



W. ANDREW HODGE, M.D.
CURRICULUM VITAE (rev. 04/10)

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APPOINTMENTS:

2008- Present Co-Director, Center for Skeletal Aging Solutions, Scripps-Florida, Jupiter, FL

2008- Present Adjunct Professor, Dept. of Metabolism & Aging, The Scripps Research Institute, Jupiter, Florida

2008- Present Director, The Human Motion and Biomechanics Laboratory, Jupiter Medical Center, Jupiter, Florida

2004- 2008 Associate Professor, Department of Mechanical present and Aerospace Engineering, University of Florida, Gainesville, Florida

1991- 2008 Director, Orthopaedic Research Laboratory, Good Samaritan Medical Center, West Palm Beach, Florida

1983- 2007 Adjunct Professor & Lecturer, Dept. of Mech. Engineering, Massachusetts Institute of Technology, Cambridge, MA

1990-94 Department of Orthopaedic Surgery, New England Baptist Hospital, Tufts School of Medicine, Boston, Massachusetts

1988-93 Co-Director of the Harvard-MIT Rehabilitation Engineering Center, MIT, Cambridge, Massachusetts

1989-93 Consultant, Veterans Administration, Boston VAMC, Boston, Massachusetts

1983-92 Assistant in Orthopaedic Surgery; Massachusetts General Hospital
Instructor in Department of Orthopaedic Surgery; Harvard Medical School and MIT/Harvard HST Program, Boston, Massachusetts

1987-90 Associate Professor, MGH Institute of Health Professions, MGH, Boston, Massachusetts

1983-88	Clinical Director of the BioMotion Laboratory, Massachusetts General Hospital, Boston, Massachusetts
1982-83	Assistant in Orthopaedics, Massachusetts General Hospital Research Fellow in Orthopaedic Surgery, Harvard Medical School Research Associate, Massachusetts Institute of Technology, Boston, Massachusetts

FELLOWSHIP

Massachusetts General Hospital (Harvard)	1983	Adult Joint Reconstruction Surgery
Massachusetts Institute of Technology	1982	Orthopaedic & Rehab. Engineering

RESIDENCY

Rush-Presbyterian- St. Luke's Hospital	1978-82	Orthopaedic Surgery
Rush-Presbyterian- St. Luke's Hospital	1981-82	Chief Resident
Shriner's Hospital for Crippled Children (Chicago)	1980	Chief Resident

INTERNSHIP

Rush-Presbyterian- St. Luke's Hospital	1977-78	General Surgery
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COLLEGES

University of Illinois	1970-73	Bachelor of Science	1974
Rush Medical College	1973-77	Medical Doctorate	1977

BOARD CERTIFICATION

American Board of Orthopaedic Surgery	7-19-85
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HONORS

Ellis Island Medal of Honor (International)	2009
Hap Paul Award-International Society for Technology In Arthroplasty(ISTA)	2004
Healthcare Hero – Innovation in Healthcare Award Palm Beach Medical Society	2004

Chandler Award for Surgical Research	1980
Phi Eta Sigma National Honor Society	1970
Eagle Scout Award	1968

GRANTS

The Charles H. Hood Foundation, 1985. The Impositions of Posture on Stance Equilibrium in the Spastic Quadriplegic Child. (\$25,000)

Prince Manufacturing, Inc., 1986. The Dynamic Effect of a Polypropylene Shoe Stirrup in Tennis. (\$17,613)

Department of Orthopaedic Surgery (MGH), 1986. The Effect of Ultra-violet Radiation on the Incidence of Wound Infections Following Major Orthopaedic Procedures. (\$5,000)

Zimmer, USA, 1987. Total Body Dynamics During Stair Climbing and Rising from a Chair Following Knee Replacement Surgery. (\$39,856)

National Institute of Disability Rehabilitation Research, 1986-1989. Career Development Program on Advanced Rehabilitation Research. (\$320,000)

National Institute of Disability Rehabilitation Research, 1989-1991. Career Development Program in Advanced Rehabilitation Research. (\$472,023)

