

CURRICULUM VITAE

William L. Bargar, M.D.

M.R.K. Medical Consultants

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EDUCATION:

Ohio State University, Columbus, Ohio
1968 - B.S., Aero Engineering, 1968

University of Delaware, Newark, Delaware
1972 - M.S., Mechanical Engineering

Ohio State University, Columbus, Ohio
1975 - M.D.

POST GRADUATE TRAINING AND EXPERIENCE:

Flexible Surgical Internship
Riverside Methodist Hospital
Columbus, Ohio 1975-1976

General Surgical Resident
Riverside Methodist Hospital
Columbus, Ohio 1976-1977

Orthopaedic Surgery Resident
Case Western Reserve University
Cleveland, Ohio 1978-1981

Biomechanics and Joint Replacement
University of California, Los Angeles, 1977-1978

LICENSURE and CERTIFICATION:

State:

Ohio	038400 (1975-1986)
California	G034044 (1976-Present)
Minnesota	(2009-Present)

Board Certification:

Diplomat, National Board of Medical Examiners, 1976
Diplomat, American Board of Orthopaedic Surgery, 1983

HOSPITAL AFFILIATIONS:

Senior Medical Staff, Sutter Community Hospitals, Sacramento California, October 1985-Present

Courtesy Medical Staff, Mercy General Hospital, Sacramento, CA, March 1982-2008

ACADEMIC APPOINTMENTS:

Assistant Clinical Professor, Department of Orthopaedic Surgery, School of Medicine, University of California, Davis, August 1986-Present

Assistant Professor Department of Orthopaedics, U.C. Davis School of Medicine.
Director, Adult Reconstruction Service, August 1981-1986

SCHOLARLY OR ACADEMIC AWARDS AND HONORS:

Outstanding Teacher, U.C. Davis Department of Orthopaedics, 1985- 1986

Outstanding Achievement Award, Chairperson Operating Room Committee, University of California Davis Medical Center 1983-1984

Recipient, Computerworld Smithsonian Award for Information Technology in Medicine, 1992

Co-Recipient, Joseph F. Engelberger Robotics Award from the Robotics Industries Association, 1996

DIRECTORSHIP/BOARD POSITIONS

Northern California Orthopedic Centers, Inc.
Medical Director, January 1995 – January 1997
Board of Directors, January 1995 – September 1999

EDITORSHIP:

Clinical Orthopaedics and Related Research, Reviewer, 1981-Present

Journal of Bone and Joint Surgery, Reviewer, 2003-Present

The Journal of Arthroplasty, Board of Associate Editors, 1988-1996

COMMUNITY SERVICE:

State: Crippled Children Services Panel in Orthopaedic Surgery, 1981-1986

Local: Advisor to "Hipsters" - A Local Total Hip Patient Support Group 1983 - 1990

Board of Directors - Sacramento Medical Foundation Blood Center 1992 - 1998

Founder & CFO - Friends of Orthopaedic Research, non profit corporation 1986-1990

PROFESSIONAL ORGANIZATIONS:

International:

ISTA, International Society for Technology in Arthroplasty, 1994 to present
International Society for the Study of Custom-Made Prosthesis - President, 1992

National:

American Orthopaedic Association
Academic Orthopaedic Society
American Academy of Orthopaedic Surgeons (Fellow)
Orthopaedic Research Society
Western Orthopaedic Association
The Hip Society
The Knee Society
Association for Arthritic Hip & Knee Surgery

State:

California Medical Association
California Orthopaedic Association

Local:

Sacramento-El Dorado Medical Society

TEACHING ASSIGNMENTS

Assistant Professor, University of California, School of Medicine 1981-1986

Assistant Clinical Professor, University of California, School of Medicine 1986-present

Director, Fellowship in Adult Reconstructive Surgery. 1988- 1997

Instructor: U.S. Naval Nuclear Power School, Bainbridge, Maryland Basic Physics, Nuclear Physics and Reactor Design. 1968-1972

Instructor: Ohio State University, Columbus, College of Medicine. Organized and designed mechanics for instructor-class communications. Advisor to faculty on curriculum 1972-1975.
College of Engineering. Guest lecturer for Orthopaedic Biomechanics. 1975

Instructor: Case Western Reserve University, Cleveland, Ohio School of Medicine, Department of Orthopaedics. Developed educational materials for Orthopaedics Biomechanics. 1975 School of Engineering. Guest lecturer of Engineering in Orthopaedics. 1979

