

CALIFORNIA IDAHO NEVADA OREGON  
UTAH WASHINGTON WYOMING

## New View

### Diagnostic equipment at Santa Anita Park aids equine safety

BY TRACY GANTZ

**WHEN SANTA ANITA** Park finished its recent fall meeting without a single equine fatality during the races or morning training, it marked a milestone that many people throughout the industry have worked very hard to achieve. Following the rash of fatalities at Santa Anita in 2019, track management, trainers and their personnel, and veterinarians have created and followed new protocols to protect horses and riders.

The system is succeeding, in part due to new diagnostic equipment installed with the Southern California Equine Foundation hospital on the Santa Anita backstretch. Late last year the first-ever standing positron emission tomography machine arrived, followed by a standing magnetic resonance imaging machine this year.

“In my opinion, the thing that has really made the improvement that we’re seeing is the diligence of the trainers in being sure that their horses are as ready to go as possible,” said Dr. Joe Dowd, president of SCEF and a racetrack equine practitioner.

That diligence has gone hand-in-hand with efforts by Santa Anita management and the California Horse Racing Board in everything from more prerace oversight to medication rule changes.

But it’s the diagnostic tools and their use by trainers and veterinarians that can



Santa Anita shows off the track’s new standing positron emission tomography machine

find problems early enough to avoid many catastrophic injuries, often in the fetlock/sesamoid area. This is where the addition of the standing MRI and PET machines is becoming invaluable.

Dr. Dan Brown, based in Chicago, is vice president and chief customer officer at

Hallmarq Veterinary Imaging, the company that made the standing MRI machine at Santa Anita.

“The primary use of MRI on the racetrack is to look at bone injury in the fetlock joint,” Brown said. “There’s a lot more it can do, but typically the focus on

## 2020 LEADING SIRES IN CALIFORNIA

For daily updated sire lists  
visit [BloodHorse.com](http://BloodHorse.com)

