

JONATHAN M FRANK, MD

CURRICULUM VITAE

EDUCATION/TRAINING

The Steadman Clinic/Steadman-Philippon Research Institute

Vail, CO

- *Fellow, Orthopedic Sports Medicine and Hip Preservation*

Aug 2015-Jul 2016

Rush University Medical Center, Department of Orthopedic Surgery

Chicago, IL

- *Resident Physician*

Jul 2010–Jun 2015

David Geffen School of Medicine at UCLA

Los Angeles, CA

- *M.D.*

Aug 2006-Jun 2010

Cedars Sinai Medical Center, Dept of Skeletal Regeneration and Stem Cell Therapy

Jun 2007-Sept 2007

University of California – Los Angeles

Los Angeles, CA

- *BS, Molecular, Cell and Developmental Biology*
- *BA, History*
- *Minor, Near Eastern Languages and Cultures*

Mar 2000-Jul 2005

HONORS/AWARDS

David Geffen School of Medicine at UCLA Intramural Sports Team Captain

2006-2010

- *Softball, dodgeball*

David Geffen School of Medicine at UCLA Intramural Sports Chairman

2006-2007

1st Place Presentation, 2013 Chicago Committee on Trauma

2013

- *Annual Resident Trauma Paper Competition*

Top Ten Poster, International Society for Hip Arthroscopy

2013

- *“MRA evidence of capsular defect following hip arthroscopy”*

Mark Coventry Award

2016

- *“Oral Antibiotics Reduce Reinfection Following 2-Stage Exchange: A Multi-Center, Randomized Controlled Trial”*

PEER-REVIEWED PUBLICATIONS

1. Chien W, Kumagai T, Miller CW, Desmond JC, **Frank JM**, Said JW, Koeffler HP. Cyr61 suppresses growth of human endometrial cancer cells. *Journal of Biological Chemistry*. 2004 Dec; 279(51): 53087-53096. PMID: 15471875.
2. Semiletova NV, Shen XD, Baibakov B, Feldman DM, Mukherjee K, **Frank JM**, Stepkowski SM, Busuttill RW, Kupiec-Weglinski JW, Ghobrial RM. Inhibition of chronic rejection by antibody induced vascular accommodation in fully allogeneic heart allografts. *Transplantation*. 2005 Dec; 80(11): 1535-1540. PMID: 16371921.
3. Chien W, Yin D, Gui D, Mori A, **Frank JM**, Said J, Kusuanco D, Marchevsky A, McKenna R, Koeffler HP. Suppression of cell proliferation and signaling transduction by connective tissue growth factor in non-small cell lung cancer cells. *Molecular Cancer Research*. 2006 Aug; 4(8): 591-598. PMID: 16877704.
4. Sheyn D, Pelled G, Zilberman Y, Talasazan F, **Frank JM**, Gazit D, Gazit Z. Nonvirally engineered porcine adipose tissue-derived stem cells: use in posterior spinal fusion. *Stem Cells*. 2008 Apr; 26(4): 1056-1064. PMID: 18218819.
5. Figueroa KP, Farooqi S, Harrup K, **Frank J**, O'Rahilly S, Pulst SM. ATXN2 sequence variants in children with significant obesity. *PLoS ONE*. 2009 Dec; 4(12):e8280. PMID: 20016785
6. Chalmers PN, **Frank J**, Sporer SM. Acute postoperative renal failure following insertion of an antibiotic-impregnated cement spacer in revision total joint arthroplasty: two case reports. *JBJS Case Connector*. 2012; 2:e12 1-4.
7. McCormick F, Slikker W, Harris JD, Gupta AK, **Frank J**, Nho S. Evidence of capsular defect following hip arthroscopy: A case series. *Knee Surgery, Sports Traumatology, Arthroscopy*. 2013 Jul. PMID 23851921.
8. Harris JD, **Frank JM**, Jordan MA, Bush-Joseph CA, Romeo AA, Gupta AK, Abrams GD, McCormick FD, Bach BR. Return to sport following shoulder surgery in the elite pitcher: a systematic review. *Sports Health: A Multidisciplinary Approach*. 2013 Jul; 5(4):367-76.
9. **Frank JM**, Frank RM, Chalmers PN, Slikker 3rd W, Nho SJ. Lymphoma as a mimicker of femoroacetabular impingement. *JBJS Case Connector*. 2013 Aug 28;3(3):e86 1-4.
10. Gitelis S, Bayne CO, **Frank JM**, Fillingham Y. Surgery in malignant bone tumors. *Current Problems in Cancer*. 2013 Jul-Aug;37(4):192-7. PMID 24238584.
11. **Frank JM**, Riedel MD, McCormick FM, Nho SJ. Isolated vastus lateralis tendon avulsion. *American Journal of Orthopedics*. 2013 Oct;42(10):464-5. PMID: 24278905
12. **Frank JM**, Eckardt JJ, Nelson SD, Seeger L, Federman N. Congenital extra-renal extra- central nervous system malignant rhabdoid tumor of the upper extremity: A case report. *JBJS Case Connector*. 2013 Dec 11;3(4):e124 1-5.