Instructor: School of Medicine, University of California, Davis. Orthopaedic Residency Training Program. 1981-1982; 1982-1983

Musculoskeletal System (MS 420C). 1982 (Sp:96)Surgery Clerkship (MS 430). 1981-1987
Orthopaedic Research: Independent Studies for Undergraduates (OSU 199). 1981-1995
Orthopaedic Research: Independent Studies for Advanced Undergraduates (OSU 199). 1982-1985

Advanced Orthopaedics: Acting Internship (OSU 464). 1981- 1986

Instructor, School of Veterinary Medicine, University of California, Davis
VM Surgery Resident. 1982-1983
VM Pathology Ph.D. Student. 1982-1984

Instructor, Biomedical Engineering, University of California, Davis
Graduate Students. 1982-Present
Seminar (BIN 290). 1982-1992

PUBLICATIONS:

Bargar, W.L. A Porelastic Theory of Stress in a Model of Bone Joint. Master's Thesis University of Delaware., 1972

Bargar, W.L. and J.L. Nowinsky. The Hertz Problem, for Rheological Materials of a Porelastic Class. Acta Mechianica 20:217-213, 1974

Bargar, W.L., Crachiolo, A. and H.C. Amstutz. Results with the Constrained Total Knee Prosthesis in Treating Severely Disabled Patients and Patients with Total Knee Replacements. JBJS 62A:504-512, 1980

Bargar, W.L., Moreland, J.R., Markolf, K.L., Shoemaker, S.C., Asmtutz, H.C. and T.T. Grant. In Vivo Stability Testing of Post-menisectomy Knees. Clin Ortho and Rel Res 150:247-252, 1980

Rosenberg, N.J., Bargar, W.L. and B. Freidman. The Incidence of Spondyloysis and Spondylolisthesis in Nonambulatory Patients. Spine 6(1):35-38, 1981

Markolf, K.L., Bargar, W.L., Shoemaker, S.C. and H.C. Amstutz. The Role of Joint Load in Knee Stability. JBJS 63(4):570-585., 1981

Weber, S.C. and Bargar, W.L., A Comparison of the Mechanical Properties of Simplex, Zimmer and Zimmer LVC Bone Cement. Surgical forum:XXXIII, 68th Annual Clinical Congress of 1982.

Weber, S.C. and Bargar, W.L., A Comparison of the Mechanical Properties of Simplex, Zimmer and Zimmer LVC Bone Cement. Biomaterials, Medical Devices and Artificial Organs 11(1):3-12., 1983

Bargar, W.L., Moreland, J.R., Markolf, K.L. and S.C. Shoemaker. The Effects of Tibia-Foot Rotary Position on the Anterior Drawer Test. Clin Ortho and Rel Res 173:200-203, 1983.

Brown, S.A., Sharkey, N.A., Bargar, W.L., Paul, H.A., Voegli, T.L., and Hsieh, Y-L. Properties of IN Vitro and In Vivo Cured Bone Cement, Biomaterials and Biomechanics 1883, 13-18, Elvise Science Publishers B.V., Amsterdam, 1984.

Bargar, W.L., Heiple, K.G., Weber, S., Brown, S.A., Brown, R.H., Kotzar, G. Contrast Bone