Rank	Stallion (Foreign foaled), (YOB,Sire), Where Stands	2020 Stud Fee	Rnrs/ Wnrs	BT SWnrs/ Wns	Rstrct SW/ BT SW	(Chief Earner, Earnings)	2020 Earnings	Foals	Cumulative Stks Wnrs	A-E Index	Comp Index
1	<b>I'LL HAVE ANOTHER</b> (09, Flower Alley), Ballena Vista Farm	\$6,000	208/107	2/2	1/2	(Another Truth, \$300,020)	<b>\$4,693,494</b>	357	3	0.98	1.10
2	<b>STAY THIRSTY</b> (08, Bernardini), Lovacres Ranch	\$10,000	175/86	7/10	2/7	(Mind Control, \$242,429)	<b>\$3,370,562</b>	*498	12	1.26	1.39
3	<b>SQUARE EDDIE</b> (06, Smart Strike), Ocean Breeze Ranch	Pnsd	92/49	1/1	1/1	(Rookie Mistake, \$197,837)	<b>\$2,534,727</b>	238	17	1.52	1.16
4	<b>SIR PRANCEALOT (IRE)</b> (10, Tamayuz), Rancho San Miguel	\$15,000	120/50	3/4	0/3	(Beau Recall, \$430,900)	<b>\$2,189,542</b>	*279	9	1.30	0.93
5	<b>GRAYDAR</b> (09, Unbridled's Song), Milky Way Farm	\$4,000	136/58	0/0	0/0	(Dream Marie, \$156,340)	<b>\$1,922,232</b>	*289	5	0.89	1.41
6	<b>SMILING TIGER</b> (07, Hold That Tiger), Harris Farms	\$7,500	90/39	5/5	5/5	(Smiling Shirlee, \$188,620)	<b>\$1,655,466</b>	228	9	1.11	1.00
7	<b>GRAZEN</b> (06, Benchmark), Tommy Town Thoroughbreds	\$6,000	69/29	3/3	3/3	(September Secret, \$135,960)	<b>\$1,515,644</b>	186	11	1.60	1.04
8	<b>CLUBHOUSE RIDE</b> (08, Candy Ride), Legacy Ranch	\$3,500	48/24	1/4	0/1	(Warren's Showtime, \$412,980)	<b>\$1,496,264</b>	87	2	1.39	0.90
9	<b>LUCKY PULPIT</b> (01, Pulpit)	Died, 2017	94/39	3/4	2/3	(Fashionably Fast, \$190,500)	<b>\$1,401,292</b>	*478	12	1.23	1.03
10	<b>JERSEY TOWN</b> (06, Speightstown), Daehling Ranch	\$3,000	81/39	1/1	0/1	(Angelus Warrior, \$88,995)	<b>\$1,241,779</b>	*178	4	0.97	1.11
11	<b>UNUSUAL HEAT</b> (90, Nureyev)	Died	51/25	2/2	2/2	(Stealthdiamonds, \$135,780)	<b>\$1,236,500</b>	*831	51	1.86	1.16
12	<b>VRONSKY</b> (99, Danzig), Harris Farms	\$4,500	71/32	0/0	0/0	(On Mars, \$115,500)	<b>\$1,131,938</b>	298	10	1.23	1.05
13	<b>MINISTERS WILD CAT</b> (00, Deputy Minister), Tommy Town Thoroughbreds	\$4,000	93/41	1/1	0/1	(Dylans Wild Cat, \$64,800)	<b>\$1,087,287</b>	515	20	0.94	0.89
14	<b>ACCLAMATION</b> (06, Unusual Heat), Harris Farms	\$5,000	56/28	0/0	0/0	(Take the One O One, \$105,800)	<b>\$975,591</b>	151	3	0.97	1.21
15	<b>COIL</b> (08, Point Given)	Pnsd	45/27	1/1	1/1	(Principe Carlo, \$121,780)	<b>\$949,560</b>	161	1	0.78	1.14
16	<b>MR. BIG</b> (03, Dynaformer), Rancho Temescal	\$6,500	40/12	2/3	1/2	(Big Sweep, \$212,750)	<b>\$783,939</b>	87	4	1.60	0.90
17	<b>MISREMEMBERED</b> (06, Candy Ride), Barton Thoroughbreds	\$2,500	39/15	0/0	0/0	(I Recall, \$89,830)	<b>\$705,017</b>	116	6	0.98	1.16
18	<b>RICHARD'S KID</b> (05, Lemon Drop Kid), Rancho San Miguel	\$2,500	26/17	0/0	0/0	(Sheza Girly Girl, \$146,426)	<b>\$689,749</b>	66	0	1.11	0.98
19	<b>EMPIRE WAY</b> (09, Empire Maker), Heinz & Michelle Steinmann Farms	\$2,500	74/29	0/0	0/0	(Mucha Woman, \$50,360)	<b>\$647,204</b>	150	2	0.65	0.91
20	<b>IDIOT PROOF</b> (04, Benchmark), Victory Rose Thoroughbreds	\$3,000	31/21	1/1	0/1	(Bulletproof One, \$195,762)	<b>\$636,726</b>	109	2	1.17	0.93
21	<b>CYCLOTRON</b> (00, Grand Slam), Old English Rancho	Private	35/20	1/1	0/1	(Tee Em Eye, \$111,021)	<b>\$578,848</b>	150	3	0.97	1.11
22	<b>CHAMP PEGASUS</b> (06, Fusaichi Pegasus), Barton Thoroughbreds	\$2,500	75/28	0/0	0/0	(Tap It Champ, \$64,480)	<b>\$557,760</b>	204	0	0.33	1.01
23	<b>SLEW'S TIZNOW</b> (05, Tiznow), Rancho San Miguel	\$3,000	43/19	1/1	0/1	(Trapalanda, \$59,755)	<b>\$547,599</b>	145	6	0.91	0.99
24	<b>INDIAN EVENING</b> (09, Indian Charlie)	N/A	18/11	1/2	0/1	(Sneaking Out, \$260,110)	<b>\$517,818</b>	62	3	1.20	1.06
