What has changed in the last ten years in equine sports medicine?

A lot is the answer. Equine veterinarians can make more of a difference than ever to their patients. Problems that ten or twenty years ago that meant the end of a career for a promising horse are easier to diagnosis and more effectively treated now days. Navicular disease, ringbone, joint arthritis, back problems and tendon and ligament injuries are all issues that would be on the list of greatly improved problems of equine sports medicine. The equine veterinarian wields diagnostic and treatment tools that their human clinical counterparts wish they had easy access to.

How did it change so much and so fast? It doesn't seem long ago I was riding in my Dad's vet truck and the most sophisticated tools he had was a set of hoof testers and a x-ray machine. Diagnostic tools such as digital radiology, digital ultrasound and MRI all were far off dreams but for a few equine veterinarians and clinics even ten years ago. In the last ten to twenty years many private practice veterinarians actively sought and pursued many technologies to help diagnosis equine sports medicine injuries. This was a change from the past when cutting edge technologies like nuclear bone scans were solely within the university equine hospitals. In the late 80's and through the 90's technology exploded into private practices with digital radiology actually starting in private practices and universities catching up some years later. Private practice also caught up and led other new diagnostic technologies to the clinics and in some cases to stall side. Technologies such as nuclear medicine, high tech ultrasound, standing and general anesthesia MRI units have all become commonplace in the private practice world. Private practices have not had to deal with state legislature budget cuts that the veterinary colleges have had imposed upon them. So if a private practice had the horses and clientele that could support these new technologies they could be implemented very quickly.

As diagnostic technology moved rapidly in to the private sector it changed how quickly and accurately we could diagnosis and treat the equine athlete. Consequently, so did the treatment approaches and the training and expertise of the clinician's involved. Let's look at some of the problems that we dealt with and see how we now diagnosis and treat these problems and how much that approach has changed.

Navicular disease is a description of a whole range of disorders that result from the biomechanical weak point at the back of the horse's heel. This problem encompasses problems both wear and tear and genetic predisposition and includes bony and soft tissue issues. Radiographs and ultrasound and clinical diagnosis have been used for years to help diagnosis these problems. In recent years MRI has made the biggest difference in accurately diagnosing and separating Navicular disease or Navicular syndrome into its component parts. Once we understand what the specific problem is in the foot through diagnosis and imaging it can be addressed separately and more effectively. So as in most matters the proper diagnosis is the key. I have a saying" Absent a Diagnosis, surgery is trauma, medicine is poison, alternative therapy is witchcraft". You could add to that "corrective shoeing is guesswork". For example the shoeing for a collateral ligament injury of the coffin joint is quite different than that of a deep digital flexor injury even though the structures are only a few centimeters apart. Getting to a more accurate and detailed diagnosis has made us much successful in our treatment of this difficult and longstanding foot disorder.

Thus from a treatment standpoint we have made tremendous strides in the area of Navicular disease. Specialized shoes now give proper biomechanical support. Tildren is a drug that shows great promise in dealing with inflammation and damage to the navicular bone. Direct Digital Radiographic units have made accurate pinpoint injections into the navicular bursa possible. Navicular soft tissue lesions have benefited from the new regenerative therapies which have been used with great effect. So have we conquered navicular disease in the horse? No, but we understand it much better than we did ten years ago and we are much more successful treating it.

Other therapies introduced in the last decade have changed our success in treating common problems such as arthritis of the pastern joint. Ringbone or osteoarthritis of the first and second phalanx in the middle of the horse's pastern is a problem that has been around for a long time and is described in Roman veterinary texts. The advent of shockwave therapy (high energy sound waves) has certainly been a tremendous treatment tool to help horses with mild to moderate ringbone happily useful and non-painful for years.

Shockwave has also been used with great success to treat arthritic problems (kissing spines, arthritis of articular processes) in backs of horses. This problem has also been around for years but has only recently been recognized as a primary instead of a secondary problem. This has largely been due to the advent of x-ray technology and nuclear medicine technology that allows us to see into these larger deeper structures of the horse. Once again, when the problem is recognized and diagnosed properly, most times we can come up with a treatment plan that will help many horses. Recent papers have shown that while alternative therapies such as chiropractic treatment can help back problems, it only lasts an average of 3 weeks while shockwave therapy has been shown to help for an average of 4 months.

In the area of tendon and ligament injury and joint problems we have always wanted a treatment that we could inject into the injured tendon ligament or joint and have it improve and reduce its chance of reinjury. Regenerative therapies in the performance horse are a group of treatments that are doing just that and almost no one saw this coming even ten years ago. This is a group of therapies including but not limited to, IRAP (Interleukin Receptor Antagonistic Protein), PRP (Platelet Rich Plasma) and Stem Cells. All of these regenerative therapies are initially derived from the individual horse own tissues then processed to be prepared to be injected back into the injured portion after the healing properties have been refined and concentrated. As a group they have been some of the most exciting treatments to affect the sport horse in years. Using the horses own tissues to help repair, strengthen and prolong the horses athletic life span is one of the most important tools we have ever had in the sports medicine toolbox.

One of the problems with regenerative therapies in human medicine is the way clinicians have been hampered in bringing these therapies to the patient by regulatory agencies and insurance companies. These obstacles have luckily not been a major issue in veterinary medicine and so you have seen a rapid introduction into the equine sports medicine field as soon as they have been shown to be effective.

One of the significant issues in applying regenerative treatments to the horse has been the difficulty of precise application of the therapy in tendon and ligament. It does very little good to spend significant amounts of money processing, say stem cells, and then because of inadequate injection technique the cell are delivered a centimeter or more away from the injured tissue we are trying to repair. So at the same time veterinarians were learning to use the regenerative therapies they also were learning to improve their ultrasound and radiograph guided injection skills so as to assure that the therapies are going to exactly the correct area, tendon, ligament or joint.

So is the profession of equine sports medicine a far different place than what is was when I was riding around in my Dad's vet truck. Yes it is. Are we much more successful in our treatments than we were ten or twenty years ago, absolutely. Do the basics remain the same, yes. I can still hear my Dad say, "Diagnosis it before you inject it or treat it. Remember the most valuable tools you will ever possess is your hands, your eye and the mind of a horseman".