



OTA 37th Annual Meeting

Wednesday-Saturday
October 20 - 23, 2021

Fort Worth Convention Center
Fort Worth, Texas

Program Committee

Stephen A. Kottmeier, MD *Chair*

Gerard P. Slobogean, MD, MPH, FRCSC *Co-Chair*

Animesh Agarwal, MD

Andrew M. Choo, MD

Brett D. Crist, MD

Gregory J. Della Rocca, MD, PhD, FACS

Edward J. Harvey, MD

Kelly A. Lefaivre, MD, FRCSC

Nirmal C. Tejwani, MD, FRCS

Harmeeth S. Uppal, MD, MS, FACS



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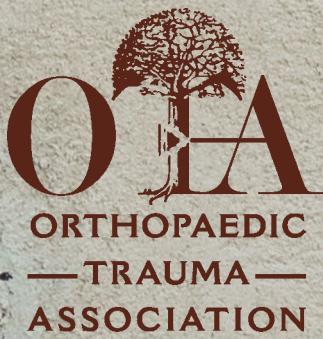


Details & Registration
@ ota.org

Housing Now Open!

#OTA2021

Schedule and presenters are subject to change.



37th Annual Meeting

October 20 - 23, 2021
Fort Worth, Texas



Border Lecturer

Noah Galloway

“Living with No Excuses”

Target Audience

The Orthopaedic Trauma Association (OTA) Annual Meeting is for the benefit of orthopaedic trauma surgeons and related allied health care professionals.

Meeting Highlights

- 26 Breakout sessions including a variety of topics such as pelvic fractures, compartment syndrome, periprosthetic fractures, avoiding burnout, managing lawsuits, dealing with bone loss, open fractures, and many others.
- 75 high quality paper presentations, including a session of highlight papers reflecting practice-changing research, and over 200 posters
- Four main symposia focusing on:
 - Surgeon Well Being
 - Practice Changing RCT's
 - Racial, Ethnic, and Socioeconomic Disparities in Orthopaedics
 - IOTA “Tolerate or Re-Operate” Symposium
- Industry Symposia showcasing products, demonstrating techniques and/or presenting research offered at three convenient times.

Visit ota.org for more details on papers, symposia and breakout sessions.

Learning Objectives

Upon successful completion of this meeting, participants will be able to:

- ✓ Review the surgical and nonsurgical indications for the included upper extremity fractures
- ✓ understand that there is still a roll for nonoperative treatment of fractures and learn when to abandon nonsurgical treatment plans
- ✓ understand the outcomes with nonsurgical and surgical management



Presidents' Messages

“The Courage to Heal: Building Resilience and Transforming Recovery”

Heather A. Vallier, MD (Current OTA President)
Professor of Orthopaedic Surgery
Case Western Reserve University
MetroHealth System – Cleveland, Ohio



Michael D. McKee, MD (Immediate Past President)
Professor and Chairman
Department of Orthopaedic Surgery
University of Arizona College of Medicine – Phoenix
Banner – University Medical Center Phoenix

On Demand Gold Registration

(Annual Meeting Registration and Annual Meeting On Demand)

Early Bird Registration
Until September 30.



| | On/Before 9/30/21 | After 9/30/21 |
|--|-------------------|---------------|
| OTA Member | \$ 550 | \$ 650 |
| Non-member (Incl. MD, DO, MBBS, etc.) | \$ 1100 | \$ 1200 |
| Non-member Medical Resident, Fellow, Student | \$ 650 | \$ 750 |
| Non-member Health Care Personnel (incl. NP, PA, AH, PhD, etc.) | \$ 750 | \$ 850 |
| Additional Charge for USB | \$ 100 | \$ 100 |

Annual Meeting (only) Registration

| | On/Before 9/30/21 | After 9/30/21 |
|--|-------------------|---------------|
| OTA Member | \$ 250 | \$ 350 |
| Non-member (Incl. MD, DO, MBBS, etc.) | \$ 800 | \$ 900 |
| Non-member Medical Resident, Fellow, Student | \$ 450 | \$ 550 |
| Non-member Health Care Personnel (incl. NP, PA, AH, PhD, etc.) | \$ 450 | \$ 550 |

2019 & 2020 Research and Education Donors

Donor level also reflects 2019 giving due to the pandemic in 2020

The Orthopaedic Trauma Association gratefully acknowledges 2019 Research and Education Donors. The continued success and increased impact of the Orthopaedic Trauma Association's research and education effort is dependent upon foundation and industry support. The OTA expresses sincere appreciation to these contributors for their generous financial support.

DIAMOND (\$250,000 and above)

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Venue

The Orthopaedic Trauma Association's 37th Annual Meeting and all pre-meeting courses will be held at the Fort Worth Convention Center and the Resident Comprehensive Fracture Course will be held at the Omni Hotel in Fort Worth, Texas. Visit OTA.org today to register and make hotel reservations.

Early Bird Registration: Register by September 30 to save \$100 on the Annual Meeting and each Pre-Meeting Registration. Hotel block closes September 26, 2021.



President's Welcome



Orthopaedic Trauma Association's 37th Annual Meeting

Heather A. Vallier, MD
OTA President

Dear OTA Members and Colleagues,

I am hopeful that you have marked your calendar for the OTA's 2021 Annual Meeting taking place October 20 – 23 in Fort Worth, Texas. I know many of you have already made hotel reservations. Following more than a year of very few chances to meet in person, this year's meeting will be a very welcome chance to re-engage with colleagues and friends, and take advantage of an outstanding educational program developed by the OTA Annual Meeting Program Committee under the leadership of Stephen Kottmeier MD, Program Committee Chair, and Gerard Slobogean MD, Co-Chair.

The 2021 Annual Meeting offers an outstanding array of opportunities to engage in cutting edge orthopaedic trauma education and research, with offerings tailored to every learner. Whether your career in orthopaedic trauma is just beginning, or you are a seasoned practitioner, don't miss this year's long awaited reunion of the orthopaedic trauma community!

Finally, I want to extend sincere appreciation to the OTA Annual Meeting Program Committee and the many OTA members, presenters, committee members and other volunteers contributing to making this year's meeting one of the best ever. Hope to see you in Fort Worth!

Sincerely,

A handwritten signature in black ink, appearing to read 'H. Vallier'.

Heather A. Vallier, MD
OTA President

Program Chair's Welcome



October 20 - 23, 2021 • Fort Worth, Texas

Stephen A. Kottmeier, MD
Annual Meeting Program Chair

Dear Colleagues,

On behalf of the OTA Program Committee and President Heather Vallier MD, I am pleased to invite you to the 37th Annual Meeting of the Orthopaedic Trauma Association (OTA) to be held in Fort Worth, Texas, from October 20 to 23, 2021. It is our hope and expectation that the present favorable pandemic trajectory will enable us to gather again in October. As a professional medical society, we have remained vibrant over the past year despite not being able to meet in person, but I know our membership and colleagues are looking forward to a long-awaited reunion this forthcoming fall, a time of year cherished for OUR annual meeting. Last year's virtual meeting was a success, confirmed our resourcefulness as a society, and familiarized us with alternative mechanisms of information delivery. Lessons learned will enable us to supplement our live event with virtual content both live and on demand.

In the months leading up to the meeting, the Annual Meeting Committee reviewed over 1,000 scientific abstracts, more than 80 symposia/breakouts, and over 100 technical tricks and innovations. This has culminated in a program that includes the latest cutting-edge, high quality research and state-of-the-art treatment for musculoskeletal injuries. Paper presentations will begin with a "Program Highlights" session, featuring nine original research presentations of the highest quality, many with the potential to be practice-changing. Additionally, there will be many topic-centered paper presentations. Four main symposia will include the evermore important topics of physician wellness and diversity in medicine and our professional society in addition to current surgical procedural "hot topics". Included within the meeting will be 26 breakout sessions, each with a specific focus to satisfy your interest. There will be over 200 posters in the exhibit hall, and the continuation of a highly regarded novel category entitled Technical Tricks/Innovation in e-poster format.

This year we welcome John Border Memorial Lecturer; Iraqi war veteran Noah Galloway who will deliver a talk titled, "Living with no Excuses."

Premeeting events will include:

- Inaugural events; Local first responders session/OTA fellow reception and research event/ OTA Fireside – The Case That I have Learned the Most From: An Evening with Your Colleagues
- Orthopaedic Trauma Boot Camp
- International Trama Care Forum
- Young Practitioners Forum
- Pelvis and Acetabulum Course
- Orthopaedic Trauma for NPs and PAs
- E/M and Surgical Coding Course
- Resident Comprehensive Fracture Course
- Soft Tissue Coverage Skills Course



The OTA will continue to monitor any evolving pandemic related issues. The safety of our meeting attendees is a top priority, and we will be working closely with our Fort Worth venue partners to ensure CDC and city/state safety guidelines are in place at the time of the meeting.

Your presence and contributions to the meeting are welcomed. The OTA Leadership is looking forward to an academically engaging in person meeting with the social gratifications that accompany and nurture it. The collective ambition and mission is to offer a meeting of quality in an environment both safe and collegial. See you in Fort Worth!

Sincerely,

Stephen A. Kottmeier, MD
Program Chair

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Thursday, October 21, 2021

1:00 PM - **Welcome and Donor Awards**

1:20 PM Heather A. Vallier, MD – President
Stephen A. Kottmeier, MD – Program Chair

1:20 PM - **Local Host Welcome**

1:25 PM Cory A. Collinge, MD

1:25 PM - **Symposium I:**
2:55 PM **How Can the OTA Support Your Well-Being? A Panel Discussion and Town Hall on Sustaining Your Career via Advocacy, Leadership and Wellness**

Moderator: Jeffrey Smith, MD
Faculty: Philip R. Wolinsky, MD
Heather A. Vallier, MD
Anna N. Miller, MD
Matthew R. Garner, MD
Preston B. Cline, EdD
Thomas M. Large, MD
Benjamin Caesar, MBBS, MD

Learning Objectives

- Embody the Wellness Task Force directives from the OTA Board of Directors and the organization's strategic plan to support our members professional lives.
- Recognize and help create opportunities within OTA that foster surgeon wellness / well-being; advocate for these opportunities of career development/support, sustainability, and satisfaction; and combat administrative and organizational burdens that lead to surgeon burnout, moral injury, and disengagement.
- Acknowledge the value of your individual input, experiences and ideas on physical, mental, and emotional wellness and share these with the OTA Wellness Task Force openly or through confidential feedback and surveys.

Description

One of the OTA's new strategic goals is to advocate for orthopaedic trauma surgeons

by supporting careers through mentoring, working to improve wellness in physical and mental health, and shaping and influencing public policy regarding musculoskeletal injury care. In this symposium, we will introduce the Wellness Task Force and the directives from the OTA BOD and Strategic Plan, with the goal of increasing awareness of what the OTA can/should do for your career development and sustainability, and your work-life "wellness."

