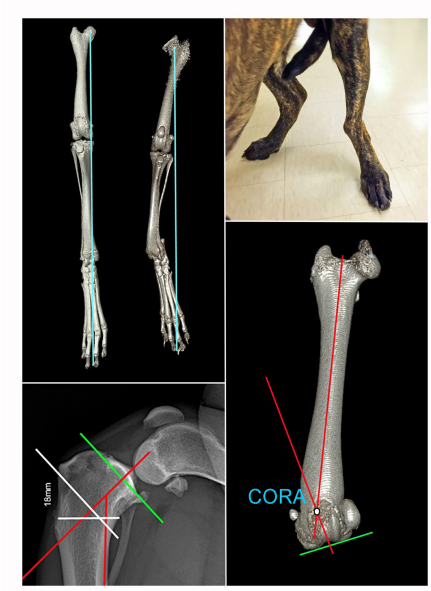
AO VET NA Masters Course—Principles of Deformity Correction: Pelvic Limb

October 31, 2023 - November 2, 2023
Kansas City, Missouri, USA

The purpose of this course is to provide the participant with the basic fundamentals of understanding how to assess the alignment of the pelvic limb of the dog. These principles will then be applied to a number of conditions that arise from pathologic malalignment of the rear limb, such as high-grade patellar luxation, pes varus, cranial cruciate ligament rupture with excessive tibial slope and malunions. Participants will learn a variety of pre-operative assessments and operative techniques in a highly interactive environment involving lectures, workbook exercises, software-based planning sessions and hands-on laboratory experiences.



PREREQUISITE:

Attendance / completion of an AO VET Principles in Small Animal Fracture Management course is a prerequisite for the Masters-level course since familiarity with surgical equipment, instrumentation and surgical techniques will be assumed.

REGISTERED PARTICIPANTS ARE REQUIRED TO BRING EITHER A LAPTOP OR IPAD TO THE COURSE IN ORDER TO ACCESS THE COMPUTER SOFTWARE TEMPLATING PROGRAM

******As of 10/27/2023 the course is CLOSED for any new registrations******

Target Audience:

Enrollment is open to Veterinary residents and practicing veterinarians.

Event Summary

Tuition:
Level Name: Participant - Veterinary
Pricing Tier: Attending
Tuition: $2,000.00

Level Name: Participant - Veterinary
Pricing Tier: Resident
Tuition: $1,800.00

Course Prerequisite(s):

- Principles of Small Animal Fracture Management

Venue:
Kansas City Marriott Downtown
200 W 12th Street
Kansas City, Missouri, USA
Phone Number: 816-421-6800

Language(s):
English

Directly Provided by:
AO North America

Professional Level Prerequisite(s):
No Prerequisites

CME

Continuing Education Credit: 18.50

- AO North America is a Registry of Approved Continuing Education (RACE) Provider (Number 244).

Designation Statement
This program was reviewed and approved by the AAVSB RACE program for 18.50 hours of continuing education credit in jurisdictions which recognize AAVSB RACE approval. Please contact the AAVSB RACE program if you have any comments/concerns regarding this program's validity or relevancy to the veterinary profession.

The Continuing Medical Education (CME) mission of AO North America (AONA®) is to provide comprehensive multidisciplinary needs based education to surgeons, fellows, and residents in the specialties of orthopedic, hand, craniomaxillofacial, spine, neurosurgery, and veterinary surgery in the areas of trauma (i.e.), operative reduction and fixation), degenerative disorders, deformities, tumors, and reconstruction.

