

New Data on Racehorse Injury Prevention



by DR. GREGORY L. FERRARO

The J.D. Wheat Veterinary Orthopedic Research Laboratory recently completed analyzing data acquired from a 1998 USDA funded study on

racing injuries conducted at Southern California Thoroughbred racetracks. The investigation took place "on site" at the Hollywood Park and Santa Anita racetracks under the direction of three UC Davis scientists: Dr. Susan Stover (director of the J.D. Wheat Veterinary Orthopedic Research Laboratory), Dr. Ashley Hill and Dr. Ian Gardner.

The study was conducted with the cooperative efforts of 46 California based Thoroughbred trainers, 17 backside veterinary practitioners and six

UC Davis School of Veterinary Medicine researchers. Each day, researchers monitored the soundness of 210 Thoroughbreds in full race training. The examination process focused on the early detection of damage to the fetlock joint, sesamoid bones, suspensory ligament, or the distal sesamoidian ligaments of the foreleg. Any abnormalities discovered were classified either as painful response to digital pressure, swelling, and/or heat within the structures in question.

The results proved quite interesting to the investigative team and demonstrated some trends that supported previous research conducted by the J.D.

Wheat Veterinary Orthopedic Research Laboratory regarding the risk factors for racing injuries. Over a three-month period, researchers detected a measurable abnormality of the suspensory apparatus in 35 percent of the racehorses examined. These abnormalities were readily detected by palpation of the structures, but were not necessarily severe enough to cause noticeable lameness, poor performance or alterations to training. Interestingly, at that reported rate, about one horse per week in a 30-stall barn



Dr. Susan Stover, director of the J.D. Wheat Veterinary Orthopedic Research Laboratory continues research to identify risk factors for racing injuries. Neil Michel/Axiom photos.

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Dr. Ashley Hill, one of the investigative team looking at racing injuries in a group of over 200 Thoroughbreds in race training.

would develop suspensory apparatus problems. This is not a very comforting thought to anyone operating a racing stable!

Additionally, the investigators determined that horses wearing any type of toe grab on their front shoes (including a Queens XT plate) were twice as likely to develop an abnormality within the suspensory apparatus of the forelimb than horses without toe grabs. Horses wearing rim shoes, however, were not more likely to develop such an injury.

By analyzing the training records in conjunction with the injury data, some interesting information was also revealed. Researchers determined that for each additional two furlongs breezed or raced within a given week, the risk of developing a suspensory apparatus injury increased by 20 percent. In other words, a horse breezing seven furlongs a week would be 20 percent more likely to be injured than a horse breezing five furlongs a week.

Finally, the study also revealed that horses with any type of detectable suspensory apparatus damage in their front legs were seven times more likely to suffer a severe ligament or bone injury which required extended rest or treatment within the following three

months, and were five times more likely to sustain a cannon bone fracture within that three month period. This rather startling information means that any horse, with even slight inflammatory or degenerative changes within its forelimb suspensory apparatus, is far more susceptible to serious cannon bone, sesamoid or suspensory ligament injury than horses without such

changes, and this risk remains for at least three months after these slight inflammatory changes were first detected. The analysis also indicates that there may be a relationship between the use of toe grabs on the front shoes, the development of early suspensory apparatus degenerative change, and the risk of later, more severe and debilitating injury to the foreleg of the Thoroughbred racehorse.

These results indicate that altering the use of equipment and training methods may significantly decrease the risk of injury to Thoroughbred racehorses. This study represents the latest information available from the sustained and ongoing research being conducted through the cooperative efforts of the California Thoroughbred racing industry and the UC Davis J.D. Wheat Veterinary Orthopedic Research Laboratory. Currently, researchers are continuing this investigative work through a two-year study at the five major Thoroughbred racetracks in California. This study examines the relationship between the shoe type, racing performance and risk for injury. Researchers expect to conclude in the summer of 2002. The first year's results should be available to the industry sometime in the fall of 2002.

Guidelines to Decrease Risk for Injury

The following guidelines (based on UC Davis research) may be helpful to trainers and owners of racing Thoroughbreds to avoid injuries to their horses.

1. Closely monitor horses on a daily basis, for any evidence of inflammation in the forelimb suspensory apparatus or fetlock joint.
2. Avoid training when evidence of change to the above structures is noted, and advance in training only after such evidence has subsided.
3. Use rim shoes rather than toe grabs on the front feet of horses in active training and racing.
4. Carefully manage the training and racing regimen to spread out the long distance works and races as much as possible. Remember, as the number of high-speed furlongs per week increases, so does the risk for injury.