

Health Positive: Fat loss, Metabolism and Energy Support

What is Metabolism?

Metabolism refers to the complex set of chemical reactions that occur within the body's cells to sustain life. These reactions are essential for converting the food and drinks we consume into energy, which the body uses to perform all its functions, from breathing and circulation to cell growth and repair. Metabolism is divided into two main categories:

1. **Catabolism:** The breakdown of molecules to obtain energy. This process releases the energy stored in chemical bonds, which is then used to fuel bodily activities.
2. **Anabolism:** The synthesis of all compounds needed by the cells. This includes the building of muscle tissue, bone density, and the storage of energy for future use. Anabolism occurs with the presence of needed nutrients from food and fluid.

Importance of Supporting Metabolism

Energy Production

1. **Cellular Energy:**
 - **ATP Production:** The energy currency of the cell, adenosine triphosphate (ATP), is produced through metabolic processes such as glycolysis, the citric acid cycle, and oxidative phosphorylation.
 - **Sustained Energy Levels:** Efficient metabolism ensures a continuous supply of ATP, providing energy for daily activities, exercise, and overall bodily functions.
2. **Mental Alertness:**
 - **Brain Function:** The brain consumes a significant amount of energy. Proper metabolic function ensures that the brain has the energy it needs for cognitive tasks, concentration, and mental clarity.

3. Physical Performance:

- **Muscle Function:** Muscles require energy for contraction and endurance. Metabolism provides the necessary fuel for physical activities, from everyday tasks to intense workouts.

Fat Loss

1. Energy Expenditure:

- **Basal Metabolic Rate (BMR):** The number of calories the body needs at rest to maintain vital functions such as breathing, circulation, and cell production. A higher BMR means more calories burned at rest.
- **Thermogenesis:** The process of heat production in organisms. This includes the thermic effect of food (TEF), which is the energy required to digest, absorb, and metabolize nutrients.

2. Fat Utilization:

- **Lipolysis:** The breakdown of fats into fatty acids and glycerol, which are then used for energy. Efficient metabolism supports this process, aiding in fat loss.
- **Insulin Sensitivity:** Improved insulin sensitivity helps the body more effectively use glucose for energy and reduces the storage of excess glucose as fat.

Increasing insulin sensitivity is beneficial for improving blood sugar control, reducing the risk of type 2 diabetes, and promoting overall metabolic health. Here are several evidence-based strategies to enhance insulin sensitivity:

1. Diet

a. Focus on Whole Foods:

- Low Glycemic Index Foods: Choose foods that have a low glycemic index (GI) such as whole grains, legumes, fruits, and non-starchy vegetables to prevent spikes in blood sugar levels.
- Fiber-Rich Foods: Foods high in fiber, such as vegetables, fruits, whole grains, and legumes, can help improve insulin sensitivity by slowing the absorption of sugar and reducing blood sugar spikes.
- Healthy Fats: Include sources of healthy fats such as avocados, nuts (coconut oil, macadamia oil, pumpkin seed oil, and olive oil, which can improve insulin sensitivity. Omega-3 fatty acids found in fatty fish like salmon, mackerel, and sardines are particularly beneficial.

b. Reduce Refined Carbs and Sugars:

- Minimize the intake of refined carbohydrates and added sugars found in sugary drinks, baked goods, and processed foods as they can lead to insulin resistance.
- Make sure to read the nutrition labels and pay attention to the serving size in grams and the macronutrient breakdown i.e fat content, carbohydrate content and protein content all measured in grams per serving. Serving size is very important as it determines the caloric intake per serving.

c. Balanced Macronutrients for fat loss, body recomposition, and building muscle:

- Ensure balanced meals with a good ratio of carbohydrates, proteins, and fats to stabilize blood sugar levels.
- Macronutrient prescription is different for every individual and is unique to your current body composition, height, weight, age, basal metabolic rate and goals in terms of fat-loss, muscle building, and overall health and energy goals.

2. Exercise

a. Aerobic Exercise:

- Activities such as walking, running, cycling, and swimming improve insulin sensitivity by enhancing glucose uptake by muscles.
- Improves and enhances cardiovascular health

- Improves and enhances cognition and focus
- Improves and enhances lymphatic system and detoxification processes of the body
- Enhances stress management and sleep for rest and recovery processes
- Aids in the mental creative process, mental clarity, decision making, maintaining positive mindset for goal setting and achievement patterns

b. Strength Training:

- Weight lifting and resistance exercises increase muscle mass, which helps the body utilize glucose more efficiently, improving insulin sensitivity.
- Teaches and reinforces the individual's mind that you have the power and ability to change your body through effort and action which then enhances all other areas of life; physical, mental, emotional, and energetic/spiritual.

3. Weight Management

a. Lose Excess Weight:

- Even a modest weight loss of 5-10% can significantly improve insulin sensitivity. Aim for a healthy, sustainable rate of weight loss through diet and exercise.

b. Maintain a Healthy Weight:

- Prevent weight gain by maintaining a balanced diet and regular physical activity, which helps to keep insulin sensitivity in check.

4. Supplementation

a. Chromium:

- Chromium supplements can enhance insulin activity and glucose metabolism.

b. Magnesium:

- Adequate magnesium intake is associated with improved insulin sensitivity. Good sources include leafy greens, nuts, seeds, and whole grains.

c. Berberine:

- This plant compound has been shown to improve insulin sensitivity and lower blood sugar levels.

d. Omega-3 Fatty Acids:

- Supplements or consumption of fatty fish can improve insulin sensitivity and reduce inflammation.