Expected results of AONA's CME activities for surgeons, fellows, and residents are to:
• Increase their knowledge base and surgical skill level
• Improve competence by applying advances of knowledge in patient care in the areas of trauma, degenerative disorders, deformities, tumors, and reconstructive surgical techniques
• Address practice performance gaps by improving management of aspects of traumatic injuries and musculoskeletal disorders (i.e., pre-operative planning to post-operative care)

Learning Objectives

Upon completion, participants should be able to:

- Assess the limb alignment of the pelvic limb (both normal and abnormal) in the dog
- Utilize the determined limb alignment to document and define any malalignment or deformity present
- Use the map of documented malalignments to develop a pre-surgical plan for correction

Faculty

Fox, Derek - Chairperson

DVM, PhD, DACVS
Professor, Small Animal Orthopedic Surgery
Veterinary Health Center
University of Missouri
Columbia, Missouri

Dr. Fox is a Professor of Small Animal Orthopedic Surgery and Chief of the Small Animal Surgery Service at the University of Missouri's Veterinary Health Center. He graduated from veterinary school at Michigan State University in 1998, after which he completed an internship, surgical residency and PhD at the University of Missouri, becoming faculty in 2004. He teaches courses and lectures on a variety of topics regarding small animal orthopedic surgery both nationally and internationally. Dr. Fox's special research interest is in limb alignment and deformity correction. He has authored or co-authored over 60 peer reviewed papers, 8 text book chapters and numerous abstracts. He adapted the use of the Center of Rotation of Angulation methodology for the quantification and pre-surgical planning of angular limb deformities in dogs. He is a member of the American College of Veterinary Surgeons, Veterinary Orthopedic Society and AO.

Jaeger, Gayle - Co-Chairperson

DVM, MSpVM, DACVS
Pet Emergency Treatment and Specialties
Lancaster, Pennsylvania

Gayle Jaeger, a native of Long Island New York, received her Bachelor's of Science from Syracuse University, and then earned her Doctorate of Veterinary Medicine from North Carolina State University. She completed an academic internship at Oklahoma State University and a Specialized Orthopedic Surgical Internship in Orlando, Florida at Affiliated Veterinary Specialists. Dr. Jaeger then returned to North Carolina State University for her Surgical Residency training while earning a Masters Degree in Specialized Veterinary Medicine. Dr. Jaeger, was inducted into the American College Of Veterinary Surgeons In 2004 and has been faculty with AONA since 2008. She currently practices in Lancaster Pennsylvania. In her free time she enjoys snowmobiling in Maine and boating on the Chesapeake.

Bruecker, Kenneth - Evaluator

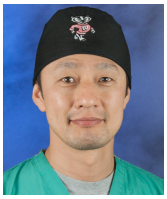
DVM, MS, DACVS, DACVSMR
Dr.
Continuing Orthopedic Veterinary Education (COVE)
Ventura, California

Dr. Kenneth A. Bruecker, DVM, MS Diplomate American College of Veterinary Surgeons Diplomate American College of Veterinary Sports Medicine and Rehabilitation Dr. Bruecker is the Founder of the Veterinary Medical and Surgical Group and Founder of Continuing Orthopedic Veterinary Education (COVE). www.covesurgery.com Dr. Bruecker is a board certified surgeon and also board certified in veterinary sports medicine and rehabilitation with special interests in orthopedics and spinal surgery. He has authored over 100 textbook chapters, journal articles, scientific manuscripts, veterinary and pet owner educational materials. He has been an innovator in the development of new surgical techniques and orthopedic implants. He has been performing arthroscopy for over 25 years. Due to his expertise in spinal surgery, orthopedics and arthroscopy he has been invited to educate and train veterinarians throughout the world. His commitment to the education of veterinarians, technicians and pet owners earned him the California Veterinary Medical Association's Veterinarian of the Year in 2004 as well as Viticus Hands-On Educator in 2022.

Bleedorn, Jason - Lecturer

DVM, MS, DACVS
Associate Professor
Small Animal Orthopedics
Colorado State University
Department of Clinical Sciences
Fort Collins, Colorado

Dr. Bleedorn is an associate professor of orthopedics at Colorado State University. His clinical and research interests include bone deformity correction, 3D imaging/modeling/printing, implant design/biomechanics, fracture innovation, and arthroscopic surgery. He has published manuscripts and book chapters in these areas and is concurrently an instructor for AO VET, Arthrex, and IMEX. He is passionate about innovation, improving orthopedic care for pets, and teaching of veterinarians, residents and students. Dr. Bleedorn's academic training includes a veterinary degree (University of Illinois, 2005), internships (Purdue University, 2006 and Dallas Surgical Center, 2007), and residency (2010) and MS degree (University of Wisconsin, 2015). He was on faculty at the University of Wisconsin for 10 years prior to moving to Colorado in 2022.



