

# 5 Ways Athletes Do Plyometrics Wrong

If you've spent any amount of time training for a sport, you've undoubtedly heard the term plyometrics. You've probably even performed a few plyo workouts—which is good news, considering that **plyometrics are one of the most effective tools for developing more powerful athletes. Use them correctly and you'll be able to sprint faster, jump higher and change directions more quickly.**

Unfortunately, in the nearly 50 years since Yuri Verkhoshansky coined the term "Shock Training" to describe the method that ultimately became plyometrics, there have been plenty of opportunities for this training system to get abused and bastardized into something unrecognizable, unhelpful and downright dangerous.

Here's a breakdown of five ways that athletes and coaches get plyos wrong and changes you can make today to get them right.

## 1. You Don't Know the Difference Between Force and Power

This cuts to the core of what plyos are all about. If you don't understand the difference, then you can't understand what plyometrics are actually meant to do. Plyos are a technique for helping athletes transfer the strength (a.k.a., force) they build in the weight room into more power on the field or court. So what's the difference between force and power? The answer is time.

In the weight room, you need to produce enough force to move a weight. A 300-pound Squat requires the athlete to drive 300 pounds of force into the ground to move the weight up and back to the start position. How long it takes doesn't matter. You could hit the lift in a second, or fight it for 10 seconds. In either case, you're producing 300 pounds of force.

But in game situations, like jumping for a rebound, you only have a fraction of a second to produce the force that will get you off the ground and above your opponents to grab the board. If the defender standing next to you has the same squat strength as you but can produce that force half a second faster than you, guess what? He's going to get off the ground faster, jump higher and snag more rebounds.

**Power is what matters most in team sports, because time is the key difference maker.**

This is where plyometric training comes in. Plyos teach your body to apply the force you develop in the weight room in the shortest amount of time possible. Applying a big force in a little amount of time equals maximum power.

Far too many athletes spend all their time focused on the weight room trying to lift heavier and heavier weights. But that's only part of the power equation. They are missing the essential element of time—and that's improved best with plyos.

## 2. You Think Jumping Is Always a Plyometric Exercise

A lot of people refer to plyometrics as "jump training." While many plyo exercises involve jumping, jumping isn't always plyometric. The critical differentiator is an involuntary action in your muscles known as the stretch-shortening cycle (SSC).

The SSC is what happens in your muscles when you change directions in a hurry. It's basically a three-step process in which your muscles slow down your body's momentum, hold on to the energy that results from that movement for a tiny fraction of a second, and then convert that energy into more forceful movement.

So how does this translate into real-world activities? Again, it's all about time. If you were to jump slowly, that's not really plyometric training. But if you step off a box, land and then explode up as quickly as you can, that is a plyometric movement—because the rapid transition specifically targets the SSC.

Plyos make your body more efficient through the stretch shortening cycle. As you improve, your muscles become better able to generate fast, powerful movement. To reiterate, many plyometrics are some form of jump. But not all jumps are plyometric for the reasons we get into below.

## 3. You Think Plyos Make Great Conditioning Drills

There's been a recent trend of workouts—especially those packed in DVDs or streaming videos—that use plyometric moves as part of a high intensity cardiovascular circuit. That is a terrible idea. People who perform these workouts take on all of the risk involved with plyometrics with far less benefit. Plyos are a tool for developing power, not for burning fat. They are ill-suited for that purpose.

It all comes down to fatigue. Plyometric exercises are meant to be done with max force in as little time as possible. You achieve this by performing a few powerful and explosive reps with about 30 seconds of rest (or more) between sets to recover.

This allows you to spend less time on the ground between jumps. Your transition speed is faster, and less elastic energy is wasted as heat, making for more powerful movements. The rest interval enables your energy systems to fully recover so you can give your max effort with every rep.

Plyometric conditioning circuits are designed to cause fatigue, which is the exact opposite of what you want in a proper plyo workout. When you're tired, you spend too much time on the ground. All of the elastic energy you're creating gets lost as heat.

Will doing plyos fast help you get in shape? Sure. Repeatedly jumping is tough, & it challenges your conditioning. But when you're tired, you're also more likely to use improper technique. When technique breaks down, stress increases. Your landings gradually become harder & louder, and those jarring impact forces get absorbed by your joints rather than your muscles, which can lead to an injury over time.

## 4. You Save The Best For Last

Sometimes athletes reserve plyos for the end of their workouts. Which is precisely the wrong way to go.

It's simply not possible to perform plyos with full explosiveness at the end of a workout. Strength exercises fatigue your muscles and sap the amount of force they can produce. Also, your central nervous system, the control center that tells your muscles to fire, is no longer as able to produce explosive movements.

The result is a movement that looks like a plyo, but without the force and power needed to train the SSC. You might do a lot of jumping and put all your effort into the movement, but the jumps will almost certainly not be plyometric.

To solve this problem, perform plyos after your warm-up but before your heavy lifting or sprint work. You should be stretched and ready for explosive movements but still feel fresh. In short, warm up, do plyos, then lift or do speed drills.

## 5. You Believe Size Matters

It may look cool to leap on top of something that comes up to your chest, but using a box that's too tall too soon is a good way to hurt yourself. Far too many athletes take falls and injure themselves while trying to pull off big Box Jumps for the sake of showing off on social media.

Worse, it's not even beneficial from a training standpoint. In a proper Box Jump, your hips and knees should have about the same degree of bend when you land as they do when you start your jump. If you have to tuck your knees to your chest to land a leap, your box is too high.

For Box Jumps, Depth Drops and Depth Jumps, start with a box the same height as your knees, and gradually progress to taller boxes to keep the exercises challenging. For Depth Drops and Depth Jumps, use a box that allows you to land softly relative to your ability. You need to judge what feels right.

It's better to increase the difficulty gradually than to try and make big leaps and wind up with achy knees or ankles. A cautious approach is the way to go.

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