



The Right CONFORMATION *for an Eventer*

BY JUDY WARDROPE • WWW.JWEQUINE.COM

Rather than talk about things you probably already have an eye for (straight legs, sufficient bone, etc.) this article will be aimed at describing the functional conformation of successful event horses from a skeletal perspective. Good conformation means different things to different people, but to me it means structurally suitable for the job, in this case, a job that entails an aptitude for dressage, an ability over fences, and an efficient, ground-covering gallop.

We all know that there is no perfect horse, which is why there are never any absolutes when it comes to describing functional conformation. A fraction of an inch difference in the length of a bone or a couple degrees of difference in an angle can evoke dramatic changes in ability. Imagine how much heavier on the forehand a horse can become if nothing else changes except that the point of shoulder is an inch lower.

A horse with the wrong structure for a job may improve slightly with muscling, but he will never reach the top of the sport, while horses with the right structure can do that job fairly well even with considerably less training.

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STARTING FROM BEHIND

Most people tend to start assessing conformation from the front of the horse, yet listen to any instructor giving lessons, listen to a top rider giving a clinic, read training books or articles and you will hear or see numerous references to engaging the hindquarters and coming from behind. So, that seems the best place to start assessing conformation.

Top horses in most disciplines have a lumbosacral joint or LS (a palpable dip in front of the high point of the croup) directly above the point of hip (in line between the two points of hip), which equals good coupling. How important is LS placement? Dr. Hilary M. Clayton says, “The hind limb rotates around the hip joint in the walk and trot and around the lumbosacral joint in the canter and gallop. The lumbosacral joint is the only part of the vertebral column between the base of the neck and the tail that allows a significant amount of flexion (rounding) and extension (hollowing) of the back. At all the other vertebral joints the amount of motion is much smaller.”



Courtesy of Judy Wardrobe

This horse shows the '7' hindleg conformation of horses that excel in the 'Ps' (passage, piaffe and pirouette) but lack extension. His stifle placement is also too high for ability over fences.



Courtesy of Judy Wardrop

Without good LS placement, a horse cannot transfer all his power forward or upward, and he cannot maintain the stretch required over wide jumps. The LS is a stress point for lifting and suspending the front of the horse. The farther the LS is rearward of the point of hip, the more stress on the ligaments, the more likely the horse is to develop a hunter's bump and the more likely the horse will suffer from back ailments. A well-placed lumbosacral joint is a considerable asset in an eventer.

All top eventers and top jumpers need a stifle (the knee cap, not the muscle above it) placed well away from the body, or considerably lower than the bottom of the sheath on a male horse. This is one of the most important elements of scope. The higher the stifle, the less height and/or width the horse can clear and the shorter his rear stride may be.

The stifle placement on top dressage horses is not quite as low as the placement required for a jumper or eventer, and dressage horses are often straighter in the hind leg than show jumpers. Some dressage horses actually appear to have a "7" from point of hip to point of buttock to stifle and through the hock when viewed on the near side. (The white horse in the photo demonstrates this construction in the extreme.) These points explain the two types of eventers that are emerging—those who excel in the dressage phase and can cope with the cross-country and show jumping phases, and those who struggle in dressage but

Livingstone above and Winsome Adante below both have the proper LS placement, the low stifle placement, the length of humerus, the high point of shoulder and the lightness in front of the pillar of support. Also note Winsome Adante's straighter hind leg, which aids in collection.

fly around cross-country and do well in show jumping.

According to most books on conformation, a plumb line dropped from the point of buttock to the ground is supposed to intersect the hock, follow the rear cannon bone and bisect the rear hoof. In real life, top show jumpers and top eventers fall inside that line with their hocks, and generally appear to toe out behind and several top dressage horses and many top reiners fall outside that line with their hocks.

UP FRONT

Examining the front end for jumping and dressage ability, and therefore eventing ability, can be a bit trickier than examining the hind-quarters, but if you think in terms of function, it becomes easier. First, keep in mind that the horse cannot move anything independently from the top of the scapula to the knee; it is all connected and functions as one apparatus. If the horse rolls his shoulder back, which he will need to do to jump obstacles or extend his gaits, his humerus and forearm will move in direct relation.

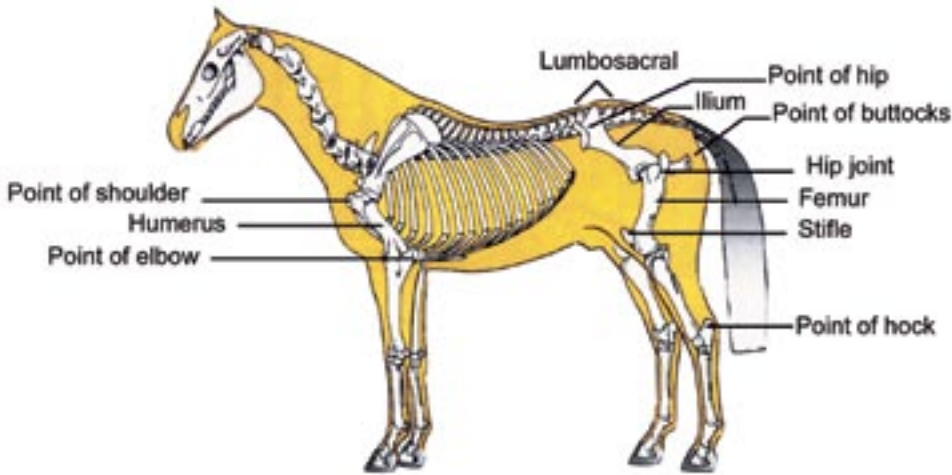
Because this is one apparatus, it does not make sense to judge the shoulder without considering the humerus. The length and angle of the humerus makes a big difference in how the front end moves, even with the same shoulder length and angle. A steeper angle to the humerus (elbow to point of shoulder)