25	<b>COMIC STRIP</b> (95, Red Ransom)	Died, 2017	24/14	1/1	1/1	(Indian Peak, \$143,940)	<b>\$501,118</b>	361	13	0.84	1.09
26	<b>DESERT CODE</b> (04, E Dubai), Harris Farms	\$2,000	37/20	0/0	0/0	(Songofthedesert, \$84,046)	<b>\$467,850</b>	165	4	0.85	0.99
27	<b>U S RANGER</b> (04, Danzig), Rancho San Miguel	\$2,000	58/16	0/0	0/0	(Zelasia, \$49,886)	<b>\$455,886</b>	*407	3	0.64	1.22
28	<b>ANTHONY'S CROSS</b> (08, Indian Charlie), Special T Thoroughbreds	\$2,500	16/8	2/3	1/2	(Joy's Rocket, \$184,444)	<b>\$433,440</b>	55	2	0.92	0.95
29	<b>DECARCHY</b> (97, Distant View)	Died, 2017	41/16	0/0	0/0	(My Friend Tony, \$81,072)	<b>\$414,658</b>	438	13	0.96	0.94
30	<b>CURLIN TO MISCHIEF</b> (11, Curlin), Rancho San Miguel	\$3,500	21/9	1/2	1/1	(Good With People, \$199,000)	<b>\$376,041</b>	56	1	0.90	0.90
31	<b>EDDINGTON</b> (01, Unbridled), Ballena Vista Farm	\$3,500	23/9	1/1	1/1	(Fast Enough, \$134,000)	<b>\$370,628</b>	*467	12	1.14	1.35
32	<b>HEATSEEKER (IRE)</b> (03, Giant's Causeway)	Died, 2016	39/17	0/0	0/0	(Peace Seeker, \$56,545)	<b>\$362,144</b>	*232	8	0.94	1.19
33	<b>SOUTHERN IMAGE</b> (00, Halo's Image), Gray's Farm	\$1,500	26/13	0/0	0/0	(Do You Hear That, \$53,998)	<b>\$349,342</b>	*527	7	1.02	1.11
34	<b>SMART BID</b> (06, Smart Strike), Milky Way Farm	\$3,500	32/10	1/1	1/1	(Arthur's Hope, \$105,486)	<b>\$348,218</b>	89	1	0.61	0.97
35	<b>THE PAMPLEMOUSSE</b> (06, Kafwain)	Pnsd	19/10	0/0	0/0	(North County Guy, \$79,640)	<b>\$344,806</b>	127	0	0.58	1.02
36	<b>KAFWAIN</b> (00, Cherokee Run), Tommy Town Thoroughbreds	\$2,500	31/14	0/0	0/0	(Silken Prince, \$56,558)	<b>\$334,854</b>	*653	18	0.97	1.17
37	<b>GOVENOR CHARLIE</b> (10, Midnight Lute), Lovacres Ranch	\$3,000	28/9	1/2	1/1	(Governor Goteven, \$153,000)	<b>\$333,002</b>	54	1	0.63	0.73
38	<b>GERVINHO</b> (10, Unusual Heat), Legacy Ranch	\$2,000	24/11	0/0	0/0	(After Midnight, \$44,000)	<b>\$317,284</b>	44	0	0.50	1.07
39	<b>TIZBUD</b> (99, Cee's Tizzy)	Died, 2020	25/12	0/0	0/0	(Bud Knight, \$71,140)	<b>\$300,552</b>	225	7	0.97	0.86
40	<b>OLD TOPPER</b> (95, Gilded Time)	Pnsd	14/8	1/1	0/1	(Queen Bee to You, \$120,000)	<b>\$295,670</b>	566	20	0.94	0.82
41	<b>TIME TO GET EVEN</b> (04, Stephen Got Even)	Died, 2019	16/8	0/0	0/0	(Time for Ebb, \$81,478)	<b>\$285,296</b>	85	1	0.80	0.71
42	<b>LAKERVILLE</b> (08, Unusual Heat), Harris Farms	\$2,500	25/10	0/0	0/0	(Queensbeccaandjane, \$55,540)	<b>\$283,665</b>	60	1	0.69	1.22
43	<b>TANNERSMYMAN</b> (98, Lord Carson), Woodbridge Farm	Private	18/8	0/0	0/0	(El Chavo Del Ocho, \$78,078)	<b>\$265,565</b>	180	3	0.74	0.70
44	<b>ELUSIVE WARNING</b> (04, Elusive Quality)	N/A	32/16	0/0	0/0	(Happy Issue, \$35,572)	<b>\$261,348</b>	84	1	0.56	0.97
45	<b>MARINO MARINI</b> (00, Storm Cat)	N/A	27/13	0/0	0/0	(Desert Smoke, \$29,915)	<b>\$240,761</b>	389	4	0.75	0.92
46	<b>BOLD CHIEFTAIN</b> (03, Chief Seattle), Victory Rose Thoroughbreds	\$3,000	25/10	0/0	0/0	(Chieftain's Lady, \$34,946)	<b>\$236,772</b>	81	1	0.77	0.90
47	<b>NORTHERN CAUSEWAY</b> (08, Giant's Causeway), Rancho San Miguel	\$2,500	35/9	0/0	0/0	(Sinkerry, \$24,240)	<b>\$230,056</b>	73	0	0.40	0.88
48	<b>SIERRA SUNSET</b> (05, Bertrand)	N/A	33/12	0/0	0/0	(Sierra Melody, \$32,560)	<b>\$224,665</b>	109	1	0.55	0.75
49	<b>BIG BAD LEROYBROWN</b> (04, Wild Again), Old English Rancho	\$1,500	13/9	0/0	0/0	(D's Lovely Sophia, \$49,572)	<b>\$212,942</b>	27	0	0.99	1.20
50	<b>JAMES STREET</b> (07, El Prado), Blue Diamond Horseshoe	\$5,000	13/6	0/0	0/0	(Coast of Roan, \$57,420)	<b>\$207,138</b>	54	0	0.61	0.82