Hayashi, Kei - Lecturer
DVM, PhD, DACVS
Professor Emeritus
College of Veterinary Medicine
Cornell University
Ithaca, New York

Dr. Kei Hayashi graduated from the University of Tokyo with BVMS/DVM/PhD degrees (1986-1997), and then obtained MS and PhD degrees at the University of Wisconsin (1997). He completed a small animal surgery residency at the University of Wisconsin (2003) and became a Diplomate of the American College of Veterinary Surgeons (ACVS). He served as an assistant professor of small animal orthopedic surgery at the Michigan State University (2003-2005) then moved to UC Davis and was tenured with accelerated promotion in 2012. He began his appointment at Cornell University in 2013. His research focus is in pathology of ligament/tendon injury and wound healing, evaluation of total joint replacement systems, molecular profiling of osteoarthritis, and comparative orthopedics and sports medicine. His clinical interests are in arthroscopy, total joint arthroplasty, biological approach to joint surgery, minimally invasive fracture treatment, and application of novel research discoveries to clinical patients.

Kowaleski, Michael - Lecturer
DVM, DACVS, DECVS
Professor
Cummings School of Veterinary Medicine
Tufts University
North Grafton, Massachusetts

Dr. Kowaleski earned his DVM degree at the Tufts University School of Veterinary Medicine in 1993. After several years in general practice, he completed his residency training in small animal surgery at Tufts University in a joint program with the Angell Memorial Animal Hospital in 2002. He earned board certification by the American College of Veterinary Surgeons in 2003 and the European College of Veterinary Surgeons in 2010. He was an Assistant Professor of Small Animal Orthopedic Surgery at The Ohio State University from August 2002-August 2007 at which time he was promoted to Associate Professor with tenure. He returned to Tufts in 2007 and currently, he is a Professor of Small Animal Orthopedic Surgery at the Cummings Veterinary Medical Center at Tufts University. His areas of clinical and research interest include arthroscopy, enhancement of fracture healing, external skeletal fixation, fracture repair and orthopedic implants, total joint replacement, clinical and radiological assessment of limb alignment, osteoarthritis, peri-operative and chronic pain management, and the role of osteotomy in the management of joint disease.

Marcellin-Little, Denis - Lecturer
DEDV, DACVS, DACVSMR, DECVS
Professor and Chair, Orthopedic Surgery
Department of Surgical and Radiological Sciences
School of Veterinary Medicine
University of California, Davis
Davis, California

Dr. Denis Marcellin-Little is a Diplomate of the American College of Veterinary Surgeons and a charter Diplomate of the American College of Veterinary Sports Medicine and Rehabilitation. Dr. Marcellin-Little specializes in orthopedic surgery. He is professor and service chief of small animal orthopedic surgery at the University of California, Davis. Dr. Marcellin-Little graduated from the French veterinary school of Toulouse, France in 1988. He did an internship at Hollywood Animal Hospital in Hollywood, Florida, followed by a small animal surgery residency at North Carolina State University, where he was on the faculty from 1994 to 2017. He joined UC Davis in 2017. Dr. Marcellin-Little's surgical interests include total joint replacement and the management of limb deformities. His research interests include the medical and surgical management of severe joint disease and limb deformities. Dr. Marcellin-Little has completed all three phases of the faculty development program, Faculty education, Chair education and Leadership education programs. Dr. Marcellin-Little represented veterinary medicine on the Board of Directors of AO North America from 2020 to 2024.

