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Charts

As pitching goes, so goes the team. It is the single most important element in the game. No matter how good a team hits or fields, without solid pitching, games will be difficult to win. To become a solid pitcher requires many elements; however, there are four basic parts... mechanics, pitches, pitching, and mental. Pitching is the single most difficult thing to master in all of sports. So much timing, rhythm, athleticism, power, strength, and mental to develop. Takes a tremendous

amount of time and work. For those committed enough to learn and put in the time and work, the rewards can be GREAT!

At this point, I want to tell and show you something that will blow your mind.

The 4 things that really matter in the pitching delivery...

- 1. Back leg drift and load (I added this one)
- 2. Lead leg block
- 3. Hip & Shoulder Separation
- 4. Shoulder internal rotation adduction / abduction

If you notice 3 of these occur at front foot strike!

How a pitcher gets to these 3 doesn't really matter as long as he can do them. Our challenge is to find the source of the problem that prevents these 3 things from happening.

WATCH THIS VIDEO EXPLANATION...



Pitching is SO individualized that there is NO 1 model or method. It's NOT 1 size fits all. If you understand this, the more athletic you can be in YOUR delivery. The problem occurs when a pitcher cannot do these 4 things. Our job / challenge is to find the keys / cues that will help each of our pitchers to do these 4 things. We have to find the source of the problem that causes poor execution of these essential mechanics. From

our experience, the source of the problem most times is the start of the stride... the lift / load. And the direction of the initial stride start.

That's where our individualized instruction comes in to play. Our goal is to get every pitcher to 1) understand these principles, 2) match the best model and cues, 3) prescribe the best road map... workout, drills, routines to accomplish these, and 4) to make these 4 things natural and athletic.

A daunting task... for us and our pitchers! One thing is for sure, the attainment / implementation of these 4 things CANNOT be taught in a traditional "pitching lesson".

Mechanics are the foundation of the delivery. Without sound mechanics you cannot develop quality pitches, and without quality pitches, you cannot get hitters out. Of course there are other factors like controlling the running game, fielding, strength training, mental preparation, etc. But the basics are mechanics, pitches, and pitching. And, these three are progressive... to get hitters out, you need quality pitches (command of the zone, velocity, action, spin, change of speed), and to develop quality pitches, you must have sound mechanics.

This manual will be a general guide to help you develop routines that will provide you a safety net and roadmap to maximize your development and develop a logical, sound, simplified, understanding of pitching. And will give you information and guidance to help you understand sound basic principles.



Aroldis Chapman mechanical breakdown

Putting it all together... credits Driveline

Maxing out the contribution of your lower half to your throwing motion is complex, but the fundamental principles are relatively simple - 1) learn to apply more force into the ground, 2) learn to apply that force in the right direction and 3) learn to sequence the segments properly and with good timing in order to facilitate maximum transfer of this energy into the later links of the kinetic chain.

Applying more force into the ground

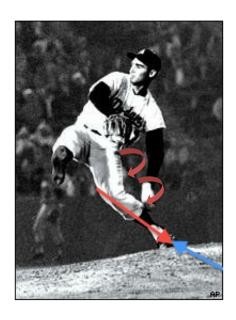
- A balanced, periodized and individually designed strength and conditioning regimen that focuses on maximum eccentric, isometric and concentric force production, as well as rate of force production in the sagittal, frontal and transverse planes.
- Doing squats, cleans and deadlifts for 3×10 is simply inadequate to fulfill this need. For absolute novices, any strength work is going to work, but after a certain point the programming must shift to accommodate increased recovery demands, decreased rate of adaptation and lack of specificity (implementing triphasic and triplanar principles).
- For rotational lateral bounds, work them into your lower body training days, performing 3-6 sets of 3-5 reps on each leg prior to your main lifts of the day. It's okay to continue rotating other plyometric movements, but this is a good one to include in the mix.

Applying force in the right direction

- The pitching motion isn't a vertical jump it's actually more of a lateral and rotational one. As such, we need to be able to produce large horizontal ground reaction forces while maintaining a rotational torque at the back hip joint during the driving phase to facilitate a fully rotational unloading of the hips into landing.
- The youth pitcher below applies force improperly into the ground.
 The red arrow is the direction of the force vector he is producing into the ground, while the blue arrow is the resulting ground reaction force of equal magnitude occurring in the opposite direction. The back foot is planted flat on the ground, there is no drive occurring through the center of mass and there is no rotational torque being applied in order to create usable rotational kinetic energy into landing.

Sandy Koufax applies more horizontal force into the ground. In addition, he carries rotational torque in the hip joint, and actually unloads his hips into landing while propelling his center of mass explosively towards the target.





Learning to sequence the segments with good timing

- This is where repetition / deliberate practice comes in. You have to know what you're trying to accomplish with every rep of every throw, whether it's during long toss, flat grounds, bullpens, whatever. With time, you will learn what it feels like to be "connected" certain throws will jump out of the hand with seemingly no effort in long toss or catch play. Chase that smooth, fluid, whip-like, connected feeling with every throw. Keep the arm rag loose from the elbow to fingertips. Experiment and see what cues produce the best results. Get to the point where your motion functions as one rotational, smooth and powerful unit. Repetition is the only way.
- Long toss is a great tool due to the immediate feedback not just the distance of the throw, but the arc that the ball takes and the feeling of each throw out of the hand. Being able to see this immediate feedback is absolutely crucial to having productive throwing sessions - throwing into a net alone is generally not enough if major changes or refinements need to be made to a pitcher's delivery.

Let's start with some basics...

Get in Shape... some general guidelines

To maximize your ability, you must be in shape. This involves flexibility, functional strength, athleticism, and cardio/conditioning. Your workouts should target all of these areas.

The 1st thing you must commit to is throwing. You must throw 6-7 days/ week. And, you must develop a sound routine that includes flat ground mechanical work, weighted ball warmup throws, drills that are specific to your needs, long toss, and mound work. You also need to throw hard on all days that you feel like it. Not many, but remember... to throw hard, you have to throw hard.

Warm-Up should be done prior to throwing a bullpen or game or doing a workout. This is different than stretching. Mild stretches are ok, but should be limited prior to full speed throws. A sound warm-up routine should involve dynamic movement, shoulder, hips/core, legs, and arm. As a rule, you should warmup to throw not throw to warmup.

Flexibility is essential to a pitcher's development. The goal is to increase range of motion, ability to relax, and athleticism. A sound flexibility routine or program should be at least 20 minutes in duration and done at least three days per week. It should contain various elements involving primarily mild ballistic movements and involve the whole body. As a general rule, stretching should be done after throwing a bullpen, long toss routine, or game.

