

CURRICULUM VITAE

Melvin D. Helgeson, MD, FAOA, FAAOS
Colonel, U.S. Army Medical Corps
Walter Reed National Military Medical Center
8901 Wisconsin Avenue
Bethesda, MD 20889

PERSONAL

Spouse: Gretchen Griffith Helgeson, J.D., M.B.T.
Children: Isabella Grace, August 22, 2002
Emma Elizabeth, August 22, 2002
Ellie Katherine, August 22, 2002
Tessa Brooke, July 23, 2004
Ava Lilly, November 15, 2006
Cole James, July 24, 2013
Sophia Claire, September 8, 2017

EDUCATION

BACHELOR OF SCIENCE – 2000: Chemistry/Life Sciences
Engineering Sequence/Minor: Nuclear Engineering
United States Military Academy, West Point, New York

DOCTOR OF MEDICINE – 2004
Medical College of Wisconsin, Milwaukee, Wisconsin

ACADEMIC APPOINTMENTS

PROFESSOR IN SURGERY – 2020 to present
F. Edward Hebert School of Medicine
Uniformed Services University of the Health Sciences, Bethesda, MD

ASSOCIATE PROFESSOR IN SURGERY – 2016 to 2020
F. Edward Hebert School of Medicine
Uniformed Services University of the Health Sciences, Bethesda, MD

ASSISTANT PROFESSOR IN SURGERY – 2011 to 2016
F. Edward Hebert School of Medicine
Uniformed Services University of the Health Sciences, Bethesda, MD

INSTRUCTOR IN ORTHOPAEDIC SURGERY
Clinical and Educational Scholarship Track – 2010 to 2011
Thomas Jefferson University, Philadelphia, PA

INSTRUCTOR IN SURGERY – 2004 to 2011
F. Edward Hebert School of Medicine
Uniformed Services University of the Health Sciences, Bethesda, MD

LICENSURE

State of Wisconsin, License #48584-020 (exp Oct 2023)
State of Virginia, License #0101251731 (exp Apr 2024)
New York, License #279775 (exp Apr 2025)
Commonwealth of Pennsylvania, License #MD440098 (exp Dec 2012)
New Jersey, License #25MA08973800 (exp Dec 2013)

FELLOWSHIP

Orthopaedic Spine Surgery, August 2010 – July 2011
Thomas Jefferson University, Philadelphia, PA

RESIDENCY

Orthopaedic Surgery, July 2005 – June 2010
Walter Reed Army Medical Center, Washington, D.C.

INTERNSHIP

Orthopaedic Surgery, July 2004 – June 2005
Walter Reed Army Medical Center, Washington, D.C.

POSITIONS

Director for Surgery
Walter Reed National Military Medical Center
Bethesda, MD, June 2021 – Present

Interim Chief of Staff
Walter Reed National Military Medical Center
Bethesda, MD, May-June 2022

Chair, Department of Orthopaedics
Walter Reed National Military Medical Center
Bethesda, MD, September 2018 – June 2021

Orthopaedic Surgeon
555th Forward Surgical Team
FOB Fenty, Jalalabad, Afghanistan, April 2018 – September 2018

Surgery Market Service Lead
National Capital Region
Bethesda, MD, September 2017 – June 2021

Deputy Chief, Department of Orthopaedics
Walter Reed National Military Medical Center
Bethesda, MD, December 2016 – September 2018

Chair, Orthopaedic Product Line
National Capital Region
Bethesda, MD, March 2016 – September 2017

Chief, Pediatric and Spine Surgery Service
Walter Reed National Military Medical Center
Bethesda, MD, April 2014 – January 2017

Consultant, White House Medical Unit
Washington, DC, October 2016 – Present

Spine Consultant to Orthopaedic Surgery Consultant
Office of the Surgeon General
Falls Church, VA, January 2014 – Present

Registered Volunteer, Division of Applied Mechanics
U.S. Food and Drug Administration
Silver Spring, MD, 2014 - 2020

Director, Intern/Medical Student Education, Orthopaedic Surgery
Walter Reed National Military Medical Center
Bethesda, MD, July 2012 – December 2016

Director of Orthopaedic Research
Walter Reed National Military Medical Center
Bethesda, MD, July 2013 – April 2014

Orthopaedic Surgeon
10th Combat Support Hospital
Camp Dwyer, Afghanistan, January 2012 – July 2012

Orthopaedic Spine Surgeon
Walter Reed National Military Medical Center
Bethesda, MD, August 2011 – Present

Spine Surgery Fellow
Thomas Jefferson University and the Rothman Institute
Philadelphia, PA, August 2010 – July 2011

Orthopaedic Surgery Resident
Walter Reed Army Medical Center
Washington, D.C., July 2005 – June 2010
Resident Liaison American Academy of Orthopaedic Surgeons
Public Affairs Officer, Integrated Department of Orthopaedics
and Rehabilitation

Orthopaedic Surgery Intern
Walter Reed Army Medical Center
Washington, D.C., July 2004 – June 2005

Student Research Fellowship
Preceptor: Raj Rao, M.D.
Orthopaedic Surgery, Medical College of Wisconsin
Milwaukee, WI, 2003

Graduate Student, Doctor of Medicine
Medical College of Wisconsin
Milwaukee, WI, August 2000 – May 2004
Walter P. Blount Award in Orthopaedic Surgery
Alpha Omega Alpha

Cadet, United States Military Academy
West Point, NY, July 1996 – May 2000
Superintendent's List Phi Kappa Phi
Dean's List Team Officer, Army Rugby
Commandant's List

**PROFESSIONAL
SOCIETIES**

Alpha Omega Alpha
American Academy of Orthopaedic Surgeons

North American Spine Society
Society of Military Orthopaedic Surgeons
Orthopaedic Trauma Association
Lumbar Spine Research Society
AO Spine
American Orthopaedic Association

**CERTIFICATION
AND TRAINING**

Basic Life Support – *2000-present*
Advanced Cardiac Life Support – *2004*
Advanced Trauma Life Support – *2005*
Collaborative IRB Training Initiative (CITI) Course – *2/21/2006*
AO Spine Principles and Treatment of Spinal Disorders – *2007*
Northwestern University Prosthetics and Orthotics Course – *2008*
USUHS Microvascular Course – *2008*
AO Basic Principles and Techniques of Operative Fracture Management
CITI Refresher Course – *2009, 2011, 2015, 2018*
Leadership Development for Physicians in Academic Health Centers,
Harvard T.H. Chan School of Public Health - *2021*

MILITARY EXPERIENCE

Education:

Officer Basic Course – *2008*
Captains' Career Course – *2011*
Intermediate Level Education – *2013*

Training:

Airborne School – *1998*
Master Fitness Trainer – *2000*
Combat Casualty Care Course – *2005*
Joint Medical Executive Skills Institute eMSM Course – *2017*
Naval Postgraduate School Center for Executive Education
SPEAR II - *2017*

Awards:

Bronze Star Medal
Defense Meritorious Service Medal
Meritorious Service Medal
Joint Service Commendation Medal
Army Commendation Medal
Joint Service Achievement Medal
Army Achievement Medal
Army Service Ribbon
Afghanistan Campaign Medal
Global War on Terrorism Service Medal
National Defense Service Medal
NATO Campaign Medal
Army Superior Unit Award (Walter Reed Army Medical Center)
Meritorious Unit Citation (10th Combat Support Hospital)
Order of the Military Medical Merit
Army "A" Proficiency Designator

ACADEMIC RECOGNITION

3RD Place Washington Orthopaedic Society Resident Research Competition. Helgeson MD, Lehman RA, Jr, Dmitriev AE, Sasso RC, Kuklo TR, Riew KD. Stability of Atlantoaxial Fixation Methods: A Biomechanical Comparison of Pars, Pedicle and Intralaminar Screws in an Intact and Odontoid Fracture Model. 14 May 2007.

2nd Place Integrated Walter Reed Army Medical Center/National Naval Medical Center Resident Research Competition. Potter BK, Helgeson MD, Cuenca RC, Burns TC, Hayda RA, Granville RR, Gajewski DA. Risk Factors for and Results of Late or Delayed Amputation Following Combat-Related Injuries of the Extremities. 5 June 2007.

2nd Place Cervical Spine Research Society Resident/Fellow Award. Cardoso MJ, Dmitriev AE, Lehman RA, Helgeson MD, Cooper P, Rosner M. CT and Biomechanical Evaluation of Screw Fixation Options at the Cervicothoracic Junction: Intralaminar vs. Intrapedicuar Techniques. 30 November 2007

Dr. Thomas G. Lowe Memorial Scholarship. The Surgical Management of Spinal Disorders. Beaver Creek, CO. 10-13 January 2008.

American Academy of Orthopaedic Surgeons/Orthopaedic Research and Education Foundation: *Clinician Scientist Development Program* Selectee. Quebec City, Canada. June 1-3, 2008.

American Orthopaedic Association-OREF-Zimmer *Resident Leadership Forum* Selectee. Quebec City, Canada. June 3-5, 2008.

Harley and Betty Baxter Resident Paper Award. Helgeson MD, Lehman RA, Jr., Keeler KA, Bunmaprasert T, Riew KD. Comparison of Magnetic Resonance Imaging and Computed Tomography in Predicting Facet Arthrosis in the Cervical Spine. *Southern Orthopaedic Association* 2008.

2nd Place Integrated Walter Reed Army Medical Center/National Naval Medical Center Resident Research Competition. Helgeson MD, Lehman RA, Jr., Dmitriev AE, Cardoso MJ, Christensen CL, Kuklo TR, Riew KD. Effect of Teriparatide [rhPTH(1,34)] and Calcitonin on Intertransverse Process Fusion in a Rabbit Model.

Finalist, Whitecloud Award Best Basic Science Paper. Dmitriev AE, Chappius JL, Helgeson MD, Pare P, Gasperut A, Rampersaud R, Lehman RA Jr. Pull-out resistance afforded by a new fenestrated pedicle screw in vertebrae with compromised bone mineral density. *International Meeting on Advanced Spine Techniques (IMAST)* 2008.

Finalist, Resident/Fellow Paper Award. Helgeson MD, Tis JE, Dmitriev AE, Mack AW, Lehman RA. Biomechanical Analysis of Four Modern Lumbosacral Fixation Techniques. *Eastern Orthopaedic Association* 2008.

Resident/Fellow Paper Award Winner. Helgeson MD, Lehman RA, Jr., Dmitriev AE, Cardoso MJ, Christensen CL, Kuklo TR, Riew KD. Effect of Teriparatide [rhPTH(1,34)] and Calcitonin on Intertransverse Process Fusion in a Rabbit Model. *Eastern Orthopaedic Association* 2008.

Finalist, Hibbs Award. Lehman RA, Jr., Dmitriev AE, Cardoso MJ, Helgeson MD, Christensen CL, Kuklo TR, Riew KD. Effect of Teriparatide [rhPTH(1,34)] and Calcitonin on Intertransverse Process Fusion in a Rabbit Model. *Scoliosis Research Society* 2008.

Poster Award. Helgeson MD, Lehman RA, Neal C, Patkowski JC, Mack AW, Rosner MK. Adjacent Vertebral Body Osteolysis with Bone Morphogenetic Protein Use in Transforaminal Lumbar Interbody Fusion. *Congress of Neurological Surgeons* 2008.

3rd Place, Resident/Fellow Award. Helgeson MD, Lehman RA, Sasso RC, Dmitriev AE, Mack AW, Riew KD. CT and Biomechanical Analysis of Occipitocervical Stability Afforded by Three Fixation Techniques. *Cervical Spine Research Society* 2008

Finalist, 2010 National Capital Regional Military Research Competition Robert A. Phillips Oral Competition. 16 April 2010.

1st Place Walter Reed National Military Medical Center Resident Research Competition. Helgeson MD, Dmitriev AE, Lehman RA, Mack AW, Eckel TT, Vaccaro AR. Effect of Risedronate and OP-1 on Intertransverse Process Fusion in a Rabbit Model. 1 June 2010.

Bailey K. Ashford Medal for Laboratory Research, 2010 National Capital Regional Military Research Competition.

Graves B. Erskine Award for Outstanding Resident, National Capital Consortium 2010.

Finalist, Robert A. Phillips Research Competition Kang DG, Helgeson MD, Lehman RA, Dmitriev AE, Luhmann SJ. Predictive ability of tapping insertional torque on pedicle screw fixation strength and optimal screw size. 3rd National Capital Regional Military Research Competition. Bethesda, MD, 23 March 2011.

Washington Orthopaedic Society 2012 Resident Research Competition, 1st Place Paper Bevevino AJ, Lehman RA, Kang DG, Helgeson MD, Dmitriev AE, Paik H, Gaume RE, Lenke LG. Caudal Pedicle Screw Compression Optimizes Thoracic Kyphosis Correction: A MicroCT and Biomechanical Analysis of Pedicle Morphology and Screw Failure. Washington, D.C., 7 May, 2012.

Regional Finalist, White House Fellowship, Washington D.C. Region, 2017.

LTC Claire L. Chennault Award. Faculty recognition award for overall teaching excellence. Bethesda, MD, 2017.

Leadership Fellows Program, American Academy of Orthopaedic Surgeons, 2019-2020

GRANTS/PROTOCOLS

Principal Investigator:

1. Incidence of, Risk Factors for, and Results of Late or Delayed Amputation Following Combat-Related Injuries of the Extremities. Walter Reed Army Medical Center, Department of Clinical Investigation, WU# 06-24042EX. Funding \$1,000.