U.S. Department of Education--REC, 1988-1993. Harvard-MIT Rehabilitation Engineering Center. (\$2,500,000)

National Institute of Health, 1991-1994. In vivo Measurement versus Dynamic Estimates of Hip Force. RW Mann, WA Hodge, PO Riley (\$752,869)

U.S. PATENTS

1. #5,413,604: Prosthetic Knee Implant For An Anterior Cruciate Deficient TKR.
Hodge, WA
2. #6,486,178: Femoral Preparation Instrument System And Method.
Hodge, WA
3. #6,409,768: Screw Anchored Joint Prosthesis.
Tepic, S and Hodge, WA
4. #6,170,446: Internal Joint Brace System And Suture Anchor Assembly.
Hodge, WA; Tepic, S and Bresina, S

BUSINESS BOARDS

1. Data Driven Orthopedics, LLC; Jupiter, FL. USA
2. Scyon Orthopaedic AG; Zurich, Switzerland
3. Iconacy Orthopaedic Implants, LLC; Warsaw, IN, USA
4. Noujour Clinique, LLC; Jupiter, FL. USA

PUBLICATIONS

1. Hodge WA, Dewald RL: Splenic Injury with Anterior Scoliosis Surgery. *Journal of Bone and Joint Surgery*, Vol. 65A p. 396-97, 1985.
2. Hodge WA, Fijan RS, Carlson KL, Burgess RG, Harris WH, Mann RW: Contact Pressures in the Human Hip Joint Measured In Vivo. *Proceedings of the National Academy of Science*, Vol. 83, p. 2879, May 1986.
3. Hodge WA, Harris WH, Mann RW: Pressure Measured in Live Hip Joint. *Science*, Vol. 232, p. 1192, 1986.
4. Hodge WA, Zimmermann SE, Riley PO, Carlson KL, Mann RW: The Influence of Hip Arthroplasty on Stair Climbing and Rising from a Chair. *Biomechanics of Normal and Prosthetic Gait*, p. 65-67, J.L. Stein (ed.), ASME Press, New York, NY, 1987.
5. Catani F, Hodge WA, Mann RW: Hip Dynamics in Level Walking, Stair Climbing, and Rising from a Chair. *Biomechanics of Normal and Prosthetic Gait*, J.L. Stein (ed.) p. 113-117, Boston, ASME Press, 1987.
6. Riley PO, Fijan RS, Hodge WA, Mann RW: Determination of Joint Centers for Posture Studies. *Biomechanics of Normal and Prosthetic Gait*, J.L. Stein (ed.) p. 131-136, Boston, ASME Press, 1987.
7. Riley PO, Hodge WA, Mann RW: Center of Gravity Estimation Technique in the Study of Postural Control. *Biomechanics of Normal and Prosthetic Gait*, J.L. Stein (Ed) p. 137-144, Boston, ASME Press, 1987.
8. Hodge WA, Carlson KL, Fijan RS, Burgess RG, Riley PO, Harris WH, Mann RW: Contact Pressures From an Instrumented Hip Endoprosthesis. *Journal of Bone and Joint Surgery*, 71-A: p. 1378-1386, Oct. 1989.
9. Riley PO, Mann RW, Hodge WA: Modeling of the Biomechanics of Posture and Balance. *Journal of Biomechanics*, Vol. 23, No. 5, p. 503-506, 1990.
10. Schenkman M, Berger R, Riley P, Mann RW, Hodge WA: Whole Body Movements During Rising to Standing from Sitting. *Physical Therapy*, Vol. 70, No. 10, p. 638-651, Jan. 1990.
11. Riley PO, Schenkman ML, Mann RW, Hodge WA: Mechanics of a Constrained Chair Rise. *Journal of Biomechanics*, April 1990.
12. Krebs DE, Elbaum LE, Riley PO, Hodge WA, Mann RW: Exercise and Gait Effects on In Vivo Hip Contact Pressure. *Physical Therapy*, Vol. 71, No. 4, p. 301-309, April 1991.
13. Ikeda ER, Schenkman ML, Riley PO, Mann RW, Hodge WA: Influence of Age on Dynamics of Rising from a Chair. *Physical Therapy*, Vol. 71, No. 6, p. 473-481, June 1991.
14. Hodge WA: Vitallium Mold Arthroplasty of the Knee: A Case Report with Thirty Year Follow-up. *Journal of Arthroplasty*, Vol. 6, No. 3, p. 195-197, Sept. 1991.
15. Hodge WA, Andriacchi TP, Galante JO: A Relationship Between Stem Orientation and Function Following Total Hip Replacement. *Journal of Arthroplasty*, Vol. 6, No. 3, p. 229-235, Sept. 1991.
16. Hodge WA: Prevention of Deep Vein Thrombosis Following Knee Replacement: Coumadin vs. Pneumatic Calf Compression. *Clinical Orthopaedics and Related Research*, No. 271, p. 101-105, Oct. 1991.
17. Krebs DE, Wong D, Jevsevar D, Riley PO, Hodge WA: Upper Body Kinematics During Daily Activities. *Physical Therapy*, Vol. 72, No. 7, p. 505-514, July 1992.
18. Hodge WA, Chandler HP: Unicompartmental Knee Replacement: Constrained vs. Unconstrained. *Journal of Bone and Joint Surgery*, Vol. 74-A, p. 987-992, July 1992.