Functional strength is the goal of any sound strength program for pitchers. The program should target arms, legs, back, and core and can include med balls, hand weights or bands, free weights, plyometrics, explosive jumps, lat pulls, and agility and balance exercises. You will need to develop a routine to incorporate these various elements into your training program. Limit or eliminate all overhead free weight exercises, curls, and straight bar bench press.

Velocity and Strength Training for Pitchers There have been cycles in baseball over the years for sure; however, very little was based on specific research. Thanks to the work of several innovative groups/people, we are beginning to gain some practical and logical insight into velocity.

Current research seems to indicate that traditional strength training is not only non-effective, but may even be harmful in two major areas; 1) increase in velocity and 2) injuries. Certainly there has been an explosion of injuries in recent years associated with pitching stemming primarily from three things; 1) improper strength training, 2) improper mechanics, and 3) overuse. Both of these areas have garnered increased attention and work, albeit ineffective and counterproductive in most cases. A comprehensive program must be implemented in order to maximize potential. This comprehensive program should incorporate... 1) a sound warm-up routine, 2) long toss program, 3) mechanical routines, 4) an extensive stretching routine, 5) strength training that is geared to fast twitch activities including plyometrics, med balls, and balistic movements, 6) cardio development to include sprints, and interval work, 7) development of pitches specific to each pitcher, 8) a basic pitching plan that includes a put-away pitch, and 9) incorporation of a viable mental approach to pitching that focuses on "feel" and "imagery".

Cardio Training... Cardio training is also an essential ingredient in your preparation to pitch. This of course means you have to run or exercise to elevate your heart rate. This increases lung capacity and endurance. It also builds and strengthens your legs which are critical to pitching. If your legs break down, so will your arm.

A sound cardio/conditioning program can and should include sprints, and interval training. Develop "your" routine. Some ways to do this are: short sprints, long sprints, and full speed sprints. You can make your workout "interval" by including brief rest periods (1-3 minutes) in any of the above. It should also include full body exercises that increase heart rate and done for duration of time.

Long Toss.. Should be done 4-5 days/week. Purpose is to stretch out the arm, reinforce certain aspects of mechanics... use legs to build

momentum and control body position, make loose/relaxed throws over a firm front leg to a full finish, and to increase arm speed/strength. All throws on the way out should have an arc. Do not become overly concerned about increments, let your arm be your guide as you work your way back. Decrease the arc as you work your way back in focusing on getting momentum and extension. We call these PULL DOWN THROWS which should be done full speed. Limit throws on the way in to a maximum of 6 or 7. Finish at pitching distance' and toss 3-4 of every pitch working on spin and release. The #'s below are just a guideline. The important thing is that you gradually increase distance based on how your arm feels that day and that all throws are loose and relaxed. Click on the following link for some very good info regarding long toss. I do a modified version, but very similar...

- 60'
- 100'
- 140'
- 180'
- 220'
- Work back to maximum distance
- (distances should be adjusted downward for youth pitchers)
- Click the photo above to see our recommendation for a sound long toss program

A long toss program is also very instrumental in developing and maintaining sound mechanics, especially using the legs and timing. It is a good warm up activity, since it involves all body parts necessary in pitching and should be done almost every day, although the distance may vary. The length and duration will be determined by how you feel. For example: you may only throw a distance of 60' and limit the number of throws if you are experiencing some soreness following a game; but, may include a distance of 200'+ with more throws on days between starts not immediately following a game. Tosses should be made with "air under" and not on a line... not at max effort. All throws should be done loose and relaxed as you work back to maximum distance. Focus on stretching the arm, momentum using the legs, and extension. Again, all throws should be on an arc. Limit

your number of throws working your way back in (6-7) and decrease the arc. Focus on momentum through the throw with full extension.

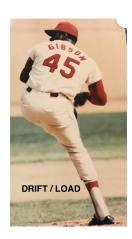
I agree that you need to throw a lot in order to build arm strength and create muscle memory relative to mechanics and timing. However, I also think you need to be cognizant of total pitches in a long toss session, game outing, or bullpen workout. Pitch counts are an important element in maintaining overall health of the arm. The key, as much as pitch count, is how many stressful/full speed throws are made in games. Rest periods are also an integral part of a sound pitching program, both weekly and yearly. Plan rest periods during the week, spacing out full speed throw days. And, plan rest periods during the year. For non-professional pitchers, I would suggest 2 rest periods... 1 after your summer season (4-6 weeks) and 1 during the winter prior to beginning training for your spring season (3-4 weeks). Or, use Transition Periods to bridge the gap between heavy stress periods.

Some elements involved in the THROW...

Mechanics...

There are 4 basic principles involved in the pitching delivery. How each individual pitcher does these can vary, but MUST adhere to some degree to these basics...

1) Your 1st move must be toward the target by a slight weight shift and getting the weight into the back leg, 2) controlling the weight transfer from back foot to front foot staying loaded in the back leg (but NOT a push), 3) keep the upper body and lower body connected (hands and legs), and 4) block with the landing leg and time the throw with torso rotation firming up the front leg throwing to a fully rotated finish.



Drift/Load
Shuffle with load
Ball/Wall
Jump Jump with load
Walking Windup
Drop Step with load



Stride
Stride and Cock
Shuffle
Rocker with Stride
2 Angle Plates

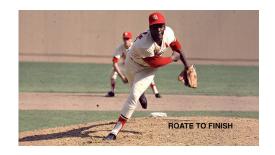


Layback... (with intent)
Don't move the head
Lead with the elbow
Throw a dart
Rotate to throw out front
Arm Action... Pivot Pickoff



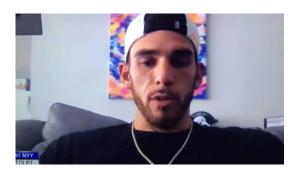
Block/Firm up
Angle Plate at Landing
Uphill Throws
Stationary Rocker (front foot and knee at target)

Hip and Shoulder Separation
H & S drill
2 Step (with intent... keep feet straight)



Rotation/Follow Through
Multiple Drills... (with intent) finish shoulder at target
Step Across
2 Step (with intent)

Also, watch these videos describing mechanics basics...





REPEAT... This will blow your mind!!! The only 3 mechanical things that are important in the delivery...



How to break down YOUR mechanics...



How to throw HARDER...



How to create MOVEMENT with your pitches...