Courtesy of Judy Wardrop

means a higher point of shoulder, and a longer humerus means a longer stride. Like a teeter-totter that you are trying to balance, there are a number of combinations that can result in balance: adding weight to the high end, subtracting weight from the low end, moving the balance point, or a myriad of possible combinations of these. If being able to lift the forehand over a fence is the function, there are several scapula/humerus configurations that can accomplish that.

Differences in length and/or angle of humerus as well as differences in length and/or slope of scapula can result in the same function of the forehand. The horse with a straight shoulder will need a steeply angled humerus and the horse with a long scapula will need a shorter humerus and one with a bit of a slant upwards in order to have the same function.



Livingstone (above) and Winsome Adante (below) - Notice the functional points and imagine how a higher stifle and/or a shorter humerus would shorten their extended strides.

Diagram: **The functional points. Note that the stifle placement in this model is too high for eventing or jumping.**



As is the case with both sample horses in this article, a high point of shoulder not only aids in lightening the forehand, it makes folding the front legs over fences easier. While a shorter humerus means a shorter stride, it also means a quicker lift to the front end. In an eventer, a relatively long humerus is needed for the galloping phases. Horses with a shorter humerus and a high point of shoulder often appear very lofty on the forehand at a gallop (their motion is more up and down than forward), which is not as much of a detriment in show jumping as it is in the cross-country phase of eventing.

Horses with a high point of shoulder usually do not have a low-set neck. A neck set well above the point of shoulder not only helps the horse lighten the forehand, it makes using the neck as a counter-balance in take-off and landing much easier for the eventer and the jumper. Imagine how difficult this would be if the point of shoulder and the neck were set low.

Another consideration when looking at the forehand is the pillar of support. Draw a straight line up through the middle of the near foreleg to the top of both of the pictured eventers and you will see that neither has a lot of horse in front of the pillar of sup-



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Cross-Country Jumping Comparison with Livingstone (above) and Winsome Adante (below).

Row 1

Livingstone and Winsome Adante - Notice the folding of the forelegs and the scope that comes from the ability to move the stifle through a full range of motion. Also notice the use of the neck for lifting.

Row 2

Notice the neck and the stifle being used to sustain the stretch over the width.

Row 3

Notice the neck is used as a counter-balance (lifting to lighten the forehand for landing) while the stifle maintains the stretch so the hind legs can fold underneath the horse for landing.



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port. The line emerges well in front of the withers; therefore, neither is heavy on the forehead.

Freedom of movement at the elbow is also very important to a horse asked to perform as an eventer. An elbow that is set so close to the body that it strikes the horse's ribcage will cause the horse to shorten the stance phase on the contact side and, as a result, shorten the swing phase on the opposite side. In extreme cases, these horses will be choppy in their gaits even if they are otherwise built to have long, fluid movement. Lateral movements will also be affected.

THE HORSES IN THE PHOTOS

Both geldings competed in the Olympics. Winsome Adante with Kim Severson earned individual silver and team bronze medals for the U.S. Livingstone and Hawley Bennett, who represented Canada, finished 63rd.

Winsome Adante has more dressage characteristics in the hindquarters than Livingstone. Both are built to be able to jump (cross-country and show jumping), but Winsome Adante would find dressage easier than Livingstone. The differences in structure between them explain why Winsome Adante consistently scores better in the dressage phase than Livingstone (and most other eventers).

There are differences between them, but they also have certain conformation traits in common. Both have a well-placed LS, both have a stifle well below the level of the sheath, both have the length of humerus to produce a long stride, both have an elevated point of shoulder and neither has too much weight in front of the pillar of support. As a result, both have been four-star eventers for several years. 

About Judy Wardrope ~

Judy Wardrope has spent 25 years researching pedigrees and studying the functional aspects of equine conformation. She started out applying the results of her research to her sport horse breeding program, which has produced champions in dressage and the hunter ring along with winners in show jumping and eventing. It didn't take long before she was asked to do research and consult for trainers, riders and other breeders. She has also located stallions for breeders in Canada, South Africa, and Thailand.

Her journalistic work appears in a variety of equine publications internationally, and she is now sharing her knowledge in clinics, seminars or workshops. Of these, **Improving Your Eye for Functional Conformation** (Thoroughbred and/or Sport horse) and **Pedigree Patterns in Sport Horses** are the most frequently requested.

Please visit her website at www.jwequine.com.



Show Jumping Comparison with Livingstone (above) and Winsome Adante (below). Notice that as the scapula is rotated, the point of shoulder rises and the front legs can fold out of the way. Also notice how the stifle has moved to aid in clearance of the hindquarters. Imagine how much more difficult this would be if the LS was not well placed.

