



OPTIMIZING THE OPERATIVE AND NON-OPERATIVE CARE  
OF THE PATIENT WITH CHEST WALL INJURY.

*Chest Wall Injury Summit*  
Park City, Utah  
Thursday, April 28 – Saturday, April 30, 2022

**Thursday, April 28, 2022 - Morning**

7:00 AM	Breakfast and Registration
7:30 AM	Welcome and Opening Remarks <i>Thomas W. White, MD, FACS</i>
7:45 AM (0.75)	Presidential Address <i>Adam J. Kaye, MD, MHA, FACS</i>
8:30 AM (0.25)	Physical Therapy Protocol Update <i>Ceri Battle, PhD; Christina M. Pelo, PA-C; Melissa J. Webb, B.Physio, M.Hlth Sci.</i>
8:45 AM (0.50)	Panel   Collaborative Society Guidelines <i>Moderator: Sebastian D. Schubl, MD, FACS</i> <ul style="list-style-type: none"> <li>• EAST/CWIS PMG – <i>Kaushik Mukherjee, MD</i></li> <li>• SIS/CWIS Guideline – <i>Joseph D. Forrester, MD, MSc, FAWM</i></li> </ul>
9:15 AM (0.25)	Regional Analgesia Options: Which is best for ribs? <i>Emily H. Garmon, MD, FASA</i>
9:30 AM (0.25)	Palliative SSRF <i>Don H. Van Boerum, MD, FACS</i>
9:45 AM	Break
10:00 AM (1.00)	Panel   Imperfect Outcomes <i>Moderator: Zachary M. Bauman, DO, MHA, FACOS, FACS</i> <ul style="list-style-type: none"> <li>• Why am I still hurting? <i>William DeVoe, MD, FACS</i></li> <li>• Pitfalls &amp; Danger Zones <i>Bradley W. Thomas, MD, FACS</i></li> <li>• Broken or Mal-positioned Hardware: Take it or leave it? <i>Paul M. Bjordahl, MD, FACS</i></li> </ul>
11:00 AM (0.25)	Clavicle Fracture: Is ORIF the gold standard? <i>Michael McKee, MD</i>
11:15 AM (0.25)	William B Long III Award Presentation and Recipient Remarks <i>TBA</i>
11:30 AM (0.50)	William B Long III Award Recipient Lecture <i>TBA</i>
12:00 PM	Working Lunch and CWISociety Business Meeting <i>Open to all members and prospective members</i>

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**Thursday, April 28, 2022 - Afternoon**

1:00 PM (1.00)	<p>Scientific Session #1 <i>Moderator: David S. Morris, MD, FACS</i> <i>Recorder: Nicole L. Werner, MD, MS, FACS</i></p>
	<p>Improved Chest Wall Trauma Taxonomy: An Interdisciplinary CWIS and ASER Collaboration <i>Presenter: Scott Steenburg, MD, FASER</i> <i>Discussant: Alexander Colonna, MD, FACS</i></p>
	<p>Incidence of Surgical Rib Fixation at International Chest Wall Injury Society Collaborative Centers and a Guide for Expected Number of Cases (CWIS-CC1) <i>Presenter: Evert A. Eriksson, MD, FACS, FCCM, FCCP</i> <i>Discussant: W. Matthew Vassy, MD, FACS</i></p>
	<p>International Assessment of Rib Fracture Fixation Guidelines <i>Presenter: Jordan Kirsch, DO</i> <i>Discussant: Shakira W Burton, MD</i></p>
	<p>Interobserver Agreement for the Chest Wall Injury Society Taxonomy of Rib Fractures Using CT Images <i>Presenter: Suzanne F.M. van Wijck, MD</i> <i>Discussant: Niloofar Dehghan, MD, FRCSC, FAAOS</i></p>
2:00 PM (0.75)	<p>Timing is Everything <i>Moderator: Cecilia Benz, MD</i></p> <ul style="list-style-type: none"> <li>• How Early is “Early”? How Late is “Late”? <i>Fredric M. Pieracci, MD, MPH, FACS; Diogo F.M.V. Garcia, MD, FACS</i></li> <li>• Priorities and Timing with a Concomitant Injury <i>Daniel Bonville, DO, FACS</i></li> <li>• Should Protocols Drive Time to OR? <i>Jordan Kirsch, DO</i></li> <li>• Panel Q&amp;A</li> </ul>
2:45 PM (0.25)	<p>Chest Wall Injury Prevention Strategies <i>Patrick Greiffenstein, MD, FACS</i></p>
3:00 PM	Break
3:15 PM (0.50)	<p>I Love You, I Hate You: The Taylor Swift Style Relationship Between Surgeons and Industry <i>SarahAnn S. Whitbeck, MBA, FACEHP, CHCP</i></p>
3:45 PM (0.25)	<p>Optimal Case/Peer Review <i>Ronald I. Gross, MD, FACS</i></p>
4:00 PM (0.50)	<p>Chest Wall Injury Surgery Credentialing: Is there a CWIS consensus? <i>Timothy H. Pohlman, MD, FACS</i></p>
4:30 PM (0.25)	<p>The Nuts &amp; Bolts Plates &amp; Screws of Setting up a Dedicated Chest Wall Injury Center <i>Evert A. Eriksson, MD, FACS, FCCM, FCCP</i></p>
4:45 PM (0.25)	<p>How Best to Train Intraoperative Team <i>Jeremy Hsu, BPharm, MBBS (Hons), DClinSurg, FRACS, FACS</i></p>
5:00 PM	Adjourn

