

Mark A. Frankle, MD

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Education	Orthopaedic Internship and Residency. University of South Florida, Tampa, FL	<i>1985-1990</i>
	Doctorate of Medicine Rush Medical College, Chicago, IL.	<i>1981-1985</i>
	Bachelor of Arts Grinnell University College, Grinnell, IA	<i>1977-1981</i>

Fellowship Training	Mayo Clinic. Rochester, MN	<i>1991-1992</i>
	<ul style="list-style-type: none">• Shoulder & Adult Reconstruction under the direction of Robert H. Cofield, MD• Elbow & Adult Reconstruction under the direction of Bernie Morrey, MD	<i>1990-1991</i>
	A/O-ASIF. Davos, Switzerland	
	<ul style="list-style-type: none">• Laboratory for Experimental Surgery Research under the direction of Stephen Perren, MD	<i>1982 - 1983</i>
	Rush Medical College. Chicago, IL	
	<ul style="list-style-type: none">• Orthopaedic Pathology and Research	

Board Certification	American Board of Orthopaedic Surgery	<i>7/15/1994 – 12/31/2004</i>
	Recertification Dates:	<i>1/1/2005- 12/31/2014</i>

Licensure	ME0050333 Florida Original Issue Date: April 27, 1987 Expires: January 2010
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Career History	Florida Orthopaedic Institute, Tampa FL	<i>1992-Present</i>
	<i>Adult Reconstruction and Arthritis Orthopaedic Surgeon</i>	
	<ul style="list-style-type: none">▪ Specializing in Shoulder and Elbow Injuries▪ Director of Shoulder and Elbow Fellowship Program▪ Director of Shoulder and Elbow Biomechanical Laboratory	

Hospital Privileges	Tampa General Hospital Tampa, FL	<i>1992-Present</i>
	University Community Hospital Tampa, FL	<i>1992-Present</i>
	Florida Orthopaedic Institute Surgery Center Tampa, FL	<i>2002-Present</i>
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Staff Appointments	University of South Florida Chemical and Biomedical Engineering Department Tampa, FL Courtesy Professor	<i>2008-2009</i>
	University Community Hospital Tampa, FL Chairman of Department of Orthopaedic Surgery	<i>1998-2003</i>
	Mayo School of Medicine Rochester, MN Department of Orthopaedic Surgery Instructor	<i>1991-1992</i>
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Committee Appointments	Sub-Committee Member for Research Committee American Shoulder and Elbow Surgeons	<i>2007-2010</i>
	Sub-Committee Member for Upper Extremity Evaluation	<i>2007</i>
	Sub-Committee Member for the Closed Meeting of the American Shoulder and Elbow Surgeons	<i>2007</i>
	Sub-Committee Member for Shoulder and Elbow Evaluation American Academy of Orthopaedic Surgeons	<i>2002-2005</i>
	Sub-Committee Member for CPT Coding Committee American Academy of Orthopaedic Surgeons	<i>2004</i>
	Sub-Committee Member for Publication Committee American Shoulder and Elbow Surgeons	<i>2001-2003</i>
	Sub-Committee Member for Electronic Media Education American Shoulder and Elbow Society	<i>2001-2005</i>
	Committee Member for the Closed Meeting of the American Shoulder and Elbow Society	<i>2000-2001</i>
	Committee Member for the Open Meeting of the American Shoulder and Elbow Society	<i>2000-2001</i>

**Course
Director**

Current Solutions in Shoulder and Elbow Surgery Tampa, FL	<i>1994-Present</i>
<ul style="list-style-type: none"> The purpose of this course is to provide orthopaedists with a comprehensive update on the surgical treatment of shoulder and elbow problems including arthroscopy, arthroplasty, and fracture management 	
Annual Total Joint Replacement and Rehabilitation Seminar	<i>1995-Present</i>
<ul style="list-style-type: none"> Total Shoulder Arthroplasty Indications, Diagnosis, and Complex Problems Including Revision, Dislocations, Infections, and relation to Physical Therapy Total Elbow Arthroplasty Indications, Diagnosis, Surgical Approach and Procedure 	
Spectrum of Orthopaedics Vail, CO	<i>2001</i>
<ul style="list-style-type: none"> Co-Chairman of this course to discuss the surgical management of patients who have shoulder, knee or hip reconstruction or fracture repair in terms of surgical technique and device selection 	

