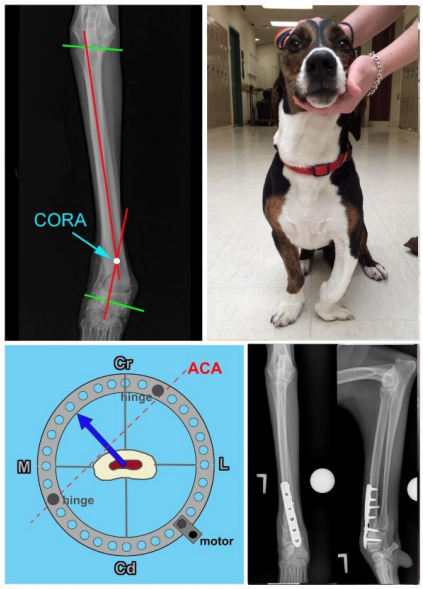
AO VET NA Masters Course-Principles of Deformity Correction: Thoracic Limb

November 2, 2022 - November 4, 2022
Glendale, Arizona, USA

The purpose of this course is to provide the participant with the basic fundamentals of understanding how to assess the alignment of the forelimb of the dog. These principles will then be applied to a number of conditions that arise from pathologic malalignment of the forelimb, such as growth disturbances, angular limb deformation and joint incongruity. 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 hand-on laboratory experiences.



Attendance / completion of an AO VET Principles in Small Animal Fracture Management course is a prerequisite for the Masters level course since familiarity with instrumentation and 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

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:
Renaissance Phoenix Glendale Hotel
9495 W Entertainment Blvd
Glendale, Arizona, USA
Phone Number: (623) 937-3700
https://www.marriott.com/en-us/hotels/phxgr-renaissance-phoenix-glendale-hotel-and-spa/overview/

Language(s):
English
Directly Provided by:
AO North America
Professional Level Prerequisite(s):
No Prerequisites

CME

Continuing Education Credit: 20.75

- 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 20.75 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 thoracic 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.

Tomlinson, James - Evaluator

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

Agnello, Kimberly - Lecturer

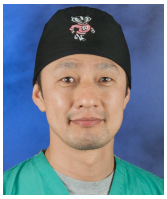
DVM, MS, DACVS, DACVSMR
Professor of Small Animal Orthopedic Surgery
ACVS Founding Fellow, Minimally Invasive Surgery (Orthopedics)
University of Pennsylvania School of Veterinary Medicine
Department of Clinical Studies - VHUP
Philadelphia, Pennsylvania

Dr. Agnello received her veterinary degree from Cornell University, School of Veterinary Medicine and completed a small animal surgery residency at the University of California. She is a Diplomate of the American College of Veterinary Surgeons and the American College of Veterinary Sports Medicine and Rehabilitation. She is currently faculty in small animal orthopedic surgery at University of Pennsylvania. Dr. Agnello's clinical and research interests include minimally invasive surgery, angular limb deformity correction, and clinical trials for the treatment of osteoarthritis.

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. 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 of orthopedic surgery and Chair
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 former service chief of small animal orthopedic surgery at the University of California, Davis, where he Chairs the department of surgical and radiological sciences. 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.

Agenda

Day 1

Wednesday, November 02, 2022 - 08:00 - 17:10 - (includes breaks, travel-time and meals)

Activity	*Area*
AO Office	Conference Registration Desk
Breakfast	Solana E
Coffee Break	Solana Ballroom Foyer
FRC	Asteria Boardroom
Lab	Media/Event Center
Lecture	Solana B
Lunch	Solana E
Reception	Outside Courtyard
Registration	Conference Registration Desk

