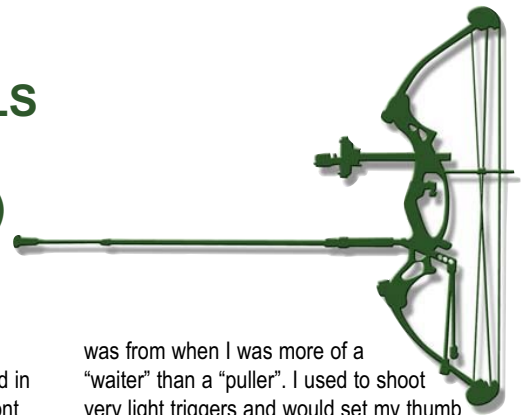


SHOOTING WITH THE PROFESSIONALS

BACK TENSION (pt. 2)

by Professional Archer JOHN DUDLEY



Well, it's no surprise that time flies when you're having fun. Hopefully you have had some fun working on the surprise shot that I discussed with you in the last edition. I know with all the rain that has been coming down this summer, I have had plenty of time to work on form and execution indoors at a close boss. Just to recap on Part 1 of this series: I last discussed the surprise shot and how it related to the hinge style release. Then I went on to explain the function of that release design and how relaxation can be used to activate it and give a surprise shot. Lastly, I dug into target panic and how to face that fear and move on from the old habits of punching a trigger. In this segment I am going to wrap all this up with going through what is needed to perform shots using true "back tension." This will involve learning three more things, the set up, the motion and the enforcement.

The Set Up

When we hear the words back tension we obviously think of the back and, more specifically, the back half of the body when at full draw. Normally one would think of the pulling muscles or the active muscles that will be used. There are however, things that are equally important to the function of this back half, keying specifically to the front shoulder positioning. Believe it or not the positioning or location of the front shoulder is so critical to executing a shot using back tension. It will dictate how you pull, what you pull with, the steadiness and the consistency of the shot. If you have read some of my other articles or watched the Carter DVD you have briefly heard me talk about the front shoulder. It is so important to back tension execution that I had to build it into my shot routine.

This is where the "set up" comes into play. The "set up" is what you do with the front shoulder prior to loading all the weight of the bow's peak poundage onto it. It is something that needs to happen before you even look through your peep sight. Basically, the set up is the early placement of the front shoulder. What needs to happen is that you set your front shoulder in a position that will allow you to use the rear rhomboid muscles to move the rear scapula and increase pulling weight until the shot fires. When your shoulder is in the wrong position it will not allow the movement

necessary to pull through the shot.

I assume the first thought that popped in your head is "Where do I need set my front shoulder"? It isn't that hard really to explain. If you stand up with your arms to your side and then raise your arms straight out up to shoulder height with your thumbs pointing up then you are in the correct position. (See Photo 1.) Then if you bend your elbow so that



Photo 1

your release hand can come to your chest then you basically formed a correct archery shape aligning both shoulders correctly. This is the same shape you need to be in to be able to contract the appropriate muscles to perform the motion which I will soon talk about. What is important about the set up is that you should notice how your front shoulder looks when doing this exercise as compared to yourself at full draw with your bow. Don't be afraid to do it in the mirror or have someone take photos. What you most likely will notice is that the front shoulder is noticeably higher when using your bow. This can be due to several things, but most commonly it is due to the draw length being wrong. If the front shoulder appears high then what is happening is the front shoulder is being placed up and back when drawing the bow, instead of down and forward which it was naturally in before. It is a difficult thing to learn and will take time to develop the muscles in the front half of the body to keep it there while shooting. Take a look at this old photo of me. (Photo 2) This



Photo 2

was from when I was more of a "waiter" than a "puller". I used to shoot very light triggers and would set my thumb on the button and just aim until it fired. My form was set up so that my front shoulder was high and back compressed against my spine. I had a lot of pressure between my front shoulder and my neck. This allowed me to be very steady in the front half but allowed no opportunity for movement in the rear. This is because when the front shoulder is compressed back it will completely restrict you from having motion in the back needed to pull through.

You can again simulate this by standing up and raising your arms up from your side. Only this time, once your arms are up, move the front scapula back against the spine feeling that pressure against the neck and then lay your release hand to the chest. Now try moving your rear elbow backwards. You will feel an incredible amount of tension between the shoulder blade and also a very limited range of motion for the back shoulder blade. For me I find that my movement is reduced nearly 70%. This is again why the "set up" is so important.

From now on you will need to get in the habit of paying attention to the front shoulder while you are shooting. Like I said I have it built into my shot sequence to where I mentally check to make sure that front shoulder is in the position that will allow me to make my shot. As I fatigue it is easy for the front shoulder to want to creep backwards. Shots get harder and harder to execute and usually end with missed arrows. Avoid this by setting up correctly before you draw or, know to let down should you draw and notice that it isn't right. I teach people to learn to pick the bow arm up straight from the side and then pull the release hand back to the face. It is the simplest way I have found to duplicate the same position as what I had you doing earlier. The movement with your bow should really be no different than the little exercise I had you doing a moment ago.