**Course
Faculty**

Annual San Diego Shoulder Meeting San Diego, CA Arthroscopy Arthroplasty Fractures	<i>2002-Present</i>
Orthopaedic Education Summit Vail, Co	<i>2002-Present</i>
Florida Orthopaedic Institute Las Vegas, NV Total Joint Replacement & Rehabilitation	<i>2002-Present</i>
Nice Shoulder Course Nice, France Reverse Shoulder Arthroplasty	<i>2006, 2008</i>
37th Annual Orthopaedic Trauma and Seminar Minneapolis, MN	<i>2007</i>
AAOS "Boomeritis: Musculoskeletal Care of the Mature Athlete" Hilton Head, SC	<i>2007</i>
Transforming Orthopaedics Vail, CO	<i>2006</i>
AAOS Summer Institute San Diego, CA	<i>2001</i>
Mayo Clinic Orthopaedic Course on Advanced Surgical Skills of the Elbow for Trauma Related Injuries Rochester, MN	<i>2000</i>
AAOS Learning Course of Current Techniques in Open and Arthroscopic Shoulder Surgery, #456/3226 Rosemont, IL	<i>1998</i>

Professional Memberships

	<i>Member Since</i>
Australia Society of Shoulder and Elbow Surgeons	<i>Sept 15, 2002</i>
American Shoulder and Elbow Society	<i>Nov 4, 1999</i>
Fellow American College of Surgeons	<i>Oct 29, 1998</i>
American Academy of Orthopaedic Surgeons	<i>Oct 1, 1997</i>
American College of Surgeons	<i>May 23, 1997</i>
American Medical Association	<i>Feb 14, 1994</i>
Hillsborough County Medical Association	<i>Dec 27, 1993</i>
Florida Orthopaedic Society	<i>Dec 31, 1992</i>
Mayo Alumni Foundation	<i>June 20, 1992</i>

Honors Received

America's Top Orthopaedists Consumers Research Council	<i>2007, 2008</i>
Best Doctors in America Mark A. Frankle, elected by his peers for inclusion in Best Doctors in America® from 2001-2008	<i>2001-2008</i>
Tampa Business Journal Tampa, FL Finalist for "Health Care Innovation and Research" Award	<i>2004</i>
Best Doctors Tampa, FL Tampa Bay Metro	<i>2002- 2008</i>
America's Top Surgeons Mark A. Frankle was selected as one of "America's Top Surgeons" in April of 2002. He is currently listed in the "Guide to America's Top Surgeons".	<i>2002- 2005</i>
Charles S. Neer Award Recipient Frankle, M, Ondrovic, L, Markee, B, Harris, ML, Lee, WE. Tuberosity Reconstruction in Hemiarthroplasty for Four-part Proximal Humerus Fractures: A Biomechanical Study to Assess Interfragmentary Stability. Proceeding of American Shoulder and Elbow Society 17 th Open Meeting, San Francisco, CA.	<i>2001</i>

“Who’s Who in the World” *2000*

Mark A. Frankle was nominated by a colleague for inclusion in Marquis Who’s Who in the World. Who’s Who in the World is a comprehensive directory of the biographies of outstanding men and women in a wide range of professions and geographic locations. The book is a reference for educators, administrators, researchers and library patrons, June 8, 2000.

Nominated for Charles S. Neer Award *1999*

Frankle, M, Sanders, R., DiPasquale, T. “A Comparison of Open Reduction and Internal Fixation vs. Primary Total Elbow Arthroplasty for Distal Humerus Fractures in Females Greater Than Sixty-Five Years Old.” Proceeding of American Shoulder and Elbow Society 15th Open Meeting, Anaheim, CA.

Best Scientific Paper *1998*

Frankle, M, Markee, B, Greenwald, D. “The Biomechanical Effects of Malposition of Tuberosity Fragments on the Humerus Prosthetic Reconstruction for Four-Part Proximal Humerus Fractures.” Proceeding of the Seventh International Conference on Surgery of the Shoulder, October 5-8, 1998.

**Grants
Received**

Orthopaedic Research & Educational Foundation *2008*
Amount: \$100,000 for prospective cohort study of shoulder function after reverse and anatomical total shoulder replacement.

**Product
Development**

Encore Orthopaedics, Inc. *1998*
 Designer of Reverse Shoulder Prosthesis

Encore Orthopaedics, Inc. *1997*
 Co-designer of Total Shoulder Replacement

DePuy, Inc. *1995*
 Co-designer Humeral Head Resection Guide

Wright Medical Technology, Inc. *1994*
 Co-designer of Total Shoulder Replacement

Patents

Frankle, Mark A. Suture management method and system. Patent 6,860,887. 2005.