19. Strickland EM, Fares M, Krebs DE, Riley PO, Givens-Heiss DL, Hodge WA, Mann RW: In Vivo Acetabular Contact Pressures During Rehabilitation, Part I: Acute Phase. *Physical Therapy*, Vol. 72, No.10, p. 691-699, October 1992.
20. Givens-Heiss DL, Krebs DE, Riley PO, Strickland EM, Fares M, Hodge WA, Mann RW: In Vivo Acetabular Contact Pressures During Rehabilitation, Part II: Post acute Phase. *Physical Therapy*, Vol. 72, No. 10, p. 700-710, October 1992.
21. Jevsevar DS, Riley PO, Hodge WA, Krebs DE: Knee Kinematics and Kinetics During Locomotor Activities of Daily Living in Subjects with Knee Arthroplasty and in Healthy Control Subjects. *Physical Therapy*, Vol. 73, No. 4, p. 229-242, April 1993.
22. Hodge WA, Collier JP, Surprenant RE, Jensen RE, Surprenant HP: Failure of a Well-Fixed Bone-Ingrown Titanium Hip Prosthesis. *Orthopaedic Review*, p. 719, June 1993.
23. Hodge WA: Cemented Proximal Femoral Allograft in Revision THR, A Report of Incomplete Union in Seven Cases. *Orthopaedics, International Edition*, Vol. 2, No. 3, p. 259-266, June 19, 1994.
24. D'Antonio JA, Morawa LG, Hodge WA: Short-Term Clinical Results with a Cemented Total Knee Replacement System: A Retrospective Study with 2-Year Follow Up. *Orthopaedics, International Edition*, Vol. 14, No. 2, March 1996.
25. Banks SA, Hodge WA: Accurate Measurement of Three-Dimensional Knee Replacement Kinematics Using Single-Plane Fluoroscopy. *IEEE Transactions on Biomedical Engineering*, Vol. 43, No. 6, June 1996.
26. Banks SA, Harman MK, Hodge WA, Markovich GD, Kester MA: Kinematics of the Medial Unicompartmental Knee Replacement. Chapter 4, *Unicompartmental Knee Replacement*, J.A. Epinette, P. Cartier, G. Deschamps, and P. Hernigou (Eds.), Sofcot Publishers, 1997.
27. Banks SA, Markovich GD, Hodge WA: In Vivo Kinematics of Cruciate Retaining and Substituting Knee Replacements, *Journal of Arthroplasty*, Vol. 12, No. 3, p. 297-304, 1997.
28. Harman MK, Banks SA, Hodge WA: Wear Analysis of a Retrieved Hip Implant with Titanium Nitride Coating: A Case Report. *Journal of Arthroplasty*, Vol.12, No. 8, p. 938, 1997.
29. Banks SA, Markovich GD, Hodge WA: The Mechanics of Knee Replacements During Gait: In Vivo Fluoroscopic Analysis of Two Designs. *American Journal of Knee Surgery*, Vol. 10, No. 4, p. 261-267, Fall 1997.
30. Harman MK, Banks SA, Hodge WA: Alteration Of Acrylic Bone Cement By Chemicals Used During Hard Tissue Specimen Processing. *Journal of Histotechnology*, Vol. 21, No.2, June 1998.
31. Harman MK, Markovich GD, Banks SA, Hodge WA: Wear Patterns on Tibial Plateaus From Varus and Valgus Osteoarthritic Knees. *Clinical Orthopaedics and Related Research*, No. 352, July 1998.
32. Markovich GD, Banks SA, Hodge WA: A New Technique for Removing Non-cemented Acetabular Components in Revision Total Hip Arthroplasty. *The American Journal of Orthopedics*, Vol. 28, No. 1, January 1999.
33. Harman MK, Banks SA, Hodge WA: Polyethylene Damage and Knee Kinematics After Total Knee Arthroplasty. *Clinical Orthopaedics and Related Research*, 392:383-93, 2001
34. Hodge WA: Direct Comparison of In-Vivo Knee Motion and Wear on Retrieved TKA Polyethylene Inserts From the Same Subject Group. *Florida Orthopaedic Society Journal*, Winter 2001.
35. Hodge WA: Retrieval Analysis of Contemporary Metal-On-Metal Total Hip Replacements. *Florida Orthopaedic Society Journal*, Winter 2001.
36. Banks SA, Harman MK, Hodge WA: The mechanism of Anterior Impingement Damage in TKR, *Journal of Bone and Joint Surgery*, 84-A(S2):37-42, 2002
37. Nozaki H, Banks SA, Suguro T, Hodge WA: Observations of Femoral Rollback in Cruciate-Retaining Knee Arthroplasty, *Clin Orthop Nov*;(404):308-14, 2002
38. Kaneyama R, Suzuki M, Moriya H, Banks SA, Hodge WA: Fluoroscopic analysis of knee kinematics after total knee arthroplasty in osteoarthritis and rheumatoid arthritis, *Chiba Med J*, 78:193-201, 2002
39. Banks SA, Bellemans J, Nozaki H, Whiteside LA, Harman MK, Hodge, WA: Knee motions during maximum flexion in fixed and mobile-bearing arthroplasties. *Clin Orthop Rel Res*, 410:131-8, 2003