2. Antibiotic impregnated calcium sulfate use in comminuted open fractures. Walter Reed Army Medical Center, Department of Clinical Investigation, WU# 06-24043EX. Funding \$1,000.
3. Subaxial Cervical Spine – Biomechanical Analysis of Primary/Salvage Lateral Mass Screws *versus* Cervical Pedicle Screws. Walter Reed Army Medical Center, Department of Clinical Investigation, WU# 03-24023. Funding \$5,833.
4. Adjacent Vertebral Body Osteolysis with Bone Morphogenetic Protein Use in Transforaminal Lumbar Interbody Fusion. Walter Reed Army Medical Center, Department of Clinical Investigation, WU# 08-06764EX. Funding \$1,000.
5. Vertebral Compression Fractures as a Cause of Proximal Junctional Kyphosis in Osteoporotic Spines Following Long Segment Fixation: An In-Vitro Biomechanical Study. Walter Reed Army Medical Center, Department of Clinical Investigation, WU# 08-24057. Funding \$4,600(Pilot).
6. Biomechanical Analysis of Occipitocervical Stability Afforded by Two Fixation Techniques. A Comparison of the Standard Plate/rod and Screw Technique to a Recently Described Occipital Condyle Screw Construct. Walter Reed Army Medical Center, Department of Clinical Investigation.
7. Retrospective Review of Lumbosacral Dissociations in Combat-Related Blast Injuries. Walter Reed Army Medical Center, Department of Clinical Investigation #20140.
8. Clinical and Radiographic Outcomes of Transforaminal Lumbar Interbody Fusion in Patients with Osteoporosis. Walter Reed National Military Medical Center. IRB Number 403461.
9. Safe return to driving after single level spine surgery: A prospective case-control study. Walter Reed National Military Medical Center, Department of Clinical Investigation. #2018-0140.
10. Prospective, randomized, controlled clinical trial of capacitively coupled electrical field stimulation for treatment of degenerative disk disease of the lumbar spine. Walter Reed National Military Medical Center, Department of Clinical Investigation, #2018-0142.
11. Biomechanical evaluation of unilateral facet joint violation during fatigue loading: a human cadaver study. Walter Reed National Military Medical Center, Department of Clinical Investigation, #2017-0099

Associate Investigator:

1. Biomechanical analysis of the C2 intralaminar screw fixation technique for treatment of unstable C1-C2 joint: the effect of a crosslink and offset connectors on segmental stability. Walter Reed Army Medical Center, Department of Clinical Investigation, WU# 07-24049. Funding \$33,000.
2. Biomechanical contribution of transverse connectors to segmental stability following long segment fusion in the thoracic spine and following Pedicle Subtraction Osteotomy.

- Walter Reed Army Medical Center, Department of Clinical Investigation, WU# 07-24052. Funding \$11,300.
3. Proximal junctional kyphosis in adolescent idiopathic scoliosis: A comparison of pedicle screw and hook constructs. A.I. DuPont Hospital for Children, Nemours Delaware Institutional Review Board, WU# 2006-137.
 4. Biomechanical evaluation of a new system for spinopelvic fixation, the iliac crossbar. Walter Reed Army Medical Center, Department of Clinical Investigation, WU# 07-24054. Funding \$46,000.
 5. Bone density changes in the traumatic amputee. Walter Reed Army Medical Center, Department of Clinical Investigation, Funding \$225,000 (Military Amputee Research Program).
 6. Correlation of screw tapping insertional torque and the optimal size of traditional and fenestrated pedicle screw placement: A human cadaveric biomechanical study. Walter Reed Army Medical Center, Department of Clinical Investigation, WU# 07-24056. Funding \$28,750.
 7. Mesenchymal Stem Cell Bone Matrix Product Use in Treating Segmental Lower Extremity Fracture Defects Sustained in Combat-Related Injuries. Walter Reed Army Medical Center, Department of Clinical Investigation, WU#08-06811EX. Funding \$1000.
 8. The Effects of Bone Morphogenetic Protein-7 (OP-1) When Combined With Risedronate Therapy on Posterolateral Fusion Maturation in a Rabbit Model. Armed Forces Institute of Pathology.
 9. Biomechanical analysis of thoracic bicortical and tricortical lamina screws with straight forward pedicle screws: A human cadaveric study. Walter Reed Army Medical Center, Department of Clinical Investigation.
 10. The effects of laminectomy with and without instrumented fixation across the cervical-thoracic junction: A biomechanical analysis. Walter Reed Army Medical Center, Department of Clinical Investigation. #20413.
 11. Fixation options for instability at the cervico-thoracic junction: A biomechanical analysis of transpedicular and translaminar fixation for two and three-column injury. Walter Reed Army Medical Center, Department of Clinical Investigation.
 12. Low Lumbar Burst Fractures: A Unique Fracture Mechanism Sustained in Our Current Overseas Conflicts. Walter Reed Army Medical Center, Department of Clinical Investigation.
 13. Bone density mapping of the distal radius, distal ulna, and scaphoid for improved screw purchase: A quantitative approach. Walter Reed National Military Medical Center, Department of Clinical Investigation. #350512.

14. Biomechanics of anterior thoracic spine purchase with pedicle screw instrumentation. Walter Reed National Military Medical Center, Department of Clinical Investigation. #20440.
15. Pedicle screw manipulation during construct assembly: The effect of screw pre-loading on pull-out resistance in osteoporotic bone. Walter Reed National Military Medical Center, Department of Clinical Investigation. #20025.
16. Biomechanical, anatomical, and radiographic evaluation of cortical bone trajectory pedicle screws in the lumbar and sacral spine. Walter Reed National Military Medical Center, Department of Clinical Investigation.
17. Meta-analysis of fusion rates for minimally invasive transforaminal lumbar interbody fusion performed without posterolateral bone grafting. Walter Reed National Military Medical Center, Department of Investigation. #365205.
18. Evaluation of Spine Health and Spine Mechanics in Service Members with Lower-Extremity Trauma. Proposal Log Number OR130150, Award Number W81XWH-14-2-0144, HRPO Log Number A-18549
19. Incidence of new cancer diagnosis in military beneficiaries undergoing instrumented spinal fusion with and without Bone Morphogenetic Protein-2 (Infuse®). U S Army Medical Research and Materiel Command.
20. Incidence, Disability and Risk Factors for Bertolotti's Syndrome in the Active Duty Military Population. Walter Reed National Military Medical Center, Department of Clinical Investigation #407466.
21. A new method for reduction and stabilization of the distal tibiofibular syndesmosis. Walter Reed National Military Medical Center, Department of Clinical Investigation. #2017-0085.
22. Single plate fixation of bicondylar tibial plateau fractures: A biomechanical study of isolated medial LCP vs lateral LCP. Walter Reed National Military Medical Center, Department of Clinical Investigation. #2017-0018.

BOOK CHAPTERS

1. Helgeson MD, Lehman RA, Jr. Anterior Exposure of the Thoracic and Lumbar Spine down to L4. *The Textbook of Spinal Surgery, 3rd Edition*.
2. Helgeson MD, Lehman RA, Jr., Kuklo TR. Subaxial Posterior Lateral Mass Fixation. *The Textbook of Spinal Surgery, 3rd Edition*
3. Helgeson MD, Vaccaro AR. The Use of Process Measures in Measuring the Quality of Spine Care. *The Value of Spine Care*.
4. Kang DG, Helgeson MD, Vaccaro AR. Spinal Motion Restoration for the Degenerative Disc. *The Intervertebral Disc*.

5. Helgeson MD, Albert TJ. Anterior Surgical Approach to the Cervical Spine. *Textbook of the Cervical Spine*. Elsevier Inc., Maryland Heights, MO
6. Dickens JF, Cody JP, Helgeson MD, Shawen SB. Military Candidates and the Secrets to a Successful Match in Orthopaedic Surgery Residency and Fellowship. *Orthopaedic Residency Guide*. Jaypee publishers, Philadelphia, PA.
7. Helgeson MD, Vaccaro AR. Spinal Cord and Nerve Injuries in the Cervical Spine. *Textbook of the Cervical Spine*. Elsevier Inc., Maryland Heights, MO.
8. Zook J, Rivet D, Helgeson MD. Spine Injuries. *Orthopaedic Front Line Surgery*.
9. Klimo P, Reding J, Neto NA, Helgeson MD, Muhlbauer MS. Congenital Anomalies of the Cervical Spine. *The Spine*. Jaypee publishers, New Delhi, India.
10. Kawakami N, Helgeson MD. Osteotomy Techniques for Coronal and Sagittal Plane Thoracolumbar Deformities. *The Spine*. Jaypee publishers, New Delhi, India.
11. Helgeson MD, Formby PM. Nonoperative Management of Cervical Spine Trauma. *AO Spine Masters Series, 5th Volume*. Thieme Publishers, New York, NY
12. Bevevino A, Helgeson MD. The Spine Patient: Taking a History. *Clinical Decision Support System on Spine Surgery*.
13. Scheuring RA, McCulloch PC, Downs M, Dixon JR, Kreykes AJ, Helgeson MD, O'Connor FG. Musculoskeletal System and Performance in Aerospace Medicine. *Fundamentals of Aerospace Medicine 5th Edition*. Wolters Kluwer, Philadelphia, PA

JOURNAL ARTICLES

1. Helgeson MD, Lehman RA, Murphy KP. Initial Evaluation of the Acute and Chronic Multiple Ligament Injured Knee. *Journal of Knee Surgery*, 18(3): July 2005.
2. Murphy KP, Helgeson MD, Lehman RA. Surgical Treatment of Acute Lateral Collateral Ligament and Posterolateral Corner Injuries. *Sports Medicine and Arthroscopy Review*, March 2006; 14(1): 23-27.
3. Helgeson MD, Potter BK, Evans KN, Shawen SB. Bioartificial Dermal Substitute: A Preliminary Report of its Use for the Management of Complex Combat-Related Soft Tissue Wounds. *Journal of Orthopaedic Trauma* 2007; 21(6): 394-9.
4. Lehman RA, Jr, Sasso RC, Helgeson MD, Dmitriev AE, Gill NG, Rosner MK, Riew KD. Accuracy of Intraoperative Plain Radiographs to Detect Violations of Intralaminar Screws Placed into the C2 Vertebrae. *Spine* 2007; 32(26): 3036-40.
5. Lehman RA, Jr., Dmitriev AE, Helgeson MD, Sasso RC, Kuklo TR, Riew KD. Salvage of C2 Pedicle and Pars Screws Using the Intralaminar Technique: A Biomechanical Analysis. *Spine* 2008; 33(9): 960-965.

6. Mack AW, Helgeson MD, Tis JE. Contralateral Structural Femoral Autograft Use in Treatment of an Open Peri-articular Knee Fracture to Perform Knee Arthrodesis *Journal of Orthopaedic Trauma*. *Journal of Orthopaedic Trauma* 2008; 22(8): 576-80.
7. Cardoso MJ, Dmitriev AE, Lehman RA, Helgeson MD, Cooper P, Rosner M. Computed Tomography and Biomechanical Evaluation of Screw Fixation Options at the Cervicothoracic Junction: Intralamina vs. Intrapedicular Techniques. *Spine* 2008; 33(24): 2612-7.
8. Cardoso MJ, Dmitriev AE, Helgeson MD, Gill NW, Kuklo TR, Rosner MK, Lehman RA, Jr. Does Superior-segment Facet Violation or Laminectomy Destabilize the Adjacent Level in Lumbar Transpedicular Fixation? *Spine* 2008; 33(26): 2868-73.
9. Lehman RA, Helgeson MD, Keeler KA, Bunmaprasert T, Riew KD. Comparison of Magnetic Resonance Imaging and Computed Tomography in Predicting Facet Arthrosis in the Cervical Spine. *Spine* 2009; 34(1): 65-68.
10. Dmitriev AE, Lehman RA, Jr., Helgeson MD, Sasso RC, Kuklo TR, Riew KD. Acute and Long-Term Stability of Atlantoaxial Fixation Methods: A Biomechanical Comparison of Pars, Pedicle and Intralaminar Fixation in an Intact and Odontoid Fracture Model. *Spine* 2009; 34(4): 365-70.
11. Helgeson MD, Potter BK, Tucker CJ, Frisch HM, Shawen SB. Antibiotic Impregnated Calcium Sulfate Use in Combat-related Open Fractures. *Orthopedics* 2009; 32(5):323.
12. Cardoso MJ, Dmitriev AE, Helgeson MD, Stephens F, Campbell V, Lehman RA, Cooper P, Rosner MK. Using lamina screws as a salvage technique at C-7: computed tomography and biomechanical analysis using cadaveric vertebrae. Laboratory investigation. *J Neurosurg Spine* 2009; 11(1): 28-33.
13. Tis JE, Helgeson MD, Dmitriev AE, Lehman RA. A Biomechanical Comparison of Different Types of Lumbopelvic Fixation. *Spine* 2009; 34(24): E866-72.
14. Lehman RA, Dmitriev AE, Cardoso MJ, Helgeson MD, Christensen CL, Raymond JW, Eckel TT, Riew KD. Effect of Teriparatide [rhPTH(1,34)] and Calcitonin on Intertransverse Process Fusion in a Rabbit Model. *Spine* 2010; 35(2): 146-52.
15. Helgeson MD, Shah SA, Newton PO, Clements D, Betz R, Marks M, Bastrom T, Harms Study Group. Evaluation of Proximal Junctional Kyphosis in Adolescent Idiopathic Scoliosis Following Pedicle Screw, Hook, and Hybrid Instrumentation. *Spine* 2010; 35(2): 177-81.
16. Lehman RA, Lenke LG, Helgeson MD, Eckel TT, Keeler KA. Do Intraoperative Radiographs in Scoliosis Surgery Reflect Radiographic Results. *Clinical Orthopaedics and Related Research* 2010; 468(3): 679-86.
17. Helgeson MD, Burns TC, Hayda RA, Gajewski DA, Potter BK,. Risk Factors for and Results of Late or Delayed Amputation Following Combat-Related Injuries of the Extremities. *Orthopedics* 2010; 33(9): 669.