Frankle, Mark A. Reverse shoulder prosthesis system. Patent 6,790,234. 2004.

Frankle, Mark A. Shoulder prosthesis system. Patent 6,679,916. 2004.

Video Production

Locked Plating for Proximal Humerus Fractures. Mark Mighell, Derek Pupello, Brian Badman and Mark Frankle. 2007. 2007

Reverse Shoulder Prosthesis Surgical Technique. Perf. Mark A. Frankle. 2006. 2006

Video Journal of Orthopaedics, "The Reverse Shoulder Prosthesis for Glenohumeral Arthritis Associated with Sever Rotator Cuff Deficiency" Dir. Mark A. Frankle. The Video Journal of Orthopaedics. June 2005. <<http://www.vjo.com>>. 2005

Published Books and Chapters

Frankle, Mark A. Rotator Cuff Deficiency in the Shoulder. New York: Thieme Medical, 2008.

Frankle, Mark. "Reverse Prosthesis for Acute and Chronic Trauma." Arthritis & Arthroplasty: The Shoulder. Philadelphia: Elsevier, 2008.

Frankle, Mark. "Revision of Failed Reverse Type Implants." Revision and Complex Shoulder Arthroplasty. Philadelphia: Lippincott Williams and Wilkins, 2005.

Frankle, Mark. "Immediate Total Elbow Arthroplasty For Distal Humerus." Techniques in Orthopaedics. Philadelphia: Lippincott Williams and Wilkins, 2006.

Devinney Scott, **Mark Frankle**, Mark Mighell, and David Fisher. "Surgery of Shoulder Arthritis." Arthritis and Allied Conditions. Philadelphia: Lippincott Williams & Williams, 2005.

**Published
Articles**

Klein S, Levy J, Holcomb J, Pupello D, **Frankle M.** “*Treatment of Advanced Rotator Cuff Dysfunction with Reverse Shoulder Arthroplasty*”. *Minerva Orthopædica e Traumatologica*, Vol 60, February 2009

Chacon A, Virani V, Levy J, Pupello D, **Frankle M.** “*Evaluation of Reverse Shoulder Prosthesis-allograft composite for the revision of failed arthroplasty associated with proximal humeral bone deficiency*”. *J Bone Joint Surg Am.* 2009;91:119-127

Gutierrez S, Luo Z, Pupello D, Lee W, **Frankle M.** “*Hierarchy of Surgical and Implant Design-Related Factors in Range of Impingement-Free Abduction Motion and Adduction Deficit of Reverse Shoulder Arthroplasty*”. *J Bone Joint Surg Am.* 2008;90:2606-2615

Cuff D, Pupello D, Virani N, Levy J, **Frankle M.** “*Reverse shoulder arthroplasty for the treatment of rotator cuff deficiency.*” *J Bone Joint Surg Am.* 2008 Jun; 90(6):1244-51.

Levy J, Virani N, **Frankle M,** Cuff D, Pupello D, Hamelin J. “*Young patients with shoulder chondrolysis following arthroscopic shoulder surgery treated with total shoulder arthroplasty.*” *Journal of Shoulder and Elbow Surgery.* 2008 May-Jun;17(3):380-8.

Virani N, Harman M, Li K, Levy J, Pupello D, **Frankle M.** “*In vitro and finite element analysis of glenoid bone/baseplate interaction in the reverse shoulder design.*” *Journal of Shoulder Elbow Surgery.* 2008 May-Jun; 17(3):509-21.

Gutiérrez S, Levy J, **Frankle M,** Cuff D, Keller T, Pupello D, Lee W. “*Evaluation of abduction range of motion and avoidance of inferior scapular impingement in a reverse shoulder model.*” *Journal of Shoulder Elbow Surgery.* 2008 Mar 4.

Cuff D, Virani V, Levy JC, **Frankle M,** Derasari A, Hines B, Pupello D, Cancio M, Mighell M. *The treatment of deep shoulder infection and glenohumeral instability with debridement, reverse shoulder arthroplasty and post-operative antibiotics.* *J Bone Joint Surg(Br)* 2008. 90-B:336-42.

S. Gutierrez, J. Levy, **M. Frankle,** D. Cuff, T. Keller, D. Pupello, W. Lee. *Evaluation of abduction range of motion and avoidance of inferior scapular impingement in a reverse shoulder model.* *Journal of Shoulder and Elbow Surgery* 2008.

