

--- Name of 501(c)(3) Organization ---

Grayson Jockey Club Research Foundation

--- Today's Date ---

03/29/2021

--- Year Established ---

1940

--- Amount Requested ---

20000

--- Name of Executive Director ---

Holly White

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--- Contact Information - Name and Title ---

Holly White Director of Development

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--- Website / URL ---

<https://www.grayson-jockeyclub.org/default.asp>

--- Brief Mission Statement ---

Grayson-Jockey Club Research Foundation is a leading, non-profit charitable organization that any horse lover can join. We exist to help all horses by funding excellent and significant veterinary research at universities throughout North America and beyond and are committed to the advancement of horses of all breeds.

--- In brief, what is your proposed use of the grant you are applying for? Please include 3 to 5 goals you expect to achieve with the funding. ---

Laminitis has been voted the number one priority for equine research by the American Association of Equine Practitioners due to both the high incidence of the disease, the severe nature of the disease and the lack of effective therapies for treating the disease. Supporting limb laminitis occurs in all breeds, and is particularly devastating due to the much higher mortality rate (50%) compared to the other types of laminitis (e.g. endocrinopathic laminitis). Supporting limb laminitis is perhaps the most familiar form of the disease to the racing industry and general public, being the condition that led to the demise of Kentucky Derby winner Barbaro, in 2007 and more recently of Kentucky Derby contender Intense Holiday in 2014. This highlights the fact that, despite great advances in the treatment of even the most catastrophic limb fractures and infections in adult horses, supporting limb laminitis remains the major cause of treatment failure and euthanasia for humane reasons in these cases. The development of effective strategies to monitor for and prevent supporting limb laminitis would be a significant step forward for the welfare of horses and for the horse industry.

This project plans to take a multifaceted approach to further understanding and developing means to prevent supporting laminitis. It is hypothesized that horses hospitalized due to painful limb conditions have reduced limb load cycling activity (offloading frequency) that can be identified using a simple, inexpensive accelerometer-based sensor system developed and validated for this purpose. The aim is to deploy this system across multiple hospitals to gather data on patients with painful limb injuries. Analysis of this data will allow for development of a mathematical model that can predict imminent laminitis risk in these cases, and ultimately will lead to development of a system as a clinical monitoring tool.

An ideal preventative therapy for supporting limb laminitis would improve lamellar microvascular perfusion without transferring load back onto the primarily injured limb. After previous failed attempts to accomplish this, we have tested a range of interventions in a loaded perfused cadaver limb model and we now have pilot data showing that cyclic frog and sole pressure can enhance lamellar microvascular (capillary) perfusion, even in limbs under constantly increased (45% bodyweight equivalent) load. Using a prototype pneumatic device, hoof wall load is cyclically transferred to the frog and sole in the standing horse, relieving load on the hoof wall without transferring it to the opposite limb.

We hypothesize that lamellar perfusion can be enhanced even in limbs under increased load using these dynamic manipulations of frog and sole pressure and we aim to test this in the live horse using our validated tissue microdialysis system. Understanding the processes that cause lamellar parabasal cell damage in supporting limb laminitis will present opportunities for therapeutic intervention even in the face of hypoperfusion. We hypothesize that lamellar parabasal cell dysfunction and death in supporting limb laminitis is mediated by signaling pathways triggered by low nutrient availability and we aim to characterize these processes in archived tissues from our preferential weight bearing model, paving the way for the development of evidence-based therapeutic strategies to prevent and limit progression of laminitis in these cases

*The aim of this project is to make supporting limb laminitis preventable through analysis of archived model tissues, a multi-center limb motion study of horses at risk, and development of a prototype therapeutic device. The total second year cost of this project is \$22,682. We would be honored to have any additional funds from TERF to help support this grant.

--- If you received a grant from TERF (Thoroughbred Education and Research Foundation) previously, please describe how those funds were used. ---

In 2019, we received our first grant from TERF to be used for funding of research sponsored in that year. It was put directly towards projects scrutinized by our Research Advisory Committee and then approved by our Board of Directors.

--- Please list the other organizations or major contributors that have provided funding to your organization within the last calendar year. ---

The Robert J. Kleberg, Jr. & Helen C. Kleberg Foundation William Stamps Farish Fund Churchill Downs
Dean Dorton Equine Hagyard Equine Medical Institute Great American Insurance Keeneland Foundation
National Horse Show Association National Steeplechase Foundation, Inc.
New York Thoroughbred Horsemen's Association Oak Tree Racing Association Oaklawn Racing Casino
Resort Rood & Riddle Equine Hospital Claiborne Farm Stonestreet Farm United States Eventing
Association WinStar Farm Joseph Allen, Allen Foundation Ashford Stud Mike & Katherine Ball Perry Bass,
The Perry R. Bass II Foundation Ramona & Lee Bass Peter Brant* Alexander G. Campbell Jr.
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Elizabeth Locke Jewels
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Hugh A. Fitzsimons Jr.
Godolphin
Lucy Young Hamilton
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Mrs. Summerfield K. Johnston Jr., The Tucker Foundation Klein Family Foundation Inc Beau & Gail Lane
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O'Connor Mr. & Mrs. Paul F. Oreffice Audrey W. Otto Mr. & Mrs. John C. Oxley, The Mary K. Oxley
Foundation Dr. Hiram C. Polk Jr. & Dr. Susan Galandiuk Carl Pollard Amanda Pope, John William Pope
Foundation Tom Ryan Mr. & Mrs. Barry Schwartz Mrs. Maury Shields Stella Thayer, Tampa Bay Downs
Vincent Viola Charlotte C. Weber William M. Backer Foundation The William T. Young Foundation Inc.
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Charles Fipke
Ronald Frankel
Hallway Feeds
Hinkle Farms

