

## Professor Richard Ma MD, FAAOS

**Research specialization:** Sports injury epidemiology, anterior cruciate ligament (ACL) injury and healing, musculoskeletal repair and regenerative therapies.

**Experience:** Dr. Ma is an U.S. orthopaedic surgeon specializing in advanced arthroscopic treatment of sports injuries. He is an Assistant Professor of Orthopaedic Surgery at the Missouri Orthopaedic Institute and the University of Missouri. Dr. Ma completed a two-year Clinician-Scientist Fellowship Program at the Hospital for Special Surgery. He was also the recipient of a NIH grant that sponsored a Musculoskeletal Tissue Repair and Regeneration Research Fellowship during his clinical training at the University of Virginia. He has received grants and awards from various organizations including the Orthopaedic Research Education Foundation, National Football League, American Orthopaedic Society for Sports Medicine, and the National Operating Committee on Standards for Athletic Equipment. He is currently a Regional Director of Research and Board Member of the Rugby Research and Injury Prevention Group (RRIPG).



**Research overview:** Dr. Ma's research focuses are currently in: 1) Epidemiology and biomechanism of injuries in U.S. amateur Rugby.; 2) ACL injuries and the mechanobiology of ACL healing after surgical reconstruction; 3) Application of novel orthobiologics (cartilage grafts, platelet-rich plasma, stem cells) for musculoskeletal repair. As a Clinician Scientist, Dr. Ma conducts his basic science research with investigators at the University of Missouri's Thompson Laboratory for Regenerative Orthopaedics. He collaborates with RRIPG and Rugby Codes Research Group members on U.S. Rugby-7s research initiatives.

**Postgraduate supervision:** Dr. Ma mentors PhD students, orthopaedic residents, and students. Topics have revolved around ACL mechanobiology and healing and identifying methods to evaluate ACL healing. Through RRIPG, Dr. Ma works with individuals at varying levels of training on understanding the injury risk of playing amateur Rugby in the U.S.

**Research publications:** Examples representative of Dr. Ma's ongoing work include:

1. [Ma R](#), Ju XD, Deng XH, Rodeo SA. A small animal model of differential ACL graft strain. *J KNEE SURG*. 2015; 28(6):489-95.
2. Carbone A, Carballo C, [Ma R](#), Wang H, Deng X, Dahia C, Rodeo S. Indian hedgehog signaling and the role of graft tension in tendon-o-bone healing: evaluation in a rat ACL reconstruction model. *J ORTHOP RES*. 2016 34(4):641-9.
3. [Ma R](#), Schaer M, Chen T, Sisto M, Nguyen J, Ying L, Voigt C, Deng XH, Rodeo SA. The Effect of Dynamic Changes in ACL In Situ Graft Force on Soft Tissue ACL Graft-Tunnel Incorporation. *ORTHOP J SPORTS MED*. 2014; 2(2 suppl)
4. Nagelli CV, Cook JL, Kuroki K, Borzynski C, [Ma R](#), Hewett TL. Does anterior cruciate ligament innervation matter for joint function and osteoarthritis? *J KNEE SURG*. 2016. [Epub ahead of print]
5. [Ma R](#), Miller CM, Hogan MV, Diduch K, Carson EC, Miller MD. Current concept review: Sport-related concussions. *J BONE JOINT SURG AM*. 2012; 94(17): 1618-1627.
6. Lopez V, Jr., [Ma R](#), Weinstein MG, Cantu RC, Myers LSD, Nadkar N, Victoria C and Allen AA. Concussive injuries in Rugby-7s: An American experience and current review. *MED SCI SPORTS EXERC*. 2016; 48(7):1320-30.
7. [Ma R](#), Lopez V, Jr., Weinstein MG, Victoria C, Dellalo J, Locrotondo T, Piebes SK and Allen AA. Injury Profile of Time-loss and Medical Attention (Non-Time-loss) Injuries in Non-Elite Community U.S. Rugby 7s Tournament Players. *MED SCI SPORTS EXERC*. 2016; 48(5S):873.
8. [Ma R](#), Lopez V, Jr., Weinstein MG, Chen JL, Black CM, Gupta AT, Harbst JD, Victoria C and Allen AA. Injury profile of American women rugby-7s. *MED SCI SPORTS EXERC*. 2016; 48(10):1957-66.
9. Lopez V, Jr., [Ma R](#), Weinstein MG, Hume PA, Cantu RC, Victoria C, Marcano ED, Allen AA. U.S. Rugby-7s: The American experience with a growing amateur collision sport. *BR J SPORTS MED*. 2017;51:4 353.
10. Lopez V, Jr., [Ma R](#), Weinstein MG, Hume PA, Cantu RC, Victoria C, Haleem S, DeLallo JF, Allen AA. Assessment of risk factors involved with contact and non-contact injuries in U.S. Rugby-7s. *BR J SPORTS MED*. 2017;51:4 352.



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Missouri  
Orthopaedic Institute  
*University of Missouri Health Care*

**Richard Ma, MD**  
Assistant Professor of Orthopaedic  
Surgery  
Missouri Orthopaedic Institute  
University of Missouri  
1100 Virginia Avenue  
Columbia, MO, USA 65212  
E: [RichardMaMD@Gmail.com](mailto:RichardMaMD@Gmail.com)