Tomlinson, James - Lecturer
BSc, DVM, MVSc, DACVS
Professor Emeritus of Small Animal Orthopedic Surgery
Department of Veterinary Medicine and Surgery
College of Veterinary Medicine
University of Missouri
Columbia, Missouri

Agenda

Day 1

Tuesday, October 31, 2023 - 08:00 - 16:55 - (includes breaks, travel-time and meals)

Activity	*Area*
FRC	Central Street Room
Lab	Truman Room AB
Lecture	12th Street Meeting Room
Module A	Bennie Moten B
Module B	Bennie Moten A
Module C	Big Joe Turner B
Module D	Jay McShann A

Schedule	Title	Moderator	Faculty	Room
08:00 - 08:10	Welcome and Course Overview		Fox, D	
08:10 - 09:00	BASIC CONCEPTS REVIEW	Fox, D		
08:10 - 08:30	Paley's Three Rules of Osteotomies		Fox, D	
08:30 - 08:45	Geometric Concepts of Osteotomies; Open, Closing Wedges and Radial Osteotomies		Kowaleski, M	
08:45 - 09:00	Workbook Exercise 1: Practicing Virtual Corrections of Deformities with Different Osteotomy Types		Bleedorn, J Fox, D Hayashi, K Jaeger, G Kowaleski, M Marcellin-Little, D Tomlinson, J	
09:00 - 10:20	TIBIA: GENERAL ASSESSMENT AND DEFORMITY CORRECTION	Fox, D		
09:00 - 09:20	Physical Examination of a Patient with Pelvic Limb Deformity		Fox, D	
09:20 - 09:40	Advanced Imaging of the Tibia: Radiographs and CT		Bleedorn, J	
09:40 - 10:00	Workbook Exercise 2 / Lab A Planning: Assessing the Alignment of a Normal Tibia and Applying those Value to a Tibia with a Uniapical Frontal Plane Mid-Diaphyseal Deformity with Virtual Correction		Bleedorn, J Fox, D Hayashi, K Jaeger, G Kowaleski, M Marcellin-Little, D Tomlinson, J	
10:00 - 10:20	Coffee Break			
10:20 - 11:40	PES VARUS AND HYBRID CESF	Marcellin-Little, D		
10:20 - 10:40	Tibial Frontal Plane Deformities: Pes Varus of Dachshunds and Distal Valgus of Large Breed Dogs		Marcellin-Little, D	
10:40 - 11:00	Workbook Exercise 3 / Lab B Planning: Assessing the Alignment of a Canine Tibia with Pes Varus with Virtual Correction		Bleedorn, J Fox, D Hayashi, K Jaeger, G Kowaleski, M Marcellin-Little, D Tomlinson, J	
11:00 - 11:20	Overview of the Equipment and Mechanical Concepts of a Hybrid CESF System		Jaeger, G	
11:20 - 11:40	Executing an Osteotomy: Moving from Plans to Bones		Bleedorn, J	
11:40 - 12:40	Lunch and Travel to Lab			
12:40 - 13:10	Lab A: Correction of a Mid-Diaphyseal Tibial Deformity (malunion) with ORIF (plate)	Fox, D Jaeger, G		
13:10 - 14:10	Lab B: Correction of Tibia with Pes Varus with Open Wedge and Hybrid CESF with Conversion to Open Wedge and Plate	Fox, D Jaeger, G		

14:10 - 14:30	Coffee Break and Travel to Lecture		
14:30 - 16:55	TIBIA WITH EXCESSIVE SLOPE	Jaeger, G	
14:30 - 14:50	Excessive Tibial Slope; Etiology, Pathophysiology and Consequences		Jaeger, G
14:50 - 15:10	Comparison of Techniques to Address Excessive Tibial Slope		Fox, D
15:10 - 15:30	Workbook Exercise 4 / Lab C: Assessing a Tibia with Excessive Tibial slope and Performing a Virtual Correction with Neutral Wedge Technique		Bleedorn, J Fox, D Hayashi, K Jaeger, G Kowaleski, M Marcellin-Little, D Tomlinson, J
15:30 - 15:35	Travel to Lab		
15:35 - 16:15	Lab C: Correction of a Tibia with Excessive Slope with a Neutral Wedge		
16:15 - 16:55	Lab D: Correction of a Tibia with Excessive Slope with Participant's Choice		
16:55 - 16:55	Adjourn for the Day		
16:55 - 17:55	Welcome Reception		

Day 2

Wednesday, November 01, 2023 - 08:00 - 17:20 - (includes breaks, travel-time and meals)

