

## USIMLT

### Coaching update #5

Lee Shaver , 2013

I just finished the update on sling shooting and I figured I better get started on the next one so it would not be half way through next year before I got it out to you. When I started writing this, winter is just starting. Most years I don't shoot much of anything for six months during the winter. This winter is no different than any other, but I keep reminding myself that we will be in Africa at a world championships before you know it, and I don't want to be the reason someone is not prepared.

I have received a couple of comments about the most recent update on sling shooting. Thankfully no one has pointed out the spelling errors my computer did not pick up. I read it myself the morning after I sent it out, and I saw all kinds of errors I did not see the night before when I did a final read on it. Funny how the brain works!

I should make one quick comment about it myself. I was reminded in a conversation with Mon Yee that when you are working on building your position and perfecting your position, you should not initially attempt to do so while getting up and down for each shot. You should work on your position till it works for you, then you can think about practicing breaking the position after each shot, then back into position. Even as little as putting the rifle down and picking it back up will help you learn to remount the position correctly each time. Once you are sure you can get back into that position each time and still make it work. Then you can finally start to get up between shots to build up your strength and stamina. Of course, if you are practicing only with your muzzle loader, you have no choice but to get up for each shot.

I was having an email chat with Brice the other day, and he got me to thinking. Mon, Brice, and I practice when we can in Mon's basement range, and do it with and without the sling as mentioned in the most recent coaching update. For a target we use the international, 10 bull, 50 ft target as used in international smallbore competitions. We typically shoot two shots per bull, then move on to the next, and shoot two more, for a total of 20 shots for score. We have figured out how to score the target so it scores approximately the same as a miniature 300 yard USIMLT target would score. We then calculate the score and see how good we are doing.

One problem we have often seen that lowers our score on these little 50 ft targets is that we may put two shots nearly in one hole on a bull, then move to the next bull, and put two shots nearly in one hole again, but in a slightly different part of the target. The reason is most likely the fact that we slightly change our position to align with the next target, and the muscles are stacked up a little differently. With enough practice we get to the point where we can minimize this problem, but it never really goes away completely.

I noticed this tendency on some of Brice's practice targets the other day, and realized it had slipped my mind entirely. It just goes to show you that just a simple thing like lowering your position enough to align with a target a few inches lower at 50 feet can make your shots go to a new spot on the target.

Brice had fired several targets as mentioned above with two shots per bull, then he fired one with



five shots per bull. Mon and I had never done that because we were always shooting for score, while competing with one another, and you can't score a target with five good shots in it. It's just shot up too much. Brice did it because he wanted to see groups appear and not so much for score. He shot over 50 shots on that one target without a break, and admitted he was pretty tired when he was finished.

He got me to thinking about the possible benefits of shooting groups VS. for score during our practice sessions, and I think he might be onto something, for more than one reason. I shoot for groups only when practicing at 100 yards or less with my muzzle loader, so why do I shoot for score all the time when practicing with the .22? Good question huh? It got me to thinking about something that happened long ago.

40 years ago I was ate up with shooting a bow. I liked rifle shooting too, but every fall I had this dream of shooting a deer with a recurve bow, so I practiced hour upon hour. I got a little better as I practiced, but always had the problem of snatching at a shot when it was lined up perfectly. It finally dawned on me that what I needed to do was forget about dead center hits and concentrate on never shooting a bad shot. With that in mind I started practicing differently. I set a goal of not shooting any shots outside of the third ring from the bullseye. That allowed me to forget about trying to hit dead center, I relaxed and just let the shots go in the middle somewhere. It was not very long before I had accomplished that first goal.

I then set the goal at doing the same thing ten times in a row. I messed up occasionally, but in a couple of days I had accomplished the second goal. So I made the goal tougher by shooting for no shots outside the second ring from the bull. As my shooting improved my goals got tougher, and as I fulfilled a goal, then repeated it ten times, the goals got tougher and etc. etc. In two weeks I was shooting nothing but bulls, and setting my goals to shoot nothing more than an inch from center! In a month I was having to aim at different parts of the bull for each shot as I was ruining too many arrows. The same thing can be done as a practice technique for shooting your rifle as well. In fact it might be a preferable way to practice in many cases.