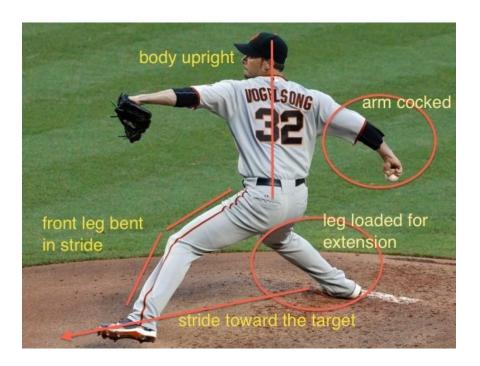


Why is looking like a pitcher important? The answer is two-fold. One is because you are evaluated by coaches and scouts every time you throw. They look for several things: are you fluid, do you use your legs, do you throw at max effort or free and easy, are you jerky or smooth (fluid), do you throw across your leg/body or do you get clearance with your lower body, are you on-line, do you get the ball stuck behind you or do you throw out front with effort at release, do you throw downhill, do you stay behind the pitch, do you finish pitches getting upper body clearance, etc.

Why are these things important? They are because they determine your propensity for a future injury and your ability to hold up over a season

and over time (years) in professional baseball. If you look like a pitcher, you might be a pitcher, and therefore, someone might think you are a pitcher.

The other reason is that by adhering to sound principles, practices and mechanics you will have better command, better pitch action, and increased velocity in addition to reducing your chance for injury.



One area that also deserves discussion in regard to pitching mechanics is the **Power Position.** This is obviously a very misunderstood concept. Pitchers at all levels are being taught to do something that is not sound mechanically. It is a sad commentary on some of the instruction that is prevalent in the baseball world. I think a picture is worth a thousand words, so I have included a few below. You be the judge...



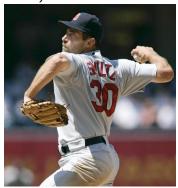


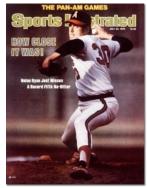


As you can see, all 3 of these young pitchers are being taught that this is the power position and to try to get their arm here to throw. This is **NOT** the Power Position, but is taught as **FACT** by coaches at all levels from youth to college. The arm does pass through this location (90 degree angle) but does so at full foot strike and happens because of timing. It is NOT something young pitchers should try to do. I also think trying to throw from this position can lead to possible arm injuries. Sad!

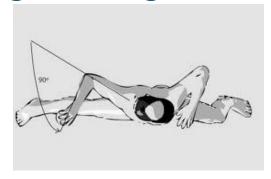
If you will note in all photos of the pitchers below, the throwing elbow is pointed toward 1st base for RHP's and 3rd base for LHP's). In the photos above, the elbow is pointed toward 2nd base... this is NOT correct! As you can see in the diagram below, the ball is behind the pitcher, but not the elbow. This arm positioning is critical in creation of velocity, accuracy, and injury prevention.

Now, look at the Power Position of a few MLB pitchers... a stark contrast!









Above is a rendering by ASMI depicting the correct body/arm position in the stride.

Is there any similarity between the power position of these MLB pitchers and the youth pitchers in the photos? I think not...

Arm Slots...

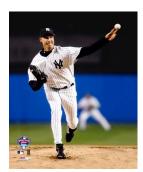
Arm slot is difficult to change and should be attempted rarely with extreme caution to avoid injury. There is no one perfect arm slot. There are 4 basic slots and most pitchers will fall into one of these categories. None are right or wrong. Arm slots will vary from pitcher to pitcher.

One principle that must be adhered to mechanically is that the throwing arm should match the shoulder tilt. Notice in the photos that the throwing arm is extended at release on-plane with the shoulders. This allows for a "free" whip of the arm (layback) and also allows the body rotation to assist the throw. One major thought, no matter the arm slot, is to think... throw North to South, NOT East to West. This allows you to get on top of the pitch. See photos and illustration below...









Over the top High 3/4 Low 3/4 Sidearm

Develop "Your" Pitches...

Quality pitches cannot be developed without sound mechanics... that is the first step in pitcher training. A quality pitch involves three things: 1) command (70% minimum FB / 60% minimum all other pitches), 2) action (movement, spin, break), and 3) velocity (maximum/change of speed). Of course the base pitch for all pitchers is the fastball and you should work to master command to both sides of the strike zone and up and down. This is the pitch you will throw the most. There are 2 basic fastballs with a few variations... 4 seam and 2 seam. From these base fastballs you can develop run, cut, sink, or hop. They can also be thrown at varying speeds. Not all pitchers can throw all of these variations; however you should experiment and work to develop "your" fastball(s). Also note that finger position can be spread slightly or closed... depends on each individual pitcher.

All pitchers need some form of off-speed pitch. This can be done with a variation of your fastball or a changeup. A change up is a pitch that looks like a fastball (spin and action), but is 8-12 mph slower. A change up does not have to have movement... it does, however, have to look like a fastball and disrupt hitter timing. The changeup should be thrown with fastball effort. This allows you to command the pitch and to have the best possible spin and action in addition to appearing to the hitter like a fastball.

Various grips include the circle (the most difficult to master but, unfortunately, the one taught almost exclusively by most coaches), 3 finger, 2 seam, 4 seam, split, slip, etc. There is no ONE change up grip. The right grip is the one that works and the grip will vary from pitcher to pitcher. Again, don't be afraid to experiment. One element in your ability to get hitters out is your ability to disrupt timing and this must be done by changing speed and location.

Most pitchers will need some form of breaking pitch. There are three basic types with variations... curve, slider, and cutter. The curve should have forward or downward spin and the slider and cutter should have cut

or side spin. Both should be done with grip and release with minimal hand snap or rotation.

There are no clones when it comes to pitches. You must develop "your" pitches. Don't be afraid to experiment with spin, grip, release, etc. Your goal should be to develop 2-3 quality pitches with possible variations (velocity/action).

- Command Drills...
- Throw to target
- Throw to both sides of the plate
- Throw to string (low and high)
- Change of Speed Drills...
- Throw FB's at varying speeds
- Throw Changeups working on maintaining consistent mechanics and spin

A few of our bullpen workouts related to training...

- 1. Effective Velocity... work up and in to low and away.
- 2. Throw to a string... low / high / side to side
- 3. Work both sides of the strike zone
- 4. Off speed
- 5. Put-Away pitches
- 6. Counts
- 7. Pressure situations

Adjustments

There are three basic adjustments... mechanical, grip/release, and mental. Mechanical and release adjustments are based on "feel" (you must know your keys)... mental adjustments are based on the situation, what the hitter is doing and your attitude (how you think). Most of the

time, you will do what you think, so think right and think aggressive... make one pitch at a time with a plan and purpose for that pitch. Develop a routine. I like to use some variation of this... 20 second clock in your head. Follow this process... analyze, correct, breath / relax, last thought MUST be hit the mitt, attack. Your last thought cannot be mechanical.

Every pitch should have a purpose, and that purpose utilizes one or more of the following...

