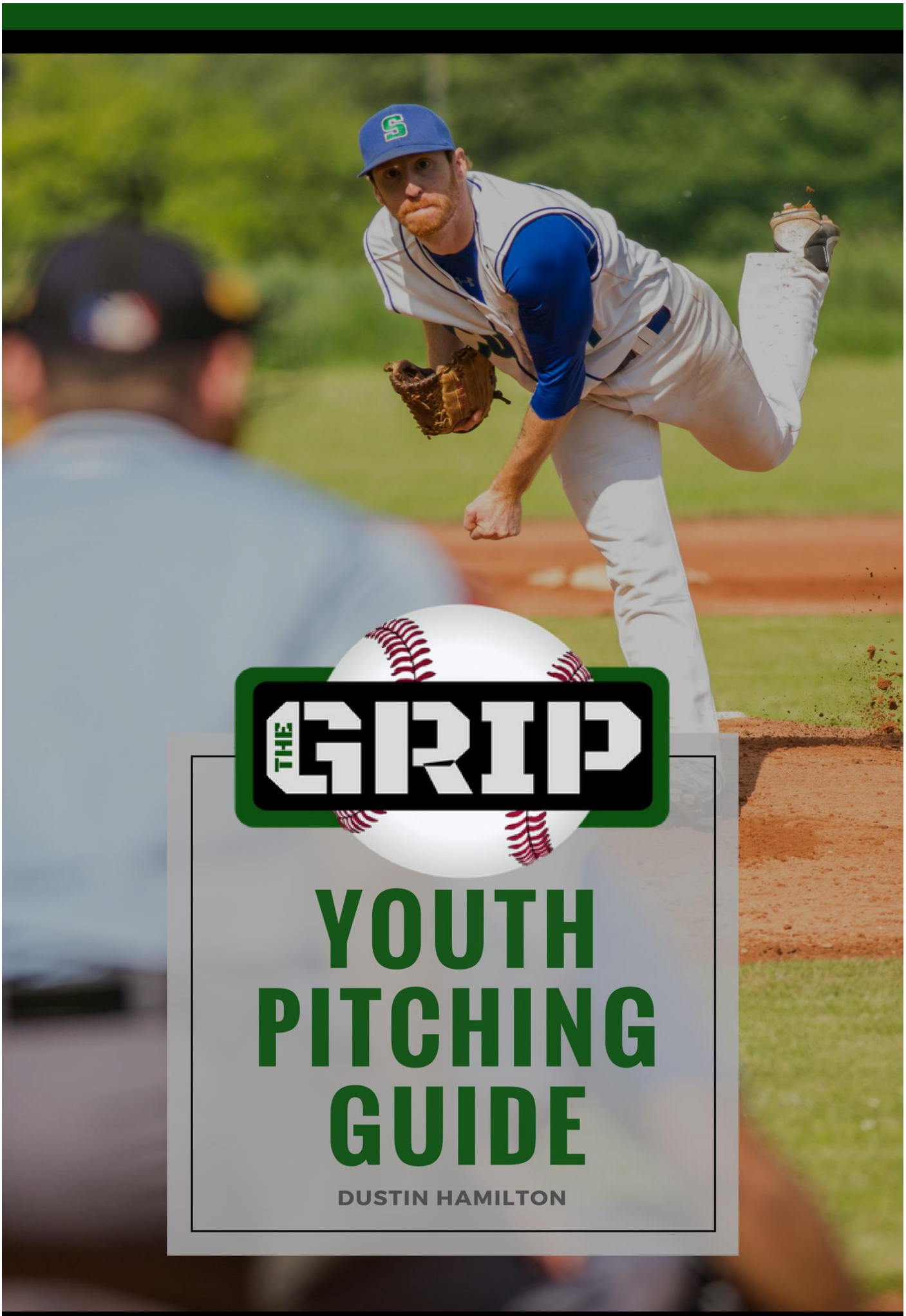

THE GRIP

YOUTH PITCHING GUIDE

DUSTIN HAMILTON

TERMS AND CONDITIONS

1) I am aware that Dustin Hamilton is not a medical doctor and is not qualified to determine a participant's physical capability in strenuous activity.

2) Medical clearance from a physician may be required prior to participation. I understand and acknowledge that there are risks involved with participating in any exercise program and/or any exercises contained within this handbook in consideration for being allowed to utilize the information in this handbook. I agree I will assume the risk and full responsibility for determining the need for medical clearance from my physician and obtaining such clearance, the safety and/or efficacy of any exercise program recommended to me, and any and all injuries, losses, or damages, which might occur to me and/or to my family while utilizing the information in this handbook and to the maximum extent allowed by law I agree to waive and release any and claims, suits, or related causes of action against Dustin Hamilton, for injury, loss, death, costs or other damages to me, my heirs or assigns, while utilizing all the information or partaking in the exercises contained within this handbook. I further agree to release, indemnify and hold Dustin Hamilton from any liability whatsoever for future claims presented by my children for any injuries, losses, or damages.

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About My Journey

In what had long been considered “America’s Past Time,” the amazing game of baseball has taken hold throughout much the world and continues to gain popularity. As a ball player growing up in the States I was blessed with the luxury of learning from experienced coaches and developing in a great support system for student-athletes.

After finishing my college career, I seized the opportunity to continue playing professional baseball overseas and further expand my knowledge of the game. Since that time, I have played and coached in a number of different countries around the world. In doing so, it’s allowed me to work with a diverse group of ages, nationalities, and languages. Along the way, I’ve witnessed an incredible passion for the game by many of these kids. However, the conclusion I find myself coming to time and again is the overwhelming need for better pitching knowledge at the international level. With this book, I hope to pass along my accumulated experiences with all of you. With it, I firmly believe your youth pitchers will throw harder, perform better and reduce the probability of serious injury at such a young age.

OVERVIEW

As we move throughout this book you'll recognize a reoccurring theme behind my coaching theories. Many of my philosophies revolve around the principal idea that in pitching "less is really more." The game of baseball is incredibly complex yet beautifully simple all in one. Home plate hasn't moved in over one hundred years and the mound still sits sixty-feet six inches opposite of it. Unlike a quarterback in football or a shooter in basketball; the pitcher stands in the same spot on the mound each and every pitch, throwing the ball to the same fixed target. So why then do pitchers have such a difficult time consistently throwing strikes? More times than not it's because they aren't able to ***consistently repeat their throwing mechanics***!

In my opinion, the most efficient way to correct this problem is to *simplify* the throwing motion. Mitigate as many non-essential variables of the delivery as possible and decrease the margin for error. I believe the more "moving parts" of the delivery we can take out the easier it will become to consistently repeat. With that said, it takes more than just good mechanics to become a successful pitcher. It also requires a good deal of strength, flexibility and mental toughness. Within this book, I've outlined the various aspects to becoming a complete pitcher. From the mental side, to the mechanics, even down to a proper warm up routine. This is a developmental process that takes time and won't happen overnight.

The only real way to get better at throwing a baseball is to simply do it. Like any other muscle in the body, the more you continue to use and develop it, the better it's going to perform.

Don't over throw but throw often.

THE MENTAL GAME

THE MENTAL GAME

My favorite part about pitching is the "game within a game." On the surface, it may be my team against yours but each individual batter presents a unique challenge in itself. For many, pitching can provide one of the ultimate chess matches between skill, strategy and execution. Hall of Fame pitcher Warren Spahn once said, "Hitting is timing. Pitching is upsetting timing" and this timeless quote can be confirmed by anyone who has ever attempted to hit a baseball.

Swinging a fraction early or a fraction late can make all the difference between success and failure. This is why pitchers are constantly changing the speed and location of their pitches in an attempt at ruining that timing. Which is precisely why Spahn would also go on to say, "A pitcher needs two pitches, one they're looking for and one to cross them up."

One of the most widely echoed clichés in the game of baseball is the idea that strike one is the most important pitch a player can throw. While I agree we always want to work ahead and force hitters to become defensive, I believe the most important pitch is actually during a 1-1 count. From there we either fall behind into a 2-1 hitter's count or jump ahead and put the hitter in a hole; forcing him to protect the plate with two strikes.

My mindset on the mound is to throw ***TWO STRIKES in the first THREE PITCHES*** of every at bat. Obviously throwing a first pitch strike gets me closer to achieving this goal but I don't want to become "relaxed" after the first pitch just because I threw a strike. Instead, I place my emphasis on reaching the two strike mark and staying in control. The 1-2 count allows me to be unpredictable with which pitch I through and where I locate it for the third strike. It also forces hitters into defensive swings towards pitches they normally wouldn't swing at. Efficiency is the name of the game here.

> **"My mindset on the mound is to throw *two strikes* in the first *three pitches* of every at bat."**

Other quick tips worth noting:

- Emphasize the importance for players to pitch to both sides of the plate. They don't have to be perfect with their location as long as they can split home plate in half and efficiently move between both areas.
- Always strive to get the lead-off hitter out in every inning. As a pitcher, the job becomes much easier once the first out is made.
- Remember: "When we score, they don't!" Following any momentous inning where your offense scores, it's the pitchers job to put up a "0" and help preserve his team's momentum.

Another key component to the mental side of pitching is developing the ability to make adjustments on the mound. Not every pitch will be thrown as intended nor will they all end up as strikes. How a pitcher responds to those misfires is what's important. Good pitchers can make adjustments from one hitter to the next but great pitchers make adjustments each and every pitch. This requires an immense amount of concentration and mental toughness by the pitcher. How often do you see professional pitchers throw more than two or three balls in a row? It very rarely occurs because these players have mastered the ability to self-correct their mechanics.

More times than not, a poorly thrown pitch can be traced back to specific breakdowns in the mechanics. Think of a pitcher's motion as if it were a machine made possible by a series of moving parts. If the machine doesn't function properly, chances are one of the parts performed incorrectly. The delivery from the mound is very much the same. If a pitcher consistently throws the ball high and outside of the zone, there are a number of potential breakdowns in his mechanics to consider. The problem may lie within his release point and whether he is finishing the pitch? Or it may be he's rushing down the mound too fast? Next level pitchers are able to recognize these mistakes and correct them on the spot; increasing their odds for success.

These players also know there's knowledge to be learned from every pitch. As their baseball minds mature, they begin to pick up on potential indicators provided by hitters. If a fastball is easily thrown by the swinging hitter, what should the pitcher's thought process be going into the next pitch? Throw another fastball. The reasoning behind this being that

the pitcher wants to make the hitter prove he can adjust to the faster speed and hit it. Far too often inexperienced pitchers will ignore this result and throw an off-speed pitch for no real reason. The trouble with this is an off-speed pitch will essentially speed the hitter's bat up for him, increasing his chances of making contact. Now how about if that hitter does catch up to the next fastball and fouls it off straight backwards? This shows he was able to make the speed adjustment and he has the timing of the fastball. Now is the right time for the pitcher to change pitch speed. Throwing a change-up or curveball will disrupt his timing and keep the batter off-balance as he swings for the fastball.