Levy J, Virani N, Pupello D, **Frankle M**. *Use of the reverse shoulder prosthesis for the treatment of failed hemiarthroplasty in patients with glenohumeral arthritis and rotator cuff deficiency.* Journal of Bone and Joint Surgery(Br) 2007. 89-B(2):189-195.

Levy J, **Frankle M**, Mighell M, Pupello D. *"The use of the reverse shoulder prosthesis for the treatment of failed hemiarthroplasty for proximal humeral fracture."* Journal of Bone and Joint Surgery. 2007 Feb; 89(2):292-300.

Mighell MA, Harkins D, Klein D, Schneider S, **Frankle M**. *"Technique for internal fixation of capitellum and lateral trochlea fractures."* Journal of Orthopaedic Trauma. 2006 Nov-Dec; 20(10):699-704.

Gutiérrez S, Greiwe R, **Frankle M**, Siegal S, Lee W. *"Biomechanical comparison of component position and hardware failure in the reverse shoulder prosthesis."* Journal of Shoulder and Elbow Surgery. 2007 May-Jun;16(3 Suppl):S9-S12.

Frankle M, Levy JC, Pupello D, Siegal S, Saleem A, Mighell M, Vasey M. *"The reverse shoulder prosthesis for glenohumeral arthritis associated with severe rotator cuff deficiency. a minimum two-year follow-up study of sixty patients surgical technique."* J Bone Joint Surg. 2006 Sep;88 Suppl 1 Pt 2:178-90.

Frankle M, Mighell M. *"Re: Shoulder prostheses treating cuff tear arthropathy: a comparative biomechanical study."* Journal of Orthopaedic Research. 2006 Jan; 24(1):112; author reply 112-3.

Frankle M, Siegal S, Pupello D, Saleem A, Mighell M, Vasey M. *"The Reverse Shoulder Prosthesis for glenohumeral arthritis associated with severe rotator cuff deficiency. A minimum two-year follow-up study of sixty patients."* Journal of Bone and Joint Surgery. 2005 Aug;87(8):1697-705.

Harman M, **Frankle M**, Vasey M, Banks S. *"Initial glenoid component fixation in "reverse" total shoulder arthroplasty: a biomechanical evaluation."* J Shoulder Elbow Surg. 2005 Jan-Feb;14(1 Suppl S):162S-167S.

Frankle M, Cofield R, Mansat P. *"Tears in the subscapularis tendon: descriptive analysis and results of surgical repair."* Joint Bone Spine. 2003 Sep;70(5):342-7.

Frankle M, Herscovici D Jr, DiPasquale T, Vasey M, Sanders R.

“A comparison of open reduction and internal fixation and primary total elbow arthroplasty in the treatment of intraarticular distal humerus fractures in women older than age 65.” Journal of Orthopaedic Trauma. 2003 Aug; 17(7):473-80.

Frankle, M, Mighell, M. *“Techniques and principles of tuberosity fixation for proximal humerus fractures treated with hemiarthroplasty.”* J Shoulder Elbow Surg. 2004 Mar-Apr;13(2):239-47.

Mighell, M, Kolm, G, Collinge C, **Frankle, M**. *“Outcomes of Hemiarthroplasty for Fracture of the Proximal Humerus.”* J Shoulder Elbow Surg. 2003 Nov-Dec;12(6):569-77.

Parvizi, J, **Frankle M**, Sim F, Tiegs R. *“Corrective Osteotomy for Deformity in Paget Disease.”* Journal of Bone and Joint Surgery. Volume 85, p 697-702.

Frankle, M, Ondrovic, LE, Markee, BA, Harris, ML, Lee III, WE. *“Stability of tuberosity reattachment in proximal humeral hemiarthroplasty.”* Journal of Shoulder and Elbow Surgery. Volume 11, Number 5, p 413-420, 2002.

Frankle, M. *“Triceps Split Technique for Total Elbow Arthroplasty.”* Techniques in Shoulder and Elbow Surgery. Volume 3 Issue 1, p 23-27, 2001.

Frankle M, Greenwald DP, Markee BA, Ondrovic LE, Lee WE 3rd. *“Biomechanical effects of malposition of tuberosity fragments on the humeral prosthetic reconstruction for four-part proximal humerus fractures.”* Journal of Shoulder and Elbow Surgery. 2001 Jul-Aug; 10(4): 321-6.

