

LIMB TRAUMA

On-Demand Education

EXTREMITY TRAUMA AND AMPUTATION CENTER OF EXCELLENCE
EACE



VOLUME

1

January 2024

January 2024



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A Letter from the Director

Colleagues,

Thank you for your interest in limb trauma continuing education. In response to the evolving landscape of education and the dynamic needs of the learners we serve, we have compiled a training and education catalogue that identifies and offers 9 years of training activities as on-demand education, sponsored by the Extremity Trauma and Amputation Center of Excellence. Our intent is to sustain and advance clinical skills in the management of severe limb trauma and amputation. The speakers and presenters reflected in this catalogue represent international thought leaders along with professionals who have worked to advance science and clinical knowledge while optimizing patient outcomes. In our journey to fully restore normal human function for our Service members, it is our duty to continue to push the boundaries of current knowledge and competence.

I encourage you to explore our available online educational offerings. Should you have any questions or require additional information, please reach out to Dr. Laurie Lutz (Chief; Knowledge Management) at:
dha.ncr.dha-re-activity.mbx.eace-clinical-affairs@health.mil.

John Shero
Director, Extremity Trauma and Amputation Center of Excellence
Research and Engineering
Defense Health Agency

Extremity Trauma and Amputation Center of Excellence

The Extremity Trauma and Amputation Center of Excellence (EACE) leads the advancement of extremity trauma related discovery and clinical practice to optimize outcomes of Service members, retirees and beneficiaries while meeting the needs of the Combatant Commands and the Military Health System. The EACE is committed to ensuring a better future for those with extremity trauma. Established by the 2009 National Defense Authorization Act, the EACE is established jointly between the Department of Defense and the Department of Veterans Affairs.

The EACE was originally established to operate with the U.S. Army as its lead component. In 2022, the EACE aligned to the Defense Health Agency in the Research & Engineering Directorate with other congressionally established Centers of Excellence.

www.health.mil/EACE

January 2024

Accessing the Training

To access any of the instructional modules in this catalogue, please email us at:

dha.ncr.dha-re-activity.mbx.eace-clinical-
affairs@health.mil

Federal Advanced Skills Training



The Federal Advanced Skills Training
Federal Advanced Skills Training (FAST) evolved from specific amputation skills training (Federal Advanced Amputation Skills Training [FAAST], 2014-2022) to highlighting limb trauma (Federal Advanced Skills Training-Limb Trauma (FAST-LT), 2023). This training is a three-day event presented by subject matter experts focused on varying topics related to amputation and limb trauma. Traditionally, morning podium presentations are reinforced by hands-on skills training in the afternoons.

How to Obtain CE/ CEU Credit for 2021 FFAST and 2023 FAST-LT

1 DEC 2023 - 1 DEC 2024

To receive CE/CME credit or receive a certificate of attendance for fiscal year 2024, you must register by December 1, 2024 on the DHA Continuing Education Program Office (CEPO) at <https://www.dhaj7-cepo.com>. You must complete CEPO's post-test and before your certificate will be made available. The post-test and evaluation will be available through December 1, 2024, at 2359 ET.

For orthotist and prosthetist CEUs, contact us at: dha.ncr.dha-re-activity.mbx.eace-clinical-affairs@health.mil

Please complete the following steps to obtain CE/CME credit:

1. Go to URL: <https://www.dhaj7-cepo.com/>
2. If you have previously used the CEPO content management system (CMS), select login.
 - a. Search for your course using the Catalog, Calendar, or Find a course search tool. (For example, "Federal Advanced" to find FAST-LT)
 - b. Select the REGISTER/TAKE COURSE tab.
 - c. PASSCODE (if required): **FASTLTHS2024** for 2023
3. If you have not previously used the CEPO CMS click REGISTER to create a new account. Once you create your account follow steps 2a-c.
4. Follow the on screen prompts to complete the post-activity assessments.
 - a. Read the Accreditation Statement
 - b. Complete the Evaluation
 - c. Take the Post-test
 - i. After completing the post-test at 80% or above, your certificate will be available for print or download.
 - ii. You can return to the site at any time in the future to print your certificate and transcripts at: <https://www.dhaj7-cepo.com/>
 - iii. If you require further support, please contact us at: dha.ncr.j7.mbx.cepo-cms-support@health.mil