Pitching always comes back to timing!

One of the worst things a pitcher can do is become predictable. Humans are creatures of habit so it's natural to fall into a repetitive pitching routine on the mound. The problem is most good hitters are quick to pick up on those predictable sequences. Pitchers must be conscious of what pitches they tend to throw and during which counts. If they continually throw a fastball in the first pitch of each at bat, how long will it take for hitters to recognize and jump on it? Do they immediately resort to the curveball with two strikes? Are they pitching to the inside half of the plate in addition to the outside? These are all questions a pitcher should constantly be asking oneself because opposing hitters sure will be! Stay aware of your sequence, change speeds, and keep the hitters honest.

A lesser discussed aspect to the pitcher's mental game is his ability to control the pace of the game. Knowing when to work quickly while things are going well or when to slow down as problems arise can play a huge part in the outcome of the game. Smart pitchers use this ability to their advantage and keep the game on their terms. During an E:60 interview on the mental game of baseball, Tampa Bay Rays All-Star third baseman Evan Longoria discussed the importance of staying "in the moment" throughout each game. Whether it's striking out the last at bat or making an error in the field, he knows when his next opportunity comes he must be fully present in that moment. To accomplish this, he relies on a focal point to help bring his awareness back and refocus on the moment. Legendary sports psychology author Ken Ravizza describes this focal point as, "Something that you can lock your attention on to help distract you from the distractions all around

you. For many pitchers and hitters their pre-pitch or pre-hit ritual provides them with these focal points. If you make the steps of your ritual simple and controllable, it'll be much easier for you to stay calm and focused when the heat of competition is turned up high." For Longoria, this focal point is the left field foul pole. For myself personally, my focal point has always been the dirt on the mound. When I find myself starting to struggle, I take a moment to groom the mound and refocus my attention to the task at hand. There are so many variables in the game a pitcher cannot control but his emotions, his effort, and his focus are not among them.

Stay relaxed, stay ready, and <u>always</u> stay in the moment!

A final note I like to include with the mental aspect of pitching is the importance of the eyes. A pitcher's eyes are responsible for relaying crucial information to the rest of the body. Depth, distance, and size are all viewed by the eyes and calculated in the brain.

When we throw to a target, our eyes instantly direct the brain with how far to throw and how high to throw it. However, this process can become unnecessarily harder with each additional movement the pitcher's eyes make. An analogy I often use to reinforce this concept is an archer taking aim with his bow. Before he starts, his eyes lock onto the target. As he pulls back the bowstring, his eyes remain fixated on the finishing point. His head stays in one spot and his eyes never move. It isn't until after the arrow is released that he surrenders focus. Pitching a ball should be no different.

A bad habit some pitchers fall into is losing focus of their target during the delivery. In some cases this is done intentionally when the pitcher checks runners during his leg lift. Unfortunately, most of the time it occurs without the pitcher even realizing he's doing it.

It's these cases where you find players glancing down at their feet or off in a different direction halfway through the delivery. The problem is it serves no actual purpose to the pitching motion. What it does do is lose sight of the target and force the eyes to re-find the catcher's glove again during the descent down the mound. This would be like a shooter in basketball looking away from the basket midway through his shot. Once the pitcher has locked in on the glove, his eyes should remain there until the pitch has been thrown.

To take this notion one step further, I challenge each pitcher to really think about what it is they're aiming at while throwing each pitch. Are they simply looking at the catcher crouched behind home plate or are they actually focused on the glove itself? Do they stare at the glove as a whole or pick a specific spot inside the pocket to hit? Growing up, my father always echoed the phrase *"If you aim big, you'll miss big. But if you aim small, you'll miss small."* This ability to really lock in is a skill. It takes time and it takes practice. But being able to repeat this focus pitch after pitch throughout an entire game is what's needed to reach the next level.

Let the chess matches begin!

THE MECHANICS

The pitching mechanics are made up of 5 separate phases:

- Phase 1: Addressing the hitter
- Phase 2: Coming Set
- Phase 3: Leg Lift and Separation
- Phase 4: Power Position
- Phase 5: Release and Finish

Each phase of the delivery serves a specific purpose. When the pitcher is able to successfully combine each part, it will result in a precisely thrown pitch.

PHASE 1:

ADDRESS THE HITTER

Phase 1: Addressing the Hitter

Addressing hitters as they step into the box is one of the most underused strategies in the pitching arsenal. Recognizing a few simple indicators can make the difference between getting the hitter out and allowing him on base.

While there won't be as much emphasis placed on this for younger players, it's a great habit to become familiarized with early on. A few of these indicators are as follows:

- Look for where the hitter stands in the box: Is he crowding the plate? Or is he backed off? Identifying this first will dictate how you attack the hitter. Most hitters standing on the plate are looking for a pitch in the middle/outside half of the zone. In these cases, they're daring the pitcher to throw inside. Don't shy away from the challenge, throw it in and make them respect the entire plate. In the opposite scenario where you find the hitter standing away from the plate, pitching to the outside half of the zone should be the approach anticipating them to have a difficult time reaching anything away.
- Another key identifier is to look at the hitter's hands. If they start low then chances are he'll have a tough time making contact with higher pitches up around his chest.
- Lastly, look to see if the hitter's stance is square. Does he start with his stance open or is he closed off? Again, this can typically be used as another indication for which part of the zone to attack. In my experience, hitters with a closed stance have a harder time handling inside pitches whereas those with an open stance really have to extend their swing in order to reach the outside corner.

With all this said, keep in mind these are all generalities and don't necessarily apply to every hitter. In most cases we are not trying to strike every hitter out either, we are looking to create contact. Identifying one or two of these indicators and executing the proper pitches can prevent the hitter from creating solid contact and get themselves out. The better a pitcher can do that, the more success they are going to have.

PHASE 2:

COMING SET

Phase 2: Coming Set

The first mechanical decision a pitcher must make is whether to pitch out of the windup or the stretch. Most guys tend to prefer the windup, only turning to the stretch when they are forced to with runners on base. However, I recommend youth players simplify the pitching process and throw from the stretch. It's my belief the easier you can make the mechanics, the more efficient you'll become in repeating them. In this case, *less is really more!*

The most difficult part to this philosophy is when kids want to mimic the pitching mechanics of their favorite Major League players. Granted those professionals are the best at what they do and kids are right in wanting to follow suit but the reality is those extra movements in the windup really do nothing to help the player throw harder or pitch better. It's simply the style they grew comfortable using as they mastered their mechanics. Once you eliminate the rocker-step[1] behind the rubber, the high hands over the head or any other variable carried out in the beginning of the windup, the pitching motion reaches the same point it'd be in by starting from in the stretch. From that point on everything is the same, so it makes sense to eliminate any of the non-essential variables.

The biggest reason why I do this is to help stabilize the head, quiet the eyes and make the motion easier to repeat. Pitching isn't about style or looking cool, it's about throwing strikes. In my opinion, this gives us the best chance to do that.

> **"Pitching isn't about style or looking cool, it's about throwing strikes.**

A common misconception in baseball is pitchers don't throw as hard from the stretch as they do the windup. But watch any Major League game and you'll see the majority of bullpen pitchers using only the stretch. Do these players appear to pitch any slower than the starters going from the windup? Of course not, because velocity isn't generated in the beginning of the motion.

In most cases, I believe this myth can be traced back to a lack of proper training to prepare the body for pitching out of the stretch. The mistake many players make when throwing

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[1] Rocker-step: The initial step back behind the rubber during the pitching windup.

their bullpens[2] is to pitch solely out of the windup. In doing this they neglect taking important repetitions from the stretch and fail to develop the muscle memory needed to duplicate their results from the windup.

But ask yourself, when does a pitcher have to be at his best? ***When there are runners on base and he's out of the stretch!***

Note: Even if the pitcher decides to stick with the windup, he should be practicing out of the stretch no less than 50% of the time. This is how he'll develop the mechanics needed for both speed and control out of the stretch. Personally, I made the decision to pitch primarily out of the stretch while playing in college and it's something I've stuck with ever since. As someone who struggled to consistently repeat my mechanics, I found that simplifying everything really helped to improve my efficiency.

An additional caution from the windup is to avoid over stepping with the rocker step back. This is common among young players and can lead to a change in eye level as previously mentioned. If you watch most Major League Pitchers today, you'll find they have small, controlled rocker steps typically to the side of the mound rather than behind it. This helps to maintain good balance and a steady tempo in the motion.

When stepping onto the mound for the windup, the bulk of the pitcher's feet should be down off of the rubber. This eliminates the need for a large pivot and minimizes the distance needed to step down. The balls of the feet should be grounded in front of the rubber with both heels on top of the mound. Feet should be about shoulder width apart but in a position comfortable to the pitcher. I recommend standing aligned with home plate at the center of the rubber. The pitcher stands tall and relaxed, looking straight on to home plate.

Starting position for the windup

For pitchers starting in the stretch, the back foot should be planted firmly up against the rubber not on top. Feet should be

[2] Bullpen: Baseball term for pitching practice off of the mound.

parallel with the rubber and body should be perpendicular with the face of home plate (facing third base for a righty or facing first for a lefty). Feet will still be shoulder width apart.

Starting position for the stretch

As the pitcher comes set, focus on placing the bulk of the weight on the back foot. When a pitcher starts with even weight on both feet, it must be shifted back during the leg lift. Consequently, this forces a change in the player's eye level. Ideally, I would recommend around an 80/20 percent distribution between the weight placed on the back foot and the front. The back base leg should also start with a slight bend in it. This prepares the pitcher for an easier transition into the leg lift and further prevents his head from moving. His body's already in position and lifting into a balance point becomes effortless.

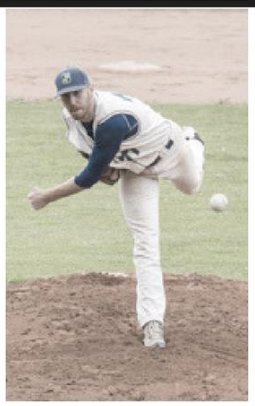
Where the pitcher places his hands when coming set is entirely based on personal preference. Some prefer to have them up in front of the face, while others take a more relaxed position down by the waist. Height of the hands should start somewhere between the bottom of the chest and the top of the waist. This is the point where hand separation will occur in the next phase of the mechanics so it makes sense to anticipate starting from a position that will require the least movement needed to transition forward.

The single most important action when coming set is to incorporate a deep breath before beginning the rest of the motion. Watch any Major League player, pitcher or hitter, as they ready themselves for a big moment and you'll witness calm, collective breathing taking place. This is because proper breathing gets oxygen to the muscles, relaxes muscle tension, slows the heart rate, and allows adrenaline rushes to pass. It also allows players to slow the game down, stay in the moment, and refocus on the task at hand. Deep breathing should be at the center of every player's pre-pitch routine.