2:55 PM - Refreshment Break
3:35 PM

3:35 PM - **Paper Session I**
4:45 PM **Program Highlights**

Moderators: Stephen A. Kottmeier, MD
Gerard Slobogean, MD, MPH

3:35 PM - PAPER 60
3:41 PM **A Randomized Controlled Trial Comparing Operative and Nonoperative Treatment of Humeral Diaphyseal Fractures**
Stephane Bergeron, MD;
Prism Schneider, MD; Allan Liew, MD;
Hans J. Kreder, MD, MPH;
Gregory Berry, MD

3:41 PM - PAPER 61
3:47 PM **Is the Use of Bipolar Hemiarthroplasty Over Monopolar Hemiarthroplasty Justified? A Propensity Score-Weighted Analysis of a Multicenter Randomized Controlled Trial**
Marianne Comeau-Gauthier, MD;
Sofia Bzovsky, MSc;
Mohit Bhandari, MD, PhD; Daniel Axelrod, MD;
Rudolf W. Poolman, MD, PhD;
Frede Frihagen, MD, PhD;
Sheila Sprague, PhD; Emil H. Schemitsch, MD;
HEALTH Investigators

3:47 PM - **PAPER 62**
3:53 PM **A Prospective Randomized Controlled Trial Comparing Subcutaneous Enoxaparin & Oral Rivaroxaban for Venous Thromboembolism Prophylaxis in Orthopaedic Trauma Patients**
Mitchell P. John, MD;
Benjamin D. Streufert, MD;
Hassan R. Mir, MD, MBA;
Katheryne Downes, PhD

3:53 PM Discussion

3:58 PM - **PAPER 63**
4:04 PM **Intraoperative Hematoma Block Decreases Postoperative Pain and Narcotic Consumption After Intramedullary Rodding of Femoral Shaft Fractures: A Randomized Control Trial**
Alex Yue, MD; Nihar S. Shah, MD;
Robert Matar, MD; Ramsey S. Sabbagh, MS;
H. Claude Sagi, MD

4:04 PM - **PAPER 64**
4:10 PM **Periarticular Multimodal Analgesia Decreases Postoperative Pain in Tibial Plateau Fractures: A Double Blind Randomized Controlled Pilot Study**
Patrick Kellam, MD; Graham J. DeKeyser, MD;
Lucas S. Marchand, MD;
Thomas F. Higgins, MD;
David L. Rothberg, MD; Justin Haller, MD

4:10 PM - **PAPER 65**
4:16 PM **Definitive Flap Coverage Within 48 Hours of Definitive Fixation Reduces Deep Infection Rate in Open Tibial Shaft Fractures Requiring Flap Coverage**
Paul Tornetta III, MD; Khalid Al-Hourani, MD;
Jeff J. Foote, MD, s MSc;
Andrew D. Duckworth, MBChB, MSc, PhD;
Timothy O. White, MD;
Michael Kelly MBBS, MD;
Michael T. Stoddart, MBBS;
Justin J. Koh, MD; Stephen A. Sems, MD;
M. Tayseer Shamaa, MBBS; Debi Sorg;
Hassan R. Mir, MD, MBA;
Benjamin D. Streufert, MD;
Clay A. Spitler, MD; Brian Mullis, MD;
John C. Weinlein, MD; Lisa K. Cannada, MD;
Emily Wagstrom, MD; Jerald Westberg, BA;
Abigail Cortez, MD; Peter C. Krause, MD;
Andrew J. Marcantonio, DO; Gillian Soles, MD;
Jason Lipof, MD; Ross K. Leighton, MD;
Michael J. Bosse, MD; Chad Coles, MD;
Jowan G. Penn-Barwell, MB ChB;
Joseph R. Hsu, MD; Aleksi Reito, MD, PhD;
Heather A. Vallier, MD; Saam Morshed, MD

4:16 PM Discussion

4:21 PM - **PAPER 66**
4:27 PM **Operative versus Non-Operative Treatment of Severely Shortened or Comminuted Clavicle Fractures in Older Adolescent Athletes: Results from a Prospective, Multicenter, Level 2 Cohort Study**
David D. Spence, MD; Philip L. Wilson, MD;
Donald S. Bae, MD; Michael T. Busch, MD;
Eric W. Edmonds, MD;
Henry B. Ellis, MD;
Katelyn A. Hergott, MPH;
Mininder S. Kocher, MD, MPH;
G. Ying Li, MD; Elizabeth Liotta;
Jeffrey J. Nepple, MD;
Nirav K. Pandya, MD;
Andrew T. Pennock, MD;
Crystal A. Perkins, MD;
Coleen S. Sabatini, MD, MPH;
David N. Williams, PhD;
Samuel C. Willimon, MD;
Benton E. Heyworth, MD

4:27 PM - **PAPER 67**
4:33 PM **Risk of Iatrogenic Sciatic Nerve Injury During Posterior Acetabular Fracture Fixation: Does Patient Position Matter?**
Jason Chen, MD; Ishani Sharma, BA;
Joshua Everhart, MD, MPH;
Ramsey S. Sabbagh, MS;
Nakul Narendran, BA;
Michael T. Archdeacon, MD, FAAOS;
H. Claude Sagi, MD; Brian Mullis, MD;
Roman Natoli, MD

4:33 PM - **PAPER 68**
4:39 PM **The Effect of Anterior Support Screw (AS2) for Unstable Femoral Trochanteric Fractures: A Multicenter Randomized Controlled Trial**
Takashi Maehara MD, PhD;
Hiroyuki Suzuki; Tomohiko Shimizu, MD;
Takahiro Hamada, MD;
Masanori Yorimitsu, MD;
Hidefumi Teramoto, MD, PhD;
Kazushi Mihara, DC; Takao Mae, MD;
Takashi Hayakawa, MD;
Yasunori Okamoto, MD; Takeshi Doi;
Yoshihisa Anraku, MD; Jun Hara, MD

4:39 PM Discussion

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Thursday, October 21, continued

4:45 PM -
5:15 PM

President's Message "The Courage to Heal: Building Resilience and Transforming Recovery"

Heather A. Vallier, MD
Professor of Orthopaedic Surgery
Case Western Reserve University
MetroHealth System – Cleveland, Ohio



Introduction: Brendan M. Patterson, MD

5:15 PM -
6:15 PM

OTA Business Meeting (Members Only) concurrent pre-reception in Exhibit Hall

5:15 PM -
6:15 PM

Happy Hour - Exhibitor Reception

Sponsored by  **OsteoCentric**
TECHNOLOGIES

6:20 PM -
8:20 PM

Welcome Reception The Water Gardens

Join your colleagues for cocktails and hors d'oeuvres at the Water Gardens.



6:30 AM - 7:30 AM **Concurrent Breakout Sessions** **Pelvic and Acetabulum Fractures**

Moderator: *Paul Tornetta III, MD*
Faculty: *David C. Templeman, MD*
Reza Firoozabadi, MD
Michael S. Kain, MD
Andrew H. Schmidt, MD

Learning Objectives

- To understand indications for surgery of pelvic and acetabular fractures
- To be exposed to multiple fixation and reduction tactics
- To understand the controversies in the management of pelvic and acetabular fractures

Description

This is a case-based review of controversial and complex pelvic and acetabulum fractures. It will focus on the indications for surgery as well as intra-operative reduction and fixation tactics.

From Fixation to Revision in Periprosthetic and Interprosthetic Hip & Knee Fractures: When, How and Getting it Right

Moderator: *Frank A. Liporace, MD*
Faculty: *Richard S. Yoon, MD*
Derek J. Donegan, MD, MBA
Mark Gage, MD

Learning Objectives

- Take away strategies for identifying stable versus loose implants in the periprosthetic (PPFx) THA/TKA Fracture setting. Additionally --- what do I do with an interprosthetic fracture?
- Fixation strategies, tips and tricks and avoiding pitfalls for PPFx about the acetabulum, proximal and distal femur.
- When and how --- revision strategies for a loose cup, loose femoral stem/component with and without good bone stock.

Description

This breakout session will offer a case-based, interactive strategy and update on the fixation and revision of periprosthetic THA/TKA fractures. Also, treatment of interprosthetic fractures will also be highlighted for participants. We all know that periprosthetic hip and knee fractures continue rise and are a clinical concern especially with its morbidity/mortality equaling those of hip fractures -- so providing tips/tricks to efficient and effectively treat these is essential to the everyday

and trauma orthopaedist. Furthermore, we will highlight an increasing fracture pattern -- the interprosthetic fracture, and our view on treatment.

Managing Complex Humerus Fractures: From Proximal to Distal

Moderator: *Andrew M. Choo, MD*
Faculty: *Timothy S. Achor, MD*
Michael J. Gardner, MD
Eben A. Carroll, MD

Learning Objectives

- Identify fracture patterns and characteristics which can pose unique difficulties.
- Aid with decision-making, planning, and options for complex humerus fractures.
- Demonstrate surgical techniques to successfully manage these injuries.

Description

This breakout session will present case-based discussions on the management of difficult problems with humerus fractures. Proximal, diaphysial, and distal humerus fractures will be examined with special attention to unique fracture problems, including fracture-dislocations, ballistic injuries, segmental fractures, bone loss, and nonunions/malunions. This breakout focuses on challenging problems seen in humeral fracture management which aren't commonly discussed in other forums. The case-based nature allows for extensive audience participation as well.



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Friday, October 22, continued

6:30 AM - **Concurrent Breakout Sessions (cont'd)**
7:30 AM **The Traumatized Midfoot:
Tips and Tricks for Successful
Reconstruction**

Moderator: *Harmeeth S. Uppal, MD, MS*

Faculty: *Brad J. Yoo, MD*

*Gregory John Della Rocca, MD,
PhD, FAAOS, FACS*

Stephen K. Benirschke, MD

Learning Objectives

- The registrant will learn surgical strategies and tips for successful midfoot reconstruction. Additional discussion and case examples will be on both surgical techniques and tips for initial provisional fixation as well as techniques for definitive ORIF vs primary fusion.
- The registrant will learn tips for successful fixation of Chopart fractures and/or dislocation injuries.
- The registrant will learn surgical strategies and tips for successful midfoot reconstruction. Additional discussion and case examples will be on both surgical techniques and tips for initial provisional fixation as well as techniques for definitive ORIF vs primary fusion.

Description

Through detailed case based discussion the registrant will further their knowledge on how to manage complex midfoot and Chopart joint injuries. Focus will be on scrutinizing xrays and discussing surgical technique that highlights tips for obtaining stable mechanical fixation. Further discussion will address the proper management of complex midfoot injuries where initial definitive fixation has failed. Complex foot injuries are commonly managed by orthopaedic trauma surgeons. These injuries if managed poorly can result in outcomes that are devastating to the patient. This symposium will address in detail the surgical techniques and tips to manage these injuries correctly the first time. Although this symposium was done last year, judging by the large attendance and lengthy



discussion with faculty during and after the course, it is apparent that many surgeons feel this topic is important and desire further understanding. We will focus solely on case presentations that highlight in depth surgical techniques and steps needed to achieve successful reconstruction of both primary and failed fixation. This is a must have!

Challenges in Non-union Treatment - A Case-Based Symposium

Moderator: *Paul S. Whiting, MD*

Faculty: *J. Spence Reid, MD*

Gerald J. Lang, MD

David Goodspeed, MD

Learning Objectives

- Understand the mechanical and biological principles of fracture healing.
- Learn a systematic approach to non-union workup and pre-operative planning.
- Understand treatment principles and techniques for non-unions.

Description

Faculty will use a case-based approach to illustrate principles and techniques of non-union treatment. Principles of fracture healing (mechanical and biological) and strategies for non-union workup and pre-operative planning will also be reviewed. This proposal represents a follow-up to mini-symposia we offered at the 2018 and 2019 OTA meetings. Based on feedback from participants at the 2018 symposium, we shortened the didactic portions, leaving additional time for case presentations and discussion with attendees. This was very well received at the 2019 meeting, and we would like to offer this session again following a similar format but providing new cases to illustrate the key concepts/objectives we would like participants to gain from the session.

7:30 AM - **Symposium II:**
9:00 AM **Hot Off The Press: Latest Randomized Controlled Trials That Can Change Your Practice in 2021**

Moderator: *Niloofar Dehghan, MD, MSc*

Faculty: *Tim Chesser, FRCS*

Robert V. O'Toole, MD

Prism Schneider, MD, PhD

Steven F. Shannon, MD

Emil H. Schemitsch, MD

Gerard Slobogean MD, MPH

Learning Objectives

- Latest evidence regarding best treatment strategies for ankle syndesmosis (tight-rope vs screws) as well as flail chest injuries (surgery vs non-op)
- Latest evidence regarding hip fractures in elderly: is THA better than a hemi, and how long should a cephalomedullary nail be.
- Latest evidence on adjuncts to fracture fixation: use of vancomycin powder, vitamin D supplementation, and negative pressure wound therapy.

Description

The aim of this symposium is to highlight practice changing clinical trials presented/published in the last 2 years, and provide clear evidenced based recommendations, for the treatment of common fractures and orthopaedic conditions. There have been multiple recent high-quality studies presented and published in the field of orthopaedic trauma. Unfortunately, many surgeons are unaware of the latest evidence and recommendations (whether in the community or academics). This session highlights a number of award winning and practice changing clinical trials. This session is applicable to all orthopaedic surgeons attending the OTA, as well as residents, PAs, and allied health. The topics are relevant to those working at large academic centers as well as smaller community hospitals. The session has a diverse and international faculty. The speakers are experts in the topic they will be presenting, many as the principal investigator of the study discussed. Each speaker will have 7 minutes to speak, and there will be 40 minutes for discussion and audience participation at the end. A similar symposium was presented several years ago which was very successful and well received by the audience.

