Excerpts from the AERC Riders Handbook…
Revised and updated by the American Endurance Ride Conference Education Committee in 2001.

CONFORMATION - A horse with a great metabolic system will be able to excel in endurance, at least for a while, even if his conformation is faulty. On the other hand, perfect conformation will never be able to make up for a poor metabolic system. Nevertheless, if the horse is going to remain sound for very long he will have to be well put together, and the higher your competitive goals, the more important correct conformation becomes. Although space does not permit a thorough discussion of all aspects of conformation, there are some points that need to be made.

If good conformation could be summed up in one word, balance. The horse should give the impression that all of his parts fit together smoothly and in proportion to each other. A moderately long neck with a nice shape might help the horse to carry himself in a more balanced way, at least to some extent, but by and large the head and neck are important more from an esthetic point of view than from a functional one. A deep heart girth is traditionally thought to indicate large heart and lung capacity, but beware of too wide a chest as it creates a bull dog effect with shorter stride.

Hindquarters should be large in proportion to the rest of the body, and should give the impression of strength even in the unconditioned individual. The back should be shaped in such a way as to enable it to hold a saddle comfortably. An extremely long back tends to be weak and prone to soreness. The bony structure should be sturdy, perhaps even somewhat coarse. The muscles should not be thick or bulging. We are looking for a marathon runner, not a weight lifter, and the body build should reflect that.

The feet of the endurance horse are very important. The walls should be dense and thick, with a smooth, waxy surface rather than a ridged, split or chalky one. Even in a foot that has been neglected, there should be no significant splitting and cracking. Viewed from the front, with the foot still on the ground, look for a foot that is shaped like a cow bell (gradually getting wider from the coronary band to the ground). In addition, there should be no dishes, flares, etc. The heels should be wide apart, and the frog should be prominent and rubbery. Viewed from the bottom, the hoof should be slightly longer than it is wide. A sunken frog and contracted heels might be indicative of a serious problem, navicular disease for example, or might only mean that the farrier has been doing some bad shoeing for a prolonged period of time. How the horse moves, the size and shape of the hoof, and the angle of the pastern might provide further clues about the seriousness of the condition.

A symmetrically shaped foot is necessary for the leg column to operate correctly. Such a foot reflects that the horse is landing evenly, as he should, over the center of that structure. This in turn means that with every stride the impact is being taken up through the middle of the leg column rather than off to one side or the other. Over a period of time, uneven impact is extremely destructive to joints, ligaments and tendons. A symmetrical foot means one that is bisected by the frog, with each half being a mirror image of the other.

Finally, size is an important consideration when judging the endurance foot. A disproportionately small foot is a disadvantage because the weight carrying area will not be as adequate for handling the concussion.

Scanning the conformation of the forehand, you should look for a big shoulder, a long forearm and a short cannon. The knee and ankle should be large and bony, without mushiness or filling. The knees should face clearly forward, not be put on the leg column with an outward or inward twist. Viewed from the front of the horse a vertical line dropped from the top of the center of the forearm should pass through the center of the knee, ankle and pastern, and end up at the center of the toe. Knees that turn either in or out are likely to cause some degree of uneven break over and faulty flight path of the legs.

Ankles present the same problem if they are crooked. Base narrow or base wide legs are structurally faulty. Offset knees are fairly common in Arabs, but they usually do not pose too great a problem, especially if the condition is not extreme. Calf knees are also common in Arabs, and this, unfortunately, is more likely to cause trouble somewhere down the road. Similarly, a horse that is “tied in” below the knee is more subject to unsoundness.

Good pasterns are important and the ideal ones are medium in length and have the same angle as the hoof (this is known as an unbroken hoof/pastern axis). Pasterns that are extremely sloping place an undue amount of pressure on the supporting superficial flexor tendon and suspensory apparatus. On the other side of the coin, too steep a pastern usually produces a jarring effect on the legs and feet (especially if the other joint angles don't help compensate).

The master principle to keep in mind when considering conformation is that the front legs act as support columns and must absorb, with as little trauma as possible, the impact of landing. Like any support columns, they are only as strong as their weakest part. Imperfections that would never be a problem to the soundness of a show horse might be disastrous to the endurance horse; you have to be picky if you want a good one.

Moving to the hindquarters, you should keep in mind that the primary function here is to propel rather than to support. Good size relative to the rest of the body is very important. Viewed from the side, hocks should be wide and set on the leg fairly low. Sickle hocks predispose the horse to injury because of the excessive strain they place on the back of the legs. Cow hocks, unless they are so extreme that they cause the horse to hit his ankles, are not really a problem.

Assuming that the horse has passed the standing inspection, the next step is to see how he moves. The trot is the most important gait to consider. If there are any break over problems, this is where they will show up. The way the horse stands and the shape of the foot should have already given you some good clues as to the flight path that the leg will follow, but watching the actual movement will provide the proof. What you hope to see is that the foot breaks over at the center of the toe as it leaves the ground. The leg should then follow through with a straight flight path, with the hoof hitting the ground evenly over its center. Horses with irregularities in their way of going, such as winging in or out, crossing over, etc., have a lot of wasted movement.
Furthermore, they are likely to impact the ground to the side of the hoof, causing strain to the leg. If deviations in the flight pattern are extreme, they might even result in one limb striking the other.

Watching the flight of the hind limbs, the main concern is that the horse travels widely enough so that he does not interfere with his other hind leg and does not overreach and grab either of his front legs. While it is true that a number of successful endurance horses interfere, you must realize that this problem will be a difficult one with which to contend.

Looking at the horse from the side as he moves, you want to see a long, low, forward sweeping stride: high knee and hock action are a waste of energy. The horse should look free and loose in his shoulders and hips, and he should have a good over stride at the walk. Short, tight strides will get you nowhere, and will work you and the horse both to death. An average stride is acceptable if the break over is correct, but a really big, powerful, floating trot that covers a lot of ground with effortlessness is a thrill to ride. However, the use of heart monitors in the past few years have shown us that most hearts work at lower rates at the canter. A strong trot can be like driving your car at 80 miles an hour in second gear, while shoving into a canter, using his strong hip muscles, is OVERDRIVE!

PERSONALITY - If the horse trots out in hand to your satisfaction, the next move is to take him for a spin, and this is where matters of personal preference take over. Because of the tremendous amount of time you will be spending with your endurance horse, it is imperative that you like his personality as well as his mechanical and metabolic make-up. If you don't enjoy riding him, whether he is gifted or not, the partnership is never going to jell. Some people like a relaxed, laid back sort of fellow, while others prefer one that is more "ready." Most endurance riders don't consider a lazy horse much fun to ride, but on the other hand, a very tense horse that is on the borderline of being out of control, even in a non-threatening situation, is likely to come unglued in a real competition. Many beginners think that an uncontrollable horse is one that just "loves to run." Nothing could be farther from the truth. The best horses are generally self-possessed and businesslike about their work. They can concentrate on the job at hand and, when they are well trained, will usually leave the rider with little to do but steer and otherwise stay out of the way. Look for WILLING, not WILD!!!!!