Frankle, M, Koval, K, Sanders, R., Zuckerman, J. *“Radial Head Fractures Associated With Elbow Dislocations, Result With Immediate Stabilization And Early Motion (ISEM),”* Journal of Shoulder and Elbow Surgery, July/August 1999: 355-360.

Hamelin, J, **Frankle, M**. *“Arthroscopic Stabilization Technique for SLAP and MDI,”* Florida Orthopaedic Society Journal, pp24-27, Summer 1999.

Cordey, J, Borgeaud, M, **Frankle, M**, Harder, Y, Martinet, O. *“Loading Model for the Human Femur Taking the Tension Band Effect of the Ilio-Tibial Tract Into Account,”* Injury, Vol. 30, Suppl. 1,

1999: S-A26-30.

Frankle, M, Cordey, J, Sanders, R, Koval, K, Perren, SM. “A Biomechanical Comparison of Antegrade Inserted Universal Femoral Nail with the Retrograde Inserted Universal Tibial Nail for Use in Femoral Shaft Fractures,” *Injury*, Vol. 30, 1999: S-A40-43.

Frankle, M, Mighell, M. “Non-implant Arthroplasty for Elbow Arthritis.” *Seminars in Arthroplasty*, January 1998: 12-24.

Frankle, M, Lord, M. “Glenoid Deficiency In Hemiarthroplasty For Shoulder Dislocation,” *Medscape Orthopedics & Sports Medicine*, September 1997: 8.

Cofield, R., **Frankle, M,** Zuckerman, J. “Humeral Head Replacement for Glenohumeral Arthritis,” *Seminars in Arthroplasty*. Vol. 6, No. 4, October 1995: 214-221.

Sanders, R, Koval, K, DiPasquale, T, Helfet, D, **Frankle, M.** “Retrograde Reamed Femoral Nailing,” *Journal of Orthopaedic Trauma*, Vol. 7, No., pp. 293-302, 1993.

Frankle, M, Leffers, D. “A Review of the Efficacy of a Clinic Treating Athletes Who Use Anabolic Androgenic Steroids,” *The Physician and Sports Medicine*, Vol. 20, No. 6, Pages 75-87, June 1992.

Frankle, M, Borrelli, J. “The Effects of Testosterone on the Healing of Humeral Osteotomies in the, Wistar Rat,” *Journal of Investigative Surgery*, Vol. 3, No. 3, Pages 93-113, 1990.

Frankle, M, Leffers, D. “Anabolic Androgenic Steroids: A Guide for the Orthopaedic Surgeon,” *Orthopaedic Perspectives*, Vol. 1, No. 1, Pages 119-140, 1990.

Sinnott, J, **Frankle, M,** Cancio, M, Spiegel, P. “Tuberculous Osteomyelitis Masked Concomitant Staphylococcal Infection,” *The Archives of Internal Medicine*, Vol. 150, Pages 1865-1867, September, 1990.

Frankle, M. *Androgenic Steroids: “A Guide for the Physician,”* *Journal of Musculoskeletal Medicine*, Vol. 6, No. 11, Pages 69-87, November, 1989.

Frankle, M, Eichberg, R, Zachariah, S. “Anabolic Androgenic

Steroids and A Stroke in An Athlete: A Case Report,” Archives of Physical Rehab. Medicine, Vol. 69, No. 8, Pages 632-633, August 1986.

Frankle, M, Cicero, G, Payne, J. “*Use of Anabolic Androgenic Steroids by Athletes,*” JAMA, Vol. 252, No. 4, Page 482, July 27, 1984.

**Articles
Accepted for
Publication**

Frankle, M, Levy J. “Letter to the Editor: *Bilateral Shoulder Chondrolysis Following Arthroscopy. A Report of Two Cases*”. J Bone Joint Surgery. November 2008.