13. Frank RM, Erickson BJ, **Frank JM**, Cole BJ, Verma NN, Romeo AA, Bush-Joseph CA, Bach BR. Utility of modern arthroscopic simulator training modules: a systematic review. *Journal of Arthroscopy*. 2014 Jan;30(1):121-33. PMID: 24290789.
14. **Frank JM**, Chahal J, Frank RM, Romeo AA. The role of acromioplasty for rotator cuff problems. *Orthopedic Clinics of North America*. 2014 Apr;45(2):219-24. PMID 24684915.
15. **Frank JM**, Chalmers PN, Sporer SM. Management of infection following total hip arthroplasty. *Current Orthopedic Practice*. 2014 Jan;25(3): 261-265.
16. Kroin E, **Frank JM**, Haughom B, Kogam M. Two cases of avascular necrosis after prophylactic pinning of the asymptomatic, contralateral femoral head for slipped capital femoral epiphysis: Case report and review of the literature. *Journal of Pediatric Orthopedics*. 2014 Aug. PMID 25171683.
17. **Frank JM**, McCormick F, Jordan MA, Austell B, Slikker W, Salata MJ, Nho SJ. Quantification and correlation of hip capsular volume to demographic and radiographic predictors. *Knee Surgery, Sports Traumatology, Arthroscopy*. 2014 Sept. PMID 25218574.
18. **Frank JM**, Harris JD, Erickson BJ, Slikker W, Salata MJ, Nho SJ. Prevalence of femoroacetabular impingement imaging findings in asymptomatic volunteers: A systematic review. *Journal of Arthroscopy*. 2015 Jan. PMID 25636988.
19. Saltzman B, **Frank JM**, Slikker W, Frank RM, Fernandez JJ, Cohen MS, Wysocki RW. Clinical outcomes of proximal row carpectomy versus four-corner fusion for post-traumatic wrist arthropathy: A systematic review. *Journal of Hand Surgery (European)*. 2015 Jun. PMID 25294736.
20. Bogunovic L, Lee SX, Haro MS, **Frank JM**, Mather RC, Bush-Joseph CA, Nho SJ. Application of the Goutallier/Fuchs classification to the evaluation of hip abductor tendons tears and the correlation with outcome following repair. *Journal of Arthroscopy*. 2015 Jul. PMID 26188781.
21. **Frank JM**, Slikker W, Al-Shihabi L, Saltzman BM, Fernandez JJ. Total wrist fusion using an intramedullary rod technique with proximal row carpectomy. *Techniques in Hand and Upper Extremity Surgery*. 2015 Sept. PMID 26197156.
22. **Frank JM**, Saltzman BM, Garbis N, Cohen MS. Articular shear injuries of the capitellum in adolescents. *Journal of Shoulder and Elbow Surgery*. 2016 Jun. PMID 27364145.
23. Gross CE, Sershon RA, **Frank JM**, Holmes GB. Treatment of osteonecrosis of the talus. *Journal of Bone and Joint Surgery Reviews*. 2016 Jul.
24. **Frank JM**, Kayupov E, Moric M, Segreti J, Hansen E, Hartman C, Okroj K, Belden K, Roslund B, Silibovsky R, Parvizi J, Della Valle CJ, The Knee Society Research Group. The Mark Coventry, MD, Award: Oral antibiotics reduce reinfection after two-stage exchange: A multicenter, randomized controlled trial. *Clinical Orthopaedics and Related Research*. 2016 Jul. PMID 27387759.

