Pitching

"The Dominant Factor"

Tips to Improve your Game

Increasing Velocity, Improving Performance, Minimizing Arm Injuries, Prolonging a Picher's Longevity

Why is it, that the cost of a BMW, a Cadillac, a Corvette, or many of the luxurious automobiles, far exceeds the cost of less expensive compact cars? We categorize these models as "Top of the Line" vehicles, due to their long history of performance, comfort, reliability and confidence. They have proven over time that they will meet or exceed our needs and expectations. We are willing to invest a bit more, for something that will provide us with a steady level of high performance, and satisfaction, and reduce the need for maintenance and repairs. It's called Quality. The research and constant upgrades in technology, have allowed these products to improve components, and discard inefficient parts and functions. These features and provisions come at a price to the consumer. Therefore, if you are seeking the premiere vehicle that performs beyond the norm, you are willing to search for what best suites your needs. Simply put, to outperform other products.

The Relationship To Sports

The same holds true when determining the value of an athlete to his team. Every coach and team searches for that special individual who can dominate his competitors in some capacity and prove to be an advantage on the playing field. Whether it is his athletic abilities, his knowledge of the game, or his experience under pressure, it sometimes is the Determining Factor that separates winning from losing. In football, everything revolves around the Quarterback. Nothing happens until the ball is snapped to him. He makes the calls and must decide instantly what needs to transpire. He's the "Dominant Factor" of the game. Basketball relies on the guy who can score, and score often. There are other team sports that seek that one dominating force to control the outcome of the game. But no other sport relies on that dominating source, that specialization, like baseball—And that dominating force is the Pitcher.

Like the quarterback, nothing happens until the pitcher throws the ball. ***He basically controls the game***. All action begins with the pitcher. Everything following depends upon the pitcher's ability to get outs, fool the hitter, and stabilize situations that threaten to produce runs. If he is a starter, he is expected to disallow the other team from getting on base, make good pitches, spot the ball to the hitter's weaknesses, and go the distance. He must be mentally tough, calm under pressure, and trust his teammates to make the plays. More importantly, he must maintain strength, be able to recover for his next start, and remain healthy throughout the season. This is precisely why a pitcher must be mechanically sound; possess the knowledge to implement a plan, and the skill and tools to remain healthy. His longevity will depend upon many components, but fundamentally these three are the most critical:

PART ONE

PHYSICAL—The breakdown and failure of the shoulder, labrum, rotator and elbow areas

Staying fit, exercising routinely, and focusing on proper rest, diet and maintenance, are the keys for a pitcher to perform at his peak. It will also determine his longevity into the season and beyond. Too many times we hear of

the breakdown of the mentioned areas because of an abuse in the ***frequency of starts, excessive innings pitched, or IL-knowledge of proper practice sessions.*** Rarely is a pitcher lost for a long period of time due to a lower half injury. After 43 years in coaching, both on the high school and collegiate levels, my main concern has been ***the excessive throwing*** required in some programs during daily practice. ***I am a strong proponent of short toss, with focus on the proper mechanical actions and flow. Arms need time and patience to develop and strengthen, especially early in the season. Our strict code of dress for warmth, daily conditioning, and extensive stretching format, has afforded us the luxury of promoting over 60 pitchers into the collegiate and pro ranks.*** Our proudest fact is the absence of any pitcher ever requiring arm surgery during his time with in our program. Long tossing with a softball plays a major role in gradually building arm strength. We routinely warm up with a softball both during practice as well as prior to a game. It eases the transition into practice and game mode, stretches the fingers and hand, and supports a great feel and touch when progressing to a baseball. It also encourages an ease of stress and less focus on immediate velocity. It provides great dexterity and touch, which is crucial for ball movement and various rotations. We also subject our position players to the same routines. Our focus is to rely on fresh arms for games and competition, and not overwork the demand areas in practice. As the season progresses, arm strength and velocity naturally develop at a progressive rate. We also implement a weight program utilizing bands, dumbbell, and creative drills to increase strength in the stress areas. These areas include the rotator cuff areas (Sprinatus), by means of internal and external pronating drills, as well as the elbow (UCL) ligament. This is a critical area that is often overlooked during the decelerating process of delivery. Daily band work is critical to maintaining flexibility as well as building strength to carry the load and force required throughout the throwing process. We are seeking strong throws and pitching on game days and not abusing or over taxing arms in practice. Strong throws with accuracy will improve with fresh and rested arms. Multiple games during a week, especially in the northeast, can bring severe stress on the affected areas and promote breakdowns in the moving parts of the shoulder and elbow.