This reminds me of yet another story about a similar problem I had in 2003 at Bisley during the world championships. I was nervous and snatching at the trigger when the shot looked perfectly centered. Because of the snatching at the trigger most of my shots were not landing center. They weren't far out, but each twitch on the trigger was costing me at least one point, and it was frustrating me. I figure that every little twitch on the trigger pull is worth one ring on the target, so a "V" becomes a 5, and so on. On this day, as I moved back to the next mid range distance I admitted to my French score keeper that I was having a trigger pulling problem.

To my surprise he grabbed me by the arm and lead me out behind one of the sheds and gave me a good talking to. What he said cured my trigger snatching problem, and I shot much better after that.

He told me of an article he had read that was written by a Russian Olympic shooting coach. In this article the Russian coach pointed out that in most cases you did not need perfect shots to win a match, what you needed was a lack of bad shots, because bad shots loose the match for you. He reminded me that if you shoot no shots outside the 4 ring you will win the aggregate match, because there will be enough 5's to go with the 4's to put you far ahead of everyone else.

To highlight the truth of what he was saying, when I won the reproduction aggregate in 2007 at Capetown I was only about 3 points above a 4 average for the entire match. If I had shot nothing less than a four, I would have won the match by a good many points. On the other hand if any number of other people



had shot nothing less than a four, I would not have come close to winning the match. In the most recent world championships at Bisley, Dave Gullo was the high scoring reproduction shooter with an exact 4 average per shot. Only in the 2009 world championships at Butner has more than the top two or three shooters been at or above the 4 average level. We do not win a match with bulls, we lose them with bad shots.

Similarly, I used to go to a breech loading black powder match at Lodi, Wisconsin quite regularly, and many times I would have the high "X" count by a wide margin, but place well down in the aggregate scoring. The problem was that I was shooting the highest number of perfect shots, but also the highest number of bad ones.

I guess what I am getting at is that I have finally got to the point in my shooting where I don't have much trouble with jumping at the trigger, but not everyone is to that point yet. If you are struggling with trying to be perfect and having troubles with poor shots that were unexpected, or even caused by snatching at the trigger, maybe you should do like I did with the bow 40 years ago. Just forget about bulls, and work on what might cause the bad shots. Just relax and let the shots go where they might within the wiggle zone of your hold. As you practice and learn, your wiggle zone will get smaller, and the shots will naturally move closer to the center. When I am teaching someone how to shoot the standing position, I always tell them that as they learn their misses will get closer till they become hits. The same is true of X's and V's.

Each of us are different, so you just have to identify what "your" weaknesses are and figure out ways to work on those weaknesses. Sometimes you need to be creative and think outside the box.

When it comes to training, it would probably be best to work on it in more than one way. Like shoot groups most of the time and then shoot a score target once in a while to check your improvement. As you get closer to the time of the big match, you would want to switch over to more score shooting and less group shooting.

