
Mechanics of Shooting

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I find that very few incoming freshmen have very good shooting mechanics. Most of them when asked don't really know what they should be doing to develop a good shot. Therefore I thought it might be worth while to write a short article on what I try to teach in regards to shooting. Obviously the key is motivating players to put in enough time practicing in the water what I have written here so they become better shooters.

The water polo ball we play with is a good size ball so it has a good deal of air resistance. Therefore the more force or power you can get against the ball the faster the ball will go. The motion forward is in a circle, the larger the circle the faster the ball will be moving on the outside with the same amount of force. The smaller the circle, the more muscle force you have to put against the ball to get or equal the speed of the ball in a larger circle.

When one is shooting you use 3 joints in combination. The shoulder, elbow, and wrist joints are all in use when you shoot. The power starts from the body (shoulder, stomach & hips) and legs and is transferred to the arm at the shoulder joint. So obviously the shoulder takes a lot of the stress as the body transfers this power from the body and the legs into the shoulder joint and into the arm out through the elbow, wrist and to the fingers which release the ball so it can fly. The faster the hand is traveling at the point of release the faster the ball will be moving. So it seem simple to me, how does one increase one's hand speed at the point of release? I don't think anyone can disagree with this statement about hand speed but from that point on is where players seem to lose understanding.

Power and speed come from transferring the power of the body into the shoulder, arm and wrist in the most effective way. The more of the body that is out of the water the less drag the water has in slowing the body motion down and the easier it is to get most of your body weight behind the shoulder. Next to throwing a ball or hitting someone with one's fist one must transfer one's weight across one's shoulders. So if you are shooting with your right arm you start the motion by snapping the left shoulder back the left hip follows the left shoulder while the right shoulder goes forward.

I always tell players to start the motion by pushing the button on the left or opposite shoulder and moving it backwards hard. One can also pull the opposite arm back against the water to increase the power being transferred to the shoulder and shooting arm. So you get up high out of the water with your legs, then snap the opposite shoulder back twisting the hips and driving off your back and front legs and pulling the body forward with your stomach. This brings the shooting arm forward. Now you want to get your arm in a position where just before you release the ball the arm is very close to being straight. So you are moving the ball in as big a circle from the shoulder as possible. (The bigger the circle the faster the ball will be traveling). As you reach the point of release, which is slightly in front of the head you snap the wrist through the ball. You crack your wrist almost like you snap a whip.

If your muscles are tight you will not be able to get the arm to move as quickly as if you semi relax it and snap your arm through using your leg and body power to generate the power and speed. Many younger players try to over-muscle their shooting arm and never get it fully extended before they release the ball. Watch a good baseball pitcher or tennis player serve and see how they rotate their shoulder, hip and even their legs to create the speed and power so they can snap their arm through rather than over

muscling the pitch arm. This takes feeling and will only come by practicing the motion over and over again. Here again I find it useful to try to get players to practice throwing about three quarter speed so they can relax the arm more and whip it through.

So what do I look for when I am coaching shooting mechanics: How high are they getting out of water and is the opposite shoulder leading off the movement? Are they trying to pull with the opposite arm as they start the shooting arm forward? Are they rotating the hips and pulling their weight forward with their stomach.? Stomach power is key to getting weight forward and keeping the player off his back. Is the shooting arm somewhat relaxed and fully extended at the point of release and as the ball leaves the hand is the wrist snapping through the ball? Many times this is so quick it is hard to see but if you watch the shooter hand, on the follow through, the finger should be pointed down and the wrist will be bent way forward so the fingers should hit the water ahead of the palm of the hand.

I have found it helps to have players practice shooting shots that hit about 3 meters in front of the cage at first. It is much easier to snap your wrist if you are shooting down and in front of the cage rather than shooting high. After players get used to getting their wrist through the ball they will be able to shoot high with the same motion. If you have trouble getting a player to snap his wrist try making him slow down his arm motion just as he wants to snap his wrist and the slowing down will almost snap the wrist for the player.

A side arm motion is really almost the same thing except the arm is dropped down lower at the shoulder and the wrist snap comes across toward the other shoulder rather than down into the water.

I think rapid shooting having one player just shoot shots, one man feeding him the ball & one man shagging ball and giving them to the feeder for 2 -3 minutes is an excellent way to develop a good shooting motion. The shooter can be working on motion and trying to skip each shot while you watch and correct to make sure he is doing what he should be doing. After he get the motion down then have him try to shot high and aim for corners. It is really a lot like driving golf balls on a driving range. Trying to get the correct feeling and motion is not something that can be learned by shooting one or two shot every 5 minutes.

Rapid shooting to groove one's arm motion is key to getting the correct motion to shoot the ball. Players must learn what it feels like to shoot correctly. This is like a golfer going to the driving range or a base ball hitter using a batting cage. A water polo player must groove in his throwing motion. Since he can't see his arm action he must learn what it feels like. You the coach can see and make corrections but the player must learn what it feels like to throw a ball correctly.