Barrel Racing

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Barrel racing has developed, in a short period of time, into one of the highest paying equine sports today. It is also no longer a sport dominated by women. Many men have trained and ridden champion barrel horses. As a result of the amount of prize money involved, the physical nature of the competition, and the young age at which these horses are started, the equine practitioner will be called upon for assistance in maintaining a sound, healthy horse. Author's address: Abilene Equine Care, P.C. 7550 Hwy 83 S, Abilene, TX 79608. © 1997 AAEP.

1. Introduction

In the mid-1940's, a group of Texas ranch women wanted to add a little color and femininity to the rough and tumble sport of rodeo. They developed barrel racing, as the other women's events of saddle bronc riding and trick riding were beginning to wane. These women developed simple rules. A woman would ride her horse around a cloverleaf pattern of three barrels, and the fastest around the course was the winner. The initial organization began with 74 members, 60 approved rodeos, and a total payout of $29,000. Barrel racing has since evolved into a multimillion dollar industry called the Women's Professional Rodeo Association (WPRA). In the sport of professional rodeo, the 1995 World Champion Barrel Racer, Sherry Potter-Cervi, earned more money than any other competitor in professional rodeo. Charmayne James Rodman has earned more than 1 million dollars (prize money) in barrel racing, primarily with one horse. The WPRA has spawned numerous other barrel associations in which not only women compete, but men do as well. These associations hold futurities for 4-year-old horses, and derbies for 5-year-old horses. In 1996, according to the Quarter Horse News, futurities alone paid out over $1,725,000. Total barrel purses (not counting weekend shows and rodeos) were $3,600,000 in prize money. The total number of dollars is estimated to be between 7 and 10 million dollars annually for all competitions. As an example of the growth in both participation and prize money, the Fort Smith, Arkansas futurity, in 1978, had 127 entries competing for a total of $31,000 (first place received $11,000). In 1996, the same futurity had 920 entries competing for $620,000, with the winner taking $87,000.

2. Description of Competition

The horse and rider must run a cloverleaf pattern (see Fig. 1). The size of the pattern varies according to the arena. The general length from the time line to the first barrel is 45–60 ft (13.71–18.28 m). The distance between barrels one and two is approximately 70 ft (~21.3 m); there is 85–100 ft (~26–30 m) between barrels two and three. These measurements vary as much as 15–20 ft (4.5–6 m) depending on arena size. The horses start in an alleyway or through the entrance of an arena, head to the first barrel at full speed, rate (slow down) as they approach the barrel, perform a 360° turn, head to the
second barrel, rate, turn, head for the third barrel, rate, turn, and then head for the score line, finishing at full speed.

The competitions are divided into futurities, derbies, maturities or open, and professional. The local barrel competitions usually provide classifications for novice riders as well. The larger events (futurities, derbies, and maturities) make an effort to provide a consistent surface by dragging the arena after every five to ten horses have raced. This helps give the competitors a somewhat level playing field, as the surface tends to deepen with each run. Most of the rodeos do not provide this kind of assistance. In my experience, the indoor rodeos and the smaller events are more prone to cause injury as a result of the surface inconsistencies, smaller areas to set up the course, and little or no area to warm up the horses properly. The barrel horse is predisposed to numerous musculoskeletal injuries because of the conditions and demands placed upon it (sudden speed, tight turns, and a rapid deceleration to negotiate the course).

3. Horses Used
The horses used for barrel racing are predominately American Quarter Horses. Occasionally, Thoroughbreds and Paint horses compete, but rarely do any other breeds. In 1996, the top 50 barrel sires produced offspring that won over $1,700,000. Only three of the top 50 barrel racing sires were Thoroughbreds in 1996. The top sire's (On the Money Red) offspring won a total of $156,312. There were no Thoroughbreds in the top 19 sires with productive offspring. Most of the sires are former Quarter Horse racehorses. Sudden acceleration, and the muscle mass necessary to slow down rapidly, are the genetic traits preferred for barrel racing horses.

4. Common Problems
Problems diagnosed in barrel horses vary among the age groups. The beginning horse is often a diagnostic challenge because the examiner is frequently presented with reduced performance as opposed to a clearly lame individual. It has been my experience that some of these younger competitors have mental or behavioral disorders, whereas others have subtle musculoskeletal abnormalities.

A common complaint from the owner or trainer is that the horse is running up the fence. This describes a situation in which the horse does not turn at the first barrel, but rather continues past this barrel and down the arena fence. With this history, the older, more seasoned horse is likely to be experiencing pain, whereas the inexperienced horse may have fallen victim to mental or behavioral problems that sometimes accompany the pressures of training and competition. In my experience, the behavioral problems are best addressed following a thorough workup to exclude musculoskeletal problems. I often suggest 1–5 months away from the barrel racing environment, with roping or other cattle work being a good diversion.