9:00 AM - **Break**
9:40 AM

9:40 AM - **Paper Session II**
11:06 AM **Foot, Ankle, Pilon & Hip and Femur**

Moderators: *Gregory Della Rocca, MD, PhD, FACS*
Lori Reed, MD

9:40 AM - **PAPER 69**
9:46 AM **Prospective Randomized Controlled Trial: Early Weight Bearing After Conservative Treatment of Weber B Ankle Fractures**
Robert C. Stassen, MD;
Stijn Franssen, MD; Erik De Loos;
Berry Meesters; Bert Boonen DMed;
Raoul Van Vugt, MD, PhD

9:46 AM - **PAPER 70**
9:52 AM **Does Hindfoot Nailing Decrease Unplanned Return to the OR After Geriatric Open Ankle Fracture?**
Richard Wawrose, MD;
Mitchell Fourman, MD; Brendan Casey, DO;
Joshua N. Adjei, MD; Gele Moloney, MD;
Peter A. Siska, MD; Ivan S. Tarkin, MD

9:52 AM - **PAPER 71**
9:58 AM **Fractures and Macroscopic Osteochondral Injuries of the Talar Dome Associated with Pilon Fractures**
Kevin Tetsworth, MD; Nicholas Green, BS;
Gregory Barlow, MD; Miran Stubican, MD;
Frode Vindenes, MD; Vaida Glatt, PhD

9:58 AM - **PAPER 72**
10:04 AM **Is the Sinus Tarsi Approach Safer Than the Extended Lateral Approach for Calcaneal Fractures?**
Thomas M. Seaver, MD; Zachary Zeller, MD;
Paul Tornetta III, MD;
Andrew J. Marcantonio, DO;
Alexander J. Ment, BA;
Hassan R. Mir, MD, MBA;
Randi Alexander, MPH;
Mitchell K. Messner, MD; Clay A. Spitler, MD;
Erin L. Hofer, MD; Anna N. Miller, MD;
Jerald Westberg, BA;
Jessica M. Downes, MD;
Noah Joseph, MD; Heather A. Vallier, MD;
Yu Min Suh, MD; Robert F. Ostrum, MD;
Benjamin Ollivere, MD, MA, MBBS;
Adeel Ikram, MBBS, MRCS; Brian Mullis, MD;
Jorge Figueras, BS; Darin M. Friess, MD;
Emelia Soddors, MS;
Noelle L. Van Rysselberghe, MD;
Michael J. Gardner, MD; Amanda Pawlak, MD;
Stephen Kottmeier, MD; Saam Morshed, MD;
Zachary Lim, MD; Aden Malik, MD;
Lawrence H. Goodnough, MD;
Eli W. Bunzel, MD; Reza Firoozabadi, MD;
Patrick Yoon, MD

10:04 AM Discussion

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10:09 AM - **PAPER 73**

10:15 AM **Patients with Hip Fractures Treated with Arthroplasty Demonstrate Prolonged Hypercoagulability and Increased Venous Thromboembolism Risk**

Daniel You, MD; Robert Korley, MD;
Richard E. Buckley, MD;
Paul J. Duffy, MD;
Ryan Martin, MD; Andrea Soo, PhD, MSc;
Prism Schneider, MD, PhD

10:15 AM - **PAPER 74**

10:21 AM **Who, if Anyone, May Benefit from a Total Hip Arthroplasty After a Displaced Femoral Neck Fracture? A Subgroup Analysis of the HEALTH Trial**

Frede Frihagen, MD, PhD;
Marianne Comeau-Gauthier, MD;
Daniel Axelrod, MD; Sofia Bzovsky, MSc;
Rudolf W. Poolman, MD, PhD;
Diane Heels-Ansdell, MSc;
Mohit Bhandari, MD, PhD;
Sheila Sprague, PhD;
Emil H. Schemitsch, MD;
HEALTH Investigators

10:21 AM - **PAPER 75**

10:27 AM **Surgical Approach and Dislocation Rate Following Hemiarthroplasty in Geriatric Femoral Neck Fracture Patients with Cognitive Impairment: Is There an Association?**

Miles St. Parsons, MD; **Brian J. Page, MD**;
Joshua Ho-Sung Lee, MD;
Joel Dennison, MD;
Kendall A. Pye Hammonds, MPH;
Kindyle L. Brennan, PhD;
Michael L. Brennan, MD;
Daniel L. Stahl, MD

10:27 AM Discussion

10:32 AM - **PAPER 76**

10:38 AM **Distal Femur Fractures Occur 8 Times More Frequently in Short versus Long Cephalomedullary Nails for Intertrochanteric Hip Fractures: A Longitudinal Study**

Patrick Curtin, MD; Laura Thurber, BA;
Gregory Iovanel; Daniel Mandell, MD;
Eric F. Swart, MD

10:38 AM - **PAPER 77**

10:44 AM **Risk Factors for Non-union of Distal Femur Fractures**

Ryan Cone, MD; Kyle Cichos, BS;
Yvonne E. Chodaba, MD;
Alexander Roszman, MD;
Gerald McGwin, MS, PhD;
Clay A. Spitler, MD

10:44 AM Discussion

10:49 AM - **PAPER 78**

10:55 AM **Midterm Outcomes After the Surgical Treatment of Atypical Femoral Fractures -Minimum 3 Year Follow up**

Kyu-Tae Hwang, PhD;
Soo-Young Jeong, MD; Chang-Wug Oh, MD;
Joon-Woo Kim, MD, PhD;
Oog Jin Shon, MD, PhD; Ji Wan Kim, MD;
Youngho Cho, MD; Ki Chul Park

10:55 AM - **PAPER 79**

11:01 AM **Risk Factors for Early Conversion Total Hip Arthroplasty after Pipkin 4 Femoral Head Fracture**

Kyle Cichos, BS; Patrick F. Bergin, MD;
Parker A. White, MD; Elie S. Ghanem, MD;
Clay A. Spitler, MD;
Gerald McGwin, MS, PhD

11:01 AM Discussion



10:00 AM - **Concurrent Breakout Sessions**
11:00 AM **Navigating Work and Life Stressors as an Orthopaedic Traumatologist**

Moderator: *Matthew R. Garner, MD*
Faculty: *Derek J. Donegan, MD, MBA*
Milton L. Routt, MD
Milton T. M. Little, MD
Jonah Hebert-Davies, MD

Learning Objectives

- An improved understanding of stressors and challenges that Orthopaedic Trauma surgeons face through discussion and personal experiences of faculty.
- Statistics surrounding physician suicide.
- Tools and resources available for those experiencing stress, loss, or mental challenges.

Description

This session will focus discussing stressors that occur in a provider's life, both at work and at home. The faculty will use personal experiences to promote an open discussion of these stressors in hopes of starting a process of destigmatization. Participants will be encouraged to continue these conversations at their home institution with the goal of improving communication around topics that are often avoided. Provider mental health is routinely overlooked, a fact that has become more apparent with the recent, unexpected loss of colleagues. It is important that OTA members understand that their struggles are rarely unique and that many of us share similar experiences. Further, it is essential that we promote discussion and awareness of these stressors while avoiding internalization.

Treatment of Supracondylar Femur Fractures: Plating, Nailing and Nonunions

Moderator: *Frank A. Liporace, MD*
Faculty: *Michael A. Maceroli, MD*
Richard S. Yoon, MD
John P. Ketz, MD
Marcus F. Sciadini, MD

Learning Objectives

- Provide operative tips and techniques for treating supracondylar distal femur fractures with both locked plating and intramedullary strategies.
- Focus on the geriatric supracondylar femur fracture and the advent of the nail-plate combination technique to allow early weight-bearing and prevent complications.

- When and how – strategies for addressing supracondylar nonunions in both the aseptic and infected settings.

Description

This breakout session will offer a case-based, interactive strategy and update on treatment techniques for supracondylar distal femur fractures with and without articular involvement. Treatment of supracondylar nonunions will be also be highlighted for participants. Despite significant advances in orthopaedic trauma, the ideal fixation strategy and implant construct for supracondylar distal femur fractures remains unknown. There remains a relatively high nonunion rate and a significant complication profile, specifically in the geriatric population. This breakout session provides tips/tricks to efficiently and effectively treat these injuries essential to all orthopaedic surgeons.

Diversity and Inclusion in Orthopaedic Trauma

Moderator: *Joseph R. Hsu, MD*
Faculty: *Anna N. Miller, MD*
Hassan R. Mir, MD, MBA
Paul B. Gladden, MD
Heather A. Vallier, MD

Learning Objectives

- Define the problem of lack of diversity among orthopaedic trauma surgeons.
- Discuss impact of improving diversity in the subspecialty on surgeons as well as patients.
- Identify practical solutions to execute this in own practice.

Description

Orthopaedic surgery has lagged behind other medical specialties in the recruitment and promotion of underrepresented minorities to include women; orthopaedic trauma has done even worse than many Orthopaedic Subspecialties in recruiting and promoting diverse surgeons. Data suggests that increased diversity in physicians decreases disparities in care. This panel will define the problem, describe opportunities to improve both quality of care for patients and for surgeons and other team members, and provide practical and actionable solutions to execute this in our own divisions, departments, and specialty. As a specialty, Orthopaedic Surgery has a diversity problem and that problem is even worse in orthopaedic trauma. It is critical to have open and honest discussion about the impact on surgeons as well as patient care, as well as to discuss ways to improve diversity among orthopaedic trauma surgeons.

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10:00 AM - **Concurrent Breakout Sessions (cont'd)**
11:00 AM **Bringing Your Idea to Market-
The Innovation Dream**

Moderator: *Edward J. Harvey, MD*
Faculty: *Charles Allan*
Thomas A. Russell, MD
Ross K. Leighton, MD
Dominique Rouleau, MD

Learning Objectives

- Learn how to get research translated to a commercial product
- Recognize the advantages of corporate partnership to with get an idea noticed or facilitate research goals
- Experience some of the pearls and pitfalls other people have been through on their entrepreneurial journeys

Description

We will outline how new ideas can either be incorporated into your research or clinical streams as well as identifying what is a commercial possibility and how to fund it. Almost every surgeon has had a good idea that they thought would be a great product. Our panel has journeyed down the road of development and even commercialization and can bring that knowledge to the viewer.

11:06 AM - **John Border Lecture**
11:51 AM **"Living with No Excuses"**

Noah Galloway

Noah is a military veteran who served in Iraq and was severely injured in combat. Through personal transformation, he shares his struggles and triumphs to help motivate and inspire others to live their best life.



11:51 AM - **Immediate Past
President's Message**
12:21 PM **"Orthopaedics in 2021:
A View from Both Sides of
the 49th Parallel"**

Michael D. McKee, MD
Professor and Chairman,
Department of Orthopaedic Surgery
University of Arizona College of
Medicine-Phoenix Banner
University Medical Center Phoenix

Introduction: *Emil H. Schemitsch, MD*



12:21 PM - **Lunch in Exhibit Hall**
1:21 PM **New Member Luncheon**
Kathy Cramer Women in Trauma Luncheon

12:34 PM - **Lunch Poster & Video Tours**
1:14 PM **Knee/Tibia – Robert V. O'Toole, MD**
General Interest – Conor P. Kleweno, MD
Video Tours – James A. Blair, Jr., MD



1:21 PM - **Paper Session III**
2:30 PM **Geriatric Fractures and Peds**

Moderators: *Edward J. Harvey, MD*
Dominique Rouleau, MD

1:21 PM - **PAPER 80**
1:27 PM **Hip Fracture with Elevated Troponin: Harbinger of Mortality or Need for Accelerated Surgery?**
Jocelyn Wu, BA; Nathan N. O'Hara, MHA; Nicholas Rolle; Flavia K. Borges, PhD; P.J. Devereaux, MD;
Gerard Slobogean MD, MPH

1:27 PM - **PAPER 81**
1:33 PM **Risk of Conversion to Total Hip Arthroplasty Following Hemiarthroplasty for Hip Fracture**
Kanu M. Okike MD, MPH;
Kathryn E. Royse, MPH, MSPH, PhD; David W. Zeltser, MD; Gurpreet Singh, MD; Liz Paxton, PhD, MA

1:33 PM - **PAPER 82**
1:39 PM **Persistent Opioid Usage Following Hip Fracture Surgery in Opioid-Naive Older Patients**
Kanu M. Okike, MD, MPH;
Richard N. Chang, MPH; Priscilla H. Chan, MS; Liz Paxton, PhD, MA; Heather A. Prentice, PhD

1:39 PM Discussion

1:44 PM - **PAPER 83**
1:50 PM **The Results: NIHR Feasibility RCT: Acetabular Fractures in Older Patients Intervention Trial (AceFIT: ISRCTN16739011)**
Andrew D. Carrothers, MD;
Joseph Alsousou, MD; Daud Chou, MBBS, MSc; Jaikirty Rawal, MA, MBBS; Joseph M. Queally, MD; Peter Hull, MBCHB

1:50 PM - **PAPER 84**
1:56 PM **Outcomes for Geriatric Proximal Humerus Fractures: A Matched Comparison of Nonoperative Management and Reverse Shoulder Arthroplasty**
Steven Samborski, MD; Brittany Haws, MD; Steven Karnyski, MD; Kyle T. Judd, MD; Catherine A. Humphrey, MD, MBA; Gillian Soles, MD; John T. Gorczyca, MD; Ilya Voloshin, MD; Gregg T. Nicandri, MD; John P. Ketz, MD