Chacon A, Virani V, Levy J, Pupello D, **Frankle M.** “*Evaluation of Reverse Shoulder Prosthesis-allograft composite for the revision of failed arthroplasty associated with proximal humeral bone deficiency*”. J Bone Joint Surg Am. 2009;91:119-127

**Consulting
Journal
Reviewer**

Journal of Shoulder and Elbow Surgery

Journal of Bone and Joint Surgery

Clinical Orthopaedics and Related Research

Journal of Orthopaedic Trauma

Journal of Orthopaedic Research

**Oral
Presentations**

Frankle, MA. *Theory, Biomechanics and Design Rationale of Reverse Shoulder Arthroplasty*, AAOS Annual Meeting Instructional Course Lecture, San Francisco, CA March 5-9, 2008

Frankle, MA. *Biomechanics of the Reverse Shoulder Prosthesis*, Orthopaedic Education Summit, Park City, Utah January 4-7, 2008

Frankle, MA. *Reverse Shoulder Arthroplasty: The Case for a Lateral Offset and Clinical Results*. ASES 25th Anniversary Symposium on Total Shoulder and Elbow Arthroplasty Dallas, TX October 13-14, 2007

Frankle, MA. *Allograft Reconstruction of the Proximal Humerus at the Time of Reverse Arthroplasty for Failed TSA and Hemi Arthroplasty*. ASES 25th Anniversary Symposium on Total Shoulder and Elbow Arthroplasty Dallas, TX October 13-14, 2007

Frankle, MA. *Theory, Biomechanics and Design Rationale of Reverse Shoulder Arthroplasty*, AAOS Annual Meeting Instructional Course Lecture, San Diego, CA Feb 14-18, 2007

Frankle, MA, Pupello D, Levy JC, Virani N, Mighell MA. *Outcomes of Reverse Shoulder Prostheses Using a Lateral Center of Rotation and Inferiorly Tilted Glenoid Component: A Minimum 2-Year Follow-up Study*. ASES Closed Meeting Chicago, IL September 13-16, 2006

Frankle, MA, *Design Rationale and Clinical Outcomes for the Reverse Shoulder Prosthesis*, San Diego Shoulder Meeting, San

Diego, California, 2006

Frankle, MA, *Complications and Revisions, My Experience with the Reverse Shoulder Prosthesis*, Shoulder Arthropathy and Arthroplasty, France, 2006.

Frankle, MA, *Reverse Shoulder Prosthesis for Failed Hemiarthroplasty for Fracture*, ASES Biennial, Orlando, Fl April 6-9, 2006.

Frankle, MA, RSP for the Treatment of Failed Arthroplasty, AAOS Annual Meeting, Chicago, IL March 22-26, 2006.

Frankle, M, *Component Tilt and the Risk of Failure*, AAOS Annual Meeting, Chicago, IL March 22-26, 2006.

Frankle, MA, *The Design Rationale of the Reverse Shoulder Prosthesis*, Orthopaedic Education Summit, Tampa, 2006

Frankle, MA, *Clinical Outcomes of the RSP*, Orthopaedic Education Summit, Tampa 2006

Frankle, MA, Swieszkowski, W, Vasey, M, Bersee, N. *In Vivo Wear of Glenoid Components*, 2003 ASES Focused Meeting, Las Vegas, NV, November 14-16, 2003.

Frankle, MA, Mighell, MA, *A comparison of a reverse ball and socket prosthesis (rsp) as a salvage procedure for failed shoulder reconstruction to a primary reverse prosthesis for rotator cuff arthropathy or primary rotator cuff deficiency with idiopathic superior arch instability*, 2002 Closed Meeting of the American Shoulder and Elbow Society, Pebble Beach, CA, October 30-November 2, 2002.

Frankle, M, *Semi-constrained Total Elbow Arthroplasty*, 2002 Closed Meeting of the Shoulder and Elbow Society of Australia, Queensland, Australia, September 13-15, 2002.

Frankle, M, *Seven Steps to Glenoid Exposure*, 2002 Closed Meeting of the Shoulder and Elbow Society of Australia, Queensland, Australia, September 13-15, 2002.

Frankle, M, *The Reverse Shoulder Arthroplasty: Evolution, Rationale, Technique and Outcomes*, 2002 Closed Meeting of the Shoulder and Elbow Society of Australia, Queensland, Australia, September 13-15, 2002.

Frankle, M, *Revision Shoulder Arthroplasty for Failed Glenoid Components*, 2002 Closed Meeting of the Shoulder and Elbow Society of Australia, Queensland, Australia, Septemeber 13-15, 2002.

Frankle, M, Mighell, M, Mooney, B, Greiwe, M, Nilssen, E. *Outcomes of Arthroscopic Versus Open Repair in the Management of Rotator Cuff Tears*. Advances in Minimally Invasive Hand/Upper Extremity Surgery, Brussels, Belgium, April 19-20, 2002.

