

A woman with dark curly hair tied back is in a gym, lifting a dumbbell with her right arm. She is looking off to the side with a focused expression. The background shows gym equipment like treadmills and other machines, slightly out of focus. A semi-transparent text box is overlaid on the center of the image.

Importance of Muscle Building *for Diabetes Management*

WORKOUT, NUTRITION,
AND RECOVERY TIPS TO
INCREASE / MAINTAIN
MUSCLE MASS

INTRO TO MUSCLE BUILDING

Why it Matters

Building muscle isn't just for bodybuilders, it's important for *everyone*. Your muscles control all your body movements - from climbing a flight of stairs to picking up a bag of groceries. That's why muscle mass is a crucial part of your overall health.

Why is Muscle Important?

Muscles don't just make you look good, they help your body work better. Case in point: **Muscle tissue burns more calories than fat**, even when you're at rest. This means that increasing your muscle mass can help rev up your metabolism!

Muscle even helps manage your blood sugar. When your muscles contract, they take up glucose from your bloodstream. Your cells can then use that glucose for energy, whether insulin is around or not.

The problem is that muscle mass declines with age. *The good news?* You can slow this decline and increase muscle mass with the right exercise and nutrition.



Benefits of Building Lean Muscle Mass

- Burn more calories
- Improve muscular endurance
- Protect your body from injury
- Support your joints
- Promote healthy bones
- Improve insulin sensitivity
- Boost mental well-being
- Promote good posture
- Slow age-related muscle loss
- Prevent chronic illness



MUSCLE BUILDING 101

The Basics

The process of gaining muscle mass is known as muscle hypertrophy. And it typically involves resistance training.

Resistance training, (aka strength training), is a type of exercise that uses a form of resistance, whether that be weights, resistance bands, or body weight, to build muscle strength and endurance.



Pushing yourself hard and lifting heavy weights creates small muscle tears, which your body then has to repair. The end result? Bigger muscles.

But your workout routine is just one piece of the puzzle. Nutrition and recovery play a huge role in muscle building too.

In this guide, we'll cover everything you need to know to help you build muscle, including why it's important if you have diabetes, and how to support your workouts with nutrition and recovery.

But first, let's go over a key muscle-building tool: progressive overload.

What is Progressive Overload?

This strength training technique involves gradually increasing the intensity of your workouts. The goal is to challenge your muscles. That way, you grow stronger with each workout. Progressive overload could involve using heavier weights, or doing more reps, more sets, or reducing the rest time between sets.

WHY FOCUS ON STRENGTH TRAINING

For Diabetes Management

Strength training is important for diabetes because it improves insulin sensitivity and blood sugar control, increases muscle mass, reduces fat mass, and can help prevent or manage complications.

It works by making the body more efficient at using insulin and helps maintain muscle, which is crucial for glucose management.

How strength training helps with diabetes

Improves blood sugar control:

Consistently performing strength training can improve your body's long-term ability to manage blood glucose levels.

Boosts insulin sensitivity:

Strength training exercises helps your body use insulin more efficiently, which is a key factor in managing diabetes.

Increases muscle mass:

Strength training builds and maintains muscle, which can get lost with age or inactivity. Muscle mass is vital for controlling blood sugar.

Reduces body fat:

It helps decrease fat mass, further contributing to better overall health and diabetes management.

Helps prevent complications:

By improving insulin sensitivity, body composition, and other health markers, strength training can help reduce the risk of diabetes complications.

How to get started

Aim for consistency: The ADA recommends strength training at least two to three times per week.

Start small: You can start with ten minutes of strength training and gradually increase.

Find what works for you: You can use your body weight, resistance bands, or dumbbells, and you can exercise at home, at a gym or get outdoors. The best exercise...is the one you will actually do!

Consider combining with aerobic exercise: While strength training alone is beneficial, combining it with aerobic exercise often provides the best results for blood sugar control.

Important considerations

Monitor blood sugar: Check your blood glucose levels before, during, and after exercise, especially when you are starting out, and consult your healthcare provider.

Talk to your doctor: It is crucial to get the "OK" from your doctor before starting any new exercise program, particularly if you are considering high intensity exercise.

Hire a personal trainer: If you are new to strength training, consider working with a fitness professional to help with exercise form and injury prevention.





