



## AO Trauma NA Blended Course—Basic Principles of Fracture Management Essentials



April 29, 2021 - June 17, 2021

Online, N/A, N/A

This **Blended Basic Principles of Fracture Management Essentials** course is designed to provide the participant with a fundamental knowledge of the operative treatment of fractures according to the AO principles.

The four guiding AO principles of fracture fixation are:

1. Anatomic reduction of the fracture fragments, particularly in joint fractures;
2. Stable fixation to ensure proper healing of the fracture while allowing surrounding tissue to move and strengthen;
3. Atraumatic surgical techniques to preserve the blood supply to the bone fragments and soft tissue;
4. Early, pain-free mobilization returning the patient to function as quickly as possible.

This course will also cover the concepts of absolute and relative stability of soft tissue injury as applied, in context, for each limb segment's major fracture types.

This course is the foundation for the AO North America curriculum, which **teaches the surgeon how to manage trauma and trauma reconstruction**. The goal of this course is not to advocate the treatment of all fractures by surgical fixation, but rather, to help ensure that when surgery is carried out, that it is done properly based upon principles, appropriate preoperative planning, and decision making.

*All AO North America resident courses are developed and consistent with the Accreditation Council for Graduate Medical Education (ACGME) competencies and specialty specific Milestones program.*



### Event Summary

#### Tuition:

Level Name: Participant - Orthopaedic

Pricing Tier: Resident

Tuition: \$50.00

#### Course Prerequisite(s):

No Prerequisites

#### Venue:

No Venue

#### Language(s):

English

#### Directly Provided by:



#### Professional Level Prerequisite(s):

No Prerequisites

## CME

### Continuing Education Credit: 19.00

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AO North America is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

AONA has been resurveyed by the Accreditation Council for Continuing Medical Education (ACCME) and awarded Accreditation with Commendation.

- **Designation Statement** - AO North America designates this live educational activity for a maximum of 19.00 **AMA PRA Category 1 Credits™**. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

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:

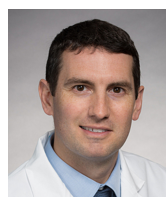
- Increase their knowledge base and surgical skill level
- Improve competence by applying advances of knowledge in patient care in the areas of trauma, degenerative disorders, deformities, tumors, and reconstructive surgical techniques
- Address practice performance gaps by improving management of aspects of traumatic injuries and musculoskeletal disorders (i.e., pre-operative planning to post-operative care)

## Learning Objectives

Upon completion, participants should be able to:

- Discuss the concepts of stability, their influence on bone healing, and how to apply implants to achieve appropriate stability
- Plan a treatment based on assessment, imaging, classification, and decision making
- Apply reduction techniques in fracture management with attention to the importance of the soft-tissue
- Apply related psychomotor skills to the practical application of orthopedic implants to fractured bones
- Plan the initial treatment of the polytraumatized patient

## Faculty



### Kleweno, Conor - Co-Chairperson

MD  
Associate Professor  
Orthopaedics and Sports Medicine  
University of Washington  
Harborview Medical Center  
Seattle, Washington

Dr. Kleweno is an Associate Professor with the University of Washington Orthopaedics and Sports Medicine Department at Harborview Medical Center. He is devoted to improving the quality of patient care in orthopedic trauma surgery. Dr. Kleweno earned his medical degree from Harvard Medical School in Boston, Massachusetts. Afterward he completed the Harvard Combined Orthopaedic Surgery Residency and a fellowship in traumatology at the Shock Trauma Center in Baltimore, Maryland. His clinical interests include the care of orthopedic trauma, pelvic and acetabular fractures, and a focus on joint reconstruction and fracture malunion and nonunion treatment. His research interests include pelvis and acetabular fractures. Dr. Kleweno tries to ensure patients understand their injuries, individualized evidence-based treatment plan and expected health outcome. Dr. Kleweno strives to establish partnerships that empower patients to play an active role in their recovery.