The Honorable Brereton & Elizabeth Jones* Mr. & Mrs. Jon S. Kelly* Mr. & Mrs. Kevin S. Lavin Robert T. Manfuso Mike Ryan Bloodstock Mr. & Mrs. Leverett S. Miller Louise & Leonard Riggio Mr. & Mrs. Peter G. Schiff* Samantha Siegel Mr. & Mrs. Michael Simpson

--- Please describe your charity's public education/research efforts. ---

At Grayson our objective is to educate the public not only about research but also horse health and safety. Over the years we have developed ways to do this through print, media, sponsorship and education. Our Building Awareness guide outlines this here: <https://www.grayson-jockeyclub.org/resources/2020BAGuide.pdf>

I think one of our most successful venues for doing this has historically been through our Welfare and Safety of the Racehorse Summit that had to occur virtually this year due to Covid. It was so well attended that we created a monthly Vet Chat Webinar Series. This too has been a great success and given us an outlet to share our funded research successes, while reaching a larger audience of horse enthusiasts all while educating them about common ailments including Colic, Infectious Disease and Musculoskeletal issues.

--- Please describe any publicity your charity has earned within the last calendar year. Copies of news articles or a brief summary of news coverage are acceptable. ---

Grayson receives publicity in many areas throughout the year in many thoroughbred and sport horse industry media outlets. To provide a better guide of this coverage we have created a Building Awareness guide available on our website outlining this coverage, which can be found here: <https://www.grayson-jockeyclub.org/resources/2020BAGuide.pdf>

--- List 2-3 things that distinguishes your organization and why TERF should fund this proposal. ---

1. Grayson-Jockey Club Research Foundation has no alliance with any one university, so the Foundation is free to fund the best research regardless of where it takes place. Since the early 1980s, the Foundation has funded 397 specific research projects at the 45 universities.
2. The research today is helping recruit and train the researchers for tomorrow, giving extra impact from the Foundation's funding. Aside from such staff assistance, however, the Foundation does not pay the Principal Investigator's salary or other overhead, therefore directing the dollars right on the target of research.

--- Space for Additional Information and Notes ---

Please take the time to watch Dr. Andrew Van Eps speak specifically on this project here: <https://www.youtube.com/watch?v=qIEP4OxkmnA>

--- Please list your Officers with their Titles ---

Dr. Rick M.Arthur

Mr. Perry R. Bass
Dr. Larry R. Bramlage
Ms. Charlsie Cantey
Mr. Louis Cella
Mrs. Adele B. Dilschneider
Mr. Donald R. Dizney
Mr. Ben Haggin
Mrs. Lucy Young Hamilton
Ms. Dell Hancock, Board Chair
Mr. Stuart Janney
Mr. Kevin Lavin
Mrs. Braxton Jones Lynch
Mr. Leverett S. Miller
Mr. John M. B. O'Connor
Mr. J. Michael O'Farrell
Mr. John C. Oxley
Mrs. Daisy Phipps Pulito
Dr. Hiram C. Polk Jr.
Mr. Geoffrey Russell
Mrs. Virginia Valentine
Mr. Vinnie Viola

--- How many Directors/Trustees does your organization have? ---

22

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--- 1. Name - Job Title ---

Jamie Haydon - President

--- 1. Duties ---

- o Execute all activities, including interfacing with chairman and other board members to plan and implement short- and long-term strategies for the foundation and assess those strategies to ensure they are in support of the foundation's mission statement
- o Provide leadership for the foundation and oversee the foundation's operations to ensure goals are met in support of the foundation's business plan while managing the foundations operating budget
- o Interface with the veterinary consultant to ensure the RAC is appropriately involved in the grant review, evaluation, and award process

--- 2. Name - Job Title ---

Dr. Johnny Mac Smith - Veterinary Consultant

--- 2. Duties ---

- o Execute all activities of the Research Advisory Committee, including determining composite reviewer, designing primary review teams, determining conflicts, enforcing reviewer deadlines, identifying ad-hoc reviewers, and recruiting and orienting new members
- o Assist RAC chairman in presentation of recommended research projects to the board
- o Upon approval of funding, collect all final paperwork including the IACUC permit, track each of the grants including the collection of first-year reports, manuscripts, abstracts, and all published peer reviewed journals featuring Grayson-funded research

--- 3. Name - Job Title ---

Holly White - Director of Development

--- 3. Duties ---

- o Responsible for the vision, development and implementation of fundraising campaigns, including developing and managing marketing/solicitation plans and collateral, online marketing solicitations and stewardship and donor recognition, developing and managing volunteer structures and integrating the Grayson brand into external events and programs whenever possible.
- o Conduct prospect research for new funding opportunities including grants

--- 4. Name - Job Title ---

Resia Ayres - Operations Manager

--- 4. Duties ---

- o Execute all activities related to the production of foundation promotional items, including website maintenance, brochures, annual reports, newsletters, stewardship mailings, email and social campaigns, signage, and other promotional and educational materials
- o Assist with the tracking of grant proposals, accepting and preparing grants applications for review
- o Process donations and gifts including documenting and maintaining donation records, acknowledgments to donors, and preparing solicitation of renewals

--- 5. Name - Job Title ---

Shannon Kelly - Development Manager

--- 5. Duties ---

- o Execute all activities related to the production of foundation events, including venue selection, ticket sales and distribution, promotion, sponsorship solicitations, accounting, and event-day management