

Physical activity and type 2 diabetes



Physical activity can help you to manage and improve your diabetes.

How much physical activity should I do?

To manage and improve your diabetes, try to be active most days of the week.

Both **aerobic and resistance activities** can help your diabetes. **Flexibility and balance activities** also have health benefits.

-  **Aerobic** activities work your heart and lungs, such as walking, cycling, jogging, cross-country skiing and swimming.
-  **Resistance** activities strengthen your muscles, such as push-ups, squats, lifting weights and aquatic exercises.
-  **Balance** and **flexibility** improve your range of motion and stability, reduce your risk of falls, and can prevent injury and strain, such as tai chi, pilates and yoga.

Monitor your intensity

Use the “talk test”:

- **low-intensity activity** is when you can talk or sing with ease; you do not experience any shortness of breath.
- **moderate-intensity activity** is when you can talk, but not sing.
- **vigorous-intensity activity** is when you are unable to say more than a few words before you need to pause for a breath.

This handout for adults describes:

- how much physical activity you should do, and
- how physical activity can affect your diabetes.

The following table describes your physical activity “prescription” for aerobic activities.

Aerobic Physical Activity Prescription

HOW MUCH?

- Warm up for 3–5 minutes *before* aerobic exercise.
- Aim for *150 minutes of aerobic activity per week*. For example,
 - ▶ 10 minutes, 3 times/day for 5 days,
 - ▶ 30 minutes/day for 5 days, or
 - ▶ 50 minutes/day for 3 days.
- Cool down for 3-5 minutes *after* aerobic exercise.

HOW HARD?

- Aim for a *moderate- to vigorous-*intensity level. This means:
 - ▶ your heart beats faster,
 - ▶ your body feels warmer,
 - ▶ you are sweating lightly,
 - ▶ your breathing is deeper,
 - ▶ you can still talk easily, but not sing.

What aerobic activities would you like to do?

Aim for 150 minutes of aerobic activities per week.



Resistance Physical Activity

Resistance activities strengthens your muscles, such as training with free weights and resistance bands, or using your own body as resistance (for example, going from sitting to standing, or climbing stairs).

Work all your major muscle groups

It is important to do resistance activities for all of your major muscles.

- Choose 6–10 different activities for each session.
- Start at an intensity and duration that is safe for you.
- Do each exercise slowly in a controlled way.
- Alternate between muscle groups to speed up your workout by allowing some muscles to rest while you work others. For example, you can choose a lower body exercise, such as squats, followed by an upper body exercise, such as chest presses.
- If you feel pain or cannot complete your set, the intensity may be too high. Reduce the weight you are using or the number of repetitions you are doing.
- Over time, you can slowly increase the number of sets that you do for each activity or slowly increase how much you lift.

Do each exercise slowly in a controlled way.



The following table describes your resistance physical activity “prescription”.

Resistance Physical Activity Prescription

HOW MUCH?

- Do one “set” of an exercise for 10–15 repetitions, such as 10–15 squats.
- Aim for:
 - ▶ 6–10 different resistance exercises,
 - ▶ 2–4 sets of *each* exercise per session,
 - ▶ at least 20 minutes per session,
 - ▶ 2–3 days per week.

HOW HARD?

- Aim to work at a *moderate-intensity* level. This means:
 - ▶ your heart beats slightly faster than when you are resting,
 - ▶ you are sweating lightly,
 - ▶ breathing is deeper and faster.
- Your muscles should feel exhausted by the end of the set, that is, you cannot do another repetition.
- *Rest* for
 - ▶ 2–4 minutes before starting a new set or muscle group,
 - ▶ at least 1 day between resistance training sessions.

What resistance physical activities would you like to do?

Note: A qualified exercise professional can show you what exercises work best for you and how to work at a safe intensity.