Don't underestimate the power of proper breathing!!

PHASE 3:

LEG LIFT & SEPARATION



Phase 3: Leg lift and separation

From this point on, much of the pitchers movements happen simultaneously. For coaching purposes, I choose to break this process down into multiple phases. This allows us to refine individual movements before combining them. Keep in mind; this combined progression will slightly differ to the mechanics of a full speed pitch.

The third phase of the mechanics leads the pitcher up into the leg lift or what's also known as the "balance point." The main purpose of this phase is to initiate movement in the body and begin generating energy to be harnessed through the pitcher's natural kinetic chain. For simplicity purposes, think of this chain as the transfer of energy from one part of the body to the next. As pitchers, our energy should always be generated from the ground up. This chain begins within the base foot on the mound and works its way up through the body. Energy passes from the ankle joint to the knee and up through the hips. From there it's transferred through the pitcher's trunk[3], into the throwing arm and finally exerted into the release of the ball towards home plate.

> **"Energy should always be generated from the ground up.**

High velocity pitchers develop mechanics that maximize the amount of energy created and transferred through their kinetic chains. Low velocity pitchers fail to generate those same levels and/or lose portions of it throughout the various chain links. An example to visualize this process is to imagine a water hose starting at the tap and ending at the nozzle. If any point in that hose contains a hole, water is bound to leak out; resulting in less water pressure at the end. Transferring energy in the throwing motion is very much the same. The more energy we're able to create and retain from start to finish, the more force we'll be able to put into the throw.

Moving up into the height of the leg lift, the balance point is established as all of the pitcher's weight remains on the back foot. Shoulders should still be square and the pitcher should stay tall and upright. Hands should remain near their starting position around the

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[3] Trunk: The torso muscles centered on the body including chest, abdomen, back, and pelvis.

center of the body. In many cases, failure to find this point can disrupt the pitchers timing; causing the arm to start its throwing motion too early or lag behind too late. Finding the right balance point to work from is an important key in being able to repeat the same mechanics over and over.

The height and duration of the leg lift are additional preferences determined by each individual pitcher. There is no specific height the leg must reach or any set amount of time it should be held, simply whatever feels comfortable. I've known pitchers with small, compact lifts and guys who use long, high kicks. The main focus should be on creating a lift you're able to repeat each time.

Once this has been achieved, the pitcher is now ready to begin his descent down the mound. During this action, two important things must take place before the pitcher reaches his next mechanical phase: a clean hand separation and a proper leg drive down the mound.

- **Clean Hand Separation:** An often overlooked aspect within the mechanics, the separation of a player's throwing hand from his glove can play a deceptively large role in his ability to repeat consistent mechanics. It's the starting point the pitcher's arm motion will begin from. It may sound obvious to point out but the throwing arm should follow the same path on each pitch. To help accomplish this, ensure the pitcher's hands start from the same position each time.
    - When the separation takes place, the hand and glove should move in opposite directions without interference.
    - Think about cracking an egg over the top of the knee. As separation occurs, the palms should be facing away from each other. This helps guide the pitcher's arm into a consistent path each throw.
    - Hand separation can be a big indicator for a pitcher to use on the mound. In my experience, if a pitcher is consistently missing high and away to the arm side; chances are he's either failing to finish the pitch and/or doing a poor job with hand separation. Poor separation can affect our timing. A fraction of a second is all it takes to throw the body out of sync and compromise the delivery.

- **Leg Drive:** As hand separation takes place, the pitcher should also begin his descent down the mound. This movement should always be initiated with the hips, in a straight direction towards home plate. What this hip lead does is create early momentum, speed up the time it takes to move down the mound, and keep the pitcher's upper half from getting too far out front. It also forces the body to linearly move down <u>and</u> out together as compared to down <u>then</u> out. Players who break this movement up into two parts lose crucial energy, like the water pressure from the hose.
    - To properly set the hips, a college coach of mine instructed his pitchers to envision a camera on the back heel of their shoe. At the height of their leg lift, he would direct them to point the camera at home plate and keep it there as they drove down the mound.
    - A great drill to practice this movement without throwing is to stand near a wall and go into your leg lift. Set the hips, point the camera, and allow yourself to fall into the wall. The only part of the body that should make any contact is the front hip. This reassures us we're leading with the lower half of the body and staying back with the shoulders.

Can you imagine the camera in the back of my shoe here? Notice how far out in front my hips are compared to the rest of my body?

- As the lift leg starts its drive down the mound, the base leg should also drop into flexion[4]. If our objective is to explode towards home plate, doesn't it make sense to get as athletic as possible? If an athlete is going to jump as high as he can, he's not going to attempt it with straight legs. He's going to bend his knees, become athletic, and let his muscles work the way they're intended.

Notice the back leg dropping into flexion, preparing to launch my body towards home plate?

Generating push down the mound is an athletic movement!

When the base leg drops, the knee should always stay above the ankle and the head should stay above the belt. Avoid over-collapsing the back leg to the point it's no longer in line with the drive foot. Dropping too low into the back leg can negatively impact the player's ability to create explosion and actually slow him down the mound.

[4] Flexion: "A bending movement around a joint in a limb (such as the knee or elbow) that decreases the angle between the bones of the limb at the joint."

PHASE 4:

POWER POSITION

Phase 4: Power Position

If you're reading this book to learn about how to create more power and help throw harder, you need not look any further than the *power position*. This is where the majority of the pitching power is utilized and yet the arm is responsible for almost none of it.

"But Dustin, if I want to throw harder shouldn't I just use more arm?"

No, contrary to what most people believe, attempting to throw harder through an overexertion of the arm will actually lead to a loss of velocity and an increased risk for injury. The real key to increasing velocity comes from using the big muscles in the body; the legs and trunk!!

> **"The real key to increasing velocity comes from using the big muscles in the body; the legs and trunk!!**

At this point the pitcher's hands have separated, they've made their way down the mound, and they're firmly planted in the power position. This phase occurs once the pitcher has achieved front foot strike (the point when the front foot has landed down the mound) but hasn't started to rotate forward in the throw. With a successful leg drive, the backside ankle, knee, and hip should all be fully extended off the rubber. This is how the pitcher creates maximum momentum exploding down the mound.

Important note: Achieving this proper leg drive will be a difficult task for younger, less mature players as they'll simply lack the needed strength to truly drive down the mound. In recognizing this however, it's never too early to begin developing the necessary mechanics and train their bodies to properly push off the mound. The strength and explosion will come in time but it'll be a much easier transition if the pitcher has already learned how to pitch from the ground up.

As the pitcher reaches the halfway point of the stride, the throwing arm should make its way up into a cocked position behind the player's body to prepare for the throw. As previously discussed, the arm path taken to obtain this position is crucial. Avoid wrapping the hand behind the body or leading with the wrist to "point the ball at second base." These are common cue's used by a number of pitching coaches and reflect an old school approach

to the mechanics. Instead, think about following a small "U" shaped path directly from hand separation and into the cocked position. Keep the arm relaxed and the fingers pointed in the direction of third base (first base for lefties). As a quick exercise, perform an arm path leading with the wrist and pointing the ball towards second base. Can you feel the pressure of pronation being placed on the elbow while simply holding the pose? Think about how much more stress is created when attempting a high intensity throw. Now, perform the "U" shaped arm path and ask yourself which motion feels more comfortable? I think most of us can agree on the latter option.

It's also <u>extremely important</u> to ensure the throwing elbow never rises above the shoulder! Doing so can place the body into the highly controversial positions known as the "inverted W" or "inverted L." These occur when one or both of the pitcher's elbows are positioned above and behind the height of the shoulders as he reaches the power position. The problem is this places the arm in a vulnerable position during the throw, continuous overloading the front of the shoulder and elbow as they move into external rotation. To prevent this, focus on keeping the elbows below the shoulders during this phase. The final position should leave the throwing arm in roughly a 90 degree angle, the hand vertically positioned above the elbow by about 45 degrees and of course, the elbow situated below the height of the shoulder. Here is an example of what the inverted W looks like in the power position phase. Notice how both elbows are up above the shoulders?

Mark Prior is one of the most referenced pitchers when it comes to the Inverted W and his inability to stay healthy.

The pitcher's landing foot should end up pointed in the direction of home plate with a slightly closed off angle. A completely straight landing foot causes the hips to open too early whereas a fully closed foot restricts the hips from properly opening at all. The landing knee should be flexed to help stabilize the pitcher immediately after front foot strike. This action of stabilizing is how energy is transferred from the lower half of the body upwards. With a sudden stop to the legs, the upper body is catapulted forward and the throwing action towards home plate begins.

Here you can see my lower body has fired towards home plate and my hips are opening up. However, my arm is still cocked and my shoulders remain closed.

One of the biggest differences between low and high velocity pitchers is the point in which their throwing action begins. Most low velocity pitchers simultaneously start their arm action forward while their lower body goes into front foot strike. In doing so, they're essentially robbing themselves of the power being generated by pushing down the mound. The end result of this? A slower throw and a larger burden placed on the arm to produce its own energy.

So how do high velocity pitchers throw so much harder? By throwing from the bottom up and utilizing the high amount of energy being produced within their kinetic chain. This means exploding with the legs first and the upper body second; creating the desired hip and shoulder separation. That separation is what allows the pitcher to continue storing energy all the way down the mound as compared to starting the throw early without it. There have been a number of scientific studies done to prove the importance of hip to shoulder separation and one study, done by the National Pitching Association, has even gone as far as to correlate 80% of a pitcher's throwing velocity to that single variable.

> **"According to the National Pitching Association, 80% of throwing velocity is correlated to hip to shoulder separation.**

So if we recognize the importance of creating hip to shoulder separation in the mechanics, why do so many players continue to struggle with it? Well aside from a lack of proper understanding, I believe the biggest trouble guys have is learning what it *feels* like to actually create the separation itself. This isn't a natural movement and in many cases requires a great deal of training to reprogram the body to throw this way. A cue I use to help players visualize this position is to try and get the throwing elbow as far away from the back hip as possible once they reach front foot strike. If executed properly the back leg should be fully extended, the hips should be open to homeplate and the shoulders should still be closed. To further understand, think about a rubber band going from the hips up to the elbow. The more separation we can create, the tighter that rubber band is going to become before it snaps towards the target. This is how pitchers are able to create so much torque[5] during the throw.

As a general rule: The longer we can delay starting our throwing action, the more energy our body can store. This delay helps to keep the shoulders closed longer and allows the lower body to get where it needs to be before we cock the arm to throw. Players who immediately progress from hand separation up into their throwing position are far more likely to fall victim to unwanted early rotation.

From this different angle, you can see my lower body has already opened to homeplate while my upper body is just now starting to rotate forward with the throw. At this point in the delivery, my body's "rubber band" is fully stretched.