### Little, Milton - Co-Chairperson

MD  
Orthopaedic Trauma Fellowship Director  
Assistant Professor  
Cedars-Sinai Medical Center  
Los Angeles, California

Milton Little, MD is the Cedars Sinai Orthopaedic Trauma Fellowship director and a member of the Orthopaedic Trauma Service at Cedars Sinai Medical Center specializing in pelvis, acetabulum, peri-articular fractures in addition to non-union fracture fixation. He has published extensively in peer-reviewed journals including Journal of Orthopaedic Trauma, Journal of Bone and Joint Surgery and the Bone and Joint Journal (formerly JBJS Br) to name a few. He has published on numerous topics including ankle fractures, proximal humerus fractures, tibial plateau fractures and pelvic-acetabular fractures. Dr. Little has completed his undergraduate degree at Stanford University. He graduated with honors from the University of Michigan Medical School in Ann Arbor, Michigan. After completing an Orthopaedic Residency at the Hospital for Special Surgery in New York City, he finalized his training with an Orthopaedic Trauma Fellowship at Harborview Medical Center-University of Washington. Specialty: Orthopedics Subspecialty: Trauma Arthroplasty Reconstruction Education: Undergraduate: Stanford University, 2003 Medical School: University of Michigan Medical School, 2008 Residency: Hospital for Special Surgery, 2013 Fellowship: Harborview Medical Center, 2014



### Ahn, Jaimo - Lecturer

MD, PhD  
Professor & Associate Chair  
Chief of Orthopaedic Trauma  
Department of Orthopaedic Surgery  
University of Michigan  
Ann Arbor, Michigan

Jaimo Ahn, MD, PhD is Professor, Associate Chair of Orthopaedic Surgery, Chief of Orthopaedic Trauma and an orthopaedic surgeon-scientist-educator at the University of Michigan. He completed a clinical fellowship in Orthopaedic Traumatology at the Hospital for Special Surgery, Weill Cornell Medical College and traveling fellowships at the University of Bern, Switzerland and across western North America with the American Orthopaedic Association. He served his internship and residency in orthopaedic surgery at the University of Pennsylvania where he also received his MD-PhD in Cell & Molecular Biology and performed a fellowship in molecular orthopaedics. Prior to that, he was a research associate in parasitology at UCSF after receiving his undergraduate degree in Biological Sciences from Stanford University. In addition to studying the education physicians and scientists, he participates in basic science research with a focus on bone regulation/regeneration and fracture healing and clinical research with a focus on prospective orthopaedic trauma outcomes and surgical decision-making. In addition, the translation of research/ideas to the real world is important to Jaimo and he is active in the realization of several patents/companies. To complete the academic triad, he is active in medical education, having served as Advisory Dean, Associate Program Director and Student Director previously at Penn, Board member of the American Physician Scientists Association, a former member of the USMLE test material development committee and current member of the ABOS question writing task force. He enjoys reviewing for journals as varied as JAMA, Science Translational Medicine, CORR, Journal of Orthopaedic Trauma, Frontiers in Surgery and consulting for the FDA as well as industry. Outside of academics, he loves to travel, eat, drink and run with his wife, family and friends. Educationally, he is always open to discussion with trainees.

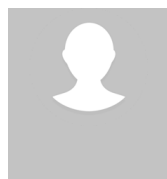


### Berkes, Marschall - Lecturer

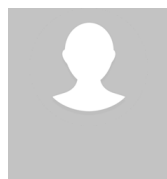
MD  
Assistant Professor  
Department of Orthopaedic Surgery  
Washington University  
St Louis, Missouri

**Bernstein, Mitchell - Lecturer**

MD, FRCSC, FAAOS  
Assistant Professor  
Orthopedic Trauma & Limb Deformity  
McGill University Health Center  
Co-Director, Limb Deformity Unit, Shriners Hospital for Children  
Montreal, Quebec

**Davies, Jonah - Lecturer**

MD, FRCS(C)  
Assistant Professor  
Department of Orthopaedics  
Harborview Medical Center  
Seattle, Washington