40. Harman MK, Banks SA, Hodge WA: Closed Reduction of Constrained Total Hip Arthroplasty: In Vitro Evaluation and Clinical Application. *Clinical Orthopaedics and Related Research*, 414:121-128, 2003
41. Banks SA, Bellemans J, Harman MK, Hodge WA: Making Sense of Knee Arthroplasty Kinematics: News You Can Use, *J Bone Joint Surg*, 85A[Suppl 4], 64-72, 2003
42. Banks SA, Hodge WA: Implant Design Affects Knee Arthroplasty Kinematics During Stair-Stepping, *Clin Orthop Rel Res*, 426:187-193, 2004
43. Banks SA, Hodge WA: 2003 Hap Paul Award paper of the International Society for Technology in Arthroplasty. Design and activity dependence of kinematics in fixed and mobile-bearing knee arthroplasties. *J Arthroplasty*, 19(7):809-16, 2004
44. Harman MK, Banks SA, Fregly BJ, Sawyer WG, Hodge WA: Biomechanical mechanisms for damage: Retrieval analysis and computational wear predictions in total knee replacements. *Journal of Mechanics in Medicine and Biology*, 5(3):469-75, 2005..
45. Kijrste C. Morrell, W. Andrew Hodge, David E. Krebs, and Robert W. Mann: Corroboration of in vivo cartilage pressures with implications for synovial joint tribology and osteoarthritis causation. *Proceedings of the National Academy of Sciences of the United States of America*, v.102, no 41, pp 14819-14824, 2005
46. Harman MK, Banks SA, Fregly BJ, Sawyer WG, Hodge WA: Biomechanical mechanisms for damage: Retrieval analysis and computational wear predictions in total knee replacements. *Journal of Mechanics in Medicine and Biology*, 5(3):469-75, 2005.
47. Hodge WA and Fitts, SM: Hip Resurfacing: A Fair and Balanced Review. *Seminars in Arthroplasty*, No. 3, 2006.
48. Harman MK, Banks SA, Hodge WA: Backside damage corresponding to articular damage in retrieved tibial polyethylene inserts. *Clinical Orthopaedics & Related Research*, 458:137-44, 2007.
49. Tanino H, Harman MK, Banks SA, Hodge WA: Association between dislocation, impingement and articular geometry in retrieved acetabular polyethylene cups. *Journal of Orthopaedic Research*, 25:1401-1407, 2007.
50. Hodge WA, Schmitt S, Harman MK, Mitchell K, Banks SA: Intra-operative assessment of bone cuts to guide surgical technique during TKA. *J Bone Joint Surg [Am]*, suppl 89:127-136, 2007.
51. Hodge WA, Harman MK, Banks SA: Patterns of knee osteoarthritis in Arabian and American populations. *Journal of Arthroplasty*, 24(3): 448-453, March 2009
52. Tanino H, Banks SA, Ito H, Harman MK, Matsuno T, Hodge WA: An in vivo model for intraoperative assessment of impingement and dislocation in total hip arthroplasty. *Journal of Arthroplasty*, 23(5):714-720, May 2008
53. Harman MK, DesJardins JD, Benson LC, Banks SA, LaBerge M, Hodge WA: Comparison of polyethylene insert damage from in vivo function and in vitro knee joint wear simulation. *Journal of Orthopaedic Research*, 27(4): 540-548, April, 2009
54. Ginsel BL, Banks SA, Verdonschot N, Hodge WA: Improving maximum Flexion with a Posterior Cruciate Retaining Total Knee Arthroplasty: A Fluoroscopic Study. *Acta Orthop Belg*. 75(6): 801-7.PMID: 20166363, December 2009
55. Harman MK, Schmidt S, Viceconti M, Banks SA, Hodge WA: Polyethylene Damage Patterns and Deformation in Unicondylar Knee Replacement Corresponding to Progressive Changes in Component Alignment and Fixation; *J.Clinical Biomechanics*, 2010.03.013, March 2010