Activity	*Area*
FRC	Central Street Room
Lab	Truman Room AB
Lecture	12th Street Meeting Room
Module A	Bennie Moten B
Module B	Bennie Moten A
Module C	Big Joe Turner B
Module D	Jay McShann A

Schedule	Title	Moderator	Faculty	Room
08:00 - 11:00	PATELLAR LUXATION: PATHOLOGY AND ASSESSMENT	Jaeger, G		
08:00 - 08:25	Etiopathogenesis of Medial and Lateral Patellar Luxations: Disturbances of Alignment		Jaeger, G	
08:25 - 08:40	Grading Patellar Luxations		Kowaleski, M	
08:40 - 09:00	Physical Examination of Dogs with Patellar Luxation: Predicting what Image will Show Based on Posture, Gait and Palpation		Marcellin-Little, D	
09:00 - 09:20	Imaging and Assessing the Alignment of the Femur: Radiographs and CT		Bleedorn, J	
09:20 - 09:40	Distal Femoral Osteotomies to Address Femoral Malalignment with Patellar Luxation		Kowaleski, M	
09:40 - 10:00	Workbook Exercise 5 / Assessing the Alignment of the Femur, Normal and Abnormal		Bleedorn, J Fox, D Hayashi, K Jaeger, G Kowaleski, M Marcellin-Little, D Tomlinson, J	
10:00 - 10:20	Coffee Break			
10:20 - 10:40	Assessing and Correcting the Femoral Trochlea		Marcellin-Little, D	
10:40 - 11:00	The Role of the Tibia in Patellar Luxations: Tibial Tuberosity Position, Tibial Rotations and Tibial Torsion		Fox, D	
11:00 - 11:40	PATELLAR LUXATION: TREATMENT STRATEGIES	Jaeger, G		

11:00 - 11:20	Tibial Corrective Strategies, Tuberosity Transposition, Tibial De-Rotation, and Tibial De-Torsion		Bleedorn, J
11:20 - 11:40	Workbook Exercise 6 / Assessing the Alignment of the Tibia Affected by Patellar Luxation - Tibial Tuberosity Position, Tibial Torsion and Tibial Rotation		
11:40 - 12:40	Lunch		
12:40 - 15:10	PATELLAR LUXATION: TREATMENT STRATEGIES (cont)	Jaeger, G	
12:40 - 13:00	Soft Tissue and Adjunctive Treatments for Patellar Instability		Hayashi, K
13:00 - 13:20	Femoral / Quadriceps Length Assessment and Mismatch with Patellar Luxation		Fox, D
13:20 - 13:40	Workbook Exercise 7 / Lab E Planning: Grade IV MPL with Distal Femoral Varus, External Torsion, Internal Tibial Rotation and Mid-Tibial External Torsion		Bleedorn, J Fox, D Hayashi, K Jaeger, G Kowaleski, M Marcellin-Little, D Tomlinson, J
13:40 - 13:50	Travel to Lab		
13:50 - 15:10	Lab E: Grade IV MPL with Distal Femoral Varus, External Torsion, Internal Tibial Rotation and Mid-Tibial External Torsion	Fox, D Jaeger, G	
15:10 - 15:30	Coffee Break and Travel to Lecture		
15:30 - 17:20	PATELLAR LUXATIONS: COMPLICATED CASES	Fox, D	
15:30 - 15:50	Treating Patella Luxation with Cranial Cruciate Ligament Disease: Strategies		Kowaleski, M
15:50 - 16:10	Complications in Patellar Luxation Correction: Causes and Strategies for Revision		Hayashi, K
16:10 - 16:20	Travel to SGD		
16:20 - 17:20	Small Group Discussion		

Group	*Room*
Group A	Bennie Moten B
Group B	Bennie Moten A
Group C	Big Joe Turner B
Group D	Jay McShann A

17:20 - 17:20	Adjourn for the Day		

Day 3

Thursday, November 02, 2023 - 08:00 - 17:10 - (includes breaks, travel-time and meals)

Activity	*Area*
FRC	Central Street Room
Lab	Truman Room AB
Lecture	12th Street Meeting Room
Module A	Bennie Moten B
Module B	Bennie Moten A
Module C	Big Joe Turner B
Module D	Jay McShann A