**Domes, Christopher - Lecturer**

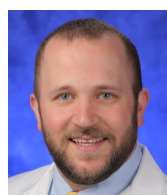
MD  
Assistant Professor  
Department of Orthopaedics  
Madison, Wisconsin

**Eastman, Jonathan - Lecturer**

MD  
Associate Professor  
Department of Orthopaedic Surgery  
University of California, Davis Medical Center  
Sacramento, California

**Forsh, David - Lecturer**

MD  
Associate Professor  
Chief of Orthopaedic Trauma  
Department of Orthopaedic Surgery  
Mount Sinai Health System  
New York, New York

**Garner, Matthew - Lecturer**

MD  
Penn State College of Medicine  
Milton S. Hershey Medical Center  
Hershey, Pennsylvania

Dr. Garner is a native of central Pennsylvania and returned after completing his surgical training at the Hospital for Special Surgery and Harborview Medical Center. He has interests in pelvic and acetabular fractures, periprosthetic fractures, periarticular fractures as well as non-unions and malunions.

**Harris, A. Michael - Lecturer**

MD  
Orthopaedic Trauma  
Hughston Clinic  
Jacksonville, Florida

**Marecek, Geoffrey - Lecturer**

MD  
Associate Professor  
Cedars-Sinai Medical Center  
Los Angeles, California

Dr Marecek is an Orthopaedic Trauma surgeon at Cedars - Sinai Medical Center in Los Angeles, CA. He treats fractures of the upper and lower extremities, with a particular interest in nonunions, bone defects and deformity correction.

**Nascone, Jason - Lecturer**

MD  
Professor  
Department of Orthopaedics  
R. Adams Cowley Shock Trauma Center  
University of Maryland  
Baltimore, Maryland

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**Rodriguez, Edward - Lecturer**

MD, PhD  
Chief, Orthopaedic Surgery  
Department of Orthopaedic Surgery  
Beth Israel Deaconess Medical Center  
Boston, Massachusetts

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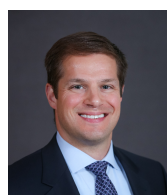
Dr Edward K Rodriguez (aka “Krod”), is Chief of Orthopedics at Beth Israel Deaconess Medical Center in Boston. Prior to that he was Chief of Orthopedic Trauma from 2004 to 2020. He is Associate Professor in Orthopedic Surgery at Harvard Medical School and Emeritus Chair of the Harvard Medical School Orthopedic Trauma Initiative. He trained as a mechanical and bioengineer and completed his PhD at the University of California, San Diego, before earning his medical degree at the Harvard-MIT Health Sciences and Technology Program at Harvard Medical School. He completed his orthopedic residency at the Harvard Combined Program in Orthopedic Surgery in 2003, followed by fellowship training in orthopedic Trauma at the University of Maryland’s R Adams Cowley Shock Trauma Center. Dr Rodriguez’s present research interests include trauma outcomes, non-union, arthrofibrosis, and hip fracture prevention.

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**Schenker, Mara - Lecturer**

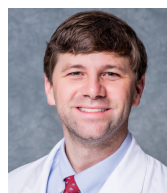
MD, FACS  
Associate Professor  
Emory University  
Department of Orthopaedic Surgery  
Grady Memorial Hospital  
Atlanta, Georgia

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**Scolaro, John - Lecturer**

MD, MA  
Associate Clinical Professor  
Residency Program Director  
Department of Orthopaedic Surgery  
University of California, Irvine  
Orange, California

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**Spittler, Clay - Lecturer**

MD  
Associate Professor  
University of Alabama at Birmingham  
Birmingham, Alabama

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**Tougas, Caroline - Lecturer**

MD, FRCS(C) Ortho, MEd  
Department of Orthopedics - Children’s Mercy Hospital  
Clinical Assistant Professor - UMKC School of Medicine  
Kansas City, Missouri

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**Warner, Steve - Lecturer**

