

# BASEBALL CURRICULUM MANUAL

BEST PRACTICES FOR YOUTH BASEBALL SKILL DEVELOPMENT



## **ABOUT DNA SPORTS**

DNA Sports specializes in customized baseball and softball skill programs, college recruiting education and preparation, and coaching clinics. We use video skills analysis to maximize players' inherent talents, i.e. their athletic DNA.

DNA Sports is committed to designing programs that promote teamwork and sportsmanship and emphasize the mental side of sports performance.

Our College Recruiting and Guidance programs provide student athletes the personalized recruitment education, recruitment guidance, and skill and personal development required to effectively pursue playing baseball or softball at any level of collegiate play – D1, D2, D3, NAIA, or Junior College. We have worked with over 200 athletes who have gone on to play at the collegiate level and beyond.

DNA Sports offers coaching seminars and clinics that emphasize organization, practice plans, training regimens, game preparation, in-game decision-making, and effective communication with every athlete regardless of skill level and attitude. We stress situational disciplinary measures and the importance of team play, and teach proven, advanced, and up-to-date methods to increase player confidence and inspire growth, while incorporating new techniques and adapting them to particular age groups.

Learn more: [www.dnasportsonline.com](http://www.dnasportsonline.com)

Through years of experience and research, including hundreds of baseball publications, skills and drills books, and coaching publications, DNA Sports has created a highly-detailed yet easy to understand age-appropriate youth coaching curriculum manual.

While the formation of a school wide curriculum—an integrated body of knowledge, principles, values, and skills—is a critical component of educational institutions, rarely is the creation of a universal curriculum applied to athletic associations. DNA Sports believes that the creation of an athletic curriculum that standardizes best practices is critical for the long-term growth and development of any youth baseball organization.

The purpose of this baseball curriculum manual is to develop coaching consistency within age groups and a developmental progression across age groups. This curriculum will ensure that your youth league players are provided with the best baseball learning environment possible.

Best wishes to you this season.

Yours in better baseball,

DNA Sports

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# THROWING THE BASEBALL

Throwing a baseball is the most basic and fundamental component of the game. It is a skill that needs to be consistently emphasized, properly taught, and frequently practiced. The correct throwing technique should be introduced to young athletes as soon as they decide they want to play baseball.

Properly aligned throwing mechanics increase a player's velocity and accuracy, in addition to preventing injuries to the elbow and shoulder. The ability to make a strong, accurate throw is fundamental to every position on the diamond. It requires dynamic balance and coordination of the lower and upper body in producing the correct timing to deliver the ball powerfully and accurately.

## THE GRIP

The best way to grip the ball is across the seams as shown in the photo on the right. Two fingers are placed over the top of the seams with the SIDE of the thumb underneath the middle of the ball on a seam. Gripping the ball with this technique will enable the baseball to have a truer flight.

It takes years of practice to be able to grip the ball across the 4 seams in this fashion when playing a position other than pitcher. Players can work on this by throwing the ball into their glove and shifting the ball to the correct grip as they pull it out of their glove.

To maximize velocity and accuracy, keep the ball on the fingertips and not in the palm. Younger players may need to grip the ball with three fingers instead of two. Unless their hands are very small, they should still try to grip the ball out on the fingers.

Coaches must check that players take the ball out of the glove with the throwing hand thumb down, and start the throwing arc with the hand, not the elbow. Leading with the hand creates hand and arm speed. Leading with the elbow creates a chicken wing effect that is very likely to lead to injury.

Young players might not be able to grip the ball across the seams while playing in the field. This skill will come with time and experience. Focus instead on getting the ball out on their fingertips. This may be difficult with small hands, but it is a critical concept that young players must master.



*Proper grip with the baseball in the fingers, not the palm*

## WRIST

Many young players do not effectively utilize their wrist when throwing the ball. When the ball is brought back in the throwing motion, the wrist should be cocked back. This way the wrist can be a component of the throwing motion.

Watch young players throw and you will see most will throw with a stiff wrist. It is impossible to throw the ball accurately with a stiff throwing wrist. Young players must be corrected immediately if this is the case.

Players can practice proper wrist action by holding their throwing arm just below the wrist with their glove hand. Make sure players bend their throwing arm at the elbow, keeping the forearm vertical. By keeping their arm in this position, players can practice throwing the ball with just their wrist and fingers.



*Performing the wrist drill*

## ARM MOTION

The throwing arm travels in a circular motion that begins when the player removes the ball from the glove and ends after the follow through. The size of this arc depends on the distance of the throw. For a shorter throw, the circular motion will not be as significant as it would be for a longer throw. Utilizing the arc is more natural than simply bringing the arm straight back and then forward.

Outfielders will naturally throw with a bigger arc than infielders. As an outfielder, the arm and hand should drop down near the waist. For infielders the size of the arc is smaller. Good infielders perform this movement so quickly that it may appear that the arm is going straight back, but in reality the arm does take a slight circular path.

## READY, BREAK, THROW DRILL

This is a drill that can be practiced on one knee or standing up. With a partner, players will start in the ready position as illustrated in the first photo. When the coach calls out “break”, the player gets to the balanced position as illustrated in the second photograph. This is where coaches make adjustments to a player’s mechanics. On “throw”, the player throws the ball to his partner.

The second photo is a key shot. Notice how the player’s shoulders, hip, and glove are pointed directly at the target. The player has reached back with his throwing hand, fingers on top of the ball, thumb down, with some flex in the elbow and wrist. The arm is directly behind the head. In addition, the distance between the body and the glove is equal to the distance between the body and the throwing hand. The height of the glove is equal to the height of the throwing hand. This is a great balanced position. Similar to a teeter totter, this perfectly balanced “T” position stabilizes the body and helps facilitate an accurate throw.



*Ready, break, throw drill*

When performing this drill, it is extremely beneficial to have your players hold the position illustrated in the second photo so coaches can make adjustments to the player's mechanics. Often you will see players with their fingers on the side or underneath the ball, their glove not pointed to the target, their arms not stretched out in a balanced "teeter totter" position, or their arms locked. Coaches may also find that their young players take the arm back so far that the throwing hand is on the other side of the head, rather than directly behind it. This causes the player to throw across his/her body, rather than over the top.

As the player begins to release the ball, the shoulders and hips begin to rotate, pulling the ball into the throwing slot. Contrary to what was taught for years, the glove stays in the same position—away from the body as the player's arm moves forward.

As he delivers the ball, player drives his head and chest over his glove. The player's upper body has shifted to his left side, over his glove, over his front knee, and to and through his target. The player is getting over his front side. Notice how the player's head stays up as he follows through as well.

### **FRONT SHOULDER**

Players need to point their shoulders to the target. After fielding the ball, successful fielders will turn their body sideways and point their lead shoulder in the direction of the throw.

### **LOWER BODY**

Similar to the shoulders, the lower body must be lined up in the same manner – directly at the target. The back foot should be perpendicular to the target and the hips should be closed and pointing in the direction of the target.

Once the player removes the ball from the glove, initiating the throwing motion, the front leg should lift. The lead foot lands just before the throwing arm is ready to move forward. The landing of the front foot signals the arm to initiate its forward movement. It is critical for players to step toward the target with their lead foot, push off their back leg, and throw the ball using their entire body.

Once the ball is released, the turning of the hips and the transfer of weight over the front side should pull the rear leg up and around, enabling the player to finish in a squared-off position with both feet lined up perpendicular to the target.

### **THE HEAD**

The head must stay in the center of the body throughout the entire throwing motion.

Keeping the head in the center of the body is essential for dynamic balance. In addition, the eyes must stay focused on the target, even after the follow through.

### **ROTATION**

In order to throw the ball so it will not tail, players must throw it across all four seams with “12-6” rotation. “12-6” rotation refers to a clock. If the ball rotates from 12, straight down to where 6 would be on the clock, this would be considered “12-6” rotation.

Encourage your players to look for this “12-6” rotation when playing catch with a partner. Identifying this will enable your players to work on this skill by themselves or with a friend.



*Squaring the shoulders to the target and weight transfer during the follow-through*



# CATCHING THE BASEBALL

Similar to throwing, catching or receiving the baseball is a core fundamental of the game that many youth coaches often overlook. As a result, young players develop bad habits that are hard to break in later years.

The player receiving the baseball is just as responsible for securing the ball as the person who threw it. Coaches must emphasize that players should not expect the ball to be thrown right at their chest every time. It is the receiver's responsibility to react and catch or block the baseball, regardless of where it is thrown. When a ball gets away, it is not entirely the thrower's fault—the responsibility must be shared.

## READY POSITION

While the team is warming up their arms and working on their throwing mechanics at the beginning of practice, use this time as an opportunity to practice catching the ball correctly as well. When waiting to receive the throw, players should be in an athletic position – knees bent, hip sockets back, and the weight on the balls of the feet. This puts the player in a position to move. In addition, both hands should be up, giving the thrower a solid target to aim for.

## MOVING THE FEET

Instead of your players standing in one spot and sticking their gloves out hoping they catch the ball, instruct them to move their feet and try to catch the ball in the center of their bodies. If the ball is thrown high, players need to make a hip turn and go after it. If the ball is thrown low, players need to move forward and catch the ball before it hits the ground. If the ball is thrown a few feet to either side, instruct your players to quickly move laterally and get in front of the ball.

## HANDS

The receiver must give the thrower a nice target to aim for. Both hands need to be out in front of the chest prior to the player throwing the ball.

If the ball is thrown above the waist, players should catch the ball with the web up, closing the bare hand over the glove as the catch is made.



*Examples of receiving the baseball in an athletic position*

If the ball is thrown below the waist, players should catch the ball with the web down, once again closing the bare hand over the glove as the catch is made.

Catching with two hands not only helps secure the baseball, but it enables the player to quickly transfer the ball to their throwing hand, an essential skill that players will need to master as they get older.