2014 Federal Advanced Amputation Skills Training

Prosthetic Gait Training in Individuals with Lower Extremity Amputation: An Application of Evidence Based Practice Principles	Chris Rábago, PT, PhD Jason Wilken, MPT, PhD
Adaptive Sports: Rehabilitation Beyond the Brick and Mortar	Leif Nelson, DPT, ATP, CSCS
The Use of Objective Outcomes Assessment in Clinical Practice	Jill Hazelton, OTD, OTR, CHT Chris Rábago, PT, PhD Jason Wilken, MPT, PhD
Management Considerations in Limb Salvage and Delayed Amputation, Panel Discussion	CPT (P) Bradley Ritland, PT, DPT, OCS LTC Benjamin Potter, MD Jay Pyo, DO Harold Wain, PhD Joe Webster, MD (Moderator)
Rehabilitation of Multiple-Limb Combat Amputees: Injuries and Functional Outcomes for a Small Case Series	Ted Melcer, PhD Jay Pyo, DO Jay Walker, BA Kimberly Quinn, RN, MSN Kameran Neises, BA Martin Lebedda, RN Michael Galarneau, MS, NREMT
Comprehensive Rehabilitation: Management of the Servicemember with Multiple Limb Amputations	CPT(P) Bradley Ritland, PT, DPT, OCS
Comprehensive Rehabilitation: Management of the Servicemember with Multiple Limb Amputations	Josef Butkus, MS OTR/L
Comprehensive Rehabilitation: Management of the Servicemember with Multiple Limb Amputations	Louise Hassinger, CP
Comprehensive Rehabilitation: Management of the Servicemember with Multiple Limb Amputations	LCDR (SEL) Christina LaCroix, MD
Psychologically Healthy Amputees	LT Sam Harris NC, USN, PMHNP- BC
IMES & Heterotopic Ossification	LTC B. Kyle Potter, MD
The Effects of Advanced Technology and Prosthetic Alignment on Transfemoral Gait	LCDR John "Pooch" Pucillo Eve Sepulveda, CP, BOCO Louise Hassinger, CP
Task-Specific Fall Prevention Program for Service members with Traumatic Unilateral Transtibial Amputations	Brittney Mazzone Katherine Sharp Trevor Kingsbury Kenton Kaufman Marilynn Wyatt

2015 Federal Advanced Amputation Skills Training

Independent Living with Assistive Technology	John Coltellaro, MS, ATP Mark Schmeler, PhD, OTR/L, ATP Kendra Betz, MSPT, ATP
Wheelchair Considerations Amputation & Limb Compromise	Kendra Betz, MSPT, ATP
Depression and Suicide in Amputees	Muhammad Rais Baig, MD
EACE Epidemiology Trends	LTC Owen Hill, Mary Clouser, PhD Susan Eskridge PT, PhD
Intimacy After Injury	Catherine Vriend, PhD
Peri-operative Prosthetic Options	Martin McDowell, L/CPO, FAAOP
Psychology of Performance for Rehabilitation	Ben Keizer, PhD
Back Pain in Lower Limb Amputees	David Morgenroth, MD
Nutrition For Metabolic Disorders	Bridget Owen, MS, RD, CNSC CPT, SP
Evidence Based Treatment for Lower Extremity OA	Dan Rhon, PT, DPT, DSc, OCS, FAAOMPT
Acute Postoperative Amputation Care	Eve Sepulveda, CP, BOCO Jason Highsmith, DPT, PhD, CP, FAAOP Martin McDowell, L/CPO, FAAOP
Post-Operative Management Following Transtibial Amputation Part of Systematic Review of High-Quality Literature from 1997 to 2012	M. Jason Highsmith, PhD, DPT, CP, FAAOP
Recovery Nutrition	Trisha B. Stavinoha, MS, RD, CSSD, CSCS
Review of Prosthetic Componentry	M. Jason Highsmith, PhD, DPT, CP, FAAOP
Update on Outcome Measures Research	Jason M. Wilken, PhD, MPT
Use of Ultrasound in Rehabilitation	Doug Murphy, MD
Return to Run Clinical Pathway	Johnny Owens, PT, MPT