- During some off days of busy week, we often initiate a ***"No Throw"*** practice, and simply concentrate on drills, conditioning, and mechanical functions, as well as situational theory. This is a good time to drill heavier on defensive areas and strategy.

Warm up tips for greater effectiveness and efficiency

1. Always dress properly. Several snug fitting layers insulate better than one thin layer. Bulky hoodies sweat pants and loose fitting clothing, cause drag and slow arm speed. It requires greater effort to throw freely and accurately. It also places undue stress upon the elbow and shoulder areas. We mandate baseball pants for every practice and disallow short sleeve shirts until temperatures are conducive. We also encourage long johns or insulated underwear to promote lower body heat retention. Remember that a warm muscle is more flexible, more productive and less apt to rupture.

2. Always wear a long or ¾ length undershirt. It maintains body heat and keeps muscles and tendons flexible. It also absorbs perspiration.
   - Short sleeves can be worn in temperatures applicable to warmer climates or summer ball.

3. Always wear a jacket or sleeve on the throwing arm, shoulder and hand, particularly between innings of a contest. We have invented a "Thermal Sleeve" that insulates and maintains heat on the shoulder, elbow and hand and fingers. It is important to maintain warmth between innings, particularly long innings in cooler climates. It doesn't take long for the stress muscles to contract and lose their flexibility. We encourage wearing gloves for retaining heat and greater dexterity in the fingers in early spring. Remember, the fingers control the feel and spin on the ball.

4. Warm up properly prior to practice or games. The first priority is to raise the heart rate, which elevates the body temperature. It also provides greater blood flow to the moving parts of the body. Remember…a warm muscle is more flexible and resilient than a cold one.

• *Ask yourself: "Would a track runner sprint without warming up? Would a boxer enter a ring cold? Does a swimmer enter an event without swimming a few laps? You get the point. A little sweat is a good thing.*

5. To jump start warm ups, try this: begin with a rapid or brisk jog to center field and back. Execute 10 quick pushups. Place 3 ball gloves on the ground, each about 10-15 feet apart, from the foul line to the outfield. Quickly execute 1 or 2 suicides back to the foul line. Now the juices are flowing, it's time to stretch those warm body parts. We have a very intense stretching program that may be discussed in another article.

PART TWO

MECANICAL…Proper mechanics and full mechanization of coordinated body parts are essential to the wear and tear of the rotator, Labrum, AND ELBOW AREAS

The moving parts must flow smoothly throughout the delivery, and finish with a soft, bent leg landing, to provide a gradual slow down, release, and stop. The strengthening and flexibility drills that have been implemented are now put into action. Improper separation of the hands, (short, abbreviated, or laterally, are not conducive for a loose and relaxed arm action. A pitcher requires distance to gradually build hand speed, or time to fully max out unification and coordinated movements for velocity. Because of this demand, his hands should begin high, near the ear, downward, long and complete, backward, upward with the elbow at or above the shoulder, and bent at the top to create a long lever, short lever, and long lever during the delivery and extended release.

Note: To encourage an elevated elbow during the final load prior to delivery, have the pitcher place the backside of his wrist or palm to the button on his cap. Voila, he's in in the correct position to launch. His elbow must be elevated, and his thumb must be located under the ball for properly preparing to deliver. There may be slight alterations for varied arm angles, but this assures an elevated elbow.

PITCHING TIPS FOR REAL IMPROVEMENT

I'll touch on a few tips that we focus upon within our Touching All the Bases Camp sessions, in addition to our high school program. Our camps start at age 6 and focus upon the fundamentals of throwing, fielding and hitting. The progression has enabled us to develop many youngsters over the course of time, to come into the high school program already prepared with good throwing fundamentals. Here's my prime comment to parents and youngsters during our camps and clinics***: "If you can't throw a baseball properly, where will you play?" Obviously every position requires throwing so let's progress to the focus of this article.***

It is our opinion that the lower half of the body provides the power and strength while the upper half provides the speed. These components must be synchronized or your performance will be drastically diminished. This is why we encourage our serious pitchers to build a strong core and lower half of the body. Calves, hips, and thighs carry the pitcher and provide the other parts with a powerful frame.