- Cement. *Journal of Orthopedic Bone Research*, 1:92-100, 1983.
- Brown, S.A. and Bargar, W.L., The Influences of Temperature and Specimen Size of the Flexural Properties of Pmma Bone Cement. *Journal of Biochemical Materials Research*, Vol. 18, 523-536, 1984.
- Bargar, W.L., Marcus, R.E., and Ittleman, F.P. Late Thoracic Outlet Syndrome Secondary Pseudarthrosis of the Clavicle. *Journal of Trauma* 24(9):857-859, 1984.
- Bargar, W.L., Total Knee Arthroplasty: A Comprehensive Approach. *New England Journal of Medicine* (Aug 2):340, 1984
- Bargar, W.L., Report of 1983 AOA North American Travelling Fellows. *AOA News XVI*(Fall), 1984.
- McLain, R.P., Bargar, W.L., Patella Strain in Three Models of Total Knee Prosthesis. *Iowa Ortho Journal* 5:92-97, 1985.
- Sacs, B.L., Bargar, W.L., Rehtine, G.R., Marsolias, E.B. An Improvised Passive Motion Apparatus. *Clinical Orthopedics* (April):184, 1985.
- Goodnight, J.E., Bargar, W.L., Voegeli, T., and Blaisdell, F.W. Limb-Sparing Surgery for Extremity Sarcomas after Preoperative Intra-Arterial Duxorubican and Radiation Therapy. *Amer. J. of Surg.*, 150:109-113, 1985.
- Paul, H.A. and Bargar, W.L., Total Hip Replacement in Snow Leopard. *J of Amer. Vet Med*, 1985.
- Paul, H.A., Bargar, W.L., Histologic Changes in the Dog Femur Following Total Hip Revision with Current Cementing Techniques. *Journal of Arthroplasty*, 1(1), 5-9, 1986
- McLain, R.F., Bargar, W.L. The Effect of Total Knee Design on Patellar Strain. *Journal of Arthroplasty*, 1(1), 91-98, 1986.
- Bargar, W.L., Paul, H.A., Merrett, K., and Sharkey, N.A. The Contractor Bone Graft. *Clin Ortho and Rel Res* 202:269-277, 1986.
- Bargar, W.L., Martin, R.B., DeJesus, R. Madison M. The Additional Tobramycin to Contrast Bone Cement. *Journal of Arthroplasty*. 1(3), 165-168, 1986.
- Bargar, W.L., Brown, S.A., Paul, H.A., Voegli, T., Hseih, Y., Sharkey, N. In Vivo Versus In Vitro Polymerization of Acrylic Bone Cement: Effect on Material Properties. *Journal of*

Orthopaedic Research, 4(1):86-89, 1986.

Paul, H.A., Bargar, W.L., Modified Approach to Total Hip Replacement in the Dog. Journal of the American Animal Hospital Association, 1987.

Paul, H.A., Bargar, W.L., Modified Technique for Canine Total Hip Replacement. Vet. Surg. Journal of the American Animal Hospital Association, 1987.

Paul, H.A. and Bargar, W.L., Histologic Changes in the Dog Acetabulum Following Total Hip Replacement with Current Cementing Techniques. Journal of Arthroplasty. 2(1):71-76, 1987.

Luthi, UK, Paul HA, Bargar, WL, Huggler AH, Disorders of the blood supply in the femur following the cementing of endoprostheses--a study in dogs. Aktuelle Probl Chir Orthop. 31: 184-7 German, 1987.

Bargar WL. A conversation with William L. Bargar, MD. Custom cementless total hip replacement. Orthop Rev. Jan; 16(1):27-37, 1987.

Bargar WL, Sharkey NA, Paul HA, Manske DJ. Efficacy of bone staples for fixation. Journal of Arthroplasty. 1(4):326-30, 1987.

Martin, R.B., Paul, H.A., Bargar, W.L., Dannucci, G.A., Sharkey, N.A. Effects of Estrogen Deficiency on the Growth of Tissue into Porous Titanium Implants. JBJS, 70-A:540-548, 1988.

Bargar, W.L., Sharkey, N.A., Paul, H.A. and Manske, D.J. Efficacy of Bone Staples for Fixation. Journal of Orthopedic Trauma. 1(4):2 326-330, 1988.

Bargar, W.L., Total Hip Replacement; Benefits, Risks and Alternatives. Geriatric Medicine Today, (March):54-68, 1988.

Bargar, W.L., Custom Cementless Total Hip Replacement. Sutter Medicine, (4):2 16-22, 1988.

Bargar, W.L., Operative Orthopedics. Arthrodesis of the Hip Vol.1, Part V, Revision of Total Hip Arthroplasty, Vol.1, Part VI, Custom Total Hip Replacement, Vol.1, Part VI, 1988.

Goulet, J.A., Bray, T.J., Timmerman, L.A., Benson, D.R., Bargar, W.L. Intraoperative Autologous Transfusion in Orthopedic Patients. The Journal of Bone and Joint Surgery. 71-A,:3-7, 1989.

D'Antonio, J.A., Capello, W.N., Borden, L.S., Bargar, W.L., Bierbaum, B.F., Boettcher, W.G., Steinberg, M.E., Stulberg, S.D., Wedge, J.H. Classification and Management of

Acetabular Abnormalities in Total Hip Arthroplasty. *Clinical Orthopaedics* 243:126-137, 1989.

Bargar, W.L., Shape the Implant to the Patient: A Rationale for the use of Custom-Fit Cementless Total Hip Implants. *Clinical Orthopaedics*. 249:73-78, 1989.

Bargar, W.L., The Hip and Its disorders. *New Developments and Future Trends in Total Hip Replacement*. September, 1990, 1990.

