

American College of Veterinary Internal Medicine (ACVIM) Forum 2022

**Austin, Texas, USA
23 – 25 June 2022**

Volume 1 of 2

ISBN: 978-1-7138-6087-7

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2022) by American College of Veterinary Internal Medicine
All rights reserved.

Printed with permission by Curran Associates, Inc. (2023)

No part of this publication may be reproduced, stored, or transmitted in any form or by any means without the prior permission in writing from the copyright holder. Authors have granted unlimited and nonexclusive copyright ownership of the materials contained in the submitted Proceedings manuscript to the American College of Veterinary Internal Medicine (ACVIM). Unlimited means that the author agrees that the ACVIM may use various modes of distribution, including online formats. Nonexclusive means that the ACVIM grants to the author an unlimited right to the subsequent re-use of the submitted materials. The research abstracts, and research reports, contained herein are the property of the *Journal of Veterinary Internal Medicine (JVIM)*. The ACVIM and the JVIM are not responsible for the content of the lecture manuscripts, research abstracts or research reports. The articles are not peer reviewed before acceptance for publication. The opinions expressed in the proceedings are those of the author(s) and may not represent the views or position of the ACVIM. The majority of these papers were transmitted via electronic mail and then converted, when necessary, to Word for Windows (Microsoft Corporation, Redmond, Washington). In the conversion process, errors can occur; however, every reasonable attempt has been made to assure that the information contained in each article is precisely how the author(s) submitted it to the ACVIM office. If there are any questions about the information in any article, you should contact the author(s) directly.

Address correspondence to:

American College of Veterinary Internal Medicine (ACVIM)
8301 E. Prentice Avenue, Suite 300
Greenwood Village, CO 80111
www.acvim.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

VOLUME 1

CARDIOLOGY

Research Abstracts

Retrospective Evaluation of Liver Parameters in Canine Degenerative Valvular Disease and Dilated Cardiomyopathy	1
<i>Andrew Chong</i>	
Assessing Myocardial Remodeling in Dogs with Myxomatous Mitral Valve Disease Using Cardiac Magnetic Resonance Imaging	2
<i>William Clark</i>	
Comparison of Vascular Closure Techniques in Dogs Undergoing Percutaneous Transcatheter Intervention	3
<i>Arianne Fabella</i>	
Anti-Desmosomal Antibody as a Potential Biomarker of Arrhythmia Burden in Boxers with Arrhythmogenic Ventricular Cardiomyopathy	4
<i>Luis Dos Santos</i>	
Three-Dimensional Echocardiographic Evaluation of Right Ventricular Function in Boxers with Arrhythmogenic Right Ventricular Cardiomyopathy.....	6
<i>Luis Dos Santos</i>	
Biologic Variability of Galectin-3 and NT-ProBNP in Healthy Cats and Cats with Occult Hypertrophic Cardiomyopathy	7
<i>Leah Kruckman</i>	
The Effect of Spironolactone on the Renin-Angiotensin-Aldosterone System in Dogs.....	8
<i>Allison Masters</i>	
Evaluation of Cardiac Biomarkers and Point-Of-Care Ultrasound in Dogs with Non-Hemorrhagic Ascites	9
<i>Alice Morey</i>	
Comparison of Single-Dose Pharmacokinetics in Dogs Receiving Vetmedin(R) and Two Formulations of Generic Pimobendan	10
<i>Sara Ostenkamp</i>	
Evaluating the Safety and Efficacy of Clevidipine in Dogs with Congestive Heart Failure	11
<i>Ashley Sharpe</i>	
Genotyping, Echocardiographic Screening, and Whisker Papilla Fibroblast Collection in Purebred Maine Coon and Ragdoll Cats.....	12
<i>Lilian Shen</i>	
Potential Predictors of Advanced Heart Failure Secondary to Myxomatous Mitral Valve Disease in Dogs	13
<i>I Ping Chan</i>	

Development of a Deep Learning Model for Analysis of Narrow-Complex Heart Rhythms in Dogs	14
<i>Matthew Denton</i>	
Evaluation of Platelet Activation, Platelet-Leukocyte Interaction, and Hemostasis in Dogs with Pulmonary Hypertension	15
<i>Laetitia Duler</i>	
Diagnostic Validation of a Vertebral Heart Score Machine Learning Algorithm for Canine Lateral Thoracic Radiographs.....	16
<i>Jessica Gentile Solomon</i>	
Feasibility and Safety of High-Resolution Three-Dimensional Electroanatomical Mapping of the Complete Heart in Dogs	17
<i>Arnaut Hellemans</i>	
Prospective Validation of a Quantitative Point-Of-Care NT-ProBNP Assay for Screening Doberman Pinschers.....	18
<i>Emily Javery</i>	
Occurrence of Low Taurine Concentrations in a Swedish Population of Cocker Spaniels	19
<i>Karin Kriström</i>	
An International Survey of Preferences for Echocardiographic Assessment of Left Atrial Size in Cats.....	20
<i>Momo Kuo</i>	
Evaluation of Cardiac and Endothelial Dysfunction in Canine Cancer Patients Treated with Toceranib Phosphate.....	22
<i>Katherine Lopez</i>	
Assessment of Cardiotoxicity After Combretastatin A4-Phosphate Administration in Dogs Using Two-Dimensional Speckle Tracking Echocardiography	23
<i>Gitte Mampaey</i>	
Agreement Between Doppler Ultrasound and High-Definition Oscillometric Device for Systolic Arterial Pressure in Hospitalized Dogs.....	24
<i>Matheus Mantovani</i>	
Multi-Center Prospective Evaluation of Owner Medication Adherence for Feline Cardiovascular Disease in the Referral Setting	25
<i>Lisa Murphy</i>	
Effect of Audible Static on Blood Pressure Measurements by Doppler Ultrasonic Sphygmomanometry in Cats	26
<i>Sayaka Uematsu</i>	
Mitral Regurgitation Severity Index Predicts Outcome in Diverse Populations of Canine Myxomatous Mitral Valve Disease.....	27
<i>Michelle Vereb</i>	
Serial Evaluation of Left Ventricular Systolic Function in Dogs Undergoing Chemotherapy with Doxorubicin.....	28
<i>Marlos Sousa</i>	
Procedural Surgical Protocol for Canine Mitral Valve Repair.....	31
<i>Takuma Aoki</i>	

Retrospective Evaluation of Sacubitril/Valsartan (Entresto) in 20 Dogs with Advanced Congestive Heart Failure.....	32
<i>Charlotte Donnan</i>	
Case Series of Six Dogs with Primary Tricuspid and Right Ventricular Outflow Tract Neoplasms.....	33
<i>Laura Letwin</i>	
Retrospective Evaluation of the Effect of Sotalol on Survival in Dogs with Severe Subaortic Stenosis.....	34
<i>Annie Showers</i>	
Effect of Autologous Blood Collection for Mitral Valve Repair on Hemodynamics and Cardiac Function.....	36
<i>Arane Takahashi</i>	
Tissue Renin-Angiotensin System Enzyme Activity in Canine Post-Mortem Myocardial and Kidney Samples.....	37
<i>Emma Weitzhandler</i>	
Cardiovascular Abnormalities in Dogs with Acute Pancreatitis	39
<i>Harry Cridge</i>	
Chronic Myxomatous Valve Disease Prevalence and Pathologic Features. Canine Mitral, Tricuspid, Aortic, and Pulmonic Valves	40
<i>Hunter Enderle</i>	
International Evaluation of Clinical Characteristics and Outcomes in 137 Dogs with Reverse Patent Ductus Arteriosus	41
<i>Logan Funk</i>	
Multivariate Statistical Analysis in the Screening of Subclinical Hypertrophic Cardiomyopathy Phenotype in Domestic Cats.....	43
<i>Fabio Gava</i>	
Hypertensive Cardiomyopathy in Dogs: Echocardiography and Sex Differences	44
<i>Fabio Gava</i>	
Mitral Annular Plane Systolic Excursion in Dogs with Systemic Arterial Hypertension.....	45
<i>Fabio Gava</i>	
QT Interval, Electrolyte and Acid-Base Evaluation in Dogs with Chronic Kidney Disease	46
<i>Fabio Gava</i>	
Validation of a Point-Of-Care Quantitative Assay for Feline NT-ProBNP.....	47
<i>Emily Javery</i>	
Cartilage Intermediate Layer Protein 1 as a Novel Biomarker for Canine Myxomatous Mitral Valve Degeneration	48
<i>Hyeon-Jin Kim</i>	
Intrarenal Venous Flow Analysis by Ultrasound in Dogs with Heart Disease.....	50
<i>Tomoya Morita</i>	
High Prevalence and Clinical Features of Mitral Regurgitation in Young Chihuahuas Without Heart Murmurs	51
<i>Seiya Niimi</i>	

Plasma Serotonin, Endothelin and VEGF-D: A Differential Marker of Pre- And Postcapillary Pulmonary Hypertension	52
<i>Dmitrii Oleynikov</i>	
Prognostic Value of Left Atrial Stiffness Estimated Using Echocardiography in Canine Myxomatous Mitral Valve Disease.....	53
<i>Tatsuyuki Osuga</i>	
Clinical Outcome of Idiopathic Juvenile Ventricular Arrhythmias in 25 Dogs	54
<i>Anna Reuter</i>	
Echocardiographic Comparison of Right Ventricular Function Between Dogs with Pre- And Post-Capillary Pulmonary Hypertension	56
<i>Ryohei Suzuki</i>	
Up-Regulation of STATs and IRF-1 in Canines with Heart Murmur and Associated Valvular Cardiovascular Disorder	57
<i>Selena Tavener</i>	
Serum Carnitine Profile of Cats with Hypertrophic Cardiomyopathy.....	58
<i>Mutsuki Umezawa</i>	
Taurine Concentrations in Cavalier King Charles Spaniels: Reference Intervals, Diet, and Mitral Valve Disease Effects	59
<i>Sonya Wesselowski</i>	
Peripheral Edema in Dogs: Clinical Characteristics and Etiologies	60
<i>Bradley Whelchel</i>	
Effect of Beraprost on Hemodynamics and Cardiac Function in Dogs with Pulmonary Hypertension	61
<i>Yunosuke Yuchi</i>	
Echocardiographic Assessment of Cardiac Function in Dogs with Pulmonary Hypertension Secondary to Respiratory Disease	62
<i>Yunosuke Yuchi</i>	
Transesophageal Echocardiography-Related Complications During Mitral Valve Repair in Dogs	63
<i>Kentaro Kuroguchi</i>	

