



## Introductory Resistance Exercise Program

Diabetes Canada



## Guidelines for Resistance

### Only Do the Exercises You Are Able To Do

- Make sure that you do not do any exercises that hurt (for example, sore shoulder or sore knee – see a physician or physiotherapist if you have any questions). Remember to check your feet daily.

- If you have confirmed eye or kidney disease, discuss resistance exercises first with your physician or diabetes care provider.

### Maintain Stable and Proper Posture for each Exercise

- Keep your chest out.
- Avoid rounding the shoulders or twisting your back.

### Keep Each Movement Slow and Controlled

- 3 seconds up; 3 seconds down

### Do Not Hold Your Breath

- Exhale with effort.
- Release your breath with each repetition.

### Keep to a Comfortable Range of Motion

- Use a complete range that is comfortable for you. Use an Appropriate Resistance
- Pick a band that makes it moderately hard to do the exercise.

### Increasing the Resistance Used

- Change the length of the resistance band – Shorter band = harder – Longer band = easier

### Where to start

- Begin at the initial stage if you are inactive and want to start easy with resistance exercise.
- Begin at the improvement stage if you are somewhat active and have no medical limitations.

## Resistance Plan Progression

**\* Start at the improvement stage if you are somewhat active and have no medical limitations.**



Program Stage	Week	Frequency (days/week)	Intensity	# of sets x repetitions	
			Exertion Level		
Initial stage	1	2	Light	1 x 8	
	2	2	Light	1 x 10	
	3	2	Moderate	1 x 12	
	4	2	Moderate	2 x 8	
	Improvement*	5 - 7	2	Moderate	2 x 10
		8 - 10	2	Moderate	2 x 12
		11 - 13	3	Moderate	2 x 8
	14 - 16	3	Somewhat Strong	2 x 10	
	17 - 20	3	Somewhat Strong	2 x 12	
	21 - 24	3	Somewhat Strong	2 x 15	
Maintenance	25 +	2 - 3	Moderate – Strong	2 x 15 or 3 x 8	

Table adapted from: Warburton, et al. 2006

### Why is resistance exercise important?

This type of exercises uses more muscles than just walking. It includes upper body muscles that are rarely used! It helps maintain or increase lean muscle which can also increase your metabolic rate. This helps you burn more calories while at rest!

It is important for BOTH **weight control** and **diabetes management**.

You do NOT need a gym. All you need are exercise bands, your own body weight, light dumbbells/hand weights, household items such as water bottles, milk jugs, cans, etc.

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Begin with 6-8 exercises. As you feel comfortable, add 1-2 exercises a week (up to 12 exercises).

## Hips & Thighs

1



**Start:** Sit at the front of the chair, chest up, and feet hip width apart. Slowly lift out of the chair with your knees directly over your toes. Keep your back straight and arms out.  
**Finish:** Hold the top position with knees bent. Slowly bend knees to lower yourself to the chair. Don't drop to the chair.

## Chest

2



**Start:** Place the band around your upper back. Grab the ends of the band with elbows bent and palms facing down or inward.  
**Finish:** Press out, extending your elbows forward to shoulder level. Slowly return to starting position.

## Upper Back

3



**Start:** Grasp the band with both hands in front of your chest with the elbows slightly bent and shoulders down.  
**Finish:** Keep elbows slightly bent and pull band outward until the band reaches across your middle chest. Hold the end position briefly, squeezing the shoulder blades together. Slowly return to starting position.

## Middle Back

4



**Start:** Wrap the middle of the band around an extended foot. Grasp both ends of the band at the outside of your knee with your outside hand.  
**Finish:** Pull band backwards and slightly up until your outside hand is beside your ribcage. Pause. Slowly lower to starting position.

## Shoulders

5



**Start:** One foot and hand anchor one end of the band. The other hand is beside the shoulder grasping the band, hand level with the chin, and arm straight up from the floor.  
**Finish:** Extend the arm overhead until directly over the shoulder. Try not to lean to one side. Pause. Slowly lower to starting position.

## Shoulders

6



**Start:** Anchor as per #5 with slightly shorter band. Grasp the band at position just outside the knee. Can have palm down or palm forward (easier on the shoulders).  
**Finish:** Lift arm to side with elbow slightly bent. Lift to shoulder height or slightly below shoulder height if you have shoulder problems. Pause. Slowly lower to starting position.

## Upper Arm - Front

7



**Start:** Keep same anchor position as #6, except slightly shorter band length. Grasp band with palm facing up.  
**Finish:** Curl hand to shoulder keeping your elbow at your side at the lower ribs. Pause. Slowly lower to starting position.

## Upper Arm - Back

8



**Start:** Seated at the front edge of the chair and chest up. Place the band around your knee, anchoring the band with one hand on the opposite thigh and holding the other end of the band down at your side with your elbow bent.  
**Finish:** Extend your elbow until your arm is straight down by your side. Pause. Slowly return to starting position.

## Legs - Front

9



**Start:** Tie the band in a knot and wrap around your feet, or tie the band around one leg of the chair with your foot through the loop.  
**Finish:** Extend one leg out, keeping your knee in the same position. Keep your posture. Pause. Slowly return to starting position.

## Legs - Back

10



**Start:** Stand behind the chair holding the back for support. Wrap the tied band around your ankles, or tie the band around a leg of the chair with your foot through the loop.  
**Finish:** Curl one ankle up. Keep the knee in the same position and your back stable. Pause. Slowly return to starting position.

## Lower Back

11



**Start:** Stand behind the chair holding the back for support, with knees slightly bent, and leaning forward with back straight. You can wrap a band around your ankles, or do the exercise without a band.  
**Finish:** Extend one leg out so that it is in line with your body. Don't over-extend the leg or arch in the low back. Pause. Slowly return to starting position.

## Abdominals

12



**Start:** Seated comfortably in the chair, chest up, and both knees bent with the feet on the ground in front of you.  
**Finish:** Lift one knee so that it is higher than the opposite knee, or slightly rock back with both feet on the ground. Tighten your abdominals. Keep your chest up. Pause. Slowly return to starting position.

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Perform 2-3 sets of 8-12 repetitions for 6-12 exercises, 2-3 days per week.

## Hips & Thighs Modification

1



**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.

## Chest Modification

2



**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.

## Upper Back

3



**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.

## Middle Back

4



**Start:** Stagger feet 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.

## Shoulders

5



**Start:** Sit at the edge of the chair. Tighten abdominals and keep chest up. Weight is held at shoulder level with palms forward or facing your ears.

**Finish:** Extend one arm overhead until directly over the shoulder. Try not to lean to one side. Pause. Slowly lower to starting position. Alternate arms.

## Shoulders Modification

6



**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.

## Upper Arm - Front

7



**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.

## Upper Arm - Back

8



**Start:** Seated at the front edge of the chair, chest up. Place one hand holding weight behind your head with your elbow up beside your ear.

**Finish:** Extend only from the elbow until your arm is straight over your head. Pause. Lower weight to starting position. Alternate sides.

## Legs - Front

9



**Start:** Stand with legs staggered. Hold weight in outside hand. Hold the back of the chair with your free hand.

**Finish:** Bend down so your back knee moves towards the floor. Only go down as far as you feel comfortable. Keep chest up.

## Legs - Back

10



**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 bottom off the floor. Tighten abdominals and buttocks without over-arching your back. Return to starting position.

## Lower Back

11



**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 contracting your abdominals. Pause. Return to starting position. Alternate legs.

## Abdominals

12



**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 one-hand distance. Slowly return to starting position.