

Professionals Choice

Protecting Your Horse's Most Important Assets

If anything goes wrong with your horse's legs or back, you're grounded. You can do a lot to keep your horse sound by using the right equipment.

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In equestrian events we strive for harmony. Ideally, horse and rider should move as a single, balanced unit. Training and equipment should maximize performance and minimize stress and enhance that ideal image. Unfortunately, that's not always the case.

In the equestrian world, tradition has long played a role in tack and equipment choices. Horses often suffer the consequences because traditional equipment doesn't always provide the fit and protection horses need. Leg injuries and backaches are common. Poor-performance syndrome, as well as behavioral and lameness problems, can often be linked directly to ill-fitting or poorly designed tack.

A number of years ago, Professional's Choice Sports Medicine Products, Inc., decided to challenge some longstanding equipment traditions. Advancements had been made in human sports medicine, yet the horse industry wasn't keeping pace. Why weren't sports technology improvements being applied to horse equipment, the company's product developers wanted to know?

Professional's Choice, which originally manufactured human sports medicine products, went to work on problems with the equine athlete. It began by teaming up with scientists, veterinarians and professional horsemen to look at common performance-related injuries. The company then set about developing protective leg boots and, more recently, a new saddle pad, that are scientifically designed to promote comfort and soundness.

Better Saddle Pad Technology

In order to develop a better saddle pad, extensive knowledge of horse anatomy and saddle fit was required. Computerized software, calibrated pressure sensing pads, and

significant technical expertise were used to scientifically identify just exactly what was happening between the saddle, the pad and the horse's back.

Pressure mapping revealed dry areas or "hot spots," which represent superficial areas of improper fit or points where there is increased pressure between the horse, the pad and the rider. These areas may not always adversely affect the animal's performance. However, correct pad thickness, fit, and optimal energy distribution and absorption can minimize areas of stress and optimize the function and protection the pad provides.

For example, saddle trees are built of various materials on an inverted "V" with the widest part resting on the horse's back. The bars of the tree are the weight-bearing surface. The top of the bars are narrow and keep direct saddle contact and pressure off the withers and spine of the horse.

Saddle fit problems can develop from several areas: saddle design, tree design, pad design, and conformation of the horse's back. The tree must be designed properly, be made of quality materials, and match the horse's back conformation. Horsemen must also watch for wear and tear, broken trees, worn and fatigued saddle pads, and other problems.

The saddle pad is a critical piece of equipment for obtaining correct or optimal saddle fit. A pad that narrows the inverted "V" or shifts the pad/saddle fit because it is too long, creates pressure along the horse's back.

Using the wrong type or thickness of pad under a saddle can be compared to wearing thick socks inside shoes that are too small. Pressure points created by the pad, the saddle and the rider's weight can cause injury and muscle atrophy along with soft tissue pain in the back and/or neck. Discomfort is frequently the cause of behavioral problems as well. Pressure can also cause white hairs to develop by altering the hair follicle. The white hair may disappear at the next coat change or may become permanently discolored. (Permanent hair color change is usually only cosmetic and is not necessarily associated with ongoing pain or discomfort).

A scientifically designed pad that fits well will enhance saddle fit. It also acts as an interface and shock absorber between the rider and the horse. To maximize performance and minimize stress to the horse's back, the saddle pad must provide low to medium pressure along the bars of the tree, yet prevent pressure along the spine. The pad should allow equal distribution of pressure to both sides of the saddle and provide a comfortable

form fit to the horse's back. The pad must also be of the correct thickness to prevent "bridging."

Bridging occurs when a saddle rests too far forward, or is too narrow, or when the pad is too thick and causes weight to be improperly distributed on four points: along each side of the withers; and on each side of the back at the rear of the saddle. When the pad is the correct thickness, it should rest evenly on the back and conform to the horse's anatomy, forming continuous contact and providing even weight distribution. In some cases, a properly designed pad may correct slight saddle imperfections by bridging gaps in pressure distribution (areas where the bars of the saddle are not meeting the horse's back) and help disperse areas of excessive pressure.

Professional's Choice Sports Medicine Products developed the AirRide™ saddle pad by applying technology from the human medical field to the equine athlete. "Pressure mapping" allowed precise, scientific readings of the critical interrelationships between saddle, pad and rider. The testing system utilized a pad composed of 225 force-sensing resistors that transmitted pressure readings from the prototype pads to a computer that stored the information for scientific analysis. Readings were displayed as a color graph, numerical spreadsheet, or a 3-dimensional grid display.

During development, prototypes of the AirRide™ pad were tested extensively on horses which were saddled and ridden. They were even asked to perform strenuous athletic activity such as roping. Data was collected remotely, which provided accurate scientific information in a "real use" environment. Researchers were able to determine actual saddle fit pressure points and weight-pressure distribution over the back.

By altering materials and thicknesses, Air Ride™ pad developers were able to correct problems and achieve a quality fit that ensures even pressure distribution. The AirRide™ pad incorporates optimal length, thickness, fit, comfort and pressure distribution to minimize stress and provide optimal fit between the pad, saddle and the horse's back. The Air Ride™ pad has extremely good longevity, is made of high quality, natural products, and provides optimal protection and function for a broad range of equine activities.

Sports Medicine Boots

Catastrophic leg injuries occur all too frequently during strenuous equine athletic activities. Sesamoid fractures, suspensory ligament injuries, distal extremity fractures, and flexural tendon injuries are among the most serious. Some of these injuries can even be life-threatening. Leg injuries take more horses out of competition than any other factor.

Importantly, many of these injuries can be prevented. Research demonstrates that appropriate use of protective leg boots can absorb some of the negative energy associated with strenuous performance. Energy absorption can help prevent potential tendon, suspensory ligament and other musculoskeletal damage.

Although some of the energy generated during athletic activity is absorbed naturally by the bone and soft tissue structures of the legs, Professional's Choice Sports Medicine Boots (SMB II™) have been scientifically designed to reduce hyperextension of the fetlock and to absorb a significant amount of energy. The SMB II boots have been researched and scientifically tested since 1989.

Tests have demonstrated that the *average* energy absorption of the SMB II boots is between 20-30 percent, and up to 45 percent. The boots provide significant tendon and ligament support.

Interestingly, research has also demonstrated that the energy absorption of the SMB II actually increases after the product has been "broken in." By reducing the amount of energy available for potential tissue distortion, severe injury and/or career-ending flexor tendon and suspensory ligament damage can be avoided.

Equine sports medicine boots should be used routinely to protect the horse's legs during training and performance. They provide the very best lower limb support and protection during all forms of athletic activity. They may also be used during rehabilitation for support and protection.

Professional's Choice boots are specifically designed to distribute pressure evenly around the leg and minimize stress to soft tissue structures. The Sports Medicine Boots attach to the horse's fetlock using multiple Velcro closures. The closure system keeps the boots much more secure and provides more evenly distributed lower limb support than traditional spiral wraps which use a single Velcro closure. With appropriate use and application, the SMB IIs are safe and offer significant protection to the horse's legs.

Additionally, regular use of the SMB II on active horses can help prevent and treat many of the degenerative musculoskeletal conditions that develop with age and hard use, such as navicular disease and ringbone. Sports Medicine Boots may significantly contribute to the horse's ability to have a long successful athletic career.