the racetrack has been primarily condylar fractures, POD (palmar osteochondral disease), and sesamoid fractures.”

Brown explained that all three can originate from the same process of repetitive stress injury. In most horses, bones react to repetitive stress by remodeling and becoming stronger. If the bone cannot keep

up with what it's being asked to do, however, problems can start to emerge.

“One of the things that can happen is that the bone is so desperate to get stronger to withstand the forces that it becomes denser and denser,” Brown said. “The theory is that it then becomes more brittle, and because there is so much more bone and

so much less cellular, non-mineral parts of the bone, it actually stops the blood supply's getting in. It becomes essentially like a piece of glass, and the endpoint of that is that one impact causes it to crack.”

The MRI can detect this process and show the change in the bone.

“These bones, before they fracture, will

#### Special Note For Sire Lists:

For example, the average North American purse in 2019 is \$25,300 or 53% of the 2019 average purse in Japan. To put earnings on par, all Japanese progeny earnings are multiplied by 53% before being credited to a sire's progeny earnings. Hong Kong earnings are adjusted by 17%; Singapore by 85%. Current year stakes winners include all N.H.-foaled black-type stakes winners worldwide. \*Foal counts include Southern Hemisphere. Cumulative stakes winners include all countries. The columns represent the following: Rnrs = number of runners or starters; Wnrs = number of winners; BTWnrs = number of black-type stakes winners; BTHrs = number of black-type stakes horses, which include runners that won or placed in a stakes; GSWnrs = graded/group stakes winners; and G1SWnrs = grade/group 1 winners; AWD = progeny average winning distance. All percentages are from runners. Cumulative stakes winners include all available countries.

\*AVERAGE-EARNINGS INDEX AND COMPARABLE INDEX: Lifetime AVERAGE-EARNINGS INDEX indicates how much pure money the progeny of one sire has earned in relation to the average earnings of all runners in the same years; average earnings of all runners in any year is represented by an index of 1.00; COMPARABLE INDEX indicates the average earnings of progeny produced from mares bred to one sire, when these same mares were bred to other sires. Only 32% of all sires have a lifetime AVERAGE-EARNINGS INDEX higher than their mares' COMPARABLE INDEX.

absolutely recover,” Brown said. “You just take (horses) out of fast work, and the body catches up with the damage. These horses will recover to pretraining status. They’ll completely refresh their bones.

