

**Steven M. Madey, M.D.**, Director of Hand Trauma, Legacy Health System, Portland, OR.

*Education:*

<i>Institution</i>	<i>Degree</i>	<i>Year</i>	<i>Field of Study</i>
Columbia University, New York, NY	M.D.	1989	Medicine
Presbyterian Hospital, New York, NY	Internship	1991	Internal Medicine
University of Iowa, Iowa City, IA	Research Fellowship	1992	Biomechanics Research NIH Training Grant
University of Iowa, Iowa City, IA	Residency	1996	Orthopaedic Surgery
University of Iowa, Iowa City, IA	Fellowship	1997	Hand and Microvascular Surgery

*Research and Professional Experience:*

1991 - 1992 Research Fellowship, NIH Training Grant, Biomechanics Laboratory, University of Iowa, IA.

1996 – present Clinical Senior Instructor, Dept. of Orthopaedics, Oregon Health Sciences University, Portland, OR

1997 – 1999 Director of Hand Surgery, Portland Orthopedic Clinics, Portland, OR

1999 - present Director of Orthopedic & Hand Trauma, Legacy Emanuel Hospital, Portland, OR

*Hospital Appointments:*

Active Staff: Legacy Emanuel Hospital

Active Staff: Legacy Good Samaritan Hospital

*Professional Affiliations:*

American Academy of Orthopaedic Surgeons (AAOS)

American Medical Association (AMA)

*Awards / Reviews:*

Henderson Prize for Excellent in Medical Writing, Mid-American

Orthopaedic Association, San Antonio, TX, 1996

Zimmer research award, 1997

*Editorial Duties:*

Iowa Orthopedic Journal, Co-Editor, 1995

*Patents:*

1. Bottlang, M., Krieg, JC, Madey, SM, Long, WB. Method and Apparatus for Non-Invasive Stabilization of Pelvic Ring Disruptions. U.S. Patent No. 6,554,784, April 29, 2003.
2. Bottlang, M., Krieg, JC, Madey, SM, Long, WB. Apparatus and Method for Non-Invasive Stabilization of Pelvic Ring Disruptions. U.S. Patent No. 7,008,389, March 7, 2006.

*Licensure:* Iowa, # MD-R-4612  
Oregon, # MD 20430

*Co-Investigator / Grant Awards*

NIH / NIAMS 1R21 AR053611-01, "Evaluating and Improving an Emergent Technology for Fixation of Bone Fractures", Co-investigator 2006-2008 \$ 426,000

NIH, National Institute of Neurological Disorders and Stroke, "An Organotypic Model of Traumatic Brain Injury", Consultant, 1 R01 NS 42946-01, 2002-2004 \$ 1,054,500

U.S. Office of Naval Research, "Emergent, Non-Invasive Reduction and Stabilization of Pelvic Ring Disruptions", Co-Investigator, 2000-2002 \$ 288,000

Oral & Maxillofacial Surgery Foundation, "Efficacy and Safety of Bone Graft Harvesting from the Proximal Tibia", Co-Investigator \$ 55,000

*Peer-Reviewed Original Publications:*

1. Doornink J, Fitzpatrick DC, Boldhaus S, Madey SM, Bottlang M. 2010. Effects of hybrid plating with locked and nonlocked screws on the strength of locked plating constructs in the osteoporotic diaphysis. J Trauma 69(2):411-7.
2. Bottlang M, Lesser M, Koerber J, Doornink J, von Rechenberg B, Augat P, Fitzpatrick DC, Madey SM, Marsh JL. 2010. Far cortical locking can improve healing of fractures stabilized with locking plates. J Bone and Joint Surg 92(7):1652-60.
3. Lujan TJ, Henderson CE, Madey SM, Fitzpatrick DC, Marsh JL, Bottlang M. 2010. Locked plating of distal femur fractures leads to inconsistent and asymmetric callus formation. J Orthop Trauma 24(3): 156-62.
4. Bottlang M, Helzel I, Long W, Fitzpatrick D, Madey S. 2010. Less-invasive stabilization of rib fractures by intramedullary fixation: a biomechanical evaluation. J Trauma 68(5): 1218-24.