1:56 PM - **PAPER 85**
2:02 PM **Intravenous Tranexamic Acid Given at Femoral Fragility Fracture Surgery Reduces Blood Transfusion Requirements Four-fold**
Matilda Powell-Bowns, MBCHB, MEd, MRCS; Rhys K. Olley, MBCHB; Conor McCann, MBCHB; James R. Balfour; Caitlin M. Brennan MBCHB, MRCS; Jasmine Peh, MBCHB; Andrew D. Duckworth, MBCHB, MSc, PhD;
Chloe Scott, FRCS

2:02 PM Discussion

2:07 PM - **PAPER 86**
2:13 PM **Long-leg versus Short-leg Cast Immobilization for Displaced Distal Tibial Physeal Fractures**
Christopher D. Souder, MD;
James Spearman, MD; Lori A. Thornton, MS, RN, FNP-C; Jessica Treiber, MPH, PA-C; Ainsley K. Bloomer, BA, BS; Brian P. Scannell, MD; Christine A. Ho, MD

2:13 PM - **PAPER 87**
2:19 PM **Non-Operative versus Operative Treatment of Z-Type Comminuted Clavicle Fractures in Adolescents: A Prospective Sub-Stratified Cohort Analysis**
Coleen S. Sabatini, MD, MPH;
Eric W. Edmonds, MD; Elizabeth S. Liotta, MBBS; Katelyn A. Hergott, MPH; Donald S. Bae, MD; Michael T. Busch, MD; Henry B. Ellis, MD; Mininder S. Kocher, MD, MPH; G. Ying Li, MD; Jeffrey J. Nepple, MD; Nirav K. Pandya, MD; Andrew T. Pennock, MD; Crystal A. Perkins, MD; David D. Spence, MD; David N. Williams, PhD; Samuel C. Willimon, MD; Philip L. Wilson, MD; Benton E. Heyworth, MD

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2:19 PM - **PAPER 88**
2:25 PM **Changes in Superior Displacement, Angulation, and Shortening in the Early Phase of Healing for Completely Displaced Midshaft Clavicle Fractures in Adolescents: Results from a Prospective, Multicenter Study**
Andrew T. Pennock, MD;
Benton E. Heyworth, MD;
Tracey Bastrom, MA; Donald S. Bae, MD;
Michael T. Busch, MD;
Eric W. Edmonds, MD;
Henry B. Ellis, MD;
Mininder S. Kocher, MD, MPH;
G. Ying Li, MD; Elizabeth Liotta;
Nirav K. Pandya, MD;
Crystal A. Perkins, MD;
Coleen S. Sabatini, MD, MPH;
David D. Spence, MD;
Samuel C. Willimon, MD;
David N. Williams, PhD;
Philip L. Wilson, MD; Jeffrey J. Nepple, MD

2:25 PM - Discussion
2:30 PM

1:50 PM -
2:50 PM

Concurrent Breakout Sessions Current Strategies and Techniques for Operative Fixation of Complex Ankle Fractures and Fractures of the Tibial Plafond

Moderator: *Frank A. Liporace, MD*
Faculty: *Richard S. Yoon, MD*
Mark Gage, MD
Marcus F. Sciadini, MD
Jason W. Nascone, MD

Learning Objectives

- Getting the diagnosis right --- don't miss a higher level injury, not every ankle fracture is a bi- or trimalleolar ankle fracture!
- Deciding, how and when, to use approaches (anterior/posterior) and current update on the latest fixation strategies (i.e. minifragment, intramedullary nails for fibula/tibia)
- Salvage (fusions, frames, amputations) --- when to say enough is enough!

Description

The goal of this breakout session is to provide operative management strategies to avoid complications and achieve desired outcomes. Presentations will be case-based and include everything from the simple to complex fractures. Strategies will focus on the latest decision-making and fixation options to maximize outcomes. Higher energy ankle/pilon fractures still offer a challenging clinical scenario to the orthopaedic trauma-tologist/general orthopaedist. Minimizing complications are based on appropriate planning and fixation execution --- this case-based breakout will provide the necessary education in this important trauma topic essential to OTA attendees.



1:50 PM - **Concurrent Breakout Sessions (cont'd)**
2:50 PM **High Energy Proximal Femur Fractures: Avoiding Mistakes to Optimize Success**

Moderator: *Marschall B. Berkes, MD*
Faculty: *Timothy S. Achor, MD*
Christopher McAndrew, MD
Milton T.M. Little, MD

Learning Objectives

- Understand pearls and pitfalls of intramedullary nailing of proximal femur fractures
- Appreciate ideal indications for plate fixation of proximal femur fractures
- Recognize surgical tactics to treat femoral neck fractures and possible associated postoperative complications

Description

High energy proximal femur fractures can be challenging injuries to manage. This breakout session will utilize case presentations to demonstrate common intra-operative pitfalls and errors that frequently lead to postoperative failure. Techniques and indications will be demonstrated to optimize success though the use of intramedullary nails, plate fixation and femoral neck fixation. Surgically managed high energy proximal femur fractures are plagued by high rates of postoperative malalignment and associated nonunion. This breakout session will seek to clarify proper indications for plate and nail fixation and demonstrate specific reproducible intraoperative techniques for successful application of these devices. Technical pearls for femoral neck fixation will also be discussed.

State of the Art for Operative Management of Femoral Head Fractures

Moderator: *Brett D. Crist, MD*
Faculty: *Kyle Schweser, MD*
John C. Hagedorn, MD

Learning Objectives

- List the indications for ORIF versus excision of femoral head fractures.
- Recognize the indications and benefits for the anterior surgical approach versus surgical hip dislocation for femoral head fracture ORIF and addressing associated injuries.
- List technical tricks and reconstructive options for femoral head fractures.

Description

Femoral head fractures are rare. Understanding surgical exposure options and techniques for ORIF and addressing associated injuries. Learn technical tricks and reconstructive options including cartilage transplant techniques. Femoral head fractures are rare and often not discussed frequently. Recognizing the associated injuries and how to address them may be the difference in preserving the patient's hip. Understanding the reconstructive options for patients are also important.

Olecranon and Proximal Ulna Fractures and Fracture-Dislocations: Not So Easy!

Moderator: *Utku Kandemir, MD*
Faculty: *Milan K. Sen, MD*
Bertrand Perey
Michael D. McKee, MD

Learning Objectives

- Recognize of injury patterns of olecranon and proximal ulna fractures
- Understand treatment options and indications for each injury pattern
- Learn how to avoid problems and pitfalls

Description

Injuries of olecranon and proximal ulna include a wide spectrum of injuries. Detailed understanding of injury patterns and pitfalls in management of critical to minimize problems and complications. There is a knowledge gap of understanding the injuries of olecranon and proximal ulna that leads to inadequate initial management and not uncommonly results in less than optimal results.

2:30 PM - **Paper Session IV**
3:27 PM **Pelvis and Acetabulum**

Moderators: *Kelly A. Lefaivre, MD*
Peter Bates, MD

- 2:30 PM - **PAPER 89**
2:36 PM **Is External Beam Radiation Therapy Really Associated with Low Rates of Heterotopic Ossification After Acetabular Surgery?**
Adam Boissonneault, MD;
Gerard Slobogean, MD, MPH;
Elizabeth Harkin, MD;
Jayesh Gupta, BS; Nathan N. O'Hara, MHA;
Robert V. O'Toole, MD

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2:36 PM - **PAPER 90**
2:42 PM **Delayed Fixation of Acetabular Fractures in Polytrauma Patients With and Without Concomitant Lower Extremity Fractures Significantly Increases the Odds of Complications**
Lauren Nowak, PhD, MSc;
David Sanders, MD;
Abdel-Rahman Lawandy, FRCS;
Christopher Del Balso, MSc, MBBS;
Emil H. Schemitsch, MD

2:42 PM - **PAPER 91**
2:48 PM **Administration of Venous Thromboembolism Chemoprophylaxis Within 12 Hours of Pelvic and Acetabular Surgery Has No Effect on Estimated Blood Loss, Perioperative Change in Hemoglobin, or Need for Transfusion**
Lukas Keil, MD; *Sean A. Flannigan, BS;*
Robert F. Ostrum, MD; *Jesse C. Hahn, MD*

2:48 PM Discussion

2:53 PM - **PAPER 92**
2:59 PM **Results of Emergency Department Stress of Lateral Compression Type 1 Fracture Correlate with Validated Instability Scoring System**
Graham J. Dekeyser; *Patrick Kellam, MD;*
Thomas F. Higgins, MD; *Justin Haller, MD;*
Lucas S. Marchand, MD;
David L. Rothberg, MD

2:59 PM - **PAPER 93**
3:05 PM **Contralateral Lateral Stress Radiographs (LSR) to Evaluate Stability of Minimally Displaced Lateral Compression Type 1 Pelvic Ring Injuries Are Equivalent to Ipsilateral LSR**
Joshua A. Parry, MD;
Michael M. Hadeed, MD;
Austin Heare, MD; *Stephen Stacey, MD;*
Cyril Mauffrey, MD, MRCS

3:05 PM Discussion

3:10 PM - **PAPER 94**
3:16 PM **Percutaneous Posterior Pelvic Stabilization for Spinopelvic Dissociation: A 20-Year Series of Displaced and Nondisplaced Fracture Patterns**
Justin P. Moo Young, MD;
Jonathan Savakus, MD; *Daniel E. Pereira, BA;*
Jeffrey Hills, MD;
Byron F. Stephens, MD;
Phillip Mitchell, MD

3:16 PM - **PAPER 95**
3:22 PM **A Comparison of Open versus Percutaneous Approaches to Spinopelvic Dissociation: Presentation, Complications and Outcome**
Justin P. Moo Young, MD;
Jonathan Savakus, MD; *Daniel E. Pereira, BA;*
Jeffrey Hills, MD;
Byron F. Stephens, MD;
Phillip Mitchell, MD

3:22 PM Discussion

3:27 PM - **Break**
3:57 PM



3:57 PM - **Paper Session V**
 5:23 PM **General Interest and Post-Traumatic General Interest**

Moderators: **Andrew M. Choo, MD**
Stephen Warner, MD, PhD

3:57 PM - **PAPER 96**
 4:03 PM **Agricultural Trauma causing Open Fractures: Is Antibiotic Coverage Against Anaerobic Organisms Indicated?**
Malynda Wynn, MD; Kyle K. Kesler, MD;
 Michael J. Robertson, MD;
 Robert T. Higginbotham, BA;
 John Morellato, MBBS;
 J. Lawrence Marsh, MD; Matthew Hogue, MD

4:03 PM - **PAPER 97**
 4:09 PM **Does Cumulative Topical Antibiotic Powder Use Increase the Risk of Nephrotoxicity?**
Robert V. O'Toole, MD;
 Nathan N. O'Hara, MHA; Jessica Carullo, BS;
 Manjari Joshi; Sheila Sprague, PhD;
 Gerard Slobogean, MD, MPH

4:09 PM - **PAPER 98**
 4:15 PM **What Is Most Important to Patients When Pursuing Limb Salvage Following a Limb-Threatening Injury?**
Alison L. Wong MD, MS;
 Cynthia Shannon, BS, BSN;
 Abdulai Bangura, BS; Lily Mundy, MD;
 Nathan N. O'Hara, MHA;
 Raymond A. Pency, MD

4:15 PM Discussion

4:20 PM - **PAPER 99**
 4:26 PM **Effects of the Trauma Collaborative Care Intervention: 12 Month Results from a Prospective Multicenter Cluster Clinical Trial**
 Stephen Wegener, PhD;
TCCS METRC Investigators

4:26 PM - **PAPER 100**
 4:32 PM **Orthopaedic Surgery I-PASS Intervention Leads to Sustained Improvement in Quality of Patient Handoffs**
Derek S. Stenquist, MD; Caleb Yeung, MD;
 Laura Rossi, PhD, RN;
 Antonia F. Chen, MD, MBA;
 Mitchel B. Harris, MD

4:32 PM - **PAPER 101**
 4:38 PM **How Many Sites Should an Orthopaedic Trauma Prospective Multicenter Trial Have? A Marginal Analysis of Completed Trials**

Lauren Allen, MA; Robert V. O'Toole, MD;
 Michael J. Bosse, MD;
 William T. Obremskey, MD, MPH;
 Kristin Archer, PhD; Lisa K. Cannada, MD;
 Jaimie T. Shores, MD; Renan C. Castillo, MD;
 METRC Investigators