2017 Federal Advanced Amputation Skills Training

Optimizing Life-long Outcomes and Managing Complications of Extremity Trauma and Amputation

Dynamic Response AFO: Prescription, Rehabilitation and Management	M. Jason Highsmith, DPT, PhD, CP, FAAOP Gail A. Latlief, DO, FAAPMR Michael Kartel, CO/BOCP Anita Ramrattan, MSPT
Prevention of Re-amputation and Contralateral Amputation in Patients with Diabetes: Improving your Skill in Interpretation of Diagnostic Tests for Diabetic Foot Osteomyelitis.	Rebecca A. Speckman, MD, PhD
Lower Extremity Prosthetic Componentry	William Lovegreen, CPO Charles McIntyre, CPO
Respiration: Cornerstone to Coordination & Activation of Abdominal Muscles	Michael J. Podlenski, PTA, ATC
Living with Extremity Trauma and Limb Loss for a Lifetime: A Review of Efforts to Identify and Mitigate Risk Factors for Secondary Health Complications	Christopher L. Dearth, PhD Susan L. Eskridge, PT, PhD Shawn Farrokhi, PT, PhD Brad D. Hendershot, PhD Elizabeth M. Russell Esposito, PhD
Lower Extremity Prosthetic Socket Design	William Lovegreen, CPO Charles McIntyre, CPO
What is acceptable? Gait Observation, Optimization, and Outcomes in Individuals with Lower Extremity Amputation	Christopher A. Rábago, PT, PhD Elizabeth Russell Esposito, PhD Marie Black, PT, MSPT
Agility Clinic: Rehabilitation Program for Optimizing Function after Amputation	Tom Fields, PT, DPT Spring Wright, PT, DPT
Inpatient Rehabilitation: First Stop on the Road to Recovery	Lauretta A Walker, PT, MPT
Non-Pharmacologic Pain Management in Amputees	Douglas Murphy, MD Preeti Panchang, MD
Prevention of Contralateral Limb Loss in the Dysvascular Amputee	Mary E. Matsumoto, MD Jeffrey T. Heckman, DO G. Eli Kaufman, CP
Recreational Therapy & Adaptive Sports Program at WRNMMC "Process of Participation"	Karen R. Noel, CTRS Cara A. Navarro, CTRS Harvey G. Naranjo, COTA/L
Veterans' Care in Both the Veterans Health Administration and the Military Health System: Process for Referrals Between Veterans Health and Military Health Systems	Dixie Johnson, MSN, RN BJ Randolph, PT, PhD Andrea Crunkhorn, PT, DPT

Prosthetic Considerations	David Beachler, CP
Osseointegration Program	Jonathan A. Forsberg, MD, PhD Benjamin Kyle Potter, MD, FACS
VA/DoD Clinical Practice Guideline Rehabilitation of Individuals with Lower Limb Amputation	M. Jason Highsmith, PT, DPT, PhD, CP, FAAOP Joseph Webster, MD
Quality of Life and Mental Health in Service Members with Deployment-Related Amputations	Jessica R. Watrous, PhD Cameron T. McCabe, PhD Susan I. Woodruff, PhD Michael R. Galarneau, MS



2019 Federal Advanced Amputation Skills Training

Best practices in bridging acute to delayed orthopedic and soft tissue trauma of the lower and upper extremity and advancements in the care of individuals with amputation.