- To get ahead in the count
- To disrupt the hitter's timing
- To make the hitter HIT this pitch
- To make the hitter MISS this pitch
- To set up the next pitch or next AB
- To pitch to your strengths

Read the ball, it always tells you what you did mechanically and at release... for example: RHP - path is left, you cut it off / path is right, you threw it off to the side / path is up, you got under it or body got ahead of your arm. Spin and action tells you how the pitch was released. So, you have path and spin/action to read and make adjustments from.

The Pitch Count

The pitch count is quite a controversial topic considering it really didn't exist 25 years ago... Some teams seem religious about keeping a pitch count and removing a pitcher at the magical 100 pitch limit. Fans and talk radio personalities usually lament (putting it mildly) about a pitcher being dominant and that the ignorant manager pulled the pitcher too early. Usually the question is "what's another 10 or 20 pitches?" Perhaps the thought process may be moving away from pitch counts with the Texas Rangers reportedly thinking about doing away with keeping pitch counts (although they have not stated so officially).

However, Rick Peterson (former pitching coach for the A's and Mets) relates the pitch count and throwing/running routines to a distance runner... "Think about it as a runner. Let's say he runs three or four miles a day which would average about 27 miles a week. He's conditioned to that routine. Then, the runner decides to do away with <u>consistent</u>

training and will run however long he feels like it - like Forrest Gump. So, one day he runs seven miles, the next 8, and the next 4 and so on. So, one week he runs about 40 miles and then the next he runs 50, followed by 60 miles. What happens to his legs? He burns out and gets hurt." Proper conditioning to achieve optimal performance is necessary. If pitchers aren't put on a regular routine which allows them to condition their arm, more frequent injuries will occur (which is scary considering the already high rate of pitching injuries.

But, a more practical reason for the pitch count is performance. "MLB data tells us that once a pitcher reaches 90 pitches, the performance rate is drastically impacted. In fact, the batting average against (BAA) almost doubles. The data is there to support this." Surely, there must be exceptions to this rule. "A few elite guys like Roy Halladay and CC Sabathia do not have such a variance. But, by and large, the majority of pitchers do." For this very reason, a pitch count needs to be kept and pitchers monitored for loss of effectiveness once the 90 pitch count is reached.

Click on this link to view recommendations an findings from ASMI in Birmingham (Dr. James Andrews)... <u>Pitch Count Guidelines</u>

Pitching to Statistics...

Some interesting conclusions based on current statistics...

- * The knowledge that a batter is significantly more likely to swing at the first pitch with runners on base may be useful in determining pitch selection. Similarly, the fact that with runners on base a much higher percentage of batters are called out on the 1-2, 2-2 and 3-2 pitches than with bases empty may indicate a psychological bias on the part of umpires to give the pitcher the benefit of close ones with men on base.
- *Stats clearly indicate the truth of many baseball traditions regarding the value of staying ahead of the hitter. Of the 11 possible counts other than 0-0, the batter has an advantage over his initial expectations on only four of those counts: 1-0, 2-0, 3-0 and 3-1. The 2-1 pitch can be considered a "neutral" count for all practical purposes, and the 3-2 pitch, while producing a probable batting average of only .190, does have a .420 OBA expectation due to the

.284 probability of drawing a walk. All other counts are distinctly favorable to the pitcher.

Syarting	- Ball not hit -		- Ball hit -		Batting	On-Bese	
Point	Walk	Strikeout	Out	Hit	Average	Average	
0-0	.084	.153	.523	.240	.262	.324	
1-0	.151	.118	.495	.236	.278	.387	
0-1	.045	.240	.504	.211	.221	.256	
2-0	.308	.081	.405	.206	.298	.514	
1-1	.084	.204	.496	.216	.236	.300	
0-2	.029	.412	.404	.155	.160	.184	
3-0	.636	.046	.199	.119	.327	.755	
2-1	.170	.147	.465	.218	.263	.388	
1-2	.049	.373	.411	.167	.176	.216	
3-1	.450	.077	.317	.156	.284	.606	
2-2	.108	.312	.408	.172	193	.280	
1400×2801	.284	.205	.375	.136	190	.420	
					-		

- *These stats, however, don't take into account the location of the pitch. One thing to keep in mind is that the batting average of all balls put in play at the bottom of the strike zone is .220. So... LOCATION is paramount.
- * What if a pitcher combined the 2? ... pitch to statistics combined with location.

Pitching to Hitter Weaknesses...

Believe it or not, all hitters have weaknesses. And, they are usually glaring. In looking for a hitter's weakness, you don't have to know hitting mechanics, all you have to do is recognize when a hitter has trouble hitting a certain pitch or location. It will be one or more of the following...

- In
- Away
- Up
- Down

- Specific Pitch
- Or Count

This weakness is where we want to get him out. The process to get there may (must) take different routes during the course of the game/season when you face hitters multiple times, but ultimately, we will work toward the weakness. However, hitters sometimes make adjustments. He may change his approach or make a mechanical or thought adjustment and overcome his weakness. If he does though, there will be another weakness somewhere else. It's a game, but as a pitcher, you can always stay one step ahead of the hitter. For example: Hitter A has a weakness with pitches away... 1st AB - FB to get ahead, Change down, FB in, THEN FB away to get him out. / 2nd AB - Curve to get ahead, FB away, FB away, etc. You get the idea. It's like driving... my destination may be Miami, but I can take a lot of different routes to get there.

Don't forget, Babe Ruth is dead! Anyway, he struck out 1330 times! So, don't let ANY hitter intimidate you... get ahead, stay aggressive, change speed, work toward weaknesses, and pitch to the lower part of the strike zone as a general rule.

Performance - The Mental Game...

Once we have implemented all of the physical adjustments necessary, we then need to focus our attention on how to apply this to competition... games. And, not only game competition, but also to make application to our bullpen workouts to train for competition. Thus the question arises... HOW?

The HOW involves using our vision to aid in processing to help you maximize the effort. Another way to say it is... From the eyes, to the brain, to the hand (the throw).

Dr. Sherylle Calder has done extensive work and research regarding the importance of utilizing vision correctly and effectively to help professional golfers. However, we can apply the same techniques to baseball.

Dr. Calder says... "Every person has muscles in each eye that can be trained and improved. The process skills can also be improved, and response skills of eye-hand, foot and body co-ordination can be enhanced. When people see more, they can assess the situation much quicker, therefore exercising their options, and ultimately making better decisions. It must be noted that 80-90% of decisions made in sport are based upon visual information! Developing visual skills includes learning to use both eyes together effectively. Having both eyes move, align and focus as a team enhances your ability to interpret and understand the potential visual information that is available to you. Once you see it correctly you can then process that information. You can train the input skill and improve the processing skill to improve the response. Johnny Wilkinson says it gave him more time to make better decisions. All he needed was to improve his visual skills. Most people are born with good eyesight but vision, the ability to identify, interpret and understand can be trained and improved."

