

## Raj Gala

### Education

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2005-2009	<b>Illinois Institute of Technology</b> B.S. in Biomedical Engineering, May 2009, <i>summa cum laude</i>	<b>Chicago, IL</b>
2009-2013	<b>Case Western Reserve University School of Medicine</b> M.D., Doctor of Medicine, May 2013	<b>Cleveland, OH</b>
2013-2017	<b>Yale-New Haven Hospital</b> Resident Physician, Orthopaedic Surgery	<b>New Haven, CT</b>
2017-2018	<b>Yale-New Haven Hospital</b> Chief Resident, Orthopaedic Surgery	<b>New Haven, CT</b>
2018-2019	<b>Emory University</b> Fellow, Spine Surgery	<b>Atlanta, GA</b>

### Honors and Awards

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2005-2009	<b>Camras Scholar, IIT</b> Provided full tuition, room, and board during four years at IIT
2006	<b>Biomedical Research Scholar Award, IIT</b> Provided stipend and housing for scientific research during Summer 2006 at IIT
2009	<b>Ross Scholar, IIT</b> Provided stipend and housing for scientific research during Summer 2009 at IIT
2010	<b>Dean's Summer Research Award, CWRU SOM</b> Provided stipend and housing for scientific research during Summer 2009 at CWRU
2011	<b>American Pediatric Society-Society for Pediatric Research, Student Research Award</b> Funding and research support during Summer 2011 at Children's Hospital of Colorado
2012	<b>Student Research Program Travel Award, APS-SPR</b> Covered cost of housing and travel to present at the 2013 APS-SPR Annual Meeting
2016	<b>Chairman's OITE award, Yale University Department of Orthopaedics</b> Recognition for highest score per class on the Orthopaedics In-Training Exam
2017	<b>The American Orthopaedic Association, AOA Annual Leadership Meeting</b> C. McCollister Everts Resident Leader, representative for Yale University
2017	<b>Chairman's OITE award, Yale University Department of Orthopaedics</b> Recognition for highest score per class on the Orthopaedics In-Training Exam

## **Research Experiences**

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2003-2004	<b>Department of Vascular Medicine, Loyola University Medical Center</b> PI: Jeanine Walenga, PhD Evaluated fish skins as a novel source of blood anticoagulant pharmaceuticals	<b>Maywood, IL</b>
2004-2005	<b>Northwestern University School of Medicine</b> PI: Carl Waltenbaugh, PhD Evaluated antibodies produced by mice while they were under the effects of alcohol	<b>Chicago, IL</b>
Summer 2006	<b>Department of Biomedical Engineering, Illinois Institute of Technology</b> PI: Emmanuel Opara, PhD Worked with biomaterials for encapsulated islet cell transplant	<b>Chicago, IL</b>
2008-2009	<b>Department of Biomedical Engineering, Illinois Institute of Technology</b> PI: David Gatchell, PhD Modeled with Matlab and C++ to characterize cell migration	<b>Chicago, IL</b>
Summer 2010	<b>Department of Orthopaedics, Case Western Reserve University</b> PI: James Dennis, PhD Cultured chondrocytes under different conditions for optimal cartilage production	<b>Cleveland, OH</b>
Summer 2011	<b>Department of Orthopaedics, Children's Hospital Colorado</b> PI: Nancy Hadley-Miller, MD Characterized stability during single limb squat in patients with patellofemoral pain	<b>Aurora, CO</b>
2012	<b>Rainbow Babies and Children's Hospital</b> PI: Christina Hardesty, MD Evaluated how casting improves outcomes in the treatment of kyphosis in children	<b>Cleveland, OH</b>
2013-2017	<b>Department of Orthopaedics, Yale-New Haven Hospital</b> PI: Seth Dodds, MD Upper extremity research in radial head replacement and scaphoid nonunions	<b>New Haven, CT</b>
2014-2015	<b>Department of Orthopaedics, Yale-New Haven Hospital</b> PI: Michael Medvecky, MD Evaluation of acromioclavicular joint injuries	<b>New Haven, CT</b>
2014-present	<b>Department of Orthopaedics, Yale-New Haven Hospital</b> PI: Jonathan Grauer, MD Various database studies in different fields of orthopaedics	<b>New Haven, CT</b>
2018-present	<b>Department of Orthopaedics, Emory University</b> PI: John Heller, MD Evaluation of atlantoaxial diagnoses and fusion techniques	<b>Atlanta, GA</b>

## **Publications**

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Bozzio, A., Gala, R., Villasenor, M., Hao, J., Mauffrey, C. **Orthopedic trauma surgery in the morbidly obese patient.** Eur J Orthop Surg Traumatol. 2014 May;24(4):421-5. PMID: 23608970

Terhune, E., Gala, R., Bozzio, A., Frickman, A., Rhodes, J. **Blount's Disease and Bilateral Medial Femoral Condyle Osteochondritis Dissecans in a 12 year-old-boy.** AMSRJ. 2015 Mar;1(2):144-151.

