Baseball Hitting with Regards to the Left AIC Pattern

By, Sean Light PRT, RSCC, LMT

Understanding the asymmetries of the human body is a critical component to injury prevention and performance training for baseball players. This sport is heavily reliant on body rotation and the asymmetries and patterns that unfold off of those asymmetries will directly impact that athlete's ability to perform.

The Left AIC (Anterior Interior Chain) Pattern will be the focus of this article. In short, the Left AIC pattern refers to a chain on the left side of the body that is in a state of extension or it can be referred to as state of inhalation. It may also be referred to as swing phase of gait.

The most prominent results of the presence of this pattern is a rib flare on the left (as it is in a state of inhalation) and an anterior tilt of the left pelvis. Furthermore, the left hamstring and left obliques will lengthen as a result of this pattern.

The Left AIC Pattern is a naturally occurring pattern. It is not bad. It only becomes a problem when we are unable to get out of it and achieve a Right AIC pattern.

Underlying asymmetries such as the liver sitting on the right side of our bodies and the crural attachments being much stronger and thicker on the right side of our bodies, predisposes us to staying and strengthening this Left AIC Pattern.

In a sport so heavily reliant on being able to go from one AIC pattern to the other, a seamless transition should be the primary focus of training programs as well as rehabilitation programs.

In the following sections, we will take a look at a few key muscles that should be addressed in both performance and rehabilitation programs.

For the sake of this article we will typically be referring to the right-handed hitter but will address lefties later on in the article.

LOWER BODY

Right Arch | Right Glute

The first thing that a righty hitter must do is step with his left foot. This is intended to initiate the driving of force through the lower body.

The end result of a good swing is a successful transition from right stance to left stance. In hitting, this will begin with the right arch of the foot.

Allowing the foot to pronate, will neurologically catalyze the sequence of shifting their weight over into left stance.

A sign of the Left AIC Pattern is a supinated right foot as our weight is generally shifted over to the right side. We must give the brain the awareness of the right arch in order to spark the transition. This will also allow us to begin using our Right Glute Max in order to drive force into the movement.

An observation I have made over the course of five seasons in professional baseball is the power hitters always had a strong right glute max when placed into a left stance (in a left side-lying position with the right knee shifted forward and in front of the left). This indicates to me that they are able to generate power from a muscle that should be generating a large percentage of the power of the baseball swing while simultaneously and properly moving into left stance. While the hitters who were not power hitters were unable to maintain strength with their right glute while in left stance. This leads me to believe they are using their back musculature as a replacement for the glutes.

Programs should involve the sensation of the right arch onto the ground as well as the sensation of shifting their weight from right to left.

Left Adductor | Left Hamstring

In order to rotate the hips completely into left stance, the right adductor has to be able to inhibit and the left adductor must turn on. In addition, the left hamstring must be able to pull your left hemi-pelvis in a posterior tilt direction in order to accept this weight transfer.

As the hitter begins to shift their weight from right to left stance, the right knee will dive towards the ground as the left knee pulls away. In the PRI clinical setting, we may call this a left adductor pull back exercise.

In the Left AIC Pattern, the right adductor is stuck in the “on” position and holding our hips into right stance in the frontal plane. Thus, inhibition of the right adductor will be critical, as will facilitation of the left adductor.

The left adductor and left hamstring are critical anchors in promoting a lower body weight shift. Exercises should reflect this desire.

UPPER BODY

The upper body plays a very obvious and yet a very crucial role in the baseball swing. The upper body must rotate to the left in a right-handed hitter which will of course require the assistance of the left abdominals.

In the Left AIC Pattern, the right abdominals remain engaged while the left abdominals remain disengaged. If the hitter is a heavily patterned athlete, the right abdominals will not want to

inhibit as they swing. This adds a tremendous amount of eccentric vulnerability to the right abdominals and a tremendous amount of concentric vulnerability to the left abdominals.

Training programs should emphasize respiration into the right chest wall while simultaneously facilitating the left abdominals.

As mentioned above, this is creating the Right AIC pattern. By doing this, we create a state of inhalation on the right and a state of exhalation on the left.

Because the body's asymmetries are not going away, this should/will be a constant theme of all of your programs.

Right Neck

From a performance standpoint, it is obvious that maintaining visual contact with the ball is potentially the most important aspect of hitting a baseball. In order to do this, the head and neck must remain separated from the upper body. In order to do this, maintaining airflow into the right chest wall is of the utmost importance.

The right neck will become involved when there is nowhere else for the air to travel. As we attempt to rotate the body into left stance, we are trying to open a right chest wall that doesn't want to open while we attempt to close off the left side from receiving air. If the air cannot find anywhere to go, it will either prevent us from going completely to our left side and fill up the left chamber or it will recruit the right neck musculature to pull at the upper ribs in order to create some more space for airflow.

When we recruit the neck to assist our airflow, we then make the neck part of the upper body.

While analyzing the swings of Major League Baseball's best hitters, it is apparent that the head must remain still, and the eyes remain locked onto the ball as the hitter transitions their body from right to left stance. The best hitters will not struggle to find that airflow into their right chest wall or they risk losing eye-contact with the ball and/or altering mechanics to maintain eye-contact which will ultimately decrease the performance as we know the position equals power.

Exercises should continue to focus on maintaining airflow into the right chest wall during inhalation while maintaining strong left abdominal contraction in order to keep the neck from being recruited.

Visual System

The visual system is an interesting component to the swing. Within the Left AIC Pattern, our weight is shifted to our right. As is our vision. Our vision will be much greater in our right visual field than our left. A simple step towards correcting this would be to become more visually aware of our left field of vision and periphery. For right handed hitters, this is already covered.

Right handed hitters are looking left at the pitcher and left at the ball. This means from a visual system standpoint, we are driving to the left.

For right handed hitters, the problem arises in the world of stability. The visual system is an extremely dominant system. It is arguably the primary compensator in the body.

If you begin to lose stability in your body, such as losing your right arch during push off or not being able to fill air into your right chest wall to stabilize the shoulder, there will be stability deficit. It is extremely possible for your vision to pick up this slack.

If your vision becomes your driver of stability, focusing on the ball could create stiffness in the athlete's body during the swing. This would greatly inhibit the athlete's ability to produce power and move smoothly from right to left stance.

The eyes must remain able to function independently from the movement of the body. Coaching should reflect this. Do not let athletes lock onto a spot during training. Change their focus and shift their gaze. Let the eyes do their job while the body does theirs.

LEFTIES

It should be noted that lefties do not present in a Right AIC Pattern. The Left AIC Pattern is just as present in right handed athletes as it is in left handed athletes. The only change is their athletic movements. Because of this, considerations must be applied to left handed athletes with respect to the Left AIC Pattern.

They will have a much easier time transitioning from left to right stance. It is my theory that this is why lefties display a much smoother baseball swing than righties. They are naturally driven into right stance.

However, left handed athletes' challenge will be loading their left stance. One of the most common coaching cues for hitting coaches is to tell the athlete to keep their weight back. That will be more difficult for left handed hitters because they are naturally driven off of that left foot.

In order to be able to load that back foot and keep their weight back, the same principles should be applied.

- Inhibition of the right adductor, right hamstring, right obliques, right chest wall
- Facilitation of the left adductor, left hamstring, left obliques,

Lefties and righties provide unique athletic demands, but their patterns remain the same.