EQUINE

Investigating the Relationship Between Cardiac Function and Insulin Sensitivity in Horses	64
<i>Natasha Williams</i>	
The Effect of Metformin on the Insulin Response to Oral Sugar in Insulin-Dysregulated Horses.....	65
<i>Sarah Colmer</i>	
Evaluation of Commonly Used Field-Testing Protocols to Diagnose Insulin Dysregulation and the Association with Laminitis.....	66
<i>Brianna Clark</i>	
Assessment of the Hypothalamic-Pituitary-Adrenocortical Axis Function Utilizing a Vasopressin Stimulation Test in Healthy Foals.....	67
<i>Erin Elder</i>	

The Enteroinsular Axis in Hospitalized Foals with Gastrointestinal Disease.....	68
<i>Hannah Kinsella</i>	
Attenuation of Post-Prandial Hyperglycemia by 5'-Adenosine Monophosphate-Activated Protein Kinase Agonists in Experimentally-Induced Equine Insulin Dysregulation.....	69
<i>Erin Pinnell</i>	
Culture-Enriched 16S RNA Sequencing Profile of Cecal Contents of Horses with and Without Typhlocolitis.....	70
<i>Luiza Zakia</i>	
Effect of Holding Time and Sampling Protocol on VCM-Vet Parameters Using Fresh Equine Blood.....	71
<i>Sandra Diaz Yucupicio</i>	
Plasma Inflammatory Cytokine Profiles in Colitis Cases with and Without Equine Neorickettsiosis (Potomac Horse Fever).....	73
<i>Laurence Leduc</i>	
Renal Dysplasia in Horses: 25 Cases (1991 - 2021).....	74
<i>Camilo Jaramillo-Morales</i>	
Effects of Phenylbutazone, Firocoxib, and Dipyrone on Furosemide-Induced Diuresis in Horses.....	75
<i>Julianne White</i>	
Effect of Ambulation Following 18F-Fluorodeoxyglucose Injection on Standing Positron Emission Tomography of the Equine Digit.....	76
<i>Andrea Oliver</i>	
The Effect of Oral Trazodone on Ambulation and Recumbency in Horses.....	77
<i>Kallie Hobbs</i>	
Multi-Dose Misoprostol Pharmacokinetics and Its Effect on the Fecal Microbiome in Healthy, Adult Horses.....	78
<i>Rachel Pfeifle</i>	
How Sedation and Recumbency Influence Distribution of Ventilation Measured by Electrical Impedance Tomography in Foals.....	79
<i>Muriel Sacks</i>	
Clinical Findings and Outcome Predictors for Equine Multinodular Pulmonary Fibrosis: 46 Cases (2009-2019).....	80
<i>Amanda Craven</i>	
Developing a Tool to Detect and Track Laryngeal Dysfunction in Horses	82
<i>Kile Townsend</i>	
Seasonal Assessment of Serum 25-Hydroxyvitamin-D Concentrations in Healthy and Asthmatic Horses.....	83
<i>Daniela Bedenice</i>	
Transthoracic Echocardiographic Parameters in Critically Ill Newborn Foals: Comparison with Healthy Foals.....	85
<i>Francesca Freccero</i>	

Systematic Review and Meta-Analysis of Risk Factors for Conversion and Recurrence of Atrial Fibrillation..... <i>Antoine Premont</i>	88
Effect of a Single Intravenous Dose of Sirolimus on Insulin Dynamics in Healthy Adult Horses..... <i>Demia de Tonnerre</i>	89
Fluorescent Immunoassay-Established Reference Intervals and Circannual Variation of Equine Plasma Adrenocorticotropic Hormone Concentrations in Qatar <i>Camilla Jamieson</i>	91
Equine Hyperinsulinemia Causes Tissue-Specific Alterations of Cytokines and Acute Phase Proteins in a NDKB-Independent Manner <i>Weerasekara Jayathilake</i>	93
Effect of Phenylbutazone Administration on Insulin and Glucose Dynamics in Horses..... <i>Kate Kemp</i>	94
Prospective Assessment of Clinical Signs and ACTH Concentrations in Horses Transitioning to PPID <i>Naomi Kirkwood</i>	95
Seasonal Effects of Plasma ACTH in Horses and Donkeys Residing Near the Equator <i>Erik Peterson</i>	96
Effects of Latitude, Age and Season on Equine Adrenocorticotropic Hormone Concentrations in the United States..... <i>Toby Pinn-Woodcock</i>	98
Comparison of a Newly Developed Glycemic Pellets Challenge with the Oral Sugar Test in Horses..... <i>Kristen Thane</i>	99
Effect of AMPK Agonists on Hepatic Lipid Content in Horses with Experimentally-Induced Insulin Dysregulation <i>Kathryn Timko</i>	100
Effect of High-Carbohydrate Feeding and Corticosteroid Administration on Lipid Content of Equine Liver <i>Kathryn Timko</i>	101
Effects of Dopamine Suppression on Postprandial Glucose and Insulin Responses to Glucose Feeding in Horses <i>Nicolas Galinelli</i>	102
The Effect of Trailering on Thyrotropin Releasing Hormone Stimulation of Adrenocorticotropic Hormone Concentration in Horses <i>John Haffner</i>	103
A Combined Procedure to Identify Pituitary Pars Intermedia Dysfunction and Insulin Dysregulation in Horses..... <i>John Haffner</i>	104
Dynamic Insulin Responses to High Carbohydrate Diet Acclimation in Normal and Insulin Dysregulated Horses..... <i>Hailey Maresca-Fichter</i>	105

Myenteric Ganglionitis Underlying Intestinal Motor Dysfunction in 3 Horses Diagnosed with Equine Herpesvirus 1 Post-Mortem	106
<i>Catarina Barros</i>	
Age and Breed Are Associated with the Requirement for Surgical Intervention for Left Dorsal Displacements	107
<i>Georgia Dollemore</i>	
Fecal Microbiota of Diarrheic Horses and Its Association with Laminitis	108
<i>Cosette Ayoub</i>	
Right Dorsal Colitis in Horses: A Retrospective Study of 35 Cases.....	109
<i>Jordan Flood</i>	
Ultrasonographic Assessment of Small Intestinal Motility Following Hyoscine Butylbromide Administration in Horses.....	110
<i>Simon Libak Haugaard</i>	
Effect of Post-Operative Reflux on Survival of Horses with Large Colon Volvulus.....	111
<i>Natalia Watrobska</i>	
Post-Mortem Prevalence of Gastric Ulceration in Diarrheic Horses.....	112
<i>Cosette Ayoub</i>	
Bacterial Viability in Different Preparation Protocols of Fecal Microbiota Transplantation Solution	113
<i>Marcio Costa</i>	
Bacterial Translocation in Horses with Colic Addressed by DNA Sequencing.....	114
<i>Marcio Costa</i>	
The Fecal Bacterial Microbiota in Healthy and Sick Neonatal Foals.....	115
<i>Katarzyna Dembek</i>	
Confirmed Or Suspected Alloimmune Thrombocytopenia in Mule Foals	116
<i>Emily Berryhill</i>	
Optimization of a mRNA Vaccine Candidate to Immunize Foals Against Rhodococcus Equi	117
<i>Rebecca Legere</i>	
Comparison of Microbroth Dilution and Disk Diffusion Methods for Antimicrobial Sensitivity of Equine Bacterial Isolates	118
<i>Surita du Preez</i>	
Impact of the Fecal Microbiome on Subclinical Salmonella Shedding in Horses.....	119
<i>Brandy Burgess</i>	
Use of CRISPR-SeroSeq to Detect Multiple Salmonella Serotypes in Equine Fecal Samples	120
<i>Brandy Burgess</i>	
MALDI-TOF Mass Spectrometry for Improved Identification of Equine Bacterial Isolates	121
<i>Sharanne Raidal</i>	
SARS-CoV-2 Pseudovirus Infects Equine Bronchial Epithelial Cells in Vitro	122
<i>Rebecca Legere</i>	

Effect of a Supplement Containing Cannabidiol (CBD) on Sedation and Ataxia Scores and Health Parameter..... <i>Anna Chapman</i>	123
Computed Tomographic Myelography in Horses with Cervical Vertebral Compressive Myelopathy <i>Sonia Gonzalez-Medina</i>	124
Echocardiographic Assessment of Fluid-Responsiveness in Critically Ill Newborn Foals: A Pilot Study..... <i>Francesca Freccero</i>	125
Pain Scoring Systems for Predicting Clinical Outcomes in Hospitalized Equine Ophthalmology Patients <i>Dayna Jodzio</i>	127
Effects of Equine Platelet Lysate on Ex-Vivo Vasculogenesis <i>Mariano Mora-Pereira</i>	128
Transdermal EMLA (lidocaine/Prilocaine) Cream for Intravenous Catheterisation in Horses <i>Bianca Amiet</i>	129
Pharmacokinetics of Single Dose Administration of 20 and 40 Mg/Kg of Acetaminophen in Neonatal Foals..... <i>Jenifer Gold</i>	130
Detection of Oxycodone Metabolites in Plasma After Oral Administration to Horses. <i>Joanne Haughan</i>	132
Short-Term Clinical Outcome and Racing Performance of Thoroughbreds Treated with Enrofloxacin as Juveniles: 146 Cases..... <i>Natasha Williams</i>	134
Electrical Impedance Tomography Can Determine Airflow in the Respiratory System of Healthy Adult Horses..... <i>David Byrne</i>	135
Hyponatremia in Horses with Septic Lower Airway Disease Correlates with Severity of Inflammation <i>Alessandro Migliorisi</i>	136
An Updated Description of Bacterial Pneumonia in Adult Horses and Factors Associated with Non-Survival <i>Kimberly Hallowell</i>	137
Utility of Serum Amyloid a in Monitoring Response to Antimicrobial Therapy in Equine Pneumonia..... <i>Kate Hepworth-Warren</i>	138
Comparative Efficacy and Adverse Effects of Salbutamol and N-Butylscopolammonium Bromide in Horses with Severe Asthma..... <i>Berta Mozo Vives</i>	139