Tissue “Copying”	R. Rox Anderson, MD, FAAD
Reprogramming Stump Skin Identity to Enhance Prosthetic Use	Luis Garza, MD, PhD
Optimizing the Timing of Delayed Extremity Reconstruction after Trauma	Angela Cheng, MD
Skeletal Reconstruction Challenges in Trauma	CDR Kevin Kuhn, MC, USN
Preclinical Evaluation of Novel Antimicrobial Agents to Counter Multi-drug Resistant Infections	LCDR Mark Simons, PhD, D(ABMM), MScPH
Treatment of Complex Contractures at Joint Sites	Jill Waibel, MD
Regenerative Peripheral Nerve Interfaces for Post Amputation Pain	Paul Cederna, MD
Osseointegration Amputation Surgery - State of the Art	CAPT Jonathan Forsberg, MC, USN
Prosthetic Devices in the Digital Age	Shriya Srinivasan
The Evolution of Rehabilitation Protocols with New Prosthetic Advances	Paul Pasquina, MD
Acceptable Shortcomings Post Amputations: Setting Expectations for Patients	Allison Symsack, PT, DPT
The Role of Limb Transplantation for Amputees	Jaimie Shores, MD
Pain Treatment Modalities in the Post Opioid Crisis Era	Steve Hanling, MD
The Psychology and Impact on ADLs of an Amputee vs a Patient with a Successful Limb Salvage	Jessica Watrous, PhD Cameron McCabe, PhD Gretchen Jones Alexandra Spruth Michael Galarneau
Physical Therapy Challenges in Rehab for Patients with Sub-optimal Amputation Surgeries	Jacque Moore, PT, MPT, DSc, OCS
Resources Available to Active-Duty Members and Veterans: VA Benefits	Beth M. Juachon

Additive Manufacturing and IoT for Home Automation: Applications in Assistive Technology	Garrett Grindle, PhD
Adaptive Sports and the Role in Lower Extremity Rehab	Leif Nelson, PT, DPT