“Bone isn’t like a leg of a table—that’s it; that’s what you’ve got—it’s never going to change. Bone is always turning over. There are two sets of competing cells, one that’s going through and removing damaged bone and another set that goes through and lays down pristine new bone.”

Before the development of a standing MRI, horses needed to be shipped to a facility with a full-scale MRI machine, which can image more than the legs. The horse has to undergo general anesthesia when using those machines.

The standing MRI, which focuses on the legs, can be performed with the horse standing up and only under light sedation.

In addition, now that a standing MRI is located at Santa Anita, horses don’t even have to leave the racetrack. This is less disruptive to a horse’s training schedule and also saves owners money. While these diagnostic tools can increase veterinary costs, the donations to acquire the standing MRI and PET reduce the expense.

“Because the SCEF is non-profit, our rates are better than anywhere else you’d have this done,” Dowd said. “The SCEF operates at a loss a lot of years. We try to break even, and that loss is covered by our investments. The SCEF is not here to make a profit.”

The MRI and PET are housed on the Santa Anita backstretch in the SCEF’s imaging center, which already included nuclear scintigraphy diagnostic equipment. It is a completely different area of the backstretch from the SCEF equine hospital. PET and nuclear scintigraphy require the use of radioisotopes, and horses must be quarantined for a short while so that the radioisotopes can decay and waste that might contain the radioisotopes can be disposed of properly.

The industry came together to fund the new diagnostic equipment. The Stronach Group provided the infrastructure for

the PET and MRI machines and donated major funding for the PET scanner. The Dolly Green Research Foundation also



TRACY GANTZ

**Dr. Joe Dowd, president of Southern California Equine Foundation**

helped fund the PET scanner and provided much of the funding for the MRI scanner, along with other industry organizations and individuals.

The California racing industry has long benefited from the DGRF, a legacy bequeathed by Thoroughbred owner Dolly Green, who died in 1990. Green loved all of her horses, often planting lipstick kisses on them in the winner’s circle. Her runners include Brave Raj, champion 2-year-old filly of 1986 and winner of that year’s Breeders’ Cup Juvenile Fillies (G1).

The SCEF dates back to 1976, when a group of horsemen came together to develop a way to fund equine research and promote the welfare of racehorses. The most visible aspect is the principal equine hospital, which includes a surgical suite, dedicated in 1981 on the Santa Anita backstretch. A similar facility existed at Hollywood Park, as does one currently at Del Mar, with a surgical suite added there in 2014.

Racetrack managements, including the Oak Tree Racing Association, and horsemen’s groups were instrumental in the SCEF’s beginning. The original board included Dr. Greg Ferraro, the first SCEF president and now chairman of the California Horse Racing Board; and Joe Harper, now CEO of the Del Mar Thoroughbred Club.

With funding from the DGRF, the SCEF added the nuclear scintigraphy facility at Santa Anita in 1993. While the standing MRI and PET devices have a higher resolution and give 3-D images, 2-D modality nuclear scintigraphy remains valuable as a diagnostic tool.

“It’s got the potential to give you a global view of the horse, from head to toe,” said Dowd.

A trainer or veterinarian might notice something off in a horse but can’t pinpoint where the problem is. Nuclear scintigraphy can light up “hot spots” that might be a problem, perhaps in areas such as a tibia or the pelvis.

“Horses have spinal lesions; they have pelvic lesions, shoulders, scapulas,” said Dowd. “All of that can only be viewed with nuclear scintigraphy.”

But the majority of lameness problems in racehorses occur in the lower limbs. The standing MRI and PET add to the veterinarian’s arsenal of diagnostic tools.

Trainers look for heat in horses’ lower limbs daily as a way of monitoring potential problems. Santa Anita’s safety protocols have added layers of protection, with more veterinary exams, both prerace and during training hours. In 2019 The Stronach Group appointed Dr. Dionne Benson to the newly created position of chief veterinary officer. Benson oversees the protocols at Santa Anita.