Infielders should practice receiving the baseball and transferring it to their throwing hand as quickly as possible, finishing in a squared position with the hips and shoulders pointed back at the target, and the arms in the “T” position, ready to fire the ball.

### **MAKING IT FUN**

Practicing catching the baseball may seem boring until you turn it into a little competition to make things interesting. Especially with young players, it can be fun counting how many throws can be made back and forth without the ball hitting the ground.

Coaches can set the tone for how a team approaches playing catch. If playing catch is treated as a simple warm-up routine, expect inadequate effort from your players in terms of hustling into position to catch the baseball during practices and games.

On the other hand, if players are taught to play catch with a purpose, emphasizing footwork and the correct athletic stance (knees bent and glove open in ready position), you will see maximum effort, as well as the development of solid defensive fundamentals.

# PLAYING THE INFIELD

The ability to field a routine ground ball and throw it accurately across the diamond is a crucial skill in defensive baseball. While making the diving play is always fun for the player and great for the highlight reel, rarely do these fantastic “web gems” factor into the outcome of the game. If they do, it is because infielders made all of the prior routine plays, leading up to that moment in a game when a diving stop makes a difference.

## READY POSITION

Some coaches teach their players to crouch down with their feet very wide, gloves almost on the ground, and their palms facing the hitter. However, this ready position creates problems for the infielder because it is not very comfortable to be that low and the position causes unnecessary tension in the legs, arms, and hands. Players do not need to stay that low going after ground balls 10-15 feet to either side of the player.

The ready position is an athletic position that enables players to effectively react and move quickly in any direction. It should be a relaxed position, not a tense one. Just like hitting, infielders need to relax their muscles so they can effectively engage in instinctive movements.



*Evan Longoria in an athletic position, ready to move in either direction*

In order to get into an effective ready position, players should:

1. Bend the knees and back comfortably.
2. Place the feet a little wider than shoulder width apart.
3. Put the weight on the inside balls of the feet so they can easily push off in either direction.
4. Place the arms out in front of the body in a comfortable position but not too far away.
5. Extend the hands naturally; while infielders should not have the back of their glove facing the pitcher, they also do not need to have it completely open and facing the hitter. Many players have their palms facing each other as the ball crosses the plate

## PRE-PITCH ROUTINE

Most players devise a pre-pitch routine that puts them in the ready position as the ball crosses the plate. This may be a shuffle of the feet or a little hop. Whatever method your infielders adopt, make sure they are balanced, comfortable, and ready to move. Most importantly, it is critical that infielders get their momentum moving forward. A step or two forward while the

pitcher is in the windup helps prevent infielders from sitting back on their heels. Emphasize the importance of being aggressive and playing the ball, rather than the other way around.

### **FIELDING GROUND BALLS**

It is critical for infielders to get in the habit of moving towards ground balls, rather than staying still or moving backwards on their heels. Moving toward ground balls is not charging the ball, as many coaches like to say. Charging the ball implies moving toward the ball as fast as possible. The only time an infielder should be charging the ball is on a very slow roller.

Instead of charging the ball, infielders should attack the ball in an aggressive, yet controlled manner that will allow the infielder to make adjustments to unexpected hops. Once the infielder gets close to the ball, the infielder should shorten the steps, widen the feet, and break down into an athletic position with the knees bent, butt down, and hip sockets back. In addition, the glove-side foot should be slightly ahead of the throwing-side foot. The hands should be out in front of the body, glove open, and the bare hand on top (the alligator) or on the side of the glove (the sandwich). The head should be down on the ball as it is received. Good infielders field the ball out in front of the body, rather than under the body, which enables the infielder to make last second adjustments to an unexpected bounce.

Second basemen, shortstops, and third basemen should position themselves slightly to the right of the baseball when fielding. Staying to the right of the baseball, and fielding the ball slightly on the glove hand side, enables the infielder to properly square up his/her shoulders to first base.



*Fielding ground balls with two hands out in front of the body*

### **TRANSFERRING THE BASEBALL**

Once the baseball is secured, infielders need to focus on quickly transferring the ball into the throwing hand and getting into a good throwing position as fast as possible. Using two hands when fielding the baseball will speed up this important process.

Once the ball is in the glove, the infielder needs to bring the glove back and up to the chest area (right chest and shoulder for right handed infielders; left chest and shoulder for left handed infielders). Once the glove is on the throwing side, the infielder should transfer the baseball from the glove to the throwing hand. Staying low the entire time, the infielder then gets into the proper throwing position.



*Everth Cabrera transferring the ball from glove to throwing hand while squaring up to his target*

## PADDLES

Practicing fielding ground balls with a foam or leather paddle is a great way to teach proper mechanics. Using a paddle, infielders are forced to get their bodies in the correct position, stay low, field the ball out in front of them, and use two hands. Most importantly, this training tool provides instant feedback. An infielder may get lucky with the glove, but not with the paddle!



## INFIELD TECHNIQUES & FUNDAMENTALS CHECKLIST

### Fielding Position (Except for left-handed first baseman):

- » Balanced, on balls of feet
- » Glove in front of bill of cap
- » Back parallel to the playing surface
- » Firm wrist of glove hand, bare hand on top
- » Step into ground ball – right, left, catch

### Fielding Angles

- » Position yourself to the right of the ball (for 2B, SS, & 3B)
- » Glove-side foot ahead of throwing-side foot
- » Field ball out in front of body

### Ball Transfer

- » Bring ball back and up to chest area
- » Square up to target with feet, hips, and shoulders
- » Stay low throughout transfer move, allowing you to drive through with lower body during the throw

### Double Play Feeds (Shortstop)

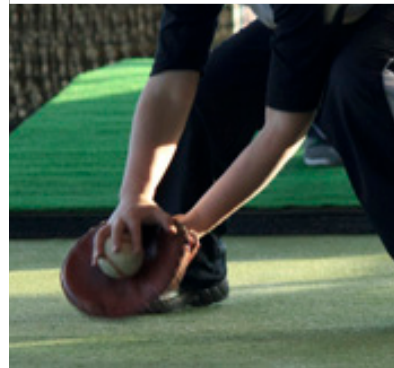
- » Drop Step – for balls hit deep or to the right of the SS:
- » Drop back left foot, allowing body to open to 2B bag
- » Sidearm throw, allowing 2B to clearly see ball

### Flip Feed – for balls hit to left of SS:

- » Replace left foot with right foot
- » Underhand flip with firm wrist
- » Follow the throw afterwards

### Double Play Feeds (Second Baseman)

- » Drop Step – for balls hit directly at 2B:
- » Drop back right foot, allowing body to open to 2B bag
- » Back Hand Flip – for balls hit to right of 2B: Replace right foot with left foot
- » Underhand Flip – for balls hit close to bag
- » Spin – for balls hit to glove side: Turn in the direction of glove, plant, and throw



*Paddles are great tools for youth league players to learn how to use two hands when fielding ground balls*

## **INFIELD ESSENTIALS**

- » Know the situation and what you will do with the ball if it is hit to you.
- » Assume a proper fielding position. This means:
  - Stay on the balls of your feet
  - Bend your knees
  - Keep your butt low
- » Keep your hands in front of you; palms up, fingers down
- » Get in front of the ball and use two hands whenever possible, using the alligator or sandwich technique.
- » Do not give up on ground balls that you bobble. Hustle, bare hand the ball, and make the throw. If you bobble the ball, never pick it up with your glove! Pick it up with your bare hand and throw it, without putting it back in your glove first. Be sure to face your target before you throw.
- » Communicate on pop-ups.
- » Shade your eyes on pop-ups by holding your glove over the sun.
- » Try not to make unnecessary throws. If you cannot throw a runner out, hold the ball! You will complicate matters by failing to use good judgment. Never compound one mistake with another.
- » Work together as a team through communication. All good infielders are vocal! Constantly remind each other, and the outfielders as well, how many outs there are. Let your teammates know what to do with the ball. Encourage your pitcher as well.

### **First Base:**

- » Block bad throws at all costs. Your job is to reach the ball and prevent it from getting by you, even if you have to leave the base. Remember, ball first, base second!
- » Cut throws from right field and center field to home plate. When catching the cut-off throw, try not to let the ball bounce. This means that sometimes you might have to charge forward when catching the cut-off throw so you can meet the ball in the air.
- » When holding a runner on, your feet should always be in fair territory. Shuffle off the base immediately once the pitcher has committed to home plate.
- » Be aware of runners who have turned into fair territory after crossing the bag.
- » Know your responsibility in bunt situations.
- » Do not assume a grounder in the hole will be fielded by the second baseman. The pitcher will cover first base if you cannot get back in time.
- » Work hard on perfecting your flip throw to the pitcher covering first base.
- » With balls hit deep in the gap for a possible triple, trail the runner to second base, allowing both middle infielders to go out for a double cut.

### **2nd Base and Shortstop:**

- » Learn to work with each other. In order for a smooth defensive play to take place up the middle, both of you must practice with each other often.
- » Do not make an unnecessary throw to a bag (example: after an error). Instead, hold the ball, or fake a throw to deceive a runner.
- » Always keep in mind that the force out at second is most important! In some cases, the return throw to first is unnecessary
- » With runners on base, you must back-up throws from the catcher to the pitcher.
- » Work out a plan to hold runners on at second base. The 2B and SS must practice holding the runner on, and then sprinting back to cover their positions.
- » Know your responsibility in bunt situations.
- » When taking cut-off throws, do not let the throw bounce. This might mean that you will need to run out and meet the throw in order to catch it on the fly.
- » Line-up each other on cut-offs with verbal directions (example: right and left).
- » When taking cut-off throws, hold both of your hands above your head. Remember to yell "CUT." Receive the ball over your throwing shoulder. If you have to move to your right to catch the cut throw, spin your body back towards the glove side in order to square your body up.
- » When taking cut-offs on extra base hits, you will have to judge how far you run out into the outfield upon the following:
  - The depth of the hit
  - The arm strength of the outfielder chasing the ball
- » If the 2B is cutting off, the SS must tell him what to do with the ball, while the 2B must tell the SS what to do with the ball when he is taking the cut-off. The 1B can also help with verbal instructions. Never be a spectator! You can spectate from the bench!
- » Sometimes, just running the ball in after taking a cut-off throw is just as effective as throwing it. When there is no play at the base, run the ball in! Don't risk making a bad throw when there is no play to be made!
- » The 2B has the first option on popups behind 1st base as does the SS on popups behind 3B. Do not give up on a popup or short fly ball until you are called off.