Bargar, W.L., Preoperative Planning in Revision Total Hip Replacement Surgery. *Current Issues in revision Hip and Knee Arthroplasty. Proceeding of a Symposium*. May 3-5. *Orthopaedic Review XIX, Supplement: October 1990*.

Bargar, W.L., Customization in Total Joint Replacement: Why and Why Not. *Noncemented Total Hip Replacement, International Symposium: Tubingen, Germany*. Thieme Medical Publishers, Inc., New York, 127-131, 1990.

Bargar, W.L., State-of-the-Art roundtable: Hip Implant Revision. *Orthopaedic (Special Edition) Vol 1 No 7, 1992*.

Paul, H.A., Bargar, W.L., Mittelstadt, B, Musits, B., Taylor, R.H., Kanzanides, P., Zuhars, J., Williamson, B., Hanson, W. A Surgical Robot for Total Hip Replacement Surgery. *IEEE International Conference on robotics and Automation Proceedings*. Nice, France: pages 606-611 May 1992.

Paul, H.A., Bargar, W.L., Mittelstadt, B, Musits, B., Taylor, R.H., Kanzanides, P., Zuhars, J., Williamson, B., Hanson, W. Development of a Surgical Robot for Cementless Total Hip Arthroplasty. *Clinical Orthopaedics* vol 285 pages 57-66 December 1992.

Bargar, W.L., Murzic, W.J., Taylor, J.K., Newman, M.A., Paul, H.A. Management of Bone Loss in Revision Total Hip Arthroplasty Using Custom Cementless Femoral Components. *Journal of Arthroplasty* 8(3):245-252, 1993.

D'Antonio, J., McCarthy, J., Bargar, W.L., Borden, L., Capello, W., Collins, D., Steinberg, M., Wedge, J. Classification of Femoral Abnormalities in Total Hip Arthroplasty. *Clinical Orthopaedics* 296:133-139. 1993.

Bargar, W.L., Carbone, E.; *Robotic Systems in Surgery. Surgical Technology International II*. Pages 419-423, 1993.

Murzic, W.J., Taylor, J.K., Bargar, W.L., Seizure Induced Femur Fracture After Total Hip Replacement: A Case Report. *Orthopedics*: 16(8) 906-909, 1993.

- Taylor,R., Mittelstadt, B., Paul, H., Hanson, W., Kazanzides,P., Zuhars, J., Williamson, B., Musits, B., Classman, E., Bargar, W. An Image-Directed Robotics System for Precise Orthopaedic Surgery. IEEE Transactions on Robotics and Automation. Vol 10 (3) June pages 261-275, 1994.
- B.D. Mittelstadt, P. Kazanzides, J. Zuhars, B. Williamson, P. Cain, F. Smith and W. Bargar, The Evolution of A Surgical Robot from Prototype to Human Clinical Use, in Proc. First International Symposium on Medical Robotics and Computer Assisted Surgery, Vol 1 pages 36-41, Pittsburgh, Pa September 1994.
- P. Kazanzides, B. Mittelstadt, B. Musits, W. Bargar, L. Zuhars, F. Joes, B. Williamson, P. Cain, and E. Carbone, An Integrated System for Cementless Hip Replacement, IEEE Engineering in Medicine and Biology, May/June, pages 307-312, 1995.
- Bargar, W.L., Carbone, E.; Robotic Femoral Canal Preparation. Raven Press. Total Hip Revision Surgery 415-423, 1995.
- John, J.F., Talbert, R.E., Taylor, J.K., Bargar, W.L. Use of Acetabular Models in Planning Complex Acetabular Reconstructions. Journal of Arthroplasty, Vol 10, No. 5, October, 1995.
- Bargar WL. Uncemented press-fit total hip arthroplasty using the identifit custom-molding technique: a prospective minimum 2-year follow-up study. Letter to Editor, Journal of Arthroplasty, Oct; 11(7):880, 1996.
- Bargar, W.L., Bauer, A, Borner, M. Primary and Revision Total Hip Replacement Using the Robodoc System. Clinical Orthopaedics, 354: 82-91, 1998.
- Christo,A., Bargar, W.L., Morris,E. Prosthesis Cost Containment in Total Joint Replacement: A Physician-Driven Free Market Approach. Orthopedics, 23-5: 439-442, 2000.
- Saluja,R., Bargar, W.L., Newman, M.A., Wiedel, J.D. The Use of Oblong Acetabular Components in Complex Acetabular Reconstructions. Operative Techniques in Orthopaedics, April: 10-2: 153-159, 2000.
- Bargar, W.L. Total Hip Replacement in Dwarfs. (Abstract only) The Journal of Arthroplasty, February 2004: 260, 2004.
- Blumenfeld, T.J. and Bargar, W.L. Early Aseptic Loosening of a Modern Acetabular Component Secondary to a Change in Manufacturing. The Journal of Arthroplasty, August 2006: 689-695.