18. Cardoso MJ, Dmitriev AE, Helgeson MD, Paik H, Mendelsohn AK, Lehman RA, Rosner MK. Does Catastrophic Midline Failure of Upper Thoracic Lamina Screws Violate the Spinal Canal? A Cadaveric Biomechanical Analysis Using Two Lamina Screw Techniques. *The Spine Journal* 2010;
19. Cardoso MJ, Helgeson MD, Paik H, Dmitriev AE, Lehman RA, Rosner MK. Structures at Risk from Pedicle Screws in the Proximal Thoracic Spine: Computed Tomographic (CT) Evaluation. *The Spine Journal* 2010; 10(10): 905-9
20. Helgeson MD, Lehman RA, Jr., Moore FM, Andersen RC, Frisch HM. Retrospective Review of Lumbosacral Dissociation Injuries in High Energy Blast Injuries. *Spine* 2011; 36(7): E469-75
21. Bhandutia AK, Gruskay JA, Helgeson MD, Yadlapalli NK, Gowda AL, Ratliff JK, Anderson DG, Vaccaro AR. Treatments and Outcome for Low Lumbar (L3-5) Burst Fractures: A Systematic Review. *Contemporary Spine Surgery* 2011; 12(4): 1-8.
22. Helgeson MD, Lehman RA, Sasso RC, Dmitriev AE, Mack AW, Riew KD. CT and Biomechanical Analysis of Occipitocervical Stability Afforded by Three Fixation Techniques. *The Spine Journal* 2011; 11(3): 245-50.
23. Helgeson MD, Lehman RA, Mack AW, Rosner MK. Adjacent Vertebral Body Osteolysis with Bone Morphogenetic Protein Use in Transforaminal Lumbar Interbody Fusion. *The Spine Journal* 2011; 11(6): 507-10.
24. Helgeson MD, Lehman RA, Wilson KC, Dmitriev AE, Sasso RC, Riew KD. Accuracy of the Free-Hand Technique for Three Fixation Methods into the C2 Vertebrae. *Neurosurgery Focus* 2011 Oct;31(4):E11.
25. Helgeson MD, Gendelberg D, Sidhu GS, Anderson DG, Vaccaro AR. Management of Cervical Spine Trauma – Can a Prognostic Classification of Injury Determine Clinical Outcomes? *Orthopaedic Clinics of North America* 2012 Jan;43(1):89-96.
26. Helgeson MD, Albert TJ. Surgery for Failed Cervical Spine Reconstruction. *Spine* 2012 Mar 1;37(5):E323-7
27. Lehman RA, Jr., Paik H, Eckel TT, Helgeson MD, Cooper PB, Bellabarba C. Low Lumbar Burst Fractures: A Unique Fracture Mechanism Sustained in Our Current Overseas Conflicts. *The Spine Journal* 2012 Sep;12(9):784-90.
28. Lehman RA, Helgeson MD, Dmitriev AE, Paik H, Bevevino AJ, Gaume R, Kang DG, Lenke LG. What is the best way to optimize thoracic kyphosis correction? A micro-CT and biomechanical analysis of pedicle morphology and screw failure. *Spine (Phila Pa 1976)*. 2012 Sep 1;37(19):E1171-6.
29. Helgeson MD, Hilibrand AS. Update on the Evidence for Adjacent Segment Degeneration and Disease. *Spine J* 2013 Mar; 13(3): 342-51.
30. Smith J, Helgeson MD, Albert TJ. Argument for Anterior Cervical Discectomy and Fusion. *Seminars in Spine Surgery*.

31. Bevevino AJ, Helgeson MD, Albert TJ. Iatrogenic spinal instability: Cervical and thoracic Spine. *Seminars in Spine Surgery* 2013: 1-13
32. Helgeson MD, Kang DG, Lehman RA, Jr., Dmitriev AE, Luhmann SJ. Tapping insertional torque allows predication for better pedicle screw fixation and optimal screw size selection. *Spine J* 2013 Aug; 13(8): 957-65.
33. Wagner SC, Kang DG, Helgeson MD. Implant migration after Bryan cervical disc arthroplasty. *Spine J* 2014 Oct; 14(10): 2513-4.
34. Wagner SC, Kang DG, Helgeson MD. Heterotopic ossification after transforaminal lumbar interbody fusion without bone morphogenetic protein use. *Spine J* 2014 Nov; 14(11): 2783-4.
35. Kang DG, Helgeson MD, Britt JD, Tracey RW, Bernstock JD. Multifocal intraosseous ganglioneuroma. *Am J Orthop* 2014 Oct; 43(10): E232-6.
36. Helgeson MD, Formby P. Surgery for octogenarians is supported by SPORT data: commentary on an article by Jeffrey A. Rihn, MD et al: "Effectiveness of surgery for lumbar stenosis and degenerative spondylolisthesis in the octogenarian population. Analysis of the Spine Patient Outcomes Research Trial (SPORT) data.: *J Bone Joint Surg Am* 2015 Feb 4; 97(3): e17.
37. Andersen CR, Schmidt AH, Fitzgerald CB, Tintle LS, Helgeson MD, Lehman RL, Davila CJ, Potter BK, Burns MT, Swiontkowski MF, Ficke CJ. Extremity War Injuries IX: Reducing Disability Within the Military. *J Am Acad Orthop Surg* 2015 Aug; 23(8): e13-26.
38. Neal CJ, McCafferty RR, Freedman B, Helgeson MD, Rivet D, Gwinn DE, Rosner MK. Cervical and Thoracolumbar Spine Injury Evaluation, Transport, and Surgery. *Military Medicine*.
39. Pisano AJ, Wagner SC, Helgeson MD, Jex JW. Multiple Vertebral Dislocation Events After Fusion for Scoliosis in Rhett's Syndrome. *Spine J* 2015 Dec; 15(12): e61-2.
40. Nagaraja S, Palepu V, Peck J, Helgeson MD. Impact of screw location and endplate preparation on pullout strength for anterior plates and integrated fixation cages. *Spine J* 2015 Dec; 15(11): 2425-2432.
41. Pisano AJ, Formby PM, Helgeson MD. Anterior Cervical Discectomy and Fusion Techniques: Bone Graft, Biologics, Interbody Spacers, and Plating Options. *Seminars in Spine Surgery*.
42. Wagner SC, Kang DG, Helgeson MD. Traumatic Migration of the Bryan Cervical Disc Arthroplasty. *Global Spine J* 2016 Feb; 6(1): e15-20.
43. Formby PM, Kang DG, Helgeson MD, Wagner SC. Clinical and Radiographic Outcomes of Transforaminal Lumbar Interbody Fusion in Patients with Osteoporosis. *Global Spine J* 2016 Nov; 6(7): 660-664.

44. Wagner SC, Formby PM, Helgeson MD, Kang DG. Diagnosing the Undiagnosed: Osteoporosis in Patients Undergoing Lumbar Fusion. *Spine* 2016 Nov; 41(21): E1279-E1283.
45. Palepu V, Peck JH, Simon DD, Helgeson MD, Nagaraja S. Biomechanical evaluation of an integrated fixation cage during fatigue loading: a human cadaver study. *J Neurosurg Spine* 2017 Apr; 26(4): 524-531.
46. Pisano A, Helgeson MD. Cervical disk replacement surgery: biomechanical properties, postoperative motion, and postoperative activity levels. *Curr Rev Musculoskeletal Med* 2017 June; 10(2): 177-81
47. Seavey JG, Balazs GC, Steelman T, Helgeson M, Gwinn DE, Wagner SC. The effect of preoperative lumbar epidural corticosteroid injection on postoperative infection rate in patients undergoing single-level lumbar decompression. *Spine J* 2017 Sept; 17(9): 1209-14.
48. Seavey JG, Steelman T, Helgeson M, Gwinn DE. Minimally invasive anterior column realignment for the treatment of adult spinal deformity: A review of the literature. *Semin Spine Surg.* 2017 Aug 10.
49. Palepu V, Helgeson MD, Molyneaux-Francis M, Nagaraja S. Impact of bone quality on the performance of integrated fixation cage screws. *Spine J* 2018 Feb; 18(2): 321-9.
50. Steelman TJ, Helgeson MD, Seavey JG, Gwinn DE. Is structural allograft superior to synthetic graft substitute in anterior cervical discectomy and fusion? *Clin Spine Surg* 2018 Aug; 31(7): 274-7.
51. Steelman T, Lewandowski L, Helgeson M, Wilson K, Olsen C, Gwinn D. Population-based risk factors for the development of degenerative disk disease. *Clin Spine Surg.* 2018 Oct; 31(8): E409-12.
52. Neal CJ, McCafferty RR, Freedman B, Helgeson MD, Rivet D, Gwinn DE, Rosner MK. Cervical and thoracolumbar spine injury evaluation, transport, and surgery in the deployed setting. *Mil Med.* 2018 Sept 1; 183(S2): 83-91.
53. Dietrich EJ, Leroux T, Santiago CF, Helgeson MD, Richard P, Koehlmoos TP. Assessing military practice patterns differences in the treatment of acute low back pain in the United States Military Health System. *BMC Health Serv Res.* 2018 Sept 17; 18(10): 720.
54. Palepu V, Helgeson M, Molyneaux-Francis M, Nagaraja S. The effects of bone microstructure on subsidence risk for ALIF, LLIF, PLIF, and TLIF spine cages. *J Biomech Eng* 2018 Dec 5;
55. Wanderman N, Sebastian A, Fredericks DR Jr, Slaven SE, Helgeson MD. Bullet cage versus crescent cage design in transforaminal lumbar interbody fusion. *Clin Spine Surg* 2019 Mar 5;

56. Kristobak A, Helgeson MD, Jex J. Cervical cord injury following posterior spinal fusion in a patient with adolescent idiopathic scoliosis: A case report. *JBSJ Case Connect*. 2019 Jul-Sep; 9(3).
57. Pisano AJ, Seavey JG, Steelman TJ, Fredericks DR Jr, Helgeson MD, Wagner SC. The effects of lumbar corticosteroid injections on postoperative infection in lumbar arthrodesis surgery. *J Clin Neurosci* 2020 Jan; 71: 66-69.
58. Rodkey DJ, Lundy AE, Tracey RW, Helgeson MD. Hip-Spine Syndrome: Which Surgery First? *Clin Spine Surg* 2022 Feb 1; 35(1):1-3.
59. Franco D, Montenegro T, Gonzalez GA, Hines K, Mahtabfar A, Helgeson MD, Patel R, Harrop J. *Global Spine J* 2021 May; 11(4): 608-13
60. Pisano AJ, Fredericks DR, Steelman T, Riccio C, Helgeson MD, Wagner SC. Lumbar disc height and vertebral Hounsfield units: association with interbody cage subsidence. *Neurosurg Focus* 2020 Aug; 49(2): E9.
61. Murphy TP, Panarello NM, Baird MD, Helgeson MD, Wagner SC. Should annular closure devices be utilized to reduce the risk of recurrent lumbar disk herniation? *Clin Spine Surg* 2020 Oct 23; Online ahead of print.
62. Anderson AB, Braswell MJ, Pisano AJ, Watson NI, Dickens JF, Helgeson MD, Brooks DI, Wagner SC. Factors associated with progression to surgical intervention for lumbar disc herniation in the Military Health System. *Spine* 2021 Mar 15; 46(6): E392-397.
63. Pinter ZW, Wagner S, Fredericks D, Xiong A, Helgeson M, Currier B, Freedman BA, Kepler C, Elder BD, Bydon M, Nassr A, Sebastian AS. Cervical paraspinous muscle fatty degeneration is not associated with muscle cross-sectional area: qualitative assessment is preferable for cervical sarcopenia. *Clin Orthop Relat Res* 2021 Apr 1; 479(4): 726-732.
64. Dalton MK, Mjaset C, Manful A, Helgeson MD, Wynn-Jones W, Cooper Z, Koehlmoos TP, Weissman JS. Strategies for spinal surgery reimbursement: bundling in the working-age population. *BMC Health Serv Res* 2021 Feb 2; 21(10): 112.
65. Palepu V, Peck JH, Cadel ES, Parikh AR, Wagner SC, Fredericks DR, Helgeson MD, Dmitriev AE. Development of an in vitro test method to simulate intra-operative impaction loading on lumbar intervertebral body fusion devices. *J Biomech* 2021 May 24; 121.
66. Le AH, Roach WB, Mauntel TC, Hendershot BD, Helgeson MD, Colantonio DF, Fredericks DR, Slaven SE, Pisano AJ, LeClere LE. A biomechanical comparison of high-tensile strength versus high-tensile strength suture for tendon fixation under cyclic loading. *Arthroscopy* 2021 Sep; 37(9): 2925-2933.
67. Colantonio DF, Le AH, Keeling LE, Slaven SE, Vipra TK, Helgeson MD, Chang ES. Intramedullary unicortical button and all-suture anchors provide similar maximum strength for onlay distal biceps tendon repair. *Arthroscopy* 2021 Jul 28; Online ahead of print.

68. Hobson S, Aleem IS, Bice MJ, Butt BB, Bydon M, Elder BD, Fredericks DR, Helgeson MD, Patel RD, Sebastian A, Wagner SC, Williams SK, Xiong AE, Anderson PA, Freedman B. A multicenter evaluation of the feasibility, patient/provider satisfaction, and value of virtual spine consultation during the COVID-19 pandemic. *World Neurosurg* 2021 Oct; 154: e781-e789.
69. Chang ES, Le AH, Looney AM, Colantonio DF, Roach WB, Helgeson MD, Clark DM, Fredericks DR Jr, Nagda SH. Biomechanical comparison of anatomic restoration of the ulnar footprint vs traditional ulnar tunnels in ulnar collateral ligament reconstruction. *Am J Sports Med* 2022 Apr; 50(5): 1375-1381.
70. Colantonio DF, Nassr A, Freedman BA, Elder BD, Bydon M, Helgeson MD, Kepler CK, Sebastian AS, Wagner SC. The effect of preoperative mental health status on outcomes after anterior cervical discectomy and fusion. *Int J Spine Surg* 2022 Apr; 16(2): 233-239.
71. Helgeson MD, Pisano AJ, Wagner SC. What's new in spine surgery. *J Bone Joint Surg Am* 2022 Jun 15; 104(12): 1039-1045.
72. Butowicz CM, Helgeson MD, Pisano AJ, Cook JW, Dearth CL, Hendershot BD. Lumbar degenerative disease and muscle morphology before and after lower limb loss in four military patients. *Mil Med* 2022 Dec 24;

PAPER PRESENTATIONS

1. Helgeson MD, Ross AE, Groth A, Islinger RB, Kuklo TR. Treatment and Outcomes of High-Energy Periarticular Knee Injuries in Wartime Casualties. *Society of Military Orthopaedic Surgeons (SOMOS)*, Vail, CO, 10 December 2004.
2. Lacap AP, Helgeson MD, Schaefer R, Bernet V. Transient Relief of Oncogenic Osteomalacia with Partial Resection of the Causative Lesion. *Society of Military Orthopaedic Surgeons (SOMOS)*, Orlando, FL, December 2005.
3. Helgeson MD, Freedman BA, Potter BK, Nesti LJ, Cho T, Hampton C, Kuklo TR. Osteoporosis and Vertebral Compression Fractures – Continued Missed Opportunities. *Southern Orthopaedic Association (SOA)*, Paradise Island, Bahamas. 21 July 2006.
4. Lehman RA, Jr, Sasso RC, Riew KD, Helgeson MD, Dmitriev AE, Gill N, Rosner MR. Reliability of Intraoperative Plain Radiographs to Detect Violations of Intralaminar Screws Placed into the C2 Vertebrae. *Cervical Spine Research Society (CSRS)*, Palm Beach, FL, Nov 30-Dec 1, 2006.
5. Lehman RA, Jr, Dmitriev AE, Sasso RC, Helgeson MD, Kuhns CA, Kuklo TR, Riew KD. Stability of Atlantoaxial Fixation Methods: A Biomechanical Comparison of Pars, Pedicle and Intralaminar Screws in an Intact and Odontoid Fracture Model. *Cervical Spine Research Society (CSRS)*, Palm Beach, FL, Nov 30-Dec 1, 2006.
6. Cuenca RC, Potter BK, Helgeson MD, Burns TC, Hayda RA, Granville RR, Gajewski DA. Risk Factors for and Results of Late or Delayed Amputation Following Combat-Related Injuries of the Extremities. *Society of Military Orthopaedic Surgeons (SOMOS)*, Honolulu, HI, December 2006.