### **3rd Base:**

- » Take cut-off from left field to home plate for plays at home.
- » Work hard on fielding bunts on the 3B side of the mound.
- » Do not assume a grounder in the hole will be fielded by the SS. Make the play if you can reach the ball-your momentum is carrying you towards the force at 2B or the out at 1B, while the SS is moving away from those bases, so it's much easier play for the 3B. Get every ball that you can!

# PLAYING THE OUTFIELD

The ability to field a routine ground ball and throw it accurately across the diamond is a crucial skill in defensive baseball. While making the diving play is always fun for the player and great for the highlight reel, rarely do these fantastic “web gems” factor into the outcome of the game. If they do, it is because infielders made all of the prior routine plays, leading up to that moment in a game when a diving stop makes a difference.

## **MAKING OUTFIELD PLAY A PRIORITY**

Many youth coaches do not place a priority on developing a strong defensive outfield, nor do they dedicate significant practice time to working on the skills associated with the position. The lack of focus on outfield play at the youth level results in sub-standard defense at the high school level and beyond. Instead of teaching the entire roster how to play the outfield, coaches choose to consistently put their best players in the infield and hide their less talented players in the outfield, hoping they do not see much action. What a disservice to your players! As your infielders get older, you can be sure many will have to be moved to other positions, in particular the outfield. Set them up for future success by teaching all of your players how to play the outfield. This will greatly benefit those players who transition to the outfield in the future.

Teaching outfield skills not only better prepares players for the demands of high school competition and beyond, but it also sends a message to the team that every player on the field is just as important as the shortstop and pitcher. Don't forget-if an infielder makes an error, it's usually one base; a misplay in the outfield often costs 2 or 3 bases.

## **KEEPING OUTFIELDERS MOTIVATED**

Because outfielders often see less action than infielders, especially at the youngest levels of baseball, it can be difficult for a player to stay mentally focused on the game. Youth league coaches have often accused their outfielders of not being in the game when they react slowly to a ball in the gap or a fly ball hit right to them. While young outfielders are certainly prone to mentally drifting in and out of the game, it is the coach's responsibility to keep outfielders' bodies and minds actively focused in on the game action.

While most coaches and players define action as being in the act of making a play with the ball, coaches need to convey that action for an outfielder also includes being in the right position to make a play. Being in the right position includes backing up an infielder, hustling after a foul ball, or simply being in an alert ready position as the pitch is delivered.

With this definition in mind, action for an outfielder can be achieved on each and every pitch, regardless of whether the outfielder touches the ball or not. Once the team buys into this definition, you will have outfielders who are alert, focused, and who have a thorough understanding of the importance of their role.



In order to keep outfielders motivated, coaches should do the following:

- » Emphasize the importance of outfield play during your team meetings.
- » Consistently give positive feedback during practices, games, and team meetings to your outfielders when they are in the right position.
- » Thoroughly discuss the ramifications of not being in the right position. Outfielders need to understand how vital alert outfield play is to team success
- » Chart outfielders and give them points for being involved on every pitch.

### **READY POSITION**

The ready position prepares the player to quickly react and move in any direction. As a result, the ready position should be a relaxed position, not a tense one. Just like infielders, outfielders need to relax their muscles so they can effectively engage in reactionary movements. Unlike infielders, outfielders do not need to start so low to the ground. In order to get into an effective ready position, outfielders should:

- » Bend the knees and back comfortably.
- » Place the feet a little wider than shoulder width apart.
- » Put the weight on the inside balls of the feet so they can push off in either direction easily.

### **PRE-PITCH ROUTINE**

As with infielders, coaches should devise a pre-pitch routine for outfielders that puts them in the ready position as the ball crosses the plate. This may be a shuffle of the feet or a little hop. Whatever method you decide on, make sure your outfielders are balanced, comfortable, and ready to explode to the baseball. Teach them to anticipate the ball being hit to them on every pitch, which will keep them alert and give them better breaks on the ball when it actually is hit to them.

### **BACKING UP THE PLAY**

Outfielders are the last line of defense. Backing up their fellow outfielders, in addition to backing up the infielders, must be practiced daily so that it becomes routine. Backing up the play keeps runners from advancing on errant throws or on balls that get away from the other fielders. In addition, backing up keeps outfielders moving, helping them stay physically and mentally focused on the game. It also shows the other players on the team the importance of hustle and work ethic.

### **COMMUNICATION**

The centerfielder has priority over the left and right fielders, as well as the other infielders. Any fly ball that the centerfielder calls is his/hers. The left fielder and the right fielder always have priority over the infielders as well. Outfielders should yell “mine” instead of “I got it” when calling for the ball for the simple fact that “mine” is one word while “I got it” is three words.

Outfielders not involved in the play should yell out the position or name of the player who calls for the ball, alerting others to back away.

### **CATCHING FLY BALLS**

Good outfielders get great jumps on fly balls. This takes practice. In order to get a favorable jump on the ball, outfielders should watch the ball all the way from the pitcher's hand to the bat, rather than just staring at the hitter and focusing on picking up the ball off the bat. Outfielders need to focus on the baseball before it is hit.

Technically sound footwork is essential for great outfield play. This is a skill that can be practiced. When the ball is hit to the side, the first move the outfielder should take is a crossover step. When the ball is hit over an outfielder's head to the left or right, the first move should be a hip turn at a 45 degree angle, followed by a crossover. If the ball is hit directly over the outfielder's head, the player should take a deep drop step to the throwing side and then adjust later if necessary. Good outfielders stay low during their first few steps, exploding out of their athletic starting positions.



*Outfielder properly getting behind the fly ball*

Outfielders must sprint to the approximate spot where the ball is going to land, not jog or coast over to that spot. Outfielders need to sprint on their toes, rather than their heels, to prevent the head from bouncing. In addition, outfielders should not run with their glove up, as this slows them down and impedes their vision. The glove should go up at the last second to snatch the ball.

Just like infielders, outfielders should help secure the ball with the non-throwing hand. Ideally, outfielders should make the catch on the throwing side, which will enable a quicker, more efficient transfer of the ball to the throwing hand. Using two hands when catching will also quicken this process. If time permits, outfielders should work on circling behind the fly ball and then catching it with their momentum moving forward. This will help them make a more powerful throw back into the infield.

On a ball in the gap where it may be too risky to take a direct angle to cut the ball off, it is best for outfielders to hip turn 45 degrees and circle around the ball. By taking a deeper angle, the outfielder will better be able to keep the ball in front of him/her while getting into position to make a strong throw back to the infield.

### **THE INSIDE TURN**

Outfielders should never take their eye off the ball. The inside turn is used when an outfielder needs to quickly change directions while going after a fly ball. In order to perform this movement, outfielders need to plant and push off with their outside leg and open up with the trailing leg, enabling the player to turn and change direction without losing sight of the ball.

The inside turn lends itself to a great outfield drill. With an outfielder facing you, have them make a hip turn to their right side and go back 5-10 paces in that same direction. Then throw the ball over their left shoulder, forcing them to alter their path and make the necessary adjustment with their feet to track the ball. Then repeat the same drill on the left side.

## **FIELDING GROUND BALLS**

The technique an outfielder uses to field ground balls depends on the situation and where the player is in relation to the ball. With nobody on base, the goal is to secure the ball cleanly and prevent the baserunner from advancing to second base. In this situation, outfielders have the option to take a knee and field the ball, using their body to block the ball in case of a bad hop.

With a runner on base, outfielders will need to attack the ball and field it on the glove hand side. Attacking the ball gives outfielders forward momentum that will assist in making a strong throw back to the infielder. Just like a charging infielder however, outfielders still need to break down and get under control before fielding the ground ball. Chopping the feet and waiting for the right hop is a good way for an outfielder to keep moving forward in a controlled yet aggressive manner.

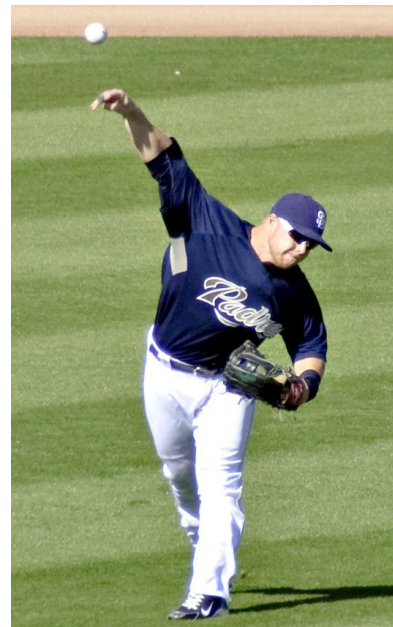
## **THROWING FROM THE OUTFIELD**

Outfielders should utilize the crow hop or the pro hop when throwing the ball back into the infield. The purpose of these is to put the player in a powerful position to throw the ball. It's important that outfielders move in the direction they want to throw the ball and then utilize the crow or pro hop to put them in a throwing position that is along the same path they are moving.

