How to Do the Slide Step Without Losing Pitching Velocity

12-18 | Fundamentals | Coach Nick & the YSC Coaching Team

Last spring our 14U team played a club that ran on everything. Our starter, a right-hander who sat in the low 70s, gave up three stolen bases in the first inning, so between innings someone in the dugout told him to "just slide step." He did. The next inning nobody ran, and he also walked two batters, sat at 66 on the radar gun, and spiked a fastball that got by the catcher anyway. He'd traded a stolen-base problem for a pitching problem.

Nothing was wrong with his arm. He had been handed a delivery he'd never practiced, and it took away the one thing that made it work: a load into his back leg.

The short answer: a pitcher keeps velocity on the slide step by keeping the *load* and shortening only the *leg lift*. Instead of lifting the knee high, the front knee slides back toward the back knee while the weight shifts into the back hip, and then the pitcher drives forward exactly like his normal delivery. Velocity drops when the pitcher skips that load and lunges at the plate, which rushes the arm and leaves it late. Done right, most pitchers lose 0 to 2 mph and get to the plate in roughly 1.1 to 1.3 seconds instead of 1.5 or more.

Below: why velocity drops, the technique step by step, the time-to-plate numbers that matter, the league rule that makes the slide step pointless for a lot of younger pitchers, and the drill progression we use.

Why pitchers lose velocity on the slide step

The slide step itself doesn't cost velocity. What costs velocity is the way most kids do it the first time. We see three main causes.

1. They skip the load. In a full leg lift the pitcher gathers his weight over the back leg before moving forward. That stored energy in the back hip is a big part of what drives the delivery (we go deeper on this in how to use your legs when pitching). A rushed slide step goes straight from set to stride with no gather, so the pitcher is throwing with mostly upper body.

2. The arm gets left behind. Shortening the leg shortens the clock for everything else. The front foot lands before the arm is up in throwing position, so the pitcher either drags his arm through late (high misses, arm stress) or cuts his arm path short (lower velocity). A coaching video from Coach Dan Blewett makes this point well: a slide step that is only about speed takes away the pitcher's ability to make a quality pitch.

3. They drift or lunge. Without a balance point, many pitchers let their head and chest jump toward the plate early. Their stride gets shorter, they open up early, and the ball comes out flat. If that sounds familiar, it's the same problem we cover in teaching young pitchers to stay closed. The slide step tends to make it worse.

Researchers who have looked at high school pitchers' slide step mechanics have found changes in timing and sequencing compared with the normal stretch delivery. That matches what we see on video: the parts are the same, but they happen in a different order and in less time.

Slide step technique: the load-and-go version

There are several versions of the slide step. The one we teach is closer to a "knee-to-knee" move than a true no-lift slide, because it keeps the load. Here is the sequence for a right-handed pitcher.

Set position. Feet a little narrower than shoulder width, slight bend in the knees, weight about 60/40 toward the back leg. Hands set comfortably at the chest. Before he moves, a pitcher who's already sitting a little into his back hip has a head start on the load.

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Knee-to-knee gather. Instead of lifting the front knee to the belt, the front knee moves back and in until it nearly touches the back knee. The front foot stays low, just off the ground or barely brushing it. At the same moment the weight sinks into the back hip. The cue we use is "knees kiss, hips sit." This takes about a quarter of a second. That small move is what keeps the velocity.

Hands break with the knee. The hands separate as the knees come together, not after. If the hand break is late, the arm will be late. We cover the timing in detail in our hand break mechanics drills, and on the slide step it's the most important piece.

Drive and stride. From the gather, the pitcher pushes off the back leg toward the plate with a normal stride length. The stride should be as close to the pitcher's regular stride as possible. A stride a few inches short is common at first and is fine to start with, but a stride that's way short means he never loaded.

Finish the same. Foot strike, rotation, release and follow-through should look identical to his regular stretch delivery. If the finish looks different, something went wrong earlier in the sequence.

Time to plate: what the numbers mean

"Time to plate" is the time from the pitcher's first movement to the ball hitting the catcher's glove. Time it with a stopwatch or by counting video frames.

- **Regular stretch with a full leg lift:** most high school pitchers are somewhere around 1.4 to 1.7 seconds.
- **Good slide step:** roughly 1.1 to 1.3 seconds. Many high school programs use 1.3 as the target.
- **Catcher pop time** (glove to glove on a throw to second): about 2.0 to 2.3 seconds for a solid high school catcher, slower at younger ages.

Add the pitcher's time to the catcher's pop time and compare it with how long a runner takes to get from first to second (often around 3.3 to 3.6 seconds for a quick high school runner with a lead). A 1.6 delivery plus a 2.2 pop time is 3.8 seconds, so that runner is safe. A 1.25 delivery plus the same pop time is 3.45 seconds, which is a close play.

Be realistic about the gain, though. Slide steps often save only a tenth or two of a second compared with a quick regular delivery. A pitcher who already gets to the plate in 1.35 with a quick leg lift may get more out of varying his looks than out of a slide step that costs him 3 mph.

The rule most coaches forget: does your league even allow leads?

This is the part almost nobody writing about slide steps mentions, and it matters for a lot of the families who read our site.