The standing PET scanner is the first of its kind. Dr. Mathieu Spriet of the University of California, Davis, developed the LONGMILE Positron Emission Tomography (MILE-PET) Scan machine at the university in partnership with the Brain Biosciences and LONGMILE Veterinary Imaging division.

The DGRF, Grayson-Jockey Club Research Foundation, The Stronach Group, and the Center for Equine Health at the University of California at Davis have provided grant money to study the PET modality, how lesions heal, and following a horse’s progress back into training. Because the PET modality is relatively new, veterinarians are still learning how it can help them with their diagnostics. Spriet and Dowd are two of the veterinarians conducting the studies.

On the other hand, MRI is a long-prov-



Dr. Mathieu Spriet, of University of California Davis, examines the findings of a PET scan

en modality. Hallmarq has been providing standing MRI machines for decades. The Hong Kong Jockey Club installed one in 2013 and has performed hundreds of exams with it.

“We have found the information obtained to be invaluable in the identification of injuries that are not visible on conventional imaging modalities,” said Dr. Paul Robinson, head of veterinary clinical services at the HKJC. “It has helped us to manage a variety of conditions using an objective, targeted approach.”

The Japan Racing Association has Hallmarq standing MRI machines in two locations. Other areas with the machines include Newmarket, England; Chantilly, France; the Jockey Club of Turkey; and three in Australia. U.C. Davis, the Cornell University Ruffian Equine Specialists near Belmont Park, and the Marion DuPont Scott Equine Medical Center at the Virginia Polytechnic Institute and State University are just a few of the places in the U.S. that have them.

Dr. Ryan Carpenter, an equine practitioner and surgeon at Southern California racetracks, said the introduction of the standing MRI into the diagnostic array at Santa Anita has been seamless.

“Being able to identify bone pathology at the earliest stages allows us to intervene long before these abnormalities could be seen on radiographs,” Carpenter said. “Knowing that we have this technology at our fingertips, where horses can literally walk out of their stall, undergo standing



Dr. Ryan Carpenter explains the new technology's safety benefits for the sport's athletes

MRI, and be back in a matter of a couple of hours, speaks to the commitment to greater safety for our athletes.”

Brown explained that the C-shaped magnet of the MRI can be moved up or down a leg to look at everything from the foot on up to the knee and hock in most horses. Not only does this help find bone issues, but MRIs can also show tendon abnormalities.

## 2020 CALIFORNIA SIRES BY WINNERS

Sire	Rnrs	Wnrs
I'll Have Another	208	107
Stay Thirsty	175	86
Graydar	136	58
Sir Prancealot (IRE)	120	50
Square Eddie	92	49
Ministers Wild Cat	93	41
Lucky Pulpit	94	39
Smiling Tiger	90	39
Jersey Town	81	39
Vronsky	71	32
Empire Way	74	29
Grazen	69	29
Champ Pegasus	75	28
Acclamation	56	28
Coil	45	27

“MRI is very sensitive for tendons,” said Brown. “That’s a really good application for it. MRI is quite unusual in that it’s very good for soft tissue and bony tissue. That explains why if you have any kind of sports injury or orthopedic injury in the human world, you go straight to MRI first because they can cover all the bases with a single scan.”

While heat in a fetlock might be the classic indication that an MRI scan is needed, Brown said sometimes it could be related to performance. Perhaps a horse’s workout times aren’t what they should be.

“It’s most often not overt lameness,” Brown said. “Good athletes have the ability to work through a certain amount of pain. It’s usually a good interaction between the veterinarian and the trainer and their knowledge of the horse.”

With total scans from the MRI and PET at Santa Anita approaching 300, these modalities are helping trainers and veterinarians keep horses sound and injury-free. Whether a veterinarian recommends an MRI, PET, or both will depend on the nature of the suspected problem.

“Information is knowledge,” said Dowd. “With each integration of another technology, you’re just gaining that much more knowledge.” **BH**

*Tracy Gantz is the Southern California correspondent for BloodHorse.*