In order to introduce and teach the crow hop, coaches should run the following drill with their players:

- » Have the player stand still with knees flexed and glove side foot forward, ball in glove, like they just made a catch.
- » Have the player then move their back leg forward (no hop yet) so that it is in front of the other leg, perpendicular to the target line.
- » The glove side foot is now behind. Have them pick up that foot, stride forward, and throw the ball, making sure the shoulder is pointed at the target line the entire time.
- » Once the player gets comfortable with this move, then he/she can begin hopping on the back foot two times before taking a step with the front leg and throwing the ball.

A simpler technique is the pro hop, which involves only a bunny hop off the back leg before throwing. This serves to get the ball to the infield more quickly, but still adds leverage for a more powerful throw.



*Example of an outfielder staying on top of the ball while throwing the baseball back to the infield.*

Outfielders should make a strong overhand throw, staying on top of the ball so it can travel on a downward plane. The head remains in the center of the body as the player drives his/her head and chest to and through the glove and target line.

## **OUTFIELD TECHNIQUES AND FUNDAMENTALS CHECKLIST**

### **Ready Position**

- » Start on balls of feet
- » Step forward into this position

### **Fly Balls**

- » Stay behind ball, enabling you to catch with forward momentum
- » Catch ball on throwing side

### **Footwork**

- » Hip turn towards direction of ball
- » Hip turn and crossover to get in proper position
- » Stay low during hip turn and crossover

### **Ground Balls**

- » With nobody on base, can take a knee when fielding
- » With runners on base, catch ball on outside of front leg, if possible

### **Throwing**

- » Use 4 seam grip
- » Utilize crow hop or pro hop and full follow through
- » Utilize overhand throw, making sure ball travels on a downward plane

## **OUTFIELD ESSENTIALS**

- » Always know what the situation is and what you will do with the ball.
- » Work on getting a good break on fly balls. Never assume another fielder will catch the ball. Only back off when another fielder calls you off. When you are called off, back the other outfielder up.
- » Breaks should be 45 degrees in gaps, with the outfielder taking a direct angle to cut the ball off. The outfielder may have to take a deeper angle if the ball is hit harder.
- » Remember that balls hit to left field or right field will always drift toward the foul line.
- » On a short fly ball, never stop charging until an infielder calls you off. If you think you have an easier play on the ball than the infielder does, call him off. The outfielder has priority on short fly balls because he is moving forward and has a better view of the ball.
- » Use two hands when fielding.
- » Catch fly balls above shoulder height, preferably over your throwing shoulder. Shade the sun with your glove.

- » Charge the ball on base hits whenever possible. With nobody on base, you can take a knee when fielding.
- » Never give up on a ball that you miss. Hustling will help to make up for physical errors.
- » Keep your throws to all bases low. It is a sin to overthrow a cut-off man! It is better to bounce the ball 3 times before it reaches a base or cut-off man than to make an overthrow.
- » Never throw behind the runner.
- » Back up during rundowns.
- » Always utilize the crow hop or pro hop when throwing. Make sure you bend your back on your follow through so that the ball will be moving on a downward plane, rather than an upward plane. Throw overhand, never sidearm, to ensure that the seams are traveling end over end.

#### **Left Fielder:**

- » Must hustle and back up 3rd base on any potential play there. If this does not become automatic behavior for you, then you cannot play left field.
- » Must back up any ball being thrown from the right side of the field to 2nd base.
- » Should always back up the center fielder on a single or a fly ball.

#### **Center Fielder:**

- » Is in charge on routine fly balls in left center and right center field. In other words, if the center fielder calls for these balls, the other fielders should back off and then back him up.
- » Should back up the left fielder and right fielder on all base hits and fly balls.
- » Must back up 2nd base on all plays there, especially steals. Do not back up within 40 feet of 2nd base on steals or a wild throw might shoot by you to your right or left.

#### **Right Fielder:**

- » Must hustle and back up 1st base on any potential play there. This includes bunts, pick-off attempts, and any ground ball in front of the plate or to the left side of the infield.
- » Should back up 2nd base when the shortstop or 3rd baseman is attempting to retire a player there.
- » Should back up the center fielder on fly balls and ground balls.
- » Because there are so many plays at 1st base, the right fielder must be constantly thinking and hustling. A careless mental lapse on your part could be very costly to your team.

#### **More Advice for all Outfielders**

- » Judging and catching fly balls is about 30% talent and 70% practice. The more practice you get, the better you will become.
- » Never sit down in the outfield. This includes during practice, as well as during games. You will be pulled from practice or a game immediately if you do this. If play is interrupted, have a meeting in center field.
- » Outfielders should be constantly communicating. Work as a team and be aware of the verbal instructions coming from your infielders and from the bench. Remind each other of the situation, such as how many outs there are, and what to do with the ball. Yell instructions to each other during the play—do not be a spectator! You can be a spectator on the bench.

# CATCHING

Catching is probably the most physically and mentally demanding position in baseball. From a physical standpoint, the catcher is responsible for handling the baseball more than any player on the field other than the pitcher. From a mental standpoint, the catcher is the field general, the leader of the infield, who is responsible for calming the pitcher and verbally dictating where potential outs should be made. While catching is not for everyone, it is a position that fits nicely with those who are tough, intelligent, and natural leaders. Without a good catcher, no matter the age level of the team, you will be hard-pressed to have success. The catcher is the first line of defense, the most essential defender on the field.

## CATCHING TECHNIQUES AND FUNDAMENTALS

### Receiving

- » Base Stance (Stance 1): Square knees, low to the ground
- » Stance 2 – Used with runners on: Wider base, elevated position
- » Keep thumb tucked on bare hand to prevent injury
- » Let ball come to glove – calmly receive each pitch. Never snatch at pitch



### Framing

- » Give the umpire the illusion that the ball is a strike.
- » Focus on catching the ball in the center of the body. Snatching the ball with the glove will usually result in a ball.
- » Catch the ball in front of the body with slightly bent elbow.
- » After catching the ball, turn the glove with the wrist towards the center of body. Do not move arm to reposition glove.
- » Swaying the body to left or right while receiving the ball reduces the amount of glove movement and enables catcher to receive the ball in the center of the chest.
- » When calling for a fastball on the corners, set up on the corner of the plate, glove in center of the body, positioned on the corner of the plate.
- » Only attempt to frame pitches that are close to the strike zone.



*Properly receiving and framing the baseball*

### Throwing

- » Power step – right foot comes forward first
- » Left foot comes forward, squaring up body to target
- » Keep head level and in center of body throughout throw
- » Keep weight on ball of feet
- » Stay low from transfer to follow through
- » Utilize shorter motion, pulling ball behind the ear, fingers on top

### Blocking

- » Gain ground on ball, keeping hop at lowest possible height
- » Move forward to knock ball down
- » Keep glove on ground at all times
- » Side Block
  - Gain ground on ball, blocking ball back to home plate
  - Move in circular path
  - Begin by driving inside leg forward
  - Kick outside leg out and around glove, enabling body to get around ball



Blocking the ball in the dirt

### Tag Plays

- » Keep feet pointed up baseline.
- » Stay in front of the plate.
- » Tag runner with the backside of the glove, protecting ball from sliding runner.



Ready to make the tag at homeplate

### On Field Leadership

- » Make base calls on bunts to the pitcher, 1B and 3B.
- » Ensure infielders are aware of the number of outs.
- » Settle pitchers down and give them confidence during tough situations.

## CATCHING ESSENTIALS

- » Get your signs straight with the pitcher before his first pitch.
- » Do not get mad at the pitcher if he is not throwing strikes. Have a conference and try to settle him down.
- » Never argue balls and strikes with an umpire. Only make pleasant or complimentary remarks if you are going to speak to him.
- » Work hard on framing pitches.
- » Do not make unnecessary pick-off throws. Bad throws will cost your team bases and runs. Be SURE you have a play on the baserunner before attempting this high-risk play.

- » With the bases empty or a man on first, back up any throws to first base from the infield. This means you must hustle down the baseline and back up any possible overthrow of first base.
- » Be a leader! Be vocal! Remind infielders how many outs there are, especially after play has been interrupted.
- » Work hard to get in position to block pitches in the dirt.



# BASERUNNING

Every baserunner is a scoring opportunity. Mistakes on the base paths, such as getting doubled off on a line drive or being thrown out while trying to take an extra base, eliminate the potential to score runs. A mistake on the base paths is emotionally deflating and kills a surging offensive rally.

## BASERUNNING ESSENTIALS

- » Baserunning is a very important aspect of the game. Poor baserunning can make the difference between a win or a loss, or a good team and a bad team.
- » Being a good baserunner has little to do with speed. Good baserunners do not have to be fast. They need to be smart and alert!
- » Baserunners must be constantly aware of the score, who is on base, the arm strength of opponents, and how many outs there are. All these factors dictate the decisions made on the base paths.
- » All signals must be received while standing safely on the bag.
- » When on base with less than 2 outs, hold on line drives until they go through the infield! Poor baserunners get doubled off base because they lack the discipline to wait for line drives to fall before taking off.
- » After crossing first base (example: on an infield hit), turn into foul territory, not fair territory (turn to the right, not left). Turning into fair territory after crossing the bag enables the first baseman to tag the runner out.
- » On a hit into the outfield, round first base! Do not retreat to the base until the ball is back in the infield.
- » When rounding first, second, or third base, hit the inside of the base, lower the inside shoulder for balance and the correct path to the base.
- » Run on the toes, not the heels. The weight should be slightly forward, arms pumping forward, head always in the center of the body.



*Hitting the inside of the base while lowering the shoulder for balance*

### **When leading off first:**

- » Shuffle off the bag to the point where you would have to take one step and a dive back to the bag to make it safely. Work hard at getting a good lead.
- » Never take your eyes off the pitcher! Do not look back to the bag or a good pitcher will pick you off.
- » When diving back into the 1B bag, slide towards the back corner, the furthest distance from the ensuing tag.

