

The Pitch Doctor

Contributed by Neil Hodur
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Four steps for good pitching mechanics

Baseball is a team sport, but like a quarterback in football, the pitcher is where every play in baseball begins. And just as most quarterbacks try to put off retirement as long as they can, pitchers also want to have the kind of longevity that lends to a long and satisfying career.

Yet, how many times has a great young "phenom" hung up the cleats far too soon? When we think of great pitchers, names like Nolan Ryan, Roger Clemens, Randy Johnson, and Curt Schilling spring to the fore. These are men of great physical strength and ability, but also pitchers of longevity. Being a pitcher is not limited to only physical strength, though. It takes at least as much mental strength as physical strength to be a great pitcher; how else to explain the Greg Maddux type pitcher? Here is someone who has maintained his overall physical condition, mental strength, and consistent approach to the game to be a great pitcher.

In order to become a consistent pitcher, rather than a thrower, it is essential to stress all of the necessary strengths.

The target time for developing someone into a pitcher, as compared to a thrower, should begin as early as possible. The skill level should develop as the individual grows physically and mentally. Pitching is a mental game. In order to achieve the mental capacity to pitch, the mental skills have to be developed and mastered.

In short, the pitcher has to know where the ball is going once it leaves his/her hand. With this command, the mental part of pitching, getting into the hitter's head, becomes the challenge. So the journey begins with some basic skills that should be practiced repetitively.

This introductory article is designed for those instructing players of Little League age or the equivalent. The age group is between 8 and 12 years of age, although the steps can be used for anyone in high school or college and girls' 12-inch softball.

STEP 1 – Conditioning

A pitcher needs to develop:

1. Arm tone strength
2. Leg and lower back strength and tone
3. Flexibility
4. Conditioning goals for pitching

Arm tone and strength

To develop arm tone and strength does not mean to develop large biceps, triceps, or a large chest and shoulders. Arm tone and strength means to allow the muscle groups involved in pitching to attain the proper tone. The muscle groups to be addressed are bicep, triceps, lower arm, wrist, and the major muscles that support the shoulder. The stiffness experienced by Chicago White Sox closer Bobby Jenks this past spring training was, as he admitted, a result of an emphasis on weightlifting while perhaps neglecting stretching.

There is an important lesson in developing arm tone and strength:

Pitching overhand is not natural!

The arm has to have the strength to support and guide a ball. Plus, it is the arm action that allows a ball to move once it has been set into flight. Since throwing a ball overhand is not a natural movement for the body, the arm goes through an un-natural torque and the muscle groups must be developed to support that torque and reduce the risk of injury. The muscle groups of the lower arm, upper arm, and shoulder must work together to support the throwing motion and to remain stable over time.

Coaching Tip: When working with a person under the age of 17 (this age will vary depending on the physical development of the individual), do not increase torque on an arm by encouraging curveballs.

There are ways to make a baseball move naturally with ball grip, and if the arm has not fully developed, putting extra torque on that arm can create serious problems in the development of the arm. When I was 12, I met Bob Buhl, then a pitcher for the Chicago Cubs. He basically was at the end of his career after much success with the Milwaukee Braves.

I wanted to talk pitching with him, especially throwing a curveball. He looked at me and asked to see my arms. He asked me to hold both arms out straight in front of me fists parallel to the floor. I did this, and he said look at the inside of the elbows and how they point up at about a 60-degree angle, both being the same. Then he took off his jacket and did the same thing.

I looked and was shocked.

A right-hander, the inside of Buhl's right elbow was basically at a 180-degree angle, parallel to the floor where as his left inside elbow looked the same as mine.

He said "Kid, this is what happens when you throw a curveball too early in your career and do not throw it properly."

This image has stuck with me my entire life and serves as a warning to coaches and pitchers everywhere: Develop your body before trying to emulate fully-developed professional pitchers.

Skill Sets

The skills should be performed everyday for at least 30 minutes. Most of the skills can be done at home or at a playground. What ever happened to those school ground-ball walls?

- Isometrics. Use of three larger rubber bands placed around the two hands with the hand together. The hands are spread approximately 6 inches apart with the tension of the rubber band pulling the hands together. The position should be held for a count of 10 and then the hands should be brought closer together keeping tension on the rubber band. This strengthens the wrist as well as working the muscles of the lower arm.

- Towel pulls. A small hand towel is held with both hands and the arms are extended straight out from the body. The hands are moved away from each other slowly until the towel is taught. Then, with as much force as possible the towel is stretched for a count of ten.

- Vertical push-ups. This is an isometric exercise that really works the upper arm, lower arm, and shoulder. The position is so the feet are approximately 1 foot from a wall, depending on the size of the individual, and then leaning against the wall with the arms supporting the full weight. The arms are fully extended and then the body is brought closer to the wall with the chest almost touching the wall. At this position the individual presses as hard as they can against the wall and then extend the arms to the original position.

- Squeezing of a tennis ball. This exercise develops tone to the wrist. The wrist, along with arm whip, allows the ball to move in flight. A tennis ball should be squeezed and released several times. I recommend that the dominant wrist be done 25 times at a sitting along with the non-dominant wrist being done approximately 15 times. It is good to build the strength and tone of both wrists at the same time.