Save, A., Varthi, A., Talusan, P., Gala, R., Nelson, S., Keggi, K. **Ceramic-on-Ceramic Total Hip Arthroplasty in a Twelve-Year-Old Patient: Case Report with a 27-Year Follow-Up.** Conn Med. 2016 June;80(6):341-5. PMID: 27509640

Gala, R., Varthi, A., Medvecky, M. **Value of Upright X-Rays in Diagnosis of AC Joint Injuries in Polytrauma Patients.** Conn Med. 2017 Feb;81(2):111-115. PMID: 29738157

Nelson, S., Adrados, M., Gala, R., Geiger, E., Webb, M., Keggi, K. **Leg and Femoral Neck Length Evaluation Using an Anterior Capsule Preservation Technique in Primary Direct Anterior Approach Total Hip Arthroplasty.** Reconstructive Review. 2017 Apr 17;7(1).

Gala, R., Russo, G., Whang, P. G. **Interspinous implants to treat spinal stenosis.** Curr Rev Musculoskelet Med. 2017 Jun;10(2):182-188. PMID: 28324328

Carry, P., Gala, R., Worster, K., Kanai, S., Miller, N., James, D., Provance, A., Carollo, J. **Postural Stability and Kinetic Change in Subjects with Patellofemoral Pain After a Nine-Week Hip and Core Strengthening Intervention.** Int J Sports Phys Ther. 2017 Jun;12(3):314-323. PMID: 28593085

Gala, R., Grauer, JN. **Literature review commentary: Two doses of tranexamic acid reduce blood transfusion in complex spine surgery: a prospective randomized study.** Spine Line. July/August 2017; 19-21.

Gala RJ, Bovonratwet P, Webb ML, Varthi AG, Daubs MD, Grauer JN. **Different Fusion Approaches for Single-level Lumbar Spondylolysis Have Similar Perioperative Outcomes.** Spine. 2018 Jan 15;43(2):E111-E117. PMID: 28591074

Bovonratwet P, Webb ML, Ondeck NT, Gala RJ, Nelson SJ, McLynn RP, Cui JJ, Grauer JN. **Discrepancies in the definition of "outpatient" surgeries and their effect on study outcomes related to ACDF and lumbar discectomy procedures: a retrospective analysis of 45,204 cases.** Clin Spine Surg. 2018 Mar;31(2):E152-E159. PMID: 29351096

Bovonratwet P, Ottesen TD, Gala RJ, Rubio DR, Ondeck NT, McLynn RP, Grauer JN. **Outpatient elective posterior lumbar fusions appear to be safely considered for appropriately selected patients.** Spine J. 2018 Jul;18(7):1188-1196 PMID: 29155341

Dodds, S., Fenoglio, A., Bohl, D., Gala, R. **The Impact of Insurance Status on the Development of Nonunion Following Scaphoid Fracture.** J Wrist Surg. 2018 Sep;7(4):288-291. PMID: 30174984

Samuel AM, Diaz-Collado PJ, Gala RJ, Webb ML, Lukasiewicz AM, Basques BA, Bohl DD, Kim HJ, Grauer JN. **Thromboembolic events after traumatic vertebral fractures: an analysis of 190,192 patients.** Spine (Phila Pa 1976). 2018 Sep 15;43(18):1289-1295. PMID: 29538240

Cui, J., Gala, R., Ondeck, N., McLynn, R., Bovonratwet, P., Shultz, B., Grauer, J. **Incidence and Considerations of 90 Day Readmissions Following Posterior Lumbar Fusion.** Spine J. 2018 Sep 13. [Epub ahead of print]. PMID: 30219360

Gala, R., Whang, P. G. **Axial Lumbar and Lumbosacral Interbody Fusion for Degenerative Spine and Adult Deformity: Surgical Technique and The Evidence.** Seminars in Spine Surgery. (accepted)

Gala, R., Varthi, A., Dodds, S. **Clinical and Radiological Outcomes of an in-situ Lengthening, Bipolar Implant for Radial Head Arthroplasty.** Conn Med. (accepted)

Gala, R., Ottesen, T., Kahan, J., Varthi, A., Grauer, JN. **Different Fusion Approaches for Single-level Lumbar Spondylosis Have Similar Perioperative Outcomes.** (in process)

### **Book Chapters**

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Gala, R., Yue, J. **Lumbar Neurogenic Claudication: Causes and Pain Management Options.** In J. Reach, J. Yue, D. Narayan, A. Kaye, N. Vadivelu (Eds.) *Perioperative Pain Management for Orthopedic and Spine Surgery.* New York, NY: Oxford University Press.