25. Trella K, Li J, Stylianou E, Wang VM, **Frank JM**, Galante J, Sandy JD, Plaas A, Wysocki R. Genome-wide alterations in DNA methylation identify *Leprel2*, *Foxf1*, *Mmp25*, *Igf1bp6* and *Peg12* as disease-associated genes in murine Achilles tendinopathy. *Journal of Orthopaedic Research*. 2016 Aug. PMID 27517731.
26. Saltzman BM, Erickson BJ, **Frank JM**, Harris JD, Nicholson GP, Bach BR, Verma NN, Romeo AA. Biomechanical testing of the reconstructed ulnar collateral ligament: a systematic review of the literature. *Musculoskeletal Surgery*. 2016 Sept. PMID 27628911.
27. **Frank JM**, Saltzman BM, Hemu M, Wysocki RW. Synovial chondromatosis of the elbow with asymptomatic ulnar nerve compression: a case report. *Journal of Hand Surgery*. 2016 Sept. PMID 2759534.
28. **Frank JM**, Chahla J, Mitchell JJ, Soares E, Philippon MJ. Remplissage of the femoral head-neck junction in revision hip arthroscopy: A technique to correct excessive cam resection. *Techniques in Arthroscopy*. *Accepted*.
29. Mitchell JJ, Chahla J, Vap AR, Menge TJ, Soares E, **Frank JM**, Dean CS, Philippon MJ. Endoscopic trochanteric bursectomy and iliotibial band release for persistent trochanteric bursitis. *Techniques in Arthroscopy*. *Accepted*.
30. **Frank JM**, Liechti D, Anavian J, Hackett TR. A transosseous bone bridge repair for posterior horn meniscal root tears during anterior cruciate ligament reconstruction. *Techniques in Arthroscopy*. *Accepted*.

BOOKS AND BOOK CHAPTERS

1. **Frank JM**. Remplissage of the hip for cam over-resection. In Chahla J, Mitchell JJ, Pascual-Garrido C, Philippon MJ (editors). *Hip Arthroscopy: Basic Strategies to Advanced Techniques*. TSC and SPRI, 2016.
2. **Frank JM**. Complication associated with hip arthroscopy. In Chahla J, Mitchell JJ, Pascual-Garrido C, Philippon MJ (editors). *Hip Arthroscopy: Basic Strategies to Advanced Techniques*. TSC and SPRI, 2016.
3. **Frank JM**, Bach BR. Chondral and osteochondral defect classification. In Cole BJ, Harris JD (editors). *Biologic Knee Reconstruction: A Surgeon's Guide*. Slack Inc, 2013.
4. **Frank JM**, Federer AE, Nho SJ. Surgical technique: gluteus maximus transfer. In Shane SJ, Leunig M, Larson, CM, Bedi A (editors). *Hip Arthroscopy and Hip Joint Preservation Surgery*. Slack Inc, 2013.
5. **Frank JM**, Mather C, Federer AE, Nho SJ. Surgical technique: open bone graft for AVN. In Shane SJ, Leunig M, Larson, CM, Bedi A (editors). *Hip Arthroscopy and Hip Joint Preservation Surgery*. Slack Inc, 2013.
6. **Frank JM**. Osteoarthritis pathways. In Levine, B. (editor), *Acing the Boards*. Slack Inc, 2013.