FOOD ANIMAL

Role of Nasal BRSV-IgG1 Titers on Clinical Protection of Calves Against Experimental Challenge with BRSV	140
<i>David Martinez</i>	
Safety and Immunogenicity of Two Bovine Coronavirus Vaccines in Goats	141
<i>Meera Heller</i>	
Blood Cultures and Outcomes in Sick Neonatal Beef Calves	142
<i>Luis Rivero</i>	
Pathogen-Specific Intramammary Infection Prevalence, Persistence, and Somatic Cell Count Association in Lactating Jersey Cows	143
<i>Samantha Haw</i>	
Left Ventricular Systolic Function in Neonatal Calves with Diarrhea.....	144
<i>Osman Safa Terzi</i>	
The Association Between Fecal Microbiota, Endoparasitism and Age of Adult Alpacas.....	145
<i>Daniela Bedenice</i>	
Minimum Colostral Immunoglobulin G Concentration Required for Pooling to Achieve Adequate Immunity in Dairy Calves	147
<i>Ailbhe King</i>	
Effect of Tulathromycin Metaphylaxis on Mannheimia Haemolytica Isolation and Health Outcomes in Stocker Heifers	148
<i>William Crosby</i>	
Fecal Microbiota of Diarrheic Calves and Its Association with Acid-Base Disorders	151
<i>Diego Gomez</i>	
Bovine Myeloid Antimicrobial Peptide-28 (BMAP-28) mRNA Expression by Bovine Cells and Effects on Mannheimia Haemolytica	152
<i>Santiago Cornejo Tonnelier</i>	
Associations Between Measured Climate Parameters, Barn Characteristics, and Health Indicators in Swiss Veal Calf Herds	153
<i>Mireille Meylan</i>	
Detection Times of Florfenicol/Florfenicol Amine in Lactating Meat and Dairy Goats, and Milk Fed Kids	154
<i>Jennifer Davis</i>	
The Pharmacokinetics and Clinical Efficacy of Levamisole in Adult Alpacas After Oral Administration.....	155
<i>Kylie McLaughlin</i>	

NEUROLOGY

Age, Breed and SOD1:c.118G Genotype Related Risk of Degenerative Myelopathy: An Update.....	157
<i>Natalie Villani</i>	

Electrical Impedance Myography in Healthy Dogs: Reference Values and Impact of Age.....	159
<i>Joseph Kowal</i>	
Electrical Impedance Myography in Dogs with Degenerative Myelopathy	160
<i>Joseph Kowal</i>	
Comparison of Surgical Outcomes Associated with Compression Secondary to Hemorrhage and Intervertebral Disk Extrusions in Dogs	161
<i>Patti Lawler</i>	
Survival in Dogs with Meningoencephalomyelitis of Unknown Etiology with and Without Magnetic Resonance Imaging Lesions	162
<i>Arielle Ostrager</i>	
Comparison of D-Dimer and Thromboelastography for Diagnosis of Cerebrovascular Accidents in Dogs	163
<i>Elizabeth DiPaola</i>	
50-Step Walking Test' - A Pragmatic Outcome Measure for Recovery After Canine Spinal Cord Injury	164
<i>Suzanne Rosen</i>	
Current Practices in the Diagnosis and Management of Dogs with Degenerative Myelopathy: A Questionnaire-Survey.....	165
<i>Teryn Bouche</i>	
A Novel Technique for Measuring Spasticity in Dogs After Acute Thoracolumbar Intervertebral Disc Extrusion (TL-IVDE).....	166
<i>Lauren McAllister</i>	
Thoracic Vertebrae: Proximity to Vital Structures and Implantation Corridor Measurements	167
<i>Julianna Sabol</i>	
Prevalence and Clinical Features of Thoracolumbar Intervertebral Disc-Associated Epidural Hemorrhage in Dogs.....	168
<i>Jenni Bridges</i>	
Physical Activity is Associated with Better Cognitive Function: Results from the Dog Aging Project.....	169
<i>Kiersten Forsyth</i>	
Frequency of MRI Abnormalities in a Population of Dogs Referred to Veterinary Neurologists	170
<i>Jacob Leslie</i>	
The Relationship Between Activity Patterns and Cognition, Pain, and Motivation in Senior Dogs	171
<i>Alejandra Mondino Vero</i>	
Alpha-Chloralose Poisoning in Cats: Clinical Presentation in 24 Confirmed Cases.....	174
<i>Cecilia Tegner</i>	
Evaluating the Benefits of Cannabidiol for Analgesia Following Surgery for Intervertebral Disc Herniation in Dogs	175
<i>Hilary Wright</i>	
Electroencephalogram and Heart Rate Variability Changes After Transcutaneous Vagus Nerve Stimulation in Healthy Dogs	176
<i>Gibrann Castillo</i>	

Expression of Hyperphosphorylated Tau in Dogs with Immune-Mediated Meningoencephalitis	177
<i>Yeon Chae</i>	
Ondansetron in Dogs with Vestibular Nausea: A Double-Blinded, Randomized, Placebo-Controlled Crossover Study	178
<i>Lea Henze</i>	
Towards a Mobile App for Automated Pain Assessment in Cats Using Deep Learning.....	179
<i>Lea Henze</i>	
Neutrophil-To-Lymphocyte Ratio as a Diagnostic Marker in Dogs with Meningoencephalitis of Unknown Etiology	180
<i>Dohee Lee</i>	
Effects of Trazodone Administration on the Neurologic Examination in Healthy Dogs.....	181
<i>Lizabeth Lueck</i>	
Neurofilament Light Chain Concentrations in Dogs with Meningoencephalomyelitis.....	182
<i>Christopher Mariani</i>	
Functional Connectivity Magnetic Resonance Imaging in Dogs Anesthetized with Dexmedetomidine and Propofol.....	183
<i>Karen Munana</i>	
Retrospective Review of Nerve Root Signature Associated with Cervical Intervertebral Disc Disease in Dogs	184
<i>Jordan Schachar</i>	
Spinal Cord and Dural Sac Termination and Morphometry in Different Dog Breeds.....	185
<i>Amanda Valentino</i>	

NUTRITION

Effect of Fasting Versus Feeding on Selected Biochemical Analytes in 100 Healthy Dogs.....	186
<i>Katarina Yi</i>	
Comparing Dried Blood Spot and Lateral Flow Testing to Serum 25-Hydroxyvitamin D Concentrations in Cats.....	187
<i>Hannah Brodlie</i>	
Hyperhomocysteinemia and Oxidative Stress in Greyhound Dogs.....	188
<i>Kelsey Johnson</i>	
The Effects of Storage Temperature and RNAlater Solution on the Canine Fecal Microbiota	190
<i>Olivia Chiu</i>	
Acute Dietary Choline Chloride Toxicity in Cats: A Case Series Report	191
<i>Leslie Hancock</i>	
Canine Non-Traditional Diets Impact the Immunological Health of the Gastrointestinal Tract	193
<i>Lara Sypniewski</i>	
Repertoriating Raw Food Companies in Quebec for Domestic Animals	194
<i>Alexandra Gagnon</i>	

Evaluating the Causes and Consequences of Canine Food Motivation Within the Dog Aging Project Pack	195
<i>Kathleen Gartner</i>	
Efficacy and Tolerability of a Novel Phosphate Binder Supplement in Cats	196
<i>David Griffin</i>	
Low Carbohydrate Diet Reduces Circulating Inflammatory Gene Expression in Dogs with Chronic Gastroenteritis	198
<i>Pooja Gupta-Saraf</i>	
Implications of COVID-19 Pandemic in the Feeding Habits of Dogs Domiciled in São Paulo, Brazil	199
<i>Fabio Teixeira</i>	
ONCOLOGY	
Retrospective Evaluation of Melphalan, Vincristine, and Cytarabine Chemotherapy for the Treatment of Relapsed Canine Lymphoma..... <i>Margaret Duckett</i>	200
Cytomorphologic Changes in Blood Leukocytes and Erythrocytes in Dogs Receiving CHOP Treatment for Multicentric Lymphoma	201
<i>Joseph DiBenedetto</i>	
Detection of Canine Cancer Prior to Clinical Signs with Blood-Based "Liquid Biopsy"	203
<i>Andi Flory</i>	
Clinical Outcomes in Cats with Renal Carcinoma Undergoing Nephrectomy: A Retrospective Study	204
<i>Shannon Kenny</i>	
Fibrinogen Degradation Products as a Clinical Biomarker for Cancer Diagnosis and Prognosis in Neoplastic Dogs	205
<i>Chen-Si Lin</i>	
Lymphoma Detection Using Blood-Based Liquid Biopsy	206
<i>Andi Flory</i>	
Alkaline Phosphatase Cytochemistry in the Diagnosis of Canine and Feline Primary Pulmonary Neoplasia..... <i>Jack O'Day</i>	207
Microthrombi Are Prevalent in Canine Carcinomas and Sarcomas and Positively Associated with Increased D-Dimer Concentration..... <i>Paolo Pazzi</i>	208
Allogeneic NK Cells and Palliative Radiotherapy in the Treatment of Canine Cancer..... <i>Aryana Razmara</i>	210
Clinico-Genomic Data of Dogs with Malignant Oral Melanoma..... <i>Lucas Rodrigues</i>	211
Collaborative Care Improves Client Perceptions When Managing Pets with Cancer	212
<i>Kai Shiu</i>	

Annotation of Canine Cancer Genomic Biomarkers Through Comparative Analysis of Human Mutations in COSMIC	213
<i>Guannan Wang</i>	
Investigation of Urinary Extracellular Vesicle-Associated MicroRNAs in Dogs with Urothelial Carcinoma	214
<i>Tim Williams</i>	
Do Dogs Get Cancer-Associated Thrombosis? Retrospective Analysis of Characteristics of Dogs with Thrombosis: 2014-2019.....	215
<i>Anna Winner</i>	
Anti-Cancer Effects of Oral Paclitaxel Against Canine Mammary Gland Cancer	216
<i>Hyung-Kyu Chae</i>	
Anticancer Activity of IRAK-4 Inhibitors Against Canine Lymphoid Malignancies.....	218
<i>Jeong-Hwa Lee</i>	
Evaluation of a Novel Blood Test for the Detection of “Difficult to Diagnose” Cancers.....	220
<i>Andi Flory</i>	
Identification of the Potential Candidate Genes and Signaling Pathways Involved in Lymphoma Progression in Dogs.....	221
<i>Ye-In Oh</i>	
Pilot Study of Partial Ablation with Mechanical High-Intensity Focused Ultrasound (Histotripsy) in Dogs with Spontaneously Occurring Soft Tissue Sarcomas (VCS Award Winner).....	222
<i>Ester Yang</i>	

SMALL ANIMAL INTERNAL MEDICINE

Characterization of the Renin-Angiotensin-Aldosterone System in Telmisartan- Or Enalapril-Treated Dogs with Proteinuric Chronic Kidney Disease	223
<i>Joanna Murdoch</i>	
Plasma Glucagon-Like Peptide-1 Concentrations in Dogs with Aminoaciduric Canine Hypoaminoacidemic Hepatopathy Syndrome: A Pilot Study	224
<i>Sarah Holm</i>	
Effect of Ethylenediaminetetraacetic Acid and Magnesium Chloride on Measurement of Canine Adrenocorticotrophic Hormone.....	225
<i>Lydia Peña</i>	
Urinary Iodine Clearance Following Iodinated Contrast Administration in Normal Cats; Implications for ^{131}I Use.....	226
<i>Gabriella Allegrini</i>	
Assessment of the FreeStyle Libre 2 Interstitial Glucose Monitor in Hypo- And Euglycemia in Cats	227
<i>Alisa Berg</i>	
Sterility of Refrigerated, Multidose Insulin Vials Through 6 Months of Use.....	228
<i>Alisa Berg</i>	
Validation of the Thyrotropin-Releasing Hormone Simulation Test in Healthy Cats.....	229
<i>Petra Cerna</i>	