Schedule	Title	Moderator	Faculty	Room
08:00 - 08:40	FEMORAL ALIGNMENT ALTERNATIVES	Fox, D		
08:00 - 08:20	Correcting Femoral Malalignment with the Interlocking Nail		Marcellin-Little, D	

08:20 - 08:40	Workbook Exercise 8: Planning a Distal Femoral Osteotomy Correction with an Interlocking Nail		Bleedorn, J Fox, D Hayashi, K Jaeger, G Kowaleski, M Marcellin-Little, D Tomlinson, J
08:40 - 10:40	PATELLAR LUXATIONS: JUVENILE CASES	Fox, D	
08:40 - 09:40	Patellar Luxations in Juvenile Patients: The Japanese Philosophy and Approach		Hayashi, K
09:40 - 10:00	Addressing Developing Femoral Malalignment with Patellar Luxation in Juvenile Patients with Physeal Stapling		Bleedorn, J
10:00 - 10:20	Coffee Break		
10:20 - 10:40	Addressing Internal Tibial Rotation with Patellar Luxation in the Juvenile Patient with Dynamic External Skeletal Fixation		Bleedorn, J
10:40 - 13:00	PATELLAR LUXATION CASES	Fox, D	
10:40 - 11:00	Complex Patellar Luxation Case Presentation		Fox, D
11:00 - 11:20	Complex Patellar Luxation Case Presentation		Kowaleski, M
11:20 - 11:40	Complex Patellar Luxation Case Presentation		Hayashi, K
11:40 - 12:00	Complex Patellar Luxation Case Presentation		Marcellin-Little, D
12:00 - 13:00	Lunch		
13:00 - 14:40	FEMORAL MALUNIONS: ASSESSMENT AND TREATMENT STRATEGIES	Jaeger, G	
13:00 - 13:30	Femoral Malunions: Angular and Limb Length Consequences		Jaeger, G
13:30 - 13:50	Femoral Malunions: Treatment Strategies for Angular Correction		Marcellin-Little, D
13:50 - 14:10	Femoral Malunions: Treatment Strategies for Limb Length Discrepancies		Jaeger, G
14:10 - 14:40	Workbook Exercise 10 / Lab F Planning: Assessing the Alignment of a Femoral Malunion and Planning a Surgical Correction with ORIF		Bleedorn, J Fox, D Hayashi, K Jaeger, G Kowaleski, M Marcellin-Little, D Tomlinson, J
14:40 - 15:00	Coffee Break and Travel to Lab		
15:00 - 16:00	Lab F: Correction of an Angulated Femoral Malunion with ORIF	Fox, D Jaeger, G	
16:00 - 16:10	Travel to Lecture Hall		
16:10 - 17:10	Panel Discussion: "How Would I Treat"	Fox, D	Bleedorn, J Hayashi, K Jaeger, G Kowaleski, M Marcellin-Little, D Tomlinson, J
17:10 - 17:10	Course Adjourns		

AO NA Disclaimer Information

Faculty Disclosure:
It is the policy of AO North America to abide by the Accreditation Council for Continuing Medical Education Standards for Commercial Support. Standard 2: "Disclosures Relevant to Potential Commercial Bias and Relevant Financial Relationships of Those with Control over CME Content," requires all planners, including course directors, chairs, and faculty, involved in the development of CME content to disclose their relevant financial relationships prior to participating in the activity. Relevant financial relationships will be disclosed to the activity audience. The intent of the disclosure is not to prevent a faculty with a relevant financial or other relationship from teaching, but to provide participants with information that might be of importance to their evaluation of content. All potential conflicts of interest have been resolved prior to the commencement of this activity.

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All scientific research referred to, reported or used in this CME activity in support or justification of a patient care recommendation conforms to the generally accepted standards of experimental design, data collection and analysis.

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Acknowledgment

In Kind Support

AO North America gratefully acknowledges in-kind support for equipment and technical staff from DePuy Synthes, IMEX Inc, Securos, and vPOP pro (VetSOS Education Ltd).

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