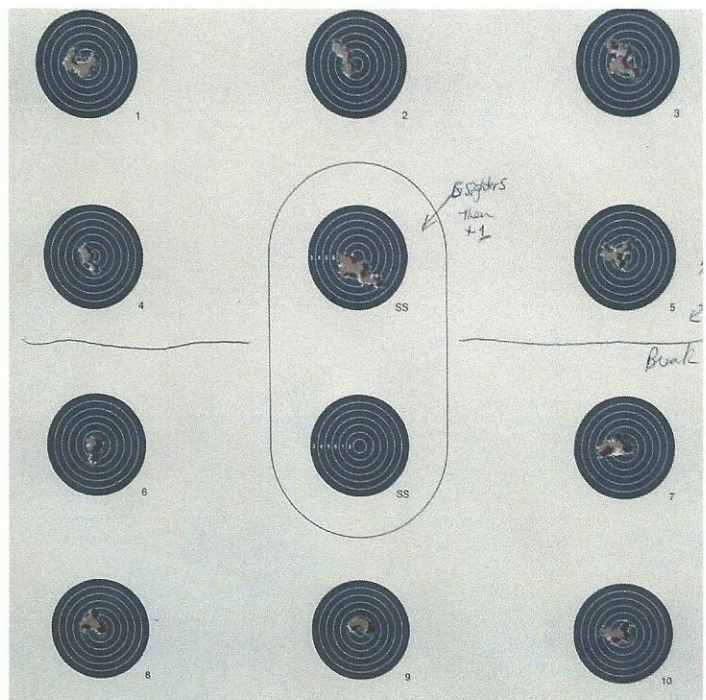
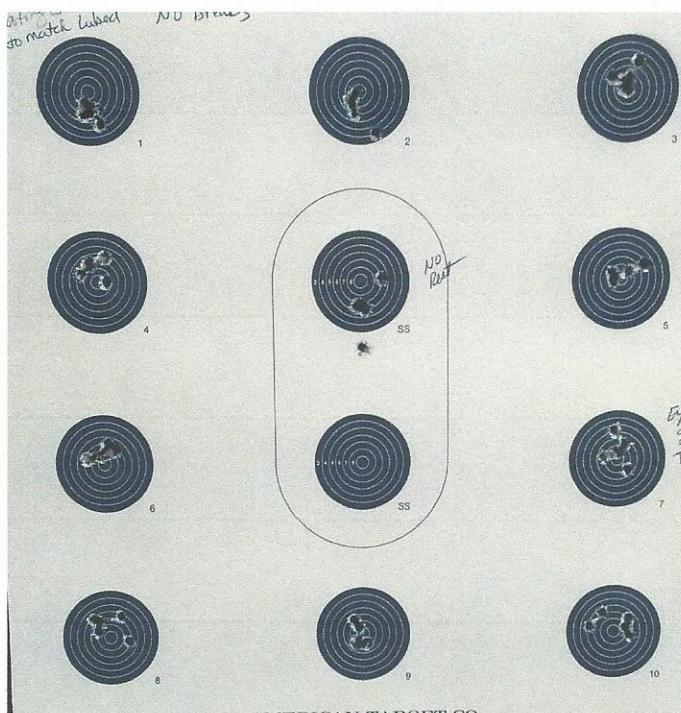
I should also mention that ten shots with proper technique is better practice than 50 sloppy shots, so always work towards doing each shot properly. Once you get to the point where it is difficult to perform properly... push yourself a little further to build up your stamina, but then stop before your performance suffers due to fatigue.

Since Brice has been practicing weekly with his .22 as I suggested in the most recent update, I thought I would share a couple of his targets so you can see what he and I have been seeing from his practice with no sling. On the next page you will see his first target he shot with five shots per target on the left, and then his most recent one on the right. There is just over a month between those targets with regular weekly practice.

You will note on the right target, that he is not yet shooting one hole groups, but the stray shots.... the bad shots, that were common on his first attempt, are pretty much gone. Each of the ten bulls on the right target have a five shot cluster in them, where the left target has more like five shot patterns in some cases.

Take a look at these pictures and you will see a definitive improvement. I plan on being at Mon's soon, and we will probably have a bit of a competition while I am there. I just hope I can keep up with Brice at this point, since I have not been practicing as much as he has.





### Sighting tips;

I've also been thinking a bit about some sight alignment tricks that I use, and you may find them useful or at least interesting, so I thought I would share them with you.

It is often said that you can ignore the rear peep sight and concentrate on the front sight only, because the eye will center itself in the rear peep. This is true enough for hunting or battle situations, but for precision target shooting it is not. If you want to shoot truly tight groups you will find that you do better if you visually check to make sure you are looking through the center of the rear aperture. Many times you will find that the sight picture is slightly clearer when you are looking through the center of the rear peep, but that seems to be dependent on the light for me.

I am often asked if there is a specific front and rear sight sizes that I recommend. To which I answer that it is dependent on your eyes and your shooting technique.

If you shoot with one eye open you will use a different size rear peep than if you shoot with both eyes open. The light will also define what size you need, as will age, unfortunately.

The old rule of thumb is that you want to use the largest front aperture that you can align properly, and the smallest rear aperture that you can see through clearly.

The front sight aperture must be larger than the bull of the target by a fair amount, to keep the



insert from attaching itself to the bull or morphing to it so to speak. If you watch closely, you can move the front aperture to the side so the aperture touches the bull of the target, and you can visually see it morph to the bull just as it is about to touch it. This relates back to what I was talking about the visual limits of the eye in a previous update. Most people can shoot much tighter groups with a loose aperture around the bull than they can with a very tight fitting one for this reason.