Total Thyroxine and Thyrotropin Concentrations During the Recovery from Non-Thyroidal Illness in Dogs: Preliminary Results	230
<i>Andrea Corsini</i>	
Gut Microbial Whole Genome Gene-Networks and Metabolic Pathways Analysis in Diabetic Cats	231
<i>Arnon Gal</i>	
Subnetworks of Lipid-Derivatives and Endocrine Disrupting Compounds in Feline Hyperthyroidism.....	233
<i>Arnon Gal</i>	
Interim Analysis of a Prospective Clinical Trial of Fecal Microbial Transplantation in Diabetic Dogs	234
<i>Arnon Gal</i>	
Hypothalamic-Pituitary-Adrenal Axis Recovery Following Intermediate-Acting Glucocorticoids Therapy in Dogs	236
<i>Francesca Del Baldo</i>	
A Modified Oral Glucose Tolerance Test Detects Mild Dysglycemia Caused by Capromorelin	237
<i>Chen Gilor</i>	
Prevalence of Lower Urinary Tract Signs and Positive Urine Culture in Dogs with Diabetes Mellitus.....	238
<i>Valerie Nelson</i>	
Relationship Between Urine Concentration and Development of Azotemia After Treatment of Hyperthyroid Cats with Radioiodine	239
<i>Mark Peterson</i>	
Investigating Hypercoagulability in Diabetic Dogs and Possible Omega-3 Effect	241
<i>Fabio Teixeira</i>	
Efficacy and Tolerability of Generic Cinacalcet in Dogs with Primary Hyperparathyroidism.....	243
<i>Heidi Ward</i>	
Immunohistochemical Markers of Aldosterone Production in Feline Primary Hyperaldosteronism	245
<i>Alice Watson</i>	
Organoids of Canine Medullary Thyroid Carcinoma and Feline Thyroid Adenomatous Hyperplasia (ESVE Award Winner)	246
<i>Stephanie Scheemaeker</i>	
Variability Between Two Flash Glucose Sensor Locations in Non-Diabetic Dogs During Rapidly Induced Hypoglycemia.....	247
<i>Jeremy Evans</i>	
Geographic Prevalence of Naturally Occurring Feline Hyperthyroidism.....	248
<i>JoAnn Morrison</i>	
Diagnosis of Canine Hyperadrenocorticism Using a Point-Of-Care Cortisol Assay	249
<i>Andrew Narwold</i>	
Evaluation of a Flash Glucose Monitoring System in Diabetic Cats.....	251
<i>Nicola Steers</i>	

Evaluation of 48h Gastric pH and Serum Gastrin Concentrations in Dogs with Chronic Kidney Disease	252
<i>Elijah Ernst</i>	
Clinical and Gastrointestinal Changes in Healthy Research Dogs Administered Prednisone, Prednisone/Omeprazole, Or Prednisone/Probiotics.....	253
<i>Mariola Rak</i>	
An Undernutrition Screening Score is Associated with Treatment Response in Dogs with Inflammatory Protein-Losing Enteropathy.....	254
<i>Florence Wootton</i>	
Serum Cobalamin and Methylmalonic Acid Concentrations in Dogs with Parvoviral Enteritis	255
<i>Michael Hung</i>	
The Impact of Fecal Identification Markers on the Feline Microbiome	256
<i>Alexandra Wood</i>	
Effect of Nutrient Profile on Post-Prandial GLP-2 Plasma Concentration in Cats.....	258
<i>Leah Freilich</i>	
Relationship Between Magnesium, Calcium, and Parathyroid Concentrations in Dogs with Decreased 25(OH)D and Chronic Enteropathy	259
<i>Charles Jones</i>	
Fecal Pancreatitis-Associated-Protein-1 and Gastrotropin as Biomarkers for Subgroup Identification in Canine Chronic Enteropathies.....	260
<i>Karin Allenspach</i>	
Utility of Fluorescence Imitating Brightfield Imaging Microscopy for the Diagnosis of Feline Chronic Enteropathy.....	261
<i>Sarah Au Yeung</i>	
Altered Fecal and Serum Amino Acid Concentrations in Dogs with Chronic Enteropathy	262
<i>Amanda Blake</i>	
Prevalence and Clinical Features of Dogs with Chronic Enteropathy at Two Large Swedish Animal Hospitals.....	263
<i>Johanna Holmberg</i>	
Effects of Fecal Microbiota Transplantation on the Fecal Microbiome in Healthy Cats Administered Amoxicillin Clavulanate.....	264
<i>Jamie Hui</i>	
Efficacy of a Synbiotic-IgY Supplement in Treatment of Canine Inflammatory Bowel Disease – Clinical Observations	265
<i>Albert Jergens</i>	
Characterisation of the Culturable Duodenal Mycobiota of Dogs with Chronic Enteropathy	266
<i>Aarti Kathrani</i>	
Evaluation of a Commercial Serologic Panel Marketed for the Diagnosis of Chronic Enteropathy in Dogs	267
<i>Daniel Langlois</i>	

Efficacy of an Elemental Diet in Achieving Clinical Remission in Dogs with Chronic Inflammatory Enteropathy	268
<i>Alison Manchester</i>	
To Sample Or Not to Sample: Capturing Feline Fecal Microbiome Changes with High-Frequency Sample Collection	269
<i>Nora Jean Nealon</i>	
Evaluation of Intestinal Permeability in Dogs with Exocrine Pancreatic Insufficiency	270
<i>Patricia Ishii</i>	
Metabolic Profiling of Serum Samples from Cats with Chronic Enteropathy.....	271
<i>Sina Marsilio</i>	
Standardized Preparation of Canine Fecal Transplant Material Does Not Alter Microbial Community Structure	272
<i>Matt Salerno</i>	
Evaluation of Intestinal Barrier Dysfunction in Dogs with Acute Hemorrhagic Diarrhea Syndrome.....	273
<i>Andrea Reisinger</i>	
Intestinal S100/Calgranulin Expression in Cats with Chronic Enteropathies.....	274
<i>Denise Riggers</i>	
Placebo Controlled Trial of Hydrolyzed Fish Diets in Dogs with Chronic Enteropathy	276
<i>Kenneth Simpson</i>	
Feasibility Study Using Undercarboxylated Osteocalcin as a Surrogate for Serum Vitamin-K in Chronic Enteropathy Dogs	277
<i>Jillian Smith</i>	
Comparison of Metronidazole Versus a Synbiotic for Treating Dogs with Acute Diarrhea	278
<i>Helene Stübing</i>	
Fecal Bile Acids Profiles in Cats with Chronic Enteropathy	279
<i>Chi-Hsuan Sung</i>	
Prevalence of Clostridioides Difficile in Canine Feces and Its Association with Dysbiosis	280
<i>Melanie Werner</i>	
A Randomized Non-Controlled Open-Label Trial in Cats Comparing Cyclosporine and Prednisolone for Treating Chronic Pancreatitis	281
<i>Yu-An Wu</i>	
Histopathologic Examination of Serial Pancreatic Sections from Shelter Cats.....	283
<i>Yu-An Wu</i>	
Characterizing the Serum Proteome of Cats with Chronic Enteropathy	285
<i>Jane Yu</i>	
Microbiome Responses to Fecal Microbiota Transplantation in Cats	287
<i>Holly Ganz</i>	
Food-Responsive Enteropathy Occurrence in Dogs with Chronic Enteropathy in São Paulo-Brazil.....	289
<i>Ana Rita Pereira</i>	

Retrospective Evaluation of the Risk of Gastrointestinal Bleeding in Dogs Receiving Ophthalmic Non-Steroidal Anti-Inflammatory Drugs.....	290
<i>Laura Van Vertloo</i>	
Oxidative Stress in Dogs with Acute Pancreatitis	291
<i>Harry Cridge</i>	
A Novel Flow Cytometric Assay to Assess Platelet Desialylation in Canine Immune Thrombocytopenia.....	292
<i>Michael Barchilon</i>	
Efficacy of Therapeutic Plasma Exchange (TPE) in Dogs with Immune-Mediated Hemolytic Anemia: A Case-Controlled Study	293
<i>Larry Cowgill</i>	
Validation and Reference Interval of Activated Clotting Time in Dogs Using a Point-Of-Care Analyzer	295
<i>Arnaut Hellemans</i>	
Investigation of Novel Hemostasis Parameters and Closure Curves on the Platelet Function Analyzer-200 in Cats	296
<i>Matthew Kornya</i>	
Validation of Shipping of Feline Blood Samples for Analysis on the Platelet Function Analyzer 200	297
<i>Matthew Kornya</i>	
Validation of the ProCyte Dx and Visual Slide Review with the Plateletworks System in Cats	298
<i>Matthew Kornya</i>	
Evaluation of the Therapeutic Efficacy of Splenectomy in 20 Dogs with Non-Regenerative Immune-Mediated Anemia.....	299
<i>Keitaro Morishita</i>	
Assessing Methods to Monitor Rivaroxaban Therapy in Hypercoagulable Dogs	300
<i>Erin Phillips</i>	
Effect of Antioxidant Supplementation on Oxidative and Storage Lesions in Canine Packed Red Blood Cells	301
<i>Janet Roque-Torres</i>	
Retrospective Analysis of Immunosuppressive and Anti-Thrombotic Protocols in Canine Non-Associative Immune-Mediated Hemolytic Anemia.....	302
<i>Harry Cridge</i>	
Differences in Hematological Parameters Between Dogs with Congenital Intrahepatic and Extrahepatic Portosystemic Shunts	303
<i>Yishan Kuo</i>	
Evaluation of Thrombin Generation as a Novel Antiplatelet Therapeutic Monitoring Tool in Dogs Administered Clopidogrel	304
<i>Kaitlyn Rank</i>	
Comprehensive Protein and Gene Expression Analysis of Spleen from Dogs with Non-Regenerative Immune-Mediated Anemia	305
<i>Mei Sugawara-Suda</i>	