7. Mack AW, Helgeson MD, Potter BK, Frisch HM, Shawen SB. Antibiotic Impregnated Calcium Sulfate Use in Combat-related Open Fractures. *Society of Military Orthopaedic Surgeons (SOMOS)*, Honolulu, HI, December 2006.
8. Hampton CB, Lehman RA, Sasso RC, Helgeson MD, Dmitriev AE, Gill NG, Rosner MR, Riew KD. Reliability of Intraoperative Plain Radiographs to Detect Violations of Intralaminar Screws Placed into the C2 Vertebrae. *Society of Military Orthopaedic Surgeons (SOMOS)*, Honolulu, HI, December 2006.
9. Helgeson MD, Lehman RA, Jr, Dmitriev AE, Sasso RC, Kuklo TR, Riew KD. Stability of Atlantoaxial Fixation Methods: A Biomechanical Comparison of Pars, Pedicle and Intralaminar Screws in an Intact and Odontoid Fracture Model. *AANS/CNS Section on Disorders of the Spine and Peripheral Nerves*, Phoenix, AZ, 8 March 2007.
10. Cardoso MJ, Dmitriev AE, Helgeson MD, Gill NW, Kuklo TR, Rosner MK, Lehman RA, Jr. Does Proximal Facet Violation With Intrapedicular Instrumentation Destabilize The Adjacent Level? An In-Vitro Human Cadaveric Assessment. *AANS/CNS Section on Disorders of the Spine and Peripheral Nerves*, Phoenix, AZ, 8 March 2007.
11. Dmitriev AE, Lehman RA, Jr., Helgeson MD, Riew KD, Sasso RC. Acute and Long-Term Stability of Three Axial Screw Fixation Methods. *International Meeting on Advanced Spine Techniques (IMAST)*, Paradise Island, Bahamas, 13 July 2007.
12. Lehman RA, Jr., Dmitriev AE, Helgeson MD, Sasso RC, Riew KD. Salvage of C2 Pedicle and Pars Screws Using the Intralaminar Technique: A Biomechanical Analysis. *International Meeting on Advanced Spine Techniques (IMAST)*, Paradise Island, Bahamas, 14 July 2007.
13. Helgeson MD, Potter BK, Mack AW, Frisch HM, Shawen SB. Antibiotic Impregnated Calcium Sulfate Use in Combat-related Open Fractures. *Eastern Orthopaedic Association/Southern Orthopaedic Association (EOA/SOA)*, Victoria, BC, 4 August 2007.
14. Helgeson MD, Potter BK, Evans KN, Shawen SB. Bioartificial Dermal Substitute: A Preliminary Report of its Use for the Management of Complex Combat-Related Soft Tissue Wounds. *Trailblazing the Skin Frontier: Evidence Base, Opportunities and Training*. George Washington University. 12 August 2007
15. Helgeson MD, Shah SA, Newton PO, Clements D, Betz R, Marks M, Bastrom T. Evaluation of Proximal Junctional Kyphosis in Adolescent Idiopathic Scoliosis Following Pedicle Screw, Hook, and Hybrid Instrumentation. *Scoliosis Research Society (SRS)*, Edinburgh, Scotland, Sept 5-8, 2007.
16. Cardoso MJ, Rosner MK, Dmitriev AE, Helgeson MD, Gill NW, Kuklo TR, Lehman RA, Jr. Does Proximal Facet Violation With Intrapedicular Instrumentation Destabilize The Adjacent Level? An In-Vitro Human Cadaveric Assessment. *Congress of Neurological Surgeons (CNS)*, San Diego, CA, Sept 17, 2007
17. Helgeson MD, Shah SA, Newton PO, Clements D, Betz R, Marks M, Bastrom T. Evaluation of Proximal Junctional Kyphosis in Adolescent Idiopathic Scoliosis

- Following Pedicle Screw, Hook, and Hybrid Instrumentation. *North American Spine Society (NASS)*, Austin, TX, Oct 23-27, 2007.
18. Kuklo TR, Helgeson MD, Rosner MK, Moquin R. Do Preoperative Steroid Injections Increase the Risk of Postoperative Infection? *North American Spine Society (NASS)*, Austin, TX, Oct 23-27, 2007.
 19. Lehman RA, Keeler KA, Helgeson MD, Bunmaprasert T, Riew KD. Comparison of Magnetic Resonance Imaging and Computed Tomography in Predicting Facet Arthrosis in the Cervical Spine. *North American Spine Society (NASS)*, Austin, TX, Oct 23-27, 2007.
 20. Cardoso MJ, Dmitriev AE, Lehman RA, Helgeson MD, Cooper P, Rosner M. CT and Biomechanical Evaluation of Screw Fixation Options at the Cervicothoracic Junction: Intralaminar vs. Intrapedicular Techniques. *Cervical Spine Research Society (CSRS)*, San Francisco, CA, Nov 28-Dec 1, 2007.
 21. Cardoso MJ, Lehman RA, Rosner MK, Moser RP, Dmitriev AE, Helgeson MD, Gill NW, Lenke LG. Structures at Risk from Pedicle Screws in the Proximal Thoracic Spine: Computed Tomographic (CT) Evaluation with Magnetic Resonance Imaging (MRI) Correlation. *Cervical Spine Research Society (CSRS)*, San Francisco, CA, Nov 28-Dec 1, 2007.
 22. Helgeson MD, Tis JE, Dmitriev AE, Mack AW, Lehman RA. Biomechanical Analysis of Four Modern Lumbosacral Fixation Techniques. *Society of Military Orthopaedic Surgeons (SOMOS)*, Vail, CO, Dec 10-15, 2007.
 23. Helgeson MD, Shah SA, Newton PO, Clements D, Betz R, Marks M, Bastrom T. Proximal Kyphosis in Adolescent Idiopathic Scoliosis Following Four Types of Instrumentation. *Society of Military Orthopaedic Surgeons (SOMOS)*, Vail, CO, Dec 10-15, 2007.
 24. Lehman RA, Helgeson MD, Keeler KA, Bunmaprasert T, Riew KD. Ability of Magnetic Resonance Imaging to Predict Facet Arthrosis in the Cervical Spine. *Society of Military Orthopaedic Surgeons (SOMOS)*, Vail, CO, Dec 10-15, 2007.
 25. Helgeson MD, Cardoso MJ, Dmitriev AE, Gill NW, Kuklo TR, Rosner MK, Lehman RA, Jr. Does Proximal Facet Violation With Intrapedicular Instrumentation Destabilize The Adjacent Level? An In-Vitro Human Cadaveric Assessment. *Society of Military Orthopaedic Surgeons (SOMOS)*, Vail, CO, Dec 10-15, 2007.
 26. Lehman RA, Helgeson MD, Mack AW, Kilcoyne KG, Rosner MK. Adjacent Vertebral Body Osteolysis with Bone Morphogenetic Protein Use in Transforaminal Lumbar Interbody Fusion. *Society of Military Orthopaedic Surgeons (SOMOS)*, Vail, CO, Dec 10-15, 2007.
 27. Mack AW, Helgeson MD, Frisch HM, Tis JE. Mesenchymal Stem Cell Bone Matrix Product. A Preliminary Report on Its Use in Treating Segmental Lower Extremity Fracture Defects Sustained in Combat-Related Injuries. *Society of Military Orthopaedic Surgeons (SOMOS)*, Vail, CO, Dec 10-15, 2007.

28. Helgeson MD, Lehman RA, Mack AW, Neal C, Rosner MK. Adjacent Vertebral Body Osteolysis with Bone Morphogenetic Protein Use in Transforaminal Lumbar Interbody Fusion. *AANS/CNS Section on Disorders of the Spine and Peripheral Nerves*, Orlando, FL, Feb 27-Mar 1, 2008.
29. Helgeson MD, Shah SA, Newton PO, Clements D, Betz R, Marks M, Bastrom T. Proximal Kyphosis in Adolescent Idiopathic Scoliosis Following Four Types of Instrumentation. *American Academy of Orthopaedic Surgeons (AAOS)*, San Francisco, CA, March 6, 2008.
30. Helgeson MD, Lehman RA, Patkowski JC, Mack AW, Rosner MK. Adjacent Vertebral Body Osteolysis with Bone Morphogenetic Protein Use in Transforaminal Lumbar Interbody Fusion. *SpineWeek 2008 (North American Spine Society)*. May 27, 2008.
31. Lehman RA, Helgeson MD, Keeler KA, Bunmaprasert T, Riew KD. Ability of Magnetic Resonance Imaging to Predict Facet Arthrosis in the Cervical Spine. *SpineWeek 2008 (European Cervical Spine Research Society)*. May 27, 2008.
32. Helgeson MD, Tis JE, Dmitriev AE, Mack AW, Lehman RA. Biomechanical Analysis of Four Modern Lumbosacral Fixation Techniques. *SpineWeek 2008 (International Society for the Study of the Lumbar Spine)*. May 31, 2008.
33. Dmitriev AE, Cardoso MJ, Helgeson MD, Gill NW, Kuklo TR, Rosner MK, Lehman RA, Jr. Does Proximal Facet Violation With Intrapedicular Instrumentation Destabilize The Adjacent Level? An In-Vitro Human Cadaveric Assessment. *SpineWeek 2008 (International Society for the Study of the Lumbar Spine)*. May 31, 2008.
34. Lehman RA, Helgeson MD, Keeler KA, Bunmaprasert T, Riew KD. Ability of Magnetic Resonance Imaging to Predict Facet Arthrosis in the Cervical Spine. *Southern Orthopaedic Association (SOA)*, Hot Springs, VA, June 11-15, 2008.
35. Helgeson MD, Tis JE, Dmitriev AE, Mack AW, Lehman RA. Biomechanical Analysis of Four Modern Lumbosacral Fixation Techniques. *Southern Orthopaedic Association (SOA)*, Hot Springs, VA, June 11-15, 2008.
36. Helgeson MD, Lehman RA, Patkowski JC, Mack AW, Rosner MK. Adjacent Vertebral Body Osteolysis with Bone Morphogenetic Protein Use in Transforaminal Lumbar Interbody Fusion. *Southern Orthopaedic Association (SOA)*, Hot Springs, VA, June 11-15, 2008.
37. Mack AW, Helgeson MD, Frisch HM, Tis JE. Mesenchymal Stem Cell Bone Matrix Product. A Preliminary Report on Its Use in Treating Segmental Lower Extremity Fracture Defects Sustained in Combat-Related Injuries. *Southern Orthopaedic Association (SOA)*, Hot Springs, VA, June 11-15, 2008.
38. Lehman RA, Helgeson MD, Patkowski JC, Mack AW, Rosner MK. Adjacent Vertebral Body Osteolysis with Bone Morphogenetic Protein Use in Transforaminal Lumbar Interbody Fusion. *International Meeting on Advanced Spine Techniques (IMAST)*, Hong Kong, July 8-11, 2008.

