

BIG DATA, RESEARCH, SPURRING IMPROVED SAFETY

Grayson-Jockey Club Research Foundation
webinars focus on data from Equine Injury Database

BY FRANK ANGST



**Grayson-Jockey Club
Research Foundation**

The importance of the Grayson-Jockey Club Research Foundation is a big message to emerge from five webinars the research foundation offered over five weeks. The webinars, open to the public, served as a substitute for the 2020 Welfare and Safety of the Racehorse Summit, which was canceled because of the COVID-19 pandemic. The industry has a strong foundation in place to advance safety initiatives based on research and big data collected in the past decade or more.

The numbers in The Jockey Club Equine Injury Database indicate states that have added voided-claim rules have seen reductions in catastrophic injury, and the foundation has funded research linking pre-existing injuries to catastrophic injuries, showing the sport of Thoroughbred racing is on a safer path.

How important are data? The EID is for tracking rare events. Catastrophic breakdowns do not occur 99.847% of the time. Dr. Tim Parkin, professor of veterinary epidemiology at the University of Glasgow who has studied EID numbers since the database launched in 2009, said when you're tracking events that rarely occur, you need a lot of data.

"For us it makes it really, really tough because we're trying to predict something that's really, really rare," Parkin said. "The vast majority of race days are conducted without incident, and the vast majority of horses make it back to the barn safely."

But each year the database gets more significant, and the EID has helped the industry develop a number of protocols that have spurred a 23% reduction in catastrophic breakdowns since 2009 and a record low rate in 2019. While causes of racing breakdowns are multifactorial, the EID has enough data to pull out certain areas of study for focus.

One important trend discussed during a June 9 webinar on EID data is that voided-claim rules have provided further protection for horses. That conclusion emerged from one of a number of points of focus in the past 18 months in a study of numbers generated by the EID, which tracks catastrophic injuries

in horses for about 99% of race starts in the United States.

While the rules might vary from state to state, voided-claim rules place added requirements before a claim (a purchase of a horse out of a race) goes through. Under such rules, claims can be voided if a horse suffers catastrophic injury during the race or suffers an injury significant enough to be placed on the vet's list.

Parkin presented numbers that show that voided-claim rules, no matter how they are structured, are improving safety but that more stringent rules are providing further protection. For instance, rules that require a horse not be placed on the vet's list post-race for the claim to go through provide more protection than rules that require only that the horse not suffer catastrophic injury during the race.

"It's clear to me that it's a really significant regulatory intervention," Parkin said. "Clearly it cannot do harm. I would encourage more tracks and jurisdictions to introduce voided-claim rules as they see fit. They are that second check on entering a horse that would be at greater risk if it did race."

Dr. Mary Scollay, executive director and COO of the Racing Medication and Testing Consortium, said such rules intend to cause the trainer of the horse being entered in the claiming race to "self-edit," knowing that if the horse comes back unsound, it's going to come back to his barn and not be sold. She said the rule provides incentive to improve decision-making to protect the horse.

Parkin focused the study on tracks that have added voided-claim rules



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— DR. TIM PARKIN ON VOIDED CLAIM RULES



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sometime between the launch of the EID in 2009 and 2019.

“These data points simply look at the risk at those individual tracks prior to the VCR (voided-claim rule) and post introduction of VCR in claiming races and maiden-claiming races,” Parkin said. “Certainly in claiming races there’s been a very significant drop in the risk of fatal injury post-introduction of the voided-claim rule. The drop in maiden-claiming races wasn’t statistically significant but was going in the right direction and there’s certainly no evidence that introduction of a voided-claim rule can cause any harm. It’s certainly not going in the wrong direction.”

Other areas of attention in the past 18 months have included a closer examination of the use of shockwave therapy, the effects of bute on racing (from a study in Argentina), non-musculoskeletal fatalities, and risks involved in racing in claiming races.

This is how the EID has been used, pulling numbers to examine possible contributing factors that put horses at risk and then developing new protocols to protect them. It’s a process that requires a lot of compiling data followed by study to understand the problems, but it has delivered results.

“We have successfully and consistently reduced our injury occurrence,” Scollay said. “We’re heading in the right direction. We’ve been able to sustain the improvement. It’s hard to tag any one event



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as the tipping point because there have been so many safety initiatives implemented over that period of time. At the end of the day, we’re doing something right, and we’ve been able to sustain that. Our work is paying off.”

Research from the California Horse Racing Board’s postmortem program at the University of California, Davis also has been critical in developing improved equine safety efforts.

Sue Stover, a professor at UC, Davis who oversees the CHRB postmortem program launched in 1990, outlined information that program has provided, as well as advances based on that information, during a June 2 webinar discussion.

Stover noted a significant discovery has been that pre-existing injuries are key factors in catastrophic breakdowns. That knowledge has led to new ideas and technology aimed at preventing such events.