16S rRNA Amplicon Sequencing of Bile from Healthy Cats and Cats with Suspected Hepatobiliary Disease	307
<i>Tanner Slead</i>	
Evaluation of Fasting Bile Acid Concentrations in Dogs with Sepsis.....	308
<i>Lara Baptista</i>	
Comparison of Bacteriological Culture with Molecular Methods for Identifying Bacteria in Liver Samples from Dogs	309
<i>Floris Dröes</i>	
Plasma Amino Acid Profiles in Dogs with Chronic Liver Disease.....	311
<i>Rommaneeya Leela-arpong</i>	
Urine Isoprostan e Concentrations in Dogs with Liver Disease	312
<i>Robert Phillips</i>	
Quantification of MicroRNAs 1275, 222, and 21 in Serum from Dogs with Chronic Hepatitis.....	313
<i>Adrian Tinoco Najera</i>	
Demographic and Histopathologic Associations with Elevated Hepatic Copper Concentrations in Dogs	315
<i>Tarini Ullal</i>	
Clinical Use of Ursodiol in Feline Medicine.....	317
<i>Emily Jachec</i>	
Retrospective Review of Clinical Presentation, Survival and Response to Therapy in Dogs with Granulomatous Hepatitis	318
<i>Kayla Prentice</i>	
Incidence of Acute Kidney Injury in Dogs with Systemic Infections Treated with Amphotericin B	319
<i>Jennifer Chan</i>	
Assessment of Veterinary Technician Interest in and Barriers to Engagement with Hospital Antimicrobial Stewardship	320
<i>Madeleine Stein</i>	
Effect of Urine Concentration on the Growth of Canine Uropathogens: An in Vitro Study.....	321
<i>John Shamoun</i>	
Evaluation of MiQLab System to Detect Bacterial Pathogens and Antimicrobial Resistance Genes in Bacterial Isolates	322
<i>Eric DiBiasio</i>	
Evaluation of Anti-Histoplasma Antibody Detection Via Enzyme Immunoassay Or Immunodiffusion in Cats and Dogs.....	323
<i>Andrew Hanzlcek</i>	
High Frequency of the Benzimidazole Resistance Genetic Marker in the Pet Dog Population in Florida	324
<i>Christian Leutenegger</i>	
Comparison of qPCR and Centrifugal Flotation for the Detection of Ancylostoma in Experimentally Infected Beagles.....	325
<i>Christian Leutenegger</i>	

Risk Factors for Acute Adverse Events in Dogs Following Vaccination.....	327
<i>George Moore</i>	
Molecular Identification of Hemoparasites of Dogs in the Western Amazon.....	328
<i>Acácio Pacheco</i>	
Proteinuria in Dogs with Pulmonary Coccidioidomycosis.....	329
<i>Laura Rayhel</i>	
Differentiating Giardia Duodenalis Assemblages with a Novel Beta-Giardin PCR Assay	330
<i>Andrea Scorza</i>	
Evaluation of Leptospira Exposure in Feral Cat Populations in Northern California and Southern Texas.....	331
<i>Jamie Sebastian</i>	
Effect of Corticosteroid Administration on Serum C-Reactive Protein Concentrations in Healthy Dogs	332
<i>Romy Heilmann</i>	
Evaluation for Anti-Erythrocyte and Anti-Platelet Antibodies in Healthy Dogs Administered Lokivetmab.....	333
<i>Megan Slaughter</i>	
Immune Response of Cats After Simultaneous Versus Separate Vaccination Against Rabies and Feline Leukemia Virus.....	334
<i>Anna-Karina Weidinger</i>	
Relapse Risk Factors for Immune Mediated Hemolytic Anemia: A Retrospective Study of 223 Dogs	335
<i>Sidney Bannister</i>	
Use of a Flow Cytometry Assay to Detect Anti-Erythrocyte Antibodies in 116 Anemic Client-Owned Dogs.....	336
<i>Nida Chornarm</i>	
The Intestinal Microbiome of Dogs with Immune-Mediated Hemolytic Anemia Or Immune Thrombocytopenia.....	337
<i>Po-Yu Liu</i>	
Romiplostim in Primary and Secondary Thrombocytopenia: A Retrospective Study of Dogs and Cats.....	338
<i>Ye-In Oh</i>	
Anti-Oxidative and Immunomodulatory Effects of Telmisartan in Healthy Cats.....	339
<i>Jade Peralta</i>	
Evaluation of Creatinine, Symmetric Dimethylarginine, Kidney Injury Molecule-1 and Glomerular Filtration Rate in Healthy Cats	340
<i>Aleksandra Milaszewska</i>	
Medical Dissolution of Presumptive Upper Tract Struvite Urolithiasis in 6 Dogs: (2012-2018).....	341
<i>Sindumani Manoharan</i>	
A Pilot Study Evaluating Renal Biomarker Changes Following Intravenous Iohexol Administration in a Small Population of Beagles.....	342
<i>Edward Vasquez</i>	

Proteinuria at Time of Diagnosis is Associated with Shorter Survival Time in Dogs with Lymphoma	343
<i>Stephanie Skinner</i>	
Evaluation of Health-Related Quality of Life in Cats with Chronic Kidney Disease.....	344
<i>Sarah Lorbach</i>	
Safety and Efficacy of Nightly, Prophylactic Nitrofurantoin in 14 Dogs with Recurrent Urinary Tract Infections.....	346
<i>Olivia Murray</i>	
Evaluation of the IDEXX SediVue Dx® for Identification of Canine and Feline Bacteriuria	347
<i>Emily Belshin</i>	
Altered Serum Amino Acid Concentrations in Dogs with Chronic Kidney Disease	348
<i>Amanda Blake</i>	
Outcomes of Non-Steroidal Anti-Inflammatory Drug Toxicosis Treated with Therapeutic Plasma Exchange in 62 Dogs.....	349
<i>Nolan Chalifoux</i>	
Outcomes of Fluid Therapy, Lipid Emulsion and Therapeutic Plasma Exchange for Non-Steroidal Anti-Inflammatory Drug Toxicosis	351
<i>Nolan Chalifoux</i>	
Continuous Renal Replacement Therapy in Dogs with Acute Kidney Injury: Dose Prescription and Adequacy Assessment	353
<i>Hilla Chen</i>	
Urinary miRNA 126 is Elevated in Dogs with Immune Complex-Mediated Glomerulonephritis	354
<i>Ariana Cherry</i>	
Renal Single-Cell RNA Sequencing in Dogs with a Naturally Occurring Progressive Chronic Kidney Disease.....	355
<i>Candice Chu</i>	
Differentiation of Stable Kidney Function Versus Progressive Dysfunction in Dogs	356
<i>Larry Cowgill</i>	
Evaluation of Alpha Enolase as a Marker of Renal Disease in Cats.....	358
<i>Amanda Diaz</i>	
Population Pharmacokinetic Analysis of Enrofloxacin and Its Metabolite Ciprofloxacin in Cats with Reduced Kidney Function	359
<i>JD Foster</i>	
Urinary Glutathione Peroxidase 4 in Cats with Naturally Occurring Chronic Kidney Disease	360
<i>Sheng-hui Huang</i>	
Non-Transferrin-Bound Iron in Cats with Naturally Occurring Chronic Kidney Disease	363
<i>Sheng-hui Huang</i>	
Diltiazem Infusion Alterations on Glomerular Filtration Rate, Electrolyte Excretion, and Urine Output in Healthy Dogs.....	366
<i>Megan Kelley</i>	

Urinary Angiotensin-Converting Enzyme 2 Concentration and Activity in Cats with Naturally Occurring Chronic Kidney Disease	367
<i>Tzu-Chien Kuo</i>	
Pilot Field Study of Hypoxia-Inducible Factor Prolyl Hydroxylase Inhibitor in Chronic Kidney Disease-Associated Anemic Cats	369
<i>Catherine Langston</i>	
Apolipoprotein B100 is a Potential Urine Biomarker for Membranoproliferative Glomerulonephritis in Dogs with Protein-Losing Nephropathy.....	370
<i>Crystal Ma</i>	
Electrophoretic Urine Protein Banding Patterns as a Diagnostic Biomarker for Canine Membranoproliferative Glomerulonephritis.....	371
<i>Madison McKay</i>	
Benign Feline Ureteral Obstruction: Outcome of Cats Undergoing Medical Management	373
<i>Isabelle Merindol</i>	
Urinary Clusterin and Cystatin B Concentrations in Dogs with Kidney Disease	374
<i>Carolina Rivera</i>	
Urinary Cystatin B Differentiates Progressive Versus Stable Stage I Chronic Kidney Disease in Dogs	376
<i>Gilad Segev</i>	
Mineralocorticoid Receptor Expression and Activation in Feline Chronic Kidney Disease and Associations with Disease Progression	378
<i>Sarah Spencer</i>	
Clinical Effects of Asymptomatic E. Coli Administration Compared to Oral Antimicrobials for Canine Recurrent UTI	380
<i>Jodi Westropp</i>	
Untargeted Metabolomic Profiling of Serum from Cats with Chronic Kidney Disease.....	381
<i>Stacie Summers</i>	
Reduced Antioxidant System and Increased Inflammation in Canines with Chronic Kidney Disease	382
<i>Selena Tavener</i>	
Evaluation of Novel Renal Injury Markers in Dogs with Ehrlichiosis.	383
<i>André Vieira Le Sueur</i>	
C-Reactive Protein and Canine Ehrlichiosis: A New Clinical Perspective.....	384
<i>André Vieira Le Sueur</i>	
Effect of Tamsulosin on Urethral Tone in Healthy Male Cats.....	385
<i>Zhe (Alice) Wang</i>	
Serum Concentrations of Leptin and Adiponectin in Dogs with Chronic Kidney Disease	386
<i>Taesik Yun</i>	
Using End-Of-Life Survey to Investigate the Relationship Between Quality-Of-Life, Manner and Location of Death.....	387
<i>Kellyn McNulty</i>	

