

Part Three: Dynamic Balance

by John Pinkman

Serious athletes can learn correct pitching mechanics at any age. It's never too late to get it right. This is the third piece in a series which I have designed (with the help of editor David Krival) to bring professional pitching instruction to MSBL members. We teach these concepts (which are agreed upon by most professional instructors) every day at our Academy, with consistently excellent results.

Review

Visualize the pitching delivery as a continuous stream of energy. The energy your body develops throwing a baseball is like water flowing through a garden hose. If you crimp the hose, you restrict the flow of energy. You can't restore the flow by un-crimping the hose further along the line. You have to go back to the point where the flow was restricted.

In much the same manner, loss of balance and incorrect sequencing early in the delivery will create and magnify problems as you progress down the mound. To improve your mechanics, you have to back to wherever the problem starts.

In our first two articles (Fall 2004, Issue #55 and Summer 2005, Issue #59) we discussed the importance of:

- *limited motion in the windup or stretch*
- *controlling the center of gravity prior to movement*
- *a straight approach down the mound and to the plate.*

Components of Dynamic Balance

This article addresses the critical components of dynamic balance: hand separation, a new launch concept, foot strike (*landing correctly*), hip and shoulder separation (*torque*), maintaining a firm glove (*front*) side through ball release.

When these components work together correctly, the effect is similar to a row of dominos, falling one after the other in a kinetic power sequence.



Figure A

Figure 1

The Kinetic Sequence

In our last article, we left the pitcher about to stride down the mound—hands placed directly in front of the chest and leg lifted up directly underneath the glove [Figure A]. This is the balance point.

From this point, the pitcher executes several motions very quickly. If he fails to execute them correctly or in proper sequence, the pitch will be slower or less accurate.

You have probably heard TV commentators say, “He doesn't have his rhythm today.” Athletic rhythm is merely the process of executing the proper movements in the proper sequence. To use the domino-chain analogy, if you push domino #3, then #6, then #1, you will see a much different reaction than if you push #1 first. Let's discuss the proper sequence, beginning at the balance point.

Figure 1: Hands drop slightly as if to push the knee down.

Improper sequencing of hand separation and lift leg drop causes rhythm problems for many pitchers. The hands and the stride leg need to move at the same time. Starting one before the other creates serious timing problems that can throw off the entire delivery sequence.

The rear posting leg does not bend. Bending the rear leg initiates the mechanical sequence called “drop and drive.” These mechanics were taught for many years, but have been widely discredited in recent years.

Most students who enter our Academy with drop-and-drive mechanics have serious sequencing and timing problems because too much weight is transferred to the trailing foot. This problem is easily diagnosed. When a pitcher drags his foot down the mound off the rubber, he causes excessive wear on the toe of that shoe.

I'll address the follow-through in the next article, but check your shoes now. If you have persistent wear on your trailing foot toe, you probably have too much weight on your back foot and a poor follow-through.

Figure 2: Stride leg moves directly down the mound.

The stride leg moves down and out—not out and down! As you stride down the mound, you need to maintain your center of gravity just like a batter does when he strides into the contact zone. If you keep your nose over your navel you will land properly. If your leg gets too far down the mound in front of your head, your body will lean back toward second base [see Figure 2A.].

Pitchers who do lean backward usually throw too high or too low pitch because their arm action is late, relative to their body position on the mound. If you're off balance from front to back, your delivery point will always be either too high or too low.

Figure 3: Stride foot lands on the downward side of the mound at a distance equal to about 85% of your height; measured from the front of the rubber to the tip of your toe.

On a well-groomed mound, you should land with the entire foot flat, in line with the plate, and pointing slightly toward the pitching-arm side of your body (5 degrees to 25 degrees, as specified by the **American Sports Medicine Institute**). Teaching pros differ about this point.

Warning! Most recreational pitchers use poorly maintained mounds. The slope is usually too flat or too steep, with a huge hole somewhere near the landing zone! When you warm up, you must

Figure 2 - Stride leg moves directly down the mound



Figure 2a

CAUTION: If your leg gets too far down the mound in front of your head, your body will lean back toward second base, as in Figure 2A at left.

figure out whether landing flat-footed or on the ball of your foot will allow all your spikes to hit the precarious surface at once,

establishing a firm grip and instantly directing power up the leg.

