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#### Hyperbaric Oxygen Therapy (HBOT) Study for EIPH

**Objective:** To determine if 10 treatments in the hyperbaric oxygen chamber will decrease the incidence of exercise induced pulmonary hemorrhage (EIPH) in thoroughbred racehorses, polo ponies, or show horses.

**Background:** Hyperbaric oxygen therapy has been used for many years to help decrease the occurrence of EIPH in racehorses. The hyperbaric oxygen helps by decreasing inflammation, reducing swelling, and rejuvenating blood flow to damaged areas. Many veterinarians and trainers have reported success with the use of HBOT in horses suffering from EIPH, based on decreased bleeding on endoscopy and improved performance on the track. However a research study to prove this has not been performed. We would like to complete this study to get data to prove whether or not HBOT truly helps with cases of EIPH.

**Hypothesis:** 10 treatments in the hyperbaric oxygen chamber will decrease the incidence of EIPH in sport horses.

**Study Protocol:**

1. Horses must have a history of EIPH on at least three separate occasions within the 3 months prior to entrance into the study.
  - a. EIPH must be verified by a veterinarian and be concluded in one of the following three ways:
    - i. Bleeding from the nose and coughing within an hour after exercise
    - ii. Endoscopic exam confirming blood in the trachea
    - iii. Tracheal wash or Bronchoalveolar lavage confirming pulmonary hemorrhage based on cytological evaluation
  - b. The number of estimated episodes of EIPH and chronicity will be recorded per individual.

2. The horse must not have a history of bacterial pneumonia at the time of the EIPH, as concluded by fevers, abnormal thoracic ultrasound, or elevated fibrinogen.
  - a. Therefore, a CBC with fibrinogen must be completed by the referring veterinarian or the Equine Hyperbaric Center of South Florida, and deemed within normal limits within 1 week prior to entrance into the study.
  - b. A complete physical exam will be performed by a veterinarian of Equine Hyperbaric Center of South Florida, to determine that the horse is healthy and not showing symptoms of bacterial pneumonia prior to entrance into the study.
  - c. Ideally, a thoracic ultrasound including a tracheal wash or bronchoalveolar lavage will be performed prior to entering the horse in the study to confirm EIPH, and rule out bacterial or fungal pneumonia, or significant allergic airway disease.
  - d. Horses with significant allergic airway disease (wheezes, crackles, elevated respiratory rate at rest, cough with rebreathing exam) will also be excluded from the study.
  - e. Any of the above diagnostics (blood work, tracheal wash, bronchoalveolar lavage, or thoracic ultrasound will be an additional charge and can be performed at the owner's request)
3. The horse will have 5 daily HBOT treatments followed by 5 HBOT treatments every other day or within a 2 week period after the initial 5.
  - a. The horse can receive these treatments as an outpatient, or at an extra cost for daily board, can be admitted to Reid & Associates Veterinary Clinic for the course of treatment.
  - b. The horse can not wear shoes during the HBOT treatments. They must be removed by the owner or trainer prior to referral.
4. The horse must not be trained during the entire treatment period (10 HBOT treatments) and exercise should consist only of unlimited hand or tack walking and turn out.
  - a. Ideally, the horse will receive this limited exercise program for an entire 30 days from the day of the last episode of EIPH before returning to training but this is not required for the study.
5. A survey will be completed by the trainer or referring veterinarian every 2 months for a 6 month period following the HBOT treatments and rest period to report to the Equine Hyperbaric Center of South Florida as to the number of recurrent episodes of EIPH experienced (determined by bleeding from the nose or endoscopy).

Cost of HBOT treatments for study animals: The cost per treatment will be 50% off the regular price of 10 treatments. 10 treatments at a regular rate is \$4000. Therefore, the cost will be \$2000 to enter the study. Sedation for treatments is extra since each individual horse will vary depending on their personality and acceptance of the chamber. Sedation costs \$35 per treatment if necessary. Cost for routine board at Reid & Associates is \$70 per day. Visit our web-site at [www.Equinehyperbariccenter.com](http://www.Equinehyperbariccenter.com).

Diagnostics to include ultrasound of the thorax, endoscopy of the upper respiratory tract, and tracheal wash or bronchoalveolar lavage fluid testing can be performed by Equine Medicine Specialists of South Florida (Dr. Meg Miller Turpin or Dr. Lisa Fultz, DVM, DACVIM) at request. Visit our web-site at [www.EquineMedicineSpecialists.com](http://www.EquineMedicineSpecialists.com).