In **Little League Baseball through the Majors division (12U and under)**, runners can't leave the base until the pitched ball reaches the batter. No leads means no jump. A slide step at that level costs velocity and command and gives back nothing, because the runner isn't going anywhere until the ball is already past the pitcher's time-to-plate window.

Leads and steals open up in Little League's Intermediate (50/70) and Junior divisions, in most travel and USSSA baseball, Babe Ruth, Pony from certain age levels, and in high school. Rules vary by organization and age group, so check your rulebook. (Our 2026 Little League rule changes breakdown is a good place to start.)

Our rule of thumb: **don't teach the slide step until a pitcher is about to play in a league where runners can lead off.** For most kids that's 13U. Before that, the time is better spent on stretch mechanics and strikes.

When a youth pitcher is ready to learn it

Age matters less than these three questions:

1. **Does he throw strikes consistently from the regular stretch?** If his stretch delivery isn't repeatable yet, adding a second, faster version will make both worse.
2. **Can he hold his set position and vary his timing?** Holding the ball for one second, then three, then two is a free tool that slows down the running game without any velocity cost.

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3. **Does he have a usable pickoff move?** The slide step only works as part of a set of options, along with picks, step-offs and varied holds. A runner who knows the pitcher only has one move will just time it.

If the answer to all three is yes, start the progression below. If not, build those first. Our youth pitching drills cover the stretch fundamentals.

Slide step drill progression

We run this over two to three weeks, a few minutes per bullpen or catch session. The order matters: load first, speed last.

> **Step 1 — Knee-to-Knee Hold (5 min)** From the set position, the pitcher does the knee-to-knee gather and freezes for two seconds. Check that his weight is sitting in the back hip (you should be able to see the back knee flex slightly) and that the front foot is barely off the ground. No throw yet. 10 reps. Coaching cue: "Knees kiss, hips sit, hold it."

> **Step 2 — Gather and Go at Flat Ground (8 min)** Same gather, but now no pause: gather, then stride and throw to a partner at 45–60 feet at about 75% effort. The goal is to feel the drive coming from the back leg, not the arm. 15 throws. Coaching cue: "Sit, then push the ground away."

> **Step 3 — Hand Break Sync (5 min)** Pitcher does dry reps (no ball or a towel) in front of a coach or a phone camera. The hands must separate the same instant the knees come together. Film it at slow motion and check that the throwing arm is up when the front foot lands. 10 reps. Coaching cue: "Knees and hands go together."

> **Step 4 — Alternating Deliveries on the Mound (10 min)** From the stretch, alternate one regular leg lift, one slide step, for 20 pitches. Have someone run a radar gun or pocket radar if you have one. Track velocity and strikes for both. A gap of 2 mph or less with similar strike rate means it's working. A bigger gap means go back to Step 2. Coaching cue: "Same finish, shorter start."

> **Step 5 — Stopwatch Bullpen (8 min)** Now add the clock. A coach times first movement to glove on each slide step pitch. Target is 1.3 or under, but only count reps that are strikes. A 1.15 that bounces doesn't count. 12 pitches. Coaching cue: "Quick feet, patient arm."

> **Step 6 — Live Runner Looks (10 min)** Put a runner on first. The pitcher mixes holds of different lengths, a pickoff, a step-off, a regular delivery and a slide step. The catcher calls the pitch, and the pitcher chooses the look. Runners try to steal on any pitch. This is where the slide step becomes a game skill instead of a drill. Coaching cue: "Never give him the same look twice."

A quick note on equipment: you don't need much for this. A stopwatch, a phone that films slow motion, and a pocket radar if you can afford one cover it. A pitching target helps for Step 5 so the catcher doesn't have to move. If you're building a home setup, we keep a short list of pitching training gear at theranchsports.com.

Mistakes we see most often

Using it on every pitch with a runner on. The slide step is a change-of-pace tool. If a pitcher uses it every time, his average velocity with runners on drops for the whole game. Use it when the runner is a real threat and the count makes a steal likely.

Speeding up the arm to match the legs. The legs get faster. The arm doesn't need to. When pitchers try to rush their arm, they lose their release point. "Quick feet, patient arm" is the cue for a reason.

Teaching it before the stretch is solid. We said it above, and it's the number one issue we see with 12- and 13-year-olds who get a slide step from a well-meaning coach before their regular delivery is repeatable.

Skipping the radar gun check. Without numbers, nobody knows what the slide step is costing. Our 14U right-hander from the opening story was losing 6 mph. After three weeks of the progression above he was within 2 mph and getting to the plate in 1.28. Nobody stole on him the rest of the summer, and he didn't walk anyone because of the slide step.

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How the slide step fits into the bigger picture

The slide step is one small part of a pitcher's toolbox for runners. It doesn't replace a good pickoff, a catcher with a quick release, or simply varying how long he holds the ball. And it should never cost so much velocity that the hitter becomes the bigger problem.

If you're working with a pitcher who's losing velocity in general, not just from the stretch, our guide on how to increase arm velocity compares the training methods that actually work. For more pitching fundamentals, see our full baseball coaching hub.

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