2021 Federal Advanced Amputation Skills Training

Outcome Measure Standardization

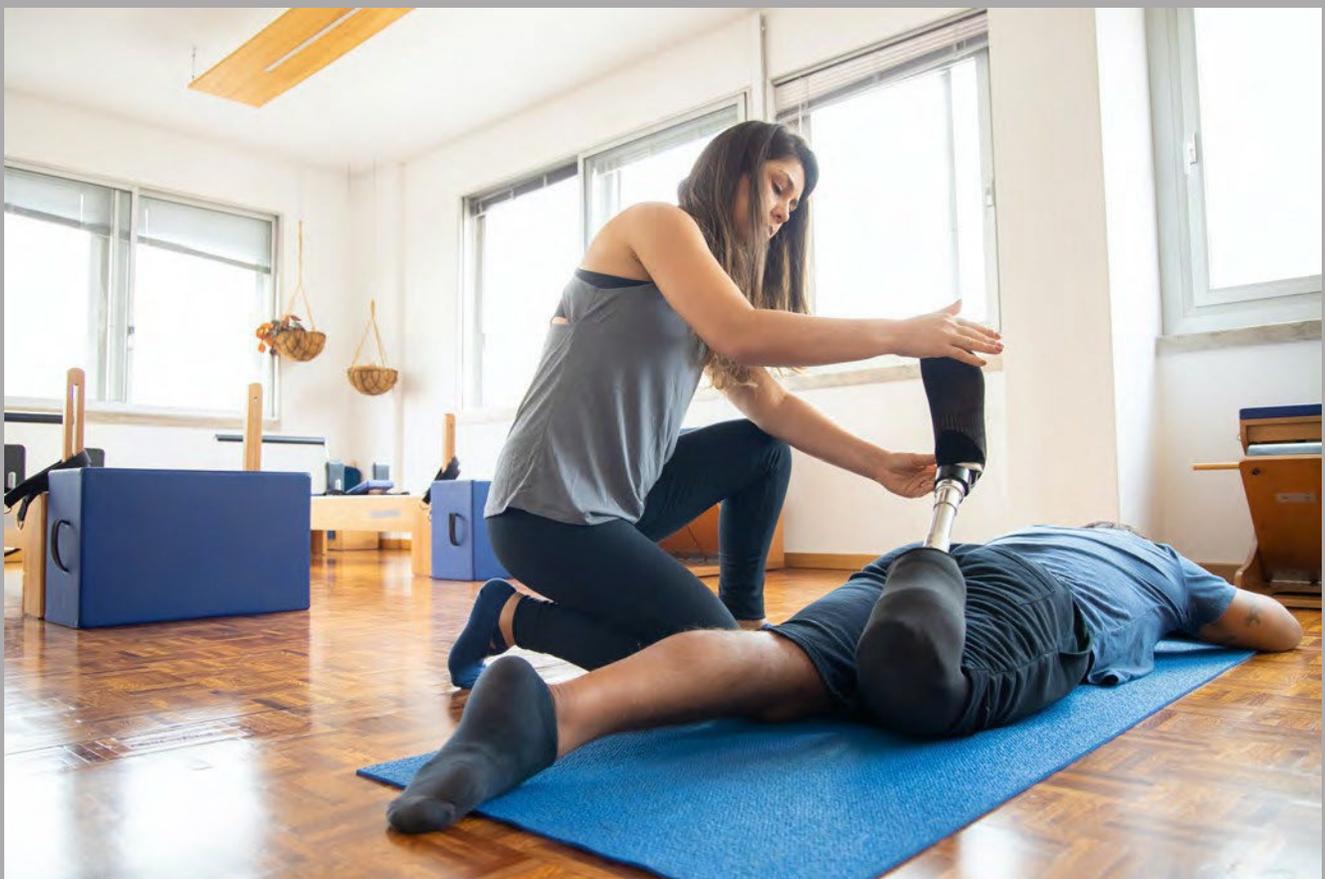
The Fundamentals of Outcomes Measurement in Amputation Rehabilitation	Brian Hafner, PhD presented by Sheila Clemens, PT, DPT, PhD
Orthotics and Prosthetics Users' Survey Upper Extremity Function	Annemarie Orr, OTD, OTR/L
Prosthesis Evaluation Questionnaire Mobility Scale 12/5	Brigid Munyoki, MD
Patient Specific Functional Scale	Stuart Campbell, PT, MPT
Patient-Reported Outcomes Measurement Information System® 29	Stuart Campbell, PT, MPT
Prosthetic Limb Users Survey of Mobility™ (PLUS-M)	Andrea Crunkhorn, PT, DPT
Quick Disabilities of the Arm, Shoulder and Hand	Teresa Brininger, PhD, MBA, OT/L
Trinity Amputation and Prosthesis Experience Scales-Revised (TAPES-R)	Jason Highsmith, PhD, DPT, CP, FAAOP
Four Square Step Test (FSST)	Barb Springer, PT, PhD
Two Minute Walk Test and Six Minute Walk Test (2MWT/6MWT)	Allison Symsack, PT, DPT
Component Timed Up and Go (cTUG)	Sheila Clemens, PT, DPT, PhD
Box and Block Test (BBT)	Joe Butkus, MS, OTR/L
Amputee Mobility Predictor with Prosthesis and without Prosthesis (AMPPRO, AMPnoPRO)	Dr. Ignacio Gaunaurd, PT, PhD, MSPT
Comprehensive High-Level Activity Mobility Predictor (CHAMP)	Dr. Ignacio Gaunaurd, PT, PhD, MSPT
Jebsen Taylor Hand Function Test (JTHFT)	Michelle Nordstrom, MS, OTR/L
University of New Brunswick Test of Prosthetic Function (UNB)	Mr. Joe Butkus, MS, OTR/L

