

Safety considerations

Please consult with your health care provider before starting an exercise program to make sure you are safe to do so, especially if you have other medical conditions, your health status changes or are pregnant.

If you are not sure how to do these exercises, ask your diabetes care provider or a qualified exercise professional to help you get started.

Guidelines for resistance exercise

Tips to stay safe:

- **Maintain good posture:**
Avoid rounding or twisting your back.
- **Move slowly and with control:**
3 seconds up, 3 seconds down.
- **Don't hold your breath:**
Breathe out when you push or pull, release after each repetition.
- **Stay within a comfortable range of motion.**
- **Use appropriate resistance:**
Choose a band or weight that feels somewhat hard for you.

Increase resistance gradually:
Shorter bands = harder; longer bands = easier. Increase the resistance or add weight as the exercises become easier.

Benefits of resistance exercise for diabetes management

Did you know that resistance exercise (activities that require your muscles to work against a weight or force) will not only improve your overall strength but will greatly improve your management of diabetes?

Resistance exercise:

- strengthens your muscles and bones
- maintains and increases muscle
- helps to keep your blood sugar in your target range.

Resistance exercise can help with reducing complications of diabetes as well as maintaining fitness as we get older. The Canadian exercise guidelines recommend resistance exercise 2-3 times a week.

Getting started

You don't have to go to a gym to get the benefits of resistance training. All you need are simple forms of resistance such as:

- Your own body weight
- Exercise bands
- Light dumbbells or hand weights
- Other items you may find around the house such as cans or milk jugs filled with water

Guidelines for Progression in Resistance Training

Follow the plan below. It will help you slowly increase how many times you do each exercise. Your goal is to do 8-15 repetitions of each exercise, 2-3 times a week. Start at the 'Improvement' stage if you already exercise sometimes and have no health problems. You can also start there if you have finished the 'Beginner' resistance exercises. If the exercise feels too easy, use heavier weights and do fewer repetitions.

Program Stage	Week	Frequency (days/week)	Intensity	# of sets x repetitions
Initial stage	1	2	Light resistance	2 x 8
	2	2		2 x 10
	3	2		2 x 12
	4	2		2 x 15
Improvement	5 - 7	2	Try increasing weight by 2.5-5 lbs	2 x 8
	8 - 10	2		2 x 10
	11 - 13	2 - 3		2 x 12
	14 - 16	2 - 3	Try increasing weight by 2.5-5 lbs	2 x 8
	17 - 20	3		2 x 12
	21 - 24	3		2 x 15 or 3 x 8
Maintenance	25 +	3	Try increasing weight by 2.5-5 lbs and consistently use this resistance level	2 x 15 or 3 x 8

Table adapted from: Warburton, et al. 2006

Intermediate Exercises

❑ 1. Hips & Thighs



START: Stand with weight at your sides, chest up, feet hip-width apart, and knees bent. Slowly lower yourself with knees over your toes. Keep your back straight and chest up.

FINISH: Hold the bottom position with knees bent. Don't drop down into a squat. Slowly raise yourself back up. Breathe.

❑ 2. Chest



START: Lie on the ground (or stand slightly away from a wall) with hands just below your armpits. Tighten your abdominals and hips to keep your body straight. Press up from your toes or knees (or away from the wall) keeping elbows at your sides.

FINISH: Press out, extending your elbows. Pause at the top. Breathe. Slowly return to starting position.

❑ 3. Upper Back



START: Stagger feet for balance. Keep back flat to maintain neutral spine. Place a hand on the seat of the chair for support.

FINISH: Weight is lifted up to the side even with the shoulder, so the palm is facing down. Slowly return to starting position.

❑ 4. Middle Back



START: Place one foot in front of the other for balance. Keep back flat to maintain neutral spine. Place a hand on the seat of the chair for support.

FINISH: Pull weight upwards until your outside hand is beside your ribcage. Pause. Slowly lower to starting position. Alternate sides.

❑ 5. Shoulders



START: Stand in a balanced, comfortable position with arms down to the side. Shoulders back and relaxed, chest up, and knees slightly bent.

FINISH: Lift arms to side, trying to not shrug shoulders. Lift to shoulder height with palms down or facing forward (modification). Pause. Slowly lower to starting position.

❑ 6. Upper Arm - Front



START: Stand with weight to the side. Relax shoulders. Palms facing forwards.

FINISH: Curl hand to shoulder, keeping your elbow at your side at the lower ribs. Pause. Slowly lower to starting position.

❑ 7. Legs - Back



START: Lie on the floor with your knees at 90°. You can also do this with your feet up on a chair.

FINISH: Push heels into the floor while lifting your hips off the floor. Tighten stomach muscles and buttocks without over-arching your back. Return to starting position.

❑ 8. Lower Back



START: Start on all fours. Tighten abdominals and maintain neutral spine (natural back curve).

FINISH: Extend leg straight back, without arching in the back, while tightening your abdominals. Pause. Return to starting position. Alternate legs.

❑ 9. Abdominals



START: Lie on your back with both knees bent. Hands down by your side.

FINISH: Tighten abdominals as you curl upward. Slide hands towards your heels, moving them about the length of your hand. Slowly return to starting position.

DIABETES
CANADA

For additional nutrition and fitness information, visit
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