**FOUNDATION (F)**

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**Does the pitcher have both mental and physical awareness of the pitching motion?**

**Common Problem F-1: Pitcher cannot feel movement**

**Solution F-1a: Mirror**

***Mirror training provides instant and accurate visual feedback.***

*A full length mirror is a powerful training tool. The ability to associate a movement with a feeling and a look is invaluable to a pitcher. The mirror provides that feedback instantaneously. The pitcher can check attack to reverse posturing, her alignment along the power line, the spacing created at foot touch and the sequencing of the arm whip. A pitcher can view movement from two angles: the front view (which will show the full and open position of the body at foot touch) and the target view (which will be the view from the catcher’s perspective). Here are four helpful tips when using the mirror: First, choose an area of evaluation and center your visual focus on that area. Second, begin to verbally identify “good” and “bad” in each pitch thrown based on what you see. Then associate a “feel” to the good and bad. Third, place reference markers on the mirror with painter’s tape. If you fall out of alignment with the tape lines, it is instantly recognizable. And fourth, if possible, set up a net in front of the mirror so that you can add the actual pitch of a ball into the evaluation session.*

**Solution F-1b: Video Analysis**

***Video analysis empowers the pitcher to correct mistakes. Here are tips for capturing video.***

*Video analysis enables both pitchers and coaches to watch the pitch in slow motion and with Right View Pro, be able to compare and contrast the movements to those of professional athletes. By viewing the motion, it is possible to evaluate posture, alignment, spacing and sequencing to determine what areas may be problematic. The pitcher will then be empowered to correct mistakes because of the evidence provided.*

*Here are some tips for capturing two different views of a pitch on video.*

*Front View Place the camera on the third base side for right handed pitchers OR on the first base side for left handed pitchers. At foot touch of the stride, the front of the shirt should be fully visible. Focus camera on the middle point between the mound and the edge of the pitching circle (approximately 4 feet in front of the mound). Check that the circle peak as well as the full backswing through the entire finish of the pitch is captured.*

*Target View Using a durable batting cage camera or protective screen in front of the camera, place the camera behind the catcher with an unobstructed view. The pitch will be captured through the catcher/target perspective. The pitcher must be centered in the screen and the entire body from the feet to circle peak should be visible.*

**Solution F-1c: 5% Pitches**

***Pitching in slow motion creates awareness and control.***

*When training at slower speeds, the pitcher must become more aware of her body to be able to control each point of the motion.  This is an invaluable training tool because awareness and control helps to build a pitcher who can make adjustments quickly.   In this drill, the pitcher is asked move through the entire pitch at a “5%” speed.  5% can be defined as movement that is in slow motion, is seamless and is using a fully engaged mind and body to complete.*

*The pitcher will be asked to feel the intent of the push from the mound in Pre Motion and Circle Start, the movement out to the target into First Quarter, the opening of the hips, the reversing of posture at Circle Peak, the Foot Touch with hips open and a long elastic arm, the spacing and alignment of the Third Quarter, the sequencing and upper arm stabilization of Pre Release, the whip of the Release, the natural rotation of Elbow Release and the dissipation of energy in Finish and Follow Thru.*

**Solution F-1d: Pitch Dance Dance**

***Adding music to a pitching workout can make a pitcher more “in-tune” with her motion.***

*Music can have a significant impact on a pitching workout. For a pitcher to tune into her motion, she may actually need to move “in tune”. Adding music to various training routines can provide the pitcher with an internal metronome. Pitch Dance Dance requires a pitcher to stay in beat for the length of one song. Choosing the right song that fits a pitching beat is important. In the duration of this one song, a pitcher can evolve in several ways. First, her endurance levels increase. Music provides a unique motivational quality that pushes athletes to the next level. Second, a certain level of fatigue promotes more natural movements because the pitcher will not have the energy to force or fight. And lastly, keeping beat with the music in a non-stop start to finish cycle will help the pitcher find areas of inefficiency or tension. If there is a place in the motion where the beat is broken, the pitcher will feel that problem and be able to repair through movement.*

*This drill can be used to bridge the gap between rhythm changes in the fastball and change-up as well as timing challenges from a non-mound start to the restrictions that full motion may cause.*

**Common Problem F-2: Pitcher cannot detect inefficiencies in movement**

**Solution F-2a: Energy Leak Test**

***Pitcher is asked to identify and repair any areas of interruption in the flow of energy through the motion.***

*Efficiency can be defined as using the least amount of effort to achieve maximum results. In pitching, there are two goals when it comes to achieving maximum output: The first is to send the sum of all body forces down a direct line and upon release, be at a maximum output level. The second goal is to give the arm the time, space and independence it needs to sequence correctly to achieve maximum arm whip. The energy leak test requires the pitcher to inspect her motion to determine if there is any interruption in the flow of energy through the body and out of the arm.*

