

Life After R. Equi Pneumonia



colt had good body condition but was breathing hard with flared nostrils and a worried look in his eye. He had been seemingly normal the previous day and was suddenly found struggling to breathe and about to embark on the fight of his life.”

This is a common presentation of *R. equi* pneumonia in foals. *R. equi* is ubiquitous in the environment of horse farms and is present in the manure of most mares. Infection is thought to occur from inhalation of airborne bacteria during the first few days of life, although the disease progresses slowly and insidiously. Clinical signs include fever, lethargy, coughing, nasal discharge, and difficulty breathing, but many foals show no clinical signs until they have developed abscesses in their lungs.

“His condition was complex, not just involving the primary infection, but he was also demonstrating significant associated inflammation.” Dr. B noted. *“His difficulty breathing had developed as a complication of the infection, triggering an overwhelming and uncontrolled inflammatory reaction in his lungs, and it was the inflammation that could kill him.”*

“Treatment of these dynamic cases is multifaceted and involves antimicrobial therapy to address the underlying infection, as well as aggressive therapy to suppress the inflammatory response and improve oxygenation. Such therapy includes intranasal oxygen insufflation, bronchodilators, and judicious use of corticosteroids. Prognosis for these foals is guarded, and they can deteriorate rapidly despite our best efforts.”

Watching the strapping bay colt work down the lane at HighPointe training center near La Grange Kentucky, no one would suspect this well-toned athlete came close to losing his life as a weanling. He is proof that through treatment and a will to live, a foal can make a full recovery from *Rhodococcus equi* (*R. equi*) pneumonia.

Grayson has funded many projects by Dr. Noah Cohen at Texas A & M University, who specializes in *R. equi* treatments and is currently being funded to create a vaccine against this deadly disease.

When Demolisher (aka, Demi) was born in February of 2021, he was proportioned well, muscular, and very active. Watching him run and play, it was easy to get excited about the places he might go. His future looked promising.

Dr. Cohen stated, *“With regard to treatment, it is so dependent on the foal: some foals do great with just a couple of weeks of antimicrobials and not much else, others can succumb despite intensive treatment. In general, I always ask whether the strain of R. equi isolated from the foal is resistant to macrolides.”*

In mid-May, the farm called the owners, Mr. and Mrs. Ayres, to let them know the colt was having difficulty breathing. After having his lungs scanned by the farm vet, it was determined the colt needed hospitalization.

Macrolides are a class of antibiotics. Macrolide-resistance is prevalent in Demi’s area of Kentucky, and the prognosis for these foals is worse. Macrolides can cause diarrhea, and they can cause foals to lose the ability to dissipate heat (primarily by blocking sweating), so it is important to monitor the foals closely for signs of overheating.

Dr. Rana Bozorgmanesh (Dr. B) at Hagyard Equine Medical Hospital (Hagyard) confirmed this was a serious case of *R. equi*. She noted in her assessment, *“Upon arrival, the 3-month-old*

R. equi treatment is intensive and expensive with no guarantee that a foal will recover. An owner must determine how much they can afford to spend and still give the horse the best chance at survival. Demi was

Resia Ayres has been the operations manager of Grayson since 2008. She and her husband, Ken, are Thoroughbred owners and breeders, breeding a single mare each year and racing the foal. This continues the story of their colt from the 2021 Summer Spotlight, produced by Grayson-Jockey Club Research Foundation.

kept on oxygen for a few days at Hagyard, then the oxygen was removed to evaluate how well he could breathe on his own. Dr. B felt, although Demi was still critically ill, he could be released to a farm that could provide 24-hour care to help mitigate expenses.

The six- to eight-week treatment process began at Phoenix Farm. This included an intensive list of various pharmaceuticals being administered through a nebulizer, a catheter, and orally on a 24-hour round-the-clock schedule.

“Thanks to the researchers and collaborators of Grayson, foals that have been diagnosed with R. equi have an improved chance for survival and are able to perform as well as their aged-match peers.”



-Dr. Nathan Slovis
Hagyard Equine Medical Group

Demi continued to flourish with no sign of side effects. He began his breaking and training in the fall of 2022. He excelled at each task and was mentally ready to do more. He continued his field training under the tutelage of Jim and Priscilla Potter at Chamerolles Farm.

One day in February when Demi came in from a workout breathing heavy with an increased respiratory rate, the Potters were concerned. Dr. Nathan Slovis of Hagyard had been treating another horse at the farm, and he scoped Demi as well.

Dr. Slovis noted Demolisher was a big statured colt that likely would take more time to gain muscle mass and to maintain the current training level until Demi was better conditioned, and he was surprised to learn that Demi had been treated for R. equi. He would never have guessed this was the same horse that his colleague Dr. B had saved as a foal.

Dr. Slovis has served on the Research Advisory Committee for the Foundation and said, *“Grayson has funded vital clinical research that has document R. equi that are highly resistant to antibiotics at horse farms. With this information veterinarians were informed about a targeted treatment programs for R. equi based on ultrasonographic screening.”*

Following Dr. Slovis’ advice, Demolisher continues to do well. He has continued to train well and has had no setback associated with his R. equi pneumonia as a foal. He is breaking from the gate and continues to work toward his first start.

The mare and foal were stall-bound for several weeks. Keeping the foal cool was essential to help the foal breathe, so a very large fan was placed at the entrance of the stall. Dr. B consulted with the farm vet, Dr. Michael Hughes, on the colt’s condition, scans, and blood-work, coordinating each state of his treatment.

This journey began on May 13, and, by the first part of July, Demi was well enough to be taken off medications and begin running around the fields with his equine buddies.



Clockwise starting at upper left

- Demolisher before illness
- With his dam after completing treatments
- A visit with Dr. Rana Bozorgmanesh as a yearling
- In training as a two-year-old

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