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**Friday, April 29, 2022**

6:30 AM	Breakfast and Registration	
7:00 AM	Welcome	Welcome
7:15 AM (1.75)	Scientific Session #2a <i>Moderator: Scott Gardner, MMSc, PA-C</i> <i>Recorder: Nir Hus, MD, PhD, FACS</i>	Scientific Session #2b <i>Moderator: Joseph D. Forrester, MD, MSc, FAWM</i> <i>Recorder: Marko Bukur, MD, FACS</i>
	Educational assessment on rib plating: Learning curves of intrathoracic and extrathoracic SSRF for trainees <i>Presenter: Madelyn Frank, BA</i> <i>Discussant: Cecilia Benz, MD</i>	Chest Wall Injury and Reconstructive Centers: A Single Center Experience <i>Presenter: Jennifer Brewer, MD</i> <i>Discussant: Carrie A. Valdez, MD, FACS</i>
	Evolution of pulmonary contusions in patients with severe rib fractures: cause for concern? <i>Presenter: Suzanne F.M. van Wijck, MD</i> <i>Discussant: Jonathan Nguyen, MD</i>	DeepBackRib: Explainable Deep Neural Network To Predict Readmissions after Rib Fractures <i>Presenter: Jeff Choi, MD, MSc</i> <i>Discussant: Sarah D. Majercik, MD, MBA,            FACS</i>
	Impact of Sternal Fixation on Patient Outcomes: A Propensity Matched Review <i>Presenter: Sydney Todd, BS</i> <i>Discussant: Graciela Bauza, MD, FACS</i>	Health Disparities and Outcomes of Surgical Stabilization of Rib Fractures among Trauma Patients: Evaluation of the ACS TQIP PUF <i>Presenter: Haley Etskovitz, DO, MBS</i> <i>Discussant: Susan Kartiko, MD, PhD, FACS</i>
	Lucky Number Thirteen: Association Between Incidence of Chest Wall Stabilization per Hospital and Patient Outcome <i>Presenter: Anastasia Tillman, BA</i> <i>Discussant: Jason Miner MD, MAJ USAF</i>	National Demographic Disparities in Outcomes for Rib Fracture Patients <i>Presenter: Kaitlyn Petitpas, BS</i> <i>Discussant: Jose Ribas M. Campos, MD, PhD</i>
	Redefining the Costal Margin <i>Presenter: Mujahed Laswi, MD</i> <i>Discussant: Michel Wagner, MD, FACS</i>	Nitinol Ribfixation, A Minimal Invasive Alternative for Conventional Screw-Plate Fixation in All Types of Rib Fractures, Our Experience in the First 100 Cases <i>Presenter: Pieter Jan Van Huijstee, MD</i> <i>Discussant: Mathieu Rousseau, MD</i>
	Surgical Treatment of Rib Fractures: Are there any changes in the last 15 years? <i>Presenter: Stefan Schulz-Drost, MD, PhD,            FEBS</i> <i>Discussant: Gregory Semon, DO, FACS, FACOS</i>	Surgical Rib Fixation versus Non-operative Management in Trauma Patients with TBI, A National TQIP Retrospective Review <i>Presenter: James Williams, MD</i> <i>Discussant: Jeffrey Skubic, DO, MSc, FACS</i>
	Three-Dimensional Mapping of Sternum Fractures from High-Energy Trauma <i>Presenter: Michael LaRoque, BSME</i> <i>Discussant: Brian D. Kim, MD, FACS</i>	Surgical Treatment of Non-union Rib Fractures with Titanium Clips <i>Presenter: Pablo Moreno de la Santa, MD,            FRCS</i> <i>Discussant: Anthony Bacon, MD</i>