“If I were to share two key findings throughout the postmortem program, it would be that catastrophic injuries are associated with pre-existing injuries. (Catastrophic injuries) are the acute manifestation of a more chronic process,” Stover said. “Because these injuries are associated with the occupation of racing, they’re occupational and tend to occur in these same configurations and same predictable locations.”

Because of that predictability, Stover said the opportunity exists to identify affected horses that have the developing injury and to intervene in that period of time and prevent that catastrophic injury from happening.

In training, Stover said, it’s important for each individual horse to receive the right amount of rest after work to allow bones to restructure and strengthen themselves. She said particular areas of concern are when a horse first begins training for racing and with veteran horses who have been asked to do a lot of racing and training.

Stover’s study indicates that horses respond well to short exposures to high-intensity exercise and added high-intensity work beyond that is not needed by the horse and risks causing the lesions that can lead to catastrophic injury.

She notes that close observation that allows for communication among everyone involved with the horse—the groom, vet, trainer, exercise rider—is a great defense in picking up smaller injuries that will require rest for the horse to recover and get stronger. She said that approach



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Racing on the turf at Santa Anita

is important because each horse is an individual.

“The best answer is good horsemanship, good horsemanship. It really takes a trainer who is paying attention to the attitude and performance of the horse, how the horse is doing, how it reacts to a certain event,” Stover said. “Let’s say we increase the intensity of training and the next day, or the next couple of days, the horse is just a bit off or doesn’t want to walk out well. Those are very subtle signs that take an astute trainer who is paying attention to those things and sees that the horse needs more time to recover.”

Improved information also has been compiled by track superintendents and the Racing Surfaces Testing Laboratory, where Dr. Mick Peterson is executive director. In a May 26 webinar, Peterson outlined how this information has improved track maintenance. He noted recent efforts to improve the safety of turf courses.

While the EID has tracked a downward trend in catastrophic injuries in racing over the past 10 years, reaching a record low 1.53 per 1,000 starts last year, the EID rate for turf surfaces saw a 30% increase in risk from 2018 to 2019 to 1.56 per 1,000 starts.

“Turf is an important surface for us,” Peterson said. “It’s growing in popularity in North America. We don’t hear any complaints about the biomechanics of turf surfaces. You can hear that a turf is too soft or too hard, but we know how to deal with that. We can aerate and water.”

“As turf racing grows as a percentage of total starts, we need to understand the appeal of turf, and see if we can even get better.”

Peterson said periodic turf surface testing has been enhanced, and efforts are being made to improve information on the top material used to replace damaged sod, documentation of watering and aeration, and existing and new surface testing methods.

Beyond those strides, Peterson said there is a lot of emphasis on keeping the turf in good shape by using different



Santa Anita Park is using technology to improve pre-race protocols to protect horses

lanes to spread out the traffic. He said a better sod mix is being used to repair divots. There also is a study looking at areas of heavy usage, typical of areas where the gate is placed.

Peterson later noted that actions as simple as filling in a divot with dirt and sod can be worthy of study.

“A key is that the divot mix should match the surrounding material to the extent possible,” Peterson said. “That’s a challenge right now. There has been some very clever work at Santa Anita Park and some other tracks on developing divot mix, but we need to look at that. It can’t just be loose sand that blows out when a horse hits the same area.”

As more information has become available, tracks are beginning to use technology to enhance pre-race protocols for horses. In a May 19 webinar, Southern California-based racetrack veterinarian Dr. Ryan Carpenter said The Stronach Group’s commitment to the latest diagnostic technology at its Santa Anita Park is improving the safety of horses at the track.

“I can tell you today with 100% certainty that we have saved horses’ lives with these pieces of equipment, without a doubt in my mind,” Carpenter said. “This is basically all because the Southern California Equine Foundation and The Stronach Group have made commitments to the safety of the horses.”

Unveiled in December by Santa Anita

and the Southern California Equine Foundation, the first-ever standing positron emission tomography scan machine was added at the track to aid in diagnosing equine lameness. The machine delivers improved resolution compared with nuclear scintigraphy imaging.

At an international meeting of vets this year in Newmarket, U.K., Carpenter said it became clear that each diagnostic tool has strengths and weaknesses. But as more data are compiled through their use, he expects added strides in equine safety.

“I think this is going to be the foundation that’s going to really spring injury (research) related to the fetlock forward because it’s going to produce a lot of good research, and it’s going to produce a lot of good collaboration,” Carpenter said. “I’m excited to see what will come from this meeting in the coming years.”

Webinar participants already were familiar with fetlock issues, thanks to the May 12 launch of the series with a presentation by Dr. Katie Garrett, of Rood & Riddle Equine Hospital.

Jamie Haydon, president of Grayson-Jockey Club Research Foundation, said the webinars were well received with about 75 people observing. They also had the option to submit questions thanks to a Zoom feature. Haydon noted that the videos are all recorded and are available on Grayson-Jockey Club’s Youtube channel, where they’re generating additional interest. **BH**