*Interruptions could be caused from tension or a misguided line of force and will create a leak in the potential energy that the pitcher could have at Release. During the Energy Leak Test, the pitcher will identify the leak and place a marker on it. A physical marker can to bring focus on that one area. In this example we used duct tape as the marker. The pitcher will affix duct tape to a problem area and then focus only on the repair of that leak.*

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**Is there a common language that promotes guided self-coaching**

**and healthy communication between player and coach?**

**Common Problem F-3: Difficulty in identifying and communicating the parts of the motion**

**Solution F-3a: Verbalize and Demonstrate RVP Key Edit Points**

***Assignment to accurately speak and show each of the key edit points of the pitch.***

*The ability to speak and show each point of the motion as helps to create a common language. This common language guides in self-coaching and provides a tool for healthy communication between player and coach. The pitcher’s assignment has two parts. The first will be to memorize and have complete understanding of each edit point. Next, the pitcher will practice moving into each key edit position, isolate that position and assess if this posture is accurate.*

*Right View Pro has defined these points to be our common language:*

*Set Position - Pre-Motion - Circle Start - 1st Quarter - Circle Peak - Foot Touch - 3rd Quarter - Pre-Release - Release - Elbow Release - Finish - Follow Thru*

*Having a true understanding of each of these points creates good feel and control. This empowers the pitcher to make adjustments quickly.*

**Solution F-3b: The Analog Clock**

***Use a 9-12-3-6 analog clock time reference to identify and communicate arm placement in the circle.***

*The analog clock is a reference tool that is frequently used to identify the placement of the arm along the circle path. For a right handed pitcher, visualize that she is facing the clock in her open position at foot touch. For a left handed pitcher, visualize that her back is facing the clock in her open position at foot touch.*

*These times may vary from pitcher to pitcher, but here is a starting point when we talk about the arm circle. Circle start is at 6, first quarter at 9, circle peak at 12, foot touch at 1:30, third quarter at 3, prerelease at 5:00, release at 6, elbow release at 7:00 and finish at 9.*

*These reference points promote clarity when we need to identify and communicate the position and timing of the arm circle.*

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**Does the pitcher have a strong set of athletic and aggressive tools**

**that support pitching movements?**

**Common Problem F-4: Pitcher does not use principles of sprint/skip/jump/skate in motion**

**Solution F-4a: Starting Blocks**

***Angles of the foot pedals place both legs in a bent and physically engaged position.***

*The Starting Block Drill shares some of the merits of the Sprint Start but here the pitcher is in a legal pre motion stance. The main purpose of the Starting Blocks is to place the pitcher into an attacking posture that will promote a strong positive move from the ground. Using any tool that resembles track starting blocks (in this example we are using two Softball Power Drives) the pitcher will place her feet on a downward angle. By virtue of the angles of the pedals, both legs will drop into a bent and fully engaged position. And from this position, the pitcher can sprint and can pitch.*

**Solution F-4b: Sprint Start**

***Set pitcher in an attacking posture like a sprinter forcing power and efficiency at start of pitch.***

*The main purpose of the sprint start is to place the pitcher into an attacking posture that will force a very rapid acceleration from ground. To be successful at the drill, the pitcher must eliminate any unnecessary movements and rely upon the power and strength of the legs to start the motion. Please note that to make this drill pitching appropriate, the pitcher must center body weight onto the glove hand and then set with a free throwing arm, two knees bent and two heels up.*

**Solution F-4c: One Leg Squat Attacks**

***Balance and strength training for the glutes, hip and core that mirrors the negative move***

*This is a stability exercise that engages balance and strength of the glutes, the hips and the core, which are the key group of power generating muscles in the pre motion of the pitch. On a flat or angled surface (in this case the Softball Power Drive was used), balance on the throwing foot and raise the stride foot while keeping it behind the mound. Slowly bend the right knee and lower the torso (without bending at the waist). Be sure that the throwing foot knee is over the throwing foot toes. Place arms in either a running position or into a split swing diving position. Repeat the exercise 5-10 times maintaining a slow and controlled movement that imitates the negative move from the mound. After successful repetition, integrate the pitch from dry runs to an actual throw. When pitching, be sure to build in a strong negative move to start the motion that integrates the principles of the one leg squats.*

**Solution F-4d: Power Skips**

***Increase stride length and power while improving circle start timing.***

*This is an exercise to increase stride length and stride frequency while improving power from the hip flexors and extensors. Aiming for maximum height on each skip, keep the movement continuous with two small skips that push back strongly followed by one elongated powerful skip that moves the body forward. Swing the alternating arms and drive the front of each knee. The timing of the arm swing and the leg drive is very similar to the optimal timing of the upswing and leg drive a pitcher’s circle start. Training the power skips will not only make the athlete more powerful, but will also give the pitcher a databank of strong movements that can be integrated into the pitching motion.*