Gala, R., Yue, J. **Open Endoscopic Rhizotomy.** In J. Reach, J. Yue, D. Narayan, A. Kaye, N. Vadivelu (Eds.) *Perioperative Pain Management for Orthopedic and Spine Surgery.* New York, NY: Oxford University Press.

Gala, R., Yue, J. **Endoscopically Assisted Lumbar Medial Branch Rhizotomy.** In J. Reach, J. Yue, D. Narayan, A. Kaye, N. Vadivelu (Eds.) *Perioperative Pain Management for Orthopedic and Spine Surgery.* New York, NY: Oxford University Press.

Gala, R., Whang, P. G. **Lumbar Disc Herniation: A Controlled, Prospective Study with Ten Years of Observation.** In A. Vaccaro, J. Wilson, C. Fisher (Eds.) *50 Landmark Papers Every Spine Surgeon Should Know.* Abingdon, UK: Taylor & Francis Group.

Gala, R., Geddes, B., Whang, P.G. **Anterior Lumbar Interbody Fusion with Fixation.** Chapter revision. In J. Eck, A. Vaccaro (Eds.) *Surgical Atlas of Spinal Operations.* New Delhi, India: Jaypee Brothers Medical Publishers.

Gala, R., Galivanche, A., Bagi, P., Rubio, D., Varthi, A., Paul, J. **Navigated Posterior Correction of Pediatric Scoliosis.** In A. Vaccaro, J. Panchmatia, D. Kaye, S. Prasad (Eds.) *Navigation and Robotics in Spine Surgery.* New York, NY: Thieme Publishers.

Gala, R., Milby, A., Michael, K. **Sacral Fractures.** (in process)

### **Conference Podium Presentations**

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Gala, R., Hardesty, C. K., Poe-Kochert, C., Thompson, G. H. **Success of Risser Casting in the Treatment of Scheurmann's Kyphosis.** AAP Annual Meeting, Orlando, FL, 2013.

Gala, R. **Distal Radius Fractures and the DRAFT Trial.** New England Fracture Forum, Raynham, MA, 2016.

### **Conference Poster Presentations**

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Gala, R., Gatchel, D., Brey, E. **Modeling cell migration *in silico***. Biomedical Engineering Society Annual Meeting, St. Louis, MO, 2008.

Gala, R., Dennis, J. **Effect of low oxygen tension and growth factors on postexpansion chondrogenesis**. Lepow Research Day, Cleveland, OH, 2011.

Gala, R., Carry, P., Worster, K., Kanai, S., Provance, A., Miller, N., Carollo, J. **Stability during single limb squat in adolescent females with patellofemoral pain**. ORS Annual Meeting, San Francisco, CA, 2012.

Gala, R., Hardesty, C. K., Poe-Kochert, C., Thompson, G. H. **Success of Risser Casting in the Treatment of Scheurmann's Kyphosis**. POSNA Annual Meeting, Toronto, Canada, 2013.

Samuel, A., Diaz-Collado, P., Gala, R., Webb, M., Lukasiewicz, A., Basques, B., Bohl, D., Grauer, J. **Thromboembolic Events after Traumatic Lumbar Vertebral Fractures: An Analysis of 80,558 Patients**. NASS Annual Meeting, Chicago, IL 2015.

Dodds, S., Fenoglio, A., Gala, R., Bohl, D. **Is Insurance Status Associated with Development of Nonunion Following Scaphoid Fracture?** ASSH Annual Meeting, Austin, TX 2016.

Diaz-Collado, P., Samuel, A., Gala, R., McLynn, R., Lukasiewicz, A., Basques, B., Bohl, D., Grauer, J. **Thromboembolic Events after Traumatic Vertebral Fractures: An Analysis of 190,192 Patients**. NASS Annual Meeting, Orlando, FL 2017.