Pitching has 2 major elements: Training and Pitching. The brain is divided into left and right with each controlling specific actions. The left brain controls tedious, mechanical, methodical, specific, tasks. This must be applied in your training. You need to talk and feel and think your way through your mechanics to create muscle memory. Without this aspect of training, you will not be able to make necessary mechanical adjustments. In doing this, you must focus on the simplicity of your mechanics so that your muscles can memorize the feel and action. This will allow for a repeatable delivery that is easy to execute.

The right brain however, controls the free, loose, and relaxed side. This is where you will need to be while doing part of your bullpen work and in games. I include this in bullpen work because you need to practice what you will do in games. If you don't practice it, you will not be prepared to put it into practice during the game. However, this process is relatively simple and easy to implement. To be in the right brain, you must be free from all mechanical thoughts. You cannot pitch if your thoughts gravitate toward the mechanical. To get in the right brain simply visualize the pitch you are about to make, then repeat to yourself just prior to making the pitch, "hit the target, hit the target, hit the target." The focus when you do mechanical work is on you... what and how you do it. The focus when pitching is not on you but on the target, let it flow, let it go, loose and relaxed. Are you in your right mind, at the right time (games)? THINK RIGHT... this is pitching.

BRAIN MAPS

THE POWER OF THINKING



our golfers, four putting mind-sets, four vastly different brain-map images. Golfer A, a collegiate player, is thinking only of the mechanics of the stroke, which causes poor synchronization and a scattered presentation of intense activity (red), particularly on the left side of the brain. Golfer B is preoccupied with thoughts of missing the putt, and the resulting anxiety produces fields dominated by intense reds and yellows. Golfer C, a professional, is focused on the target, a highly positive thought process that yields uniform, low-intensity blues across most regions of the brain. Golfer D's thoughts are consumed by feel and so emit a map covered in blue, save for the high-intensity red coming from the visual cortex at the rear of the brain. High activity resulting from visual stimulation can be beneficial, according to Crews.

Some thoughts related to game pitching...

- Think... breathe, "feel"
- Embrace "feel" thoughts... what should this "feel" like
- Calm is not a natural reaction to stress... embrace the butterflies
- Must be target oriented and allow your IMAGERY, feel, and emotion to rule
- It's not about what you think, but how you think
- Wrong thought... I have to do this, I have to win
- You are in trouble if you engage the mechanical left side of the brain... *shut down* the mechanical thoughts

In sports, the left hemisphere--the analytical, verbal side of the brain--is quite busy telling you what to do. To perform well, the left hemisphere must calm down. So the right hemisphere--which controls rhythm, timing, balance, coordination, creativity and imagery--steps up its activity. In the last second before you execute the task, the two hemispheres must achieve a state of balance.

Confidence...

So many coaches and players try to avoid or minimize pressure. However, if you compete at a high level, it is unavoidable. Instead, embrace pressure! Seek it out. You must learn to perform under pressure. One way to do this is in your bullpen workouts. Incorporate into your workouts a segment in which you mentally put yourself in pressure situations... 2 outs, bottom of the 9th, 1 run lead, runners on 2nd and 3rd, and the opposing teams best hitter at the plate. You have a 1-2 count and need to make THIS pitch. Work on it on a consistent basis and you will become proficient at performing under pressure when the situation occurs during games. Think about it... you cannot avoid the aforementioned situation, they happen in games. Be prepared. And, always remember, "Babe Ruth is dead." You will not face him.

Relax

To be effective, you must pitch loose and relaxed... cannot "muscle up". When relaxed, fastballs have more velocity and life, breaking pitches are sharper, and change-ups have more movement. You must be able to relax every pitch and execute under pressure. You must "slow" the game, not speed it up. Some keys...

- Long deep breath in, exhale prior to every pitch as part of your routine (including bullpen)
- Hang shoulders
- Relax arm
- React to the target (mitt)
- Take periodic "mental vacations" when appropriate
- Trust your training
- Confidence is key

Focus

Focus is an elusive thing and difficult concept to process. When are you focused? How do you focus? What elements are involved?

I describe focus this way... Think of it as a 20 second clock. The clock begins ticking when you make a pitch. Then, in order, you must do the following to be focused... 1) <u>read the pitch</u> (flight and spin), 2) <u>analyze</u> (was it GOOD or not? If good, say "do it again." If not, was it because of mechanics or release, 3) <u>make adjustments</u>, 4) back on the rubber to get sign, 5) then, breath, relax, and think MITT / TARGET, 6) Execute. You must commit to the pitch and <u>mentally</u> see the pitch and <u>make the pitch</u>. This process must be completed each pitch. If your 20 second clock cycle is broken or disrupted, you lose focus.

Nothing, and I mean nothing, can distract you from the task at hand... making a quality pitch. Not fans, not umpires, not errors, not the previous pitch, not scouts. Nothing!

The Makeup of a Successful Pitcher

There are five basic qualities to pitching: velocity, movement, location, change of speed, and mental makeup. The most important aspects are "location and the ability to change speed." While having velocity and movement are important, a pitcher can carve out a career with "just" location and changing speeds. It is, however, a tough message to get across to a pitching staff. Rich Peterson (MLB pitching coach) tells a story of one spring training, "I asked them (his group of pitchers) what they thought was most important. They all said location. After, they said that they thought movement was the next most important. I then asked them if they ever felt like they were over throwing in game, reaching back for too much when they got in trouble. They all raised their hands. If velocity wasn't important, why do pitchers overthrow? Pitching is a mental attitude. If a pitcher throws 98 (miles per hour), but right down the plate, major league hitters will hit it. ****But, a pitcher who can throw one pitch at 91, the next at 82, and the next at 88 with good location won't get hit."

So, how do certain pitchers put it all together... the physical tools and the mental aspect? Peterson has an explanation, "Sports psychology has found that winners think differently. They process things differently and react differently." With the lack of quality pitching, it would seem that there is not enough attention being paid to the mental side. Consider that the

pitcher has the most pressure during the game. It is how the pitcher reacts in that pressure situation that separates the elite from the journeymen. Peterson illustrates the enormous pressure of pitching in a major league game, "Look at it like this... everyone has experienced walking down a sidewalk, right? Let's say that someone tells you that if one foot hits a blade of grass, you're done. Most of us could handle that. Now, let's put that sidewalk 500 feet high where if you step off the sidewalk, you fall off. The task of walking is essentially the same, but the pressure of 'falling' brings out different emotions. It's still walking, but with added pressure. Certain people will be equipped to handle it while certain people couldn't deal with the pressure. It's similar to a pitcher throwing a bullpen or in spring training. Once the intensity of a game starts with 50,000 people in the stands and the pressure of a pennant race, then the emotional piece comes in."