7. **Frank JM.** Bone structure and fracture healing. In Levine, B. (editor), *Acing the Boards*. Slack Inc, 2013.
8. **Frank JM,** Van Thiel GS, McCarty LP, Cole BJ. Primary repair of osteochondritis dissecans in the knee, in Cole BJ, Sekiya BK, Van Thiel G (editors). *Surgical Techniques of the Shoulder, Elbow and Knee in Sports Medicine*, 2nd ed. Elsevier, New York.
9. **Frank JM.** Extremity fractures, in Saclarides T, Millikan K, Myers J (editors): *Common Surgical Diseases: An Algorithmic Approach to Problem Solving*, 3rd ed. Springer, New York.

GRANTS

1. Epigenetic markers for ADAMTS5 functionality in tendinopathy. American Foundation for Surgery of the Hand. 2013. (\$20,000)

INTERNATIONAL AND NATIONAL PRESENTATIONS

1. **Frank JM.** Osteogenic potential of BMP2 and BMP6: a comparative study of in-vitro differentiation of pMSC genetically modified by a non-viral approach. Western Student Medical Research Forum 2008.
2. Gonzalez C, **Frank JM,** Scaduto A, Moseley C, Bowen R, Otsuka N. Results of derotation osteotomies in the treatment of tibial torsion. American Academy of Pediatrics National Conference and Exhibition, Section on Orthopaedics 2009.
3. **Frank JM,** McCormick F, Jordan M, Harris J, Gupta A, Nho S. How much capsule should we plicate for micro-instability? An anatomical case-control comparison of hip capsule volume using MR arthrograms. International Society of Arthroscopy, Knee Surgery, and Orthopaedic Sports Medicine 2013.
4. Slikker W, McCormick FM, Harris JD, Gupta AK, **Frank J,** Nho SJ. MRA evidence of capsular defect following hip arthroscopy. International Society for Hip Arthroscopy 2013.
5. Slikker W, Brown N, Hellman M, **Frank J,** Frank R, Nho SJ. Radiographic calculation of hip joint incongruity: a potential measurement of microinstability. International Society for Hip Arthroscopy 2013.
6. **Frank JM,** Harris JD, Erickson BJ, Slikker W, Salata MJ, Nho SJ. Prevalence of femoroacetabular impingement imaging findings in asymptomatic volunteers: A systematic review. American Academy of Orthopaedic Surgeons 2014.
7. **Frank JM,** Harris JD, Erickson BJ, Cohen MS, Bush-Joseph CA, Bach BR, Romeo AA. Biomechanical comparison of ulnar collateral ligament reconstruction techniques: A systematic review. American Academy of Orthopaedic Surgeons 2014.
8. **Frank JM,** McCormick F, Jordan MA, Austell B, Slikker W, Salata MJ, Nho SJ. Is There Variability in the Volume of the Hip Joint Capsule? Quantification of Hip

