce NEAT remainder of the day
 - Some people may eat more
- May need up at least 60 minutes per day if relying on exercise alone for weight loss
 - Best option for weight loss is a combo of exercise AND dietary changes



Why Do We Eat?

- Time of day
- Food availability
- See/smell food
- Stress/other emotions
- Just want to eat
- Hunger



Appetite Regulation

- Starting (initiation) and stopping eating (satiation) and time in between eating bouts (satiety) is driven by many factors
 - "Satiety Cascade"
 - Psychological/behavioral patterns, peripheral physiological/metabolic events, neural/metabolic events in the brain
 - Short-term regulators
 - Gastrointestinal tract
 - Ghrelin, CCK, PYY, GLP-1
 - Macro intake
 - Protein has strongest effect on satiety
 - Long-term regulators
 - Body composition (fat and fat free mass)
 - Leptin, insulin
 - Tells your body long-term how much energy is available
 - As you lose weight, leptin decreases which tells your body to eat more and burn less...
- All of this can be easily overridden in our current food environment



Major Influences on Appetite Control

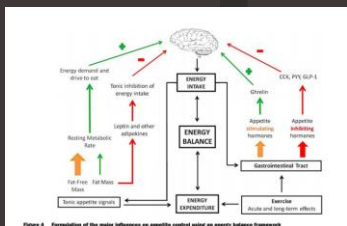


Figure 4. Formulation of the major influences on appetite control using an energy balance framework.

Hopkins, M., & Roark, J. (2018). Energy balance, body composition, endocrine and appetite regulation pathways to obesity. *Obesity*, *26*, 1215-1228.



Effect of Exercise on Appetite

- Lots of individual variability in appetite response to exercise
- Short-term/one exercise bout
 - Many people are not hungry immediately after exercise
 - In research you don't see a large increase in hunger or food intake after exercise
- Long-term/exercise over months
 - Leads to an increase in energy intake
 - Better control over appetite and coupling it with energy needs
- Sedentary individuals are less able to regulate energy intake
 - More likely to eat above their needs

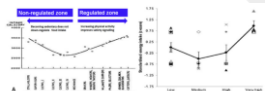


Figure 5. A sedentary individual's energy intake is not coupled with energy needs.



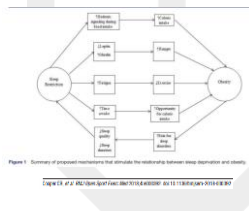
Psychological Effect of Exercise on Eating Behaviors

- Burned more calories = earned more calories?
- Activity tracker said I burned this much
 - Accuracy = off by 9-43%
 - Actually burned 400 calories, could report 572 calories!
- Feelings of hunger
 - Real or believed?



Exercise or Sleep?

- Don't always pick one over the other
- Not getting enough sleep
 - Negatively impacts hunger and appetite regulation
 - Can lead to increased calorie intake the next day
 - Fatigued so less active
 - Increases lean body mass loss and decrease fat mass loss during weight loss




Exercise and Long-Term Weight Loss Maintenance



Exercise and Long-Term Weight Loss Maintenance

- Weight loss maintenance is hard but it's the ultimate goal
- Both experimental and observational research point to the importance of exercise
- National Weight Control Registry
 - High levels of exercise >150min/week related to better weight loss maintenance (amount to burn ~400 calories per day)




The "Best" Exercise For Weight Loss



What Type Of Exercise Should I Do?


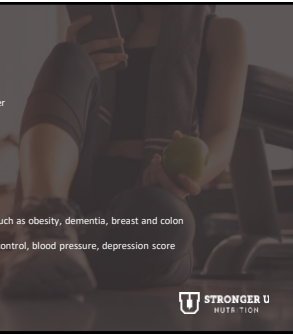
- Specifically for weight loss
 - Aerobic exercise may have the biggest impact
 - Increases energy expenditure more
- For long-term success
 - A combination of aerobic exercise and resistance training will be the most beneficial
 - Move your body regularly!
- How much?
 - 150 min/week (30 minutes 5x/wk)
 - 60 mins per day for greater weight loss benefits
 - Resistance training at least 2x/week
 - 3-4x/week even better

Physical Activity Guidelines for Americans
<https://www.health.gov/our-messages/physical-activity/guidelines-for-americans/index.html>



Importance Of Exercise

- Overall health
 - Sleep better, feel better and function better
- Immediate effects
 - One bout activity
 - Reduces blood pressure and anxiety
 - Improve insulin sensitivity, sleep, cognition
- Reduced disease risk
 - Large number of diseases and conditions such as obesity, dementia, breast and colon cancer
 - Improves cardiovascular fitness, glycemic control, blood pressure, depression score




Tying It All Together



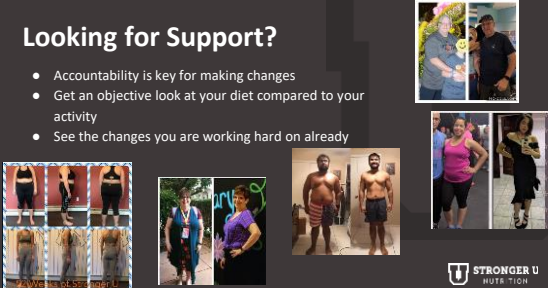
In Summary

- Exercise is great and you should do it :)
- However, the direct impact on weight loss is relatively small compared to diet so combine both for the greatest success!
- You truly cannot outrun a bad diet
 - Trying to do so may make weight loss even harder!
- Find something that you enjoy and will stick too
 - Include some muscle building exercises if you can
- Keep your body moving!



Looking for Support?


- Accountability is key for making changes
- Get an objective look at your diet compared to your activity
- See the changes you are working hard on already



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Thank You!

Looking for more information?
info@strongeru.com
<https://strongeru.com/>



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