Gala, R., Ottesen, T., Kahan, J., Varthi, A., Grauer, JN. **Different Fusion Approaches for Single-level Lumbar Spondylosis Have Similar Perioperative Outcomes**. LSRS Annual Meeting, Chicago, IL 2018.

Gala RJ, Galivanche AR, Adrados M, Boylan AJ, Grauer JN, Varthi AG. **A Comparison of 30-Day Complications Following Three-level ACDF, Two-level ACCF, and Hybrid Approaches for Treatment of Multilevel Cervical Stenosis: A Multivariate NSQIP Analysis**. AAOS Annual Meeting, Las Vegas, NV 2019.

### **Grand Rounds**

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Gala, R. **AC Joint Injuries**. Yale-New Haven Hospital, New Haven, CT, Oct 2015.

Gala, R. **3-D Printing and Orthopaedics**. Waterbury Hospital, Waterbury, CT, May 2016.

Gala, R. **Revision Hip Replacement**. Yale-New Haven Hospital, New Haven, CT, June 2016.

Gala, R. **Spondylolysis**. Yale-New Haven Hospital, New Haven, CT, Dec 2017.

Gala, R. **Short-term Outcomes of Different Treatment Options for Lumbar Spondylosis and Spondylolysis**. Yale-New Haven Hospital, New Haven, CT, June 2018.

## **Educational Presentations**

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Gala, R. **Perioperative Medical Management**. Yale University, June 2014.

Gala, R. **Benign Bone Tumors and Reactive Lesions**. Yale University, Sept 2014.

Gala, R. **Cellular and Molecular Biology, Immunology, and Genetics**. Yale University, July 2015.

Gala, R. **Anatomy of the Hand and Wrist**. Yale University, Feb 2016.

Gala, R. **Fingertip Injuries and Replantations in the Upper Extremity**. Yale University, Apr 2016.

Gala, R. **Blood Management and Cell Savers in Orthopaedic Surgery**. Waterbury Hospital, June 2016.

## **Leadership**

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2009-2013	<b>Student Committee on Medical Education</b> Worked with faculty on improving curriculum, specifically Block 2
2009-2013	<b>Doc Opera</b> Band member (percussion) and dancer in various songs for the annual performance
2009-2011	<b>Committee of Student Representatives</b> Secretary. Took meeting notes, organized social events, approved budgets
2010-2011	<b>Pediatric Interest Group</b> Co-chair. Organized various events throughout the city and school for pediatric health
2010-2011	<b>Student Committee on Admissions</b> Coordinated and performed student interviews, tours, and Second Look Weekend
2010	<b>Peer Handoff</b> Oriented incoming students to life at CWRU SOM
2010	<b>Anatomy Department</b> Anatomy instructor for first year students in Block 1. Graded exams for Block 1 and 2.
2011-2013	<b>Admissions Committee of CWRU SOM</b> Voting member of the admissions committee
2011	<b>Rainbow Babies and Children's Hospital</b> Volunteered in the activity room on the 5 <sup>th</sup> floor every Sunday
2013	<b>Anatomy</b> Taught first year medical students
2016	<b>The Direct Anterior Approach to Hip Reconstruction</b> Organized the book launch, prepared a poster, prepared videos

## **Membership**

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2009	American Medical Association
2013	AO-Trauma
2013-2018	Connecticut Orthopaedic Society
2013-present	American Academy of Orthopaedic Surgeons
2015-present	North American Spine Society
2017-present	AO-Spine
2017-present	American Orthopaedic Association, Emerging Leader Program

### **Continuing Medical Education**

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- 2015 AO Basic, Phoenix, AZ
- 2016 New England Fracture Forum, Raynham, MA
- 2016 Boston Pathology Course, Boston, MA
- 2016 Surgical Management of Cervical & Thoracolumbar Spine Trauma, Washington, DC
- 2017 Principles and Treatment of Spinal Disorders for Residents, Las Vegas, NV
- 2017 Advanced Trauma Techniques, Miami, FL
- 2017 Surgical Management of Spine Tumors, New Albany, OH
- 2018 Pediatric Spinal Deformity, San Diego, CA
- 2018 LSRS Annual Meeting, Chicago, IL
- 2018 Spine Forum, Las Vegas, NV
- 2018 Brown-Harvard-Yale Hands-On Spine Cadaver CME Course, Cumberland, Rhode Island
- 2018 Spine Pre-Fellows Workshop, Raynham, MA
- 2018 AO Spine Fellow course, Las Vegas, NV
- 2018 Spine IEP course, San Francisco, CA