- Capsular Volume Using a Novel Technique. Mid-America Orthopaedic Association 2014.
9. **Frank JM**, Saltzman BM, Slikker W, Frank RM, Fernandez JJ, Cohen MS, Wysocki RW. Proximal row carpectomy versus four-corner fusion for traumatic wrist arthropathy: A systematic review. Mid-America Orthopaedic Association 2014.
 10. **Frank JM**, Harris JD, Erickson BJ, Slikker W, Salata MJ, Nho SJ. Prevalence of femoroacetabular impingement imaging findings in asymptomatic volunteers: A systematic review. Mid-America Orthopaedic Association 2014.
 11. **Frank JM**, Harris JD, Erickson BJ, Cohen MS, Bush-Joseph CA, Bach BR, Romeo AA. Biomechanical comparison of ulnar collateral ligament reconstruction techniques: A systematic review. Arthroscopy Association of North America 2014.
 12. **Frank JM**, Harris JD, Erickson BJ, Slikker W, Salata MJ, Nho SJ. Prevalence of femoroacetabular impingement imaging findings in asymptomatic volunteers: A systematic review. Arthroscopy Association of North America 2014.
 13. Harris J, **Frank J**, Riff A, Nho S. Unacceptable reliability of femoroacetabular impingement radiographic parameters - renewed emphasis for physical exam diagnosis and three-dimensional advanced imaging. International Society for Hip Arthroscopy 2014.
 14. Slikker W, Frank RM, **Frank JM**, Al-Shihabi L, Fernandez JJ, Wysocki R, Cohen MS. Detection of traumatic arthrotomy of the wrist using the saline load test. American Association for Hand Surgery 2014.
 15. Harris J, **Frank JM**, Riff A, Nho S. Unacceptable Reliability of Femoroacetabular Impingement Radiographic Parameters - Renewed Emphasis For Physical Exam Diagnosis And Three-Dimensional Advanced Imaging. International Society of Arthroscopy, Knee Surgery, and Orthopaedic Sports Medicine 2015.
 16. Nho S, Haro M, Lee S, Bogunovic L, Grzybowski J, **Frank J**, Bush-Joseph CA. Application of the Goutallier/Fuchs classification to the evaluation of hip abductor tendons tears and the correlation with outcome following repair. Arthroscopy Association of North America 2015.
 17. **Frank JM**, Kayopov E, Moric M, Segreti J, Sporer S, Hansen E, Hartman C, The Knee Society. Administration of oral antibiotics following 2-stage exchange for periprosthetic joint infection reduces subsequent failure: A multi-center, randomized controlled trial. American Association of Hip and Knee Surgeons 2015.
 18. **Frank JM**, Kayopov E, Moric M, Segreti J, Sporer S, Hansen E, Hartman C, The Knee Society. Administration of oral antibiotics following 2-stage exchange for periprosthetic joint infection reduces subsequent failure: A multi-center, randomized controlled trial. The Knee Society 2015.
 19. Riff A, Saltzman BM, Cvetanovich G, **Frank JM**, Wysocki RW. Surgical treatment for Lateral Epicondylitis: A Meta-analysis of Open, Arthroscopic, and Percutaneous Techniques. American Academy of Orthopaedic Surgeons 2015.
 20. **Frank JM**, Kayopov E, Moric M, Segreti J, Sporer S, The Knee Society. Administration of oral antibiotics following 2-stage exchange for periprosthetic joint

- infection reduces subsequent failure: A multi-center, randomized controlled trial. American Academy of Orthopaedic Surgeons 2015.
21. **Frank JM**, Lockes R, Chahla J, Philippon MJ. Preliminary outcomes after labral augmentation: a comparison between iliotibial band allograft and autograft. American Academy of Orthopaedic Surgeons 2016. *Submitted*.
 22. Katthagen JC, **Frank JM**, Boykin RE, Millett PJ. Arthroscopic neuroanatomy of the shoulder. American Academy of Orthopaedic Surgeons 2016. *Accepted*.
 23. **Frank JM**, Chahla J, Mitchell JJ, Moatshe G, Sanchez G, Philippon MJ. Hip fluid seal: Techniques for reestablishment. American Academy of Orthopaedic Surgeons 2016. *Accepted*.
 24. **Frank JM**, Mitchell JJ, Chahla J, Moatshe G, Sanchez G, Dean CS, LaPrade RF. Save the meniscus: Repair techniques (inside-out, outside-in and root repair). American Academy of Orthopaedic Surgeons 2016. *Accepted*.
 25. Chahla J, Mitchell JJ, Anavian J, **Frank JM**, Moatshe G, Sanchez G, LaPrade RF. Alignment correction procedures for the knee: when, where, and how to perform. American Academy of Orthopaedic Surgeons 2016. *Accepted*.

