

DRAW, ANCHOR AND RELEASE

THE DRAWING HAND

The drawing hand is an important part of the shooting sequence that is seldom given enough attention when attempting to improve the archer's overall style. As the release action is perceived to be one of the major areas of concern to most archers it is up to the coach and archer to become aware of the variables that are able to be introduced by the drawing hand which will affect the release of the string causing undue distortion to its path as it moves forward towards the bow.

Incorrect finger placement can twist or distort the string while coming to full draw. When the string is gripped by the fingers of the drawing hand there should be as little distortion of the string as possible so as to allow it to slip from the fingers without its forward motion being hindered or directed other than a straight line towards the bow. All coaches and archers should be aware that this ideal situation is impossible to achieve but they should make a conscious effort to limit the distortion of the string's path to a minimum.

String Dynamics

The string does not move in a straight line directly towards the bow. When the fingers are relaxed the string rolls off the fingers towards the face. No matter how "clean" the release may be the string will always react in this manner. As the arrow is connected to the string the initial flight pattern of the arrow is influenced by the direction in which the string is directed towards the bow. The string in fact moves toward the bow in an "S" pattern. This pattern is directly affected by the way the fingers are placed on the string and by the way the string is released from the fingers. A poor release will exaggerate errors to the path of the string which in turn will affect the flight of the arrow.

Finger Placement

As with all phases of the shooting sequence there can be no hard and fast rule as to how archers should grip the string, as all archers do not have the same physical attributes e.g. some archer's fingers are long and slender while others are short and thick. Traditionally the string has been taken into the first joint of the top three fingers of the drawing hand. This position has been modified by some archers in recent years so that the string is taken in the first joint of the index finger and ring finger and between the first and second joint of the second finger. The latest suggestion for finger placement is for the string to lie slightly forward of the joint of the index and ring finger and behind the joint on the second finger.

The length of the second finger in relation to the index and ring fingers should be taken into consideration when considering a comfortable position for the fingers on the string. If the string is held in the traditional manner it means that this finger must be bent to locate the string in the first joint of this finger, as it is generally longer than the other two fingers.

Whichever method is employed the draw hand must be completely relaxed with the back of the hand as straight as possible and in line with the forearm which should also be relaxed. Muscles in the forearm control the movement in the drawing fingers; therefore relaxing the forearm will relax the hand. No muscular tension in the draw hand and forearm means that the bow will not be able to be drawn without use of the muscles in the back (back tension). The archer having a bent wrist or the back of the hand not being straight would indicate tension in the fingers. Any tension in the fingers will lead to a less than satisfactory release.

One method of ensuring a relaxed draw hand is to take a deep grip of the string i.e. near the second joint, turn the tips of the fingers back pointing towards the archer and then starts the draw while relaxing the hand so that the string rolls forward into the required position on the fingers. If the string is allowed to move forward onto the tips of the fingers muscular activity will be needed to stop the tips of the fingers moving forward while holding the string prior to the release, this is most noticeable by incorrect placement of the string on the ring finger. If this finger is allowed to creep forward the angle of the string around the fingers alters which has the effect of varying the height of the nocking point and to some extent the draw length. A consistent grip on the string from shot to shot is imperative.

Problems associated with the arrow falling off the arrow rest while drawing the bow can be directly related to tension in the drawing hand. To alleviate this problem the back of the hand should be relaxed during the drawing process. Increased tension in the back of hand will roll the string causing the arrow to "fall" off the arrow rest. As the bow is drawn the angle of the string around the fingers becomes more acute causing the fingers to be pressed more firmly against the arrow causing the arrow to move away from the bow and off the arrow rest. The solution is to start the draw with the fingers just slightly off the arrow so that they will not pinch the arrow as the angle of the string becomes more acute during the draw.

Pressure on the Fingers

The question always arises as to how much pressure should be taken by the individual fingers on the string. It is generally agreed that the majority of pressure should be taken by the middle finger.

The pressure on the other two fingers is controlled to some extent by the position of the draw elbow; a high elbow puts more pressure on the ring finger while a low elbow will change the pressure to the index finger. If the draw arm is extended backwards parallel to the ground with the palm of the hand facing downwards and the elbow is then bent so as to allow the hand to come to the anchor position the hand and arm will be felt to be completely relaxed with the hand still facing downwards. When the hand is twisted into an upright position to enable the string to be gripped by the fingers, muscles are activated in the forearm causing tension to be introduced to the drawing action. This tension will be increased if the incorrect pressure is applied to the fingers. Coaches and archers should experiment with varying finger pressure to find the grip that reduces the tension in the forearm to a minimum and allows the elbow of the draw arm to be in correct alignment.