Schedule	Title	Moderator	Faculty	Room
08:00 - 08:10	Welcome and Course Overview		Fox, D	
08:10 - 12:20	GEOMETRIC CONCEPTS AND PRINCIPLES OF THE CORA METHODOLOGY			
08:10 - 08:30	Introduction to the CORA Methodology - Geometric Concepts		Fox, D	
08:30 - 09:00	Workbook Exercise 1: Determining the Normal Alignment of Generic Bones		Jaeger, G	
09:00 - 09:30	Determining the Location and Magnitude of a Deformity - The Anatomy of A 'CORA'		Jaeger, G	
09:30 - 10:00	Workbook Exercise 2: Using the CORA Method to Assess the Location and Magnitude of a Deformity		Jaeger, G	
10:00 - 10:20	Coffee Break			Solana Ballroom Foyer
10:20 - 11:00	The Graphical Method of Determining the Plane of the Deformity		Fox, D	
11:00 - 11:30	Workbook Exercise 3: Using the Graphic Method to Determine the Plane of the Deformity		Fox, D	
11:30 - 11:50	Concepts of Osteotomies and Paley's Three Rules		Kowaleski, M	
11:50 - 12:20	Workbook Exercise 4: Practicing Virtual Corrections of Deformities with Different Osteotomy Types		Kowaleski, M	
12:20 - 13:30	Lunch			Solana E
13:30 - 17:10	GEOMETRIC CONCEPTS AND PRINCIPLES OF THE CORA METHODOLOGY (continued)			
13:30 - 13:50	Circular External Skeletal Fixators (CESF) Introduction and Concepts		Agnello, K	
13:50 - 14:10	CESF Nomenclature and Systems		Agnello, K	
14:10 - 14:30	CORA Plane of Deformity as it Relates to CESF Application		Jaeger, G	
14:30 - 15:00	Workbook Exercise 5: Designing a Hinged CESF Frame to Correct an Oblique Plane Deformity		Jaeger, G	
15:00 - 15:30	Coffee Break			Solana Ballroom Foyer
15:30 - 15:45	Lab A Planning: Determining the Magnitude and Location of a Frontal Plane Deformity - PVC		Agnello, K	
15:45 - 16:00	Lab B Planning: Determining the Magnitude and Location of an Oblique Plane Deformity - PVC		Agnello, K	
16:00 - 16:10	Travel to Lab			

16:10 - 16:40	Lab A: Correcting a Frontal Plane Deformity with a Hinged CESF Frame - PVC
16:40 - 17:10	Lab B: Correcting an Oblique Plane Deformity with a Hinged CESF Frame - PVC
17:10 - 17:10	Adjourn for the Day
17:10 - 18:10	Welcome Reception

Day 2

Thursday, November 03, 2022 - 08:00 - 17:20 - (includes breaks, travel-time and meals)

Activity	*Area*
AO Office	Conference Registration Desk
Breakfast	Solana E
Coffee Break	Solana Ballroom Foyer
FRC	Asteria Boardroom
Lab	Media/Event Center
Lecture	Solana B
Lunch	Solana E
Reception	Outside Courtyard
Registration	Conference Registration Desk

Schedule	Title	Moderator	Faculty	Room
08:00 - 12:10	APPLICATIONS OF PRINCIPLES TO THE RADIUS AND ULNA			
08:00 - 08:20	Physical Examination of the Canine Forelimb Focusing on Alignment and Deformity Assessment		Hayashi, K	
08:20 - 08:40	Assessing Alignment of the Normal Humerus and Radius/Ulna using Radiography		Hayashi, K	
08:40 - 09:10	Workbook Exercise 6: Determining the Normal Alignment of the Humerus and Radius/Ulna		Hayashi, K	
09:10 - 09:30	Determining the Location, Magnitude and Plane of Uniapical Radioulnar Deformities Using Radiography		Bleedorn, J	
09:30 - 10:00	Workbook Exercise 7: Determining the Location, Magnitude and Plane of a Uniapical Radioulnar Deformity		Bleedorn, J	
10:00 - 10:20	Coffee Break			Solana Ballroom Foyer
10:20 - 10:40	Lab C and D Planning: Determining the Location, Magnitude and Plane of an Oblique Uniapical Radioulnar Deformity		Jaeger, G	
10:40 - 11:00	Lab C and D Explanation and Overview		Jaeger, G	
11:00 - 11:10	Travel to Lab			
11:10 - 11:40	Lab C: Correcting and Oblique Uniapical radioulnar Deformity Model with a CESF an Opening Wedge Osteotomy			
11:40 - 12:10	Lab D: Correcting an Oblique Uniapical Radioulnar Deformity Model with ORIF and Closing Wedge Ostectomy			
12:10 - 13:10	Lunch			Solana E
13:10 - 17:20	APPLICATIONS OF PRINCIPLES TO THE RADIUS AND ULNA (continued)			
13:10 - 13:30	Torsion-Angulation Deformities of the Radius/Ulna: Assessment with Gross Examination and Radiographs		Fox, D	
13:30 - 14:00	Workbook Exercise 8: Planning a Correction of a Radius/Ulna Torsion-Angulation Deformity with Radiographs		Fox, D	
14:00 - 14:20	Computed Tomography of the Normal Radius/Ulna		Bleedorn, J	
14:20 - 14:40	Torsion-Angulation Deformities of the Radius/Ulna: Assessment with Computed Tomography (CT)		Kowaleski, M	

