

Robert de Bondt

B.E.S.T. *REA*

Biomechanically Efficient Shooting Technique

Special Feature

The B.E.S.T. system is fundamentally a 12 step system, which is based on the teachings of Coach Kisik Lee and our book *Total Archery*. Any system should be dynamic, which doesn't mean drastic changes, but continuous refinements to a very successful and proven system. Our web site www.kslinternationalarchery.com is a valuable tool providing up to date information and further presents the opportunity for coaches and archers, world wide, to ask questions, which are answered and generally published on the web. Out of interest, the *KSL Shot Cycle* is now published in fourteen languages.

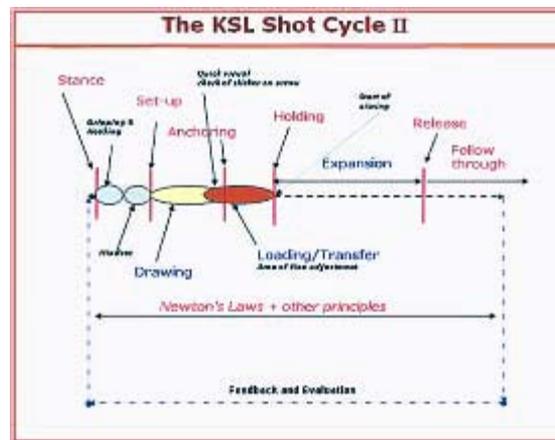
As the co-author of *Total Archery* and web-master of our web site I have been asked to write a series of articles for *Archery Focus* for 2008 to provide greater insight into, and application of, the *KSL Coaching Method*, known in the USA as B.E.S.T., including its relevance to the compound bow.

I will use the *KSL Shot Cycle* (see diagram at right), as the basis of these articles.

Since Coach Lee arrived in the USA in January 2006, he has conducted many seminars and high performance coaching courses on B.E.S.T., but obviously, due to demographics and time constraints, it is near impossible to reach all coaches and archers. This series of articles will attempt to provide a greater understanding of Coach Kisik Lee's teachings and the B.E.S.T. to a wider audience.

There have been various comments that Coach Kisik Lee has changed his teachings - this is really not true. Obviously, any system continues to develop and gets fine tuned, as coaching is

a continuous learning process. We must approach every sport with an open mind and we must not just learn from archery, but from other sports as well, as some of their principles and action can have application in archery as well.



Where, however, I feel that there has been some confusion is that the B.E.S.T. system was documented by the Coaches Development Committee of USA Archery, prior to Coach Kisik Lee taking up the USA National Head Coach position. As such, some of his teachings have not been completely understood and *per se*, correctly interpreted.

In this first article I would like to share with you some of the questions which have been asked and answered by Coach Lee.

Question 1 *One of the main questions has been, "Should we teach B.E.S.T. to all archers, including young beginning archers or only to experienced and*

elite archers? Will B.E.S.T. work for everybody?"

Answer 1 The simple answer is "yes." To elaborate, the B.E.S.T. system is a twelve step system, as detailed in our book *Total Archery*. One of the biggest problems which we have experienced in the past is that when an archer shows potential and gets noticed, which more often than not is score based, the archer generally has already been shooting for quite a while, often years. Unfortunately, many have already basic ingrained form faults which will inhibit the archer to progress to higher levels, if he/she so wishes.

The B.E.S.T. method does not require more energy, as some people may claim, rather less, as the bone structure and muscles are biomechanically optimized. The strength in the B.E.S.T. method is that it can be taught, as a uniform system, from day one to the beginning archer. As such, development and progress to higher levels will be made much easier, as the foundation for proper form has already been laid. We do not wish to argue that B.E.S.T. is the only system or technique, but Coach Lee has proven himself over the past 20 years as one of the most successful coaches in training Olympic and World Champions and medalists.

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Obviously for beginners the steps will need to be simplified, such as starting with a square stance. Proper posture is essential, straight back, low shoulders, proper head position, standing up straight (no leaning back), proper bow grip, proper bow arm bone alignment and of course a way to help them understand what back tension is or better what it feels like (I will touch on this a bit later). You may say, "Big deal", of course that is what is being taught! That may be so, but walk along the line at any tournament and you will see most of the basic faults—standing too straight and falling off the shot; hollow backs, wrong bow hand position, draw hand wrist kinked, wrong bow arm alignment, high front shoulder, leaning back etc. etc. All these faults are inhibiting better scores and even a greater enjoyment of the sport. Let's face it, if you do something for a long time and you are

not improving, you should try something different.

Question 2 *Does the B.E.S.T. only apply to recurve archery or could some of the principles be utilized by compound archers?*

Answer 2 All principles in shooting an arrow with a bow apply equally, be it recurve or compound. It is one of the human activities where the biomechanical principles must be the same. This specifically applies to Loading/Transfer to Holding. The "Set-up" might need to be modified for very low brace heights and high let-off cams. The proper position can be achieved after let-off, but to try to set-up with a compound the same way as a recurve could cause injury.