4:38 PM Discussion

4:43 PM - **PAPER 102**
 4:49 PM **Transfusion After Harvesting Bone Graft with RIA: Practice Changes Reduced Transfusion Rate by More than Half**
Lucas S. Marchand, MD;

Patrick Kellam, MD;
 Graham J. DeKeyser, MD; Justin Haller, MD;
 David L. Rothberg, MD;
 Thomas F. Higgins, MD

4:49 PM - **PAPER 103**
 4:55 PM **Primary Closure of External Fixator Pin Sites Does not Increase the Incidence of Surgical Site Infection**

Jeffery Shroff, MD; Steven Karnyski, MD;
 Brittany Haws, MD; **James D. Brodell, BA;**
 Sandeep Soin, MD; Kyle T. Judd, MD;
 Gillian Soles, MD;
 Catherine A. Humphrey, MD, MBA;
 John T. Gorczyca MD; John P. Ketz, MD

4:55 PM - **PAPER 104**
 5:01 PM **Intimate Partner Violence During Recovery from an Orthopaedic Injury: An Observational Cohort Study**
 Kim Madden, PhD; **Sheila Sprague, PhD;**
 Brad Petrisor, MD; Prism Schneider, MD, PhD;
 Ydo Kleinlugtenbelt, MD, PhD;
 Elisa A.M. Hackenberg, MD;
 Maria Villar, MD, PhD; Jeremy Hall, MD, MEd;
 Sofia Bzovsky, MSc; Lehana Thabane, PhD;
 Mohit Bhandari, MD, PhD;
 PRAISE-2 Investigators

5:01 PM Discussion

5:06 PM - **PAPER 105**
 5:12 PM **Efficacy of a Multimodal Analgesic Protocol at Reducing Opioid Use After Orthopaedic Trauma**

Brooke Herndon, PharmD;
 Emily Slade, PhD; Svetla Slavova, PhD;
 Feitong Lei, MPH; Zhengyan Huang, PhD;
 Shannon Johnson, BSN, RN;
 Paul E. Matuszewski, MD;
 Eric S. Moghadamian, MD;
 Douglas Oyler, PharmD

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5:12 PM - **PAPER 106**
5:18 PM **Early Pain Self-Efficacy Predicts Chronic Pain and Pain-Related Disability 24 Months After Lower Extremity Fracture**
Josh Van Wyngaarden, DPT, PT;
Brian Noehren, PT, PhD; Kristin Archer, PhD;
Lucy C. Bowers, BS;
Paul E. Matuszewski, MD

5:18 PM Discussion
5:23 PM

5:30 PM - **Suds N' Science Poster & Video Tours**
6:10 PM **Hip/Femur** – Kyle J. Jeray, MD
Foot & Ankle – Anna N. Miller, MD
Video Tours – Joseph Hoegler, MD

Saturday, October 23, 2021

6:30 AM - **Concurrent Breakout Sessions**
7:30 AM **Gray Zone Pelvis: What Do I Do?**

Moderator: *Jason W. Nascone, MD*
Faculty: *Milton L. Routt, MD*
Adam J. Starr, MD
Robert V. O'Toole, MD
H. Claude Sagi, MD

Learning Objectives

- The learner will understand the definition of "Gray Zone" pelvic ring injury and potential concerns that may lead to operative intervention
- The learner will understand and become familiarized with the components that various experienced pelvic surgeons use in making the decision between operative and non-operative management
- The learner will understand the drivers of poor outcome with pelvic ring disruption and the treating surgeon's impact on these drivers.

Description

Case based panel discussion centered on decision making in pelvic ring management. Cases will present diagnostic challenges with regard to operative VS non operative management. Emphasis will be on how and why 'pelvic experts' decide on a treatment modality, when is non operative management appropriate and components of this decision making. Many questions are unanswered with regard to which patients benefit from operative intervention of pelvic fractures; in particular those with minimal displacement. Much of the current literature relies on expert opinion although more and more literature is showing acceptable outcomes with non operative management. This session will aim to provide an in depth discussions to how various 'experts' make the decision and what factors come into play when deciding operative VS non operative management.



6:30 AM - **Concurrent Breakout Sessions (cont'd)**
7:30 AM **Displaced Intra-Articular Calcaneus Fracture Management from "Soup to Nuts": When, How, and Getting it Right**

Moderator: *John P. Ketz, MD*
Faculty: *Michael A. Maceroli, MD*
Roy W. Sanders, MD
Mark Gage, MD

Learning Objectives

- Present a detailed review of surgical technique for both the sinus tarsi and extensile lateral approaches.
- Provide an easily reproducible method for deciding the best surgical approach based on timing, patient and fracture characteristics.
- Special focus on open, intra-articular calcaneus fractures from soft tissue management and initial fixation to definitive surgery.

Description

Displaced intra-articular calcaneus fractures remain difficult to effectively treat and tend to spur intense debate regarding timing and approaches. The goal of this breakout session is to provide an overview of calcaneus fracture management, focusing specifically on the key techniques that will maximize outcomes. Talks will be case-based and will highlight specific factors that will demystify decisions related to the best surgical approach. Displaced intra-articular calcaneus fractures are complex problems with a very limited margin for error in both technique and decision-making. Errors in management of these fractures can result in significant disability. Current controversy exists between the sinus tarsi or extensile lateral approach and is a hot topic of debate. The goal of this breakout session is to establish which fractures may benefit from one approach versus another as well as presenting technical tricks on reduction and fixation with a goal of improving outcomes. Treatment strategies for dealing with open fractures will also be discussed as well as having a case based audience participation.

Shoulder Girdle Injuries: Optimizing Decision Making and Surgical Management

Moderator: *Emil H. Schemitsch, MD*
Faculty: *Michael D. McKee, MD*
Niloofer Dehghan, MD, MSc
Jeremy Hall, MD, MEd
Aaron Nauth, MD
Peter A. Cole, MD

Learning Objectives

- How to determine which clavicle fractures and shoulder girdle injuries need surgery
- How to optimize fixation of shoulder girdle injuries when surgery is indicated
- How to manage complications following shoulder girdle surgery

Description

A primary goal of the symposium will be to achieve consensus opinions on many current issues and controversies regarding the treatment of shoulder girdle injuries. The symposium will allow registrants to determine which injuries need surgery, optimize fixation when surgery is indicated and manage complications. There is increasing interest in the management of shoulder girdle injuries. The controversy around indications for operative intervention remains higher than that seen with other fractures and there remains significant room for improvement in the care of these injuries.

Lower Extremity Deformity--How to Evaluate, When to Plate, When to Nail, When to Frame, and When to Give Up

Moderator: *Brett D. Crist, MD*
Faculty: *Mitchell Bernstein, MD*
Mark A. Lee, MD
Mauricio Kfuri, MD, PhD
Rahul Vaidya, MD

Learning Objectives

- Correctly evaluate lower extremity deformity clinically and radiographically.
- Choose the appropriate technique for the location of the deformity through preoperative planning and patient evaluation.
- Utilize the appropriate techniques for deformity correction.

Description

Lower extremity deformity evaluation is important to understand for orthopaedic surgeons managing fractures and for patients seeking arthroplasty--we all see these patients. Choosing the technique that will lead to the most successful outcome is

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6:30 AM - 7:30 AM **Concurrent Breakout Sessions (cont'd)**

challenging. Participants will learn how to evaluate and choose the techniques that will most likely lead to success. Thorough deformity evaluation is often underutilized in orthopaedic trauma. We all see patients with nonunions/malunions/bone loss/leg length discrepancy that present for acute fracture management, delayed management, or in preparation for arthroplasty. We will give the participants the knowledge and tools to correctly evaluate and manage these patients.

Dying Controversies in Orthopaedic Trauma... Or Are They?

Moderator: *Milton T.M. Little, MD*
Faculty: *Marschall B. Berkes, MD*
Carol Lin, MD, MA
Geoffrey Marecek, MD
John A. Scolaro, MD

Learning Objectives

- Discuss literature surrounding paradigm shifts in controversial orthopaedic treatment strategies.
- Appreciate the evolution of surgical approaches, techniques, treatment strategies and their impact on outcomes.
- Recognize the risks and benefits associated with these changing treatment strategies.

Description

The evolution of orthopaedic trauma is dependent on evaluating scientific evidence, refining surgical techniques, and working to improve patient outcomes. While this has led to many advancements in patient care, some historical non-operative treatment techniques have persisted despite their middling success. This breakout examines some fractures commonly treated non-operatively and discusses the shortcomings of non-operative treatment and the paradigm shift of the management of these injuries. The breakout will provide a forum to discuss evidence to challenge persisting historical support for non-operative treatment of common

orthopaedic injuries. Non-operative treatment of humeral shaft fractures continues to be touted as the gold standard despite non-union rates that range as high as 17-20%. Non-operative treatment of extra-articular scapula fractures continues despite advances in surgical techniques which can limit approach morbidity and pain associated with malunions. Flail chest continues to lead to prolonged intubation in polytraumatized patients despite growing familiarity with rib plating techniques. Fixation of associated fibula fractures with plafond fractures may provide indirect plafond reduction and increased lateral column stability, but the fibula is still ignored by many surgeons. Lastly, despite evidence posterior malleolus fixation improves syndesmotom reduction and stability, the size of the posterior malleolus is often considered the most determining factor posterior malleolus fixation.

7:30 AM - 9:00 AM **Symposium III: How Can We Fix Racial, Ethnic, and Socioeconomic Healthcare Disparities in Orthopaedics and Do these Disparities Exist in Orthopaedic Trauma? An Introduction and Review from the OTA Diversity Committee**

Moderator: *Gilbert R. Ortega MD, MPH*
Faculty: *Toni M. McLaurin, MD*
Nirmal C. Tejwani, MD
Emily S. Benson, MD
Lisa K. Cannada, MD
Milton T.M. Little, MD

Learning Objectives

- Define the problem of racial, ethnic, and socioeconomic healthcare disparities in orthopaedics and orthopaedic trauma
- Review the goals, mission, and community projects of the OTA Diversity committee
- Discuss effective solutions for orthopaedic trauma surgeons, healthcare systems, and communities regarding healthcare disparities

7:30 AM - **Symposium III: (cont'd)**

9:00 AM **Description**

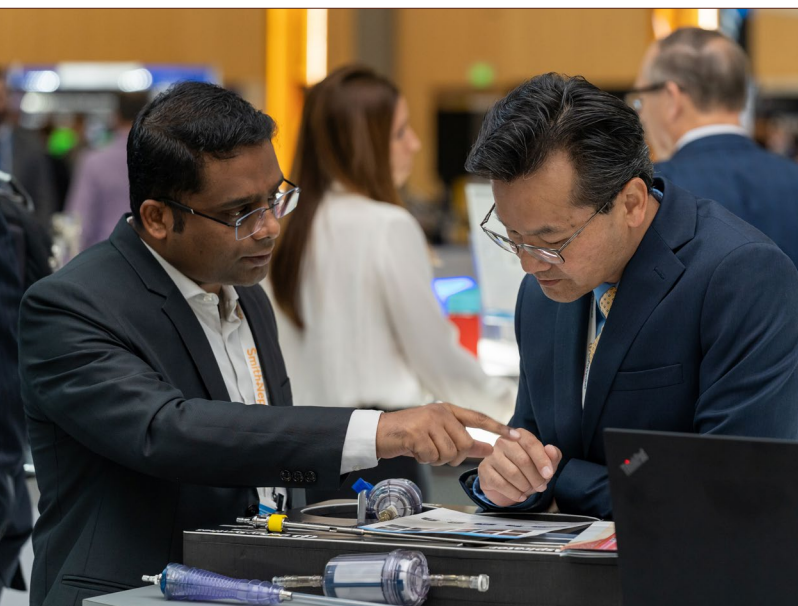
Several studies have demonstrated racial, ethnic, and socioeconomic disparities in healthcare and orthopaedics. Despite evidence to show disparities in orthopaedics, 91% of surveyed orthopaedic surgeons do not believe that differences in race/ethnicity can adversely affect orthopaedic care¹.

The OTA's Diversity committee was created in 2020 with several goals to help improve diversity within the OTA while addressing ways to improve disparities within our orthopaedic trauma patient population and communities. The OTA diversity committee will define the problems, discuss effective solutions, and offer insight on how orthopaedic trauma surgeons can play a role in solving these healthcare disparities.

When healthcare disparities exist and such a large percentage of orthopaedic surgeons do not recognize or acknowledge how disparities can adversely affect orthopaedic care, patients and communities suffer. The OTA diversity committee plans to not only review and discuss the issues, but also, offer solutions that will help orthopaedic trauma surgeons, healthcare systems, and communities.