Quality and Timing Identified as Most Common Diagnostic-Related Incidents in Small Animal Veterinary Care	388
<i>Lisen Schortz</i>	
A Force-Activated Separation Device Reduces the Rate of Intravenous Catheter Complications in Dogs	389
<i>Kristin Zersen</i>	
Evaluation of a Multiple-Mini Interview Format for Small Animal Internal Medicine Residency Programs.....	390
<i>Tracy Hill</i>	
Prevalence of Owner-Reported Medical Conditions in the Most Popular Breeds in the Dog Aging Project.....	391
<i>Kiersten Forsyth</i>	
Establishing a Frailty Phenotype for Aging Dogs	392
<i>Katharine Russell</i>	
Hepatic Dearterialization in Dogs and Cats with Massive Or Diffuse Liver Tumor	393
<i>Michelle Nguyen</i>	
Medical Errors: The Experiences, Attitudes, and Perspectives of Incoming and Outgoing Fourth-Year Veterinary Students	394
<i>Cordelia Alexander-Leeder</i>	
Efficacy and Safety of Long-Term Oral Imepitoin for Control of Canine Storm-Associated Anxiety and Fear.....	395
<i>Ana Munoz</i>	
The PETSORT Statement: Reporting Guidelines for Randomized Controlled Trials Conducted in Dogs and Cats.....	398
<i>Audrey Ruple</i>	
End of Life Survey - Free Text Analysis	399
<i>Vanessa Wilkins</i>	
The Effect of Feeding on the Pharmacokinetics of Telmisartan Oral Solution in Dogs	400
<i>Allison Bechtel</i>	
Prednisolone Prescribing Practices for Dogs in Australia	401
<i>Bonnie Purcell</i>	
Prevalence of Antibiotic Use for Cats and Dogs in U.S. Veterinary Teaching Hospitals, August 2020	402
<i>Jennifer Granick</i>	
Evaluating the Effects of Telmisartan in Healthy Dogs as a Preclinical Model for Shar-Pei Fever	403
<i>Kara Maslyn</i>	
Pharmacokinetics and Anti-Nausea Effects of Intravenous Ondansetron in Hospitalized Dogs Exhibiting Clinical Signs of Nausea.....	404
<i>Cindy Sotelo</i>	
Reversal of the Effects of a Medetomidine-Vatinoxan Combination Drug (Zenalpha) with Atipamezole.....	405
<i>Heta Turunen</i>	

Clinical Audit of POM-V/POM Prescriptions by Remote Consultation Via a Veterinary Video Telemedicine Smartphone Application.....	406
<i>Adele Williams</i>	
Plasma Pharmacokinetics of a Hypoxia-Inducible Factor Prolyl Hydroxylase Inhibitor (Molidustat) in Healthy Cats	408
<i>Kristine Fraatz</i>	
Fluconazole Has Variable Oral Systemic Absorption in Dogs	409
<i>Butch KuKanich</i>	
Voluntary Acceptance of Compounding Flavors in Cats	410
<i>Amy Nichelason</i>	
Infrared Thermography and 6MWT for Assessment of Thermoregulation in Dogs with Brachycephalic Obstructive Airway Syndrome.....	411
<i>Jeremy Gallman</i>	
Videofluoroscopic Swallow Study Diagnosis of Aerodigestive Disorders in Dogs	412
<i>Jennifer Howard</i>	
Development of a 3D-Printed Canine Airway Model as a Simulator for Canine Bronchoscopy	413
<i>Julien Dandrieux</i>	
Evaluation of SobiTirome for Pulmonary Fibrosis in West Highland White Terriers	414
<i>Elizabeth rozanski</i>	
Metabolomic Profiling of Bronchoalveolar Lavage Fluid in Pet Cats with Asthma and Non-Asthmatic Respiratory Diseases	415
<i>Aida Vientos-Plotts</i>	
Effectiveness of Pediatric Inhaler Chambers in Cats with Asthma.....	416
<i>Mark Nagel</i>	
Study of Nasal Microbiome in Dogs with Nasal Diseases and Healthy Dogs.....	417
<i>Yuta Nakazawa</i>	

CARDIOLOGY

Scientific Session Research Report

Mitral Regurgitation Severity Index: A Simple Calculation for Classification and Prognostication?	418
<i>Clarke Atkins</i>	
Utility of 3-Dimensional Models in Canine Congenital Heart Disease.....	420
<i>Lauren Markovic</i>	
Clinical Application of Novel Heartworm Removal Forceps.....	421
<i>MIN SU KIM</i>	

EQUINE

Risk Factors Associated with an Equine Coronavirus Outbreak at a Saddlebred Farm in North Carolina	424
<i>Kate Hepworth-Warren</i>	

Voluntary Surveillance Program for Equine Influenza Virus in the United States from 2008 - 2021	425
<i>Fairfield Bain</i>	

Antibiogram Use to Inform Antimicrobial Selection in Equine Practice	426
<i>Sharranne Raidal</i>	

Pharmacokinetics and Ex-Vivo Pharmacodynamics of the Novel Anti-Inflammatory Drug, Doramapimod, in Horses.....	427
<i>Jenni Bauquier</i>	

Feasibility of a Point of Care Ultrasound Protocol for Cardiorespiratory Evaluation in Horses.....	428
<i>Kari Bevevino</i>	

Effects of Non-Invasive Ventilation on Respiratory Function and Lung Volume in Foals	429
<i>Sharranne Raidal</i>	

FOOD ANIMAL

Prognostic Indicators for Survival of Downer Cows Treated with Use of a Flotation Tank.....	430
<i>Chelsea Holschbach</i>	

Effects of Blood Contamination on Total Nucleated Cell Counts and Protein Concentrations in Bovine CSF	431
<i>Maria Puerto-Parada</i>	

NEUROLOGY

Long-Term Outcomes of Canine Calvarial Multilobular Tumor of Bone Treated by Craniectomy	432
<i>Vishal Murthy</i>	

Normative Brainstem Auditory Evoked Responses in Cavalier King Charles Spaniels with Chiari- Like Malformation.....	434
<i>Lynette Cole</i>	

Single Dose Pharmacokinetics of an FDA Approved Cannabidiol Medication in Healthy Cats.....	435
<i>Tom Jukier</i>	

ONCOLOGY

Lifetime Prevalence of Tumors in Companion Dogs Included in the Dog Aging Project Baseline Data	436
<i>Audrey Ruple</i>	

Utility of Tumor Genomic Analysis for Diagnostically Challenging Cancer Cases.....	437
<i>Esther Chon</i>	

Cytokine Expression of Activated T Cells in Dogs Undergoing Adoptive T Cell Therapy for Osteosarcoma	438
<i>Noe Reyes</i>	

Evaluation of Plasma Nucleosome Concentrations in Healthy Dogs and Dogs with Various Common Cancers	439
<i>Heather Wilson-Robles</i>	

SMALL ANIMAL INTERNAL MEDICINE

Evaluation of Pharmacodynamic Effects of a Hypoxia-Inducible-Factor Prolyl Hydroxylase Inhibitor on Erythropoiesis of Healthy Cats.....	440
<i>Gerald Beddies</i>	
Once-Daily Insulin Glargine 300 U/Ml for the Treatment of Canine Diabetes Mellitus.....	441
<i>Chen Gilor</i>	
Esomeprazole Alters Neoplastic Canine Mast Cell Structure, Viability, and Function	442
<i>Emily Gould</i>	
Decreased Duodenal Enterocyte Height and Width is a Hallmark of Chronic Enteropathy in Dogs	443
<i>Karin Allenspach</i>	

EQUINE

Interactive Session

Understanding and Performing CPR in Equine Neonates and Small Animals.....	444
<i>Jamie Kopper</i>	

ONCOLOGY

Tigilanol Tiglate: The Clinical Paradigm Shift and Case Selection.....	449
<i>Chad Johannes</i>	

BUSINESS, LEADERSHIP & COMMUNICATIONS - MULTISPECIALTY

Scientific Session

Client Education to Facilitate Medication Compliance.....	454
<i>Lauren Forsythe</i>	
Controlled Substances: Why So Many Regulations?	457
<i>Lauren Forsythe</i>	
Creating Engaging and Inclusive Meetings.....	461
<i>Addie Reinhard</i>	
Discussing a Role for Pragmatic Veterinary Medicine.....	464
<i>Heather Kvitko-White</i>	
Practical Tips for Work and Life Integration	468
<i>Maura Stevenson</i>	
Radically Candid DEI Conversations.....	473
<i>Mia Cary</i>	
Reducing Stress by Managing Conflict: Strategies to Adjust How You Approach Conflict	477
<i>Maura Stevenson</i>	

Reducing Stress by Managing Conflict: Using Conflict Resolution Techniques to Create Win-Win Outcomes.....	480
<i>Maura Stevenson</i>	

Workplace Culture in a Time of Change	483
<i>Wendy Hauser</i>	

BUSINESS, LEADERSHIP & COMMUNICATIONS - MULTISPECIALTY - WELLBEING

Active Allyship.....	487
<i>Mia Cary</i>	

Changing How We Talk About Stress: From Venting to Processing	490
<i>Laura Smallwood</i>	

Choosing How to Respond to Stress	496
<i>Michael Murray</i>	

Conscious Conversations in an Emergency-Speaking the Right Words to Diffuse Conflict	499
<i>Debra Hamilton</i>	

Mentoring During the First Years of Practice	503
<i>Addie Reinhard</i>	

Smartcuts for Achieving Work-Life Integration	508
<i>Mia Cary</i>	

Thriving in a Digital Age.....	511
<i>Maura Stevenson</i>	

Work-Life Balance is a Myth	515
<i>Mia Cary</i>	

CARDIOLOGY

Bronchial Stenting: Indications and Techniques.....	517
<i>Eric De Madron</i>	

Diagnostic Utility of a New Electronic Stethoscope	519
<i>Sonya Gordon</i>	

Echocardiography for Mitral Intervention.....	522
<i>Brianna Porter</i>	

Emerging Cardiovascular Therapies-Exploiting the Link Between Heart and Kidney	527
<i>Geoff J. Culshaw</i>	

Medical and Nutritional Challenges in the Management of Dilated Cardiomyopathy.....	533
<i>Lisa Freeman</i>	

Myocardial mRNA and MicroRNA Expression Profiles of Feline Hypertrophic Cardiomyopathy	538
<i>Jessica Joshua</i>	

Myxomatous Mitral Valve Disease: Beyond the Valve Leaflet	540
<i>Jens Haggstrom</i>	

Prediction of Stage B2 Mitral Valve Disease in Cavaliers with Longitudinal Follow-Up.....	544
<i>Sonya R. Wesselowski</i>	
Serial NT-ProBNP and Myocardial Strain Imaging in Preclinical Dilated Cardiomyopathy	546
<i>Shari Raheb</i>	
The Role of Hypochloremia in Heart Failure Progression	550
<i>Darcy Adin</i>	
Transcatheter Edge-To-Edge Mitral Valve Repair.....	554
<i>Christopher Orton</i>	
Grant Writing Tips.....	558
<i>Noah Cohen</i>	

EDUCATION & RESEARCH - MULTISPECIALTY

Resident Training: Theory, Practice, and Opportunities for Wellbeing	561
<i>Sarah Guess</i>	