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9:00 AM	Break	
9:15 AM (1.75)	<p>Scientific Session #3a  <i>Moderator: Mathieu M.E. Wijffels, MD, PhD</i>  <i>Recorder: Peter A. Cole, MD, FAOA</i></p>	<p>Scientific Session #3b  <i>Moderator: John G. Edwards, PhD, FRCS</i>  <i>Recorder: Adam J. Kaye, MD, MHA, FACS</i></p>
	<p>Classification and Clinical Validation of Posterior Rib Fractures  <i>Presenter: Felix Schäfer, MD</i>  <i>Discussant: Marika Gassner, DO, FACS</i></p>	<p>Determining Complications From Rib Fractures and Need for Surgical Fixation of Rib Fractures (SSRF): Validation of Predictive Scores in an Australian Trauma Population  <i>Presenter: Kabytto Chen, MBBS (Hons)</i>  <i>Discussant: Michael Bemelman, MD</i></p>
	<p>Clinical Outcomes of Intrathoracic vs Extrathoracic Plating in Rib Fracture Fixation  <i>Presenter: Erika Tay, MD</i>  <i>Discussant: Lawrence Lottenberg, MD, FACS</i></p>	<p>A Method for Identifying the Learning Curve for the Surgical Stabilization of Rib Fractures  <i>Presenter: Christopher Janowak, MD, FACS</i>  <i>Discussant: Richard J. Miskimins, MD, FACS</i></p>
	<p>Costal Margin Reconstruction for Intercostal Hernias: A Case Series  <i>Presenter: Angelis Vazquez, MD</i>  <i>Discussant: Adam Hansen, MD</i></p>	<p>In- and Out-of-hospital Outcomes Following Surgical Stabilization of Rib Fractures in 80 Years and Older: A Single-institution Experience  <i>Presenter: Jaya Varre, MD</i>  <i>Discussant: Michael S. Truitt, MD, FACS</i></p>
	<p>Finite Element Analysis for Better Evaluation of Chest Wall Stability: A Pilot Study  <i>Presenter: Zachary M. Bauman, DO, MHA, FACOS, FACS</i>  <i>Discussant: Tareq S. Kheirbek, MD, ScM, FACS</i></p>	<p>Liposomal Bupivacaine Versus Catheter-based Blocks in Patients Undergoing Surgical Stabilization of Rib Fractures  <i>Presenter: Leeana Clevenger, MD</i>  <i>Discussant: Fredric M. Pieracci, MD, MPH, FACS</i></p>
	<p>Late Chest Wall Margin Disruption and Intercostal Hernia Presenting as Rib Nonunions, A Case Series  <i>Presenter: Ilexa Flagstad, MD</i>  <i>Discussant: Christopher W. Towe, MD</i></p>	<p>Retrospective Case Controlled Study of Cryoablation of the Intercostal Nerves during Surgical Stabilization of Rib Fractures  <i>Presenter: Alex Clem, MD</i>  <i>Discussant: Mark A. Kryskow, DO</i></p>
	<p>Non-trauma Provider Specialization is Associated with Higher Rates of Surgical Intervention for Rib Fractures  <i>Presenter: Avanti Badrinathan, MD</i>  <i>Discussant: Steven Briggs, MD, FACS</i></p>	<p>Rib Fixation in Patients with Severe Rib Fractures and Pulmonary Contusions: Is it safe?  <i>Presenter: Suzanne F.M. van Wijck, MD</i>  <i>Discussant: Christopher Kinnard, MD, FACS</i></p>
	<p>Rib Injury Burden (RIB) Survey: An International Survey of the Chest Wall Injury Society Member Practices in the Analgesia of Rib Fractures.  <i>Presenter: Gary Jain, MD</i>  <i>Discussant: Nicole Werner, MD, MS, FACS</i></p>	<p>Surgical Stabilization of Rib Fractures versus Nonoperative Treatment in Patients with Multiple Rib Fractures Following Cardiopulmonary Resuscitation: A Multicenter, Retrospective Matched Case-Control Study  <i>Presenter: Jonne T.H. Prins, MD</i>  <i>Discussant: Megan E. Bowen, MD</i></p>
11:00 AM	Adjourn	



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**Saturday, April 30, 2022**