¹Adelani MA, O'Connor MI. Perspectives of orthopedic surgeons on racial/ethnic disparities in care. *J Racial Ethn Health Disparities*. 2017;4(4):758-62.

9:00 AM - **Break**
9:30 AM



9:30 AM - **Paper Session VI**
10:39 AM **Tibia/Knee and Tibial Plateau**

Moderators: **Brett D. Crist, MD**
Animesh Agarwal, MD

9:30 AM - **PAPER 107**
9:36 AM **Outcomes of Intramedullary Nailing Versus External Fixation in the Treatment of Open Tibial Fractures: Three to Five Year Follow-up Study of a Randomized Clinical Trial**

Abigail Cortez, MD; Mayur Urva, BS;
Billy T. Haonga, MD;
Claire Donnelley, BS;
Ericka Von Kaeppler, BS;
Heather Roberts, MD; David Shearer, MD;
Saam Morshed, MD

9:36 AM - **PAPER 108**
9:42 AM **Gentamicin-coated Nail is Effective Fracture-related Infection Prophylaxis in Open Tibial Fractures**

Alvaro Zamorano, MD; Pierluca Zecchetto;
Carlos Felipe Albarrán, MD;
Andrés Sebastián Alberto Oyarzún Martínez, MD;
Luis Bahamonde, MD

9:42 AM - **PAPER 109**
9:48 AM **How Long Can Debridement Wait in Type IIIB Open Tibia Fractures?**

Jeff J. Foote, MD, MSc;
Paul Tornetta III, MD; Khalid Al-Hourani, MD;
Aleksi Reito, MD, PhD; Michael J. Bosse, MD;
Ross K. Leighton, MD; Chad Coles, MD;
Jamal Al-Asiri, MD;
David J. Stockton, MD, MSc;
Xavier L. Griffin, MBBS, MSc;
Stephen A. Sems MD; Heather A. Vallier, MD;
Hassan Riaz Mir, MD, MBA;
Clay A. Spitler, MD; Brian Mullis, MD;
Lisa K. Cannada, MD; Emily Wagstrom, MD;
Jerald Westberg, BA; Saam Morshed, MD;
Peter C. Krause, MD;
Andrew J. Marcantonio, DO; Gillian Soles, MD

9:48 AM Discussion

9:53 AM - **PAPER 110**
9:59 AM **Pace of Recovery of Physical Function After Tibial Plateau Fractures**

Patrick Kellam, MD;
Graham J. DeKeyser, MD;
Thomas F. Higgins, MD;
David L. Rothberg, MD;
Justin Haller, MD; Lucas S. Marchand, MD

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Saturday, October 23, continued

9:59 AM - **PAPER 111**
10:05 AM **An International Comparison of Acute Versus Staged Fixation of Bicondylar Tibial Plateau Fractures**
Lazaro Mesa, MD;
Nicholas Birkett, MBChB, MSc;
Reuben C. Lufrano, MD; Rutba Chatta;
Melihah Hassan; Paul J. Hannon;
Joshua Mizels, BA; David Ensor, MBBS;
David T. Watson, MD; Anjan R. Shah, MD;
Benjamin Maxson, DO;
Anthony F. Infante, DO; David Donohue, MD;
Peter Bates, MBBS; Katheryne Downes, PhD;
Pramod Achan, MB, FRCS;
Roy W. Sanders, MD, FAAOS;
Ishvinder S. Grewal, MBBS, BSc;
Hassan R. Mir, MD, MBA

10:05 AM - **PAPER 112**
10:11 AM **Prepping in the Ex-fix to Facilitate Staged ORIF of Bicondylar Tibial Plateau Fractures Does Not Increase Infection Rates**
Derek S. Stenquist, MD; Caleb Yeung, MD;
Theodore Guild, MD;
Michael J. Weaver, MD;
Mitchel B. Harris, MD;
Arvind G. Von Keudell, MD

10:11 AM Discussion

10:16 AM - **PAPER 113**
10:22 AM **Rates of Early Revision Surgery in Operatively Treated Patella Fractures - A Retrospective Review of 286 Cases**
Rohit Gopinath, BS; Jonathan Howatt, MD;
Allan Liew, MD; **Geoffrey P. Wilkin, MD**

10:22 AM - **PAPER 114**
10:28 AM **Fasciotomies in Bicondylar Tibial Plateau Fractures Do Not Have Increased Rates of Infection or Non-Union**
Kyla Huebner, MD, MSc, PhD;
Derek S. Stenquist, MD;
Michael J. Weaver, MD;
Arvind G. Von Keudell, MD

10:28 AM - **PAPER 115**
10:34 AM **Tibial Plateau Fractures in the Elderly Have Clinical Outcomes Similar to those in Younger Patients**
Meghan Carey Derken, BA;
Cody R. Perskin, BA; Philipp Leucht, MD;
Sanjit R. Konda, MD; Abhishek Ganta, MD;
Kenneth A. Egol, MD

10:34 AM - Discussion
10:39 AM

10:15 AM - **Concurrent Breakout Sessions** 11:15 AM **The Treatment of Peri-prosthetic Fractures in 2021: A Comprehensive Evidence-based Approach!**

Moderator: **Emil H. Schemitsch, MD**
Faculty: **Aaron Nauth, MD**
Adam A. Sassoon, MD
Michael J. Gardner, MD
Andrew H. Schmidt, MD

Learning Objectives

- How to accurately classify peri-prosthetic fractures and the common pitfalls of classification.
- How to optimize the periprosthetic fixation construct to allow early weight-bearing.
- The role of revision arthroplasty in managing peri-prosthetic fractures about a THA and TKA.

Description

A primary goal of the symposium will be to achieve consensus opinions on many current issues and controversies regarding the treatment of peri-prosthetic fractures. The symposium will allow registrants to optimize surgical decision making and fixation and manage complications following these difficult injuries. Peri-prosthetic fractures are increasing in frequency and complexity as the number of patients with a joint replacement, and their activity levels post-surgery, steadily rise. The failure rate of operative intervention remains higher than that seen with other fractures and there remains significant room for improvement in the care of these injuries.

Saturday, October 23, continued

10:15 AM - **Concurrent Breakout Sessions (cont'd)**
11:15 AM **Combined Pelvic Ring and Acetabulum Fractures: What I've Learned and What I Wish I Would Have Known Back Then**

Moderator: *Marcus F. Sciadini, MD*
Faculty: *Michael A. Maceroli, MD*
Jason W. Nascone, MD
Conor P. Kleweno, MD
Brent T. Wise, MD

Learning Objectives

- Provide a comprehensive review of combined pelvic ring and acetabulum fractures from initial temporization to order of operation and definitive fixation.
- Discuss the different challenges faced when treating acetabular fractures complicated by both subtle and complex posterior pelvic ring injuries.
- Highlight cases that helped shape the "learning curve" and how this has changed our practice.

Description

The goal of this breakout session is to provide treatment strategies for combined pelvic ring and acetabulum fractures. Presentations will be case-based and will comprehensively review management from initial temporization to strategies for definitive reconstruction. Strategies will focus on the latest decision-making and fixation options to maximize outcomes. Combined pelvic ring and acetabulum fractures are extremely difficult and rare injuries that present unique challenges. Due to their relative infrequency, "ring-tabs" have not been a focus of discussion at national meetings or in peer-reviewed literature. That, combined with a steep learning curve, makes treating these injuries all the more difficult. The aim of this breakout session is to provide comprehensive strategies for initial management, surgical planning and definitive fixation through case-based lectures. Furthermore, the cases shown will highlight the key steps in those that went well and, more importantly, those that left room for improvement.

Rotation, Rotation, Rotation: Why is it Important and How To Get it Right in Lower Extremity IM Nailing

Moderator: *James C. Krieg, MD*
Faculty: *Patrick C. Schottel, MD*
Michael Blankstein, MD
Mark R. Brinker, MD
Ida L. Gitajn, MD

Learning Objectives

- The learner will understand the clinical significance of femoral and tibial malrotation after IM nailing.
- The audience will know the most common methods to intraoperatively assess femoral and tibial rotation as well as how to avoid common pitfalls.
- The attendee will be able to perform the appropriate diagnostic work-up and deformity correction of rotational malunion cases.

Description

Diaphyseal femur and tibia fractures commonly occur in the setting of high energy trauma. Reamed, statically locked intramedullary nail fixation is widely accepted as the standard of care in most cases. However, high rates of malrotation have been reported resulting in unacceptable clinical outcomes. The purpose of this session is to review lower extremity diaphyseal malrotation following IM nailing with an emphasis on intraoperative prevention and malunion deformity correction. The incidence of femoral and tibial malrotation following IM nailing is unacceptably high. A review of the most accurate and reliable methods for assessing intraoperative femur and tibia rotation would benefit the attendee to ensure that the most appropriate techniques are being used. Additionally, a discussion of deformity planning and execution is important as the topic is not commonly discussed. This Breakout would serve as an excellent forum to review common pitfalls and how to maximize patient outcomes in regard to restoring lower extremity rotation.



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Saturday, October 23, continued

10:15 AM - **Concurrent Breakout Sessions (cont'd)**
11:15 AM **Tips and Tricks for Getting the Metaphysis Right With Different Implants!**

Moderator: *Benjamin Ollivere, MD, MA*
Faculty: *Paul Tornetta III, MD*
Reza Firoozabadi, MD
J. Tracy Watson, MD

Learning Objectives

- Management strategies for complex metadiaphyseal injuries
- Understand different approaches to metadiaphyseal injuries current controversies
- Understand how to optimise outcomes in complex metadiaphyseal injuries

Description

Metaphyseal malalignment is among the most common complication in periarticular injuries. This symposium will cover the technical aspects of contemporary techniques including 'extreme nailing', adjunctive plating, nail-plate constructs and circular frame use. Cases will be used for a discussion of the decision making for complex metaphyseal injuries. Malalignment is common in periarticular injury (5%-25%). These problems can be caused by bad decision making or by technical issues. This session will cover the underlying decision making processes in the key areas of metadiaphyseal trauma to be discussed and understood. The case illustrated discussion session will cover tips and tricks supported by a principles based approach to complex injuries. There have been no similar sessions at the OTA for the past 4 years.

10:39 AM - **Paper Session VII**
11:42 AM **Post Traumatic Reconstruction**

Moderators: *Nirmal C. Tejwani, MD*
Daniel N. Segina, MD

10:39 AM - **PAPER 116**
10:45 AM **10-Year Incidence and Possible Predictors of Conversion to TKA Following Operative Fixation of Distal Femur Fractures: Analysis of 6086 Patients**
Zachary Telgheder, MD; Jason Strelzow, MD; Jennifer Lewis; Kathyryne Downes, PhD; Hassan Riaz Mir, MD, MBA

10:45 AM - **PAPER 117**
10:51 AM **Lower Complications in Acute THA for Intertrochanteric Femur Fractures than Delayed Conversion THA After Failed Operative Fixation**
Luke Myhre, MD; Patrick Kellam, MD; Lucas Anderson, MD; Jeremy Gililand, MD; Justin Haller, MD; Lucas S. Marchand, MD

10:51 AM - **PAPER 118**
10:57 AM **Outcomes and Survivorship of Vascularized Fibular Grafting for Post-Traumatic Osteonecrosis of the Femoral Head**
Keith Whitlock, MD; Eliseo DiPrinzio, MD; Daniel J. Lorenzana, MD; Rachel Hein, MD; Daniel J. Cunningham, MD; Marc J. Richard, MD; Mark Gage, MD; James R. Urbaniak, MD

10:57 AM Discussion

11:02 AM - **PAPER 119**
11:08 AM **Induced Membrane Technique is Effective for Both Metaphyseal and Diaphyseal Fractures with Acute Bone Loss**
Lillia Steffenson, MD; Stephen Wallace, MD; Alexander Roszman, MD; Clay A. Spitler, MD; Michael Githens, MD; Justin Haller, MD

Saturday, October 23, continued

11:08 AM - **PAPER 120**
11:14 AM **Risk Factors and Characteristics of Recalcitrant Osteomyelitis Following Appropriate Initial Surgical and Antibiotic Treatment**

Nihar S. Shah, MD;
Arun Kanhere, BS, MSc;
Ramsey S. Sabbagh, MS;
John Bonamer; Austin Franklin;
Matthew D. Doyle;
Matthew Frederickson, BS;
Drew T. Sanders, MD; H. Claude Sagi, MD

11:14 AM - **PAPER 121**
11:20 AM **The Effect of Free versus Local Flaps on Time to Union In Open Tibia Fractures**

Nicole Zelenski, MD;
Jennifer Tangtiphaiboontana, MD;
Anthony J. Archua; Doga Kuruoglu, MD;
Maria Yan, MD; Samyd S. Bustos, MD;
Steven L. Moran, MD