39. Cardoso MJ, Dmitriev AE, Lehman RA, Helgeson MD, Cooper P, Rosner M. CT and Biomechanical Evaluation of Screw Fixation Options at the Cervicothoracic Junction: Intralaminar vs. Intrapedicular Techniques. *International Meeting on Advanced Spine Techniques (IMAST)*, Hong Kong, July 8-11, 2008.
40. Cardoso MJ, Dmitriev AE, Lehman RA, Helgeson MD, Cooper P, Rosner M. Radiographic Analysis of Proximal Thoracic Spine Lamina for Determining Optimal Implant Placement. *International Meeting on Advanced Spine Techniques (IMAST)*, Hong Kong, July 8-11, 2008.
41. Dmitriev AE, Chappius JL, Helgeson MD, Pare P, Gasperut A, Rampersaud R, Lehman RA Jr. Pull-out resistance afforded by a new fenestrated pedicle screw in vertebrae with compromised bone mineral density. *International Meeting on Advanced Spine Techniques (IMAST)*, Hong Kong, July 8-11, 2008.
42. Lehman RA, Jr., Dmitriev AE, Cardoso MJ, Christensen CL, Helgeson MD, Kuklo TR, Riew KD. Effect of Teriparatide [rhPTH(1,34)] and Calcitonin on Intertransverse Process Fusion in a Rabbit Model. *Scoliosis Research Society (SRS)*, Salt Lake City, UT, Sept 10-13, 2008.
43. Cardoso MJ, Dmitriev AE, Lehman RA, Helgeson MD, Cooper P, Rosner M. CT and Biomechanical Evaluation of Screw Fixation Options at the Cervicothoracic Junction: Intralaminar vs. Intrapedicular Techniques. *Scoliosis Research Society (SRS)*, Salt Lake City, UT, Sept 10-13, 2008.
44. Cardoso MJ, Dmitriev AE, Lehman RA, Helgeson MD, Cooper P, Rosner M. CT and Biomechanical Evaluation of Screw Fixation Options at the Cervicothoracic Junction: Intralaminar vs. Intrapedicular Techniques. *Congress of Neurological Surgeons (CNS)*, Orlando, FL, Sept 20-25, 2008.
45. Lehman RA, Jr., Dmitriev AE, Cardoso MJ, Christensen CL, Helgeson MD, Kuklo TR, Riew KD. Effect of Teriparatide [rhPTH(1,34)] and Calcitonin on Intertransverse Process Fusion in a Rabbit Model. Pre-Meeting Course *North American Spine Society (NASS)*, Toronto, ON, Oct 13, 2008.
46. Lehman RA, Helgeson MD, Patkowski JC, Mack AW, Rosner MK. Adjacent Vertebral Body Osteolysis with Bone Morphogenetic Protein Use in Transforaminal Lumbar Interbody Fusion. Pre-Meeting Course *North American Spine Society (NASS)*, Toronto, ON, Oct 13, 2008.
47. Lehman RA, Jr., Lenke LG, Helgeson MD, Keeler KA. Accuracy of An Intraoperative Scoliosis Radiograph to Determine Ultimate Correction and Balance after Deformity Correction: Should it be Mandatory? *North American Spine Society (NASS)*, Toronto, ON, Oct 14-18, 2008.
48. Lehman RA, Jr., Dmitriev AE, Cardoso MJ, Christensen CL, Helgeson MD, Kuklo TR, Riew KD. Effect of Teriparatide [rhPTH(1,34)] and Calcitonin on Intertransverse Process Fusion in a Rabbit Model. *North American Spine Society (NASS)*, Toronto, ON, Oct 14-18, 2008.

49. Helgeson MD, Lehman RA, Jr., Moore FM, Andersen RC, Frisch HM. Sacral Kyphosis as a Cause of Sacral Nerve Impingement in Lumbosacral Dissociations. *Orthopaedic Trauma Association (OTA)*, Denver, CO, Oct 15-18.
50. Lehman RA, Jr., Lenke LG, Helgeson MD, Keeler KA. Accuracy of An Intraoperative Scoliosis Radiograph to Determine Ultimate Correction and Balance after Deformity Correction: Should it be Mandatory? *Eastern Orthopaedic Association (EOA)*, Henderson, NV, Oct 22-25, 2008.
51. Helgeson MD, Tis JE, Dmitriev AE, Mack AW, Lehman RA. Biomechanical Analysis of Four Modern Lumbosacral Fixation Techniques. *Eastern Orthopaedic Association (EOA)*, Henderson, NV, Oct 22-25, 2008.
52. Lehman RA, Jr., Dmitriev AE, Cardoso MJ, Christensen CL, Helgeson MD, Kuklo TR, Riew KD. Effect of Teriparatide [rhPTH(1,34)] and Calcitonin on Intertransverse Process Fusion in a Rabbit Model. *Eastern Orthopaedic Association (EOA)*, Henderson, NV, Oct 22-25, 2008.
53. Helgeson MD, Lehman RA, Sasso RC, Dmitriev AE, Mack AW, Riew KD. CT and Biomechanical Analysis of Occipitocervical Stability Afforded by Three Fixation Techniques. *Cervical Spine Research Society (CSRS)*, Austin, TX, Dec 4-8, 2008.
54. Dmitriev AE, Chappius JL, Helgeson MD, Pare P, Gasperut A, Rampersaud R, Lehman RA Jr. Pull-out resistance afforded by a new fenestrated pedicle screw in vertebrae with compromised bone mineral density. *Society of Military Orthopaedic Surgeons (SOMOS)*, Las Vegas, NV, Dec 15-19, 2008.
55. Helgeson MD, Lehman RA, Sasso RC, Dmitriev AE, Mack AW, Riew KD. CT and Biomechanical Analysis of Occipitocervical Stability Afforded by Three Fixation Techniques. *Society of Military Orthopaedic Surgeons (SOMOS)*, Las Vegas, NV, Dec 15-19, 2008.
56. Helgeson MD, Dmitriev AE, Lehman RA, Sracic MK, Cardoso MJ. Stabilizing Potential of a New Anterior Cervical Revision Plate for Adjacent Level Surgery. *Society of Military Orthopaedic Surgeons (SOMOS)*, Las Vegas, NV, Dec 15-19, 2008.
57. Dmitriev AE, Helgeson MD, Stephens FL, Cooper PB, Rosner MK, Lehman RA, Jr. Do Expandable Cages Improve Segmental Stability Following a Lumbar Corpectomy? An In-Vitro Biomechanical Study. *Society of Military Orthopaedic Surgeons (SOMOS)*, Las Vegas, NV, Dec 15-19, 2008.
58. Helgeson MD, Lehman RA, Jr., Dmitriev AE, Luhmann SJ. Predictive Ability of Tapping Insertional Torque on Pedicle Screw Fixation Strength and Optimal Screw Size. *Society of Military Orthopaedic Surgeons (SOMOS)*, Las Vegas, NV, Dec 15-19, 2008.
59. Helgeson MD, Lehman RA, Jr., Moore FM, Andersen RC, Frisch HM. Retrospective Review of Lumbosacral Dissociation Injuries in High Energy Blast Injuries. *Society of Military Orthopaedic Surgeons (SOMOS)*, Las Vegas, NV, Dec 15-19, 2008.
60. Helgeson MD, Lehman RA, Jr., Sieg R, Eckel TT, Cooper PB, Rosner MK, Bellabarba C. Low Lumbar Burst Fractures: A Unique Fracture Mechanism Sustained in Our

- Current Overseas Conflicts. *Society of Military Orthopaedic Surgeons (SOMOS)*, Las Vegas, NV, Dec 15-19, 2008.
61. Lehman RA, Jr., Dmitriev AE, Cardoso MJ, Christensen CL, Helgeson MD, Kuklo TR, Riew KD. Effect of Teriparatide [rhPTH(1,34)] and Calcitonin on Intertransverse Process Fusion in a Rabbit Model. *Society of Military Orthopaedic Surgeons (SOMOS)*, Las Vegas, NV, Dec 15-19, 2008.
 62. Lehman RA, Jr., Lenke LG, Helgeson MD, Keeler KA. Accuracy of An Intraoperative Scoliosis Radiograph to Determine Ultimate Correction and Balance after Deformity Correction: Should it be Mandatory? *Society of Military Orthopaedic Surgeons (SOMOS)*, Las Vegas, NV, Dec 15-19, 2008.
 63. Helgeson MD, Lehman RA, Keeler KA, Bunmaprasert T, Riew KD. Ability of Magnetic Resonance Imaging to Predict Facet Arthrosis in the Cervical Spine. *American Academy of Orthopaedic Surgeons (AAOS)*, Las Vegas, NV, Feb 24-28, 2009.
 64. Lehman RA, Jr., Dmitriev AE, Cardoso MJ, Christensen CL, Helgeson MD, Kuklo TR, Riew KD. Effect of Teriparatide [rhPTH(1,34)] and Calcitonin on Intertransverse Process Fusion in a Rabbit Model. *AANS/CNS Section on Disorders of the Spine and Peripheral Nerves*. Phoenix, AZ, Mar 11-14, 2009.
 65. Helgeson MD, Dmitriev AE, Stephens FL, Cooper PB, Rosner MK, Lehman RA, Jr. Biomechanical Importance of the Anterior Longitudinal Ligament in a Corpectomy Model. *AANS/CNS Section on Disorders of the Spine and Peripheral Nerves*. Phoenix, AZ, Mar 11-14, 2009.
 66. Dmitriev AE, Helgeson MD, Stephens FL, Cooper PB, Rosner MK, Lehman RA, Jr. Do Expandable Cages Improve Segmental Stability Following a Lumbar Corpectomy? An In-Vitro Biomechanical Study. *AANS/CNS Section on Disorders of the Spine and Peripheral Nerves*. Phoenix, AZ, Mar 11-14, 2009.
 67. Cardoso MJ, Helgeson MD, Dmitriev AE, Bailey JR, Lehman RA, Cooper PB, Rosner MK. Does Catastrophic Failure of Upper Thoracic Lamina Screws Violate the Spinal Canal? A Cadaveric Biomechanical Analysis. *AANS/CNS Section on Disorders of the Spine and Peripheral Nerves*. Phoenix, AZ, Mar 11-14, 2009.
 68. Helgeson MD, Lehman RA, Jr., Sieg R, Eckel TT, Cooper PB, Rosner MK, Bellabarba C. Low Lumbar Burst Fractures: A Unique Fracture Mechanism Sustained in Our Current Overseas Conflicts. *Lumbar Spine Research Society*, Chicago, IL, Apr 2-3, 2009.
 69. Helgeson MD, Lehman RA, Patkowski JC, Mack AW, Rosner MK. Adjacent Vertebral Body Osteolysis with Bone Morphogenetic Protein Use in Transforaminal Lumbar Interbody Fusion. *Lumbar Spine Research Society*, Chicago, IL, Apr 2-3, 2009.
 70. Lehman RA, Helgeson MD, Andersen RC, Bellabarba C, Frisch HM. Lumbosacral Dissociation Injuries in High Energy Blast Injuries. *International Meeting on Advanced Spinal Techniques*, Vienna, Austria, July 18, 2009.

71. Lehman RA, Jr., Eckel TT, Helgeson MD, Sieg R, Cooper PB, Bellabarba C. Low Lumbar Burst Fractures: A Unique Fracture Mechanism Sustained in Our Current Overseas Conflicts. *International Meeting on Advanced Spinal Techniques*, Vienna, Austria, July 18, 2009.
72. Blanke KM, Koester LA, Lenke LG, Lehman RA, Helgeson MD, Crandall D, Revella J, Bridwell K, Baldus C. Comparison of Three Surgical Treatments for Degenerative Lumbar Scoliosis with Symptomatic Spinal Stenosis. *International Meeting on Advanced Spinal Techniques*, Vienna, Austria, July 18, 2009.
73. Dmitriev AE, Helgeson MD, Lehman RA, Mack AW, Eckel TT, Vaccaro AR. Effect of Risedronate and OP-1 on Intertransverse Process Fusion in a Rabbit Model. *North American Spine Society*, San Francisco, CA, Nov 10-14, 2009.
74. Tis JE, Helgeson MD, Dmitriev AE, Lehman RA. Biomechanical Importance of S1 and Iliac Fixation when Instrumenting to the Pelvis: Analysis of Four Modern Lumbosacral Fixation Techniques. *North American Spine Society*, San Francisco, CA, Nov 10-14, 2009.
75. Lehman RA, Helgeson MD, Dmitriev AE, Lenke LG. Caudal Pedicle Screw Compression Optimizes Thoracic Kyphosis Correction: A MicroCT and Biomechanical Analysis of Pedicle Morphology and Screw Failure. *North American Spine Society*, San Francisco, CA, Nov 10-14, 2009.
76. Helgeson MD, Dmitriev AE, Stephens F, Cooper PB, Lehman RA. Expandable Cages Provide Increased Biomechanical Stability when the Anterior Longitudinal Ligament is Compromised. *North American Spine Society*, San Francisco, CA, Nov 10-14, 2009.
77. Lehman RA, Helgeson MD, Andersen RC, Bellabarba C, Frisch HM. Lumbosacral Dissociation Injuries in High Energy Blast Injuries. *North American Spine Society*, San Francisco, CA, Nov 10-14, 2009.
78. Helgeson MD, Dmitriev AE, Stephens FL, Cooper PB, Rosner MK, Lehman RA, Jr. Biomechanical Importance of the Anterior Longitudinal Ligament in a Corpectomy Model. *Society of Military Orthopaedic Surgeons*, Honolulu, HI, Dec 14-18, 2009.
79. Cardoso MJ, Lehman RA, Paik H, Rosner MK, Moser RP, Dmitriev AE, Helgeson MD, Gill NW, Lenke LG. Structures at Risk from Pedicle Screws in the Proximal Thoracic Spine: Computed Tomographic (CT) Evaluation with Magnetic Resonance Imaging (MRI) Correlation. *Society of Military Orthopaedic Surgeons*, Honolulu, HI, Dec 14-18, 2009.
80. Lehman RA, Wilson K, Helgeson MD, Dmitriev AE, Kang DG. Biomechanical Analysis Of C2 Intralaminar Fixation Technique Using A Crosslink And Offset Connector For An Unstable Atlantoaxial Joint. *North American Spine Society (NASS) 26th Annual Meeting*. Chicago, IL, 2-5 November, 2011.
81. Helgeson MD, Lehman RA, Dmitriev AE, Kang DG, Bevevino AJ, Luhmann SJ. Tapping Insertional Torque Allows Prediction for Better Pedicle Screw Fixation and Optimal Screw Size Selection. *International Society for the Advancement of Spine Surgery*. Barcelona, Spain, 20-23 Mar 2012.