Again, lift the bow arm up to shoulder height and pull the string back to your face. If you are pulling a draw weight that forces you into pushing the bow with the front while you pull with the back then you are destined to end up with the front shoulder in an incorrect place. Pushing and pulling the bow to full



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draw will cause the front shoulder to be high. Once it is high and you have the load of the bow on it at full draw, it is next to impossible to force it back into the correct placement. The position that I talk about lets your skeletal structure support the bow and not your muscles. Having the bone alignment doing all the work is much easier and more repeatable. Now that you have a basic understanding of the "set up" lets get a little more in depth and talk about the motion

The Motion

This is the part that most people have some confusion about. Many of you have read in the past about back tension and if you are like me you only got confused. I have worked with people that have all sorts of things they are doing to perform what they think is back tension, making it more complicated than it is. The pulling motion is very simple and uses a very small group of muscles. I personally am more of a hand on kind of person and what I would like to do is have you do yet another exercise. Start out by standing up and raising your arms into position as before. Bend your elbow so that the release hand comes towards the body and your fingers touch your chest. Once in this position try moving your rear elbow back causing the fingers to slide

about 2-3 inches along the chest. Do this a few times from start to finish. Raise the arms, bring release hand to the chest and move the elbow back causing the fingers to slide. (See photos 3 & 4.) You should feel a muscle in the back getting tight between the spine and rear shoulder blade. Do it a few more times now



Photo 3



Photo 4

thinking about the muscles you have to use to move that rear elbow and slide the fingers. This muscle group is called the rhomboid muscles. Its purpose is to retract the scapula, pulling it to-wards the spine. (See Photo 5.)



Photo 5



When you are doing this exercise it will be easy to feel specifically this muscle group getting tighter. You have done it!

In a nut shell that is "back tension" or, at least, the movement needed to properly fire a release from pulling. Once you have gotten used to this muscle contraction doing the above exercise go one step further and try inverting your release hand from the chest to the side of the face so that you feel the same as when you anchor. Go through the same motion a few times. You may feel the contraction a little higher in that muscle group but still within that area of the back. It is important that you try this without your bow for awhile. You can even take it one step further and make a piece of string the length from the front hand to behind the corner of the mouth. Make sure you keep the same T-shape that you had when simply raising the arms up from the side.

You should be able to now use your release aid and simulate the same movement — only now with the release aid. I like to work with people on a training bow with only about 15 pounds of peak weight to get the feel of this. It takes a little while for people to understand that this movement is not that complex and that it is a fairly limited movement. It will take repetition and patience to get good at repeating it. If you are like me and are finally discovering this new muscle group then you will find that the rhomboid can fatigue quickly at first. But again, that is just a matter of repetition and getting those muscles used to the work.

If you are comfortable with it try attempting a few shots with the release aid. Depending on what kind of release you are using can determine different things. Either way do what you need to for the release to be ready to fire and then go through this motion and see what happens.

What you are looking for is a surprise shot from pulling. It should be unexpected and if you are pulling the back arm is going to explode back when the release fires. Many people ask about follow-through and the "explosion" they see from some of the top shooters. Well, for some people it is an exaggerated habit that they perform after the release goes off. Something a coach has told them to do forever. I call it a "taught-follow through" as opposed to a "reaction" follow-through.

For others that are set up properly on the front half and pulling properly with the back, that explosion is a natural reaction to the release firing. When the front shoulder is in the correct position it will allow more range of motion for the rear scapula. That follow-through is a natural occurrence when you are

pulling there is plenty of room for the rear scapula to move. Because, when the release fires, that scapula should continue to come back until it has run out of room to move. I have a very good eye for people that have a follow-through because it is purposely induced, as compared to a reaction that has to happen because one second you had load on a muscle group and then 18 thousands of a second later the arrow has launched from the bow like rocket. The reaction of the front arm is many times more related to the kick of the bow.

When I meet up with a student for a repeat time I first take a good notice to the back half and what they are doing there. I look for the "explosion" to see how active they are.

Take a look at the photos here I have labeled start and finish. This is a look at the how the back half will continue to come around to full contraction when the bow fires. Take note to the front shoulder being in the same position as if I raised my arms from my side allowing the maximum amount of travel for the rear.

What is going to be the most difficult part of this new method is getting your bow set up to the perfect draw length allowing you to continue this movement with your bow. What you will find is that minimal changes in the draw length can have major effects to your range of motion. I am sure you can imagine that if the draw length is too short then you will end up locking the front shoulder back to get a comfortable anchor. Likewise, if the



Start

Finish





draw length is too long then you will have over extended your range in and not have any room left for the scapula rotation.

I am limited on space so I can't go into everything about setting your draw length up. But since you have a basic understanding of the "set up" and "the motion" you can do your best to make the adjustments to your bow to make these things come together. What I will tell you is that my draw length in Photo 2 is about 1/2" different from the start and finish photos that show the correct contraction with my current draw length.