- » Watch the front foot of a right handed pitcher to determine whether he is going to deliver to the plate or attempt to pick you off.
- » Watch the back shoulder of a left handed pitcher to determine if he is going to deliver to the plate or attempt to pick you off.
- » After the pitcher commits to the plate, shuffle off 3 or 4 more steps. This is called a secondary lead. You should be far enough off the bag so that you can break for second if the catcher drops or misses the ball. But, do not shuffle off so far that the catcher can fire to first and pick you off.
- » If the batter does not hit the ball (and the catcher catches it), hustle back to 1B. Also hustle back after a foul ball. Always follow the ball!
- » When stealing second, always slide unless you hear your coach yell, "Up! Stay Up!" Do not listen to or react to opposing player's verbal comments or body fakes.
- » With less than two outs, you probably will not be tagging up on any fly balls to the outfield. On balls to right field, go about a quarter to a third of the way down the baseline, depending on how deep the ball has been hit. Go halfway on fly balls hit to center field, and halfway to two thirds down the line on balls hit to left field.



*Taking a lead from first base*

#### **When on 2nd Base:**

- » Look for the sign while standing on the base.
- » Lead off far enough so that you can take one step and a dive to get back to the bag safely. Never take your eyes off the pitcher! Let the 2B and SS move all they want! Get a good lead and hold it, regardless of what the infielders are doing.
- » When leading off second base, take a step backwards towards the outfield and before taking your lead down the line. This will put you in a better position to slide towards the back of the base, in addition to creating a better angle when rounding third. This also puts you in a position to make it more difficult for the shortstop to sneak behind you for a possible pick off play. The second baseman is also in your direct line of sight just in case a pick off attempt is called involving the second baseman.
- » Remember that the pitcher does not have to release the ball during a pick off attempt at 2B.
- » Get a good secondary lead after the pitch has been thrown.
- » With less than two outs and nobody on first base, if the ball is hit on the ground in front of you (to the SS or 3B), stay where you are! You are not forced to advance to third base.
- » With less than two outs and nobody on first base, you should be able to advance to 3rd base on any ball hit to the right side of the infield (2B or 1B). Listen to your coaches for instruction.
- » With less than two outs, be prepared to tag up on most fly balls hit to right field or right center. On fly balls to left center and left, go a third to half way down the baseline, depending on the depth of the fly ball

#### **When on 3B:**

- » Look for the sign while standing on the base.
- » Lead off in foul territory and return to the base in fair territory.
- » A large lead is unnecessary most of the time, even if the 3B is not holding you on.

- » Hold the bag on a fly ball with less than two outs! It doesn't matter if the ball is hit 400 feet and way out of the ball park—hold the bag until it falls!
- » Do not try to score on a passed ball or wild pitch unless the coach tells you to go.
- » It is against youth baseball rules to crash into the catcher while trying to score. You must slide or you may be ejected from the game.

#### **Feet First Slide**

- » One leg tucked under another leg
- » Other leg extended towards the base, slightly bent for give when it hits the bag
- » Hands up off the ground to prevent injuries to the fingers
- » Slide on the butt, not the side



*Perfectly executed feet first slide to break up a double play*

# BUNTING

Bunting is an extremely important part of baseball. Every youth player must acquire this skill. A team that bunts well can make the difference between a winning team and a losing team. Great bunters can move runners into scoring position, disrupt pitcher timing and rhythm, and put pressure on the defense.

## BUNTING MECHANICS

These mechanics apply to both sacrifice bunts and when a player is bunting for a base hit.

- » **Move up in the box.** This helps guarantee that the ball will be bunted in fair territory. Attempting to bunt while deep in the box will make it more difficult to keep the ball fair. Notice how far Jose Reyes is up in the box as he attempts to bunt in the picture to the left.
- » **Be selective at the plate.** Too often, young players bunt at pitches out of the strike zone. This digs a major hole for the batter and the team! Pull the bat back from the strike zone if the pitch is a ball.
- » **Pivot the back foot towards the pitcher, allowing the upper body to open up to the pitch.** Hitters should get in an athletic position – knees bent with the hip sockets back. Do not square up the entire body by moving the back foot towards the plate. This may cause the player to step on home plate, which would be an automatic out. In addition, squaring up makes it very difficult to get out of the way on a pitch up and in, which is exactly what pitchers are taught to throw on an attempted bunt.
- » **Slide your top hand halfway up the bat (around the label area).** Grip the bat with your fingertips only. The bat should be held out in front of the body (and home plate) with the barrel of the bat up, or higher than the handle. This ensures that the ball will not be popped up in the air. Starting the bat around the letters will help hitters be more selective when bunting. Starting with the bat at the letters, the hitter now knows that any pitch above the bat barrel is a ball, and so can immediately pull the bat back.
- » **Adjust to the height of the pitch by moving the body up and down, not moving the bat up and down! (bend the knees).** Notice how the player in the second photo on the left bends his knees to bunt the low pitch, rather than dropping the arms. In addition, notice how the bat barrel remains higher than the handle.



Top photo: Bunting while standing up in the box

Bottom photo: Example of lowering the knees, not the hands, while attempting to bunt a low pitch

- » **Let the ball make contact with the bat.** Do not push the bat at the ball. The bunter should try to catch the ball with the bat, using the bottom hand as a rudder to control the barrel and dictate where the ball is bunted.
- » **Bunt down the 3rd base line for a left handed hitter or the 1st base line for a righty.** The bunter's bottom hand should push the knob away from the waist to set the angle of the barrel towards the desired foul line.
- » **Bunt down the 3rd base line for a right handed hitter or the 1st base line for a lefty.** The bunter's bottom hand should pull the knob towards the waist, creating an angle for the barrel towards the desired foul line.



*Additional examples of bunting mechanics*

### **SACRIFICE BUNTING / STRATEGY**

The purpose of the sacrifice bunt is to move runners into scoring position. With a runner on first, the batter should try to bunt the ball down the first base line, making it a more difficult throw from the right side of the infield to second base and get the lead runner. With a runner on second, the batter should try to bunt the ball down the third base line. This forces the third baseman to field the ball, thus leaving the third base bag unoccupied.

The most important thing for the sacrifice bunt is to get the bunt down in fair territory! In sacrifice situations, it is important that hitters do not become too fine in their attempt to work the lines and end up bunting the ball foul. Understand that these are sacrifice situations where batters give themselves up for the good of the team. Thus, the hitter should pivot and show bunt right before the pitcher delivers the ball.

### **BUNTING FOR A BASE HIT**

Unlike the sacrifice bunt, the hitter's goal is to get on base. As a result, the hitter should put themselves into bunting position while the ball is in route to the plate, keeping the defense off guard. Many coaches call for a bunt when the third baseman is playing deep. However, in a non-bunting situation, the pitcher and catcher are more likely to field the bunt than the third baseman. Nothing can disrupt the rhythm and timing of a defense than laying down a bunt and forcing slow catchers and pitchers to hastily move from their positions and make a play.

The drag bunt is the best method to when bunting for a base hit. For the right handed hitter, the batter should pull the right foot back just before getting the hands in the correct bunting position. This will give the batter a slight running start as he/she heads down the baseline. Left handed hitters can move their left foot forward just before getting the hands in the correct bunting position or they can open up their right foot towards first base and pull the bunt with them down the first base line.

The push bunt is another method used to find uncovered areas of the defense. To execute the push bunt, batters position their bottom hand away from their waist and push the ball past the pitcher and away from the corner infielders. Push bunts have a greater chance of success when the middle infielders are playing deep.

### **COACHING BUNTING**

Bunting is a lost art both because youth league coaches do not stress the importance of the skill and don't know how to teach it correctly. When players are asked to bunt two pitches first before swinging away during batting practice, coaches should take away a swing for every bunt the player does not get down in fair territory. This will send a message to every player on the team that bunting is very important! Every player should be taught how to bunt, even power hitters, as this skill is a vital part of winning baseball strategy.

# HITTING

It has been said that hitting a baseball is the hardest thing to do in all of sports. Hitting is an athletic skill that can be developed through proper thinking, correct technique, and diligent practice.

## THE MECHANICS OF THE PROPER SWING

### The Stance

Hitting is a chain reaction of body movements. As with any chain reaction, the end cannot be achieved without a proper beginning. The purpose of the stance is to get the hitter in a starting body position that will facilitate a quick and powerful movement towards the baseball.

First, hitters need to find a stance that is comfortable and balanced. Their eyes must be focused on the pitcher. Many hitters have their heads tucked under their shoulder or tilted to the side. This consequently impedes their ability to see the ball clearly from the best angle. Make sure the head is upright with the eyes focused directly at the pitcher.

All good hitters get themselves in a good athletic position to start. This position consists of flex in the knees with the hip sockets back. If a hitter is having a difficult time getting into an athletic position or is confused about what this position feels like, have them pretend they are defending someone on the basketball court. They will quickly notice that their knees are flexed, their butt is out, and they are slightly bent over on the balls of their feet. Have them hold that position and put a bat in their hands. This is the proper stance.

The stance should be relaxing enough to have a calming effect over the body. The bat should be held loosely in the fingers or across the pads of the hand; never hold the bat in the palm. The hands and forearms should be relaxed as much as possible. Seeing the veins pop out of a player's arms is a good indication that they are gripping the bat too tight. Any tension in the hands and arms slows down the swing, which subsequently reduces power.

In order to relax, hitters should breathe slowly, in with the nose and out with the mouth between pitches. Taking practice check swings while in the box waiting for the pitcher to get set also relaxes the body and



Examples of a balanced stance

gives the hitter a sense of flow. Athletes cannot be successful hitters if their mind and body are not in a relaxed state.