11:20 AM Discussion

11:25 AM - **PAPER 122**
11:31 AM **Percutaneous Strain Reduction Screws Are a Cost Effective and Reproducible Method to Treat Long Bone Non-Union**

Matthew Bence, MA, MB;
Alpesh Kothari, MD, MSc;
Andrew Riddick, MBBS;
Will Eardley, MBChB, MD;
Robert C. Handley; Alex Trompeter

11:31 AM - **PAPER 123**
11:37 AM **Orthoplastic Treatment of Open Lower Limb Fractures Improves Outcome: A 12-Year Review**

Estelle M. D'Cunha, MBChB;
John M. McMaster, DMed, MBChB;
Jowan G. Penn-Barwell, MB, ChB;
Charles A. Fries, ChB, MA, MB, MSc

11:37 AM - Discussion
11:42 AM

11:42 AM - **Lunch**
12:42 PM

11:57 AM - **Lunch Poster & Video Tours**
12:37 PM **Upper Extremity – Michael J. Gardner, MD**
International – Ida Leah Gitajn, MD



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12:42 PM - **Symposium IV:**
2:12 PM **Tolerate or Re-Operate:
What to Do the Day After?**

Moderator: **Hans-Christoph Pape, MD**
Faculty: **Miguel A. Triana, MD**
Francisco C. Rodríguez, MD, PhD
Yoram A. Weil, MD
Bertil Bouillon, MD, PhD
Michael Verhofstad, MD, PhD
Guy Putzeys, MD

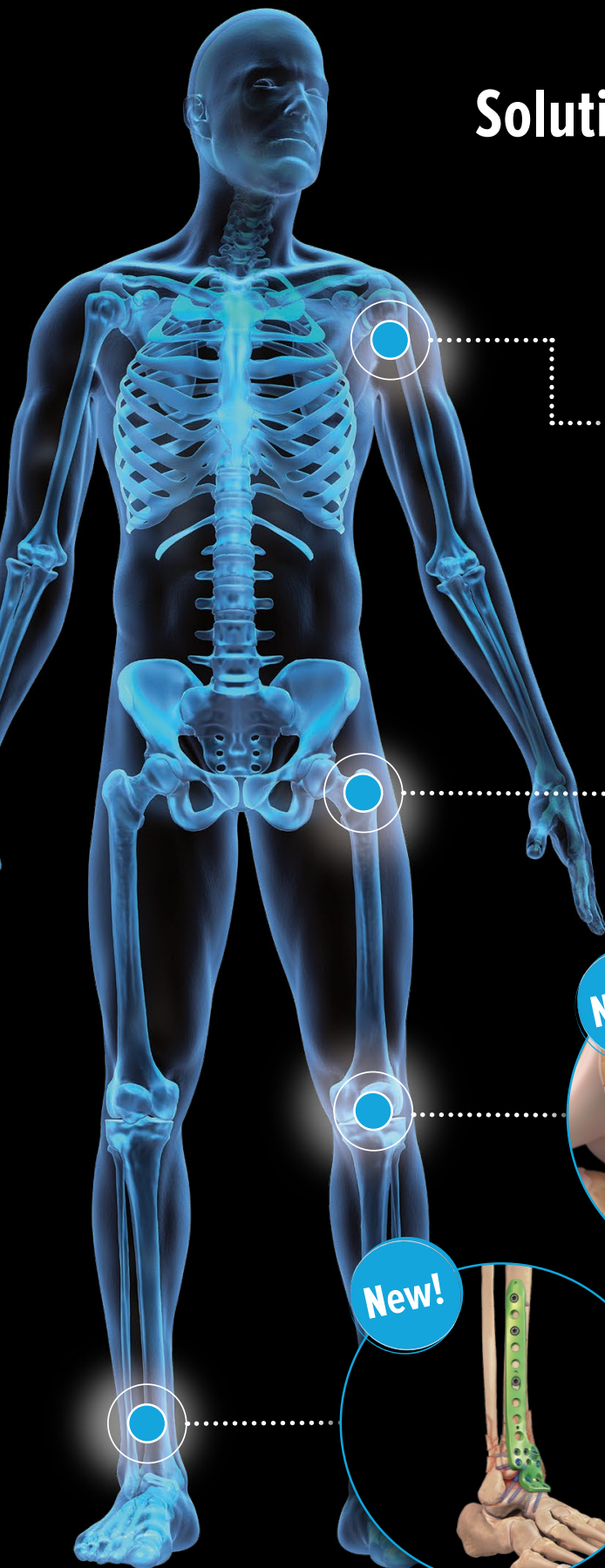
Learning Objectives

- To understand principal criteria to evaluate the results of specific fracture treatments, arguments for and against revision surgery, and differences that may exist in different countries' practices
- To outline principles of revision surgery and likely outcomes in individual patients with specific fractures
- To highlight surgical approaches and tips and tricks for successful revision surgery

Description

Surgeons constantly need to decide whether fracture reduction and fixation is satisfactory. This symposium seeks to define what is acceptable post-fixation and approaches to managing challenging problems, taking into account specific fractures, patient factors, and available resources. Decision-making on acceptable reduction are common decisions faced by orthopaedic traumatologists worldwide. Ultimately, these decisions are governed by multiple factors.

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Saturday, October 23, continued

2:12 PM - **Concurrent Breakout Sessions**
3:12 PM **From Knee to Ankle: Tips and Strategies for Managing Tibial Shaft Fractures in Proximal, Middle, and Distal Thirds**

Moderator: *Michael A. Maceroli, MD*
Faculty: *Cory A. Collinge, MD*
Sandeep Soin, MD
John P. Ketz, MD
Roberto C. Hernandez-Irizarry, MD

Learning Objectives

- Take away strategies for reduction and fixation of extra-articular tibia fractures with specific focus on anatomic regions and the unique challenges each presents.
- Addressing the combined tibia shaft fracture with intra-articular involvement while maximizing quality of reduction and minimizing soft tissue disruption.
- What to do When it Doesn't Work --- strategies for managing tibial nonunions and bone loss with and without concomitant infection.

Description

The goal of this breakout session is to provide an in-depth look at tibia fracture management separated by "anatomic thirds", highlighting specific challenges and techniques for each. Presentations will be case-based (with literature support) and include everything from surgical planning to implant selection to reduction techniques. Strategies will focus on the latest decision-making and fixation options to maximize outcomes. Tibia fractures remain one of the most common injuries treated in tertiary referral and community trauma centers alike. Most educational items discuss "tibia fractures" as a whole despite sometimes stark differences in treatment strategy depending on fracture location and morphology. This breakout session will aim to unpack tibia fractures into anatomic regions, allowing for a more detailed discussion of the specific skills required to achieve reduction and promote healing in each location. In addition, a special focus will be placed on tibial shaft fractures with concomitant intra-articular components as well as those with diaphyseal bone loss.

Rehab to Optimize Outcomes: Getting Our Patients Back on their Feet

Moderator: *Daniel J. Stinner, MD, LTC*
Faculty: *William T. Obremskey, MD, MPH*
Joseph R. Hsu, MD
Kristin Archer, PhD

Learning Objectives

- The audience will understand the typical norms for time to weight bearing following injuries to the lower extremity. They will also learn about current data where these norms have been challenged to optimize outcome.
- The audience will understand the impact that psychosocial factors have on outcome. They will also be instructed on methods to identify patients at higher risk for poor outcome and methods for intervening early to optimize outcome.
- The audience will learn about various bracing options that can improve outcome (pain and function) in patients following foot and ankle trauma. They will also learn about several adjunct treatment therapies and the data to support or discount their use.

Description

This breakout will use evidence to challenge the current standards of rehabilitation following extremity trauma and will provide guidance on incorporating it into clinical practice. From recommendations on early weight bearing to bracing and blood flow restrictive training, this breakout will provide evidence-based tips on rehabilitation to help optimize the outcomes of patients following extremity trauma. Little emphasis is placed on our patients after they leave the operating room and we know that not all patients are created equally. This breakout will 1) help the orthopaedic surgeon identify patients who may be at risk for a worse outcome and 2) provide them with the tools to optimize their recovery well after they have left the operating room.

Axial Plane Deformity - How to Avoid It and Correct It

Moderator: *Geoffrey Marecek, MD*
Faculty: *Milton T.M. Little, MD*
Mitchell Bernstein, MD
Ashley Levack, MD

Learning Objectives

- Define axial plane deformity
- Use strategies to avoid creating axial plane deformity
- Evaluate and correct axial plane deformity

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Saturday, October 23, continued

2:12 PM -
3:12 PM

Concurrent Breakout Sessions

Description

Axial plane deformity is fairly common after fracture. This symposium will highlight strategies to avoid malrotation and shortening. We will discuss how to evaluate and treat patients with deformity. Axial plane deformity is a common source of litigation. New evidence suggests that neither length nor rotation are symmetric. Newer treatment modalities make correction of small deformities feasible.

Contaminated Open Fractures: Getting It Right and What to Do If It Goes Wrong

Moderator: *Benjamin Ollivere, MD, MA*
Faculty: *Paul Tornetta III, MD*
William M. Ricci, MD
J. Tracy Watson, MD

Learning Objectives

- Management strategies for open-articular fractures.
- Dealing with post-operative infection.
- Reconstruction options in segmental defects.

Description

The contaminated open fracture is the most devastating of orthopaedic injuries. Management issues to be addressed include all aspects of management of contaminated open fractures and management of initial soft tissue and contaminated bone management, secondary infection and strategies for management of joint and diaphyseal bone loss including transport and lengthening nails. The contaminated open fracture presents to every area of orthopaedic practice. There have been improvements in standards of care, reconstructive options and expected outcomes. This session will cover the underlying decision making processes in the key areas of contaminated open fracture management to be discussed and understood. The case illustrated discussion session will

cover tips and tricks supported by a principles based approach to complex injuries. There have been no similar sessions at the OTA for the past 3 years.

2:12 PM -
3:39 PM

Paper Session VIII Upper Extremity & Wrist and Hand

Moderators: *Harmeeth S. Uppal, MD, MS*
John A. Scolaro, MD, MA

2:12 PM -
2:18 PM

PAPER 124 Spin in the Abstracts of Meta-analyses and Systematic Reviews: Midshaft Clavicle Fractures

Matthew Gulbrandsen, MD;
R. Casey Rice, MD; Trevor Gulbrandsen, MD;
Joseph Liu, MD

2:18 PM -
2:24 PM

PAPER 125 Acute Plate Fixation of Displaced Midshaft Clavicle Fractures Is not Associated with Earlier Return of Normal Shoulder Function When Union Is Achieved

Jamie A. Nicholson, MBChB, MRCSed;
Nicholas D. Clement, MRCS Ed;
Andrew D. Clelland;
Deborah J. MacDonald, BA;
Hamish R.W. Simpson, ChB, Dmed;
Christopher M. Robinson, MD

2:24 PM -
2:30 PM

PAPER 126 Multicenter, Prospective, Observational Trial of Non-Operative versus Operative Treatment for High-Energy Midshaft Clavicle Fractures

Kyle J. Jeray, MD; Brian Mullis, MD;
Joshua Everhart, MD, MPH;
John S. Broderick, MD;
Stephanie L. Tanner MS;
Southeastern Fracture Consortium

2:30 PM Discussion

Saturday, October 23, continued

2:35 PM - **PAPER 127**
2:41 PM **Not All Proximal Humerus Fractures Do Well Without Surgery: Anterior Translation Predicts the Need for Surgery**
Amir Shahien, MD; Paul Tornetta III, MD; Brian Mullis, MD; Elive F. Likine, MD; Gillian Soles, MD; Steven Samborski, MD; Clay A. Spitler, MD; Siddhant K. Mehta, MD, PhD; Scott P. Ryan, MD; Taryn E. Leroy, MD

2:41 PM - **PAPER 128**
2:47 PM **Long-Term Outcomes of Secondary Implant Removal and Arthrolysis in Patients with a Painful Stiff Shoulder After Open Reduction and Locking Plate Fixation for a Proximal Humeral Fracture**
Navnit S. Makaram, MBChB, MRCS; Christopher M. Robinson, MD

2:47 PM - **PAPER 129**
2:53 PM **No Change in Outcome between One and Five Years after Repair of Displaced Proximal Humerus Fracture**
Sanjit R. Konda, MD; Rachel Ranson, MS; Connor P. Littlefield, BA; Rachel Roller; Kenneth A. Egol, MD

