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(See “Questions and Answers” Page on our website)

## Speed Training

The number one criterion for developing or increasing speed is pitching mechanics. The mechanics keys that are at the top of the list are:

- 1) Four Points of Resistance
- 2) Fluid connection of the kinetic chain beginning with the lower body traveling up through the shoulder rotation, transferring into the arm whip and then transferring into finger snap
- 3) Whipping action of the throwing arm and subsequent deceleration that transfers energy into the fingers

You can order a mini-video lesson on each of these keys from our website: [www.paulygirlfastpitch.com](http://www.paulygirlfastpitch.com)

Here are my favorite pitching drills for focusing on speed.

## **Distance throwing**

1. Many pitchers, parents, and coaches ask us what is the single best method of increasing pitching speed. Our normal answer is **DISTANCE THROWING**. I want to describe how we teach distance throwing because it is different than what most people think it is.
2. We try to do our distance throwing on a softball field that has a backstop. The reason for this is that the backstop provides a clear frame of reference for the pitcher.
3. Our method instructs the pitcher to throw the ball **as high in the air as they can** because this will typically be your longest throw also. As a matter of fact we want the pitchers to throw the ball 15—20 feet higher than the backstop and over the backstop. Most intermediate level pitchers should be able to do this from second base. The pitchers that successfully at least hit the backstop then step back another 5 feet and make another throw; again attempting on every throw to get it 15-20 feet higher than and over the backstop. As long as the pitcher can hit even the bottom of the backstop they are allowed to go back another 5 feet for another throw.....etc., etc., etc.
4. When the pitcher throws high you will note that their landing posture is tilted back behind vertical-----this is great since your pitcher should land tilted back on every pitch they throw regardless of drop, rise, curve, changeup, etc. Related to this you will also note that pitchers that don't land with the backward tilted posture can't throw the ball very far....of course not their mechanics are incorrect.
5. The second key is to use a riseball grip and spin when throwing distance. There are a few good reasons for doing this: 1) a riseball spin will travel farther than a dropball spin, 2) you must be strong to overcome the centrifugal force of the ball when your fingers are cupped under it like a riseball. Therefore, it strengthens your grip more than if you just grip dropball/fastball, and 3) it will improve your riseball faster than any other drill you can do.
6. We do encourage the pitchers to use a walk-in approach to throwing distance. It definitely helps the overall performance.
  
7. Now here's an added advantage to throwing distance which can save you the \$800 purchase of a radar gun. There is a direct correlation between distance and speed. Below is the conversion chart. There are exceptions to every rule but we have found this to be accurate on 90% of the pitchers we measure and it is accurate within about plus or minus one mile per hour.
8. 

<b><u>Distance (Feet)</u></b>	<b><u>Speed (MPH)</u></b>
<b>100</b>	<b>50</b>
<b>125</b>	<b>55</b>
<b>150</b>	<b>60</b>
<b>175</b>	<b>65</b>
9. **You can easily interpolate between these distances/speeds. Every 5 feet equals 1 MPH.**

## **Walk-in pitching**

Walk-in pitching should be performed such that the ball is released at about 40 feet (similar to pitching distance off the mound). But the pitcher should start at about 48 feet or whatever distance allows her to take three to four aggressive steps prior to release. The start of the walk-in should be such that the pitcher's first step is normal but each subsequent step builds speed so that her last step is her fastest. Running into the pitch is not recommended.

The momentum built by the fast walk-in pace should assist in an explosive push-off.

Subsequently, the landing foot must attempt to stop all forward energy and thus help transfer energy from linear into rotational. The pitcher should not put too much emphasis on pitch location (however, low pitches are faster if timing on a radar gun) ----the emphasis should be on developing energy and maximizing it at release. (Grunting is encouraged).

Performing 10—12 walk-ins at the end of a practice session is a good enough to maintain high speeds or increase speed.

## **Underloading**

Notice I said underloading (not overloading). I am not a proponent of weighted balls for increasing speed. In my opinion weighted balls create slow reactions.....just the opposite of what we try to do to be faster.