### **Emulating Major League Players**

Many young players enjoy emulating their favorite major leaguers and end up copying their batting stances. While this is a fun activity for young kids to engage in, understand that what is comfortable for a big leaguer may not be comfortable for a little leaguer. Every athlete has a different sense of balance and comfort level. Remember: The key to the batting stance is to get in a comfortable, tension-free position. Coach your players to create their own stance – even tell them that one day they will make their own personal stance famous! Young athletes need encouragement to be themselves.

### **Open, Closed, and Square Stances**

The less movement hitters have in their swings, the more successful they will be. Young hitters should begin with their feet even, or parallel to the home plate line. In recent years, the open stance, where the front foot is further away from the plate than the rear foot, has become popular with major leaguers. However, those hitters who start with an open stance close up as the pitch is delivered. Moving the lower body from an open position to a closed position can be a difficult movement for young hitters to coordinate.

The closed stance, where the front foot is closer to the plate than the rear foot, can also be problematic because it prevents the hips from fully rotating, which can impede a hitter's ability to drive the ball. Starting in a square stance minimizes problems associated with the stride, which will be discussed later in this chapter.

### **The Load**

There are two motions in hitting—linear and rotational. Linear motion is any type of straight line motion. Once the hitter has a proper plan of attack and is in a comfortable, balanced stance, the first actual movement the hitter makes is a linear movement back onto the rear knee; this is called the load.

The load begins as the pitcher begins the windup—as the pitcher loads up his/her body, so does the hitter. Hitters need to make sure the front leg does not straighten out in the process. Both legs must remain flexed while making the linear movement backwards onto the rear knee.

As the hitter shifts the weight slightly to the rear knee, the hands should be in launch position with the bat over the shoulder. For years, hitters were taught to walk their hands back as the lower body shifted to the rear leg. However, the closer the hands are to the center of gravity, the faster a hitter can rotate. The faster a hitter can rotate, the faster the bat speed.



*In the perfect load position, the weight is on the rear leg and the bat is in a strong position over the shoulder.*



The photos to the left illustrate the perfect load position. The weight is on the rear leg and the bat is in a strong position over the shoulder. Notice how there is flex in the knees and in the front elbow. Hitters who straighten the front arm during the load, often referred to as an arm bar, will have a very difficult time making consistent contact. The result of a barred front arm: a wide swing path, causing the hitter to swing around the ball, rather than staying inside the ball.

The load also provides hitters with a sense of rhythm and timing. By beginning this slight movement backwards when the pitcher moves forward to deliver the baseball, the hitter will have created a smooth rhythmic motion that will help time the pitched ball.

### **The Stride**

As the pitcher uncoils and strides with the front leg, the hitter mirrors that movement by taking a stride of their own. The stride is the movement of the front leg before contact. Some hitters kick up their front leg as if they were pitching. Other hitters bring their front foot back and forward quickly as if they were tapping the ground. And some hitters do not stride at all—they just pick their front foot slightly off the ground and put it back in the same spot. But regardless of how one strides, all successful hitters stride to a balanced position. The phrase “stride to balance” is often used to further describe this aspect of the swing. For young hitters, the stride should be 2-4 inches. Remember- the more movement there is in a hitter’s front side, the more that can go wrong with the swing.

Hitters must not overstride. Overstriding results in an unbalanced position that prevents the hitter from making a powerful move towards the ball. Secondly, hitters must stride with their front foot at a 45 degree angle, or at least very close to that point. A wide open front foot prematurely releases the hips, thus decreasing the hitter’s power and plate coverage. A closed front foot locks up the hips, thus preventing the hitter from achieving maximum rotation. Striding with the front foot at 45 degrees enables hitters to maintain both their posture and balance throughout the swing while correctly laying the foundation for a proper hip rotation.

Most importantly, hitters must not move forward when striding. When the hitter strides, he/she should be in a balanced position – 50% of the weight should be on the front foot and 50% should be on the back foot. Power hitters may be taught to stride with 60% of their weight on the back foot and 40% on the front foot. Having the majority of the weight on the front foot makes it impossible for a hitter to make consistent and powerful contact.

During the stride, there is only a slight linear motion forward, and, after the front heel drops to the ground, the linear aspect of the swing is over. There is no more movement forward. The dropping of the front heel acts as an anchor that stops the hitter’s momentum from going forward. After the hitter’s front heel is firmly planted on the ground, the hitter moves rotationally, creating bat speed and power.

### **The Head**

By minimizing forward linear movement, the hitter is able to keep the upper body still—specifically the head. This allows the hitter to see the pitch better, which in turn, increases his/her ability to make consistent contact. While it is hard enough to hit any moving object, it is much harder to hit that moving object while moving too. Keeping the head still enables the

hitter to see the plane of the pitch more accurately. Remember, hitting is sight-oriented. No matter how good one's mechanics are, nobody, not even Ted Williams, could hit blindfolded.

The head must stay in the center of the body throughout the entire swing. During the load, the head remains in the center of the body, even as the lower body shifts back. Along the same lines, the head never leaves the center of the body during the stride, even though weight is shifting back to the front side. During the swing itself, the head stays in the center of the body, even as the player rotates through the baseball. While the body is moving in a linear and rotational direction, the head remains in the same spot at all times.

## ROTATIONAL HITTING

From a biomechanical standpoint, maximum power is achieved through rotational movement. In order to achieve maximum power, hitters need to keep their weight back and rotate through the ball, rather than move in a linear motion from the back knee to the front knee and hit the ball off the front foot.

With few exceptions, all great hitters are rotational hitters. At contact point, their head is directly in line with their rear knee. For some the head is behind the rear knee at contact. In addition, the belly button is always in front of the chin at this point, further illustrating the stillness of the head and the rotational approach great hitters take as their hands enter the hitting zone.

As stated earlier in this chapter, there are two motions in hitting, linear and rotational. Linear motion is any movement in a straight line. Remember, just before the pitcher delivers the ball, hitters need to make a slight linear motion backwards onto the rear knee. From there, the hitter strides, which results in the slightest linear motion forward. Once the front heel drops, the head should be in line or directly above the back knee. After the heel drops, there should be no more linear motion forward. From here, hitters need to begin rotational movement.

Rotational movement is any type of movement in a circular motion. It is this type of motion that generates the speed and power hitters need. Once the hitter strides to a balanced position, the hips begin to rotate towards the pitcher. When hitters start the swing with the lower body, the force generated from this rotational movement pulls the hands into the hitting zone. This illustrates a key biomechanical law- the hips are indirectly attached to the hands. As the hips rotate, they pull the hands into the hitting zone, causing the knob of the bat to be pointed at the ball. This is a great position to hit from.

*Rotating the hips while keeping the head in the center of the body. Notice the full extension of each player.*





*The hips pulling the hands to and through the point of contact*

As the lower body rotates and opens up, it is important to keep the upper body closed. This creates maximum torque, which generates power. Torque is a fancy word that means two forces are working in opposite directions. As the lower body rotates, the upper body resists. This type of motion is scientifically proven to produce the maximum amount of speed and power. When hitters get themselves into this type of torque-producing position, the momentum of the biggest and strongest muscles in the body (the hips and thighs) pull the smaller and weaker ones (the hands and arms) through. Notice the pictures above. You will see the hips opening while the top half, or shoulders, remain closed. This motion ultimately pulls the bat into the hitting area similar to a sling shot firing a foreign object.

Despite the proven scientific and biomechanical results of this torque position, many hitting instructors still teach their pupils to “transfer their weight from their back foot to their front foot,” or what is more prevalent, “squish the bug.” The term “squish the bug” is a theory of hitting that encourages hitters to use their feet to rotate their hips. The back foot, by turning it after the stride, causes the hips to turn.

Though this theory can work, you have to be an incredibly gifted athlete to coordinate your feet, hips and hands. Secondly, the turning of the feet often causes hitters to spin, rather than turn. This spinning action causes the hips to turn prematurely and the shoulders to fly open, which causes the hitter to pull off the ball. This results in their inability to cover the plate consistently, in particular the outside corner, as well as adjust to off-speed pitches. Most importantly however, squishing the bug does not lead the hitter into a powerful hitting position because the turning of the back foot does not facilitate torque.

Starting rotational movement with the turning of the back foot results in smaller and less powerful muscles (the feet) leading the more powerful muscles (the hips and the thighs). Nowhere in the study of biomechanics does it state that more power and speed are created by smaller and weaker muscles leading larger and stronger muscles. If you were at a monster truck derby, which situation would create more speed and power—a truck pulling a small car or a small car pulling a truck? Obviously, the truck pulling the small car creates more speed and power. Another way of phrasing this idea is the dog wags the tail; the tail doesn’t wag the dog. The hips lead the hands and the feet, not the other way around.

Finally, rotational hitters are able to adjust to off-speed pitches. How many times have we heard coaches tell their players, “stay back, especially on slower pitches” That’s good advice, but they fail to teach their players how to stay back, or what it means to stay back. Put simply,

staying back is keeping the majority of the weight off the front side, keeping the head in the center of the body, and rotating through the ball. Players who subscribe to this approach will not only hit the fastball harder, but they will already be in a perfect hitting position if they are fooled by an off-speed pitch.

### **SWINGING LEVEL TO THE BALL**

A level swing does not mean swinging the bat parallel to the ground. Hitters must swing level to the path of the ball, not level to the ground. This is an extremely important point, considering the fact that for years many hitters have been taught to swing “level” or “down” at the ball and to carry this downward movement past their lead knee. Swinging down at the ball makes little sense from a scientific and logical standpoint.

From a scientific standpoint, almost every pitch a hitter sees travels on a downward plane. This is due to several facts: 1) The pitcher is delivering the ball from a raised mound; 2) The pitcher is delivering the ball using an overhand or  $\frac{3}{4}$  motion, causing the ball to travel on a downward plane; 3) Gravity pulls every object at a rate of 9.8 meters per second towards the Earth.