WEIGHT LIFTING TIPS

To Build Muscle

- 1 – **Lift heavier weights.** To build muscle, opt for heavier weights and fewer reps over lighter weights and more reps. The weights should be heavy enough that the last 1-2 reps reach muscle fatigue.
- 2 – **Pick the right number of reps.** Generally 8-12 reps, reaching muscle fatigue is right for building strength. Fewer reps and heavier weight may be needed for building significant muscle volume. If performing 12 reps is too easy, try lifting heavier weights.
- 3 – **Incorporate compound exercises.** Compound exercises like squats, lunges, deadlifts, and bench presses use multiple muscle groups. Be sure to mix them into your routines, as well as isolated exercises like bicep curls.
- 4 – **Go light on cardio.** Overdoing it on cardio can interfere with muscle growth from strength training workouts. Light cardio 2-3 times a week is great.
- 5 – **Use progressive overload.** To build muscle you need to gradually increase the intensity of your workouts. Some days this could mean heavier weights. Other days, it could mean more reps, more sets, shorter rest times, or better form.
- 6 – **Stick to a training schedule.** Building muscle takes consistency. Aim for 3-4 workouts a week, and you *will* see results over time!



NUTRITION TIPS

For Muscle Building

Nutrition is the second piece of muscle-building. To grow new muscle tissue, you need to supply your body with the right nutrients. Nutrition-wise, this means:

- 1 – Consuming more protein than you break down.** Proteins are the building blocks of muscle. So getting enough is crucial if you want to grow muscle. Distribute protein intake throughout the day to help stimulate muscle growth and manage blood sugar. Include leucine-rich foods (an amino acid that triggers muscle growth) like milk, eggs, meat, poultry, fish, soy, and wheat. Aim for roughly 1 gram of protein per pound of body weight. [Research](#) shows this tends to be the sweet spot for muscle gains. If you're stumped on how to hit that goal, don't worry! We've included a list of high-protein foods below.
- 2 – Meal timing and insulin.** If you take insulin, work with your healthcare provider to adjust dosages for exercise to prevent hypoglycemia. A larger protein intake might require additional insulin to manage blood glucose levels. Talk to your provider about timing your workouts, insulin injections and meals to find a good balance. Then stay consistent with that schedule.
- 3 – Stay hydrated!** Prioritize your water intake. Drink water throughout the day. Learn signs of dehydration, recommended amounts and why it's important for diabetes [here](#).

High Protein Foods

Animal-based

- 4 oz chicken breast: 35 grams
- 5 oz salmon: 30 grams
- 4 oz ground turkey: 30 grams
- 2 hard-boiled eggs: 12 grams
- 1 can tuna: 25-30 grams
- 1 tin of sardines: 23 grams
- 1 cup cottage cheese: 25 grams
- 1 cup Greek yogurt: 19 grams
- 1 scoop whey protein: 20 grams

Plant-based

- 1 cup cooked lentils: 18 grams
- 1 cup black beans: 15 grams
- 1 cup tofu: 20 grams
- 1 cup edamame: 17 grams
- 2 ounces of almonds: 12 grams
- 2 tbsp peanut butter: 8 grams
- 2 tbsp chia seeds: 5 grams
- 2 tbsp hemp seeds: 6 grams
- 1 scoop pea protein: 15-20 grams

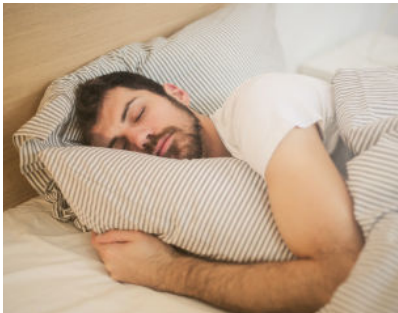


MUSCLE RECOVERY

Why it Matters

Recovery is the final piece of muscle-building. As mentioned, lifting heavy weights creates micro-tears in your muscles. During the post-workout period, your muscle tissue recovers and becomes stronger.

That's why recovery time is crucial. **Overtraining or skimping on rest can interfere with the muscle repair process.** Here are some tips to help you recover:



Get enough sleep. Your body does most of its repair work while you snooze. On top of that, your body releases human growth hormone (HGH) during sleep, which helps your body build muscle. Shoot for 7 to 9 hours of sleep each night.



Check in with your body. Sore muscles are a sign your body needs a day to recover. If you're super sore, give that muscle group a break until the soreness subsides. In the meantime, you can work other muscle groups that aren't sore or take a day off.



Try active recovery. On recovery days, you don't have to skip workouts altogether. Just aim for active recovery exercises like walking, light yoga, or gentle stretching. Or try a [foam rolling routine](#) to massage sore muscles.



Post-workout protein. Eating protein after workouts helps replenish your glycogen stores and speeds muscle repair. Aim for between 10-30 grams post-workout.