Underloading is accomplished by using three balls that are progressively lighter than a regular softball. The intent of Underloading is to create faster muscle reaction and nervous system reaction. My recommendation for Underload training is such:

- 1) Throw 6 pitches as hard as possible from the mound using a regulation weight ball
- 2) Throw 6 pitches as hard as possible using a 5 oz. ball
- 3) Throw 6 pitches as fast as possible using a 4 oz. ball
- 3) Throw 6 pitches as hard as possible using a 3 oz. ball
- 4) Throw 6 walk-in pitches as hard as possible using the 3 oz. ball

Each time you progress down to a lighter ball you will notice a tendency to throw high-----of course; because the lighter weight allows everything to react faster and thus release timing is changed initially. Location is not the top priority here---it is "throwing so hard your eyeballs pop out"

## 60 Second drill

The 60 second drill will increase both speed and endurance. Here is how it works:

1. Pitcher and catcher stand about 30 feet apart.
2. Pitcher has a ball and catcher has a ball. There should be 4-5 extra balls within arm's reach of the catcher in case of an errant pitch (typically I put them on top of a bucket).
3. The first pitch thrown can be full motion, but after that the pitcher should start her motion from wherever she takes the ball out of the glove....ideally she will be able to throw in a slingshot fashion on all subsequent pitches.
4. As soon as the catcher receives a pitch she throws her ball back to the pitcher....the idea is for the catcher to have a quick release also.
5. The goal is to see how many pitches can be thrown in 60 seconds. 28 pitches is a good number.
6. You will note the pitcher getting tired and mechanics falling apart at about 20-21 pitches. The pitcher needs to work thru this.
7. The coach or extra player should count out loud and give a 30 second and 10 second warning. This seems to inspire the pitcher.
8. Two sets of this 60 second drill are plenty in one lesson.

## Hip Torque Snaps

A key component in transferring energy is the rotational snap of the hips. Elite level pitchers typically have a high energy rotation of the hips that stops suddenly when the hips are about 45 degrees to the powerline....I call this **hip snap**. This sudden stopping action helps to accelerate the shoulder rotation and in turn accelerates the arm whip into the release zone. This hip snap/sudden stop is one of the **four points of resistance** that are so important to energy transfer. It's important to note that the hips rotate and stop because of the core muscles—not because of the push foot. Emphasize use of the core muscles.

1. Equipment you need is a bucket of softballs and a sock net or any screen you can throw into.
2. The pitcher stands about 10 feet from the net in a fully strided/K position.
3. The coach is off to her pitching hand side and will toss a ball to her after every pitch.
4. The pitcher will throw a pitch from the slingshot (K) position into the net. She will emphasize the hip snapping action described above. The coach tosses another ball to the pitcher who then throws another slingshot pitch again emphasizing the hip snap, etc., etc., etc. A high tempo should be maintained until 25 pitches are thrown.
5. If you have a radar gun and an extra person you can measure the speed of each pitch. The idea is to maintain speeds on all pitches that are within one mile per hour of the fastest pitch. Write down the speeds and attempt to beat your average next time you do this.
6. One set of this drill are plenty per practice session.

## Training Schedule

Speed training is something that needs to be worked on just like location and movement. But speed drills should not be performed every day. It is recommended to space at least one or two rest days in between a good pitching practice that included speed drills. The speed drills will tend to cause micro tears in the muscles. These tears need at least a day to repair. For example if you do speed drills on Monday night, don't pitch/do speed drills again until Wednesday night. Varying the speed drills is a good idea and certainly breaks up the boredom of routine.

If you are going to pitch in a game/games on the weekend I suggest that Wednesday is the last day you should do speed work.....give yourself ample time to recover. If you pitched several games on a weekend, I suggest you not do speed work until Tuesday.

Highly conditioned College level pitchers may be able to increase this intensity slightly. Younger-less mature pitchers should decrease this intensity slightly.

Pitchers should establish a strong core stability and balance prior to performing intensive speed drills. Assuming a college pitcher has maintained a reasonable summer workout routine, she should be able to safely do speed drills two weeks after beginning her fall strength and conditioning routine. Strengthening muscles around all joints and especially the shoulder joints is important to maintain safety and allow the pitcher to increase performance. One of the key areas of focus for increased performance should be finger grip strength. After all, the fingers are the last body part putting energy into the ball.