Why the balance arm shoulder is so important

A staple in mastering the physical game

I would like to discuss an important aspect of the physical game that receives little attention as a focus of teaching and coaching. Yet, it is a staple and hallmark of what we teach on a daily basis at the Kegel Training Center. Specifically, we have identified the importance of keeping the balance arm shoulder forward at the point of release. Without the balance arm forward, a bowler will lose energy transfer through the ball at the point of release, reducing the effectiveness of ball motion.

You see the balance arm shoulder forward at the point of release as illustrated in the games of many top PBA players. Patrick Allen keeps his right shoulder forward from start to finish, while Chris Barnes gets his balance arm forward into the slide, promoting the shoulder forward into the release. Finally, you see this in the approach of two-handed bowlers like Jason Belmonte and Osku Palarmaa, who will keep their shoulders forward throughout the approach and continue in that position into the release.

In many cases, bowlers and coaches have begun to emulate bowlers like Chris Barnes because of his great success and nearly flawless physical game. Specifically, many coaches have begun teaching the balance arm forward with the thumb down. This is important, yet this is only setting the stage for keeping the shoulder forward. Often, many bowlers will have an excellent position into the slide, with the balance arm forward, only to over-rotate the shoulder at release. The balance arm forward promotes torso rotation, while keeping the shoulder forward at the point of release will determine the amount of energy transfer from the hand to the ball. This dynamic system needs to be understood by all bowlers who want to improve their game and maximize their physical game.

In a nutshell, the balance arm position into the slide will affect how quiet both the ball-side shoulder and neck are in the downswing, while the shoulder position into the release will determine how much force and how efficiently it is transferred through the hand into the ball.

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What's so special?

When discussing the physical game with clients, I always ask them what their perception is about the use of the balance arm during the physical approach. In these early discussions, I want to determine what they have been told, as well as how much reflection they have had about this topic. In moving forward with this discussion, I follow up with this additional question, "When is the balance arm most important?" Inevitably, most bowlers talk about the importance of the balance arm as an end product, at the end of the approach, rather than a dynamic system throughout the entire approach. Specifically, they often think of the balance arm as only important at the end of the slide into the finish position.

Due to previous teachings, the name itself is a misnomer with regard to functionality. It does so much more than assist with a bowler's balance. Specifically, it establishes the amount of torso rotation you will have throughout the slide, as well as the position of the shoulder at the point of release. In reality, this is a multi-dimensional dynamic system as we see with any throwing motion in other sports.

I still hear many bowlers discussing the balance arm with an old school methodology. I wish I had a dollar for every time I heard about keeping the balance arm firm and send it to the wall as soon as the hand came off the ball, dropping into the swing. These images and instructions are burned, etched deep into memory. Arm to the wall and keep it firm…. In reality, this old school methodology can promote the over-rotation of the balance arm, leading to inefficiencies in energy transfer from the hand to the bowling ball.

The shoulder position, at the point of the release, will contribute to how much energy will be transferred to the ball at the point of release. To illustrate, think about your arm and hand as a golf club. To maximize the distance of the golf shot, we would want the club face square through the ball at the point of contact. In bowling, you want the motion of the hand to be through the ball. This is only possible if the shoulder remains forward. If the balance arm shoulder rotates past square, the bowler will lose energy.

To illustrate, think about the function of your upper body. Your torso is a swivel system. When one side of your body rotates backwards, the other side rotates forward. To test this idea, begin by standing up with your arms down at your side. Now, slowly rotate your balance arm and balance arm shoulder back. As you do this, the ball-side shoulder will move forward. And, as you can see and feel, your head will follow that balance arm shoulder when it rotates backward. Finally, your bowling hand will also move in that direction. This illustrates what happens when the balance arm shoulder over-rotates.

This same concept is present when throwing a bowling ball. If the balance arm shoulder over-rotates, the head will follow the shoulder and the hand will also move in the direction. This leads to your eyes moving off of the target line as well as the loss of energy transfer through the ball, since the hand moves in a direction away from the intended direction of where you are throwing toward.