EQUINE

Diagnosing, Managing and Feeding the PPID Horse 2	567
<i>Amanda Adams</i>	
Diagnosing, Managing and Feeding the PPID Horse 3	570
<i>Amanda Adams</i>	
Diagnosing, Managing and Feeding the PPID Horse 4	573
<i>Amanda Adams</i>	
Equine Glandular Gastric Disease: New Insights into Etiologies.....	576
<i>Linda Paul</i>	
Equine Viral Hepatitis: Clinical Conditions and Epidemiology	580
<i>Joy Tomlinson</i>	
Evidence-Based Management of Equine Asthma.....	590
<i>Laurent Couetil</i>	
How to Improve Management of Acute Kidney Injury in Horses.....	597
<i>Daniel Jean</i>	
Manipulating the Equine Intestinal Microbiome: Recent Advances and Future Perspectives.....	602
<i>Marcio Costa</i>	
Newly Identified Inherited Neuromuscular Diseases in Foals	604
<i>Carrie Finno</i>	
Protein Biomarkers in Diagnostic Tools for Equine Neurodegenerative Disease.....	606
<i>Callum Donnelly</i>	
The Next Pandemic – Antibiotic Resistance – Leadership & One Health.....	609
<i>Lucas Pantaleon</i>	

The Present and Future of Equine Pain Management.....	616
<i>John Schlipf</i>	
What is New in EHV-1 Latency?	625
<i>Lutz Goehring</i>	

FOOD ANIMAL INTERNAL MEDICINE

Antimicrobial Resistance for the Food Animal Internist	628
<i>Jennifer Halleran</i>	
Basic Diagnostic Approach to Parasitology in Small Ruminants and Camelids	632
<i>Grace VanHoy</i>	
Bovine Pinkeye: Considerations for Diagnosis, Treatment, and Prevention	640
<i>John Angelos</i>	
Clinical Management of Acid-Base and Electrolyte Imbalances in Neonatal Calf Diarrhea	648
<i>Florian Trefz</i>	
Colostrum Management for Healthy Calf Development	652
<i>Ingrid Lorenz</i>	
Common Disorders and Management in South American Camelids	654
<i>Claire Whitehead</i>	
Diagnostics and Management of Down Cows.....	659
<i>Gilles Fecteau</i>	
Immunology/Virology of Respiratory Pathogens in Bovine Medicine	664
<i>Amelia Woolums</i>	
Pain Assessment and Management in Food Animals	667
<i>Michael Kleinhenz</i>	
Practical Parasite Control from Hospital to Field in Ruminants.....	671
<i>Evelyn MacKay</i>	
Prevention and Pathophysiology of Calf Diarrhea	674
<i>Geof Smith</i>	

NEUROLOGY

Assessment of Quality of Life in Canine Epilepsy.....	679
<i>Karen Munana</i>	
Avoiding Cognitive Errors in Clinical Evaluation.....	684
<i>Rodney Bagley</i>	
Differentiating Neurologic Diseases with Similar Presentations in Dogs and Cats	688
<i>Rodney Bagley</i>	
Epilepsy Beyond Seizures: Behavioral and Cognitive Co-Morbidities of Canine Epilepsy	692
<i>Rowena Packer</i>	

VOLUME 2

Integrating Outcome Assessments into Patient Management of Neurologic Disease	697
<i>Nick Jeffery</i>	
Management of Head & Spinal Trauma	703
<i>Kristin Zersen</i>	
Phenotypic Abnormalities in Asymptomatic Pugs with Potential Early NME	711
<i>Rebecca Windsor</i>	
Sleep and Sleep Disorders	716
<i>Dennis O'Brien</i>	
Therapeutic Drug Monitoring of Zonisamide in Canine Epilepsy	722
<i>Dawn Boothe</i>	
Understanding Neurophobia in Veterinary Medicine	727
<i>Vishal Murthy</i>	

NUTRITION - EQUINE

Management of Obesity in Adult Horses.....	731
<i>Megan Shepherd</i>	

NUTRITION - FOOD ANIMAL INTERNAL MEDICINE

Nutritional Aspects of Common Clinical Problems in Mini Pigs.....	736
<i>Megan Shepherd</i>	
The Role of Veterinarians in Considering Sustainability in Pet Food	741
<i>Heather Acuff</i>	
Formulations of Single-Pot Homemade Dog & Cat Foods	744
<i>Sean Delaney</i>	
Nutritional Considerations for Aging Dogs and Cats	755
<i>Jonathan Stockman</i>	
Use of Omega-3 Fatty Acids, EPA and DHA, in Cats	758
<i>Catherine Lenox</i>	
Vitamin D Supplementation in Dogs and Cats	762
<i>Robert Backus</i>	

ONCOLOGY

Clinical Integration of Tanovea and Laverdia for Canine Lymphoma	767
<i>Philip Bergman</i>	
Current and Prospective Cancer Immunotherapies	772
<i>Philip Bergman</i>	

Delivering Patient Forward Selectivized Medicine to Canine Hemangiosarcoma	776
<i>Chand Khanna</i>	
Implementing Clinical Trials in Private Practice	781
<i>Philip Bergman</i>	
Nutrition Controversies in Cancer Patients	784
<i>Lisa Freeman</i>	
Sulforaphane Supplementation and Its Use in Oncology Management	789
<i>Haley Leeper</i>	
Telemedicine Challenges and Opportunities	793
<i>Kim Johnson</i>	
The Link Between Bartonella and Hemangiosarcoma	795
<i>Edward Breitschwerdt</i>	
The Science Behind SINE Class Drugs: Novel Small Molecules for Oncology	800
<i>David Bruyette</i>	
Tolerability and Pharmacokinetic Parameters for Anticancer Agents in Dogs	804
<i>Joelle Fenger</i>	
Two Prospective Trials Demonstrate Lower Risk for Malignancy in Canine Hemoperitoneum.....	808
<i>Samuel Stewart</i>	

SMALL ANIMAL INTERNAL MEDICINE

Accurately Assessing Calcium Homeostasis in Dogs and Cats.....	811
<i>Kevin Le Boedec</i>	
An Internist and Criticalist's Approach to the Treatment of Acute Pancreatitis in Dogs	817
<i>Harry Cridge</i>	
Anemia of Chronic Kidney Disease, Pathogenesis and Potentials for Gene Therapy	826
<i>Shelly Vaden</i>	
Applications for Genetic Testing in Dogs and Cats.....	831
<i>Eleanor Raffan</i>	
Clinical Significance of Blood Storage Lesions	836
<i>John Thomason</i>	
Considerations for Unlicensed Use of GS-441524-Like Drugs to Treat FIP.....	840
<i>Samantha Evans</i>	
Developing Antimicrobial Stewardship Programs for Small Animal Veterinary Clinics	843
<i>Kirsten Bailey</i>	
Diagnosis of Acute Pancreatitis in Dogs	847
<i>Harry Cridge</i>	
Doberman Hepatitis & Copper Associated Hepatopathy, Part 1	853
<i>Sharon Center</i>	

Doberman Hepatitis & Copper Associated Hepatopathy, Part 2	865
<i>Andrea Johnston</i>	
Drug-Induced Liver Injury: A Comparative Approach.....	876
<i>Jennifer Reinhart</i>	
Evidence-Based Protein Intake in Cats with IRIS Stage 1 and 2 CKD	881
<i>Jean Hall</i>	
Fluid Stewardship in Veterinary Medicine	884
<i>Alexandra Pfaff</i>	
Genotype-Specific Nutritional Interventions Reduce the Risk of Calcium Oxalate Stones	889
<i>Jean Hall</i>	
Hemoperitoneum Due to Anaphylaxis.....	892
<i>Gregory Lisciandro</i>	
Hepatocutaneous Syndrome: Historical Perspectives and Recent Advances	899
<i>John Loftus</i>	
Insulin Glargine U300 in Dogs: Clinical Experience and Simple Guidelines	909
<i>Linda Fleeman</i>	
Management of Hypoalbuminemia in Small Animals.....	915
<i>Alex Lynch</i>	
Rational Antithrombotic Use in Small Animals	920
<i>Alex Lynch</i>	
The Microbiome and Immunity in the Gastrointestinal Tract	927
<i>Jan Suchodolski</i>	
The Science and Safety of Raw Food Diets	931
<i>Susan Wynn</i>	
Use of Vet BLUE for Small Animal Pneumonia and Relevance to COVID-19	941
<i>Gregory Lisciandro</i>	
Vet BLUE and TFAST for Common Causes of Respiratory Distress in Cats	950
<i>Gregory Lisciandro</i>	

NUTRITION - FOOD ANIMAL INTERNAL MEDICINE

Scientific Session American Association of Veterinary Nutrition/American College of Veterinary Nutrition

Herd-Level Evaluation of Bovine Hepatic Trace Element Analysis.....	957
<i>Thomas Herdt</i>	
Nutrient Requirements of Dairy Cattle: Changes Made in the 2021 NRC	965
<i>William Weiss</i>	
Nutritional Aspects of Health and Disease in Small-Flock Poultry.....	969
<i>Frank Pierson</i>	

SMALL ANIMAL INTERNAL MEDICINE

Scientific Session American College of Veterinary Clinical Pharmacology/American Academy of Veterinary Pharmacology and Therapeutics

Comparison of Pharmacokinetics for Cannabinoid Products in Small Animals..... 972
Alan Chicoine

Evidence of Safety and Efficacy of Various Cannabis Herbal Extracts in Dogs in & Cats 978
Alan Chicoine

Scientific Session American Society for Veterinary Clinical Pathology

Detecting and Correcting Serious Errors Made by Common Hematology Analyzers..... 984
Harold Tvedten

Examples of Difficult Diagnoses Made from Urine Sediment Analysis 985
Harold Tvedten

Experiences with Digital Cytology..... 986
Kathleen Freeman

Quality for the Inclinic Laboratory..... 990
Matthew Garland

Scientific Session American Society of Veterinary Nephrology & Urology

Advances in Extracorporeal Blood Purification-New Devices & Improved Patient Safety..... 994
Cedric Dufayet

Novel Treatment for CKD Associated Anemia in Cats 997
Catherine Langston

Scientific Session Association of Veterinary Hematology and Transfusion Medicine

Diagnosis and Management of Venous Thromboemboli: Veterinary Perspective 1000
Marilyn Dunn

Discovery of a Novel Virus Causing Severe Fever and Thrombocytopenia in Cats in Japan 1006
Claire Sharp

Hunting for the Cause of a Novel Pancytopenia in Cats in the United Kingdom..... 1010
Barbara Glanemann

LARGE ANIMAL INTERNAL MEDICINE

Scientific Session Candidate Function

Candidate Function: Out of Bounds: The Role of Self in Establishing Personal and Professional Limits 1013
Heather Kytko-White

NEUROLOGY

Candidate Function: MRI Artifacts and Pseudo-Lesions	1018
<i>Kari Foss</i>	

SMALL ANIMAL INTERNAL MEDICINE

Scientific Session Companion Animal Parasite Council

Identifying and Treating Canine Parasites.....	1023
<i>Dwight Bowman</i>	
Identifying and Treating Feline Parasites	1026
<i>Dwight Bowman</i>	