The downward plane, coupled with the force of gravity, pulls every pitched ball downward at the following rates: 11 degrees for an 80 mile an hour fastball, 5-6 degrees for a 90 mile an hour fastball, and 2-3 degrees for a 100 mile an hour fastball. This fact, coupled with the reality that most pitches besides fastballs—sinkers, sliders, curves, change-ups, and split finger pitches—travel downward, further shows the absurdity of teaching hitters to swing down on the ball. Therefore, because the ball is traveling down, hitters need to swing slightly up on the ball in order to hit it square.

Think of how pitchers are taught to throw. The majority of pitchers are instructed to throw the ball on a downward plane, keep it low, and induce the hitters into hitting ground balls. If the pitcher is able to get the hitter to hit a ground ball, he has done his job. In the major leagues, 80 percent of all ground balls become outs. If ground balls are a pitcher’s best friend, why then do hitting instructors accommodate their wishes by teaching their hitters to hit ground balls? It is not logical.

Thus, the idea that the barrel of the bat should be higher than the hands at contact point is plain wrong. Rather, the barrel of the bat must be lower than the hands in order to create a level swing. The idea of hitting down on the ball, or hitting the top half of the ball, must be removed from every hitters thought process, as well as every coach’s hitting philosophy. The



*Hitters should swing slightly up on the ball.*

only time a hitter should hit down on the ball is when the hit-and-run is on, where a ground ball is needed.

The players in the pictures to the left are all line drive and contact hitters, not homerun hitters. Notice how they are all swinging slightly up on the ball. The key word is slight. They are not drastically upper-cutting on the ball, and that is certainly not what is being advocated here.

### **THE IMPORTANCE OF THE REAR SHOULDER**

It has already been discussed that lunging, or front side hitting, can dramatically decrease a hitter's power and consistency. In order to combat this problem, hitters need to focus on two key body movements—keeping their weight back after the stride, and keeping their rear shoulder slightly lower than their front shoulder as the hands swing through the hitting zone. Ideally, as hitters get themselves in the torque producing position, not only are their hips open and their shoulders closed, but their rear shoulder is slightly lower than their front shoulder and their upper body is tilted slightly back on their axis. Dipping and tilting the rear shoulder allows the hitter to better get the bat on plane with the ball. This move enables the rear elbow to tuck tightly against the body, which allows the hitter to keep the hands inside the baseball with the bat going through the zone with a slight upper-cut.

As discussed earlier, hitters need to counteract the downward movement of the ball by swinging slightly upwards. The best way to do this is to allow the rear shoulder to work underneath the front shoulder so the bat can get on plane with the pitch. Obviously, the amount of dip and tilt of the rear shoulder depends on the height of the pitch. For a pitch at the letters, the hitter should not dip and tilt nearly as much as they would for a pitch at the knees. But again, and this point cannot be stressed enough—hitters need to swing level to the ball, not level to the ground.

Try to swing level to the ground on a pitch at the knees. You will quickly realize that such a task is impossible to accomplish. In addition, hitters who tilt slightly back on their axis prevent the upper body from drifting forward and lunging at the baseball. Thus, teaching hitters not to dip the back shoulder is wrong. You will not find any good hitter whose rear shoulder is not slightly lower than the front shoulder at contact point.

Naturally, pure power hitters will dip and tilt their rear shoulder and sit further back on their axis than line drive gap hitters. However, understand that the more upright a player is on his/her axis, the greater will be his/her predisposition to come forward and lunge during his

*The amount of drop or tilt of the back shoulder depends on the location of the pitch.*



swing. All hitters, even line drive hitters, should sit back on their axis. This will decrease their chances of moving forward and adopting a linear approach to hitting.

Notice how the players above are not collapsing their back side. As the front shoulder works underneath the rear shoulder, the hands remain in a strong position, as does the rear leg and back. The extent to which the rear shoulder drops and tilts is very slight, and is always contingent on the location of the pitch. On a low pitch, the amount of drop and tilt is more than a pitch at the letters. Players who understand this important fact will begin to develop a multi-plane approach to hitting, which will enable them to adjust and make solid contact with all types of pitches in a variety of locations.

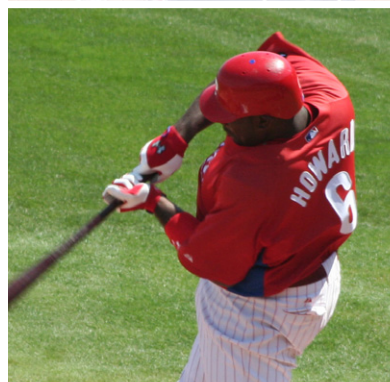
### **STAYING INSIDE THE BASEBALL**

Mike Epstein, the only hitting instructor to be endorsed by Ted Williams, stated that staying inside the baseball is the reason why 10 percent of the players make 90 percent of the money. Staying inside the baseball means keeping the hands as close to the body as possible. This is crucial for efficient plate coverage and maximum rotational power.

Good extension does not mean straight arms extended across home plate. This move, called casting, causes hitters to jam themselves. Grab a bat and try it for yourself. Extend your arms over home plate, and you will realize that the lower end of the bat covers the strike zone. This move, similar to casting a fishing rod, causes hitters to be jammed by inside pitches. In contrast, good extension means the arms are fully straight after contact, rather than before or during contact.

When figure skaters go into their spin, their arms are as close to their bodies as possible. This allows them to move rotationally as fast as possible. The same idea applies to hitting. In order to move rotationally as fast as possible, the hands need to be as close to the body as possible to stay inside the ball.

A good way to feel the idea of staying inside the baseball is to pull the knob of the bat with the bottom hand towards the ball. After you do this, rotate the knob through the ball with the top hand. This exercise should provide the proper feel. However, understand that if the hips pull the hands into the zone, the knob of the bat will already be pulled towards the ball and the hands will automatically be inside the baseball. This might be a hard concept for younger athletes to understand, so it



*Keeping the rear elbow in is critical for creating maximum rotational power. This is also true for tennis and golf.*

may be best to sometimes teach them the idea of pulling on the knob before teaching them about hip rotation. More advanced athletes are able to realize that by allowing the hips to pull the hands, they are killing two birds with one stone: they are getting maximum hip rotation and torque, and in the process keeping their hands inside the ball. Hitters who start their swing with their hips will realize that they no longer have to think about throwing their hands to the ball. Rather, the hands are already pulled into the correct position every time.

## **THE REAR ELBOW**

At the point of contact, the rear elbow should be close to the side of the body. As stated before, it is critical to keep the hands as close to the body as possible to create maximum rotational power. Notice in the photos to the left how the combination of the rear elbow being close to the body, coupled with the slight dipping and tilting of the rear shoulder, enables players to get the bat on the correct plane, stay inside the baseball, and efficiently rotate through the ball.

In this sense, the baseball swing is really similar to the golf swing or tennis swing in which the rear shoulder is slightly lower than the front shoulder and the back elbow remains close to the side. The only difference between swinging a bat, tennis racket, and a golf club is the plane of the swing!

### **Don't Get Caught Following Bad Hitting Advice!**

It is extremely frustrating to see coaches teach wrong information just because it was taught to them when they learned the game. Bad coaching can destroy any player's chance of having fun and experiencing success. The worst hitting fallacy of all is associated with the back elbow. Let's examine it in detail and then look at the long term consequences of repeating this mistake.

#### **“Get Your Back Elbow Up!”**

The idea behind this fallacy is to encourage hitters to get on top of the ball and hit line drives. However, the opposite occurs. During the swing, the back elbow should stay down and close to the rib cage, allowing the body to move rotationally while enabling the bat to travel through the hitting area on a slight upward plane, matching the downward plane of the pitch. With a high back elbow, the hitter can only make one move—throw the hands at the ball in a chopping motion. Not only will a hitter get too far on top of the ball, but he/she will also cast the bat out in front of the plate, preventing the hitter from consistently barreling up to the baseball.

#### **Why Do Many Major League Players Have Their Back Elbow Up?**

Most coaches and young players do not understand the fact that the back elbow can be up in the stance. In fact, the back elbow can be anywhere. However, as major league hitters begin their movement towards the baseball, their back elbow relaxes just before they start their hands, allowing the bat to get on plane with the ball. For many major leaguers, this is an added movement that does not affect their swings. For the average amateur, this added movement WILL affect their swing.

#### **Long Term Effects of Practicing With the Back Elbow Up**

- » Hitters will develop a long swing and have difficulty adjusting to different types of pitches.
- » Hitters will not be able to get around on the fastball.
- » Hitters will make inconsistent contact and will not put the barrel of the bat on the ball.

# PITCHING

It is important for coaches at all levels to embrace the old adage “you can never have too much pitching.” This is especially true for youth league and high school coaches, who have the primary responsibility of ensuring the health and safety of their players.

More pitchers equals fewer innings for all, which helps decrease the chance of arm injuries. In addition, teaching every player how to pitch not only increases the options a coach has, but it also helps them reinforce the basic fundamentals of throwing mechanics.

In order to promote the health and safety of pitchers, coaches need be advocates of the following practices:

- » Incorporate an appropriate running and dynamic stretching routine before practices and games.
- » Closely monitor pitch counts, innings pitched, and signs of fatigue. Signs of fatigue include loss in velocity, losing command of the strike zone, a decrease in ball movement, or other normal signs of physical exhaustion.
- » Give each pitcher proper rest periods between starts or pitching appearances.
- » Avoid moving pitchers to high stress positions, such as catcher or shortstop, once they are removed from the mound.
- » Stress the importance of proper mechanics and immediately correct breakdowns or flaws in the delivery that put too much stress on the elbow or shoulder.