82. Bevevino AJ, Lehman RA, Kang DG, Helgeson MD, Dmitriev AE, Paik H, Gaume RE, Lenke LG. Caudal Pedicle Screw Compression Optimizes Thoracic Kyphosis Correction: A MicroCT and Biomechanical Analysis of Pedicle Morphology and Screw Failure. Maryland Orthopaedic Association (MOA) 71st Annual Meeting. Baltimore, MD, 21 April 2012.
83. Bevevino AJ, Lehman RA, Kang DG, Helgeson MD, Dmitriev AE, Paik H, Gaume RE, Lenke LG. Caudal Pedicle Screw Compression Optimizes Thoracic Kyphosis Correction: A MicroCT and Biomechanical Analysis of Pedicle Morphology and Screw Failure. Lumbar Spine Research Society (LSRS) 5th Annual Meeting. Chicago, IL, 26-27 April 2012.
84. Helgeson MD, Kang DG, Lehman RA, Dmitriev AE, Luhmann SJ. Tapping Insertional Torque Allows Prediction for Better Pedicle Screw Fixation and Optimal Screw Size Selection. Lumbar Spine Research Society (LSRS) 5th Annual Meeting. Chicago, IL, 26-27 April 2012.
85. Bevevino AJ, Lehman RA, Kang DG, Helgeson MD, Dmitriev AE, Paik H, Gaume RE, Lenke LG. Caudal Pedicle Screw Compression Optimizes Thoracic Kyphosis Correction: A MicroCT and Biomechanical Analysis of Pedicle Morphology and Screw Failure. Washington Orthopaedic Society 2012 Annual Resident Research Competition. Washington, D.C., 7 May, 2012.
86. Helgeson MD, Kang DG, Lehman RA, Dmitriev AE, Luhmann SJ, Tracey RW. Tapping insertional torque predicts better pedicle screw fixation and optimal screw size selection. NASS Spine Across the Sea 2012. Kauai, HI, 29 Jul – 2 Aug 2012.
87. Kang DG, Bevevino AJ, Lehman RA, Dmitriev AE, Helgeson MD, Gaume R, Happel P, Tracey RW. Do Ponte osteotomies affect the biomechanical consequences of rod reduction in the thoracic spine? NASS Spine Across the Sea 2012. Kauai, HI, 29 Jul – 2 Aug 2012.
88. Lehman RA, Bevevino AJ, Kang DG, Gaume RE, Helgeson MD, Happel PF, Dmitriev AE, Tracey RW. The Biomechanical Consequences of Rod Reduction Following Facetectomy in the Lumbar Spine. Southern Orthopaedic Association (SOA) 29th Annual Conference. White Sulphur Springs, WV, 18-21 July 2012.
89. Kang DG, Bevevino AJ, Lehman RA, Dmitriev AE, Helgeson MD, Gaume R, Happel P, Tracey RW. The Biomechanical Consequences of Rod Reduction Following Thoracic Ponte Osteotomy and Lumbar Facetectomy. Society of Military Orthopaedic Surgeons (SOMOS) 54th Annual Conference. Naples, FL, 10-14 December 2012.
90. Helgeson MD, Kang DG, Lehman RA, Dmitriev AE, Luhmann SJ. Tapping Insertional Torque Predicts Better Pedicle Screw Fixation and Optimal Screw Size Selection. American Association of Orthopaedic Surgeons Annual Meeting. Chicago, IL, 19-23 March 2013.
91. Kang DG, Lehman RA, Bevevino AJ, Tracey RW, Gaume R, Helgeson MD, Happel P, Dmitriev AE. The Biomechanical Consequences of Rod Reduction Following Thoracic

- Ponte Osteotomy and Lumbar Facetectomy. Lumbar Spine Research Society (LSRS) 6th Annual Meeting. Chicago, IL, 11-12 Apr 2013.
92. Helgeson MD, Kang DG, Lehman RA, Tracey RW, Cody JP, Dmitriev AE, Luhmann SJ. Tapping Insertional Torque Allows Prediction for Better Pedicle Screw Fixation and Optimal Screw Size Selection. North American Spine Society (NASS) 28th Annual Meeting. New Orleans LA, 9-12 October 2013.
 93. Lehman RA, Kang DG, Bevevino AJ, Tracey RW, Cody JP, Helgeson MD, Dmitriev AE. The Biomechanical Consequences of Rod Reduction Following Thoracic Ponte Osteotomy and Lumbar Facetectomy. North American Spine Society (NASS) 28th Annual Meeting. New Orleans LA, 9-12 October 2013.
 94. Formby PM, Wagner SC, Kang DG, Helgeson MD. Osteoporosis Increases Radiographic Failure after Transforaminal Lumbar Interbody Fusion. *Lumbar Spine Research Society (CSRS) 8th Annual Meeting*, Chicago, IL, 9-10 Apr, 2015
 95. Formby PM, Wagner SC, Kang DG, Helgeson MD. Diagnosing the Undiagnosed: Osteoporosis in Patients Undergoing Lumbar Fusion. *Lumbar Spine Research Society (CSRS) 8th Annual Meeting*, Chicago, IL, 9-10 Apr, 2015.
 96. Wagner SC, Formby PM, Kang DG, Helgeson MD. Interbody Cage Height Affects Subsidence Rate after Transforaminal Lumbar Interbody Fusion. *Society of Military Orthopaedic Surgeons (SOMOS) 57th Annual Meeting*. St. Petersburg, FL., December 7-11, 2015.
 97. Palepu V, Peck J, Simon D, Helgeson MD, Nagaraja S. Biomechanical Stability of Lumbar Integrated Fixation Spinal Cages under Fatigue Loading. *International Society for the Advancement of Spinal Surgery*, Las Vegas, NV, Apr 6-8, 2016.
 98. Formby PM, Kang DG, Helgeson MD, Wagner SC. Osteoporosis Increases Radiographic Failure After Transforaminal Lumbar Interbody Fusion. *International Meeting on Advanced Spinal Techniques*, Washington, DC, July 14, 2016.
 99. Wagner SC, Formby PM, Helgeson MD, Kang DG. Diagnosing The Undiagnosed: Osteoporosis In Patients Undergoing Lumbar Fusion Session. *International Meeting on Advanced Spinal Techniques*, Washington, DC, July 14, 2016.
 100. Formby PM, Kang DG, Helgeson MD, Wagner SC. Interbody Cage Height Affects Subsidence Rate After Transforaminal Lumbar Interbody Fusion. *International Meeting on Advanced Spinal Techniques*, Washington, DC, July 15, 2016.

POSTER PRESENTATIONS

1. Dmitriev AE, Lehman RA, Jr, Helgeson MD, Riew KD, Kuklo TR, Sasso RC. Acute and Long Term Fatigue Stability of Three Axial Fixation Methods: A Biomechanical Comparison of Pars, Pedicle and Intralaminar Screws. *Cervical Spine Research Society (CSRS)*, Palm Beach, FL, Nov 30-Dec 1, 2006.

2. Lehman RA, Jr, Dmitriev AE, Sasso RC, Helgeson MD, Kuklo TR, Riew KD. Stability of Atlantoaxial Fixation Methods: A Biomechanical Comparison of Pars, Pedicle and Intralaminar Screws in an Intact and Odontoid Fracture Model. *Cervical Spine Research Society (CSRS)*, Palm Beach, FL, Nov 30-Dec 1, 2006.
3. Helgeson MD, Shah SA, Newton PO, Clements D, Betz R, Marks M, Bastrom T. Evaluation of Proximal Junctional Kyphosis in Adolescent Idiopathic Scoliosis Following Pedicle Screw, Hook, and Hybrid Instrumentation. *International Meeting on Advanced Spine Techniques (IMAST)*, Paradise Island, Bahamas, 14 July 2007.
4. Lehman RA, Jr, Dmitriev AE, Sasso RC, Helgeson MD, Kuklo TR, Riew KD. Biomechanical Comparison of Pars, Pedicle and Intralaminar Screws in an Intact and Odontoid Fracture Model. *International Meeting on Advanced Spine Techniques (IMAST)*, Paradise Island, Bahamas, 14 July 2007.
5. Lehman RA, Jr, Dmitriev AE, Sasso RC, Helgeson MD, Kuklo TR, Riew KD. Accuracy of the Free-Hand Technique for Three Fixation Methods into the C2 Vertebrae. *International Meeting on Advanced Spine Techniques (IMAST)*, Paradise Island, Bahamas, 14 July 2007.
6. Lehman RA, Jr, Sasso RC, Helgeson MD, Dmitriev AE, Gill NG, Rosner MK, Riew KD. Reliability of Intraoperative Plain Radiographs to Detect Violations of Intralaminar Screws Placed into the C2 Vertebrae. *International Meeting on Advanced Spine Techniques (IMAST)*, Paradise Island, Bahamas, 14 July 2007.
7. Lehman RA, Jr, Dmitriev AE, Helgeson MD, Gill NW, Cardoso MJ. Salvage of C2 Pedicle Screw Fixation with a Novel Lateral Offset Connector. *International Meeting on Advanced Spine Techniques (IMAST)*, Paradise Island, Bahamas, 14 July 2007.
8. Cardoso MJ, Rosner MK, Dmitriev AE, Helgeson MD, Gill NW, Kuklo TR, Lehman RA, Jr. Does Proximal Facet Violation With Intrapedicular Instrumentation Destabilize The Adjacent Level? An In-Vitro Human Cadaveric Assessment. *Congress of Neurological Surgeons (CNS)*, San Diego, CA, Sept 17, 2007
9. Lehman RA, Jr, Dmitriev AE, Sasso RC, Helgeson MD, Kuklo TR, Riew KD. Stability of Atlantoaxial Fixation Methods: A Biomechanical Comparison of Pars, Pedicle and Intralaminar Screws in an Intact and Odontoid Fracture Model. *North American Spine Society (NASS)*, Austin, TX, Oct 23-27, 2007.
10. Lehman RA, Jr, Sasso RC, Riew KD, Helgeson MD, Dmitriev AE, Gill N, Rosner MR. Reliability of Intraoperative Plain Radiographs to Detect Violations of Intralaminar Screws Placed into the C2 Vertebrae. *North American Spine Society (NASS)*, Austin, TX, Oct 23-27, 2007.
11. Lehman RA, Jr, Dmitriev AE, Sasso RC, Helgeson MD, Riew KD. Accuracy of the Free-Hand Technique for Three Fixation Methods into the C2 Vertebrae. *North American Spine Society (NASS)*, Austin, TX, Oct 23-27, 2007.
12. Cardoso MJ, Dmitriev AE, Helgeson MD, Gill NW, Kuklo TR, Rosner MK, Lehman RA, Jr. Does Proximal Facet Violation With Intrapedicular Instrumentation Destabilize

- The Adjacent Level? An In-Vitro Human Cadaveric Assessment. *North American Spine Society (NASS)*, Austin, TX, Oct 23-27, 2007.
13. Cardoso MJ, Dmitriev AE, Lehman RA, Helgeson MD, Cooper P, Rosner M. Radiographic Analysis of Proximal Thoracic Spine Lamina for Determining Optimal Implant Placement. *Cervical Spine Research Society (CSRS)*, San Francisco, CA, Nov 28-Dec 1, 2007.
 14. Mack AW, Helgeson MD, Tis JE. Contralateral Structural Cortical Autograft Use in Treatment of an Open Periarticular Knee Fracture with Segmental Bone Defect to Perform Knee Arthrodesis. *Society of Military Orthopaedic Surgeons (SOMOS)*, Vail, CO, Dec 10-15, 2007.
 15. Cardoso MJ, Dmitriev AE, Lehman RA, Helgeson MD, Cooper P, Rosner M. CT and Biomechanical Evaluation of Screw Fixation Options at the Cervicothoracic Junction: Intralaminar vs. Intrapedicuar Techniques. *AANS/CNS Section on Disorders of the Spine and Peripheral Nerves*, Orlando, FL, Feb 27-Mar 1, 2008.
 16. Helgeson MD, Lehman RA, Mack AW, Neal C, Rosner MK. Adjacent Vertebral Body Osteolysis with Bone Morphogenetic Protein Use in Transforaminal Lumbar Interbody Fusion. *American Association of Neurological Surgeons (AANS)*, Chicago, IL, Apr 26-May 1, 2008.
 17. Helgeson MD, Tis JE, Dmitriev AE, Mack AW, Lehman RA. Biomechanical Analysis of Four Modern Lumbosacral Fixation Techniques. *Pediatric Orthopaedic Society of North America (POSNA)*, Albuquerque, New Mexico, Apr 29-May 3, 2008.
 18. Cardoso MJ, Dmitriev AE, Lehman RA, Helgeson MD, Cooper P, Rosner M. CT and Biomechanical Evaluation of Screw Fixation Options at the Cervicothoracic Junction: Intralaminar vs. Intrapedicuar Techniques. *SpineWeek 2008* (European Cervical Spine Research Society). May 26-31, 2008.
 19. Dmitriev AE, Lehman RA, Cardoso MJ, Helgeson MD. Stabilizing Potential of a New Anterior Cervical Revision Plate for Adjacent Level Surgery. *SpineWeek 2008* (European Cervical Spine Research Society). May 26-31, 2008.
 20. Lehman RA, Dmitriev AE, Gill NW, Helgeson MD, Cardoso MJ. Salvage of C2 Pedicle Screw Fixation with a Novel Technique of a Lateral Offset Connector for Atlantoaxial Fixation. *SpineWeek 2008* (European Cervical Spine Research Society). May 26-31, 2008.
 21. Lehman RA, Dmitriev AE, Helgeson MD, Sasso RC, Riew KD. Salvage of C2 Pedicle and Pars Screws Using the Intralaminar Technique: A Biomechanical Analysis. *SpineWeek 2008* (European Cervical Spine Research Society). May 26-31, 2008.
 22. Cardoso MJ, Dmitriev AE, Lehman RA, Helgeson MD, Cooper P, Rosner M. Radiographic Analysis of Proximal Thoracic Spine Lamina for Determining Optimal Implant Placement. *SpineWeek 2008* (Scoliosis Research Society). May 26-31, 2008.
 23. Cardoso MJ, Dmitriev AE, Helgeson MD, Gill NW, Kuklo TR, Rosner MK, Lehman RA, Jr. Does Proximal Facet Violation With Intrapedicuar Instrumentation Destabilize