Positioning the Drawing Hand

When sighting, with a recurve bow, the front sight is placed on the centre of the target and the drawing hand is located underneath the jaw (anchor) to locate the "back sights". To avoid variables in this area the index finger needs to be located firmly underneath and against the jawbone. The thumb needs to be relaxed into the centre of the hand so that it cannot be used as a reference to locate the hand. This is one of the areas of concern with beginners; they tend to sit the jaw on their thumb, which allows the drawing hand to locate on the outside of the jaw. The little finger also needs to be relaxed into the centre of the hand; attention should be placed on ensuring this finger is relaxed, as tension in this finger is one of the major problems associated with relaxing the hand. A "shelf" tab can aid an archer to obtain a firm facial contact but it is generally used to try to alleviate a problem that should not be there in the first place. Be aware that the use of this type of tab can introduce torque to the string if it is allowed to sit on the outside of the jaw bone; this position will allow the bottom of the hand to rotate outwards.

The most controversial subject associated with the drawing hand is whether the back of the hand should be in a vertical position when at full draw. It is doubtful, if the drawing hand is completely relaxed with a firm under chin anchor, that this vertical position can be achieved. Current thinking is that it is important to have the drawing hand completely relaxed with the top of the index finger making firm contact under the jawbone with as little outwards rotation of the hand as possible. Emphasis must be placed on not distorting the string, which will occur if a firm grip on the string is maintained while allowing the hand to rotate outwards.

No attempt should be made to open the drawing fingers to release the string they should instead be relaxed.

If the fingers are relaxed the forward motion of the string will push the fingers out of its way. A clean relaxed release is indicated by a backward movement of the hand along the neck with the hand coming to rest in a slightly curled position.

Compound Archers

Compound archers should also endeavour to keep their drawing hand relaxed while gripping the release device; a relaxed hand will enable the archer to execute a smooth release. Most release devices should be triggered by the use of increased back tension and not by activating the release by pushing or punching the trigger. Therefore there is no necessity for tension in the draw hand. The anchor position of the release device should be such that it does not develop any tension in the forearm i.e. any twisting of the forearm while coming to or at anchor should be avoided. Before purchasing a release device thought should be given to the anchor position that will be developed by use of the device, if any tension is built into the draw arm, while developing a firm facial reference, consideration should be given to another type. A relaxed draw hand and arm is as important for compound archers as for those shooting a recurve bow.

Compound archers should be aware that release devices are believed to alleviate horizontal movement of the string but can impart as much if not more string distortion than finger shooters if activated with incorrect technique. A poor release with either a release device or fingers can distort the string's path towards the bow causing variations in the impact point of the arrows on the target.

THE ANCHOR

The location of the drawing hand when in contact with the face at full draw has traditionally been referred to as the anchor. This would suggest that the hand should be locked into a firm unmoveable position when located in the required position. It has been suggested recently that this term be modified to "Facial Reference".

Facial reference changes the idea that the anchor is a static position of the hand against the face when in fact it is a dynamic position that varies slightly as the draw length is increased and culminates in the hand moving backwards when the string is released. A facial reference gives a mind set for the position of the hand when first coming to full draw.

Whatever term is used it must be remembered that the position of the draw hand establishes the rear sight of the bow therefore a consistent position that is able to be repeated from shot to shot must be located.

The position of the anchor will vary depending on the style of archery or type of equipment that the archer prefers to adopt but the principle of a constant location of the draw hand while sighting must be established.

Recurve Archers

The initial location of the facial reference establishes the archer's draw length; any deviation in the draw length will lead to a variation in the potential energy stored by the bow leading to different impact points of arrows on the target.

For an archer shooting a recurve bow fitted with sights the traditional anchor position is to locate the index finger of the draw hand underneath the jaw with the string touching the tip of the nose and the centre of the chin. Recently archers have modified the position of the anchor so that the string is located to the side of the chin while maintaining contact with the tip of the nose. With the centre of chin anchor there was very little chance of the string hitting the face when released but with the side of chin anchor the possibility of this happening is increased. This problem will become more apparent by any movement of the chin in the direction of the drawing hand while extending the draw to come through the clicker. It is common for a static anchor that does not allow the hand to move backwards to pull the chin sideways into the pathway of the string as the draw is increased. If the string touches any part of the face while moving forward arrow flight will be compromised.