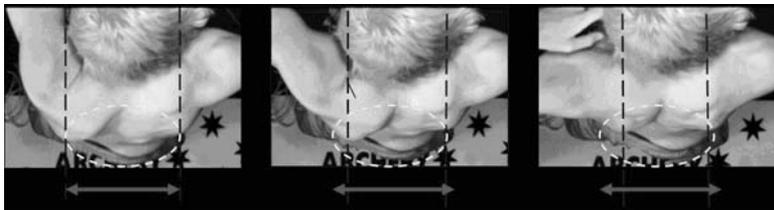
The proper use of back tension is very important, as especially with the high let-off bows it is very easy to lose back tension. Especially with the more severe cams it would be easy to creep forward if not using proper back tension. Where the obvious differences come in is in the use of the release aid and of course the aiming. Out of interest, Coach Lee has acquired himself a compound bow and release aid to experiment with and find out what specific differences he will find using his technique between compound and recurve. I will discuss his findings in more detail in a future article.

Question 3 *When we are holding the bow at full draw, it is extremely difficult to feel if we are using the right back muscles. Without using a bow is there a way or exercise which demonstrates using the back muscles?*

Answer 3 One way to check for back tension without a bow is to bend your left arm (bow arm, right-handed archer) behind your back and find with your thumb the bottom side edge of your draw scapula. Now put your draw hand on your face, as though you are going to shoot an arrow; move your draw arm back, as in a followthrough, but without worrying about back tension. You will find there is very little or no draw scapula movement. Now do this again, but this time try to push hard with the bottom side edge of the scapula towards your spine and against your thumb. You should be able to develop quite a bit of pressure there, which should be maintained, right throughout the followthrough till you hear the arrow hit the target. The scapulae have to come towards the spine on release. With most archers the scapulae upon release will relax and open up. Have a good look on the pictures below, where David Barnes (left handed) from Australia gives an excellent example, as to what should happen.

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Question 4 *One of the steps in the shot cycle is the “Hold”. Various coaches and archers are interpreting this as a “Stop” and as a consequence will question this step, for most of us the belief has always been that the draw must be continuous. Therefore, is the draw continuous or not?*



Set-Up

Expansion

Release

Answer 4 One of the more difficult points for a coach is to teach the archer the loading/transfer phase. Possibly the term holding, like anchor, could be interpreted that the draw is stopped, which it is not. When we draw the bow we will use muscles other than just our back muscles, as we will need to utilize a certain amount of muscles from our biceps, forearm and draw hand to get to the anchor position. This tension in the draw hand and forearm must be transferred, as much as possible, to the back muscles during the loading/transfer phase or also called the area of fine adjustment before we can come to “Holding”, otherwise a clean release is impossible.

The draw does not stop when reaching “Holding”. In fact, the back muscles will take over the drawing process, rather than in the continuous external draw where the tension in the bicep, draw hand and forearm never has a chance to get transferred to the back muscles. Basically, we switch from an external to an internal movement of the draw, meaning that the movement goes from being visible to microscopic, but it does not become static. As such, fundamentally, the draw is continuous. Once at “Holding” there should not be any perceptible backward movement of the string, as the expansion is internal and executed by different muscles rather than what has been taught in the past.

We must get away from the notion that expansion or the line of force as it is called, is a push or pull movement and takes place only in a linear direction with the arrow. We have to understand that this expansion is not just a linear movement of push and/or pull, but more a result of a circular movement of the draw scapula sliding down further and towards the spine to produce the small amount of movement necessary to get the last few millimeters through the clicker. We call this circular move-

ment ROCM or Ratio of Circular Movement, which is explained in detail on our web site and will be discussed further in future articles.

Question 5 *I believe that core strength is paramount to being able to use the B.E.S.T. system successfully. Therefore, should core strength be the first step to achieve and then train with the rest of the technique building? Or is there a way to build technique without having the most efficient core strength?*

Answer 5 Obviously, core strength is a very important factor and detailed exercises are available, aimed at developing and strengthening the core of the body, “the power zone”. The strength radiating from the power zone can be likened to the ripples created when throwing a stone in a mirror smooth lake. The ripples will affect the entire surface of the lake and likewise the strength generated in the power zone will radiate to all parts of the body. Also remember that the power zone or trunk of the body connects the lower and upper half of the body, therefore, any weakness in this area will affect many aspects of the form including stability. Core strength is an integral part of the overall technique; however, it can be developed simultaneously with technique building. You should be able to develop good core strength within 12 weeks through a properly developed training program.

These questions are just a very small sample of questions which have been asked and I hope that this first article will dispel some of the myths that at times seem to surround the B.E.S.T. method. In future articles I will address, “Converting To B.E.S.T.”, “Teaching B.E.S.T.”, and “B.E.S.T. Step-by-Step”.

Robert de Bondt lives in Sydney Australia and is a High Performance Coach in both recurve and compound. He is a visiting coach at the Australian Institute of Sport and the co-author of the international archery best selling book “Total Archery,” now published in four languages, with a further three language editions in progress. He is the web master of www.kslinternationalarchery.com, which he runs in close coordination with Coach Kisik Lee. This partnership ensures that the technical content is always current and in line with the latest thinking of Coach Kisik Lee.