As for the maximum size you can shoot with in the front, that will typically need to be found by actual firing tests. I knew a fella many years ago that his eye sight got so bad he could not see the target through his front apertures so he took them completely out of the sight and found he could still shoot very tight groups with no aperture at all in a globe front sight. He just used the globe of the front sight as a large aperture. I tried this myself once because I forgot my apertures when I went to the range. I had no problems shooting MOA groups with no front aperture. It just goes to show that a big aperture can be used with success, and you will just need to find out for yourself what works, just be warned that an aperture that is too tight around that bull can be a real problem.

The general rule of thumb on rear aperture size is to use the smallest one you can see through clearly. That will depend on your vision, if you keep both eyes open while shooting, your age, available light, and etc. I normally close down my rear peep till the hole appears to have spider webs in it and then open it back up till it clears up nicely, and that will be the correct size on that given day, or at least on that given moment. I don't need to change the size often, but occasionally I will need to open it up if it suddenly gets very cloudy. If I get the rear aperture too large, then my front aperture becomes blurry, so it is important to get the rear aperture within the proper size range for the light conditions you are shooting in.

A dozen years ago I was spotting for my son in a silhouette match, and his first five shots on rams were all misses in various directions. He was pretty frustrated with five consecutive misses and complained about having trouble seeing on that heavy overcast day. I just reminded him that he had the eye cup right in front of him, and it was his responsibility to change it so it suited the light conditions. He opened the eye cup up one hole size and hit the next five rams with near center hits.

Speaking of light changes, there is often a question asked if light changes can cause a vertical change in hits. The simple answer is that yes it can, but the truth is that it does not always cause a vertical change, and when it does it is not always the same.

The old rule of thumb for open sights was "lights up, sights up", and "lights down, sights down". That was true for open sights because they were used for a 6:00 hold on the bottom edge of the bull, and the look of the sight touching the edge of the bull will change with light changes. This is not the case with peep sights and apertures, but some shooters still notice an elevation change in their shots with light changes while others will not, during the same light change.

The reason for this is the change in the way the rear peep looks in comparison to the background behind the target. As the light gets darker you may lose the clear definition of the rear aperture against the background, and without realizing it you may take aim slightly different. I learned this years ago because I was practicing on a range with brown grass below the target, and green trees above the target. If a cloud came by suddenly that made the range very dark, the trees became nearly black while the grass remained quite light, and I could not see the top of the rear peep hole in relation to the trees in the background. When that happened I would change the alignment of the sights without realizing it, and my shots would go high. If I



double checked visually to make sure the rear aperture was where I thought it was in relation to the front sight, then my shots would go where expected.

This may not be a problem you will run into often, but it is something to keep an eye out for, to see if you are effected by light changes as I am.

#### Real elevation changes caused by light:

On a similar but different note, you will notice some "real" elevation changes at the longer ranges that are associated with major light shifts, but those changes will trail the light changes by several minutes. The reason is because the bright sunny conditions will create updrafts all across the range as the air warmed by the sun at ground level will rise slowly causing updrafts that lift the bullet. When a heavy cloud comes along, if it remains a while you will soon notice that shots will start hitting lower on the target as the updrafts cease. A good clue to when this is taking place is found in watching the mirage. When the mirage starts getting hard to spot, then you can assume the updrafts have ceased or nearly so and the lifting effect of the updrafts is leaving.

Likewise, when the sun returns, the updrafts will begin again after a few minutes of sun shining on the ground, and the shots will begin to climb on the target. This will also correlate with when the mirage becomes quite visible again.

