Exercise with a health condition

Last reviewed: October 17, 2026



For adults cleared to exercise with high blood pressure, type 2 diabetes or heart disease, training works as part of treatment.

Why it matters: A diagnosis often makes people more cautious about exercise, just when it can help most. The research shows how much it helps and which precautions matter.

The details: In trials it lowered blood pressure, improved blood sugar control and reduced heart attacks.

Before you start: This article is for readers whose doctor has cleared them to exercise. It does not replace an individual plan from your care team.

Go deeper

The big picture: The standard weekly targets in the exercise dose article still apply. Each condition adds a few details about which exercise to emphasize and what to watch for.

High blood pressure:

- A 2023 network meta-analysis pooled 270 trials with 15,827 adults [1].
- Compared with no exercise, average drops in resting blood pressure (systolic/diastolic) were 4.5/2.5 points for aerobic training, 4.6/3.0 for weight training, 6.0/2.5 for both combined, 4.1/2.5 for high-intensity intervals and 8.2/4.0 for isometric training, which means holding a position under strain.
- Isometric training ranked first for lowering systolic pressure, and the wall squat was the top single exercise. Running ranked first for diastolic pressure.
- These rankings are statistical estimates, and every type of exercise helped.

Type 2 diabetes:

- A 2011 meta-analysis pooled 47 trials with 8,538 adults [2]. It measured HbA1c, a blood test that reflects average blood sugar over recent months.
- Structured exercise lowered HbA1c by 0.67 percentage points compared with control groups: 0.73 for aerobic, 0.57 for weight training and 0.51 for both combined.
- More than 150 minutes a week lowered it by 0.89 points, compared with 0.36 for 150 minutes or less.
- Advice to be more active lowered HbA1c only when paired with diet advice.

Timing for blood sugar:

- In a 2016 trial, 41 adults with type 2 diabetes spent two weeks walking 30 minutes once a day and two weeks walking 10 minutes after each main meal [3].
- Walking after meals lowered blood sugar after eating by 12% on average, and by 22% after the evening meal.

Heart disease:

- A 2021 Cochrane review of exercise-based cardiac rehabilitation pooled 85 trials with 23,430 people with coronary heart disease [4].
- Within 6 to 12 months, heart attacks fell by 28% and hospital admissions by 42%. Deaths from any cause were probably slightly lower.
- In trials that ran more than three years, deaths from heart disease were 42% lower.

How hard is safe:

- A 2012 study tracked 4,846 people with coronary heart disease in Norwegian cardiac rehab programs over 175,820 hours of exercise [5].
- There was 1 fatal cardiac arrest in 129,456 hours of moderate exercise and 2 nonfatal cardiac arrests in 46,364 hours of high-intensity intervals.
- Serious events were rare at both intensities, though more frequent per hour with intervals. All of this exercise was supervised.

Lifting and breath-holding:

- A 1985 study measured blood pressure directly in the arteries of five experienced bodybuilders during heavy lifts [6].
- During double-leg presses to failure, peak pressure averaged 320/250, and one lifter exceeded 480/350.
- Holding the breath while straining added to the rise, and pressures climbed as sets neared failure. These were healthy young men, and the spikes lasted only seconds.

Reality check: These are group averages, and medications, other conditions and fitness all vary. The heart disease evidence comes mostly from supervised rehab programs.

How sure are we: Strong that exercise lowers blood pressure, improves blood sugar control and helps people with heart disease in supervised programs.

Build your plan with your care team

1. **Ask about cardiac rehab** if you have had a heart attack, a stent or bypass surgery. It is the most studied way back into exercise.
2. **Work up to the weekly targets.** In diabetes trials, more than 150 minutes a week brought larger improvements in blood sugar.
3. **Lift twice a week, and breathe through every rep.** Breathe out as you push, and stop a rep or two short of failure.
4. **For blood pressure, ask about isometric work** such as wall squats. Breathe steadily during each hold.
5. **For diabetes, walk after meals,** especially dinner. If you use insulin or another medicine that can cause low blood sugar, ask your care team how to time food, medicine and exercise [7].
6. **Judge effort by breathing.** If you take a medicine that slows your heart rate, heart rate zones may mislead you.
7. **Know when to stop.** Chest pain or pressure, unusual shortness of breath, dizziness or an irregular heartbeat means stop exercising and seek medical care.
8. **Add intervals gradually,** once you have a base of steady exercise and your care team agrees.

Sources

1. Edwards JJ, et al. Exercise training and resting blood pressure: a large-scale pairwise and network meta-analysis of randomised controlled trials. *British Journal of Sports Medicine*. 2023;57(20):1317. doi:10.1136/bjsports-2022-106503
2. Umpierre D, Ribeiro PAB, Kramer CK, et al. Physical activity advice only or structured exercise training and association with HbA1c levels in type 2 diabetes: a systematic review and meta-analysis. *JAMA*. 2011;305(17):1790–1799.
3. Reynolds AN, Mann JI, Williams S, Venn BJ. Advice to walk after meals is more effective for lowering postprandial glycaemia in type 2 diabetes mellitus than advice that does not specify timing: a randomised crossover study. *Diabetologia*. 2016;59(12):2572–2578. doi:10.1007/s00125-016-4085-2
4. Dibben G, Faulkner J, Oldridge N, Rees K, Thompson DR, Zwisler AD, Taylor RS. Exercise-based cardiac rehabilitation for coronary heart disease. *Cochrane Database of Systematic Reviews*. 2021;11:CD001800. doi:10.1002/14651858.CD001800.pub4
5. Rognmo Ø, et al. Cardiovascular risk of high- versus moderate-intensity aerobic exercise in coronary heart disease patients. *Circulation*. 2012.
6. MacDougall JD, Tuxen D, Sale DG, Moroz JR, Sutton JR. Arterial blood pressure response to heavy resistance exercise. *Journal of Applied Physiology*. 1985;58(3):785–790. doi:10.1152/jappl.1985.58.3.785
7. Colberg SR, Sigal RJ, Yardley JE, et al. Physical activity/exercise and diabetes: a position statement of the American Diabetes Association. *Diabetes Care*. 2016;39(11):2065–2079. doi:10.2337/dc16-1728. Professional guidance, cited for context.