**Solution F-4e: Standing Broad Jump**

***Build the strength and awareness of the explosion up and out with the legs as the arms swing forward.***

*Becoming proficient at a Standing Broad Jump will not only increase strength and explosive capabilities, but will also create awareness to the possibilities of power that could be found in the pre motion if the principles of the jump were integrated. To practice, set up in an athletic stance with feet approximately shoulder width apart and arms in front of body. In preparation to jump, swing the arms back and negative move into the ground with the legs. Then explode up and out with legs as the arms swing forward. Once accomplished in the Standing Broad Jump, begin alternating the jump with a pitch, first in dry run and then add the ball. Compare and contrast the power and athleticism between the two.*

**Solution F-4f: Plyometric One Leg Jumps**

***Increase stride length by an aggressive drive with the throwing leg and a forceful swing of the stride leg.***

*Achieving a long stride in the motion is an excellent goal. Some pitchers attempt to achieve this stride length by focusing only on the drive from the throwing leg. Other pitchers try by reaching as far as possible with the stride leg. While each method can produce a relatively long stride length on its own merit, the ultimate way to maximize the available energy from the ground is to use both legs sequentially. The pitcher must drive with the throwing leg and then use a forceful swing of the stride leg, in that order. Plyometric One Leg Jumps help to build this strength and awareness. To practice, stand on the throwing leg with arms in a running position. Push off with the throwing leg and jump forward, landing on the same leg. To further increase the length of the jump, use a forceful swing of the opposite leg. The pitcher should land on the ball of the foot allowing energy to be stored by the leg muscles which will enable a multiple jump series.*

**Solution F-4g: Plyo Box**

***Train the legs to drive and forcefully swing up and away from the mound***

*To fuel the appropriate flight time needed for a timely and well postured foot touch pitchers must maximize the energy from the ground by first driving with the throwing leg and next using a forceful swing of the stride leg. If one or both of these components are missing, the pitcher will stay in attacking posture too long and foot touch will happen too early. In this example we have integrated pitching mechanics into a Plyo Box drill. The pitcher will assume her stance on the mound or on an angled surface (in this case the Softball Power Drive was used) and balance on the throwing foot and raise the stride foot while keeping it behind the mound. The arms are in a running position. With a powerful negative move through the legs, she will explode up and away from the mound. The throwing leg drives hard, the stride leg forcefully swings onto the power line, the arms exchange, the hips open and the body reverses posture all prior to landing on the plyo box.*

**Solution F-4h: Lateral Band Resistance Walk**

***Use resistance bands to improve spacing in the lateral movement and overall hip stability.***

***The lateral band resistance walk will improve spacing in the pitch and overall hip stability. Step into the lateral band with feet approximately 24 inches apart. Cross the band and hold the top of each side of the X with the hands. The arms should be supported against the body and the pitcher should assume an athletic stance with core strength and good spacing. The pitcher will move across the floor, picking up the stride foot and moving it one step forward. Then with full control lift and move the back leg. Do not drag the lead or trail foot. Be sure to keep tension in the band consistent. Repeat the walk in the opposite direction. Once several sets are completed, begin pitching again. Start with a lateral pitch then move into a full stride. Try to integrate the principles of good spacing and a strong lateral transfer into the pitch.***

**Solution F-4i: Skater Drill**

***Power the lateral movement of the pitch.***

*The Skater Drill is an off-ice workout that increases hip stability, strength and balance. The Skater Drill powers the lateral movement that is so critical to the pitch. It also reinforces that rotation during this portion of the pitch is not athletically appropriate. With strong and athletic posture, jump from side to side, landing on one leg. Be sure to stay low and drive. Do not kick or reach. Swing your arms to help maintain balance and to increase the length of the jumps. Feel the attack to reverse posture exchange with each lateral skate.*

**Common Problem F-5: Pitcher lacks aggression and attack**

**Solution F-5a: Drive! Kick!! Punch!!! Finish!!!! Self-Defense Tactics**

***Using self-defense tactics to train the attacking moves in the pitch.***

*When a pitcher is asked to attack the hitter, it is possible that she has never before felt the physicality of an actual attacking move. This lack of experience makes analogies that involve the aggressive movements of push, kick or punch irrelevant. Coaches are asking pitchers to do something that they have never felt. To bridge this gap between words and actual feeling, we can integrate self-defense tactics into pitching workouts.*