Scientific Session Comparative Gastroenterology Society-Liver

Bile Acid-Induced Diarrhea.....	1029
<i>Linda Toresson</i>	

EQUINE

Scientific Session Evidence-Based Veterinary Medicine Association

Evidence-Based Approach to Drug Therapy in Large Animals.....	1037
<i>Virginia Fajt</i>	

SMALL ANIMAL INTERNAL MEDICINE

Evidence-Based Approach to Drug Therapy in Small Animals.....	1042
<i>Virginia Fajt</i>	

Scientific Session International Society for Companion Aimal Infectious Diseases

Therapeutic Advances in Neurological Feline Infectious Peritonitis.....	1047
<i>Peter Dickinson</i>	

Scientific Session International Society for Companion Animal Infectious Diseases

Bacteriuria: An Objection to Treating Every ‘Infection’	1049
<i>Shelly Vaden</i>	
Clostridial Disease and Diarrhea	1054
<i>Jan Suchodolski</i>	
Genomics and Transcriptomics of Canine and Feline Coronaviruses	1058
<i>Lucy Davison</i>	
Risk of MRSP Spreading from Animals Recovered from Infection.....	1062
<i>Annette Loeffler</i>	

The Clinical Significance of Quorum Sensing in Bacteria.....	1066
<i>Modest Vengust</i>	

Scientific Session Liver Study

Endovascular Treatment of Liver Disease.....	1070
<i>William Culp</i>	
Pathogenesis and Management of Gallbladder Mucoceles in Dogs	1073
<i>Jody Gookin</i>	

Scientific Session Society for Comparative Endocrinology

Adaptations of Human Insulin Therapy to Pets.....	1081
<i>Alisa Berg</i>	
Mechanisms of Obesity-Associated Disease: Lessons from Mice and People.....	1084
<i>Eleanor Raffan</i>	
Obesity as a Genetic Disease in People and Dogs.....	1088
<i>Eleanor Raffan</i>	
Reducing Adverse Effects of Glucocorticoids.....	1093
<i>Patty Lathan</i>	

EQUINE

Scientific Session State-of-the-Art

SOTA: The Pathogenesis and Prevention of Strangles.....	1097
<i>Andrew Waller</i>	

Scientific Session Veterinary and Comparative Clinical Immunology Society

Equine Common Variable Immunodeficiency.....	1103
<i>M. Julia Felippe</i>	

SMALL ANIMAL INTERNAL MEDICINE

The Impact of the Gastrointestinal Microbiome on Immune-Mediated Disease	1107
<i>Oliver Garden</i>	

EQUINE

Scientific Session Veterinary Comparative Respiratory Society (Large Animal)

Bronchodilators in Equine Asthma.....	1110
<i>Kara Lascola</i>	

LARGE ANIMAL INTERNAL MEDICINE

Diagnosis and Management of Pulmonary Diseases in Sheep and Goats	1115
<i>Julia Paxson</i>	

SMALL ANIMAL INTERNAL MEDICINE

Scientific Session Veterinary Comparative Respiratory Society (Small Animal)

Determining the Duration of Antimicrobial Therapy for Bacterial Pneumonia.....	1120
<i>Ian Destefano</i>	
Emerging Pulmonary Diseases in Dogs	1125
<i>Elizabeth Rozanski</i>	
Management of Brachycephalic Dogs.....	1129
<i>Christine Rutter</i>	
Pulmonary Function Testing in Horses.....	1134
<i>Melissa Mazan</i>	
Thermal Imaging in Respiratory Disease	1141
<i>Tekla Lee-Fowler</i>	

Scientific Session Veterinary Emergency and Critical Care Society

Endothelium in Health and Disease.....	1144
<i>Maureen McMichael</i>	
Internists and a Criticalist Discuss the GI Microbiome in Critically Ill Dogs and Cats	1147
<i>Patrick Barko</i>	
Re-Establishing the GI Microbiome: A Literature Review.....	1150
<i>Maureen McMichael</i>	
The Effect of the Intestinal Microbiome on Health and Disease.....	1153
<i>David Williams</i>	
The Gastrointestinal Microbiome in Critical Illness.....	1157
<i>Patrick Barko</i>	
Toxidromes in Working Dogs.....	1161
<i>Maureen McMichael</i>	

EDUCATION & RESEARCH - MULTISPECIALTY

Specialty Symposium Education & Research

Preparing and Writing Manuscripts for Peer-Reviewed Journals	1164
<i>Matthew Krecic</i>	
Perceptions of Training, Self-Efficacy, and Mentoring in Specialist Trainees	1167
<i>Martin Furr</i>	

Diagnosing, Managing and Feeding the PPID Horse - Part 1	1172
<i>Sarah Guess</i>	

CARDIOLOGY

Specialty Symposium Scientific Session

Development of a Cardiac CT Program: The First 100 Cases.....	1175
<i>Brian Scansen</i>	
Pulmonary Valve Stenting in Canine PS: Lessons Learned from 30 Cases.....	1179
<i>Brian Scansen</i>	

EQUINE

Diagnosis of Arrhythmogenic Cardiomyopathy in Boxers.....	1185
<i>Etienne Cote</i>	
Systemic and Other Biomarkers of Equine Asthma	1189
<i>Eric Richard</i>	

FOOD ANIMAL INTERNAL MEDICINE

Antimicrobial Susceptibility Testing for Respiratory Pathogens in Large Animals	1192
<i>Brent Credille</i>	
Gastroprotectant Therapy in Ruminants	1196
<i>Joe Smith</i>	
Reducing and Refining Antimicrobial Drugs Use for Diarrhea in Calves.....	1200
<i>Diego Gomez</i>	

NEUROLOGY

Aging of the Canine Nervous System: Cognition	1205
<i>Margaret Gruen</i>	
Aging of the Canine Nervous System: Diagnostic Imaging	1209
<i>Philippa Johnson</i>	
Aging of the Canine Nervous System: Stability & Mobility	1213
<i>Natasha Olby</i>	
Cerebellar Function and Disease	1218
<i>Dennis O'Brien</i>	

ONCOLOGY

Current Oncology Literature: Changing How We Practice	1224
<i>Philip Bergman</i>	
Identifying Potential Environmental Cancer Risks in Dogs	1229
<i>Lauren Trepanier</i>	

SMALL ANIMAL INTERNAL MEDICINE

Adeno-Associated Virus Vectors as Delivery System for Treatment of Chronic Disease	1233
<i>Anne Traas</i>	
Antimicrobial Resistance: Impact on Veterinary Practice	1236
<i>David Singleton</i>	
Cyclosporine, Lessons Learned: Promising Successes and Abject Failures.....	1246
<i>Andrew Mackin</i>	
Mini-Organs in a Dish from Dogs and Cats - Novel Tools for Novel Treatments.....	1254
<i>Karin Allenspach</i>	
The Dog Aging Project - Early Findings from 27,541 Dogs	1260
<i>Genna Atiee</i>	
The Next Big Bad Bug: Carbapenem-Resistant Enterobacteriales (CRE)	1264
<i>Stephen Cole</i>	

Specialty Symposium State-of-the-Art

SOTA: A Clinical and Microbiological Perspective on Development of Phage Therapy.....	1271
<i>Biswajit Biswas</i>	

CARDIOLOGY

Scientific Session Technician Program

Pulmonary Hypertension: Diagnosis, Guidelines and Treatment	1277
<i>Marc Kraus</i>	
Ups and Downs of Hemodynamics in the Cath Lab.....	1279
<i>Kristin Hohnadel</i>	

EQUINE

Assisting in Equine Dystocia.....	1282
<i>Kate McGovern</i>	
Testing, Sampling and Handling in the Diagnosis of EMS and PPID	1284
<i>François-René Bertin</i>	

FOOD ANIMAL INTERNAL MEDICINE

Antibiotic Therapy in Calves: Pharmacodynamics and Regulatory Considerations	1288
<i>Derek Foster</i>	
Diagnostic and Treatment Utilities of Rumen Fluid.....	1290
<i>Sarah Blasczynski</i>	
Fluid Therapy in Calves with Diarrhea	1294
<i>Derek Foster</i>	

MULTISPECIALTY

Critical Evaluation of Veterinary Literature	1297
<i>Christine Weaver</i>	
Veterinary Long Term Care: Support Strategies for Patients, Clients, Ourselves.....	1303
<i>Julie Nettifee</i>	

NEUROLOGY

A Case-Based Discussion of Neurologic Emergencies	1307
<i>Jessica Bautista</i>	
Anatomy & Physiology of Hearing and How We Test it.....	1312
<i>Christine Weaver</i>	
Meningoencephalomyelitis in Dogs	1316
<i>Jessica Bautista</i>	
Neurological Diseases in Aging Dogs and Cats	1321
<i>Natasha Olby</i>	

NUTRITION - SMALL ANIMAL INTERNAL MEDICINE

A Case-Based Approach to the Role of Nutrition in Managing Chronic Enteropathy in Dogs and Cats.....	1325
<i>Kara Burns</i>	
Approaches to Feeding the Finicky Patient.....	1331
<i>Ed Carlson</i>	
Formulating Vegan Diets for Cats	1336
<i>Nicola Lakeman</i>	
Nutritional Management of Digestive Disease in Brachycephalic Dogs.....	1340
<i>Kara Burns</i>	
The Microbiome's Role in Bile Acid Dysmetabolism	1346
<i>Robin Saar</i>	

ONCOLOGY

Compounding Pharmaceuticals in Veterinary Medicine.....	1349
<i>Philip Bergman</i>	
Feline Lymphoma: A Review of Common Forms of the Disease and Their Treatments.....	1354
<i>Tracy Gieger</i>	
Radiation Therapy for Veterinary Technicians: A Review of Common Indications	1358
<i>Tracy Gieger</i>	

SMALL ANIMAL INTERNAL MEDICINE

A Technician's Guide to Managing the Diabetic Ketoacidosis Patient	1363
<i>Yvonne Brandenburg</i>	
Acute Phase Proteins	1367
<i>Holly Brown</i>	
An Overview of Hemostasis and Coagulation.....	1370
<i>Carolyn Tai</i>	
Causes and Treatments for Diarrhea Acute Diarrhea.....	1373
<i>Ann Wortinger</i>	
Cholecystitis: Clinical Signs, Diagnostics and Treatments in Dogs	1378
<i>Jordan Porter</i>	
Clinical Signs, Treatments, and Preventions of Heartworm Disease.....	1380
<i>Anna Grimes</i>	
Feline Hypertrophic Cardiomyopathy and the Role of Nutrition	1384
<i>Kara Burns</i>	
Handling and Assessment of Effusions	1394
<i>Holly Brown</i>	

Author Index