DEPARTMENTAL PRESENTATIONS

1. **Frank JM**, Weber K. MRSA in the locker room. Orthopedic Surgery Department Grand Rounds, Rush University Medical Center, Chicago, IL, May 2012.
2. **Frank JM**, Cohen MS. The forearm: gross anatomy, physical exam and surgical exposures. Rush University Medical Center, Chicago, IL, August 2012.
3. **Frank JM**, Forsythe B. Anterior shoulder instability in the overhead athlete. Orthopedic Surgery Department Grand Rounds, Rush University Medical Center, Chicago, IL, November 2012.
4. **Frank JM**, Romeo AA. Acromioclavicular joint injuries in elite athletes. OREF/Andersson lecture series, Rush University Medical Center Department of Orthopedic Surgery, Chicago, IL, August 2012.
5. **Frank JM**, Cheng D. Complex regional pain syndrome. Orthopedic Surgery Department Grand Rounds, Rush University Medical Center, Chicago, IL, May 2013.
6. **Frank JM**, Bush-Joseph C. The knee: gross and arthroscopic anatomy, physical exam and surgical exposures. Rush University Medical Center, Chicago, IL, July 2013.
7. **Frank JM**, Earhart J. Sacral and acetabulum fractures: treatment strategies and current review of the literature. Rush University Medical Center, Chicago, IL, August 2013.
8. **Frank JM**, Cole BJ. Articular cartilage: anatomy, physiology and review of treatment strategies. Orthopedic Surgery Department Grand Rounds, Rush University Medical Center, Chicago, IL, October 2013.

9. **Frank JM**, Berger BA. Bicompartamental knee arthroplasty. Orthopedic Surgery Department Grand Rounds, Rush University Medical Center, Chicago, IL, April 2014.
10. **Frank JM**, Gerlinger T. Hip and pelvis anatomy with relevant open and arthroscopic approaches. Rush University Medical Center, Chicago, IL, July 2014.
11. **Frank JM**, Dewald CJ. Spondylolysis and spondylolisthesis in an adolescent athlete. Orthopedic Surgery Department Grand Rounds, Rush University Medical Center, Chicago, IL, July 2014.
12. **Frank JM**, Nicholson GP. Total shoulder arthroplasty in type B2 glenoids. Orthopedic Surgery Department Grand Rounds, Rush University Medical Center, Chicago, IL, May 2015.
13. **Frank JM**, Philippon MJ. Hip arthroscopy: complications, prevention strategies and solutions. The Steadman Clinic/Steadman-Philippon Research Institute Grand Rounds, Vail, CO, May 2016.
14. **Frank JM**. Treatment of the B2 glenoid: bone graft, augment or reverse. Vail Shoulder Summit, Vail, CO, May 2016.

TEAM COVERAGE

Men's College Basketball – Roosevelt University	2013-2015
• <i>Chicago, IL</i>	
Women's College Basketball – Roosevelt University	2013-2015
• <i>Chicago, IL</i>	
Battle Mountain High School	2015-2016
• <i>Edwards, CO</i>	
Eagle Valley High School	2015-2016
• <i>Eagle, CO</i>	
Vail Mountain School	2015-2016
• <i>Vail, CO</i>	
US Ski Team	2015-present
US Snowboarding Team	2015-present

LOCAL AND NATIONAL SERVICE

UCLA Mobile Clinic	Los Angeles, CA
<i>Volunteer</i>	2006-2010
Chicago Symphony Orchestra – “Doc of the House”	Chicago, IL
<i>Volunteer</i>	2011-2015
Soles4Souls	Chicago, IL
<i>Medical student and residency liaison</i>	2011-2015
<ul style="list-style-type: none"> • Homeless foot and ankle clinic 	
Rush Medical Student Orthopaedic Interest Group	Chicago, IL
<i>Resident mentor and coordinator</i>	2012-2015

MEDICAL LICENSURES

ABOS – Part I	2015
Colorado Medical License	2015-present
California Medical License	2016-present
Wyoming Medical License	2016-present

PROFESSIONAL SOCIETY MEMBERSHIPS

American Academy of Orthopedic Surgeons	2010-present
Arthroscopy Association of North America	2013-present
American Orthopedic Association – Emerging Leaders	2014-present
American Journal of Orthopaedics – Advisory Board	2013-present
American Orthopaedic Society for Sports Medicine	2016-present
Journal of Science and Medicine in Sport – Reviewer	2015-present