

# Plyometric training: Jumping and skipping exercises can help improve strength and fitness

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Credit: AI-generated image ([disclaimer](#))

It's recommended that [people get 150 minutes](#) of moderate to vigorous physical activity a week. But the part of this advice that people often ignore is that we should do muscle strengthening exercises twice a week.

When we think of muscle strengthening exercises, we often imagine people lifting weights in the gym. But there are actually many ways we can strengthen our muscles that don't involve going to the gym. For example, carrying food shopping bags in from the car or even walking uphill may both help us build strength.

One way athletes often improve strength and performance is through a method called plyometric training. This includes any [exercise](#) that uses jumping, hopping or skipping. The aim of plyometric training is to train the muscles, tendons and [nervous system](#) to get better at using their elastic energy. This allows athletes to have faster and more powerful movements that require less muscular effort to perform. So if a sprinter practices plyometric training, they may find it easier to reach their top speed and maintain it during races.

But while we might think plyometric training is a type of exercise only athletes need to do, it may actually have [health benefits](#) for everyone—whether you're a novice or avid exerciser.

## Full-body benefits

"Explosiveness"—which helps athletes jump higher or sprint a little faster— isn't the only benefit of plyometric exercises.

Studies have shown plyometric training improves [strength, muscle size and muscle speed](#), alongside [improving coordination](#). These changes can all lead to [better athletic performance](#)—from improved jumping, sprinting, strength and even endurance.

And it isn't just athletes who will benefit from plyometric training. Research shows [older adults](#) who perform plyometric exercises (such as vertical jumps) are [better able to jump and climb stairs](#) compared to those who only perform resistance training or walking. It's also been

shown to improve posture, [bone health](#) and reduce body fat in [older adults](#).

In adolescents, [jumping rope](#) (a form of plyometric training) is shown to improve strength, flexibility and bone density. For adults, it can help [improve everything](#) from jumping and sprinting ability to lower body strength. It may even improve [cardiovascular fitness and flexibility](#) in men and [bone density](#) in women.

Since plyometric exercises help improve coordination, they are also commonly used to help people [avoid and recover from injuries](#).

## What to know

While plyometric training can be very beneficial, it also has a risk of causing injuries if the exercises are performed incorrectly.

In the past, it was suggested people shouldn't perform plyometric training if they couldn't squat one and a half times their body weight—alongside being able to balance on one leg in a half-squat position for 30 seconds. This might be relevant for more advanced types of plyometric training such as [drop jumps](#) (where you drop off a platform onto one or both legs, and quickly jump back up upon impact) and [bounding](#) (running with a long, leaping stride). But there are many different types of plyometric training out there, which even beginners can do.

For example, activities such as skipping are lower intensity—so they have less impact on our muscles and bones than other types of plyometric training (such as jogging). Many people probably already do plyometric exercises without realizing.

Risk of injury with plyometric training increases with the force on

landing—so exercises such as drop jumps and bounding should be avoided until you have more strength. But if plyometric training is done in a way that's suited to your ability, it has a low risk of injury.

If you want to try plyometric training, there are a few movements you should master to keep your risk of injury low.

First, learn how to land properly. When you land, it should be on a full foot with the ankles, knees and hips bent to absorb force. You can work on this by simply balancing on one leg, then hopping slightly and landing on both. To progress, try balancing on one leg but landing on the opposite leg when you hop.

Once you've learned to land, it's important to learn to jump. Choose an object of suitable height that you feel comfortable to jump up on to—such as a small step—and practice jumping up and using the landing techniques to properly absorb the impact.

When you've mastered landing and jumping then you can progress to jumping on the spot repeatedly, such as skipping. Start with two feet at a time and progress to alternate single legs. As you become more confident and competent you can then start to progress the height of the repeated jumps in places—such as squat jumps (performing a squat as normal, but exploding into a jump at the top of the movement) and tuck jumps (similar to a squat jump, but tucking your legs into your chest at the top of your jump). To progress this further, try jumping forwards or sideways. Remember that the main aim of plyometric training is to be elastic. This is why it's important to aim to be "springy" on all of your jumps.

The most demanding plyometrics are known as shock jumps or depth jumps. These involve dropping off a bench or box (usually over 30 cm) onto the floor and performing an instant [jump](#). These jumps will have

high landing forces and should only be performed when you've mastered all the other techniques and can do them with confidence.

Plyometric training is a cost-effective, time-efficient form of exercise that can improve your health and fitness. If you want to try [plyometric training](#), aim to do plyometric exercises one to three times a week.

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