MD, PhD  
Assistant Professor  
Department of Orthopaedics  
University of Texas - Houston  
Houston, Texas

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## Agenda

### Day 1

**Thursday, April 29, 2021 - 20:00 - 21:15**

| Schedule      | Title                                                               | Moderator | Faculty | Room |
|---------------|---------------------------------------------------------------------|-----------|---------|------|
| 20:00 - 20:00 | Introduction and Welcome                                            |           |         |      |
| 20:00 - 20:45 | Thursday Fireside                                                   |           |         |      |
| 20:00 - 20:45 | Q & A / Module Summary / Cases                                      |           |         |      |
| 20:00 - 20:15 | History of Fracture Care and Evolution of Principles                |           |         |      |
| 20:15 - 20:30 | Bone: Fracture Classification - A Guide to Clinical Decision Making |           |         |      |
| 20:30 - 20:45 | Soft Tissue Injury and Compartment Syndrome                         |           |         |      |
| 20:45 - 21:00 | Open Fractures                                                      |           |         |      |
| 21:00 - 21:15 | Bone Healing                                                        |           |         |      |

### Day 2

**Thursday, May 06, 2021 - 20:00 - 20:45**

| Schedule      | Title                                                          | Moderator | Faculty | Room |
|---------------|----------------------------------------------------------------|-----------|---------|------|
| 20:00 - 20:45 | Thursday Fireside                                              |           |         |      |
| 20:00 - 20:00 | Welcome / Introduction                                         |           |         |      |
| 20:00 - 20:15 | Spectrum of Stability                                          |           |         |      |
| 20:00 - 20:45 | Q & A / Module Summary / Cases                                 |           |         |      |
| 20:15 - 20:30 | Surgical Reduction Techniques: Respecting the Behavior of Bone |           |         |      |
| 20:30 - 20:45 | Screw Design and Function                                      |           |         |      |
| 20:45 - 21:00 | Plate Design and Function                                      |           |         |      |
| 21:00 - 21:15 | Tension Band Principles                                        |           |         |      |
| 21:15 - 21:30 | Skills Lab Videos                                              |           |         |      |

### Day 3

**Thursday, May 13, 2021 - 20:00 - 21:30**

| Schedule      | Title                                                         | Moderator | Faculty | Room |
|---------------|---------------------------------------------------------------|-----------|---------|------|
| 20:00 - 21:30 | Thursday Fireside                                             |           |         |      |
| 20:00 - 20:00 | Introduction / Welcome                                        |           |         |      |
| 20:00 - 20:15 | External Fixation and Review of Relative Stability            |           |         |      |
| 20:00 - 20:30 | Q & A / Module Summary / Cases                                |           |         |      |
| 20:30 - 21:30 | Small Group Discussion: Relative Stability                    |           |         |      |
| 20:15 - 20:30 | Bridge Plating with Traditional Implants and Techniques       |           |         |      |
| 20:30 - 20:45 | Locked Plating - Biology, Biomechanics, Clinical Applications |           |         |      |
| 20:45 - 21:00 | Intramedullary Techniques, Relative Stability                 |           |         |      |
| 21:00 - 21:15 | Skills Lab Video                                              |           |         |      |

### Day 4

**Thursday, May 20, 2021 - 20:00 - 21:30**

| Schedule      | Title                                        | Moderator | Faculty | Room |
|---------------|----------------------------------------------|-----------|---------|------|
| 20:00 - 21:30 | Thursday Fireside                            |           |         |      |
| 20:00 - 20:00 | Introduction / Welcome                       |           |         |      |
| 20:00 - 20:15 | Radiation Safety                             |           |         |      |
| 20:00 - 20:30 | Q & A / Module Summary / Cases               |           |         |      |
| 20:30 - 21:30 | SMALL GROUP DISCUSSION: Diaphyseal Fractures |           |         |      |
| 20:15 - 20:30 | Femur                                        |           |         |      |
| 20:30 - 20:45 | Tibia                                        |           |         |      |
| 20:45 - 21:00 | Humerus                                      |           |         |      |
| 21:00 - 21:15 | Radius and Ulna                              |           |         |      |
| 21:15 - 21:30 | Skills Lab Video                             |           |         |      |