An example of this is seen in a target I shot at 1000 yards at Raton this last summer during the NRA national championships. The wind was not too bad and the shooting was going well, when a cloud came along that shaded the whole range for several minutes. As the mirage began to fade away I noticed my shots hitting lower on the target as expected, so I just aimed a little high on the target to make up for it. Once the mirage completely disappeared I was aiming near the top of the target to keep the shots in the bottom of the bull. The sun then returned nice and bright but the mirage had not, so I fired the next shot the same as the previous shot with the cloud, and the hit was the same. As I saw the mirage returning, I started aiming lower again for the next shot, and when the mirage was moving as it had been prior to the cloud coming along, I went back to aiming center. If I had not known the cooling air would cause the shots to go low I would have lost many points on that target, and might have even missed the target. Worse yet I could have let the shots fall off the bottom of the target, then dial the sight up to get back on the target about the time the updrafts came back, and the shot would have gone over the target. I see this kind of stuff happen all the time! Shooters dialing their sights because of impact changes they don't understand, and then all of a sudden whatever was causing the impact change goes away and the shot goes off the target in the opposite direction.

A similar elevation change will happen if you start shooting a long range target early in the morning when the sun starts climbing and shining on the range during your relay. The shots may start climbing right up and off of the target as the ground warms and the updrafts begin. It's just one of the dozens of things you have to keep an eye out for when shooting long range with muzzle loaders... which by the way is the greatest challenge I know of in long range shooting. When you master this game, the rest are easy.

#### Practice without shooting:

There is one last thing I want to discuss that can make a difference during the winter months when we are not shooting. It is visualization. I am starting soon on a coaching update on the mental side of shooting,



but I want to share one thing with you here. One of the best things you can do in the winter is visualize yourself shooting. If you really want to study the mental aspects of shooting you can read the book by Lanny Bassam called "With winning in mind" In his book, Lanny tells of how he won a world championship, then was stationed in Europe for the next two years and did no shooting while there, because it was not possible. He did set in his easy chair at night and visualize shooting a match every day though. Not just thinking about shooting, but he visualized it in detail. He imagined setting up his scope, his mat... everything..... and firing every shot in detail for an entire match of however many shots and distances made up his normal competition.

At the end of that two years in Europe he fired in the next world championships and won it, without even shooting a match for real or a day of practice between it and the previous win. Think about that when you are snowed in this winter, put your time to good use. Visualization like this only really works when you already know how to shoot, but there is something to be said for visualization learning as well.

Visualization learning is used when you know the basics, but need to ingrain the basics into your subconscious mind so you can do them without thinking about it. In 1979 I was driving a fuel truck in a coal mine. My job was to grease and fuel all the equipment running on the evening shift in a strip mine. Every night I had to pump a few thousand gallons of diesel into heavy equipment and use up about 40 tubes of grease in a hand operated grease gun. What I really wanted to do was operate a dragline. A dragline is nothing but a large crane set up with a digging bucket, and it looked like the job I really wanted.

I finally got permission to start learning how to operate, but only for a few minutes after I had my regular work done. To operate a dragline, you have two brake pedals that you operate with your feet, and at the same time you have to operate two lift controls and a swing control that rotates the machine. The idea is that you pull the bucket towards you as you let it down with the right brake to fill it, then engage the lift control as you let the bucket back out with the left brake, and rotate the machine at the proper speed to get the bucket to dump where you want. It's a little bit like driving a car in reverse while chatting on the phone, and patting your head and rubbing your belly all at the same time.

The first night I tried to learn how to operate the machine I was with an older English chap that had been operating for nearly 40 years, and he made it look so easy. He got me in the seat and 20 minutes later he had to help me out of the seat as I could not stand under my own power. My legs were shaking and weak from my effort, and I had only learned the basics of up, down, in, and out. Every night after that I lay in bed at home and visualized what I had learned that first night. After two weeks I had a chance to have lesson #2 on the machine and I set in the seat and operated the machine as if I had been doing it for real for those two weeks. My teacher wanted to know who I had been practicing with, because I had made great advances.

The point is that even when you cannot shoot, you can think about shooting, and it can be nearly as good as actually doing it.

Now for a parting shot. I want to share with you a target I received from Merwe Van Rensberg that he had shot with his new rifle. They had not shot for a month through the holidays, and he wanted to try out his new rifle for the first time. He shot one 100 meter relay to get some sight settings then shot this target at 100 meters with a sling only. The three sighting shots were the two low right, and the one low, then he shot ten shots without moving the sights. Two of the ten went out of the group because he messed up. The best eight out of the ten shot group is less than a minute tall and less than a half minute wide.

Just thought you might like to know what you are up against.



Keep practicing!

Shoot well, and see you next time,

Lee