SCIENTIFIC EXHIBITS (Annual AAOS Meeting)

Harman MK, Markovich GD, Banks SA, Gleiber M, Hodge WA: Cruciate Ligaments as Constraint Mechanisms in Varus and Valgus Osteoarthritic Knees Prior to Total Knee Replacement. 64th Annual Meeting of the American Academy for Orthopaedic Surgeons, San Francisco, CA, February 1997.

Markovich GD, Banks SA, Hodge WA: A Novel Technique for Removing Non-Cemented Acetabular Components in Revision Total Hip Arthroplasty. 64th Annual Meeting of the American Academy of Orthopaedic Surgeons, San Francisco, CA, February 1997.

Banks SA, Markovich GD, Hodge WA: Mechanics of Knee Replacements During Gait. 64th Annual Meeting of the American Academy of Orthopaedic Surgeons, San Francisco, CA, February 1997.

Harman MK, Banks SA, Natarajan RN, Andriacchi TP, Hofmann AA, Hodge WA: The Spectrum Of Polyethylene Wear In Contemporary Posterior Cruciate Ligament Retaining Total Knee Arthroplasty. The 66th Annual Meeting of the American Academy for Orthopaedic Surgeons, Anaheim, CA, 1999.

Harman MK, Banks SA, Hodge WA: Organization of a Post-Mortem Implant Retrieval Program. 67th Annual Meeting of the American Academy of Orthopaedic Surgeons, Orlando, FL, March 2000.

Hein K, Harman MK, Dorrance LJ, Hodge WA, Banks SA: Hip Dislocation and Closed Reduction After Use of Constrained Acetabular Components in Total Hip Arthroplasty. 67th Annual Meeting of the American Academy of Orthopaedic Surgeons, Orlando, FL, March 2000.