Ferney BJ, Blumenfeld TJ, Bargar WL. Time to revision of primary THA is shorter for specialists than nonspecialists. Clin Orthop Relat Res. 2007 Dec;465:175-9, 2007.

Bargar WL. Robots in orthopaedic surgery: past, present, and future. Clin Orthop Relat Res. Oct 2007; 463:31-6 Review

Blumenfeld TJ, Bargar WL. Acetabular Revision using a Cementless Protrusio Shell: Clinical and Radiographic Analysis at Midterm Follow-up. Journal of Arthroplasty 22(2): 311, 2007.

Blumenfeld, T.J. and Bargar, W.L. Use of larger femoral heads in revision total hip arthroplasty: Will this solve dislocation? Orthopedics. October 2008, Volume 31, Number 10.

Ryan, JA, Jamali, AA, and Bargar WL, Accuracy of Computer Navigation for Acetabular Component Placement in THA. Clin Orthop Relat Res (2010) 468:169-177.

Bargar, WL, Jamali, AA, Nejad, AH, Femoral Anteversion in THA and its Lack of Correlation with Native Acetabular Anteversion. Clin Orthop Relat Res, 2010 (in press).

BOOK CHAPTERS

Bargar, W.L., Operative Orthopaedics. Editor, Michael Chapman, M.D.; J.P. Lippincott: Arthrodesis of the Hip Vol. 1, Part V, Revision Total Hip Arthroplasty, Vol.1, Part VI, Custom Total Hip Replacement, Vol.1, Part VI. 625-630,695-703, 815-822. 1988

Bargar, W.L. Customization in Total Joint Replacement: Why and Why not. Noncemented Total Hip Replacement, International Symposium: Tübingen, Germany. Thieme Medical Publishers, Inc., New York, 127-131. 1990

Bargar, W.L., The Hip and Its Disorders. Editor, Marvin E. Steinberg, M.D.; W.B. Saunders Company. Chapter 52: New Developments and Future Trends in Total Hip Replacement. 1125-1133. 1990

Bargar, W.L., Taylor, J.K.; Hydroxylapatite Coatings in Orthopedic Surgery; Raven Press. Hydroxylapatite Coating of Custom Cementless Femoral Components. 287-295. 1993

Bargar, W.L., Carbone, Emily.; Robotic Femoral Canal Preparation; Raven Press. Total Hip Revision Surgery. 415-423, 1995

Bargar, W.L., Custom Design and Robotic Insertion of Uncemented Femoral Prostheses, Chapter 69; Lippincott-Raven. The Adult Hip, Editors: John Callaghan, Aaron Roseberg, Harry Rubash;1093-1103, 1998

- Bargar, W.L., Robotics in Hip Surgery, Chapter 42; Martin Dunitz, London. Hip Surgery Materials and Developments. Editors: Laurent Sedel, Miguel Cabanela; 372-381, 1998
- Saluja, R., Dhir, R., Bargar, W.L. A Five-Step Approach to Preoperative Planning in Total Hip Arthroplasty, Chapter 13; Hip Replacement: Current Trends and Controversies. Editor: Raj K. Sinha; 403-424, 2002
- Bargar, W.L., Robotic Hip Surgery and Current Development with the ROBODOC System, Chapter 15; Navigation and Robotics in Total Joint and Spine Surgery. Editors: James Stiehl MD, Werner Konermann MD, Rold Haaker MD; 119-122, 2004.
- Bargar, W.L. Modulare Revisionsendoprothetik des Hüftgelenks, Chapter 5; Femoral Revision: The U.S. Experience. Editors: Peter Thümler, Raimund Forst, Günther Zeiler (Hrsg); 42-49, 2004.
- Bargar, W.L. Minimally Invasive Total Joint Arthroplasty, Chapter 19; Is there a Place for Robotics in Minimally Invasive TJA?. Editors: William J. Hozack, Martin Krismer, Michael Nogler, Peter J. Bonutti, Fran Rachbauer, Jonathan L. Schaffer, William J. Donnelly; 235-239, 2004.