Our previous article for Jugs (The Low Elbow) discusses the principles of properly throwing and effectively producing straight accurate throws. Now let's focus on three tips to insure greater velocity, better control, and improved longevity.

Most pitchers do not utilize their lower body correctly. They refrain from rotating their hips enough, which encourages "flying open". This often-used term can be easily avoided if the following is applied:

1 Upon lifting or driving the front side, or drive leg and foot, focus on keeping the toe pointed in a downward direction and under the rear pocket facing the catcher, almost like a flamingo's position while posing. This maintains balance over the center of gravity, and promotes a straighter: downward, stride and kicking action toward the target. It also reduces the desire to swing the leg and foot laterally and cause the dreaded term "Flying Open."

2 Simultaneously, rotate the knee backward slightly ***beyond 90 degrees to the plate*** (RHP belly button facing the short stop, LHP toward the second baseman). The catcher should be able to view the pitcher's back pocket, and slightly view the numbers on his jersey. Do not over rotate disabling the ability to see the catcher's target. This provides the pitcher with: greater lower torque (increased power), the inability of the hitter to see the ball early, and additional ***distance and time*** to develop hand speed upon the hand travel and transitioning through separation, loading, stride and delivery. In essence, it helps prevent Rushing.

3 Upon driving or lifting the front leg upward, pointing the toe downward, and rotating slightly backward, focus on keeping the hands and glove elevated and inward to the ear, the elbows should be pointed downward and close to the chest. You are concentrating on a compact or loading action. We tell our pitchers to "Stay tall and Small" at the top. The lead elbow (glove elbow) should be located over the drive leg, or preferably inside or behind the raised knee. Low elbows, and outside the raised knee, reduces travel time, abbreviates a long arm separation, and encourages a lateral separation causing a flying open rush. We are seeking a downward clock like action. And once the separation begins, the hand movement should never stop. Our aim is to build hand speed as we progress. A lateral separation usually creates a stopping point, and then a restart. We are also looking to assist in keeping the front side downward and enhance a smoother closed rotation. This also prevents the pitcher from raising his front side, straying from a vertical balance position, and increases the downward trajectory that we desire. As mentioned, the hands should be at, or about chin height and close to the body. This supports a compact and explosive position. And remember that the elbows should be pointed downward to promote a downward long travel path to increase hand speed. Upon rotating, the chin should be down against the lead shoulder, thus additionally assisting a downward transition and stride.

The Transition of separation, stride, and delivery… the most significant detail in pitching and prevention of "Flying Open".

As the separation begins, we must remember that: ***the distance of hand travel provides time, and the building of hand speed requires time.*** Therefore, we want to provide the pitcher with the travel time he needs to load, create hand speed and deliver the pitch with maximum force. We also want to direct the path of the ball to the designated target with accuracy, and reduced stress and trauma on the moving parts.

4 Upon separating the hands, concentrate on dropping the hands downward with a long separation and reach, as if reaching for the ground. The throwing hand should reach downward, backward with thumb under the ball, upward for an elevated elbow, bent at the elbow, with the back of the palm to the button of the cap as previously mentioned. This palm to button automatically elevates the elbow and places the thumb in the

correct position. I have invented a simple device to achieve this function. As the hands separate, and the stride begins, remember to keep the toe pointed downward. Focus on remaining closed with heel, pocket, or numbers slightly pointed to the catcher throughout most of the stride. The pitcher should focus on striding as a hitter toward the pitch, storing his power until just slightly shy of touchdown. The delivery should be smooth, but explosive, with the hips, shoulders and hands moving simultaneously. We have our pitchers actually stride slightly backwards in drills and land in a loading position. If landing properly in this drill, they have not committed their hips or shoulders to the delivery. They may still deliver the ball with complete thrust without the stride. Gradually they discover the ***delay*** prior to the explosion.