[5] Torque: "A twisting force that tends to cause rotation."

PHASE 5:

RELEASE & FINISH

Phase 5: Release and Finish

The final pitching phase occurs after the pitcher has successfully reached front foot strike, cocked the arm, and begun to rotate. As this occurs, it's important for the pitcher to initiate his throwing motion with the front side of the body.

As previously discussed, the front foot should have stabilized quickly upon landing and thrusted the upper half of the body into motion. As this happens down below, a good glove-side pull down by the leading arm is required up top. As Sir Isaac Newton described in his third law of physics: "For every action there is an equal and opposite reaction." In pitching terms, this means if the player wants to create a good throwing motion on the backside, he must also create a good pulling motion on the front side. Notice I chose to describe this pull down action as "good" rather than "strong, fast or hard." This is because they still want to be under control and resist the urge to fly open with the shoulders. Failure to keep the shoulders closed before the arm is ready to throw will cause accuracy issues and result in the pitcher being unable to throw strikes.

Some coaches teach the pull down with the glove facing inwards while others encourage having it face away. Both are perfectly acceptable as long as the pitcher uses the movement to catapult the backside forward. Like so much else it just comes down to what feels most comfortable.

While the glove-side pull down is occurring; the trunk, shoulders, and throwing elbow all begin their forward rotation towards home plate. As this happens, the hand and forearm fall into an external rotation backwards (as shown in the picture to the right). The throwing arm moves forward and accelerates into an extension of the elbow. As this is occurring, don't allow the pitcher's elbow to drop down below the shoulder and create a "pushing" motion leading with the

Study the picture above: Can you see the triple extension in the back leg after driving off the rubber? How about the throwing arm laying into external rotation as the upper body moves forward?

wrist. During release, the hand should stay on top of the ball and the elbow should be in line with the shoulder. As the ball's released, the arm falls into internal rotation forward. After letting go of the pitch, the arm decelerates and the body finishes into the follow-through. A proper finish should have the throwing arm near the opposite hip, the weight out over the front foot, and the back foot up in the air behind the pitcher.

Where the pitcher releases the ball is very important when it comes to his ability to consistently throw strikes. We place so much emphasis throughout each phase on creating repeatable mechanics but it'll all be for nothing if we can't duplicate the release point. Unfortunately, this is where most youth players typically tend to have the biggest struggles. While each player's release is unique to his own mechanics, they all follow general similarities. The ball should be released out in front of the pitcher, not up above the head or shoulder area. If you break down most professional pitchers at release point, you'll find a nice linear line from the top of their hand all the way down through their back drive foot. For comparison, drawing that same line on a release point above the head will result in a more vertical line moving up and down. In my experience, the easiest way to correct this is by instructing the pitcher to "reach out" and bend the back on the throw. The less upright the player is, the harder it'll be to incorrectly finish with a high release point. The last thing the player should feel on release is the tip of the fingers snapping off the ball. This is important if we want to consistently control the way the ball moves. As an example, when

throwing a 4-seam fastball we want to create as much backspin as possible. If the ball isn't released correctly, the spin will be affected and the pitch won't go as intended. Actively study the rotation of the ball while playing catch with your pitchers. Often times, this can reveal a lot about the way their releasing the throw without even looking at the mechanics. For consistency purposes, make sure players are using the same grip on the ball each time they throw (usually a 4-seam) and be conscious towards how the ball spins each time.

5 Phase Summary

- Phase 1: Addressing the hitter
  - Identify an initial approach for pitching to each hitter
- Phase 2: Coming Set
  - Get the sign from your catcher, come set, and take a deep breath as you focus on where you want to pitch to be thrown
- Phase 3: Leg Lift and Separation
  - Keep the head stable during the leg lift, point the camera in the shoe and lead with the hips down the mound
  - Perform a clean hand separation, arm stays loose and relaxed behind the body
- Phase 4: Power Position
  - Arm follows "U" shaped arm path and reaches cocked position
  - Back leg fires off the rubber into triple extension of the ankle, knee and hip and landing leg quickly stabilizes upon front foot strike
  - Hips open up to home plate while shoulders stay closed creating Hip to Shoulder Separation
- Phase 5: Release and Finish
  - Front side glove pulls in as the backside arm is catapulted forward
  - Throwing arm lays into external rotation
  - Ball is thrown and arm decelerates into internal rotation in front of the body

Quick Adjustment Tips

As any coach can tell you, there are going to be times when your players struggle to perform on the mound. In my opinion, the worst thing you can do when this happens is bark out vague commands for your pitcher to follow. *"C'mon, Focus! Don't walk the hitter! Throw strikes!"* Not only do these comments fail to help the pitcher perform better but they do nothing to address why the pitcher is even struggling in the first place. What they will do however is place more unwanted stress on the player, making it harder to succeed in the situation. As a coach, our job is to identify where the mistakes are being made and help provide solutions to solve them. Listed below are a few of the most common mistakes and adjustments I find players to make on the mound. Any single problem could require a number of different adjustments to fix it. Use these adjustments as a checklist to tick each box until the problem is fixed.

- **Problem:** The pitcher is consistently throwing balls high and outside to the arm side of the plate (right side for right-handers, left side for left-handers).
  Adjustment: In this case, there's a strong chance he's either releasing his pitches too early or his arm is getting caught behind the body during the throw. To help fix this, let him know he needs to bend the back and reach out further before he releases the ball. If this doesn't fix the problem then it's probably occurring before the throwing motion even begins. Check back in with the pitchers hand separation and make sure he's not breaking the hands too late. Often times, this can be the point in the mechanics throwing everything else off. When this happens, the body moves down the mound before the arm's ready and speeds the entire delivery up. Instruct the player to separate his hands quicker or slow his body movements down the mound. Either option should help allow the arm to resync its timing. It may not seem like much, but all it takes is a fraction of a second to disrupt the delivery.
- **Problem:** The pitcher is locating pitches around the plate but consistently throwing too high or too low outside of the strike zone.
  Adjustment: Unlike the previous problem of getting sped up or lagging behind, this scenario has more to do with adjusting the release point. If the pitcher is constantly around the zone, you don't want to rush in and try changing too much. A simple

trick I give my pitchers is to make a small adjustment to their stride length. If they're repeatedly missing high, try having them shorten up the foot stride by a fraction. This will better allow the player to get out front and finish his throw further down. On the flipside, if the pitcher is consistently missing low it means he's getting too far out front and releasing the ball late. The same type of adjustment can be done here as well, only this time we want to lengthen out the stride. In doing so, we're making it harder for the player to get so out front and causing the release point to happen sooner (Keep in mind these stride adjustments will be fractional. If the average stride length is 70-80% of the player's body height, the adjustment should be no more than 1% or 2%).

- **Problem:** The pitcher's mechanics are all fine, he's just struggling to put it all together and throw strikes.

  Adjustment: I'm going to let you in on a little coaching secret I've found throughout my experiences with struggling pitchers; and it's the fact that most guys *want* to hear something to quickly fix their problems. Pitching requires a great deal of confidence and when players struggle they can quickly become isolated on the mound and sink into their own negative thoughts. So how do we snap them out of these skids? Give their minds something else to concentrate on instead of "I can't throw strikes." Providing small adjustments such as a cleaner hand separation or better hip lead down the mound (even if they aren't necessarily needed) have an empowering effect on the pitcher's mindset towards "something" being wrong. In reality, all the pitcher *really* needs is to see the ball cross the plate a few times and reinforce confidence in his abilities. Good coaches recognize this and help to build the pitcher up, not tear him down.

The Importance of Video Analysis

Improving a player's mechanics is an ongoing task that requires constant upkeep. It's not a transformation that'll happen overnight. In many cases, pitchers will be forced to relearn some of the most fundamental aspects to the throwing motion. Luckily enough for them though, modern technology has made this process easier than ever. Video analysis is undoubtedly one of the most effective tools out there for improving one's mechanics.

As you'll have realized by now, there are so many rapidly moving parts simultaneously taking place throughout the pitcher's delivery that it's impossible for the human eye to actually see and process it all. This is where slowly breaking down the mechanics on video becomes so important! A coach can see whether you lead with the hips down the mound or release the ball too high but he can't see the exact position the arm was in as it catapulted forward. He can't tell how quickly the landing leg was able to stabilize and he surely can't determine to what degree the player is creating his hip to shoulder separation. These are all things that can only be revealed by slowing the motion down and reviewing it on video.

Another important benefit to breaking players down on video is giving them a chance to see their mechanics firsthand. Simply instructing what to do or how to do it doesn't always equate to players being able to perform the task. As I'm sure most of you can relate there have been plenty of times where it *felt* like I was doing something correctly; only to later cringe as I saw myself on video actually still doing it wrong. A glaring example of this often appears in the initial stages of learning to create more hip lead down the mound. When we first start, inexperienced pitchers will *feel* like they're getting good lead when in reality they aren't. Allowing them to see firsthand what they're actually doing and then what they *should* be doing is the quickest way to making it register in their minds. This is how we learn to appropriately adjust our body's mechanics the right way.

In my opinion, bullpens should be video analyzed as frequently as possible to provide the best results. I'll be providing a professional video analysis service in addition to the book and highly recommend all of you capitalize on that opportunity to identify what specific needs your players should improve on. From there, I recommend continuing to video and analyze the mechanics yourself even after improvements have been made. An effective way I've found to do this is to take the camera into your bullpen sessions. Film a few pitches early in the bullpen, take a minute to analyze the mechanics, identify something to improve on, and then emphasize it throughout the rest of the bullpen. Film the final few pitches and end the bullpen session by comparing the improvements made from start to finish. Save the videos and re-watch them the following week as you prepare to throw your next bullpen. Build off of the success and slowly progress from one improvement to the next; every day becoming a better pitcher than the last!

PITCH GRIPS

There are a number of different pitches in the game of baseball, all bringing something unique to a pitchers arsenal. Mixing between these pitches and changing speeds allows us to keep the hitters guessing with what's coming next. When working with youth pitchers, I believe in limiting the number of pitches they attempt to learn: a good fastball, a change-up, and a curveball are all they'll need through most of their careers. Everything else; the sliders, cutters, splitters, and knuckleballs just aren't necessary until pitchers reach the next level. What's truly important is developing the command to throw all three different pitches, at three different speeds, for a strike in any situation. That is how players become great pitchers!

4-seam fastball

For youth players the most important pitch is the good ol' fastball. People underestimate the power of a well located fastball. If used properly it can single handedly guide the pitcher through an entire game; regardless of how hard you throw. Learning how to use the fastball starts from a young age and continues to develop over time. Most pitchers will agree, not only is it the pitch they control best but also the one they throw hardest. This pitch can be thrown in any count and any location.