Balance Physical Activity

Balance is important as you age and can be practiced daily or as often as possible. Balance activities improve your motor skills and coordination, as well as reduce your risk of falling. They can be simple exercises, such as standing on one leg. They can include resistance or flexibility activities that emphasize balance and coordination, such as tai chi, pilates or yoga.

Activities should be challenging, but you should not feel unsafe, like you are about to fall. If you are at risk of falls, use supports, such as a chair or walker while doing the activities.

Examples of seated activities:

- range of motion exercises using arms and legs, such as arm or leg circles,
- coordinated movement of arms and legs.

Examples of standing exercises that can be done with or without hand support:

- standing on one foot,
- standing with feet close together,
- sit-to-stand,
- dynamic movements, such as kicking and catching,
- walking sideways and backwards or walking on or near a line.

Balance Physical Activity Prescription

HOW MUCH?

Aim for *at least*

- 30 seconds/exercise
- 20–30 minutes per session,
- 2–3 days per week.

HOW HARD?

Aim for a *moderate-intensity* level. This means the activities:

- are challenging,
- require concentration, and
- may require you to hold a chair or wall for support sometimes.

What balance physical activities would you like to do?

Flexibility Physical Activity

Flexibility physical activity improves your range of motion. Daily flexibility activity is the most effective.

Do a variety of stretches that target both upper and lower body muscle groups. Include some stretching regularly in your warm-up and cool-down every time you exercise.

If the stretching activities are too hard, ask an exercise professional how to adapt them to match your level of flexibility.

Flexibility Physical Activity Prescription

HOW MUCH?

Aim for *at least*

- 2–4 repetitions of each exercise targeting the major muscles,
- 10 minutes per session,
- 2–3 times per week.

HOW HARD?

- Stretch to the point of mild discomfort or tightness (but not pain) and hold the stretch.
- Build up to holding stretches for 30 seconds.

What flexibility physical activities would you like to do?



Include some stretching regularly in your warm-up and cool-down every time you exercise.

When you begin a new activity, start at your own comfort level.

As you become used to doing the activity, you can slowly increase:

- **how long** you are active,
- **how often** you are active,
- **how many** activities you do,
- **how hard** you work.

How does physical activity help my diabetes?

Short-term benefit: lower blood sugar levels.

Your blood sugar levels will go down during and after physical activity.



The **short-term benefits of physical activity last 1-2 days after you are active**. So, don't wait more than 2 days between your physical activity sessions!

Long-term benefit: your body will use insulin better.

Over time, regular physical activity will increase your body's sensitivity to insulin. This means the sugar in your blood will be used more easily by your body throughout the day.



When you begin a new activity, start at your own comfort level.

More benefits

Being physically active on a regular basis can give you many other benefits, such as:

-  reducing your need for diabetes medication,
-  improving how well your heart works,
-  giving you more control over your body weight,
-  helping you to manage stress,
-  improving how well you sleep, and
-  boosting your energy and strength.

Remember:

- Aerobic and resistance physical activities can help you manage and improve your diabetes.
- You will see many other benefits from being more active.
- Keep it fun! Make fun physical activity a lasting part of your life.

What is one thing you can do *today* to start being more active?

- Topics in this toolkit:
- A. Taking the first step: deciding to be physically active
 - B. Making a physical activity plan
 - C. Setting goals for physical activity
 - D. What stops you from being physically active?
 - E. Benefits of physical activity
 - F. Physical activity and your blood pressure
 - G. High blood pressure safety
 - H. Physical activity and Type 2 diabetes
 - I. Diabetes safety
 - J. Healthy weight and physical activity
 - K. Physical activity and anxiety
 - L. Anxiety safety
 - M. Physical activity and chronic heart failure
 - N. Chronic heart failure safety
 - O. Physical activity and stroke
 - P. Stroke safety
 - Q. Physical activity and Parkinson's Disease
 - R. Parkinson's Disease safety
 - S. Physical activity and dementia
 - T. Dementia safety