Blood samples submitted to the Immunology Laboratory at the William R. Pritchard Veterinary Medical Teaching Hospital, University of California at Davis from 12/1/2009 to 11/30/2011 for the detection of specific antibodies to *Sarcocystis neurona* and *N. hughesi* were reviewed. The samples were accompanied by a submission form which contained information regarding the origin, signalment and neurological signs of the suspected EPM cases. Case selection included horses with neurological deficits, which tested seropositive by the NeoFluor indirect fluorescent antibody test to *N. hughesi* (titer $\geq$ 320). Concurrent titers to *S. neurona* were also evaluated.

Over the 24-month study period 7,250 submissions of suspected EPM cases were processed for antibody detection to *N. hughesi* and *S. neurona*. One-hundred and fifteen samples tested seropositive for *N. hughesi* with titers ranging from 320 to 10,240 (median 640). 54/115 (47%) *N. hughesi* seropositive horses also had antibody against *S. neurona* with titer ranging from 80 to 5,120 (median 320). In 34 dually seropositive serum samples, titers to *N. hughesi* were higher than titers to *S. neurona*. Seven serum samples had similar titers for *N. hughesi* and *S. neurona* and 13 serum samples had higher titers to *S. neurona* than to *N. hughesi*. The number of *N. hughesi s*eropositive horses ranged from 1 to 12 per month and they originated from 29 different States (TX 24 index cases; CA 18; OK 8; NY/VA 7; FL/PA/MO 5; GA/NJ 4; TN/IL/WA/NC/CT/AL/AR/ID/MT 2; MA/AZ/MN/OH/SC/IA/NV/NM/WY/WV 1). The age of seropositive horses ranged from 1 to 33 years (median 10 years) and a variety of breeds were represented including quarter horse, thoroughbred, warmblood, Arabian, draft breeds and other breeds. Most commonly reported clinical signs in *N. hughesi* seropositive index cases were ataxia (62%), weakness (38%), lameness/gait abnormality (34%) and muscle atrophy (29%).

The results of this retrospective study show that *N. hughesi* is, alone or in combination with *S. neurona*, associated with EPM cases. The wide geographic origin of *N. hughesi* seropositive horses highlights the need to test for both apicomplexan protozoal pathogens in neurologically affected horses with suspected EPM.

ABSTRACT E-52

A COMPARISON OF BACTERIAL COLONISATION BETWEEN TEFLON AND POLYURETHANE SHORT TERM INTRAVENOUS CATHETERS. CW Spelta[1], RHH Tan[2], J Picard[2], B Gummow[2]. [1]Townville Vet Clinic, Townsville, Australia, [2]James Cook University, School of Veterinary Science, Townsville, Australia

The effect of catheter material on intravenous catheterisation complications in horses are unknown. This study evaluated the presence of bacterial colonisation on Teflon® and polyurethane short term intravenous catheters in healthy adult horses undergoing elective surgery.

Horses on admission for elective surgery were randomly allocated according to catheter type. Sixteen horses received Teflon® catheters and 19 received polyurethane. Aseptic catheter placement and removal was standardised, however systemic antibiotic treatment was case dependant and at the clinician's discretion. To simulate routine clinical practice, face masks were not worn during placement nor were the catheters bandaged. Catheters were maintained for 74 hours and assessed for clinical evidence of catheter site reaction, phlebitis or thrombosis twice daily.

Bacteria were cultured from 69% of Teflon® and 89% of polyurethane catheters. Multiple isolates were found in 31% of Teflon® and 42% of polyurethane catheters The Fisher exact test showed no difference between the proportion of catheters with colonisation ($P = 0.28$) or multiple isolates ($P = 0.76$). The microbes cultured were predominantly gram positive, similar to other equine and human studies. Multiple-drug resistance was seen regularly, regardless of antibiotic treatment. Despite this, no clinical evidence of phlebitis or thrombosis occurred in any horse.

It was concluded, that was no clear association between bacterial colonisation of Teflon® or polyurethane catheters ($0.9 < RR < 1.87$). The unexpected large proportion of bacterial isolates in the absence of clinical signs was also evaluated and suggests that the equine immune system plays a role in the development of septic phlebitis or thrombosis.