Grip: Place the index and middle fingers across the horseshoe[6] of the ball and perpendicular to the seams. The fingers should be touching the ball on points at all

[6] "Horseshoe": In baseball, this refers to the rounded outside patterns of the seams on the ball shaped like a horseshoe.

four seams, hence the name. The ball should be out on the fingertips with a nice loose grip.

Pro Note: Anytime I throw my fastball, I always try and answer whether or not I felt the seams snap off of my fingertips. If thrown properly, the tips of the fingers should be the last thing to come off the ball on its way to the plate. This is one of the best ways to self-check if I'm releasing the ball cleanly or not.

2-seam fastball

A 2-seam fastball is typically known for having movement and "running" in the direction of the pitcher's armside. A pitch that moves is one of the hardest to hit, especially in addition to the speed of the fastball. Creating this movement comes from the ability to manipulate the spin of the ball. With the 4-seam, pitchers create a backspin that hurls the ball straight towards homeplate. When throwing the 2-seam however, they create a more lopsided spin that generates sideways rotation and results in a lateral movement of the ball as it travels towards home. Like the 4-seam, this pitch can be thrown in any count or location.

Grip: Place the index and middle fingers on the narrow parallel seams of the baseball. Typically the fingers will be placed directly on top of the seams however, it is not uncommon for pitchers to slide one or two of the fingers to either side of the seams; whatever helps to feel more comfortable and achieve control.

Pro Note: Have your pitchers experiment with various amounts of finger pressure between both the middle and index fingers while playing catch. In many cases, something as slight as more pressure to one side can drastically improve the amount of movement to the pitch. Have them play around with different feels until they find one that works!

Change-up

In baseball, the change-up is known as the "great equalizer" for pitchers. It's an essential tool to keep hitters honest with their timing and as discussed in the introduction, timing is everything! When throwing the change-up, pitchers are essentially trying to limit the amount of spin on the ball to slow it down and cause it to "drop" out of the air. The reason this pitch is so effective is because it looks just like a fastball out of the pitcher's hand. Hitters prepare themselves for the speed of the fastball, only to be met with surprise as the pitch travels home much slower than expected. The key to this deception lies in duplicating the rotation of a fastball. In order to truly deceive the hitter, change-up spin should be as similar to the fastball as possible. This means pitchers predominately throwing 4-seam fastballs should look to incorporate 4-seam change-ups. Alternatively, players who rely on 2-seam fastballs should stick with 2-seam change-ups. It may seem like a petty detail to enforce but good hitters can distinguish between the two. Have the catcher or pitching coach consciously study the spin of both pitches to help look for any differences.

> **"Hitters prepare themselves for the speed of the fastball, only to be met with surprise as the pitch travels home much slower than expected."**

There are a few different ways to throw the change-up but I believe it's important to choose one grip and stick with it. From a developmental aspect the more repetitions we can obtain with a specific grip, the more comfortable we can become throwing it. The two most commonly used change-up grips are the circle-change and the three finger change-up.

A typical problem with using the change-up at young ages is the lack in speed difference between it and the fastball. This can be especially true for youth players who throw harder than others their age, as the slower change-up presents a more suitable speed for hitters at that level. However, I can't stress enough that it does NOT mean the pitcher shouldn't continue to work on throwing the pitch! Instead focus on saving it for the top hitters and continue developing it in bullpens at practice. They may not need it now but they'll be glad they've got it later down the road.

Grip: For a circle change, place the middle, ring, and pinky fingers onto the top of the ball with the index finger off of the side. Curl the index finger down and the thumb up to create a circle shape along the outside of the ball. If the hands aren't quite big enough to grip the pitch yet, I recommend switching to the three finger change-up. This grip is similar but the pitcher will slide the main three fingers (pointer, middle, and ring) up onto the top of the ball and make the circle shape with the pinky and thumb underneath the baseball.

Contrary to what most people believe, the player should have a loose, easy grip out on the fingertips rather than being firmly choked back in the hand. When throwing, have the pitcher focus on keeping everything the same as he would a fastball. That means the same mechanics, the same arm speed and the same release. Only now the change in grip will kill speed and create added movement to the pitch.

Pro Note: A phrase that's stuck with me since my first year of college is to "throw the change-up *through* the catcher, not *to* him." The mistake a lot of young pitchers make is to try and manually take some velocity off the pitch by throwing it softer and "aiming" it. Instead, think about throwing it past the catcher and letting the grip do the rest. Trust the pitch and throw it with confidence!

Curveball

Determining the proper age for when kids should begin throwing curveballs is a heavily disputed topic within the baseball community. Some believe youngsters shouldn't attempt to spin the ball until they're older and their bodies have matured. Others disagree and begin teaching their kids to throw curveballs shortly into the transition to the mound. So which side to the argument is correct?

Well technically *they both are!*

I don't start teaching any of my players how to throw curveballs until I believe they've developed the necessary arm strength and mechanics needed to safely throw the pitch. In saying that, each player is different and will obviously progress to this stage at different times in their careers. What works for some kids at the age of ten might not come about until age fourteen in others. It's truly a case by case scenario. With that said a properly thrown curveball isn't any harder on the arm than a fastball or change-up and can still be a safe pitch for youth pitchers to throw. Honestly, I'd be lying if I didn't admit to throwing a curveball myself around the age of eleven or twelve. The important thing was learning how to throw it properly and avoid putting strain on my elbow.

Much like manipulating the spin of the previous pitches, creating proper curveball rotation requires pitchers to spin the ball from top to bottom with forward spin. This is how they're able to create the desired "curving" effect to the pitch. The best breaking balls are pitches that move along two separate planes: up and down as well as side to side. Getting the hand on top of the curveball as opposed to on the side is the only way to achieve both of these movements during the throw.

The biggest key for youngsters when throwing the curveball is to limit the amount of sideways rotation taking place in the wrist. Trying to create spin by "flicking" the wrist can become quite stressful on the ligaments in the pitcher's elbow. Instead, I teach my pitchers to throw the pitch using a 'karate chop' arm motion as if they're trying to split the catcher in half. During the release, have the player make a 'casting motion' where the thumb is rotated upwards and the fingers are snapped downward. Think about the wrist action that takes place when casting a fishing pole, it's a very similar motion to what we're trying to

achieve when throwing the curveball. After the ball's released, the pitcher's hand should strike resemblance to a thumbs-up gesture with the thumb pointed out towards home plate (as seen in the picture to the right). The key to this arm motion is using a strong 'pull down' finish out in front to generate the necessary spin on the ball out of the hand. When finishing, the throwing hand should end near the opposite hip.

Notice the thumbs up in my throwing hand pointed at home plate?

Now I know what you're going to say; "But Dustin, you just said we should limit the movement of the wrist didn't you?"

Yes, I did. But there's a major difference in the wrist movement of the casting motion we want our pitchers to have and the twisting torque we don't. The proper wrist motion we're after is up and down rather than side to side. The release of the ball is only meant to create top to bottom spin. It's the sideways arm motion (karate chop) that creates the sideways movement of the pitch.

Have your pitcher play around with this throwing motion and focus on the spin of the ball. Is he creating top spin? Is the ball starting to move in the proper direction (away from the throwing side)? These are the signs you should be looking for when playing catch with the curveball. A good drill to help develop a feel for this pitch is to drop down to a knee and throw from a shortened distance. This simplifies the throwing motion and allows the player to focus solely on what the ball's doing. Place an emphasis on the release of the pitch and the follow through as both are extremely important for manipulating spin.

Once the pitcher has learned to consistently create the spin, continue progressing with speed and distance. When starting off, the ball probably won't break very much and that's normal. But as the pitcher continues to become more comfortable throwing the pitch and creating more spin, the movement will increase along with it.

MORE SPIN= MORE MOVEMENT

Grip: Round the two main fingers (index and middle) and the thumb to create a "C" shape. This will be the grip you want to sit on the ball. There are multiple seam placements the pitcher can try and all are acceptable. For me personally I always preferred to have a seam pressed firm against the outside of my middle finger and my thumb tucked up underneath the opposite seam below. When throwing, it's important to have the hand situated on the outside of the ball, rather than behind it like when throwing a fastball.

PITCH COUNT

Counting your player's number of pitches is an extremely important responsibility for coaches. We know how delicate a pitcher's arm can be and we know how much stress pitching can place on the body; so wouldn't it make sense to consciously track the pitch count and help preserve our young pitcher's arms? Luckily, most Little Leagues enforce a pretty strict pitch count rule limiting the number of pitches for each age group. In my opinion, I see no reason why players 12 years and younger should ever throw more than 75 pitches in a game. Sure, winning baseball games at that age is great but is a plastic Little League trophy worth potentially jeopardizing your young player's career from overuse? Every arm has an expiration date on it; don't foolishly speed up that process by neglecting to monitor their usage now.

Recommended Pitch Count:

- 9 and under: 50 pitches per game max.
- 10-12: 75 pitches per game max.
- 13-17: 95 pitches per game max.
- 18-24: 120 pitches per game max.

Once a player has reached his max pitching limit, he should not be switched into a different position requiring more high effort throws. This means no catcher, shortstop, or third base. Outfield is acceptable just so long as the player acknowledges restraining from making any high effort throws into the infield. In addition, players throwing a high number of pitches should refrain from taking a high number of swings. More pitches = less swings!

ARM CARE

As coaches, we place so much emphasis on developing our player's hitting, pitching, and fielding during practice yet we often neglect their biggest tool of all; their bodies. As baseball players this is especially true when it comes to taking care of their arms; a tool in which all aspects of the game rely on. I believe many of today's sore arms and ongoing injuries are a direct correlation to the lack of proper arm care being carried out on a routine basis. The following list outlines the warmup routine I preform every practice before ever touching a baseball to play catch:

- Full body stretching
  - Focus on dynamic stretches that loosen up the joints and keep the muscles moving. These are ideal for preparing the body for practice.
  - Conversely, leave the static stretches holding poses longer than 30 seconds for after training to elongate the muscles and help promote better flexibility.
  - Place a heavy emphasis on increasing both hip and shoulder mobility as both can be crucial to obtaining better hip to shoulder separation.
- Band work
  - I use tubing bands every day before playing any catch.
  - Bands are ideal for both strengthening and stretching the various parts of the arm.
- Arm circles with a baseball in each hand
  - 4 sets (palms up forward, palms up backward, palms down forward, palms down backward).
  - Each set consists of 8 small circles, 8 medium circles, and 8 full circles.

I've been a huge fan of Jager Sports' "J-Bands" since being introduced to them in college. Their Velcro wrist straps allow the hand and arm to stay loose and avoid tensing up without the need to hold any handle.