Frankle, M, Mighell, M. *Semiconstrained Arthroplasty for Irreparable Rotator Cuff Tears*. State of the Art in Orthopaedics, Whistler, BC, Canada, March 17-23, 2002.

Frankle, M. *Triceps Splitting Approach for Total Elbow*. State of the Art in Orthopaedics, Whistler, BC, Canada, March 17-23, 2002.

Frankle, M, Mighell, M, Long, R, Mooney, B, Kumar, A. *Osteoarthritis of the Shoulder Treated by Total Shoulder Arthroplasty: A Prospective Outcomes Study*. Proceedings of the 69th American Academy of Orthopaedic Surgeons (AAOS), Paper #153, Dallas, TX. February 13-17, 2002.

Frankle, M, Mighell, M. *A Custom Reverse Ball and Socket Prosthesis As A Salvage Procedure in the Rotator Cuff Deficient Shoulder: A Prospective Outcome Study*. Proceedings of the 69th American Academy of Orthopaedic Surgeons (AAOS), Paper #159, Dallas, TX. February 13-17, 2002.

Frankle, M, Ondrovic, L, Markee, B, Harris, ML, Lee, WE. *Tuberosity Reconstruction in Hemiarthroplasty for Four-Part Proximal Humerus Fractures: A Biomechanical Study to Assess Interfragmentary Stability*. Proceeding of the 8th International Congress on Surgery of the Shoulder (ICSS), Paper #243, Cape Town, South Africa, April 23-26, 2001.

Mighell, M, **Frankle, M**, Collinge, C. *Outcomes of Hemiarthroplasty for Fractures of the Proximal Humerus*. Proceeding of the 8th International Congress on Surgery of the Shoulder (ICSS), Paper #245, Cape Town, South Africa, April 23-26, 2001.

Frankle, M. *Arthroplasty for Proximal Humerus Fractures*. The Philadelphia Orthopaedic Society. Philadelphia, Pennsylvania, March 12, 2001.

Frankle, M, Ondrovic, L, Markee, B, Harris, ML, Lee, WE. *Tuberosity Reconstruction in Hemiarthroplasty for Four-Part*

Proximal Humerus Fractures: A Biomechanical Study to Assess Interfragmentary Stability. Proceeding of the 17th Annual American Shoulder & Elbow Surgeons Open Meeting (ASES), Paper #23, San Francisco, CA, March 3, 2001. **Neer Award Recipient in the Basic Science Category.**

Frankle, M, Long, RA, McClain, R, Garlick, G, Schwartz, M. “*A Comparison of Primary Total Elbow Arthroplasty versus Total Elbow Arthroplasty for Failed Osteosynthesis in the Treatment of Comminuted Distal Humerus Fractures in the Elderly.*” Proceeding of the 68th Annual American Academy of Orthopaedic Surgeons, Paper #141, San Francisco, CA, February 28-March 4, 2001.

Mighell, M, **Frankle, M,** Collinge, C. *Outcomes of Hemiarthroplasty for Fractures of the Proximal Humerus.* Proceeding of the 68th Annual American Academy of Orthopaedic Surgeons (AAOS), Paper #144, San Francisco, CA, February 28-March 4, 2001.

Boyd, M, **Frankle, M.** *Driving for Patients After Total Shoulder Surgery.* Proceeding of the 14th European Society for Surgery of the Shoulder & the Elbow (ESSSE), Lisbon Portugal, September 20-23, 2000.

Mighell, M, **Frankle, M,** Collinge, C. *Outcomes of Hemiarthroplasty for Fractures of the Proximal Humerus.* Proceeding of the 14th European Society for Surgery of the Shoulder & the Elbow (ESSSE), Lisbon Portugal, September 20-23, 2000.

Frankle, M, Kioschos, JM, Ondrovic, L, Markee, B, Lee, WE. *Tuberosity Reconstruction in Hemiarthroplasty for Four-Part Proximal Humerus Fractures: A Biomechanical Study to Assess Interfragmentary Stability.* Proceeding of the 14th European Society for Surgery of the Shoulder & the Elbow (ESSSE), Lisbon Portugal, September 20-23, 2000.

Frankle, M. *Glenoid Reconstruction in Revision Shoulder Surgery.* Part of the Bone and Joint Decade 2000-2010, Current Concepts in Shoulder Arthroplasty at the Schulthess Klinik, Zurich, Switzerland, August 25, 2000.

Frankle, M. *The Techniques and Results of Four-Part Fracture Fixation.* Spectrum of Orthopaedics, Trauma, and Spine, Hilton Head, SC, April 13-15, 2000.