Physical tools are important, but the ability to perform under pressure is what makes a good pitcher GREAT!

Routines... Forms available at the end of the manual

Routines are critical to your success as a pitcher. They allow you to stay focused and build confidence. You should develop "YOUR" routine for stretching, conditioning and warm up on off days, stretching and warm up on game days (starter/reliever), strength program, bullpen workout, and even off the field. I would suggest that you write your routine for all areas and make adjustments as the season progresses. Forms will be made available to you to record your routines...

- Strength program
- Stretching / warm up / long toss program
- Flat ground workout
- Bullpen workout
- Starter... see below
- Reliever... see below

General routine for starting pitchers...

Game day... arrive at ballpark in plenty of time to prepare for the game. Everything should be geared for the first inning.

- Relax this is something that is specific to what you need to create a positive mental state prior to warm up. Can include earphones with music, quiet place in the dugout, or walk around the field. You can take a mental vacation, stretch out and breathe (deep), or mentally play the game in your head (what you want to happen). This can also be a time for you to look over the charts on the opposing hitters. Develop a specific amount of time needed for this initial prep work.
- Warm Up develop specific exercises that work for you. Target your core, legs, and arms. Include a brief jog and run a few sprints. The warm up routine should involve full body exercises. Stretching should mostly be done after you pitch, but you can include a FEW general stretches pregame. Develop a specific amount of time needed.
- Toss/Long Toss after loosening up (stretch/jog), begin with a short toss period (4-5 minutes / 20-30 light tosses) in which you work on "feel" (mechanical keys). Gradually increase your distance and include some long toss to stretch out your arm and "feel" throwing over your front leg (5-8 minutes). Long toss should be done with as much effort and distance as you feel good with for that day. Develop a specific amount of time needed.
- Bullpen after toss/long toss, go to the bullpen and begin with 75% fastballs to "feel" your mechanics. Next, throw 3-4 fastballs to both sides of the plate (begin across the plate), middle low, and up, increasing velocity. Then throw a few changeups for "feel" and then a few breaking pitches. You may want to include alternating a few FB's and changeups and FB's and breaking pitches to get a feel for making these pitches back to back. After this initial warm up, ramp it up to about 95% and do the same basic routine from the windup. I suggest you finish your warm up from the windup because that is what you will start with in the game. You can also incorporate throwing to a couple of simulated hitters or mentally work on first pitch strikes or put-away pitches. Again, develop your

routine... one that you are comfortable with and gets you ready for the first inning. Develop a specific amount of time needed.

Relax - head to the dugout and get a drink, sit back, mentally play the first inning and relax for 4-8 minutes before taking the field. Do not sit in the dugout and cool off too much (too long waiting period) or go from the bullpen directly to the mound. Again, develop a specific amount of time needed.

Day After a Start... this should be a day to do a lot of stretching and running sprints. This will speed recovery. Also, you may include some limited tossing into your day after routine, which may include light tossing (50-60 feet) and maybe (depending on how you feel) 3-4 minutes of very light long toss (100-150 feet). This day should also be a workout day, but may be light as well. It can also be a day off from throwing depending on each individual pitcher.

2nd Day After a Start... mechanical flat ground drill work, increase toss/long toss duration and distance after completing your warm up. Stretch AFTER throwing. Heavy running day... SPRINTS NOT DISTANCE. May also include med balls, agility, or medium workout day targeting different muscle groups than the day before.

3rd Day After a Start... touch and feel drill work and long toss day with a light bullpen based on your regular routine with adjustments based on previous start. Heavy running day after your bullpen... SPRINTS. May also include med balls, agility, or medium workout targeting different muscle groups.

4th Day After a Start... light mechanical flat ground work, light to medium long toss day after warm up routine. Medium running day... SPRINTS. May also include a light workout day targeting different muscle groups.

5th Day After a Start... same as day 4 if not starting again.

General routine for relief pitchers...

Your role as a relief pitcher is very challenging to say the least. You must be ready to pitch every day and yet get in your work, i.e. running,

strength, flexibility, long toss, mechanical drill work, and bullpen work. As a general rule, you will not pitch more than 2-3 days in a row. This of course depends on # of pitches and innings in each outing. And, is dependent on whether you pitch long or short relief or are a set up man or closer. As a reliever, you may also pitch in specific situations, i.e. LH pitcher used to throw to a LH hitter.

Below are guidelines for relievers...

- Develop a daily routine for stretching/jogging, toss/long toss, flat ground mechanical work, running, and working out. Bullpen work will be done as the opportunity presents itself, usually during a game if not pitching that day.
- As a reliever, you must also develop a quick warm up routine for games. You will need to speed up the stretching and throwing in preparation for bullpen work prior to entering the game. You will need to develop the ability to watch the flow of the game and adjust accordingly. I suggest get warmed up quickly and then throttle back and maintain your warm up status so that you can finish getting ready in 6-8 more throws in the bullpen and 6 pitches on the mound prior to facing the hitter. We will not have you maintain your warm up status for multiple innings (3+).

Excerpts from Chicago Cubs Relief Pitcher Game Routine

The purpose of the warm-up routine for relief pitchers is to be prepared to warm up quickly when called on to pitch and to get the arm loose as quickly as possible

The Process:

• All available pitchers should stretch in the middle innings of the game (4th inning) and maintain warm-up for the remainder of the game. When called on you must be able to read the flow of the game or situation to determine how fast you will need to be ready. Begin by throwing with a crow-hop at 70-feet for approximately 2 minutes, throw 10-12 pitches from the stretch at 50-feet and 16-18 pitches from the stretch at 60 feet, 6 inches. All of this should be done at a fast pace. Note: the closer may begin this process in the 6th inning.

• Stretch in the 4th inning first

Stretching in the 4th inning may be the most important aspect of pitching successfully on the mound when called upon in relief. Jog a few lengths back-and-forth between the dugout and the outfield fence, and stretch off to the side. Make sure you work up a little sweat. This way, if you are called upon to pitch under "immediate circumstances," you will already be loose and can focus specifically on warming-up the arm as quickly as possible.

· Note: All Major League relief pitchers warm-up at some point between the fifth and seventh innings whether they think they may pitch or not—because if they are called upon, they are ready. If they aren't called on to pitch, they have, at the very least, benefited from remaining flexible and the warmup will help their performance the next day, or whenever they are called upon to pitch again. (At Wareham, we will adjust this to the 4th and 6th innings to accommodate limited pitch counts).

· Throw for 2 minutes at 70-feet

To begin throwing, the pitcher will want to move his catcher a few feet behind home plate as he moves a few feet behind the pitcher's mound. From here, the pitcher should <u>rapidly</u> "catch-and-throw" the baseball as quickly (and controlled) as possible. Crow-hop on each throw to alleviate any unnecessary stress on the throwing shoulder.