5. Bottlang M, Helzl I, Long WB, Madey S. 2010. Anatomically contoured plates for fixation of rib fractures. *J Trauma* 68(3): 611-5.
6. Lujan TJ, Madey SM, Fitzpatrick DC, Byrd GD, Sanderson JM, Bottlang M. 2010. A computational technique to measure fracture callus in radiographs. *J Biomech* 43(4): 792-5.
7. Bottlang M, Doornink J, Fitzpatrick D, Madey S. 2009. Far cortical locking can reduce stiffness of locked constructs while retaining construct strength. *J Bone and Joint Surg* 91:1985-1994.
8. Helzel I, Long W, Fitzpatrick D, Madey S, Bottlang M. 2009. Evaluation of intramedullary rib splints for less-invasive stabilisation of rib fractures. *Injury* 40(10):1104-10
9. Fitzpatrick, DC, Doornink, J, Madey, SM, Bottlang, M. Relative stability of locked plating fixation in a model of the osteoporotic femoral diaphysis. In review, *Clin Biomech (Bristol, Avon)* 24(2):203-9, 2009.
10. Bottlang, M., Doornink, J., Byrd, G., Fitzpatrick, DC, Madey, SM, A non-locking endscrew can decrease fracture risk caused by locked plating in the osteoporotic diaphysis. Conditionally accepted, *J Bone Joint Surgery* 91(3):620-7, 2009.
11. Doornink, J, Fitzpatrick, DC, Boldhaus, S, Madey, SM, Bottlang, M. Hybrid fixation with locked an non-locked screws in osteoporotic diaphyseal bone. In review, *J Bone Joint Surg (Br)*, April 17, 2008.
12. Henderson, C., Bottlang, M., Marsh, J.L., Fitzpatrick, D.C., Madey, S.M. Does locked plating of periprosthetic supracondylar femur fractures promote bone healing by callus formation? Two cases with opposite outcomes. *The Iowa Orthopaedic Journal*, 2008, Vol 28, 73-76.
13. Ehmke, LW, Madey, SM, Britton, BP, Bottlang, M. Antegrade Femoral Nailing Through the Trochanter: The Reamer Pathway Indicates a Helical Shape for Trochanteric Intramedullary Nails. *J Orthop Trauma*. 2006 Nov-Dec;20(10):668-74.
14. Sommers, MB, Fitzpatrick, DC, Madey, SM, Zanderschulp, CV, Bottlang, M. A Surrogate Long-Bone Model with Osteoporotic Material Properties for Biomechanical Testing of Fracture Implants. *J Biomech*. 2007, Vol 40/15 pp 3297-3304.
15. Krieg, JC, Mohr, M, Ellis, TJ, Simpson, TS, Madey, SM, Bottlang, M, Emergent Stabilization of Pelvic Ring Injuries by Controlled Circumferential Compression: A Clinical Trial. *J Trauma*, 59(3):659-64.2005.
16. Ehmke LW, Fitzpatrick DC, Krieg JC, Madey SM, Bottlang M. Lag screws for hip fracture fixation: Evaluation of migration resistance under simulated walking. *J Orthop Res.*, 2005, 23:6 , 1329-1335.
17. Engel C, Krieg JC, Madey SM, Long WB, Bottlang M. Operative Chest Wall Fixation with Osteosynthesis Plates. *J Trauma*, 2005, 58:181-186.
18. Erne, OK, Reid, JB, Sommers, M, Madey, SM, Bottlang, M. Depth-dependent strain of patellofemoral articular cartilage in unconfined compression. *J Biomech.*, 2005, 38:4, 667-72.
19. Sommers MB, Roth C, Hall H, Kam BCC, Ehmke LW, Krieg JC, Madey SM, Bottlang M. Cut-out resistance of implants for pertrochanteric fracture fixation. *J Orthop Trauma*.18(6):361-368, 2004.

20. Bottlang M, Krieg JC, Mohr M, Simpson TS, Madey SM. Emergent management of pelvic ring fractures by circumferential compression. *Journal of Bone and Joint Surgery* 2002;84-A:43-47.
21. Bottlang M, Simpson TS, Sigg J, Krieg JC, Madey SM, Long WB. Non-invasive reduction of open-book pelvic fractures by circumferential compression. *J Orthop Trauma* 2001;16:367-373.
22. Bottlang M, Madey SM, Steyers CM, Marsh JL, Brown TD. Assessment of elbow joint kinematics in passive motion via electromagnetic motion tracking. *J Orthop Res* 2000;18:195-202.
23. Bottlang M, O' Rourke M, Madey SM, Steyers CM, Marsh JL, Brown TD. Radiographic determinants of the elbow rotation axis: experimental identification and qualitative validation. *J Orthop Res* 2000;18:821-828.
24. Madey SM, Bottlang M, Steyers CM, Marsh JL, Brown TD. Hinged external fixation of the elbow: optimal axis alignment to minimize motion resistance. *J Orthop Trauma* 2000;14:41-47.
25. O' Rourke M, Steyers CM, Marsh JL, Bottlang M, Madey SM, Brown TD. *Articulated elbow external fixation: determinants for optimal hinge alignment*. Atlas of Hand Clinics. New York, W.B. Saunders Company, 2000.