ABSTRACT E-54

PREVALENCE OF SERUM NEUTRALIZING ANTIBODIES TO EQUINE RHINITIS A AND EQUINE RHINITIS B VIRUS (ERV 1 AND ERV 2) IN SELECT REGIONS OF THE UNITED STATES. R Keene[1], J Tuttle[1], L Mittel[2], J Morrow[3], F Andrews[4]. [1]Boehringer-Ingelheim Vetmedica, Inc. St Joseph, MO, [2]Animal Health Diagnostic Center, Cornell University Ithaca, NY, [3]Equine Diagnostic Solutions, LLC, Lexington, KY, [4]Equine Health Studies Program, Louisiana State University School of Veterinary Medicine, Baton Rouge, LA

Equine rhinitis viruses (ERV1&2) have been associated with respiratory disease outbreaks worldwide. ERV 1&2 infections cause subclinical signs or respiratory signs including fever, nasal discharge, coughing, anorexia, pharyngitis, laryngitis and enlarged submandibular lymph nodes. Over the past decade, serologic evidence of infection has been documented in Canada, Australia, and Europe. However, recent serologic data does not exist in US horse populations. The purpose of this study was to determine seroprevalence of ERV 1&2 in different regions of the US.

Frozen serum samples were obtained from six US veterinary laboratories, Animal Health Diagnostic Center (AHDC) at Cornell University SVM, Ithaca, NY, Texas Veterinary Medical Diagnostic Laboratory Amarillo, TX, Veterinary Diagnostic Laboratory Lexington, KY, University of California at Davis Veterinary Teaching Hospital, Davis CA, Louisiana Animal Disease Diagnostic Laboratory, Equine Health Studies program, Baton Rouge, LA, and Equine Diagnostic Solutions, LLC Lexington, KY. Samples were selected from horses between 1 to 4 years of age. All samples were shipped to AHDC. Serum neutralization (SN) antibodies were determined using an established assay. SN titers $\geq$ 1:96 for ERV1&2 were considered positive.

Serum samples were evaluated in 1021 horses from regions of the US and 451 (44%) were found to have neutralizing antibodies $\geq$ 1:96 to ERV 1 and 164 (16%) were positive for ERV 2. Seroprevalence of ERV 1 was highest in samples submitted from Louisiana (49%), whereas samples from Kentucky had the lowest seroprevalence rate (34%). Seroprevalence of ERV 2 ranged from 29% in AHDC sample submissions to 15% in Louisiana samples. Specific ages were available for 554 of the samples and seroprevalence for exposure to ERV 1 appeared to increase with age, as positive titers to ERV 1 were found in yearlings (11/126 [9%]), in 2 year olds (44/116 [38%]), 3 year olds (50/163 [31%]), and 4 year olds (52/149 [35%]).

ERV has high seroprevalence in several regions of the US. SN antibodies to ERV 1 are more common than ERV 2 in the populations studied and seroprevalence appears to be age dependent. ERV 1&2 infections and their relationship to concurrent respiratory disease and respiratory pathogens in horse populations warrant further investigation.

ABSTRACT E-55

PREVALENCE, RECURRENCE, RISK FACTORS AND EFFECTS ON PERFORMANCE OF EPISTAXIS IN RACING THOROUGHBREDS IN THE UK: 914,849 STARTS (2001-2010). AD Thomas[1], MJ Green[1], T Morris[1,2], N Bowen[2] GD Hallowell[1]. [1]School Of Veterinary Medicine and Science, University of Nottingham, Sutton Bonington,UK, [2]British Horseracing Authority, London, UK

Epistaxis is a severe manifestation of exercise-induced pulmonary haemorrhage, seen in racing Thoroughbreds and other exercising horses worldwide. The objectives of this study were to report prevalence, incidence and recurrence of epistaxis, identify risk factors and report effects of epistaxis upon performance. Features of this study included the large data set, evaluation of recurrence in jump and flat racing, all in a country where race