*Several striking moves are applicable to the pitching motion.*

*The first move is the Drive. Here the pitcher will start in an attacking posture with hands on the opponent’s shoulders. With a strong negative move, drive a knee strike into the pad and yell “DRIVE”. The second move is a Kick. From a First Quarter position, set an attacking posture in the body and coil the stride leg. To kick, release the angles in the body and upon striking the pad, yell “KICK”. Each strike is driving the opponent away from the pitcher. The next aggressive move is a Punch. The stance should be on the power line with knees bent. Throw a strong upper cut through the bag while yelling “PUNCH”. And the last attacking move called Finish comes from another knee strike, this time from the throwing leg. Place hands on opponent’s shoulders and with a powerful knee strike yell “FINISH”.*

*In between the training of each striking move, throw a series of pitches asking for complete focus on the one area of attack that was just trained. For example, “Drive” would be a strong start off of the mound. The “Kick” would be to get a longer stride. The “Punch” would be to throw with acceleration through the release zone. And the “Finish” would be completing the motion with the legs into the rotational force. Each striking word should be vocalized to work on breathing and aggression.*

**Solution F-5b: Off! Drive!! Punch!!! Finish!!!! Pitching Application**

***Modifying self-defense tactics to incorporate pitching specific attacking movements.***

*When a pitcher is asked to attack the hitter, it is possible that she has never before felt the physicality of an actual attacking move. This lack of experience makes analogies that involve the aggressive movements of push, kick or punch irrelevant. Coaches are asking pitchers to do something that they have never felt. Integrating self-defense tactics into pitching workouts can bridge the gap between words and actual feeling. We have combined several striking moves into the pitching motion. All of these drills will be done from the mound so that the attack is learned from a narrow base that the legal foot position for pitching requires.*

*The first move is called Off. To generate maximum force, a pitcher must tap into the energy from the ground, move it along the kinetic chain and throw it out of the hands. The throwing foot must start this process by beginning to rotate as it pushes from the mound. The energy then moves up into the throwing leg to drive up and away. A flat foot that has little push to rotation will not be able to gather and send maximum force from the ground. The OFF drill forces the pitcher to generate initial energy from the push foot and as it drives and turns it sends it through the legs, core, arms and hands. Be sure to push the resistance pad and the holder up and away not straight forward. This will give the time and fuel to get onto the power line, to open the hips and land in a strong reverse posture. Saying the word “OFF” will also integrate proper breathing techniques which release tension and increase power. You can also use a heavy bag to do this drill.*

*The next attack is the Drive. Here the pitcher will start in an attacking posture on the mound with hands on the opponent’s shoulders. With a strong negative move, drive a thigh strike into the pad and yell “DRIVE”. The movement will be with the stride leg and should strike the pad as it’s rotating to open the hips. After contact of the drive is made, continue the force, throwing the opponent backwards as pitcher lands in power line.*

*The next strike that will strengthen the aggressive path for the pitcher’s release is the Punch. In this drill, the pitcher’s specific focus will be on the PUNCH as she is working to improve the acceleration and commitment of the hand and the ball as is whips past the center of weight. To execute, the stance should be on the power line with knees bent. Throw a strong upper cut through the bag while yelling “PUNCH”. The bag should be placed waist high so the punching zone height is more similar to the height of the pitcher’s release.*

*The strike that will strengthen the completion of the pitch is the Finish. In this drill, the Finish comes from a strike with the throwing leg. To execute, place hands on opponent’s shoulders, set the stride foot just in front of the opponent’s pad and with a powerful thigh strike yell “FINISH”. This stride placement and quadricep strike makes the movement more applicable to the actual pitch finish. The focus of the “Finish!!!!” is to complete the acceleration of the motion with the legs into the rotational force.*

*In between the training of each striking move, throw a series of pitches asking for complete focus on the one area of attack that was just trained. For example, “Off” is the intial push from the mound. “Drive” would be a strong start off of the mound with the stride leg. The “Punch” would be to throw with acceleration through the release zone. And the “Finish” would be completing the motion with the legs into the rotational force. Each striking word should be vocalized to also work on breathing in and exhaling.*

**Solution F-5c: Hiiii-YA’s!!!**

***Promotes proper breathing and assertiveness.***

*Proper breathing techniques have several benefits for pitchers. Exhaling on the pitch (the “YA”) can relax the muscles and promote a greater explosion through release. Reducing physical tension may also help to alleviate anxiety. Along with the benefits of breathing, the Hiiii-YA drill will force the pitcher to have a voice. Screaming Hiii-YA through the motion will verbally commit the pitcher to aggression and attack. It is so important that a pitcher is confident in her voice, in her presence on the mound and in her abilities. Being cautious, guarded, fearful or invisible will only hinder success. Please note that this is a drill and is designed to promote breathing and having a voice. The pitcher will modify these words and volume for in-game activity.*