## Day 5

**Thursday, May 27, 2021 - 20:00 - 20:45**

| Schedule      | Title                                        | Moderator | Faculty | Room |
|---------------|----------------------------------------------|-----------|---------|------|
| 20:00 - 20:45 | Thursday Fireside                            |           |         |      |
| 20:00 - 20:00 | Introduction and Welcome                     |           |         |      |
| 20:00 - 20:15 | Principles of Management Articular Fractures |           |         |      |
| 20:00 - 20:45 | Q & A / Module Summary / Cases               |           |         |      |
| 20:15 - 20:30 | Proximal Humerus                             |           |         |      |
| 20:30 - 20:45 | Distal Humerus                               |           |         |      |
| 20:45 - 21:00 | Distal Radius                                |           |         |      |
| 21:00 - 21:15 | Olecranon and Patella                        |           |         |      |
| 21:15 - 21:30 | Skills Lab Video                             |           |         |      |

## Day 6

**Thursday, June 03, 2021 - 20:00 - 21:30**

| Schedule      | Title                           | Moderator | Faculty | Room |
|---------------|---------------------------------|-----------|---------|------|
| 20:00 - 21:30 | Thursday Fireside               |           |         |      |
| 20:00 - 20:00 | Introduction / Welcome          |           |         |      |
| 20:00 - 20:15 | Ankle Fractures                 |           |         |      |
| 20:00 - 20:30 | Q & A / Module Summary / Cases  |           |         |      |
| 20:30 - 21:30 | Small Group Discussion          |           |         |      |
| 20:15 - 20:30 | Introduction to Pilon Fractures |           |         |      |
| 20:30 - 20:45 | Introduction to Tibial Plateau  |           |         |      |
| 20:45 - 21:00 | Distal Femur                    |           |         |      |
| 21:00 - 21:15 | Extracapsular Hip               |           |         |      |
| 21:15 - 21:30 | Intracapsular Hip               |           |         |      |

## Day 7

**Thursday, June 10, 2021 - 20:00 - 20:45**

| Schedule      | Title                  | Moderator | Faculty | Room |
|---------------|------------------------|-----------|---------|------|
| 20:00 - 20:45 | Thursday Fireside      |           |         |      |
| 07:00 - 07:00 | Introduction / Welcome |           |         |      |



|               |                                                                       |
|---------------|-----------------------------------------------------------------------|
| 07:00 - 07:15 | Polytrauma                                                            |
| 20:00 - 20:45 | Q & A / Module Summary / Cases                                        |
| 07:15 - 07:30 | Radiographic Evaluation and Classification of Pelvic Ring Disruptions |
| 07:30 - 07:45 | Actual Management of Pelvic Ring Injuries                             |
| 07:45 - 08:00 | Skills Lab Video                                                      |

## Day 8

Thursday, June 17, 2021 - 07:00 - 08:00

| Schedule      | Title                                                            | Moderator | Faculty | Room |
|---------------|------------------------------------------------------------------|-----------|---------|------|
| 07:00 - 08:00 | Thursday Frieside                                                |           |         |      |
| 20:00 - 20:00 | Introduction / Welcome                                           |           |         |      |
| 20:00 - 20:15 | Infection                                                        |           |         |      |
| 07:00 - 07:45 | Q & A / Module Summary / Cases                                   |           |         |      |
| 07:45 - 08:00 | Violations of AO Principles: How Not To Do AO                    |           |         |      |
| 20:15 - 20:30 | Nonunion                                                         |           |         |      |
| 20:30 - 20:45 | Fixation Principles in Osteoporotic Bone - The Geriatric Patient |           |         |      |
| 20:45 - 21:00 | Unique Learning Resources of the AO Foundation                   |           |         |      |



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## Acknowledgment

### Educational Grant

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