• 8-10 pitches at 50 feet (2 minutes)

Once you have thrown for 2 minutes at 70-feet, take the mound and get your catcher into his squatting position 10-feet in front of home plate. From here, proceed to throw three 4-seam fastballs to the outside part of the plate, followed by three 2-seam fastballs to the inside part of the plate. Remember to "catch-and-throw" as quickly as possible. Next, immediately throw three change-ups for strikes followed by three breaking pitches for strikes while working on proper "spins" for both pitches.

• 16-18 pitches at 60 feet, 6 inches (2 minutes)

After the 8-10 warm-up pitches at 50-feet, move your catcher back to normal pitching distance (60 feet, 6 inches). Throw four 4-seam fastballs to the outside part of the plate followed by four 2-seam fastballs to the inside of the plate. Again, this needs to be done rapidly, but in a

<u>controlled manner—"catch-and-throw.</u> Then throw four change-ups and four curve balls while working on burying your pitches in the lower part of the strike zone. Finish with two 4-seam fastballs.

· Wait and watch

At this point, you have thrown for 2 minutes at 70 feet, 10-12 pitches at 50-feet, and 16-18 pitches at 60 feet, 6 inches—YOU ARE READY.

Remember, you get eight more pitches on the game mound. If at this stage in your warm-up process the coach has not called you into the game, match one pitch for every pitch that is thrown by the pitcher you may be replacing on the game mound. In other words, if he throws a fastball, throw a fastball and wait until he throws another pitch. When he does throw another pitch, throw the same pitch in the bullpen and wait. If you feel like you are good and loose, throw one pitch for every two pitches the game pitcher throws (or go 3:1). This will allow you to remain loose in case called upon over the next inning or two. This process will allow you to follow the flow of the game and to properly pace yourself.

- This entire process should take 6-7 minutes and you should be prepared to enter the game on short notice with 26-30 throws.
- · Remember, a pitcher still has 8 warm-up pitches on the game mound.

Some notes added from Steve Ellis and Terry Thompson, former Cubs pitchers

Bullpen Work

Develop "your" bullpen routine to maintain mechanics, pitches, and pitching. As you pitch a bullpen, note specific problems... fastball location, action, or velocity / off speed pitches / mechanical. Noting these will determine your flat ground drill work the next few days as you work to overcome deficiencies.

Bullpen work can be general or specific based on what you want to achieve. They will vary to some degree based on previous game performance. Always work to overcome weaknesses. Bullpens will vary from pitcher to pitcher... not all are alike or need the same workout.

They can be flat ground or on the mound or a combination. Approximately 50% stretch and 50% windup, but this will vary from pitcher to pitcher also. Develop a routine that is conducive to maintaining your mechanics, develops pitches, and prepares you for games.

- Basic... throw 3-4 fastballs to both sides of the plate (outside/inside half, on the corner, off the corner) and up in the zone working on feeling your release point and making adjustments to hit the mitt. Throw some changeups to all locations that you use. And, the same for your breaking pitch. You can then do some pitch combinations (FB, change) or alternate pitches to gain a feel for going from one pitch to another. Include some work on put-away pitches and counts.
- Pitches... throw all pitches, working on making the pitch at release...
 Focus is on pitch action.
- Counts... ahead / behind, first pitch, 1-1 count, put-away pitches, etc.
- Getting ahead... any pitch combination in a series of 3 pitches.
 Location is determined based on strikes thrown.

Fielding is an important part of your pitching. You should be proficient at fielding balls hit back at you and bunts. Covering first and backing up bases is also important. And, you must help "direct traffic" on pop-ups and ground balls you will not field that are in your area. Work hard on PFP... we don't want to lose games because you can't field or do your job after the ball is put in play.

Controlling the Running Game

Controlling the running game... Goal - to become proficient at holding runners to keep force in play, give catchers and outfielders a chance to throw out advancing runners. The use of a slide step to control the running game, in my opinion, is a lazy way out. This mechanical technique generally leads to loss of velocity and elevates pitches... not something we want in controlling the HITTING game. There are other ways to control the running game without sacrificing velocity, pitch action, or command. They of course require more work than a slide step

approach; but, are much more effective in your development. We will control the running game with two basic fundamentals... 1) pickoffs and 2) disruption of timing.

Please keep in mind that the primary goal of controlling the running game is NOT to pick off runners, but to prevent and/or reduce runners from advancing to the next base and keep double plays in force. Pickoffs should involve several elements...

- Basic pickoff
- RHP this is a jump move
- LHP is either a read move or pre-determined move depending on the individual pitcher
- Slide step pickoff (LHP)
- Step back pickoff
- Step back with no throw
- Hold
- Pre-set pick-off
- Timing pickoff (2nd)
- Spin pickoff (inside move) (2nd)
- Read pickoff (2nd)
- 1st and 3rd move
- Segmenting (mental)
- Disruption of timing

Backing Up Bases

No pitcher likes to back up bases. This is so because you just gave up a hit (usually with runners on base) or someone made an error. However, if you are consistent and proficient in performing this basic task, you will save a lot of runs. So, get your butt in gear and back up throws!

To back up bases properly, you must position yourself far enough behind the fielder to stop any errant throw (high or wide). You must also take the proper angle... for example: if a runner is on 2nd base and you give up a hit to right field, you would take an angle to behind the catcher on the 3rd base side of home plate, and the opposite for a base hit to left field.

Also, do not neglect backing up 2^{nd} base on hits to the outfield when the play/throw will be into 2^{nd} .

Game Day... Goal - to compete and WIN. Have a plan and stick to it.

Know Your Role

- Starter... Goal 6+ innings, 2 runs or less, average 14 or fewer pitches/inning
- Reliever... Goal give up 0 runs (including inherited)
- Closer... Goal give up 0 runs (including inherited)

Think About It... quotes from the game's greatest

- · Satchel Paige
 - o "My pitching philosophy is simple; you gotta keep the ball off the fat part of the bat."
 - o "If a man can beat you, walk him."
- · Warren Spahn
 - o "Hitting is timing. Pitching is upsetting timing."
 - o "A pitcher needs two pitches, one they're looking for and one to cross them up."
 - o "You don't just throw the ball you propel it."
- Ferguson Jenkins
 - o Mental attitude and concentration are the keys to pitching.
- · Greg Maddux