5 During the actual delivery stage, we look for several elements to assure good mechanical functions and full extension upon release. These elements include:

- **A straight line to the target:** We incorporate strips of thin plywood or material to place along the desired stride path. Review where the pitcher's toe lands, and evaluates its path of direction. If the toe is pointed downward, the pitcher should landing on the ball his foot. This promotes a soft landing and a gradual slow down after release. You can also evaluate if he is opening up too soon or throwing across his body.
- **A long, straight back leg upon delivery:** This assures full extension and reach on the release. It also encourages a pitcher to reach out and deliver the ball at the shortest distance possible to the plate. This obviously increases velocity. A long, straight back leg, will create a better downward trajectory, improve the breaking ball, (getting on top), and reduce arm injuries caused by an abrupt or abbreviated release point. Upon landing, the front landing leg should collapse allowing the chest to contact the knee.
- **Long, straight leg drill:** ***Deliver the ball, but keep the drive or rear leg remaining on the ground after the release (freeze on the throw). This should be done with a tossing throw, short distance, and no velocity. Check the drive leg, it should be long and straight, pushing the pitcher forward, while the front leg is bent, permitting the chest to decline softly to the knee—That's great extension!***
- **A bent drive or rear leg:** When a pitcher drops, collapses or sits on his back leg, the complete opposite occurs from the previous statement. Loss of power due to the direction of force downward instead of forward, reduced extension, loss of velocity, elevated target vision, inability to locate pitches, an uphill angle of delivery, an encouraged low elbow, and the possibility of increased arm injury, are but a few of the undesirables of a bent rear leg.
- **A stiff front leg landing:** Landing on the heel of the drive foot or remaining vertical is a major problem with arm injuries, not to mention the effectiveness of a pitcher. It may be compared to a pole-vaulter placing the pole into his stomach when positioning for the jump. The abrupt stop with the forward inertia would definitely cause an injury. A similar, but not as drastic occurrence may be applied to a pitcher's landing. Landing in an erect position, or on a stiff front leg causes an abrupt cancelation of forward inertia. It usually forces a pitcher to divert his energy laterally or sideways because he is unable to continue his force toward the plate. The result is falling toward third base for a lefty and to first base for a righty. This interrupts the direction for control and velocity, and, depending upon the force of action, may force muscle and tendon tissues to become taxed beyond their capabilities. It may occur with repeated improper motion, or may occur instantaneously. It is important to recognize the necessity of time in the reduction of speed. Throwing a baseball with velocity requires time to gradually build speed. Time requires distance to develop this. The same process must be reversed to accommodate the gradual slowing down before stopping the speed. A soft

landing, a gradual slow down, and the hand extending far beyond the actual release point, allows the working parts to move smoothly throughout the entire process. Upon completion, the catcher should view the top or rear of the throwing shoulder. This is a good finish.

- **Finishing the release:** The final evaluated element is inspecting the position of the hand and fingers after the release. If the mechanics are sound according to our suggestions for safety and efficiency, the palm of the throwing hand should be facing the pitcher upon release, and continue across and behind his glove side hip, almost in ***"waving goodbye" movement***. The fingers will be facing upward behind the pitcher as if catching a raindrop from the sky if the finish is complete. This action creates greater spin, and less stress on the moving parts.

NOTE*:* Remember that the elbow is designed to bend inward toward your body. If the palm is facing upward on the release, and positioned in front of the pitcher body, especially when throwing curves, sliders or breaking balls, it will not enable the elbow to safely return to the body and complete the transaction of a gradual reduction of speed. Thus, you create an invitation for elbow hyperextension.

PART THREE

Mental

Pitchers need to mentally prepare each day in order to maintain efficiency. Staying fit, daily cardio work, and smart planning converts a thrower into a pitcher. He should concentrate on and focus on his weaknesses and try to improve every day. Whether it's building strength, smoothing out mechanical flaws, perfecting his pitch repertoire, or simply improving upon his location, every day should be a day to improve. Pick offs, game strategy, learning to read hitters, and ironing out problematic situations, the pitcher is the main focus of the game, "The Dominant Factor"

Final Note:

Pitching is unquestionably the most dominant force in the game. When the other team doesn't score much, it's much easier to incorporate other options that require fewer hits to win. For a pitcher to become complete, he must begin with more than the physical attributes that will carry him to victory. The methods outlined today will keep your pitcher healthy, more physically fit, and mechanically sound to sustain his longevity.

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