

Heart Disease and Diabetes: Targets of Care

Recommended ranges for blood pressure, blood glucose, cholesterol, body mass index (BMI), and physical activity.

Diabetes management requires many different techniques, each with a different goal. Believe it or not, management involves goals for blood pressure, cholesterol, physical activity, and weight in addition to your blood sugar. People with diabetes who understand their goals are able to be active members in treatment decisions with their healthcare provider.

Blood Sugars: Fasting 80-130 mg/dL, Post Meal <180 mg/dL, A1C <7% or 8% in select individuals

Both high blood sugar (or glucose) and low blood sugar can be a problem for people with diabetes. High blood sugar can damage blood vessels, worsen cholesterol levels and make blood pressure more difficult to manage. When blood sugar falls, the body responds by increasing the heart rate and adrenaline. In people with heart disease, increased heart rate can cause a heart attack.

Daily control of blood sugars should be reviewed with your diabetes care team. Be sure to bring your blood glucose meter or logbook to each visit. A laboratory test called a hemoglobin A1C estimates a 3-month average of your blood sugar. Both the hemoglobin A1C and self-monitored blood sugars are used together for treatment decisions. Below are recommendations from the American Diabetes Association for blood sugar monitoring.

Monitoring Parameters	Recommended Ranges	When to Check
Fasting Blood Glucose	80-130 mg/dL	8 hours without food
Post Meal Blood Glucose	<180 mg/dL	< 2 hours after eating
A1C Goal – Most Adults	<7%	3 months in uncontrolled 6 months if at goal
A1C Goal – Less Strict*	<8%	3 months in uncontrolled 6 months if at goal

*Less strict A1C for people who are sensitive to low blood sugar levels (advanced age, history of severe heart disease, long duration of diabetes).

Blood Pressure: <140/90 mmHg or <130/80 mmHg

Uncontrolled blood pressure also damages blood vessels and further increases the risk of stroke, heart attack, and heart failure. For this reason, your blood pressure should be checked at every office visit. Your diabetes care team may recommend a drug called an ACE-inhibitor or ARB in order to reach blood pressure goals. These medications have benefits beyond blood pressure control including kidney and cardiovascular (or heart) protection.

Blood Pressure Goal

ADA Recommendations

Less than 140/90 mmHg

Most people with diabetes and no additional risk factors

Less than 130/80 mmHg

People with diabetes and at least one additional risk factor: smoking, high cholesterol, family history of premature heart disease, obesity, and presence of protein in the urine

Weight: 7% sustained weight loss

People who are overweight or obese are at high risk of heart disease especially those with diabetes. Calculation of body mass index (BMI) is a way to compare your weight with your height. People with a healthy weight have a BMI between 18 and 24.9 kg/m² while overweight people have a BMI between 25 and 29.9 kg/m² and obese people have a BMI greater than 30 kg/m². A sustained weight loss of 7% is ideal in people who are overweight. Your diabetes educator or registered dietitian can help create an individualized plan to help you meet your weight loss goals.

Physical Activity: 150 min over 3 days of physical activity and 2 days of resistance training

Physical activity reduces ASCVD risk, improves blood sugar management, and increases weight loss. Activities should involve both physical activity and resistance exercise. Physical activity exercises include swimming, running, biking and anything else that gets your heart rate up. Resistance training exercise is short-lasting and high-intensity and should work all major muscle groups like using resistance bands, weight training or exercises that use your own body weight to work your muscles. Some diabetes medications may require adjustment and additional monitoring during exercise. Before beginning a new physical activity program, talk to your healthcare provider to ensure your body is healthy enough for your new plan.

Cholesterol: Moderate to high statin dose: 30-49% reduction in LDL or High statin dose >50% reduction in LDL

One of the most effective strategies to reduce your risk of heart disease is to manage cholesterol. Excess cholesterol builds up in our arteries and eventually leads to heart attacks and strokes. This process is also known as atherosclerotic cardiovascular disease (ASCVD). Medications called statins reduce LDL cholesterol (or "bad" cholesterol) and ASCVD risk by 20%. You can calculate your risk with the online calculator found at <http://tools.acc.org/ASCVD-Risk-Estimator/>. People with an estimated ASCVD risk above 7.5% should be started on statin therapy.

Cholesterol Monitoring: Laboratory tests should be ordered every 4 to 12 weeks in people not reaching their LDL goal on statin therapy. Those at their goal only need testing every 6 to 12 months.

Aspirin Therapy: 81 mg daily in people with ASCVD or a 10 year ASCVD risk of 10%

Aspirin 81 mg (also known as baby aspirin) reduces ASCVD risk in people who already have heart disease and those at high risk. It's not safe for everyone to take aspirin, so be sure to talk to your diabetes care team before starting.