Coaches who choose to sacrifice the health and safety of their pitchers for their own personal gain should be immediately removed from their duties. The practice of continuously handing tired arms the ball and encouraging them to “tough it out” is just plain wrong, and it certainly has no place in youth sports.

## **THE IMPORTANCE OF PROPER MECHANICS**

Proper mechanics can assist the pitcher in the following ways:

- » Increased velocity
- » Increased accuracy
- » Decreased risk of injury

The fundamentals of pitching mechanics are similar to basic throwing mechanics. Teaching everyone pitching mechanics will not only increase the amount of pitchers, but it also enhances a player’s level of understanding of how to properly throw a baseball.



## PITCHES AND GRIPS

At the youth league level, pitchers should only be throwing two seam fastballs, four seam fastballs, and change-ups. Young pitchers should not throw curve balls until they are at least 13 or 14 years old and show sufficient physical maturity to handle the stress this pitch can place on growing arms.

### Four Seam Grip

Instead of throwing curve balls, young pitchers need to focus on throwing a four seam fastball for a strike, and exhibiting ball control by locating this pitch on all four corners of the plate. The four seam fastball is held with the index and middle finger across the horseshoe of the baseball. The side of the thumb should be on the bottom, directly in the middle of the baseball or along the imaginary line between the two fingers on the top.



*The four seam grip*

### Two Seam Grip

Once a pitcher shows the ability to command the four seam fastball, then they can begin working on a two seam fastball, a pitch that is gripped with the seams. Gripping the ball with the seams promotes movement, which makes it difficult for hitters to barrel it up. Just like the four seam fastball, the side of the thumb should be directly in the middle of the ball. The fingers should be in the center of the ball as well. Putting the fingers and/or thumb off-center will increase movement, but it will decrease velocity.



*The two seam grip*

### Change-up Grip

In order to keep hitters off-balance, young pitchers should learn how to throw a change-up. The change-up, gripped deep in the palm with three or four fingers on the ball, should be thrown with the same arm angle and arm speed as the fastball. However, by “choking” the ball, the ball comes out of the hand much slower, fooling the hitter into thinking it is a fastball. The change-up also has natural downward movement, thus giving young pitchers the ability to induce hitters into grounding out.



*The change-up grip*



Correct Head Position: The head should be in the center of body during delivery

### **DYNAMIC BALANCE**

It is critical for pitchers to maintain balance, or center of gravity, from their first movement until the end of their follow through. The essential element to achieving dynamic balance is keeping the head in the center of the body throughout the wind-up. At no point should the head ever be to the left or right of the center line. Ultimately, a loss of balance causes undue stress on the elbow and shoulder, in addition to preventing the pitcher from consistently throwing strikes.

### **MAINTAINING POSTURE**

Pitchers must maintain their posture throughout the delivery. Just as the head must remain in the center of the body throughout the delivery and follow through, the head should not move up, down, or away from the catcher's target.

Standing tall is essential to ensure a downward ball plane, which makes it more difficult for hitters to hit the baseball squarely. When coaches see pitchers “crunch” their upper bodies or collapse their back legs, it must be corrected immediately, as this loss of posture puts the ball on a flat plane, allowing hitters an increased chance to elevate the ball.

Correct Posture: Notice how the head is over each pitcher's center of gravity from back to front and from left to right.



## THE WINDUP

### Footwork

When initiating the windup, pitchers should take a SMALL step behind the rubber or to the side of the rubber with their non-throwing side foot. Whichever method pitchers choose, it is critical for them to maintain their head over their center of gravity, or the center of their body, as they begin this movement. Pitchers who step back may have a tendency to have their heads drift behind the rubber, but the pitcher's head should never come off the imaginary vertical line from his pivot foot. The only time a pitcher's head should be behind the rubber is when he steps back off the mound. Along the same lines, pitchers who step to the side may have a tendency to move their head in the same sideways direction. As discussed before, the head should never leave the center of the body.

### Pivot

After the taking a step back or to the side with the non-throwing side foot, the pitcher then rotates his other foot so that it is parallel to the rubber and up against the rubber. The pitcher should not place his foot on top of the rubber or half on and half off the rubber. The back foot should always be placed in front of and up against the rubber.

### Gathered Position

After pivoting the foot so that it is parallel and up against the rubber, the pitcher's next move is to lift his stride leg to load the hips. In this phase of the windup, the pitcher is getting his shoulders and hips lined up to the target and loading the body into a powerful position that is ready to explode towards home plate. This is called the gathered position.

In the gathered position, the rear leg should remain straight or slightly flexed, keeping the pitcher tall and balanced. Too much bending of the rear knee will cause a loss of posture, which will affect a pitcher's ability to throw consistent and effective strikes. As always, the head should be over and on line with the pitcher's center of gravity. The hands should also be in the mid-torso area, on line with the chin and belly button. The foot should be directly under the lift leg, never outside of it, to promote balance. Swinging the leg, rather than lifting it, will cause the foot to incorrectly get outside of the lift leg. The toes of the front foot should be pointed down, keeping the pitcher balanced and preventing him from landing on the heel.

Many major league pitchers do not follow this rule, but when working with young pitchers, it is much easier for them to start with the toes down since you want them to land on the balls of their feet, not the heel. This is to allow the front knee to flex, ensuring full hip and shoulder rotation.



*The gathered position*

The photos to the left show a balanced gathered position. Notice how the head remains at the center of gravity, the hands are in the middle of the torso, the foot is directly under the lift leg, and the back knee is slightly flexed.

## FOOT STRIKE

Once the pitcher is in his balanced gathered position, the next move is to pivot off the rubber towards home plate. This propels the body forward towards the target. By pivoting off the rubber towards home plate, the pitcher should be able to activate the back hip and explode directly to the plate, rather than to the left or right of the target line. Thus, as the stride foot lands, it should be pointing to the target.

Pitchers should land on the ball of their front foot with the weight on the inside of the foot. Landing with the side of the foot naturally loads the front hip, and as with hitting, when the front foot lands on its ball, the back foot pivot opens the front foot and points it at the target. At foot strike the pitcher's weight should be evenly distributed—50% on the front side and 50% on the back side.

As the pitcher pivots off the rubber to put his lower body in the correct position, the hands will break from the glove when the front leg starts its drop after the peak of the leg lift. As always, the head remains over the center of the body as the front foot lands. The photo to the left (Paul Byrd) shows the classic “T” position. For balance purposes, the distance between the body and the glove should be equal to the distance between the body and the throwing hand. Similar to a teeter totter, this perfectly balanced “T” position stabilizes the body and helps facilitate an accurate pitch.

## RELEASE

The pitcher's back foot pivot (weight on the inside of the foot, making it easier to execute) activates the back hip and lower back, which powerfully rotate and thrust towards the target before the shoulders rotate. The pitcher's back side opens up the front side; the pitcher never opens the front side on his/her own. Note that this concept is the same as in hitting, where good hitters also never open up their front side until the back side opens it.

Notice in the photos on the next page how each pitcher rotated his hips but did not fully rotate his shoulders. That is the correct technique! The hips go first as the shoulders lag and then rotate behind the ball. As in hitting, where the hips



Examples of a proper foot strike. Notice the front foot slightly closes, landing on the balls of the feet and not the heel.

Bottom photo: A foot strike with the classic “T” position—head remaining in the center of the body with flex in both arms.



Examples of correct pitch release form and the correct head position at follow through – notice how the head is in the center of the imaginary line from the rubber to home plate with the glove in front of the body – ready to field.

go first and the bat lags to get behind the ball, this adds power. The shoulder takes the place of the bat in pitching, and the lag of the shoulder increases velocity. This lag as the hips are opening is called hip/shoulder separation.

The ball is released as close to the target as possible, at full extension. The speed of the extension should help the pitcher execute the full rotation of the shoulders. The pitcher's back foot, leg and hip will roll and lift off the rubber, with the foot head high at the same angle as the throwing arm at release point.

### **FOLLOW THROUGH**

After the ball is released, it is important for pitchers to aggressively follow through to the target. Finishing in a balanced position and ready to field the baseball is a must. The head should be at the same level as the catcher's mitt at release, enabling the pitcher to see the ball off the bat.

### **PITCHING FROM THE STRETCH**

Pitchers should not change their mechanics while working from the stretch with runners on base. The only difference between the stretch and the windup is that from the stretch, pitchers will not step off the rubber and pivot the foot as they do with the windup.

Starting in a balanced position, the pitcher simply needs to lift his leg and get into the gathered position. From the stretch, pitchers must come to a complete stop before beginning their motion to the plate. The hands, shoulders, and legs cannot move once the pitcher becomes set. Setting the hands at waist level (as shown in the photo to the left), rather than shoulder level, should reduce tension in the shoulders. Because working from the stretch has less movement, it may be easier to teach some young pitchers how to throw from the stretch before teaching the full windup.



*Pitching from the stretch position*

### **PITCH COUNTS & RESTING PERIODS**

<b>League Age</b>	<b>Pitches allowed per day</b>
17-18	105
13-16	95
11-12	85
10 and under	75

#### **Pitchers age 7 through 16 should adhere to the following rest requirements:**

- » If a player throws 61 or more pitches in a day, three (3) calendar days of rest .
- » If a player throws 41-60 pitches in a day, two (2) calendar days of rest.
- » If a player throws 21-40 pitches in a day, one (1) calendar day of rest.
- » If a player throws 1-20 pitches in a day, no calendar day of rest is required before pitching again.

#### **Pitchers age 17-18 should adhere to the following rest requirements:**

- » If a player throws 76 or more pitches in a day, three (3) calendar days of rest.
- » If a player throws 51-75 pitches in a day, two (2) calendar days of rest.
- » If a player throws 26-50 pitches in a day, one (1) calendar day of rest.
- » If a player throws 1-25 pitches in a day, no calendar day of rest is required before pitching again.

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