The Enforcement

Now that you have a clearer picture of "back tension" I think it is finally time that we bring it all together and talk about using the back tension to give you what I wrote about in Part 1 of this series and, that is, the surprise shot. I have talked about ways of using a hinge release to give you a surprise shot. You can now incorporate that same release with this new set up and motion to give you the total package. The absolute best way I know of to make this all work is to use one of the new tension activated release aids from Carter, like the New Revolution or the Evolution. These releases work from pulling or increasing the pressure after you have come to full draw. They will force you to pull and not to punch or to pull and not just rotate.

When the release is set up properly you will quickly be shown when you are pulling and when you aren't pulling but think you are. The release can be set to fire at a specific weight that is over the holding weight of the bow at full draw. If I hold about 18lbs at full draw then I would set the release to fire somewhere around 23lbs. The release fires only when you have pulled to that weight. If there is a variance in the effort needed to cause this then the variances is in the human involved. I mentioned this in Part 1. I always wondered why sometimes I felt like I was pulling my bow in half but nothing was happening regardless of the release.

What I found out was happening is that when I tired and let my front shoulder get sloppy everything would start to change. As I would pull, my front shoulder would just slide up to my neck and although I felt the increasing pressure of the rhomboids, it was more to do with the fact that they were compressing against the front ones due to my front shoulder coming back. I call this a collapse. With the Evolution you can quickly see the importance to the front shoulder set up and how, when placed properly, shots will fire with minimal effort and how shots are tiring when alignment was incorrect. Learning these methods require a commitment from

you and a determination to get better. I am not going to sit here and expect this to be easy for anyone. It sure the heck wasn't for me.

Getting my front shoulder down took me nearly a year to get comfortable with. Learning that surprise shot like I mentioned before took years of practice. But here in the end it has all come together nice. It is important to enforce the good shots into the mind. I would encourage you to take a lot of photos of yourself. Do it in practice and in competition. Compare them and see if you are doing something different when you are in a pressure situation compared to when you aren't. If you notice changes then at least now you are aware of them and can make the changes needed to have things right.

Here is a huge tip I hope you can learn to grasp, knowing when everything was right. Learn the good shots as opposed to the bad. Having the full understanding that the front shoulder is good, the anchor is good, the pin is on the target and the rhomboids are working to get that perfect explosive shot. A surprise shot using back tension. That is the secret, knowing the good shots and understanding them. Because that is what will allow you to start repeating it and allowing the mind to let those things happen.

Good shots go in the middle, that's how it works. If you want to be the best you can be then you need to enforce the good shots into your mind. It seems everyone has different ways of doing that. For me it started with a hinge release and now has worked into the Evolution releases. That is what I use when I'm at home working on perfect shots. I want to have made enough good shots that by the time I get to a tournament that is all I can remember. However, with a slight variation I can make the same rules apply to any release. But that has taken countless arrows and determination.

Another important note to keep in mind is that activating a trigger of any kind with a pulling motion will cause the front arm to have a little movement. There is nothing to worry about because of this. You will need to get over the thought that the front arm has to be perfectly still to put arrows in the middle. Believe it or not your mind knows that you want the pin on the middle and if the pin is floating around some, then the mind is already correcting it by moving the pin back to the middle. I call it "returning to centre." Having a strong back half-shot will make up for so many imperfections that you may see through the scope.

I have found that there are two ways to be accurate. The first is to stay perfectly still and wait for the release to fire. (Theoretically be a human shooting machine.) The other is to use

back tension and make strong shots even if the front is moving some. Both are equally accurate but the amount of people that can put the finger to a trigger and wait for it to give them an unanticipated shot is minimal. It is just too hard to teach people. There are some great shooters who don't punch the trigger and are super steady. But for most of us there just isn't a possibility of doing that. This is where back tension has proven to be so valuable.

Think of the Olympic Style recurve shooting. There is no way to pull through a clicker and perform a good shot without the pin moving around on the target. Yet a strong shot puts the arrow just as much in the centre as a compound. Equally important to everyone here in this country, is that pulling through a shot regardless of the front pin is extremely valuable in windy conditions. I talked about this in a previous article on 'Foul Weather Shooting.'

I certainly hope that I have given you some valuable information during this series on back tension. Like I said at the beginning, it isn't just a simple thing to show or do quickly. It is a process of learning what a surprise shot is and making sure you are able to have a surprise shot without fear. Then it is a matter of learning how to get positioned correctly for the motion and then actually making the motion. This entire process for me took nearly nine years start to finish. But I believe that was because I had 11 years of the wrong way to get over first. I know people that pick this up right away and have made leaps and bounds of progress. Some of my UK students have literally left former competition in a wake of scores they didn't see possible. When these things work together I believe it is what separates the good from the bad and the good from the great. If you have none of it working for you then you are most likely bad. If you have one part of it working for you then you will be good. If you are fortunate enough to have it all working for you then you are destined to be one of the greats!

Wishing you the best at your journey to become the greatest you can.

John Dudley
www.dudleyarchery.info