Ground conditions have much to do with one very common injury in barrel horses, i.e., strained suspensory ligaments. Very deep ground, whether it is deep sand or wet, muddy soil, can contribute to a strain of the suspensory ligament of the front legs. If the horse is shod with a long toe and low heel, the risk of acquiring suspensory desmitis heightens. These ligaments are under great pressure as the horse is turning the barrel. Because the animal must turn in both directions, either leg may be affected. However, because most riders go to the right barrel first, it seems that the right fore suspensory apparatus has a higher incidence of problems. At this point (right barrel turn), the horse is going from the greatest speed (when he enters the arena at a dead run) to the barrel where he must slow down and turn almost immediately.

Because of the nature of the turning and pushing motions of the rear legs when a horse goes around the barrels, the hocks are very frequently affected. Bone spavin in the distal intertarsal joints and tarsometatarsal area is quite common. I primarily
use hyaluronic acid, sometimes adding intra-articular steroidal medications, and I have good response. Horses that have significant radiographic changes usually will benefit from repeated injections of these medications.

The twisting and turning motion of the barrel horse in competition at high speeds may cause many muscle groups to become strained and sore. It may be difficult to pinpoint one specific area of soreness. In some instances, back pain may indicate the horse is having problems in the hock area. However, it is my belief that the hocks are blamed much more frequently than is necessary. A history of a recent slip, fall, or any other trauma causing a twisting motion can cause the lameness. One frequent finding is a horse that sets back when tied. This horse may act very similar to a horse affected with bone spavin, but there is no relief following intra-articular anesthesia in the spavin area.

The most common complaint is that the horse will start to turn the barrel, but as he comes to the backside of the barrel turn, the horse does not want to push off aggressively to the next barrel. It is often described as a horse who seems to be running downhill to the rider. These horses do not want to put their rear quarters to the ground to push, as this is quite painful. Unfortunately, there is no quick fix, such as injecting hocks. Stall rest from 21–150 days may be required to alleviate the pain in the area. I generally put these horses on oral MSM to help keep muscle soreness to a minimum when the horses return to training. This injury may recur should a sudden slip or fall occur. I advise owners to carefully choose where these horses run—in other words, run only where the ground is good.

The name of the sport is barrel racing, but it is important to point out that many of the frequently encountered injuries in flat racing have a very low incidence in this sport. In my opinion, this is probably the direct result of the relative absence of fatigue that is encountered. Superficial flexor tendinitis and run down injuries, which favor horses operating at speed over relatively long distances, are an uncommon occurrence. Tendinitis does occasionally occur, but in my opinion most injuries are caused by the improper use of leg wraps (bandage bow) rather than a function of exertion.

Shoulder injuries, because of the nature of the action, occur with more frequency than other sports. The barrels are usually metal with semisharp edges. The horse’s shoulder joint and musculature is approximately the same height as the barrel when he drops to turn. Should a given horse turn too quickly, he may well run directly into an edge and traumatize the area. These injuries can be quite painful for several days. The injuries, seldom lacerations, are usually managed with anti-inflammatory medications. I have, on occasion, injected the bicipital bursal region with a local-action corticosteroid to bring about relief.

As with any equine sport or breed type, sole bruising, hoof cracks, and other foot-related problems occur. Chip fractures involving the fetlock and carpal joints occur. Therapy and management of these problems are identical to those used in other sports. I suspect, however, that a barrel racing horse is more likely to go on with some injuries better than horses with a comparable injury in flat racing. I suspect that this is also a function of the lack of fatigue as a risk factor in this sport.

According to some noted trainers, the professional lifespan of a barrel horse is approximately 5 years of active competition. A 5-year-old or older horse who has been started slowly on barrels and who has had time to mature seems to last the longest. The reason for such a short life span may be due to trailer kill. Because of the number of rodeos and the distance between them, these horses spend more time in a trailer than in a stall. They cannot hold up to the constant pounding, poor warm-up areas, and hauling that they undergo. The futurity horses seldom last 1–2 years. Very rarely do you see a horse who has done well in futurities show up in the professional circuits. The pressure to do well at such a young age results in either serious behavioral problems or significant performance-limiting injuries that can force early retirement.

Good diagnostic workups are a must to pinpoint the problem(s) facing this equine athlete. Instead of presenting as frank lameness, many of these horses may be dropping a tenth of a second, not turning a barrel well, or not wanting to run down the alley to go to the first barrel. Any number of minor signs may indicate a problem. It is the practitioner’s job to determine if a problem exists or if the training regimen is too rigorous. Convincing the owner that a specific horse needs a break in training or a temporary change of jobs can be very difficult.

Further Reading
1. Women’s Professional Rodeo Association, 1235 Lake Plaza Dr., Suite #13, Colorado Springs, CO 80906.
2. American Quarter Horse Association, P.O. Box 200, Amarillo, TX 79104.
4. Quarter Horse News, P.O. Box 9707, Ft. Worth, TX 76147.
5. W. Bush, Trainer, Box 668, Mason, TX 76856.