    - Focus on keeping the shoulders back and creating symmetrical circles around the shoulders. Avoid becoming "hunched over" and performing the circles out in front of the body.
    - These arm circles are a great way to stretch, strengthen, and warm up the many small muscles in the shoulders pitchers rely on to throw.
    - As the player's body matures, increase the number of balls held in each hand.
- Range of motion/arm mobility routine
    - Pitchers require a great amount of flexibility. This routine is perfect for improving range of motion and getting the shoulders ready to throw.
    - You can find the video of this routine online with the other Grip pitching videos.
- Conditioning
    - Pitching is an extremely explosive movement and the conditioning should reflect that. Forget the myth about building stamina through long distance running, we want explosive training!
    - Focus on sprints and agility to improve fast-twitch muscle fibers in the body.
    - Save the long distance runs for the day after pitching to work up a sweat, get the blood flowing, and improve the body's recovery process.
- Ice the arm
    - Some people believe in icing and some don't. While I'm one of those who do incorporate this into my routine, it doesn't mean you have to.
    - If you choose to, I recommend icing the arm after each bullpen and pitching appearance on the mound.
    - Icing time of 20-30 minutes; never placing the ice directly against skin, always using a towel.

In addition to taking care of a pitcher's arm, it's also extremely important for players to invest in their bodies. Improving one's mechanics can only go so far when they lack the power required to generate more velocity. The only way to take the next step towards throwing harder is to get stronger and improve explosiveness. For younger players, I don't recommend rushing into weight lifting until their bodies have further matured. Around age

fifteen or sixteen is when I recommend pitchers start to find their way into the weight room. I won't go into too much detail here but pitchers really want to focus on strengthening their legs and core. The three big lifts of Squats, Power Cleans, and Deadlifts should be the main focus as they're ideal for training strength and explosion in pitchers.

I also strongly recommend guys invest in their flexibility. Pitching involves a crucial balance between strength and mobility. Both Yoga and Pilates are fantastic for a pitcher's body and will provide benefits in everything from balance to coordination. Looking back at myself, my biggest regret was waiting so long to truly commit on improving my body. Getting stronger and becoming more flexible provided huge improvements to the effectiveness of my mechanics.

WARMUP ROUTINE

A good warmup routine is extremely valuable in the development of a pitcher. It's where the foundation is built. The mechanics, the arm strength, even the mental ability to concentrate is molded during the process of warming up. Good pitchers don't simply play catch to get ready for practice; they utilize their warmup to check in with their bodies, fine-tune their release points, and reinforce proper throwing mechanics day in and day out.

Always remember, every throw has a purpose!!

When I play catch in warm ups, my focus is on progressing through each phase of the mechanics. My body is positioned just as it would be on the mound and my throwing motion mimics my delivery. Here is the best time to improve on pitching! If your pitcher struggles with a clean hand separation, focus on cleaning it up here. If he isn't creating enough hip to shoulder separation, work on creating it here. Test out new pitch grips; refine the one's they already have. All of this takes place in a pitcher's warm up. It's where he truly improves his skills, not on the mound.

Another heavily debated topic in the pitching community is whether or not long toss should be incorporated into the throwing program. Personally, I attribute a lot of my development growing up to long tossing in the offseason. I think it's a great tool for youth players to build arm strength, stretch out the muscles and tendons in the arm, and improve their overall throwing. The distance will vary for each individual as no two arms are the same. The important thing for players to remember is to always take their time and allow their arms to gradually loosen up as they throw. Once they reach around the 90 foot threshold (the distance of the base path) a crow hop[7] should be incorporated into every throw. This will help reinforce using the entire body and move away from throwing solely with the arm. A great way to amplify these results is to mix in a larger, heavier softball into

[7] "Crow Hop": A hopping motion used in the throw to utilize momentum and generate power from the entire body.

the long tossing regimen from time to time as well. This can yield great benefits over the course of an offseason and help raise the pitcher to the next level.

As always avoid trying to overthrow when long tossing (baseball or softball). As I continue to emphasize, all overthrowing does is force the body to work against itself and increase the probability of injury. This becomes especially true for players when they exert the higher amounts of energy needed for throwing longer distances.

It's important for pitchers to be conscious of their throwing mechanics while long tossing as well. A mistake too many players often make is to change their motion in order to throw the ball farther. This is bad for obvious reasons as it opens the door for creating bad habits but also forces the body to use muscles not ordinarily being used during the throw. Multiply that by how far they're attempting to throw and it's easy to see why some skeptics disagree with the idea of long tossing. However, I believe as long as the pitcher stays focused on his mechanics, stays under control, and uses his entire body to throw he will see a huge improvement over the course of a few months.

Remember to ALWAYS listen to the body as you throw!

PITCHING DRILLS

Mechanical Drills:

- Hip Lead Wall Falls
- Catapult Throw Progressions: (one knee, full stride, full step)
- Chest Opener Throws
- Reverse Wall Throws
- Hip to Shoulder Separation Throws
- Phase by phase mechanical throws
- Mechanical throws with ball pickup, re-throw
- Flat Ground Bullpen

Velocity Drills:

- Rocker Throws
- Bucket Sitting Drives
- Power Position Step Through
- Power Position Hops
- One Knee Explosion Throws
- 2 Part Separation Throws

Curveball drills:

- One Knee Curveball Throws
- Stationary Bucket Snap-Downs

THE BULLPEN BLUE PRINT

A bullpen is the term used for practicing pitching off of the mound in order to simulate game-like conditions for the pitcher. While other practice tools like flat grounds and grip catch are essential to pitcher development off the mound, there is always going to be the need to perform these bullpens on it.

In my opinion, youth pitchers should throw a bullpen on the mound no more than once a week (in addition to throwing on the mound in a game). Throwing high effort from the hill places a tremendous amount of stress on the pitcher's body and shouldn't be taken lightly. This is where our flat ground work and daily grip catch become so essential to the weekly routine.

I also want to note not every bullpen needs to be thrown from official pitching distance. I strongly encourage shortening the distance and emphasizing work on the mechanics. Ten properly thrown pitches at 30 feet are far more effective than fifteen wildly thrown pitches at 45'. Football legend Vince Lombardi used to warn his players "practice does not make perfect. *Perfect* practice makes perfect." This is a philosophy I have taken to heart and believe firmly in. Shorten up the distance, take a little speed off the pitch, and have your player focus on developing better control of his throws.

Off-season:

- The main focus should be placed on increasing arm strength! Long toss 2-3 times a week.
- Always play Grip Catch at the end of each throwing session. Work on developing consistent release points for all pitches.
- Throw a Flat Ground 1-2 times a week. Distance may vary.
- Bullpen is optional in the off-season. More focus may be placed on Flat Grounds with an emphasis towards reinforcing proper mechanics and placing less stress on the pitcher's body. No more than one bullpen per week.
- Number of rest days per week should be no less than 2-3 days on average.

In-Season:

- Long toss 1-2 times a week to maintain strength and stretch in the arm.
- Grip Catch at the end of each throwing session.
- Flat ground once a week.
- Bullpen once midweek with at least two days rest before any game appearances.

Example of typical In-Season weekly routine:

- Monday- Normal throwing, Grip Catch
- Tuesday- Long toss, Grip Catch
- Wednesday- Normal throwing, Bullpen
- Thursday- Rest
- Friday- Normal throwing, Grip Catch, Flat Ground
- Saturday- Game Day!
- Sunday- Rest

Note: Adding another day or two of rest is perfectly fine and should be incorporated from time to time throughout the season regardless of age or skill. With the exception of performing a Flat Ground and Bullpen on the same day, any other combination of throwing techniques can be mixed and matched to better suit the individual player or throwing schedule. It's not required to follow this routine nor do your youth pitchers need to throw five days a week, every week. Don't overthrow but throw often!

It's also important to ensure each pitcher endures an adequate amount of rest during each off-season. I recommend taking no less than two-three months off from throwing at some point in every year (typically over the winter). This allows the arm time to fully recover and keeps the pitcher's body fresh.

Bullpen Blueprint:

Always complete a full warm up routine: stretching, band work, arm mobility, and a full session of catch before throwing from the mound. The two biggest emphases' in the bullpen should be placed on proper mechanics and location of pitches. Location is far more effective than the speed the pitch is thrown. A pitcher who can throw all his pitches for strikes is the deadliest of them all.

- 3 Fastballs inside

- 3 Fastballs outside
- 3 Change-Ups
- 3 Curveballs
- 8 Pitches mixing up all three (FB, CH, FB, CB, FB, CH, FB, CB)
- 2 Fastballs in or out
- Throw a simulated at bat with called balls and strikes (3-8 pitches)

  (Total pitches: 25-30)

This blueprint and weekly throwing routine may vary in a number of ways depending on age, strength, and skill. Younger or less experienced pitchers may not be ready for this workload quite yet and that's okay. Each player is different and may require more or less than the specified throwing amount listed above. This is simply a guide to help get you started and give you something to follow. For pitchers who have not yet developed a change-up or curveball, substitute these pitches for more fastballs. However, ensure these players continue developing their off-speed pitches throughout the weekly throwing routines. That's where they should learn to throw them, not full speed on the mound. Once they've developed consistency throwing it from the flat ground they'll be ready to bring it to the mound.

If the pitcher is experiencing any pain or discomfort with a sore arm stop the bullpen and take a few days off from throwing.

Pro Note: One of the greatest tricks my college coach incorporated into our routine bullpens was to tie a string across the front of home plate at knee height. This gave a visual of the bottom of the strike zone and forced pitchers to throw higher quality pitches throughout their bullpens. The objective was to be "on or below the string" with every throw. As the pitcher matures both physically and skillfully, I highly recommend implementing use of the string into bullpens to improve accuracy.

Another helpful trick is to have a hitter stand in the box during the bullpen. Ensure the hitter is wearing a helmet, be clear he's not to swing, and have him alternate between both sides of the plate to give each perspective. Pitching with a hitter in the box is an entirely different animal to simply throwing to a catcher without one. This will be especially helpful

for youth pitchers to reinforce the parameters of the strike zone and expose them to the sensations of throwing in a real game.

HOLDING RUNNERS ON 101

There comes a time in (nearly) every baseball game when the pitcher is going to have to deal with runners on base. Maybe the batter got a hit? Maybe he walked? Either way there's no getting around the fact your pitchers must now do everything they can to keep him where he is and give the defense a chance to get him out. In my experience, holding runners on is easily the most neglected and uneducated dimension of the youth pitchers game. While hours and hours of practice time are put into fielding and defensive plays, little is ever placed on the concepts for keeping runners close and avoiding giving up free bases.

How many games have you seen where runners stole bases at will, always moving into scoring position and consistently applying pressure? More than you'd like to admit I'm sure. But did you know that much of the fault there can be traced back to a poor job by the pitcher?

So how does a pitcher control the running game? By keeping runners guessing!

Much like pitching to a hitter, holding runners on base is all about disrupting their timing. Pitchers must avoid getting repetitive and becoming predictable. Good base runners pick up on these things. If the pitcher comes set, looks once at the runner, and throws home every single pitch, why wouldn't the runner feel comfortable attempting to steal? All he has to do is anticipate the pitcher giving the single look and he's on his way to the next base!

