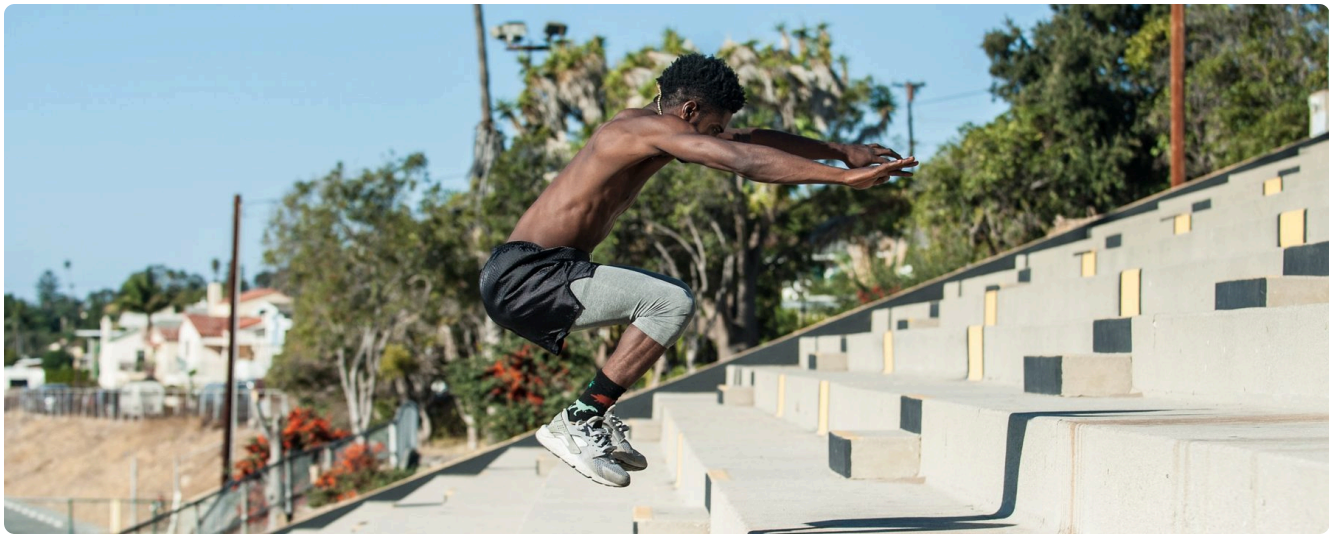
Power training

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Heavy lifting, jumps and fast lifts with moderate weights all build power, and combining them works at least as well as any one alone.

Why it matters: Many sports depend on power, and so does daily life as we age: catching yourself from a trip, climbing stairs, standing up quickly. Power declines with age, and it can be trained at any age.

The big picture: Power is strength applied quickly, as in jumping, sprinting or getting up from a chair. In older adults, power training improved everyday function a little more than traditional strength training.

What to do with this

- **Build a strength base first.** Stronger muscles can produce more power (see "The strength training dose").
- **Add fast movements:** lift moderate weights as fast as you can with control, and add jumps or throws (see "Plyometrics: jumps and throws").
- **Keep power reps crisp:** low reps, full rest, and stop when speed drops.
- **Older adults:** lift the weight quickly and lower it slowly, using machines or light weights if you're new, after checking with your doctor if you have a health condition.

Go deeper

The terms:

- **Power:** force multiplied by speed. In plain words, how fast you can produce force.
- **Rate of force development:** how quickly force rises at the start of a movement.
- **Ballistic exercise:** a movement where you accelerate all the way through and release or leave the ground, such as a jump, jump squat or medicine-ball throw.
- **Olympic lifts:** the clean, the snatch and their variations, fast full-body lifts used in many sports programs.
- **One-rep max (1RM):** the most weight you can lift once.

What people believe: Power training is only for elite athletes, and you need complicated Olympic lifts to do it. Neither is true.

Which loads produce the most power?

- A 2015 meta-analysis of 27 studies found the best load depended on the exercise [1].
- Jump squats produced peak power at light loads (about 30% of 1RM or less), back squats at moderate loads (about 30 to 70%), and power cleans at heavier loads (70% or more) [1].

Which training improves jumping?

- A 2025 meta-analysis in healthy athletes found heavy resistance training, plyometric training and combined training all improved vertical jump height [2].
- Combined training, mixing heavy lifting with jumps, improved countermovement jump height the most [2].

Older adults:

- A 2022 meta-analysis of 20 trials with 466 adults aged 60 and older found that power training, lifting the weight as fast as possible, improved physical function modestly more than traditional slower strength training [3].
- The evidence was rated low certainty, and the difference was small [3].

Between the lines: Getting stronger raises the ceiling on power; training fast teaches you to use it. Most people benefit from both, not one or the other.

Reality check: The jump studies were mostly in young athletes over a few months. The 2025 meta-analysis abstract contained some reporting errors in its confidence intervals, so its exact numbers are less certain than its overall direction. The older-adult trials were small.

How sure are we: Moderate that heavy, plyometric and combined training all improve jumping. Early that power training beats traditional strength training for function in older adults. Moderate that the best load for power depends on the exercise.

Add power to your training

1. **Strength first:** at least 8 to 12 weeks of regular strength training before adding heavy jumps.

2. **Pick one or two power moves** for the start of a session, while you're fresh: jump squats with light or no weight, box jumps, medicine-ball throws, or fast leg presses.
3. **Do 3 to 5 sets of 3 to 6 reps** with 2 to 3 minutes of rest. Stop the set if speed drops.
4. **Then do your regular strength work.**
5. **Two sessions a week** is plenty.

Sources

1. Soriano MA, Jiménez-Reyes P, Rhea MR, Marín PJ. The optimal load for maximal power production during lower-body resistance exercises: a meta-analysis. *Sports Medicine*. 2015;45(8):1191–1205. doi:10.1007/s40279-015-0341-8
2. Ma S, Xu Y, Xu S. Effects of physical training programs on healthy athletes' vertical jump height: a systematic review with meta-analysis. *Journal of Sports Science and Medicine*. 2025;24(2):236–257. doi:10.52082/jssm.2025.236
3. Balachandran AT, Steele J, Angielczyk D, et al. Comparison of power training vs traditional strength training on physical function in older adults: a systematic review and meta-analysis. *JAMA Network Open*. 2022;5(5):e2211623. doi:10.1001/jamanetworkopen.2022.11623