6:30 AM (0.75)	Sunrise Session: Poster Walk-About and Presentations
7:00 AM	Breakfast & Registration
7:15 AM	Welcome <i>Zachary M. Bauman, DO, MHA, FACOS, FACS</i>
7:30 AM (0.75)	Donald Trunkey Keynote Address <i>Michael S. Truitt, MD, FACS</i> <i>Introduction by Adam J. Kaye, MD, MHA, FACS</i>
8:15 AM (1.25)	Scientific Session #4 <i>Moderator: Alicia Mangram, MD, FACS</i> <i>Recorder: Matthew B. Dull, MD, FACS</i>
	Biomechanical Characteristics and Anatomical Positioning of Rib Fracture Fixation Systems <i>Presenter: Jonne T.H. Prins, MD</i> <i>Discussant: Zachary D. Warriner, MD, FACS</i>
	Impact of Concurrent Spine Fractures on the Performance of and Outcomes After Surgical Stabilization of Rib Fractures <i>Presenter: Thomas J. Martin</i> <i>Discussant: David H. Livingston, MD, FACS</i>
	Surgical Stabilization of Rib Fractures in Patients with Competing Operative Pelvic Injuries: Earlier Repair of Rib Fractures is Feasible <i>Presenter: Husayn Ladhani, MD</i> <i>Discussant: David Ciesla, MD, FACS</i>
	The Evolution of a Rib Clinic During a Pandemic <i>Presenter: Amanda Waite, MSN, ACNP</i> <i>Discussant: Andrea Hufford, DO, FACS, FACOS</i>
	The Forequarter Lateral Implosion Injury and the Ch-Sh (CH <sub>ə</sub> -SH <sub>ā</sub> ) Classification System <i>Presenter: Thomas Zachary Paull, MD</i> <i>Discussant: L. Marco Hoesel, MD</i>
9:30 AM	Break
9:45 AM (0.25)	Biophysiology of Primary and Secondary Fracture Healing <i>Thomas C. Githens, DO</i>
10:00 AM (0.25)	Bone Health in the Aging Bone & Treatment of Osteoporosis <i>Austin Heare, MD, FAAOS</i>
10:15 AM (0.25)	Is there a Role for E-Stim or Ultrasound in Treatment of Fractures? <i>Raveesh Richard, MD</i>
10:30 AM (0.25)	Orthopedic Panel Discussion <i>Moderator: Peter A. Cole, MD, FAOA</i>
10:45 AM (0.25)	CWIS International Fellowships <i>Jonne T.H. Prins, MD; Suzanne F.M. van Wijck, MD</i>
11:00 AM (1.00)	CWIS Town Hall: Current and Future Issues? <i>Adam J. Kaye, MD, MHA, FACS; Andrew R. Doben, MD, FACS; Fredric Pieracci, MD, MPH, FACS; Thomas W. White, MD, FACS, CNSC; Zachary M. Bauman, DO, MHA, FACOS, FACS</i>



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12:00 PM	Lunch
1:00 PM (0.50)	CWIS – KLS Martin Resident Research Fellowship in Chest Wall Injury Outcomes Award <ul style="list-style-type: none"> <li>• 2021 Research Project Review: <i>Kaitlin Ritter, MD</i></li> <li>• 2022 Research Award Presentation: <i>Thomas Zachary Paull, MD</i></li> </ul>
1:30 PM (0.25)	Integrating Trainees into Rib Repair <i>Kyle Schmitt, MD</i>
1:45 PM (0.25)	CWIS Collaborative Centers <i>Andrew R. Doben, MD, FACS</i>
2:00 PM (0.25)	SSRF in 2051: Why wait for the future? <i>Patrick Greiffenstein, MD, FACS</i>
2:15 PM (0.25)	Cartilage: Fix or ignore? <i>Benjamin C. Taylor, MD</i>
2:30 PM (0.25)	Extrathoracic VATS <i>Joseph D. Forrester, MD, MSc, FAWM</i>
2:45 PM	Break
3:00 PM (0.25)	CIID Functionality <i>Andrew R. Doben, MD, FACS &amp; Jonathan Jesneck, PhD</i>
3:15 PM	Awards Presentation <i>CWISummit Program Committee</i>
3:30 PM	Presidential Transfer <i>Adam J. Kaye, MD, MHA, FACS &amp; Zachary M. Bauman, DO, MHA, FACOS, FACS</i>
3:45 PM	Closing Remarks <i>Thomas W. White, MD, FACS, CNSC</i>
4:00 PM	Adjourn