Supplementation: IV combinations (\$125) and IM shots (\$18) available at Health positive (packages also included in weight-loss coaching program)

- Adenosine Monophosphate
- Arginine (L)
- B-Complex + AMP
- Carnitine
- Acetyl-L-Carnitine
- NAD+
- Niacinamide
- Riboflavin (as sodium phosphate)
- Thiamine HCl
- Pyridoxine HCl (Vitamin B6)
- Methylcobalamin (Vitamin B12)
- Hydroxocobalamin (Vitamin B12)

- Cyanocobalamin (Vitamin B12)

5. Lifestyle Modifications

a. Reduce Stress:

- Chronic stress can lead to elevated levels of cortisol, which can increase insulin resistance. Techniques such as mindfulness, meditation, yoga, and deep breathing can help manage stress.

b. Improve Sleep:

- Poor sleep quality and insufficient sleep can negatively affect insulin sensitivity. Aim for 7-9 hours of quality sleep per night to support metabolic health.

c. Stay Hydrated:

- Drinking sufficient water can help maintain healthy blood sugar levels and improve insulin sensitivity.

6. Minimize Inflammatory Foods and Toxins

a. Avoid Trans Fats and Processed Foods:

- Trans fats and highly processed foods can increase inflammation and insulin resistance.
- High caloric foods usually in small non satisfying portions can easily put you into a caloric surplus for your body causing fat gain
- Fatty and processed foods also contribute to cravings for more of these types of foods, increases candida overgrowth in the bowel causing dysbiosis of gut bacteria that leads to bowel health disruption i.e bloating, gas constipation issues

b. Limit Alcohol:

- Excessive alcohol consumption can impair insulin sensitivity. Moderation is key.
- Alcohol also leads to gut bacteria dysbiosis, candida overgrowth, bowel health disruption, increases risk of gastric/stomach ulcers, leads to poor food choices and overeating
- Dehydrates the body
- Weakens the immune system
- Impairs good decision making processes
- Leads to fatigue, ill health, poor energy, poor mental function as the body rids itself of its toxicity over the next 24-48 hours
- Leads to fatty liver disease and with prolonged use can lead to chronic liver disease

c. Quit Smoking:

- Smoking is associated with increased insulin resistance. Quitting smoking can improve insulin sensitivity and overall health.

Key Components for Supporting Metabolism

Nutrients

1. B Vitamins:

- Role: Essential for converting carbohydrates, fats, and proteins into energy. They act as coenzymes in metabolic processes.
- Sources: Whole grains, meat, eggs, dairy products, legumes, seeds, and leafy green vegetables.

2. Iron:

- Role: Critical for oxygen transport in the blood and energy production in cells. Iron is a component of hemoglobin and myoglobin, proteins that carry oxygen in the blood and muscles, respectively.
- Sources: Red meat, poultry, fish, legumes, and fortified cereals.

3. Magnesium:

- Role: Involved in over 300 enzymatic reactions, including those involved in ATP production and muscle function.
- Sources: Nuts, seeds, whole grains, leafy green vegetables, and legumes.

4. Protein:

- Role: Provides the building blocks (amino acids) for muscle repair and growth. Protein consumption also increases the thermic effect of food (TEF), aiding in calorie burning.
- What is TEF? Certain foods require more energy and calories to break them down therefore foods with a high TEF can aid in weightloss simply from eating more of them.
- Protein increases satiety and has a higher TEF therefore prioritizing protein and having protein in every meal can greatly facilitate fat loss. The general rule is to aim for 20-30 grams of protein per meal and 10-20 grams of protein per snack.
- Sources: Meat, fish, poultry, dairy products, eggs, legumes, protein supplements such as whey, casein, or plant based protein powders and/or protein snacks/bars caution: be sure to read the labels a good protein 'snack' has 18-22 grams of protein per 200-220 calorie bar with no more than 15-25 grams carbohydrate. Make sure to always read the labels.

Lifestyle Factors

1. Exercise:

- Role: Regular physical activity boosts metabolic rate both during and after exercise. Strength training builds muscle mass, which increases BMR since muscle tissue burns more calories at rest compared to fat tissue.
- Types: Aerobic exercises (e.g., running, cycling) and anaerobic exercises (e.g., weight lifting, high-intensity interval training).

2. Hydration:

- Role: Water is essential for all metabolic processes. Adequate hydration supports optimal metabolism, as dehydration can slow down metabolic rate.

- Recommendation: Drinking enough water throughout the day, particularly before meals, can also help control appetite and promote weight loss.

3. Sleep:

- Role: Quality sleep is crucial for metabolic health. Lack of sleep can disrupt hormones that regulate appetite and energy expenditure, leading to weight gain and decreased metabolic efficiency.
- Recommendation: Aim for 7-9 hours of quality sleep per night to support metabolic health and overall well-being.
- Implement 20-30 min nap mid day if possible when sleep at night is impaired

4. Stress Management:

- Role: Chronic stress can elevate cortisol levels, which can lead to increased appetite, fat storage, and decreased metabolic rate. Effective stress management techniques can help mitigate these effects.
- Techniques: Mindfulness, meditation, yoga, and regular physical activity.

Supporting metabolism is crucial for maintaining energy levels, enhancing physical and mental performance, and promoting fat loss. A well-functioning metabolism ensures efficient energy production and utilization, which is vital for overall health and well-being. Incorporating a balanced diet rich in essential nutrients, regular exercise, adequate hydration, quality sleep, and effective stress management can significantly enhance metabolic health and aid in achieving energy and weight management goals.