Frankle, M. *Acute Complex Proximal Humerus Fractures – A Round Table Discussion.* Shoulder Arthroplasty – Past and Future,

Palais de Congrès, Paris, France, January 24-25, 2000.

Frankle, M. *Glenoid Component Failure Treated with a Bulk Allograft for Revision Total Shoulder Surgery.* Shoulder Arthroplasty – Past and Future, Palais de Congrès, Paris, France, January 24-25, 2000.

Poster

Presentations

Frankle, M, Harman, M, Vasey, M, Lee III, W, Ondrovic, L, Ganey, T, Gutierrez, S. “*A Comparison of Micromotion for Two Different Semi-Constrained Shoulder Replacements used in Rotator Cuff Deficient Patients.*” 2003 American Shoulder and Elbow Society (ASES) Focused Meeting, Las Vegas, NV, November 14-16, 2003.

Frankle, M, Harman, M, Vasey, M, Lee III, W, Ondrovic, L, Ganey, T, Gutierrez, S. “*Achieving Adequate Glenoid Fixation During Semi-Constrained Total Shoulder Arthroplasty Used in Rotator Cuff-Deficient Patients.*” 2003 American Shoulder and Elbow Society (ASES) Focused Meeting, Las Vegas, NV, November 14-16, 2003.

Frankle, M, Vasey, M, Shields, J, Moore, J. “*The Effects of Osteopenia/Osteoporosis on Surgical Outcomes of Arthroscopic Rotator Cuff Repair.*” 2003 American Shoulder and Elbow Society (ASES) Focused Meeting, #15, Las Vegas, NV, November 14-16, 2003.

Frankle, M, Kumar, A, Lee III, W, Ondrovic, L, Ganey, T, Gutierrez, S, Vasey, M. “*The Effects of Proximal Prosthetic Humeral Geometry on the Stability of Tuberosity Reconstruction for Four-Part Proximal Humerus Fractures.*” 2003 American Shoulder and Elbow Society (ASES) Focused Meeting, #16, Las Vegas, NV, November 14-16, 2003.

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**Research
Involvement**

Shoulder Arthroplasty Registry

2008

The Use of Physical Therapy in Post-Operative Total Shoulder Arthroplasty Patients: A Pilot Study

2008

This study is a retrospective chart review designed as a pilot study for a prospective randomized clinical trial comparing post-operative standard physical therapy (PT) to conservative or non-physical therapy (NPT) treatment.

Reverse Shoulder Prosthesis with Proximal Humeral Allograft	<i>2007- 2008</i>
The objective of this study is to report the results of treatment of shoulder dysfunction associated with proximal humeral bone loss with a reverse shoulder prosthesis-allograft composite.	
Characteristics of Dissatisfied Reverse Shoulder Prosthesis Patients	<i>2007</i>
The purpose of the study is to understand common radiographic, clinical, and self-reported features of patients who recount unsatisfactory outcomes following reverse shoulder arthroplasty	
Reverse Shoulder Prosthesis	<i>2002- 2008</i>
The objective of this clinical study is to evaluate the safety and efficacy of the Reverse Shoulder Prosthesis (RSP).	
Prospective evaluation of the use of reverse shoulder arthroplasty for the treatment of rheumatoid arthritis of the shoulder: minimum 2 year follow up	<i>2007- 2008</i>
Clinical and Radiographic Outcomes of Patients with Mechanical Failure of Reverse Shoulder Arthroplasty Treated Either Non-operatively or with Revision Surgery	<i>2008</i>

**Biomechanical
Research
Involvement**

Scapular Morphology

The goal of this project is to assess the morphology of the scapula in reverse shoulder patients. The tools used for this assessment include x-ray, CT scans and 3D virtual models.

Force transducer

The goal of this project is to develop a force sensor to measure the compressive force between the glenosphere and the socket of a reverse shoulder implant.

Internal and external rotation in a reverse shoulder model

The goal of this project is to assess the internal-external rotation of a reverse shoulder implant in a virtual model.

Motion volume of a reverse shoulder implant

The goal of this project is to develop a range of motion envelope for the reverse shoulder implant and characterize this envelope with a volume that can be compared with a normal shoulder, as well as other reverse shoulder implants.

Proximal humeral bone loss

The goal of this project is to assess the efficacy of a custom made implant in a proximal humeral bone loss model.

**Book
Reviews**

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