If you land heel-first, your knee will continue to move forward until the toe hits and stops on the ground, stressing the knee. Landing with your foot pointed too much toward the glove side causes location and release problems. The hip may continue to revolve, causing the body to over-rotate in the follow-through, placing you in jeopardy of being hit

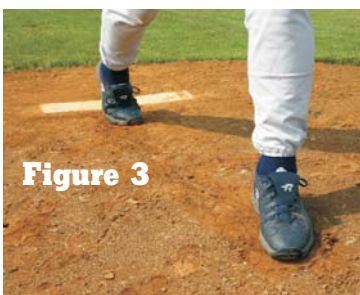


Figure 3

by the batted ball. Combine over-rotation with a wildly swinging glove arm, and you will fly off to the side. Correcting this is a major concern at the Academy.

When the front foot lands too far closed (toward ball side), it prevents the hips from fully rotating. This often causes the pitcher to

habitually throw too high and too far inside, unless he tries to compensate, in which case he'll be wild low and away.

Figure 4: As the stride is executed, both elbows should be behind your shoulder blades.

This is a new concept, which relates to the separation (*counter-rotation*) of upper body (*torso and shoulders*) and lower body (*feet, legs and hips*). Instructors have many names for this position: *cocking*, *scapular loading*, *launch position*. It is merely the action of pulling your arm back to throw the ball.

Teaching delivery mechanics has changed dramatically in the past two years thanks to **Paul Nyman** of Set Pro in New England. In the past, we taught pitchers to drop their hands low after separation, extending the throwing arm back into a high cocking position. Paul suggests you separate your elbows rather than your hands, which prevents hands from dropping too low.

The elbows go back and up to shoulder height. Think of pinching a pencil between your shoulder blades. Remember to keep your elbows at shoulder height. This quick action allows major muscle groups in your shoulders and back to become involved in the throw, producing more velocity and greater endurance.

Figure 5: The hips open (rotate forward, following the foot pointed toward home plate) before the shoulders begin to rotate, just as in hitting.

When the front foot is firmly planted the hips immediately open and begin to rotate. The shoulders do not move yet. You



Figure 4

probably have heard the term "slinger." *Slingers move the entire ball side of the body (upper: hand, shoulder; lower: hip and knee) toward the plate at the same time.* Slinging, common among senior pitchers, robs you of power and endurance.

The mechanics of pitching and rotational hitting are very similar. Today, we teach pitchers to open the hips first, while cocking the elbows [Figure 4] to create torque. Failure to do this produces less power, velocity and endurance. Without upper and

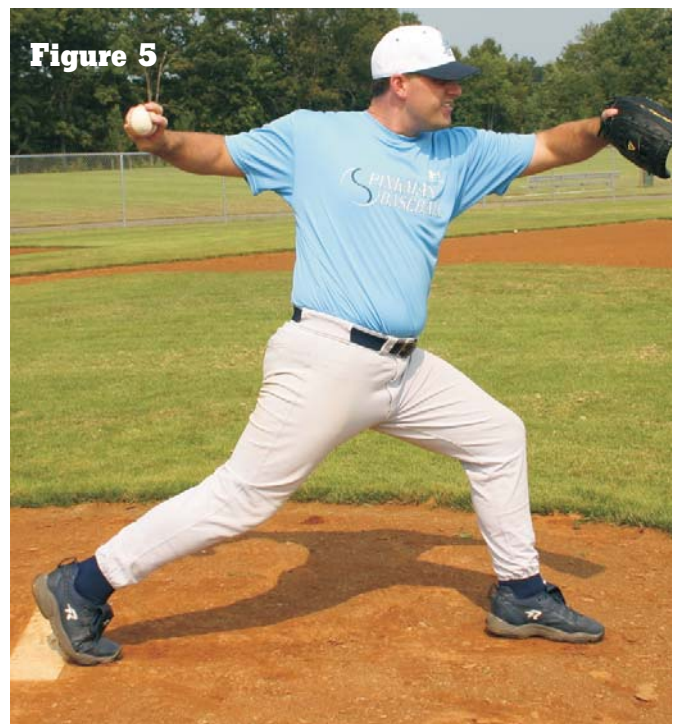


Figure 5

lower body separation, a pitcher uses *more* energy to throw the ball *slower*.

Opening the hips first pulls the throwing shoulder through afterward, easily overcoming the resistance (torque) of the cocked elbows. Like first gear on a car, opening the hips begins the delivery using large core muscle groups. Then, at the appropriate moment you transfer the rotational movement to the shoulders.

Figure 6: The shoulders and upper body rotate toward the plate.

As the shoulders rotate with the torque assist from the hips, we'll examine one of the biggest changes in pitching instruction.