Smart pitchers don't allow this to happen. Smart pitchers are conscious of their routine and take proper measures to ensure no runner becomes comfortable on the base paths.

- Change the number of looks given to the runners
  - One look. Two looks. Three looks. No looks. Mix them all in.
- Change the timing while coming set

    - Come set and then pitch. Come set, hold for three seconds and pitch. Come set, hold for three seconds and step off.
    - This keeps the runner guessing and the hitter anxious in the box.
- Mix in Pick offs
    - Don't be afraid to throw over and keep the runner honest.

Pro Note: A simple and effective trick to help change the timing between pitches is to use the U-C-L-A method. Upon coming set, have the pitcher recite the letters "U-C-L-A" inside their head as a way to gauge pause time duration. The key to this trick is to pitch from different letters each time the pitcher comes set; ensuring the hold times are constantly being mix up. Maybe the first sequence he goes "U-C" and pitches. Following that up, the pitcher will change his letter count and go "U-C-L" before pitching. There is no harm in repeating timings just so long as the pitcher avoids becoming predictable.

PICK OFFS TO 1ST BASE

When it comes to teaching pick offs, conventional baseball wisdom has always maintained that each pitcher should have two basic pickoff moves: your "bad" move and your "good" move. The reasoning behind this being you want to fool runners with your bad move before unleashing the good one to get them out. While there is no doubt this tried and true method can be successful, the problem lies in the fact that the majority of other coaches out there are all teaching this same wisdom.

So how do I teach my pitchers to successfully pick runners off? By becoming unconventional and avoiding the same two move method as everyone else. Instead, surprise opposing teams with a third "best" move to truly catch them off guard. As simple as it may seem, I have experienced a tremendous amount of success using this third move.

The key to this success comes from an ability to *set the runner up* and make him believe he's seen everything you have. You want him getting too comfortable with his lead and that's when you make him pay.

Right-Handed Pick Offs

Right-handed pitchers definitely have their work cut out for them when it comes to picking people off at first base. The runner is at your back and once you begin the leg lift you have no choice but to pitch home. In recognizing this, the emphasis is placed much higher on simply keeping the runners close to the base rather than actually trying to pick them off.

Bad Move:

The bad move for a right-handed pitcher will be nothing more than stepping off with the back foot and throwing over to first base. The key here is to perform the move with relatively normal speed so that it looks like a traditional good move. The exception to this being that the pitcher wants a longer, slower arm motion that takes more time.

Good Move:

Following up the bad move, the good move involves doing a faster jump turn rather than stepping off the back of the mound. This jump turn looks just like it sounds as the player jumps 90 degrees to line him up with first base for the throw. This jump allows for a quicker turn and forces the runner to retreat back to the base. The throwing motion should stay long and fluid, falsely convincing the runner he had plenty of time to slide back in. Typically, most runners will then become tempted to further push their limits and extend their lead. This is precisely when the great move comes into play.

Great Move:

Pitchers are always trying to set their opponents up in order to catch them off guard. If you think creating a moment of hesitation in the runner isn't a big deal, think back to any "bang-bang" play you've ever seen. Do you think that extra half a second would've made a difference in the result? Of course it would.

At this point the ground work has been laid, now it's time for the payoff. With this move, the lower body stays the same as before with a fast jump turn. However, this time instead of the long arm motion the runner witnessed with the good move, the pitcher will now be short and fast with his delivery. The ball should be thrown straight from the ear and should have some speed on it as you're going all in on this one. An ideal throw will be at the base,

around knee height of the fielder. Whether you pick the runner off or not, I can guarantee you he'll feel much less comfortable in his lead and aggressiveness will definitely take a hit.

Additional Move: The Balk Move

A lethal pickoff move for more advanced pitchers to incorporate is what's known as the balk move. As most runners are trained to steal on the movement of the pitcher's front leg, this deceptive move involves a quick twitch of the front knee or shoulder followed immediately by the great pickoff move. While it may technically be a balk[8], very few umpires will actually see and call the pitcher on it. My advice is to save this gem for when you really need help getting out of trouble.

Left-Handed Pick Offs

On the other hand, left-handed pitchers have the ability to truly control an opponent's run game with the proper knowledge and techniques. Runners have to respect a lefty's pickoff move. When attempting to steal, they must choose between safely waiting for the ball to be pitched or taking a gamble and stealing on first movement.

While waiting for the pitch to be released lessens the risk of being picked off, it drastically decreases the ability for a good jump towards second. On the flipside, taking off for second base on first movement opens the door for getting picked but also provides the faster start for the steal. In my experience, once a team has seen a great move they become reluctant to do either. This is how you limit the number of steal attempts and keep the game on your terms.

Important Note: The following pickoffs are most effective when carried out in the proper sequence. If the pitcher randomly attempts the great move without first showing the others, the chances of actually fooling the runner are much slimmer. I have a specific sequence I go through each initial attempt I try to pick the runner off. Often times I'll perform this to the first guy who gets on base because if successful, opposing teams will spend the rest of that game unsure of when I might use it again. Other times I wait and save it for a point later in the game when I might need it most. I cannot count the number of

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[8] Balk: An illegal motion on the mound resulting in a dead ball and advancement of runners.

times my pickoff move has completely changed the momentum of an inning and stopped an opponent's potential rally before it even had a chance to start. The sequence always begins with the bad move, followed by a single pitch to home plate. The key to this pitch is to make it resemble how my great move is going to look. That means looking at the runner as I preform my leg lift and keeping my eyes there until I turn to pitch home. Directly after the pitch, comes the good move. Finally, after the necessary ground work of the sequence has been laid, I perform the great move.

Bad Move:

The bad move is nothing more than an easy leg lift, looking straight ahead at the runner and then casually throwing the ball over to first base. This isn't meant to fool anybody and probably won't pick anyone off. However, I use this move most frequently to serve as a reminder to the runner I know he's still over there.

Good Move:

If done correctly, the good move should still prove valuable even though the pitcher isn't necessarily looking to pick the runner off yet. While he wants to set the runner up for the great move, don't be surprised if he catches the runner stealing on first movement. The look of this move will typically resemble that of most lefty's best pickoff. For whatever reason, left-handed pitchers are instinctively compelled to use a no look pickoff method as their go-to move. Something about the sneaky feeling of looking towards home plate while attempting a pickoff resonates with guys. The problem with that is, most guys past the high school level aren't fooled by the "no-look" head fake because it isn't what their paying attention to. Good runners are trained to watch the pitcher's shoulders not their heads.

This move is achieved by giving the runner a normal look while coming set and then turning the head towards home plate as leg lift occurs and you pick over to first. More times than not the runner will recognize the pick and retreat back safely. At this point he'll have seen both of the pitchers moves and feel confident in his ability to read them. And we're counting on it!

Great Move:

The great move is where your player will set him apart from 95% of the other left-handed pitchers out there and strike fear into the enemy's run game. After properly setting the runner up with the good move, here is when you fool him with the great one.

Have the pitcher come set just as he did with the other moves, eyes locked onto the runner at first. However, this time as he performs the leg lift have him keep eye contact with the runner. After reaching full height with the lift, have him begin his normal leg drive down the mound as he typically would on a pitch. As hand separation takes place, his head should turn and make it look like he's "focusing in on home plate." Only rather than driving straight down the mound towards the catcher, the pitcher's body should come down at the required 45 degree angle between home plate and first base needed for picking off (otherwise, an umpire can call a balk on the pitcher if he doesn't move towards first base enough). During this time, have the pitcher work towards keeping his shoulders from turning towards first base until the last second and then throw over.

The key is to have him really sell the notion that he's going to pitch the ball. A trick to help with this is to make sure the glove side arm still separates up into the power position and your shoulders stay pointed towards home plate as long as possible. The biggest giveaway to the runner is when the pitch turns his shoulders towards first base. If done correctly, the runner will believe the pitcher has committed to throwing home and either jump out into his secondary lead[9] towards second base or be caught frozen and not make it back to the bag in time. All it really takes is a second of hesitation to spell disaster for the runner.

Pro Note: After performing these pickoffs, be sure to continue moving down off the mound and "walk it off." Umpires are trained to look for whether or not you've landed at the 45 degree mark towards first base; this is a good way to cover your tracks in case you didn't quite make the mark.

Additional Move: The Snap Throw

In addition to the main sequence described above, another handy pickoff move to mix in is the snap throw. The snap throw is effective because of its speed and unique look compared

[9] Secondary Lead: Additional movements taken towards the next base after the pitcher throws home.

to the other moves. Mixing in the quick snap throw from time to time is a great compliment to the pitcher's arsenal.

Performing the snap throw is quite simple; from the set position you just step off with the back foot and throw over to first base in one fluid motion. The key to developing a good snap throw however, comes from being able to deliver both a quick and accurate throw. Be warned, this can be a stressful throw for some as it requires the arm to create its own energy without using much of the body.

HOW TO READ A RUNNER

As touched on in the left-hander intro, lefties have the opportunity to truly control the running game. Picking runners off using the good move/great move sequence definitely limits the opponent's aggressiveness but the only way to truly take control is by reading the runner. What I mean by this is strategically checking the runner during the leg lift phase to see whether or not he attempts to steal. Since most runners take off for second on the first movement of a lefty, this allows pitchers to quickly identify whether to pick or pitch.

The skill of reading runners starts with anticipation. Learning to recognize situations where teams are most likely to steal will help take some pressure away from trying to read on each pitch. Most coaches prefer to run early in the count and early in the game to put the pressure on. Many will also agree the best time to steal is in off-speed counts (0-1, 0-2, and 1-2) when the pitcher is ahead and isn't as likely to throw a fastball. This is when players should be looking to read the guy at first.

The next step to reading a runner is ensuring the pitcher isn't caught off guard when he does actually go. This may seem like an obvious thing to state but I have met very few lefties who actually possess the ability to read the runner mid-motion and switch from

pitching mode to pickoff mode. This is because our minds predetermine what we're going to do before we ever do it; making it near impossible to change in the instant. I would argue that about 95% of the pitchers who stare down runners during their motion lack the ability to actually read and react to the situation. Instead, they divide half their attention towards the runner and half towards their delivery to home plate. They may see the runner take off for second but their body is already headed home. This results in a rushed delivery, a poorly thrown pitch, and little chance for the catcher to make a play.