2023 Federal Advanced Skills Training – Limb Trauma (FAST-LT)

Limb Trauma: Preservation to Optimization

War Surgery: From Aleppo to Kyiv	Samer Attar, MD
Vascular Surgery: Terrible Cases	COL Brandon Propper, MC, USAF
Vascular Imaging Basics	COL Brandon Propper, MC, USAF
Fundamentals of Angiography	CAPT Brian Knipp, MC, USN
REBOA for Limb Salvage	LTC Jonathan Sexton, MC, USA
Vascular Anastomosis Basics	COL Brandon Propper, MC, USAF
Vascular Exposures Made Simple	Rebecca Marmor, MD
Emergency Shunting of the Extremities	LTC Wayne Causey, MC, USA
Fundamentals of Hemorrhage Control	CAPT Brian Knipp, MC, USN
Conduits in Vascular Trauma	LTC Wayne Causey, MC, USA
Resuscitative Thoracotomy for Ortho	LTC Jonathan Sexton, MC, USA
Evidence-Based Clinical Practice Guideline for Limb Salvage or Early Amputation	Jason Wilken, DPT, PhD
Keynote Speaker	SEN Bob Kerrey
Opening Nightmare Cases	CAPT Ian Valerio, MC, USN
General Principles of Reconstruction/ Reconstructive Ladder/ "Bridge" Preservation Cases	MAJ Ean Saberski, MC, USA
Basic Flaps and Tissue Advancements	CAPT Eamon O'Reilly, MC, USN
Advanced Local Flaps & Invisible Injuries	Jason Souza, MD
Skin Grafts	CAPT Ian Valerio, MC, USN

Advanced Concepts in Negative Pressure Wound Therapy	MAJ Ean Saberski, MC, USA
Nightmare Cases	COL Joseph Alderete, MC, USA
Opening Nightmare Cases	COL Kyle Potter, MC, USA
When Not to Ex-Fix- Splinting and Traction	LCDR Christopher Renninger, MC, USN
Ex-Fix for Non-Orthopods	CDR Bradley Deafenbaugh, MC, USN
ACS and Fasciotomies	LTC Daniel Stinner, MC, USA
Tendon Repair	MAJ Ean Saberski, MC, USA
Pelvic Packing and Fracture Management	COL Joseph Alderete, MC, USA
Dislocations (and Ortho Sports Injuries) for Dummies	LCDR Kirk Hippensteel, MC, USN
Hand Injuries and Pinning	CDR Scott Tintle, MC, USN
Amputations When You Have To: Why and How?	COL Kyle Potter, MC, USA



LIMB TRAUMA EDUCATIONAL SERIES



In April 2022, Amputation Care ECHO became the Limb Trauma Educational Series. As we pivot to offer more clinically-relevant education on limb trauma, the name of the monthly series needed to change to encompass all aspects of the material covered.

The Limb Trauma Educational Series is an educational platform for information-sharing from experts to the interdisciplinary team that treats patients with extremity trauma. Monthly sessions are aimed to bring new material, case studies, and best practices into the clinical setting in order to provide exceptional care to the limb trauma and limb loss population. The Limb Trauma Educational Series strives to improve outcomes by reducing variations in processes of care and sharing of best practices and expertise.

2019 Extension for Community Healthcare Outcomes- Extremity Trauma and Amputation Center of Excellence (ECHO)

High Level Lower Extremity Amputation – Hip Articulation and Transpelvic	Carol Miller, PT, PhD, GCS Bethany Nelson, PT, DPT Claudio Azzariti, MBA, CPA
Introducing the TASKA Multi-Articulating Hand	Nathan Sprunger
Peer Support Connections that Matter	Tonya Osborne-Simpson
Intense Noise Exposure and Peripheral Vestibular Injury: An Updated Perspective on Fall Risk	Courtney E. Stewart, PhD
Gait Analysis for Patients with Severe Lower Limb Injuries	Elizabeth Russell-Esposito, PhD
The Espire Elbow and Electronic Axis: Upper Limb Innovations from College Park	Jonathan Cook, CPO
Amputation Recovery and Beyond with the Amputee Coalition	Jack Richmond, CEO Amputee Coalition
Blood Flow Restriction Rehabilitation for the Amputee	Johnny Owens, PT, MPT



2020 Extension for Community Healthcare Outcomes- Extremity Trauma and Amputation Center of Excellence (ECHO)

Prosthetic Options for People with Partial Hand Amputation and the Evolving Role of Additive Manufacturing	Levin Sliker, PhD Richard Weir, PhD
Ethics in Amputation	Edmund Howe, MD, JD
Blood Flow Restriction	Chris Deck, PT, MA, MBA
Intuitive Clinician Control Interface for a Powered Knee-Ankle Prosthesis	Robert D. Gregg IV, PhD
Combat-Related Heterotopic Ossification (HO)	COL Benjamin Kyle Potter, MD, FACS
Functional Benefits of Kinematically Coupled Knee and Ankle in an MPK	Craig Armstrong
Dry Needling Applications for Neuromuscular Dysfunction	MAJ Leigh Anne Lechanski, PT, DPT CPT Meghan Matthews, PT, DPT
Holistic Rehabilitation: Enhancing Readiness, Cultivating Wellness	COL Vanessa Meyer, OTR/L