Pitching coaches used to teach what they thought they saw, not what actually occurs. Slow-motion digital video has given us a completely new, more scientific perspective. Credited to **Tom House**, *focusing on glove (front) side movement is a great breakthrough* in pitching instruction. *The glove should stop out in front of your chest, like a gun sight pointed at the target, the catcher's mitt. Your glove arm's elbow points down directly over your planted stride foot.* This is what Tom refers to as "Strong Glove Side."

Bringing the body to the glove is the best plan for producing maximum control and velocity and achieving the late ball release. We have been teaching this style for five years with a tremendous success. Pitchers have been doing this since the 50's. We just didn't know or see it until recently.

Coaches once believed that pulling the glove to the body produces power. Quite the contrary, pulling the glove to the chest creates poor command, early release (allowing the ball to be in the air and in sight of the batter for a longer period of time), hanging curves, high

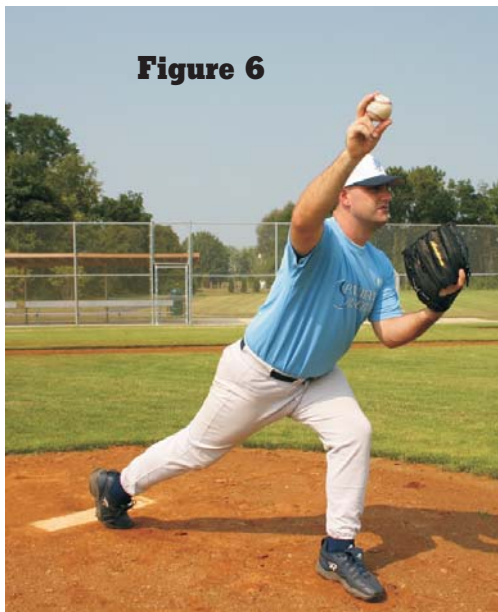


Figure 6



Figure 7

From this position, compare the speed and explosiveness gained by moving both arms in a simultaneous "hugging motion" (compared to moving the throwing arm alone) as described below.

pitches, an abbreviated follow-through and head rotation, which limits depth perception and increases the risk of being hit by a line drive.

Paul Nyman found that in addition to House's discovery of stabilizing the glove in front of the body, reversing the contraction of the cocked and loaded shoulder group, as if you were hugging someone, made the throwing arm move faster.

Try this: place your arms in the position shown in *Figure 7*. Move your throwing arm in front of your face as fast as you can. Now, do it with both arms at the same time. I think you will find new explosiveness and proof of Nyman's assertion.

Now the kinetic chain is almost complete. You have created a power coil, a torque system that began as your stride foot hit the ground. Now with that power assist, throw the ball.

Throwing effectively is the product of a sequence of correctly timed and executed movements. Location or command is achieved through precise control and conditioning of the body. In our Academy, pitchers of all ages routinely throw strikes with their eyes closed. Advanced students knock baseballs off tees blindfolded.

Arm Slots are Natural

Tom House found that a pitcher's delivery angle (*arm slot*) is genetic. Many pitchers come to us using delivery angles that a coach has altered. A pitcher with poor location and a sore

About Our Contributor

A regular contributor to Collegiate Baseball News, **John Pinkman** is a nationally recognized leader in the field of pitching instruction. His clear language and common-sense approach to pitching instruction have earned him the admiration of some of the best minds in baseball.

According to **Tom House**, "It's obvious that John has taught his students the pitching skills that we require in professional baseball. John is a dedicated student of the game as well as an excellent teacher."

John's instructional facility is located in the Washington, DC area. Designed for serious players, *Battery Park™* is a bright, safe indoor environment that meets the demands of elite teams, professional instructors, or father-and-son workouts. The facility is available to rent seven days a week, from early morning to late at night.

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shoulder has probably been taught to "get on top of the ball." His arm slot was altered to be straight over his head.

Sidearm pitchers are usually self-created accidents waiting to happen. Try this at home: place your throwing arm straight out from the side of your body with your thumb up. Ask your wife to place one finger in the palm of your hand and resist your motion. Without leaning into it, try to push her hand back. You can't! This is the force—or lack of force—behind a true sidearm pitcher.

To find your power, bend your elbow as if you were being sworn in to testify. Now your wife better use her fist and be ready to fly across the room.

One Step at a Time

The mechanical sequences of athletic movements examined in this article are easier to learn than they may at first appear. They are only difficult, or confusing, if you try to learn and execute them all at once at full speed.

Take your time. Learn and practice each movement one at a time, in order, and very slowly. Make sure you fully understand the "why" and the "cause and effect" of each segment before attempting to do it; the process will come much more easily. Naturally, you'll progress faster with the help of a professional instructor, but you can make great strides if you study this material and master it patiently. □

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