2:53 PM Discussion

2:58 PM - **PAPER 130**
3:04 PM **Surgical Treatment of Dorsally Displaced Distal Radius Fractures with a Volar Locking Plate versus Conventional Percutaneous Methods: Minimum Ten-Year Follow-Up of a Randomised Controlled Trial**
Sandeep R. Deshmukh, MBChB; Ben Marson; Reuben Ogollah PhD; Tim Davis; Alexia Karantana, PhD

3:04 PM - **PAPER 131**
3:10 PM **Delayed Fixation of Distal Radius Fractures Past Three Weeks After Initial Failed Closed Reduction Increases the Odds of Reoperation**
Lauren Nowak, PhD, MSc; Melanie Macnevin; Joel-Amir Moktar, MD; Emil H. Schemitsch, MD

3:10 PM - **PAPER 132**
3:16 PM **The Trajectory of Long-Term Recovery Following ORIF for Distal Radius Fractures**
Gabriel Larose, MD; Henry M. Broekhuysen, MD; Pierre Guy, MD; Peter J. O'Brien, MD; Darren Roffey, PhD; Kelly Ann Lefavre, MD, MS

3:16 PM Discussion

3:21 PM - **PAPER 133**
3:27 PM **ORIF of Multifragmentary Fractures of the Radial Head Does Not Lead to Worse Outcomes Compared to Arthroplasty**
Phillip McKegg, MS; Genaro Deleon, MS; Nathan N. O'Hara, MHA; Qasim Ghulam, MS; Zachary D. Hannan, BS; Robert V. O'Toole, MD; Christopher Langhammer, MD; Lucas S. Marchand, MD; Gerard Slobogean, MD, MPH; Raymond A. Pensy, MD; W. Andrew Eglseder, MD

3:27 PM - **PAPER 134**
3:33 PM **Percutaneous Fixation of Acute Scaphoid Waist Fractures: Long-term Patient-reported Functional Outcomes and Satisfaction at a Mean of 11 Years Following Surgery**
Paul Stirling BSc(Hons), MBChB (Hons); Ryan D. Broll; Samuel Molyneux, MSc; Christopher W. Oliver, MD, MBBS; Margaret M. McQueen, MD; **Andrew D. Duckworth, MBChB, MSc, PhD**

3:33 PM - Discussion

3:39 PM Adjourn



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Mission Statement

The mission of the Orthopaedic Trauma Association (OTA) is to promote excellence in care for the injured patient, through provision of scientific forums and support of musculoskeletal research and education of Orthopaedic Surgeons and the public.

Vision Statement

The OTA will be the authoritative source for the optimum treatment and prevention of musculoskeletal injury, will effectively communicate this information to the orthopaedic and medical community and will seek to influence health care policy that affect care and prevention of injury.

Value Statement

The OTA is adaptable, forward thinking and fiscally responsible and is composed of a diverse worldwide membership who provide care and improve the knowledge base for the treatment of injured patients. OTA members provide worldwide leadership through education, research and patient advocacy.

Accreditation and CME Credit



The Orthopaedic Trauma Association is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

The Orthopaedic Trauma Association designates this live activity for a maximum of 20.5 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

CME Mission Statement

The mission of the Orthopaedic Trauma Association is to promote excellence in care for the injured patient, through provision of scientific forums and support of musculoskeletal research and education of orthopaedic surgeons and the public. We will plan, manage and evaluate evidence-based educational activities that enhance participant competence, performance and patient outcomes employing needs assessment data and identified professional education gaps. CME activities will consist of carefully planned programs based on adult learning principles, including live CME activities and enduring materials. It is expected that participants in these CME activities integrate what they learn into their practice to improve their competence and performance in areas of patient care, patient safety and professional practice. techniques and/or presenting research offered at three convenient times.

Disclaimer

The material presented at the 37th Annual Meeting has been made available by the *Orthopaedic Trauma Association* for educational purposes only. The material is not intended to represent the only, nor necessarily best, method or procedure appropriate for the medical situations discussed, but rather is intended to present an approach, view, statement or opinion of the faculty which may be helpful to others who face similar situations.

OTA disclaims any and all liability for injury or other damages resulting to any individual attending this event and for all claims which may arise out of the use of the techniques demonstrated therein by such individuals, whether these claims shall be asserted by physician or any other person.



Philosophy

In order to promote transparency and confidence in the educational programs and in the decisions of the Orthopaedic Trauma Association (hereinafter referred to as "OTA"), the OTA Board of Directors has adopted this mandatory disclosure policy.

The actions and expressions of OTA Members and Others providing education of the highest quality or in shaping OTA policy must be as free of outside influence as possible, and any relevant potentially conflicting interests or commercial relationships must be disclosed. Because the OTA depends upon voluntary service by Members to conduct its educational programs and achieve its organizational goals, this disclosure policy has been designed to be realistic and workable.

The OTA does not view the existence of these interests or relationships as necessarily implying bias or decreasing the value of your participation in the OTA.

FDA Statement

All drugs and medical devices used in the United States are administered in accordance with the Food and Drug Administration (FDA) Regulations. These regulations vary depending on the risks associated with the drug or medical device, the similarity of the drug or medical device to products already on the market, and the quality and scope of clinical data available.

Some drugs or medical devices described or demonstrated in OTA educational materials or programs have not been cleared by the FDA or have been cleared by the FDA for specific uses only. The FDA has stated that it is the responsibility of the physician to determine the FDA clearance status of each drug or device s/he wishes to use in clinical practice.

App

Watch your email for release of the OTA Annual Meeting app.



Special Events

sponsored by **SurgeonMasters**

Tai Chi Class

Wednesday, October 20
5:00 PM - 6:00 PM

Vinyasa Yoga Class

Friday, October 22
6:00 PM - 7:00 PM

Meditation Class

Wednesday - Friday, October 20 - 22
7:00 AM - 7:30 AM

Wellness Room

Wednesday - Friday, October 20 - 22
7:30 AM - 4:00 PM

The wellness room will serve as a quiet room during the meeting. We request that this space be a technology-free quiet zone. Attendees can use this space to briefly disconnect.

Tour de Bone Bike Event

The official 2021 Tour de Bone has been postponed due to low bike inventory. We look forward to 2022.



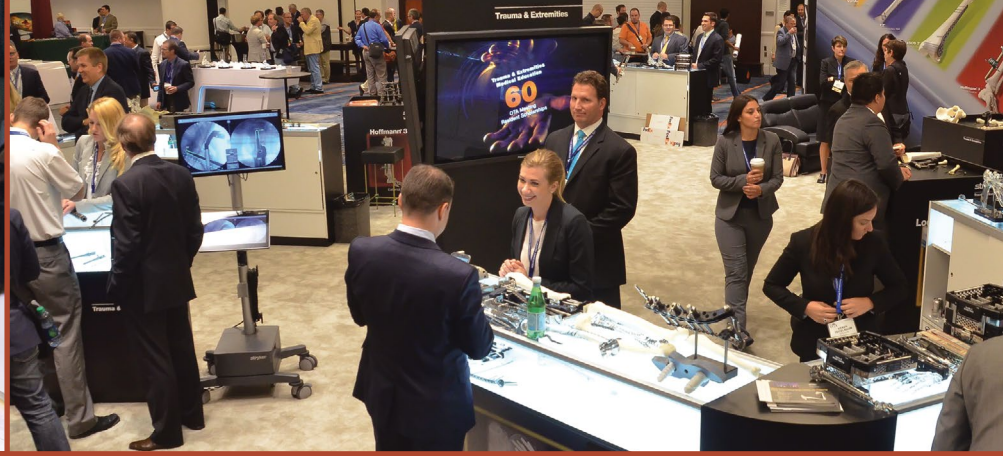


Exhibit Hall Hours

Thursday, October 21

2:30 PM - 5:00 PM

5:15 PM - 6:15 PM – Exhibitors’ Reception

Friday, October 22

9:00 AM - 5:00 PM

Saturday, October 23

9:00 AM - 12:45 PM

Industry Session Opportunities Offered

Wednesday, October 20

6:30 PM - 8:00 PM

Thursday, October 21

11:15 AM - 12:45 PM

Friday, October 22

6:30 PM - 8:00 PM

Visit the [OTA website](#) for a complete listing of Industry Sessions.





Announcing the Release of the New OTA Core Curriculum Lectures!

New OTA Core Curriculum Lectures!

- Over 100 Lectures from OTA Faculty
- All Revised Content from Previous Versions
- Great Educational Resource!
- Project Directors:
Lisa K. Cannada, MD
Kyle J. Jeray, MD
Samir Mehta, MD



Visit ota.org/education/core-curriculum-lectures@ota.org



Resident Comprehensive Fracture Course

Wednesday-Friday

October 20 - 22, 2021

Omni Hotel • Fort Worth, Texas

Register Today @ ota.org



Program Chairs
Seth R. Yarboro, MD



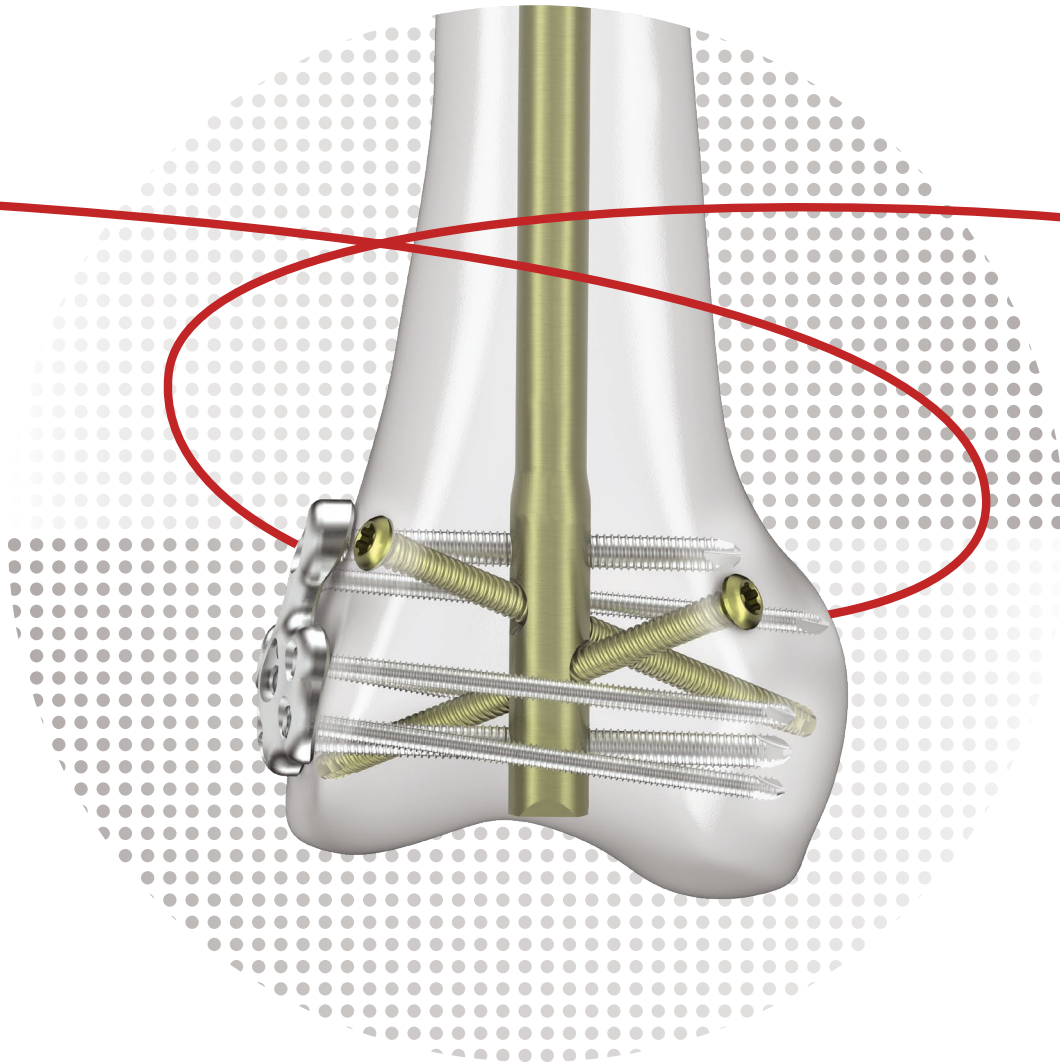
Holly Pilson, MD



#OTA2021

JOIN OUR INDUSTRY SESSIONS

Thursday, October 21, 2021 | 11:15 am – 12:45 pm



Expanding Fixation Options for Periprosthetic Fractures

Location: 121C



Improving Stability in Femur and Tibia Fractures with the Advanced Nailing System

Location: 121D



Enhancing Plate-to-Bone Conformity by Mapping Clavicle Morphology and Its Relation to Patient Height

Location: 121E