14:40 - 15:10	Workbook Exercise 9: Planning a Correction of a Radius/Ulna Torsion-Angulation Deformity with CT	Kowaleski, M	
15:10 - 15:30	Coffee Break		Solana Ballroom Foyer
15:30 - 16:00	Lab E Planning: Determining the Location, Magnitude and Plane of an Oblique Uniapical Torsion-Angulation Deformity	Kowaleski, M	
16:00 - 16:20	Lab E Explanation and Overview	Kowaleski, M	
16:20 - 16:30	Travel to Lab		
16:30 - 17:20	Lab E: Correcting an Oblique Uniapical Torsion-Angulation Deformity with either CESF or ORIF and Osteotomy of Choice		

Day 3

Friday, November 04, 2022 - 08:00 - 16:30 - (includes breaks, travel-time and meals)

Activity	*Area*
AO Office	Conference Registration Desk
Breakfast	Solana E
Coffee Break	Solana Ballroom Foyer
FRC	Asteria Boardroom
Lab	Media/Event Center
Lecture	Solana B
Lunch	Solana E
Reception	Outside Courtyard
Registration	Conference Registration Desk

Schedule	Title	Moderator	Faculty	Room
08:00 - 12:00	COMPLEX DEFORMITIES AND OTHER TOPICS ON FORELIMB ALIGNMENT			
08:00 - 08:20	Biapical Radioulnar Deformities of Chondrodystrophic Dogs: Assessment and Description of Condition		Fox, D	
08:20 - 08:40	Biapical Radioulnar Deformities - Correction with ORIF		Fox, D	
08:40 - 09:00	Biapical Radioulnar Deformities - Correction with CESF		Marcellin-Little, D	
09:00 - 09:30	Workbook Exercise 10: Determining the Location and Magnitudes of Biapical Deformities		Fox, D	
09:30 - 09:50	Radioulnar Incongruency: Short Radius - Identification and Strategies for Treatment		Agnello, K	
09:50 - 10:10	Radioulnar Incongruency: Short Ulna - Identification and Strategies for Treatment		Hayashi, K	
10:10 - 10:40	Coffee Break			Solana Ballroom Foyer
10:40 - 11:00	Other Radioulnar Deformities: Premature Closure of the Lateral Aspect of the Distal Radial Physis		Bleedorn, J	
11:00 - 11:20	Other Radioulnar Deformities: the Dysostoses: Radial Hemimelia, Ectrodactyly		Agnello, K	
11:20 - 11:40	Advanced Concepts: Software Advances in Assessment and Virtual Planning of Radioulnar Deformities		Kowaleski, M	
11:40 - 12:00	Advanced Concepts: 3D Printing and Surgical Planning of Radioulnar Deformities		Bleedorn, J	
12:00 - 13:00	Lunch			Solana E
13:00 - 16:30	COMPLEX DEFORMITIES AND OTHER TOPICS ON FORELIMB ALIGNMENT (continued)			
13:00 - 13:20	Advanced Concepts: 3D Printed Cut Guides and Templates for Correction		Jaeger, G	

13:20 - 13:40	Timing of Radioulnar Deformity Correction: Juvenile Versus Adult Surgical Intervention	Agnello, K	
13:40 - 14:10	What is the Evidence: Relationship of Forelimb Alignment to Medical Compartment Disease of the Elbow	Hayashi, K	
14:10 - 14:30	Case Discussion	Tomlinson, J	
14:30 - 14:50	Case Discussion	Kowaleski, M	
14:50 - 15:10	Coffee Break		Solana Ballroom Foyer
15:10 - 15:30	Case Discussion	Bleedorn, J	
15:30 - 15:50	Case Discussion	Agnello, K	
15:50 - 16:10	Case Discussion	Jaeger, G	
16:10 - 16:30	Case Discussion	Hayashi, K	

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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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Some medical devices used for teaching purposes and/or discussed in AO North America’s educational activities may have been cleared by the FDA for specific uses only or may not yet be approved for any purpose. Faculty may discuss off-label, investigational, or experimental uses of products/devices in CME certified educational activities. Faculty have been advised that all recommendations involving clinical medicine in this CME activity are based on evidence that is accepted within the profession of medicine as adequate justification for their indications and contraindications in the care of patients.

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.

Disclaimer:
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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, and vPOP.

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