Setting the shoulder forward early in the approach

Much has been discussed about the balance arm moving forward after the ball is dropped into the swing. I see examples of more and more bowlers getting the balance arm forward and the thumb down soon after the hand leaves the ball. This is an important element of setting the stage in keeping the balance arm shoulder forward into the release.

As I have discussed previously, the kinetic energy chain in efficient biomechanical movement is consistent among all sports. Think about the consistent motion of an athlete throwing, whether they are a javelin thrower, quarterback, or shortstop, or a tennis player serving. In the throwing motion, it all begins with the body rotating the torso and hips. Once the torso and hips are rotated, the throwing side leg pushes off to start the throw. Then, the torso rotates transferring energy to the shoulder and arm. The hips and torso rotation generate a more efficient motion by providing a more efficient energy transfer. This translates to the throwing shoulder, arm and hand.

This is true in bowling as well. From the top of the swing through to slide and finish, the balance arm forward helps reduce tension on the neck and shoulder, due to the energy transfer of the more efficient body position.

If the balance arm is not in front, the torso rotation will be minimized. This will lead to the bowler throwing more with the shoulder and neck. Imagine throwing a baseball with your body being square to

Chris Barnes Sequence

where you are throwing. You would have to throw entirely with your shoulder. Obviously, this is inefficient and can lead to serious injury, due to increased pressure on the shoulder. And, without this position, the shoulder is further back setting the stage to overrotate.

As a note of forward thinking, Coach Patrick Healey was discussing the importance of this balance arm position into the slide in the early 1990s. Chris Barnes has credited much of his success to coach Healey. And, you see this in bowlers such as Sean Rash and others who have made their way through the Wichita State University program in which Healey was involved.

How to keep the shoulder forward

Getting the shoulder forward begins when the balance arm hand leaves the ball. Specifically, a bowler should work to place the thumb down with the balance arm moving forward and in front. This will set the stage for the thumb to stay down. This will roll the shoulder forward slightly as well. From this position, into the slide and finish, a bowler should keep the thumb down as the balance arm moves. Many bowlers keep the shoulder forward by keeping the thumb down and the balance arm hand facing upward as the arm moves.

One strategy to complete this move with less movement is to keep the balance arm relaxed, especially from the elbow to the hand. As in throwing a ball, the initial relaxed opposite arm helps to keep the non-throwing shoulder in front at the point of release. As the balance arm hand comes off of the ball, move the thumb down with the elbow moving forward. Keep the hand relaxed with the elbow facing forward. See the Chris Barnes sequence as an example.

When the ball is dropped into the swing, move the balance arm elbow forward, keeping the arm relaxed from the elbow to the hand. Keeping the balance arm relaxed with the elbow forward will promote the shoulder remaining forward. Mike DeVaney illustrates this well. As he is sliding, the balance arm bends. In essence, as you are sliding, think about your elbow bending and moving upward and in front rather than moving backward.

You can see this transition in the before and after video clip of Anibal Martin, an elite bowler from Puerto Rico. I have placed a white box where his hand is located as he continues the follow-through. The left image illustrates his "before" and the right, the "after." As illustrated, when he implemented the bent elbow with an upward direction, his energy transfer through the ball was significantly more efficient. This leads to a significantly improved ball reaction. When the balance arm is too stiff and rigid, it is easier to overrotate the balance arm shoulder, even with a great position into the slide.

Closing thoughts

If you want to improve your game, be sure to analyze your use of the balance arm and the position of the balance arm shoulder at the point of release. Both are critical to taking your game to the next level.

Practice getting the balance arm elbow forward and relaxed, the position much like you would throw with any type of ball. And, be sure to move the elbow upward as you complete the slide. This will lead to an improved transfer of energy to the hand and the improved ball reaction.

Mike DeVaney

Anibal Martin