- The Adjacent Level? An In-Vitro Human Cadaveric Assessment. *Southern Orthopaedic Association (SOA)*, Hot Springs, VA, June 11-15, 2008.
24. Helgeson MD, Lehman RA, Jr., Moore FM, Andersen RC, Frisch HM. Retrospective Review of Lumbosacral Dissociation Injuries in High Energy Blast Injuries. *International Meeting on Advanced Spine Techniques (IMAST)*, Hong Kong, July 8-11, 2008.
 25. Helgeson MD, Dmitriev AE, Stephens FL, Cooper PB, Rosner MK, Lehman RA, Jr. Biomechanical Importance of the Anterior Longitudinal Ligament in a Corpectomy Model. *International Meeting on Advanced Spine Techniques (IMAST)*, Hong Kong, July 8-11, 2008.
 26. Helgeson MD, Tis JE, Dmitriev AE, Mack AW, Lehman RA. Biomechanical Analysis of Four Modern Lumbosacral Fixation Techniques. *International Meeting on Advanced Spine Techniques (IMAST)*, Hong Kong, July 8-11, 2008.
 27. Helgeson MD, Lehman RA, Jr., Moore FM, Andersen RC, Frisch HM. Sacral Kyphosis as a Cause of Sacral Nerve Impingement in Lumbosacral Dissociations. *International Meeting on Advanced Spine Techniques (IMAST)*, Hong Kong, July 8-11, 2008.
 28. Helgeson MD, Lehman RA, Jr., Dmitriev AE, Luhmann SJ. Predictive Ability of Tapping Insertional Torque on Pedicle Screw Fixation Strength and Optimal Screw Size. *International Meeting on Advanced Spine Techniques (IMAST)*, Hong Kong, July 8-11, 2008.
 29. Dmitriev AE, Helgeson MD, Stephens FL, Cooper PB, Rosner MK, Lehman RA, Jr. Do Expandable Cages Improve Segmental Stability Following a Lumbar Corpectomy? An In-Vitro Biomechanical Study. *International Meeting on Advanced Spine Techniques (IMAST)*, Hong Kong, July 8-11, 2008.
 30. Lehman RA, Jr., Dmitriev AE, Cardoso MJ, Christensen CL, Helgeson MD, Kuklo TR, Riew KD. Effect of Teriparatide [rhPTH(1,34)] and Calcitonin on Intertransverse Process Fusion in a Rabbit Model. *International Meeting on Advanced Spine Techniques (IMAST)*, Hong Kong, July 8-11, 2008.
 31. Dmitriev AE, Lehman RA, Cardoso MJ, Helgeson MD. Stabilizing Potential of a New Anterior Cervical Revision Plate for Adjacent Level Surgery. *International Meeting on Advanced Spine Techniques (IMAST)*, Hong Kong, July 8-11, 2008.
 32. Kuklo TR, Helgeson MD, Rosner MK, Moquin R. Do Preoperative Steroid Injections Increase the Risk of Postoperative Infection? *International Meeting on Advanced Spine Techniques (IMAST)*, Hong Kong, July 8-11, 2008.
 33. Lehman RA, Jr., Lenke LG, Helgeson MD, Keeler KA. Accuracy of An Intraoperative Scoliosis Radiograph to Determine Ultimate Correction and Balance after Deformity Correction: Should it be Mandatory? *International Meeting on Advanced Spine Techniques (IMAST)*, Hong Kong, July 8-11, 2008.
 34. Helgeson MD, Lehman RA, Jr., Sieg R, Cooper PB, Rosner MK, Bellabarba C. Low Lumbar Burst Fractures: A Unique Fracture Mechanism Sustained in Our Current

- Overseas Conflicts. *International Meeting on Advanced Spine Techniques (IMAST)*, Hong Kong, July 8-11, 2008.
35. Cardoso MJ, Lehman RA, Rosner MK, Moser RP, Dmitriev AE, Helgeson MD, Gill NW, Lenke LG. Structures at Risk from Pedicle Screws in the Proximal Thoracic Spine: Computed Tomographic (CT) Evaluation with Magnetic Resonance Imaging (MRI) Correlation. *Scoliosis Research Society (SRS)*, Salt Lake City, UT, Sept 10-13, 2008.
 36. Helgeson MD, Lehman RA, Patkowski JC, Mack AW, Rosner MK. Adjacent Vertebral Body Osteolysis with Bone Morphogenetic Protein Use in Transforaminal Lumbar Interbody Fusion. *North American Spine Society (NASS)*, Toronto, ON, Oct 14-18, 2008.
 37. Cardoso MJ, Dmitriev AE, Lehman RA, Helgeson MD, Cooper P, Rosner M. CT and Biomechanical Evaluation of Screw Fixation Options at the Cervicothoracic Junction: Intralaminar vs. Intrapedicular Techniques. *North American Spine Society (NASS)*, Toronto, ON, Oct 14-18, 2008.
 38. Helgeson MD, Lehman RA, Jr., Sieg R, Cooper PB, Rosner MK, Bellabarba C. Low Lumbar Burst Fractures: A Unique Fracture Mechanism Sustained in Our Current Overseas Conflicts. *North American Spine Society (NASS)*, Toronto, ON, Oct 14-18, 2008.
 39. Cardoso MJ, Lehman RA, Rosner MK, Moser RP, Dmitriev AE, Helgeson MD, Gill NW, Lenke LG. Structures at Risk from Pedicle Screws in the Proximal Thoracic Spine: Computed Tomographic (CT) Evaluation with Magnetic Resonance Imaging (MRI) Correlation. *North American Spine Society (NASS)*, Toronto, ON, Oct 14-18, 2008.
 40. Helgeson MD, Lehman RA, Jr., Moore FM, Andersen RC, Frisch HM. Sacral Kyphosis as a Cause of Sacral Nerve Impingement in Lumbosacral Dissociations. *North American Spine Society (NASS)*, Toronto, ON, Oct 14-18, 2008.
 41. Helgeson MD, Dmitriev AE, Stephens FL, Cooper PB, Rosner MK, Lehman RA, Jr. Biomechanical Importance of the Anterior Longitudinal Ligament in a Corpectomy Model. *North American Spine Society (NASS)*, Toronto, ON, Oct 14-18, 2008.
 42. Helgeson MD, Dmitriev AE, Stephens FL, Cooper PB, Rosner MK, Lehman RA, Jr. Biomechanical Importance of the Anterior Longitudinal Ligament in a Corpectomy Model. *Eastern Orthopaedic Association (EOA)*, Henderson, NV, Oct 22-25, 2008.
 43. Helgeson MD, Lehman RA, Neal C, Patkowski JC, Mack AW, Rosner MK. Adjacent Vertebral Body Osteolysis with Bone Morphogenetic Protein Use in Transforaminal Lumbar Interbody Fusion. *Congress of Neurological Surgeons (CNS)*, Orlando, FL, Sept 20-25, 2008.
 44. Helgeson MD, Lehman RA, Jr., Cardoso MJ, Sieg R, Cooper PB, Rosner MK, Bellabarba C. Low Lumbar Burst Fractures: A Unique Fracture Mechanism Sustained in Our Current Overseas Conflicts. *Congress of Neurological Surgeons (CNS)*, Orlando, FL, Sept 20-25, 2008.

45. Dmitriev AE, Lehman RA, Cardoso MJ, Helgeson MD. Stabilizing Potential of a New Anterior Cervical Revision Plate for Adjacent Level Surgery. *Congress of Neurological Surgeons (CNS)*, Orlando, FL, Sept 20-25, 2008.
46. Helgeson MD, Lehman RA, Jr., Moore FM, Andersen RC, Frisch HM. Retrospective Review of Lumbosacral Dissociation Injuries in High Energy Blast Injuries. *Orthopaedic Trauma Association (OTA)*, Denver, CO, Oct 15-18.
47. Lehman RA, Jr., Dmitriev AE, Cardoso MJ, Christensen CL, Helgeson MD, Kuklo TR, Riew KD. Effect of Teriparatide [rhPTH(1,34)] and Calcitonin on Intertransverse Process Fusion in a Rabbit Model. *Cervical Spine Research Society (CSRS)*, Austin, TX, Dec 4-8, 2008.
48. Helgeson MD, Dmitriev AE, Stephens FL, Cooper PB, Rosner MK, Lehman RA, Jr. Biomechanical Importance of the Anterior Longitudinal Ligament in a Corpectomy Model. *Society of Military Orthopaedic Surgeons (SOMOS)*, Las Vegas, NV, Dec 15-19, 2008.
49. Lehman RA, Jr., Lenke LG, Helgeson MD, Keeler KA. Accuracy of An Intraoperative Scoliosis Radiograph to Determine Ultimate Correction and Balance after Deformity Correction: Should it be Mandatory? *American Academy of Orthopaedic Surgeons (AAOS)*, Las Vegas, NV, Feb 24-28, 2009.
50. Helgeson MD, Lehman RA, Sasso RC, Dmitriev AE, Mack AW, Riew KD. CT and Biomechanical Analysis of Occipitocervical Stability Afforded by Three Fixation Techniques. *American Academy of Orthopaedic Surgeons (AAOS)*, Las Vegas, NV, Feb 24-28, 2009.
51. Helgeson MD, Lehman RA, Patkowski JC, Mack AW, Rosner MK. Adjacent Vertebral Body Osteolysis with Bone Morphogenetic Protein Use in Transforaminal Lumbar Interbody Fusion. *American Academy of Orthopaedic Surgeons (AAOS)*, Las Vegas, NV, Feb 24-28, 2009.
52. Cardoso MJ, Dmitriev AE, Helgeson MD, Stephens F, Lehman RA, Cooper PB, Rosner MK. Lamina Screws as a Salvage Technique at C7: CT and Biomechanical Analysis Using Cadaveric Vertebrae. *AANS/CNS Section on Disorders of the Spine and Peripheral Nerves*. Phoenix, AZ, Mar 11-14, 2009.
53. Cardoso MJ, Dmitriev AE, Helgeson MD, Stephens F, Lehman RA, Cooper PB, Rosner MK. Lamina Screws as a Salvage Technique at C7: CT and Biomechanical Analysis Using Cadaveric Vertebrae. *International Meeting on Advanced Spinal Techniques*, Vienna, Austria, July 18, 2009.
54. Cardoso MJ, Helgeson MD, Dmitriev AE, Bailey JR, Lehman RA, Cooper PB, Rosner MK. Does Catastrophic Failure of Upper Thoracic Lamina Screws Violate the Spinal Canal? A Cadaveric Biomechanical Analysis. *International Meeting on Advanced Spinal Techniques*, Vienna, Austria, July 18, 2009.
55. Dmitriev AE, Helgeson MD, Lehman RA, Mack AW, Eckel TT, Vaccaro AR. Effect of Risedronate and OP-1 on Intertransverse Process Fusion in a Rabbit Model. *International Meeting on Advanced Spinal Techniques*, Vienna, Austria, July 18, 2009.

56. Lehman RA, Helgeson MD, Dmitriev AE, Lenke LG. Caudal Pedicle Screw Compression Optimizes Thoracic Kyphosis Correction: A MicroCT and Biomechanical Analysis of Pedicle Morphology and Screw Failure. *International Meeting on Advanced Spinal Techniques*, Vienna, Austria, July 18, 2009.
57. Tis JE, Helgeson MD, Dmitriev AE, Lehman RA. Biomechanical Importance of S1 and Iliac Fixation when Instrumenting to the Pelvis: Analysis of Four Modern Lumbosacral Fixation Techniques. *Scoliosis Research Society*, San Antonio, TX, Sept 23-26, 2009.
58. Lehman RA, Jr., Eckel TT, Helgeson MD, Sieg R, Cooper PB, Bellabarba C. Low Lumbar Burst Fractures: A Unique Fracture Mechanism Sustained in Our Current Overseas Conflicts. *North American Spine Society*, San Francisco, CA, Nov 10-14, 2009.
59. Helgeson MD, Lehman RA, Jr., Dmitriev AE, Luhmann SJ. Predictive Ability of Tapping Insertional Torque on Pedicle Screw Fixation Strength and Optimal Screw Size. *North American Spine Society*, San Francisco, CA, Nov 10-14, 2009.
60. Helgeson MD, Lehman RA, Sasso RC, Dmitriev AE, Mack AW, Riew KD. CT and Biomechanical Analysis of Occipitocervical Stability Afforded by Three Fixation Techniques. *North American Spine Society*, San Francisco, CA, Nov 10-14, 2009.
61. Dmitriev AE, Helgeson MD, Lehman RA, Mack AW, Eckel TT, Vaccaro AR. Effect of Risedronate and OP-1 on Intertransverse Process Fusion in a Rabbit Model. *Cervical Spine Research Society*, Salt Lake City, UT, Dec 3-5, 2009.
62. Cardoso MJ, Helgeson MD, Dmitriev AE, Bailey JR, Lehman RA, Cooper PB, Rosner MK. Does Catastrophic Failure of Upper Thoracic Lamina Screws Violate the Spinal Canal? A Cadaveric Biomechanical Analysis. *Cervical Spine Research Society*, Salt Lake City, UT, Dec 3-5, 2009.
63. Cardoso MJ, Helgeson MD, Dmitriev AE, Bailey JR, Lehman RA, Cooper PB, Rosner MK. Does Catastrophic Failure of Upper Thoracic Lamina Screws Violate the Spinal Canal? A Cadaveric Biomechanical Analysis. *Society of Military Orthopaedic Surgeons*, Honolulu, HI, Dec 14-18, 2009.
64. Helgeson MD, Dmitriev AE, Lehman RA, Mack AW, Eckel TT, Vaccaro AR. Effect of Risedronate and OP-1 on Intertransverse Process Fusion in a Rabbit Model. *Society of Military Orthopaedic Surgeons*, Honolulu, HI, Dec 14-18, 2009.
65. Lehman RA, Helgeson MD, Dmitriev AE, Lenke LG. Caudal Pedicle Screw Compression Optimizes Thoracic Kyphosis Correction: A MicroCT and Biomechanical Analysis of Pedicle Morphology and Screw Failure. *Society of Military Orthopaedic Surgeons*, Honolulu, HI, Dec 14-18, 2009.
66. Wilson K, Helgeson MD, Lehman RA, Dmitriev AE, Kang DG, Cardoso MJ. Biomechanical Analysis Of C2 Intralaminar Fixation Technique Using A Crosslink And Offset Connector For An Unstable Atlantoaxial Joint. *International Meeting on Advanced Spinal Techniques (IMAST) 18th Annual Meeting*. Copenhagen, Denmark, 13-16 July 2011.