- Weight on a rope. This is one of the best exercises for developing tone and strength in the arm and shoulder. A weight of between one to two pounds is tied to a rope. On the other end of the rope a smooth piece of wood or a piece of plastic pipe is tied. The rope should be approximately 1 foot shorter than the arm height of the individual. The rope is wound around the handle and the device is held with both arms extended from the body at arm height. The weight is unwound and allowed to lower and then raised again. This should be repeated approximately five times in the beginning and has the task becomes easier, increased slowly to 15 cycles. The weight should never touch the floor.

These are just some of the exercises young players can do. The above exercises help to improve arm and shoulder tone without increasing muscle bulk. These should give some direction and a place to start.

Leg and Lower Back Tone and Strength

A pitched baseball, either overhand or underhand, develops in the legs and lower back. It only takes one look at the build of the Cubs's Mark Prior to confirm this. The arm and wrist should go along for the ride and be used for control and "whip" action.

The analogy of a bow and arrow is appropriate. The "bow" or the legs and lower back, do most of the work. The "arrow" or arm, wrist and baseball, go along for the ride. The most important aspect is to get a pitch away from the arm and into the body, especially the lower body. This will save young arms and shoulders from future problems and add velocity.

Johnny Sain, the great pitcher from the Boston Braves and later as a successful pitching coach, said that his pitchers throw the ball over the plate; they do not run the ball over the plate.

However, building leg, and lower back, tone and strength is important with mechanics and durability. Successful examples of major-league pitchers are Roger Clemens, Greg Maddux, Tom Glavine, Tom Seaver, and Nolan Ryan. Each enjoyed long and successful careers.

Examine their mechanics and it becomes clear that the legs and lower back supplied the power to the pitch. None has had major arm problems, as they saved their arms for control, whip action, and ball movement. Seaver, for example never exhibited strain for velocity or movement. The common theme is leg and lower back.

However, this does not encourage "bodybuilder"-type leg and lower back muscles. Muscle strength, tone and flexibility are encouraged for the body, as well as the muscles of the arm.

For pitchers, long-distance running at a steady pace is preferred to short distance sprints. Running a cross-country course two to three times a week will build leg tone. This must be coupled with leg flexibility. Stretching leg muscles and the lower back is key. The following are some suggestions for increasing the leg and back aspect of pitching:

Warm-ups:

- Jumping jacks and running in place might sound simple, but they are as an excellent drill. This warms and stretches the leg muscles and promotes coordination, as well. Also, try stretching with toe touches and shallow knee bends. Deep knee bends, however, place stress upon the knees.
- Soccer ball drills. Toe taps, alternating the feet in touching the top of a soccer ball is an excellent drill to warm up the legs as well as promote coordination. Jumping over the soccer ball side to side and back and forth is excellent as well. I encourage the use of soccer drills with baseball as it builds leg tone and strength, flexibility, as well as coordination. A pitcher has to know where his lower body and feet are going if control is going to be mastered. Also, coordination with the lower body and feet will add power to the thrown ball.

COACHES' TIP: Have all players bring a soccer ball to practice and use the above soccer skills to improve leg and back muscle tone and strength. Endurance will increase dramatically. New York Yankees great Yogi Berra said that he played soccer before he found baseball. Soccer promotes the team ideal as well as builds individual leg and back muscle tone and strength. Coordination of the lower body will follow.

Flexibility

A pitcher must be flexible or opposing muscle groups will work against one another. It is important to stress building tone instead of bulk. Many young individuals who want to pitch are classified as natural athletes; that is, the decisions as to which sport to pursue will be made as the individual progresses.

In all sports, athletes who are versatile share flexibility as the common thread to success. In baseball, shoulder bulk actually interferes with pitching because of decreased flexibility. Lower body and leg strength without flexibility decreases the use of these body parts in pitching and encourages the use of the arm only. These individuals will experience arm problems in the long run.

Stretch before all exercises. Bending at the waist, trunk rotations, and bicycle stretching are all basics. Rotation of the arms and shoulders is a good procedure before throwing a ball. Remember: It is necessary to be warm before practicing or conditioning. When increasing muscle tone and strength, it is essential to stretch the muscle to maintain flexibility.

Keep conditioning and flexibility training fun. Create friendly competition and use your imagination as a coach. Make sure that the reasoning behind conditioning is well understood. Not all young players realize how easy the game can be if they have the physical tools in place and are ready to play.

Conditioning goals for pitchers

Every coach and player should put together a written goal for conditioning. This should have both the means and the ends: the means to accomplish the goal and the end result measurements of accomplishment as well. Keep verbal reinforcement positive.

The above are some skills that I have used in coaching pitching as well as using them myself. I still have an arm that has strength without pain, even after over 40 years of use. Yes, I did not make it to professional baseball; I opted for an academic career instead, joining you on the couch or in the stands. But if you look at what it takes to be a consistent, strong pitcher, every fan in the park can recognize the balance of strength and flexibility needed to be physically and mentally strong. The next column will go into the mechanics of pitching as well as skills that will enhance the mechanics. If you have questions, complaints, concerns or whatever, let us know. Good luck with your conditioning.

We will discuss ball grip and natural torque and movement in Part II.

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For nearly 40 years, Dr. Hodur has coached baseball, basketball, and soccer and began playing baseball at age 8, through high school and college where his primary position was pitcher. He likes working with young athletes in the development of skills, concept of team, and the mental aspects of the game for young athletes. He developed a devastating fork ball in his later years and wonders what this pitch would have done for his career in the late 60s and

70s.