> **"Our minds predetermine what we're going to do, making it near impossible to change in the instant.**

So how do we ensure our pitchers aren't caught off guard when faced with these situations? We do it by having them mentally prepare themselves for reading the runner before the pitch. The best way I've found to accomplish this is by repeating the word "pick" in my head throughout the leg lift phase. My eyes are fixated on the runner and as I start to lift my leg I'm preparing myself for if he goes. *"Pick, pick, pick"* the runner goes and I throw over to first. If the runner doesn't move and I reach full height of the leg lift, I quickly switch to the word "pitch" inside my head and turn to deliver home: (*"pick, pick, pick, pitch."*) It's important to recognize this isn't a skill that'll develop overnight. It requires a lot of practice and active training to switch gears mid delivery. A great drill for this is to have a runner lead off at first while your pitcher throws his bullpen off the mound. Each time he lifts his leg; have the runner alternate between taking off for second and staying put at first. All the while, work on reading the runner's movements with "pick, pick, pick" inside his head. If he goes, have the pitcher make the throw over to first base. If he stays, the player needs to quickly switch to "pitch" and turn home to deliver the throw. The purpose for doing this during a bullpen is to create a game-like situation and where the pitcher actually has to read the runner but also has to practice throwing strikes when he doesn't attempt to steal.

The final key to this move is getting rid of the ball as fast as you can. While your pitcher may have successfully caught the opponent stealing, it's still going to require a clean catch and throw from the first baseman as well as a catch and tag from second base. This is why it's important to allow them the most time possible. As soon as the read is made on the

runner break towards second base, the pitcher needs to plant the lift leg as fast as possible and get rid the ball. He doesn't have to make a perfect throw just so long as he gets it away quickly.

PICKOFFS TO 2ND BASE

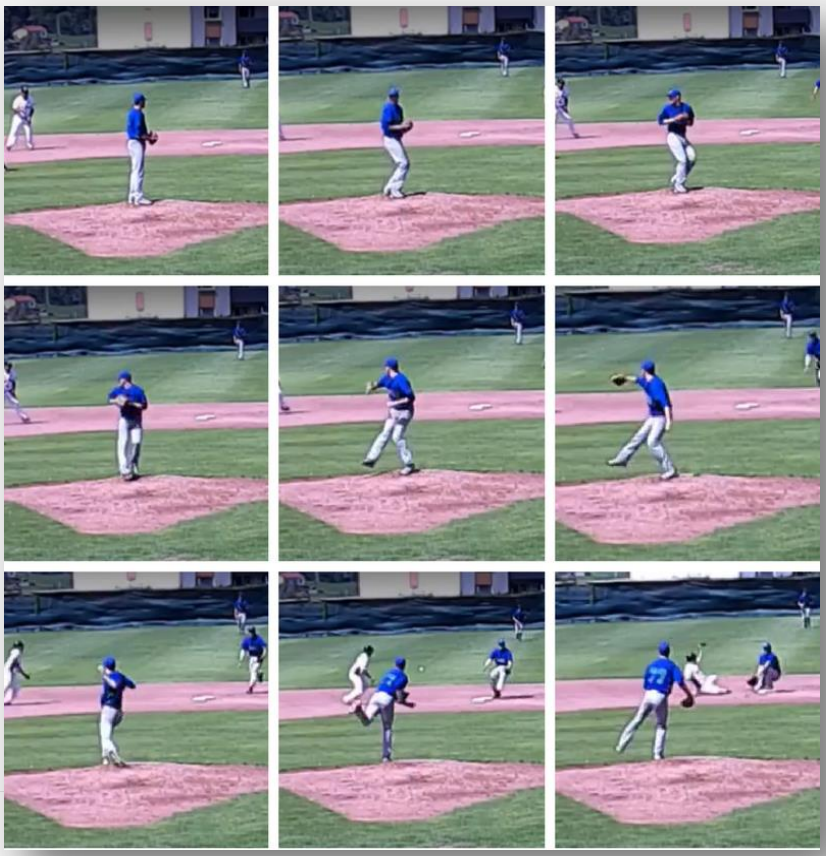
Picking off to 2nd base is the same for both a righty and a lefty. Here the biggest job is to keep the runner close to the bag. The pitcher wants to force him into becoming stagnant and stop his feet from moving. This is how they keep the running game on their terms.

If the pitcher has come set and the runner continues to creep towards third base, the pitcher should either step off the rubber or attempt one of the following pickoff moves. As mentioned before, players should always be conscious of their routine when coming set.

Jump Turn:

The jump turn pickoff is all based on timing. It's typically used on "daylight" plays where either the shortstop or second baseman make a sudden break to the bag and the pitcher uses this quick turn to deliver the pick. This move is great for keeping the runner honest and forces him into a smaller lead.

This move is achieved after coming set on the mound and giving the runner a look. Upon seeing the middle infielder break towards second base, the pitcher makes a 180 degree jump turn with his body and feet. The reason he needs to use a jump turn in this situation rather than stepping off and turning is that it's much faster and puts the pitcher's body in line with the throw to second base.



The spin should always lead with the backside of the body, not opened up towards second base. For right handers this means jumping towards 1st base, for left handers 3rd base. Spinning in the wrong direction goes against our natural motion and leaves the player off balanced for the throw. As a result the throw uses no body, disrupts the release point, and causes them to miss their mark.

Inside Move:

The inside move is as much a strategical tool as it is a weapon to pick runners off. In many cases, this move is used as an identifier by the pitcher to force the offensive team into tipping their hand. In situations where a sacrifice bunt[10] is probable (runners on 1st and 2nd with less than two outs) many pitchers perform an inside move in hopes of luring the hitter into revealing he plans to bunt. This information can be extremely valuable for a defense's tactics in regards to preparing for the bunt.

Pitchers may also use the inside move to gauge a runner's secondary lead. Aggressive baserunners tend to start their secondary early as they anticipate the pitch being thrown. A good inside move resembling the pitch can fool the runner into taking his secondary and leave him in no man's land as the pitcher turns towards second ready to throw. The key is making the move look as close to the normal pitching mechanics as possible. In my experience, the two major ways of achieving this are to sell it with the leg lift and then the hands.

Wherever the normal balance point in the leg lift is while pitching to home, must also be the balance point when picking to second. This means the pitcher must still reach the same leg lift height in both scenarios and resist the urge to turn too soon. In addition, he needs to be aware of the tempo of his movements during the pick. Too many pitchers unknowingly make the mistake of slowing down or pausing during the leg lift of their pickoff. These are the exact things runners look for when getting their leads at second base.

The second key is what will separate your pitcher from the majority of others out there. After he reaches the high point in his leg lift, have him begin down as if he were going into his normal power position. The mistake many players make is to automatically turn as

[10] Sacrifice Bunt: Bunting the ball with a sole purpose of advancing the runners on base.

soon as they reach their balance point in the leg lift. As a result, it ends up looking nothing like their normal pitching mechanics and fools no one.

The final touch of deception is to ensure the hands also mimic their typical movements of the throwing motion. If he's got that nice, clean separation of the hands in his normal mechanics, he should incorporate a similar distinctive hand break in his pickoff. This is how he'll truly make the runner believe he's making a pitch home.

Great pickoff moves require attention to detail and immense amounts of practice. I highly recommend players record themselves pitching home followed by picking off so they can see firsthand the similarities and differences between the two. Continue doing so until one closely resembles the other. I know working this hard on pickoffs can be an underwhelming task but make no mistake about it, there will be times it completely turns a game around and helps get your pitcher out of some serious trouble.

Pro Note: For situations the pitcher knows he's going to perform the inside move, have him start with his base foot slightly turned (heel away from the rubber) as he comes set on the mound. This will help to open the body up during the turn and make throwing to second much easier. Don't worry about anyone noticing the different foot placement- I've done this for years and have yet to encounter an umpire or runner who ever noticed any difference.

Note: The only time a pitcher *must* throw the ball to the base on a pickoff is during attempts to 1st. All other pickoff and step-off attempts carry no penalty for holding onto the ball.

FINAL FOOD FOR THOUGHT

I know I've thrown a lot at you here and I applaud you all for sticking with it and getting this far. But before I send you off to begin molding your future All-Stars, I want to close this book with a little "food for thought" that extends far beyond just the game of baseball.

As a parent or coach, the desire to see your kids succeed is something that everyone can relate to. To watch them invest so much time, work so hard and be rewarded with success is one of the most gratifying feelings out there. And while I know all you want is the best for your kids, I encourage you to remember that it's still just a game and they're out there to have fun. Your kid may someday become a Major Leaguer or he may not… but neither scenario is ever going to happen at the age of twelve. Of course creating the desire to compete and win games is significant, as is the value of working hard; but don't ever let those things replace the most important thing of all; a genuine love for the game. Make it fun, make it enjoyable and *always* make it about them!

This amazing sport can provide so much to the growth of these kids both on and off the field. Many of the most desirable traits are harnessed during their time on the diamond. Self-confidence, self-motivation, work ethic, and sportsmanship are just a few from the long list of attributes that baseball players possess. They aren't just preparing themselves for the game of baseball; they're preparing themselves for life!

I'm also one who believes kids should grow up playing in a wide range of competitive sports rather than attempt to focus solely on baseball. There are a number of major benefits to becoming a multi-sport athlete, both physically and psychologically. Athletes who play multiple sports tend to run a lower risk of overuse injuries (injuries caused from repetitive stress being placed on the body without allowing time for the body to heal). This can be especially true for pitchers as they place so much stress on the muscles, tendons, and ligaments in their arms with each and every throw. Playing other sports in the off-season grant them the valuable healing time their bodies need. They also help to improve better muscle, motor, and skill development as well as increasing athleticism, balance, speed, and agility. But participating in other sports does wonders for the mental aspect of

an athlete's development as well. One of the best things it does is keeps kids from becoming emotionally burned-out towards any one specific sport. Doing anything repetitively time after time makes it difficult to stay invested and baseball is no exception. Different sports expose kids to different types of coaches, different teammates, and in many cases different roles on each respective team. In recognizing this, it's easy to see why so many next level coaches prefer their athletes to have grown up playing more than one sport.

To end this book, I echo my final message to all of the parents out there with kids of their own. Seize *every* opportunity to use baseball as a tool for building on the foundations of a great relationship between you and your kids. It doesn't matter if you've ever pitched or not, or if you even know much about the game. What matters is that you're always there for them. To catch the ball and to throw it back. Growing up my father and I played catch just about every day out in the yard. No fancy drills, no complex pitching routines, simply throwing the ball back and forth. And the most important thing we ever developed wasn't better mechanics or new pitches; it was a bond that brought us together. Playing catch meant talking about the day, about school and life and anything else that came to mind. It meant reminiscing about big plays of the past and envisioning the big plays of the future. I learned some of my most valuable life lessons out in that yard with him. My father never missed an opportunity to be there for me, to play catch, and those are memories that I will forever cherish and be grateful for.

I share this message with a sole purpose to strongly encourage each and every one of you to find something that will help to build a stronger relationship with your child. Maybe it's hitting baseballs in the batting cage, maybe its basketball or soccer. Heck, maybe it's got nothing to do with any sports at all… All that matters is that you're there for them and you do it together!