67. Helgeson MD, Lehman RA, Dmitriev AE, Kang DG, Sasso RC, Riew KD. Accuracy of the Free-Hand Technique for Three Fixation Methods into the C2 Vertebrae. Southern Orthopaedic Association (SOA) 28th Annual Conference. Big Island, HI, 20-23 July, 2011.
68. Helgeson MD, Lehman RA, Dmitriev AE, Kang DG, Luhmann SJ. Predictive ability of tapping insertional torque on pedicle screw fixation strength and optimal screw size. Southern Orthopaedic Association (SOA) 28th Annual Conference. Big Island, HI, 20-23 July, 2011.
69. Wilson K, Helgeson, MD, Lehman, RA, Dmitriev AE, Kang DG, Cardoso MJ. Biomechanical Analysis Of C2 Intralaminar Fixation Technique Using A Crosslink And Offset Connector For An Unstable Atlantoaxial Joint. Southern Orthopaedic Association (SOA) 28th Annual Conference. Big Island, HI, 20-23 July, 2011.
70. Helgeson MD, Lehman RA, Dmitriev AE, Kang DG, Sasso RC, Riew KD. Accuracy of the Free-Hand Technique for Three Fixation Methods into the C2 Vertebrae. Western Orthopaedic Association (WOA) 75th Annual Conference. Honolulu, HI. 27-30 July, 2011.
71. Wilson K, Helgeson, MD, Lehman, RA, Dmitriev AE, Kang DG, Cardoso MJ. Biomechanical Analysis Of C2 Intralaminar Fixation Technique Using A Crosslink And Offset Connector For An Unstable Atlantoaxial Joint. Western Orthopaedic Association (WOA) 75th Annual Conference. Honolulu, HI. 27-30 July, 2011.
72. Wilson K, Helgeson MD, Lehman RA, Dmitriev AE, Kang DG, Cardoso MJ. Biomechanical Analysis Of C2 Intralaminar Fixation Technique Using A Crosslink And Offset Connector For An Unstable Atlantoaxial Joint. Congress of Neurological Surgeons (CNS) 2011 Annual Meeting. Washington, DC, 1-6 October, 2011.
73. Helgeson MD, Lehman RA, Dmitriev AE, Kang DG, Luhmann SJ. Tapping Insertional Torque Allows Prediction for Better Pedicle Screw Fixation and Optimal Screw Size Selection. Congress of Neurological Surgeons (CNS) 2011 Annual Meeting. Washington, DC, 1-6 October, 2011.
74. Helgeson MD, Lehman RA, Dmitriev AE, Kang DG, Sasso RC, Riew KD. Accuracy of the Free-Hand Technique for Three Fixation Methods into the C2 Vertebrae. Congress of Neurological Surgeons (CNS) 2011 Annual Meeting. Washington, DC, 1-6 October, 2011.
75. Helgeson MD, Lehman RA, Dmitriev AE, Kang DG, Luhmann SJ. Tapping Insertional Torque Allows Prediction for Better Pedicle Screw Fixation and Optimal Screw Size Selection. North American Spine Society (NASS) 26th Annual Meeting. Chicago, IL, 2-5 November, 2011
76. Lehman RA, Helgeson MD, Dmitriev AE, Paik H, Bevevino AJ, Gaume RE, Kang DG, Lenke LG. Caudal Pedicle Screw Compression Optimizes Thoracic Kyphosis Correction: A MicroCT and Biomechanical Analysis of Pedicle Morphology and Screw Failure. International Society for the Advancement of Spine Surgery. Barcelona, Spain, 20-23 Mar 2012.

77. Helgeson MD, Lehman RA, Dmitriev AE, Kang DG, Bevevino AJ, Luhmann SJ. Tapping Insertional Torque Allows Prediction for Better Pedicle Screw Fixation and Optimal Screw Size Selection. American Association of Neurological Surgeons. Miami, FL, 14-18 April 2012.
78. Lehman RA, Helgeson MD, Dmitriev AE, Paik H, Bevevino AJ, Gaume RE, Kang DG, Lenke LG. Caudal Pedicle Screw Compression Optimizes Thoracic Kyphosis Correction: A MicroCT and Biomechanical Analysis of Pedicle Morphology and Screw Failure. American Association of Neurological Surgeons. Miami, FL, 14-18 April 2012.
79. Kang DG, Bevevino AJ, Lehman RA, Dmitriev AE, Helgeson MD, Gaume R, Happel P. The Biomechanical Consequence of Rod Reduction in the Thoracic Spine following Ponte Osteotomy. American Association of Neurological Surgeons. Miami, FL, 14-18 April 2012.
80. Bevevino AJ, Kang DG, Lehman RA, Dmitriev AE, Helgeson MD, Gaume R, Happel P. The Biomechanical Consequence of Rod Reduction versus Screw Re-insertion in the Lumbar Spine. American Association of Neurological Surgeons. Miami, FL, 14-18 April 2012.
81. Kang DG, Bevevino AJ, Lehman RA, Dmitriev AE, Helgeson MD, Gaume R, Happel P. Do Ponte osteotomies affect the biomechanical consequences of rod reduction in the thoracic spine? Lumbar Spine Research Society (LSRS) 5th Annual Meeting. Chicago, IL, 26-27 April 2012.
82. Bevevino AJ, Lehman RA, Kang DG, Dmitriev AE, Helgeson MD, Gaume R, Happel P. The Biomechanical Consequence of Rod Reduction versus Screw Re-insertion in the Lumbar Spine. Lumbar Spine Research Society (LSRS) 5th Annual Meeting. Chicago, IL, 26-27 April 2012.
83. Kang DG, Bevevino AJ, Lehman RA, Dmitriev AE, Helgeson MD, Gaume R, Happel P. Do Ponte osteotomies affect the biomechanical consequences of rod reduction in the thoracic spine? Virginia Orthopaedic Society Annual Meeting. Williamsburg, VA, 4-6 May 2012.
84. Kang DG, Helgeson MD, Lehman RA, Dmitriev AE, Luhmann SJ. Tapping insertional torque predicts better pedicle screw fixation and optimal screw size selection. Virginia Orthopaedic Society Annual Meeting. Williamsburg, VA, 4-6 May 2012.
85. Bevevino AJ, Lehman RA, Kang DG, Dmitriev AE, Helgeson MD, Gaume R, Happel P. The Biomechanical Consequence of Rod Reduction versus Screw Re-insertion in the Lumbar Spine. Virginia Orthopaedic Society Annual Meeting. Williamsburg, VA, 4-6 May 2012.
86. Bevevino AJ, Kang DG, Lehman RA, Dmitriev AE, Helgeson MD, Gaume R, Happel P. The Biomechanical Consequence of Rod Reduction Following Facetectomy in the Lumbar Spine. International Society for the Study of the Lumbar Spine (ISSLS). Spine Week 2012. Amsterdam, The Netherlands, 28 May – 1 Jun 2012.
87. Helgeson MD, Lehman RA, Dmitriev AE, Kang DG, Bevevino AJ, Luhmann SJ. Tapping insertional torque predicts better pedicle screw fixation and optimal screw size

- selection. International Society for the Study of the Lumbar Spine (ISSLS). Spine Week 2012. Amsterdam, The Netherlands, 28 May – 1 Jun 2012.
88. Bevevino AJ, Lehman RA, Dmitriev AE, Kang DG, Helgeson MD, Paik H, Gaume RE, Lenke LG. Caudal Pedicle Screw Compression Optimizes Thoracic Kyphosis Correction: A Micro CT and Biomechanical Analysis of Pedicle Morphology and Screw Failure. Western Orthopaedic Association 76th Annual Meeting. Portland, OR, 13-16 June, 2012.
 89. Lehman RA, Dmitriev AE, Bevevino AJ, Kang DG, Helgeson MD, Paik H, Gaume RE, Lenke LG. Caudal Pedicle Screw Compression Optimizes Thoracic Kyphosis Correction: A Micro CT and Biomechanical Analysis of Pedicle Morphology and Screw Failure. Southern Orthopaedic Association (SOA) 29th Annual Conference. White Sulphur Springs, WV, 18-21 July 2012.
 90. Kang DG, Lehman RA, Bevevino AJ, Gaume RE, Helgeson MD, Happel PF, Dmitriev AE. Do Ponte Osteotomies Affect the Biomechanical Consequences of Rod Reduction in the Thoracic Spine? International Meeting on Advanced Spinal Techniques (IMAST) 19th Annual Meeting. Istanbul, Turkey, 18-21 July 2012.
 91. Lehman RA, Dmitriev AE, Bevevino AJ, Kang DG, Helgeson MD, Paik H, Gaume RE, Lenke LG. Caudal Pedicle Screw Compression Optimizes Thoracic Kyphosis Correction: A Micro CT and Biomechanical Analysis of Pedicle Morphology and Screw Failure. International Meeting on Advanced Spinal Techniques (IMAST) 19th Annual Meeting. Istanbul, Turkey, 18-21 July 2012.
 92. Lehman RA, Bevevino AJ, Kang DG, Gaume RE, Helgeson MD, Happel PF, Dmitriev AE. The Biomechanical Consequences of Rod Reduction Following Facetectomy in the Lumbar Spine. International Meeting on Advanced Spinal Techniques (IMAST) 19th Annual Meeting. Istanbul, Turkey, 18-21 July 2012.
 93. Kang DG, Bevevino AJ, Lehman RA, Dmitriev AE, Helgeson MD, Gaume R, Happel P. Do Ponte osteotomies affect the biomechanical consequences of rod reduction in the thoracic spine? Congress of Neurological Surgeons (CNS) 2012 Annual Meeting. Chicago, IL, 6-10 October, 2012.
 94. Lehman RA, Bevevino AJ, Kang DG, Gaume RE, Helgeson MD, Happel PF, Dmitriev AE. The Biomechanical Consequences of Rod Reduction Following Facetectomy in the Lumbar Spine. Congress of Neurological Surgeons (CNS) 2012 Annual Meeting. Chicago, IL, 6-10 October, 2012.
 95. Kang DG, Lehman RA, Bevevino AJ, Tracey RW, Gaume R, Helgeson MD, Happel P, Dmitriev AE. Biomechanical Consequences of Rod Reduction Following Thoracic Ponte Osteotomy and Lumbar Facetectomy. International Society for the Advancement of Spine Surgery (ISASS). Vancouver, Canada, 2-5 Apr 2013.
 96. Kang DG, Lehman RA, Bevevino AJ, Tracey RW, Gaume R, Helgeson MD, Happel P, Dmitriev AE. The Biomechanical Consequences of Rod Reduction Following Thoracic Ponte Osteotomy and Lumbar Facetectomy. Virginia Orthopaedic Society (VOS) 66th Annual Meeting. Washington, DC, 3-5 May 2013.

97. Kang DG, Lehman RA, Bevevino AJ, Tracey RW, Gaume R, Helgeson MD, Happel P, Dmitriev AE. The Biomechanical Consequences of Rod Reduction Following Thoracic Ponte Osteotomy and Lumbar Facetectomy. International Society for the Study of the Lumbar Spine (ISSLS) 40th Annual Meeting. Scottsdale, AZ, 13-17 May 2013.
98. Helgeson MD, Kang DG, Lehman RA, Tracey RW, Cody JP, Dmitriev AE. Tapping insertional torque predicts better pedicle screw fixation and optimal screw size selection. International Society for the Study of the Lumbar Spine (ISSLS) 40th Annual Meeting. Scottsdale, AZ, 13-17 May 2013.
99. Helgeson MD, Kang DG, Lehman RA, Tracey RW, Cody JP, Dmitriev AE. Tapping insertional torque predicts better pedicle screw fixation and optimal screw size selection. Southern Orthopaedic Association 30th Annual Meeting. Palm Beach, FL, 17-20 Jul 2013.
100. Nagaraja S, Palepu V, Peck JH, Helgeson MD. Evaluation of Pullout Strength of Spinal Screws Used in Lumbar Integrated Fixation Cages Compared to Anterior Plates. *International Society for the Advancement of Spinal Surgery*, San Diego, CA, Apr 15-17, 2015.
101. Formby PM, Wagner SC, Kang DG, Helgeson MD. Does Cage Subsidence Affect Clinical Outcomes After Transforaminal Lumbar Interbody Fusion? *Lumbar Spine Research Society (LSRS) 8th Annual Meeting*, Chicago, IL, 9-10 Apr, 2015.
102. Formby PM, Wagner SC, Kang DG, Helgeson MD. Interbody Cage Height Affects Subsidence Rate After Transforaminal Lumbar Interbody Fusion. *Lumbar Spine Research Society (LSRS) 8th Annual Meeting*, Chicago, IL, 9-10 Apr, 2015.
103. Formby PM, Wagner SC, Kang DG, Helgeson MD. Interbody cage height affects subsidence rate after transforaminal lumbar interbody fusion. *The Clinical Orthopaedic Society 103rd Annual Meeting*. New York, New York. September 24-26, 2015.
104. Wagner SC, Formby PM, Kang DG, Helgeson MD. Does cage subsidence affect clinical outcomes after Transforaminal Lumbar Interbody Fusion? *Society of Military Orthopaedic Surgeons (SOMOS) 57th Annual Meeting*. St. Petersburg, FL., December 7-11, 2015.
105. Formby PM, Kang DG, Helgeson MD, Wagner SC. Osteoporosis increases radiographic failure after transforaminal lumbar interbody fusion. *Society of Military Orthopaedic Surgeons (SOMOS) 57th Annual Meeting*. St. Petersburg, FL., December 7-11, 2015.
106. Palepu V, Helgeson MD, Molyneaux-Francis M, Nagaraja S. The Effects of Bone Density on Lumbar Integrated Fixation Cage Biomechanics. *International Society for the Advancement of Spinal Surgery*, Las Vegas, NV, Apr 6-8, 2016.
107. Palepu V, Helgeson MD, Molyneaux-Francis M, Nagaraja S. Screw Loosening of Lumbar Integrated Fixation Cages under Fatigue Loading. *International Society for the Advancement of Spinal Surgery*, Las Vegas, NV, Apr 6-8, 2016.

108. Palepu V, Helgeson MD, Molyneaux-Francis M, Nagaraja S. The Effects of Bone Quality on Subsidence in Lumbar Interbody Fusion Cages. *International Society for the Advancement of Spinal Surgery*, Toronto, ON, Apr 11-13, 2018.