

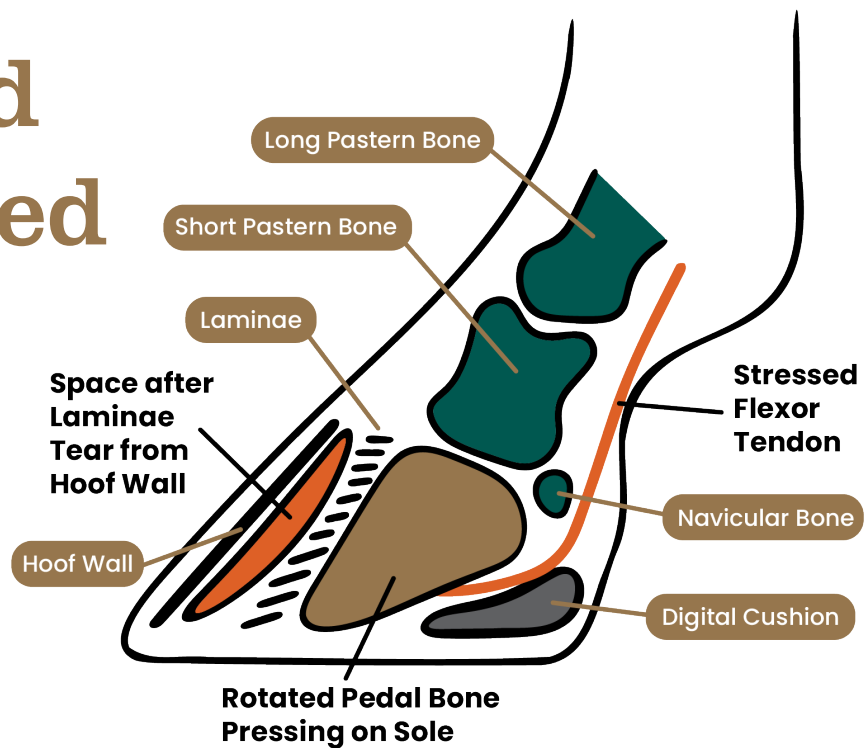
# Laminitis and Exosome-based Therapies

by Hilltop Bio

Laminitis is one of the most common causes of lameness in horses and one of the most frustrating conditions to treat. Over the years, treatments have evolved beyond just therapeutic shoeing, dietary changes, and stall rest. While there is still no actual “cure” for the disease, various approaches can be utilized depending on the severity and complexity of the case. Dr. David Dutton, DVM, DACVS of Boerne, Texas, has seen promising results in many of his laminitic patients after using Hilltop Bio’s exosome therapies.

## Exosome-based Therapies & Laminitis

According to Dr. Dutton, studies show these therapies contain anti-inflammatory properties which can play a role in blocking the inflammatory cascade that occurs during laminitis, as well as stimulating growth factors that aid in the reparative process. These anti-inflammatory processes aren’t the only beneficial aspect of these therapies. They have also been shown to have anti-microbial properties which can potentially make an impact when it comes to fighting endotoxins and infection that may occur within



the hoof during this time when the structures are compromised.

“When we have laminitis, we have inflammation in the lamina which continues to cause damage,” he explains. “Due to this, we ultimately get alterations to blood flow. We can be ahead of the game with the antimicrobial benefit as well as the anti-inflammatory effects to combat the effects of endotoxins and infection.”

## When to Consider Using Exosome Therapies

Especially with a condition like laminitis, therapy options are not a “one size fits all” and some cases are more likely to respond better than others. Dr.

Dutton has found that acute cases tend to have a higher success rate than chronic cases but hasn’t seen a difference in results based on the cause of the laminitis.

“Just from a laminitis standpoint, the more acute the case, the better. The quicker we get [the product] in there, the better. As far as the cause of the laminitis, I think they’re all candidates for it.”

However, just because he has seen a higher

rate of response in acute cases doesn’t mean that chronic cases are written off. While a horse with chronic laminitis presents more changes in hoof condition than an acute case, Dr. Dutton has seen healing progression after the use of exosome therapies.

*“When we have laminitis, we have inflammation in the lamina which continues to cause damage”*

"I have used it in some chronic cases, but we have more change in chronic cases that we deal with which is a little more challenging, but I have seen benefits in chronic laminitic cases," says Dr. Dutton.

### Prognosis & Outcome After Using Exosome Therapies

Just like with treatment protocols, outcomes and prognosis after using exosome therapies varied depending on the severity of the case, but overall, Dr. Dutton saw positive results, and patients had a good prognosis.

"There's not a magic wand out there, but I've had those horses that we've tried everything and were about at the end of the rope and have had them respond and come back and do quite well," Dr. Dutton explains. "Acute and subacute cases have all responded well and turned around."

He estimates that with acute and subacute cases the rate of positive outcomes has been nearly 90%, and approximately 70% of severe and chronic laminitis cases had positive results.

"What I'm seeing with some of the other things I've used in the past to what we're doing with Hilltop Bio, they're very consistent numbers with those laminitis cases. I'd say 70% of chronic cases had a positive response and close to 90% for acute and subacute cases."

### Podiatry Potential

Laminitis isn't the only podiatry condition that interests Dr. Dutton when it comes to using exosome therapies. An additional area that he has seen potential in is with horses who have had poor growth in their hoof wall and sole and using exosomes to improve wall growth and the architectural components of the hoof. He's also seen positive results with injuries occurring within the internal structures of the hoof, like the digital flexor tendons and suspensory ligaments.

According to Dr. Dutton, the most important things to understand and consider before using exosome therapies in a specific situation are why to use them, how they work, previous use cases, and the response rate in those cases. He points out that as case numbers continue to increase, more data will become available to provide additional insights and trends, but his overall experience has been positive.

