



## Safe Exercise with Diabetes

Always consult with your doctor before starting a new exercise or fitness routine. Certain types of sports and activities may not be compatible with your health profile. For example, people with retinopathy (a form of diabetic eye disease) should avoid weight lifting and those with peripheral neuropathy should not place undue strain on their feet or other affected limbs. In addition, conditions such as cardiovascular disease, autonomic neuropathy, or nephropathy (kidney disease) may influence the intensity at which a person can safely work out. Your healthcare provider may recommend diagnostic tests such as a cardiovascular stress test or an electrocardiogram (ECG) to evaluate your heart function or reflex and monofilament tests to assess peripheral neuropathy.

Once you've gotten the go-ahead to embark on a fitness program, you'll need the appropriate gear and guidance to ensure a safe exercise session. Rules to follow:

- **Check your levels.** Self-test blood glucose levels before and after a workout. The ADA recommends avoiding exercise if fasting glucose levels are >250 mg/dl (13.89 mmol/l) and ketosis is present, and using caution if glucose levels are >300 mg/dl (16.67 mmol/l) and no ketosis is present. If levels are below 100 mg/dl (5.56 mmol/l) before exercise, have a snack and retest in 15 minutes.
- **Keep a log.** Tracking your blood sugar response to different activities and environments (e.g., a hot walking track versus a cold ice skating rink) and food intake is important for recognizing trends and making treatment adjustments.
- **Sweets for safety.** Keep a source of fast acting carbohydrates (e.g., glucose gel or tablets; Sweet Tarts; juice box) on your person for hypoglycemic emergencies.
- **No insulin before exercise.** Muscles in action will metabolize insulin injections faster and enhance the glucose lowering effect of exercise even further, posing a very real risk for hypoglycemia.
- **Stay hydrated.** Staying well-hydrated before, during, and after exercise is important for preventing erratic blood sugars and heat stroke.
- **Identify yourself.** Always wear a medical identification tag or bracelet in a prominent place on your body when you work out, so if you lose consciousness others will know how to help you.
- **Warm up and cool down.** The ADA recommends a warm-up of 5–10 min of aerobic activity (walking, cycling, etc.) at a low-intensity level and gentle stretching for an additional 5–10 minutes. The cool-down should also last 5–10 minutes until heart rate has returned to pre-exercise levels.
- **Dress appropriately.** Well-fitting shoes and socks and breathable and weather-appropriate clothing are essential for preventing foot problems and heat stroke.