Compound Archers

Archers shooting compound bows with sights and release devices have a different set of conditions with which to contend in as much as the anchor is not wholly dependant on the location of the drawing hand. The peep sight dictates the location of the draw hand against the side of the face (the anchor position); this reference point is not constant but varies with the distance being shot therefore the same anchor for all distances is not able to be maintained. This principle is difficult to understand but is never the less true. In fact the peep sight can be seen as being the anchor position as it will always be constant, in relation to the eye being used to aim, with the bow hand and draw hand pivoting around the peep sight at varying distances.

As the distance between the peep sight and the nocking point determines the position of the hand against the face (anchor position) the anchor could be compromised if the peep sight is fitted to the string prior to the anchor position being established. The correct draw length and facial reference should be

established before fitting the peep sight. Determining the correct draw length on a compound bow is critical to establishing the correct anchor position.

In setting the draw length the type of release aid to be used must be taken into consideration as the position of the hand while holding the release aid needs to be located against the face this generally means that the draw length needs to be shortened so that the string and nock of the arrow is positioned close to and to the side of the front of the chin. In this position the string and nock will not touch the face when released.

Variations in facial references

Variations in facial references are one of the major causes of differing impact points of arrows on the target. Movement of the head in relation to the target will cause major problems with finding a constant facial reference i.e. tilting the head backwards and forward or side to side from arrow to arrow will cause different positions of the hand against the face. The head position must not vary and the drawing hand must be drawn to the face and not the head towards the hand.

THE RELEASE

The majority of archers consider the release of the string to be a difficult area of their technique to achieve in a satisfactory manner. The secret to a clean release is a relaxed drawing hand; any tension in this hand will lead to a less than satisfactory release.

Assuming the archer has correct finger placement on the string, as the draw is commenced the bow hand and arm must be relaxed so that the drawing action is instigated by use of muscles in the back. If the archer draws the bow using the muscles in the arm it is difficult to relax the drawing hand.

The release should not be instigated by opening the hand but by relaxing the fingers. There is a subtle difference in these actions; opening the hand uses muscles and slows down the release and causes more distortion to the path of the string as it rolls off the fingers. If the fingers are relaxed the forward motion of the string will push the fingers out of its way.

The big secret to a clean release is the maintaining of back tension prior to and after the release has been instigated. If correct back tension is applied the drawing hand will move backwards along the neck. This movement should be a reaction to releasing the pressure created by the stored energy in the bow not by the action of moving the arm backwards i.e. the backward movement of the bow arm and hand should be a reaction and not an action.

Scrutiny of a relaxed release will ensure that the drawing hand has moved backwards along the neck and come to rest with the hand in a vertical position with the fingers in a slightly curled position i.e. the hand has come to rest in its normal relaxed position.

Diagnosing Poor Releases

A release that ends with the drawing hand away from the neck is generally caused by a lack of back tension.

A release that ends with the drawing hand moving forward at the instant of release is an indication that back tension is not being maintained during the release.

A release that ends with the drawing hand fingers straight and stiff would indicate a forced opening of the hand to release the string.

Backwards Movement of the Hand

How far the hand should move backwards along the neck always causes controversy. In the past one of the ways the release was taught was to forget releasing the string and concentrate on placing the drawing hand behind the head. This method helped with a relaxed release but introduced major movement in the drawing arm which tended to move the archer's posture because the arm was flung backwards and towards the archer's rear. Current thinking is that the position of the hand after the release is a product of the increasing of back tension while relaxing the fingers of the drawing hand. The backward movement of the hand and its final position is governed by the amount of back tension being applied at the moment of release. A short backward movement of the hand along the neck in line with the arrow is preferable to a long release that exaggerates the follow through.

Relationship between Correct Finger Position and Release

Without the correct finger position on the string at the commencement of the draw a clean release will not be able to be achieved. If the first joint is hooked around the string while the rest of fingers and hand are completely relaxed the back of the hand and the arm should be in a straight line. This will not be achieved if there is any tension in any part of the arm or hand.

It is imperative that the hand is not twisted during the release; if the lower part of the hand is allowed to move away from the face during the release the string will leave the fingers one at a time and this action will interrupt the correct harmonic of the string. To alleviate this problem the drawing hand at full draw should be as vertical as is practical.

If the string can be felt on the pad of the ring finger it is an indication that the hand may twist outwards during the release.

Relationship between Back Tension and Release

Concentration should not be directed towards releasing the string but to increasing back tension until the arrow hits the target. At some time during this increase in tension the recurve archer's clicker will activate which is the audible signal to relax the string fingers. A less than satisfactory release will be achieved if back tension is lost at the instant the clicker activates. An increase in back tension is a component of the follow through that must be maintained until the arrow hits the target.