Harman MK, Banks SA, Hodge WA: Organization of a Post-Mortem Implant Retrieval Program. 68th Annual Meeting of the American Academy of Orthopaedic Surgeons, San Francisco, CA, February/March 2001.

Hodge WA, Harman MK, Banks SA, Jacobs JJ, Urban RM, Skipor AK, Campbell P, Amstutz HC: Early Clinical Experience with Contemporary Metal-on-Metal Total Hip Arthroplasty: A Multicenter Collaboration. 68th Annual Meeting of the American Academy of Orthopaedic Surgeons, San Francisco, CA, February/March 2001.

Banks SA, Harman MK, Hodge WA: Mechanism of anterior impingement damage in total knee arthroplasty. 69th Annual Meeting of the American Academy of Orthopaedic Surgeons, Dallas, TX, February 2002.

Harman MK, Banks SA, Schmitt S, Hedley AK, Hodge WA: Total knee replacement performance beyond 5 years: Can in vivo fluoroscopy and retrieved implant analysis lead the way? 69th Annual Meeting of the American Academy of Orthopaedic Surgeons, Dallas, TX, 2002.

Harman MK, Banks SA, Campbell P, Hodge WA: Polyethylene insert micromotion and backside wear: Is it a concern in cemented TKR? 70th Annual Meeting of the American Academy of Orthopaedic Surgeons, New Orleans, LA, 2003.

Banks SA, Harman MK, Bellemans J, Hodge WA: Making sense of knee arthroplasty kinematics: News you can use. 70th Annual Meeting of the American Academy of Orthopaedic Surgeons, New Orleans, LA, February 2003.

Harman MK, Markovich GD, Banks SA, Hodge WA: Cementless LCS Total Knee Arthroplasty After 9 Years In-situ: Articular and Backside Wear on Retrieved Meniscal and Rotating Platform Polyethylene Bearings. 71st Annual Meeting of the American Academy of Orthopaedic Surgeons, San Francisco, CA, 2004.

Harman MK, Banks SA, Hodge WA: Patterns of knee osteoarthritis in Arabian and American knees. 73rd Annual Meeting of the American Academy of Orthopaedic Surgeons, Chicago, IL, March 2006.

Hodge WA, Schmidt S, Banks SA, Harman MK: Measuring Bone Cuts in TKR Strategies. 74th Annual Meeting of the American Academy of Orthopaedic Surgeons, San Diego, CA, February 2007

PROFESSIONAL ACTIVITIES

Chicago Medical Society	1978
Illinois Medical Society	1978
American Medical Association	1978
Massachusetts Medical Society	1983
Orthopaedic Research Society	1985
Massachusetts Orthopaedic Society	1985
Harvard Club	
American Society of Biomechanics	1986
Boston Orthopaedic Club	1986
Fellow, American Academy of Orthopaedic Surgeons	1987
Fellow, American Board of Orthopaedic Surgeons	1987
Fellow, American College of Surgeons	1988
Eastern Orthopaedic Association	1988
Association of Bone and Joint Surgeons	1990
Academic Orthopaedic Society	1990
Association for Arthritic Hip and Knee Surgery	1991

Florida Orthopaedic Society	1992
Florida Medical Society	1993
Palm Beach Medical Society	1993

JOURNAL REVIEWER

New England Journal of Medicine
Journal of Orthopaedic Research
Journal of Arthroplasty
Clinical Orthopaedics and Related Research

EDITORIAL BOARDS

Journal of Arthroplasty

RESEARCH INTERESTS

Cartilage, Ligament and Bone Aspects of Aging
Biomechanics of Human Motion
Mechanical and Genetic Influences of Osteoarthritis
Rehabilitation in Patients with Musculoskeletal Disease
Founded-Biomotion Laboratory at Massachusetts General Hospital
Founded-Orthopaedic Research Laboratory at Good Samaritan Medical Center
Founded-Human Motion & Biomechanics Laboratory at Jupiter Medical Center
Founded-Center for Skeletal Aging Solutions at Scripps-Florida

SEE CV ADDENDUM FOR WORLDWIDE PRESENTATIONS/ABSTRACTS