2021 Extension for Community Healthcare Outcomes- Extremity Trauma and Amputation Center of Excellence (ECHO)

The Development and Validation of the Self-Management Assessment of the Residuum and Prosthesis (S.M.A.R.T.)	Daniel J. Lee, PT, DPT, PhD, COMT
Pelvic Health Physical Therapy: Considerations for the Polytrauma Population	Katherine Miles, PT, DPT
The Comprehensive Lower Limb Amputee Socket Survey (CLASS)	Ignacio Guarnaud, PT, PhD, MSPT
Nutrition for the Polytrauma Patient	CPT Nicolle Curtis, MS, RD, LD, CNSC
Outcome Measures	Andrea Crunkhorn, PT, DPT Stuart Campbell, PT, MSPT
iFIT Prosthetics	Joshua Mullins
Bone Anchored Prosthetics - An Introduction to the OPRA System	Kurt Collier, CP
Outcome Measures	Andrea Crunkhorn, PT, DPT Stuart Campbell, PT, MSPT
Energy Storing and Returning AFOs	Elizabeth Russell-Esposito, PhD
Clinical Reasoning & Documentation Templates for Prosthetics & Orthotics	Molly McCoy, CPO/L, PMP



2022 Limb Trauma Educational Series (LTES) (Changed from ECHO)

Home Modifications	Kathy Kirchner, OTR/L, ECHM, CAPS
Naked Prosthetics	Chelsea Welch, CO
Standardized Protocol Development and Case Studies	Lisa Prasso, PT, DPT Teresa Brininger, PhD, MBA, OT/L Dawn Golding, PT, DPT Marie Black, PT, MSPT
3-D Socket Printing – Quorum Prosthetics	Sean McClure
Lower Extremity Residual Limb Care: Challenges and Solutions	Kimberly A Bernato, CPO
Amputation Care Yearly Research Evidence Update	Sheila Clemens, PT, DPT, PhD Dr. Ben Darter, PT, PhD Ms. Chris Doerger, PT, CP Ignacio Guarnaud, PT, PhD, MSPT
Maximizing Function Through Occupational Therapy Based Adaptive Sports	Harvey G. Naranjo, COTA/L
Maximizing Function after Remote Extremity Trauma	Jason Souza, MD
Enhancing Skills for Life	Shawn Swanson Johnson, OTR/L
Bilateral Transfemoral Running	Alicia White, ATC, PT, DPT
Prevention, Mitigation and Assessment of Musculoskeletal Injuries	LTC Bradley Ritland, PT, PhD, DPT LTC Jason Judkins, PhD, DSc, OTR/L MAJ (P) Julianna Jayne, PhD, RD MAJ Vanessa Ramirez, PT, PhD, DPT

2023 Limb Trauma Educational Series (LTES)

Winter Sports & Recreation Prosthetic Options and Assistive Technologies	Chad Kincaid, CP, PT
A Solution Focused View: Orthopedic Trauma Treatment	Benjamin M. Keizer, PhD MAJ John Jones, PhD MAJ Andrea Krunnfusz, PhD
Biomechanics of a Patellofemoral-Unloading Knee Brace	Dave Johnson
OPUS-LL and OPUS Satisfaction with Device Scale	Linda Resnik, PT, PhD Allen W. Heinemann, PhD
Considerations for Women with Amputation	MAJ Megan Loftsgaarden, DO Elizabeth Russell-Esposito, PhD Andrea Crunkhorn, PT, DPT
Adaptive Sports, A Clinical Force Multiplier	Nico Marcolongo
Alpha Stim	Alan Young, DO
Driving Simulation and Clinical Application	Bridget Mathis, MOT, OTR
Incorporating VR for Limb Trauma: Research, Usage, and Treatment	Drew Stover





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