- o "I could probably throw harder if I wanted, but why? When they're in a jam, a lot of pitchers...try to throw harder. Me, I try to locate better."
- o "I try to do two things: locate my fastball and change speeds. That's it. I try to keep it as simple as possible. I just throw my fastball (to) both sides of the plate and change speed every now and then. I just try to make quality pitches and try to be prepared each time I go out there."
- o "How did you think you pitched?" Washington Post question after 1999 World Series Game 1 & Maddux replied, "Good enough to lose. We lost. It doesn't matter if I pitched good or I pitched bad. The bottom line is we lost the game."
- o "Every pitch has a purpose. Sometimes he knows what he's going to throw two pitches ahead. I swear he makes it look like guys are swinging foam bats against him." <u>John Smoltz</u>
- o "Maddux is a cerebral assassin on the mound. He knows his strengths and limitations as well as those of every hitter. That knowledge allows him to be more efficient than any hurler, resulting in the fewest pitches per start (77.9) in the National League. The righthander possesses pinpoint control, gets ahead in the count and mixes his pitches as well as anyone. He rarely tops the high 80s with his fastball, but his outstanding movement on the pitch produces groundball outs. Maddux also throws a cut fastball and a plus changeup at any time in the count. He refuses to waste pitches or give in to hitters, instead opting to keep his offerings low in the strike zone while moving his pitches off both corners of the plate." Stats, Inc. (2003)
- o "He tells me sometimes he throws a ball on purpose, and just watches the hitter to make sure where his balance is,"
 <u>Walt Weiss</u> said. "By the way a guy's opening up or diving,

he can tell what a guy's trying to do. The guy didn't even have to swing. I'm not saying he can do that every time, but every once in a while he can see that and he'll look for stuff like that."

- o "I don't remember every pitch," <u>Maddux</u> said. "You only need to remember a couple; you only need to remember the one he hit and the one he didn't hit."
- o <u>Maddux</u> became cognizant of the outside corner at Class A Peoria in 1985, in his first full professional season. It was there that pitching coach <u>Jim Wright</u> suggested he try to spot the ball away.
- o "He listens," said <u>Pole</u>. "That sounds like a trite thing to say, but a lot of people don't listen. They hear you, but they don't listen. When he was young, he was like a sponge. Everything you said, he paid attention to, and he put it to practice.

Bob Gibson

- o "A curve ball is not something you can pick up overnight. It took me years to perfect mine."
- o "I guess I was never much in awe of anybody. I think you have to have that attitude if you're going to go far in this game."
- o "I heard he (<u>John Milner</u>) could hit." (Reply to <u>Hank Aaron</u> when asked why he hit Milner)
- o "It is not something I earned or acquired or bought (the ability to pitch). It is a gift. It is something that was given to me

- o "My pitching philosophy is simple. I believe in getting the ball over the plate and not walking a lot of men."
- o "You've got to have an attitude if you're going to go far in this game."
- o "He (<u>Bob Gibson</u>) couldn't pitch today because they wouldn't let him. The way he'd throw inside, he'd be kicked out of the game in the first inning, along with guys like <u>Don</u> <u>Drysdale</u> and <u>Sandy Koufax</u>."

Don Drysdale

- o "I hate all hitters. I start a game mad and I stay that way until it's over."
- o "Some of these guys wear beards to make them look intimidating, but they don't look so tough when they have to deliver the ball. Their abilities and their attitudes don't back up their beards."
- o "The pitcher has to find out if the hitter is timid, and if he is timid, he has to remind the hitter he's timid."
- o "When the ball is over the middle of the plate, the batter is hitting it with the sweet part of the bat. When it's inside, he's hitting it with the part of the bat from the handle to the trademark. When it's outside, he's hitting it with the end of the bat. You've got to keep the ball away from the sweet part of the bat. To do that, the pitcher has to move the hitter off the plate."

Sandy Koufax

o "A guy that throws what he intends to throw, that's the definition of a good pitcher."

- o "I became a good pitcher when I stopped trying to make them miss the ball and started trying to make them hit it."
- o "In the end it all comes down to talent. You can talk all you want about intangibles; I just don't know what that means. Talent makes winners, not intangibles. Can nice guys win? Sure, nice guys can win if they're nice guys with a lot of talent. Nice guys with a little talent finish fourth and nice guys with no talent finish last."
- o "People who write about spring training not being necessary have never tried to throw a baseball."
- o "Pitching is the art of instilling fear."
- o "Show me a guy who can't pitch inside and I'll show you a loser."
- o "The game has a cleanness. If you do a good job, the numbers say so. You don't have to ask anyone or play politics. You don't have to wait for the reviews."
- o "The only time I really try for a strikeout is when I'm in a jam. If the bases are loaded with none out, for example, then I'll go for a strikeout. But most of the time I try to throw to spots. I try to get them to pop up or ground out. On a strikeout I might have to throw five or six pitches, sometimes more if there are foul-offs. That tires me. So I just try to get outs. That's what counts outs. You win with outs, not strikeouts."
- o "There is among us a far closer relationship than the purely social one of a fraternal organization because we are bound together not only by a single interest but by a common goal. To win. Nothing else matters, and nothing else will do."

Roger Clemens

- o "If someone met me on a game day, he wouldn't like me. The days in between, I'm the best guy you can find."
- o "My only day off is the day I pitch (in regards to how hard he works out during off-days)."

Louis Tiant

- o "If we lose today, it will be over my dead body. They'll have to leave me face down on the mound."
- o "The fastball is the best pitch in baseball. It's like having five pitches, if you move it around."

Dizzy Dean

o "Anybody who's ever had the privilege of seeing me play knows that I am the greatest pitcher in the world."

Steve Carlton

o "It (the slider) just rolls off of your index finger and begins it's spin which will take it down and across the plate (hopefully). Just remember not to twist your elbow or wrist. It should be thrown, with the wrist and grip set, just like your fastball, slightly off center - with the same velocity and intensity."

Mariano Rivera

- o "I see the hitter when he moves in the box, like when he moves closer to the plate or changes his stance. I see when the batter has moved his feet, and then I make my own adjustment."
- o "He's the most mentally tough person I've ever played with."
 - New York Yankees Shortstop <u>Derek Jeter</u>

- Dwight Gooden
 - o "If you can get an out on one pitch, take it. Let the strikeouts come on the outstanding pitches. Winning is the big thing. If you throw a lot of pitches, before you know it, your arm is gone."

Game Day Pitching Routines (Starter) Night before
Day of
Arrive at ballpark
Warm up (stretch/jog/run)
Warm up (toss/long toss)

Bullpen (prior to game)
Game Day Pitching Routines (Reliever) Night before
Day of
Warm up (stretch/jog/run)
Warm up (toss/long toss)

Bullpen (prior to entering game)
Daily Workout Routine
Stretch/Jog/Run
Stretch/Jog/Run
Toss/Long Toss
Flat Ground Mechanical Work

Running
Strength Program
Bullpen Routine
Pitches/Location
Stretch:
Windup
Weaknesses (based on previous workout or game)
Situations (counts)
Situations (counts)
First pitch strikes

Getting ahead (3 pitches)

Put-away pitches

Other