

CURRICULUM VITAE

Assistant Professor
Department of Orthopaedic Surgery
University of Missouri Health Care
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Columbia, Missouri 65212

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BIOGRAPHIC INFORMATION

Marital Status: Married
Spouse: Dana S. Bal, M.D.
Children: Four

Date of Birth: August 14, 1962
Citizenship: United States

EDUCATION

Undergraduate/Graduate Education: San Joaquin Delta College
Stockton, California
A.A. 1981 Biology

University of California
Davis, California
B.S. 1982 Genetics

University of California
Davis, California
M.S. 1983 Genetics

Professional Education: Cornell University Medical College
New York, New York
M.D. 1987

Postgraduate Education: Kellogg Graduate School of Management
Northwestern University
Evanston, Illinois
M.B.A. 1999

POSTGRADUATE TRAINING

Internship & Residency:

- 1987-1989 General Surgery, Post-graduate years 1-2
Department of General Surgery
University of California Hospitals and Clinics
San Francisco, California
- 1989-1993 Orthopaedic Surgery, Post-graduate years 3-6
Department of Orthopaedic Surgery
University of Missouri School of Medicine
Kansas City, Missouri

Fellowships:

- 1993-1994 Hip and Implant Surgery, Post-graduate year 7
William H. Harris, M.D.
Massachusetts General Hospital
Harvard Medical School
Boston, Massachusetts
- 1994-1995 Research, Part-time appointment
Orthopaedic Biomechanics Laboratory
William H. Harris, M.D.
Massachusetts General Hospital
Boston, Massachusetts

BOARD CERTIFICATION

American Board of Orthopaedic Surgery, July 1997

PROFESSIONAL MEDICAL LICENSES

Massachusetts 1993
Missouri 1989 - Present (MD R5J29)

PROFESSIONAL EXPERIENCE

1999 - present	Assistant Professor Department of Orthopaedic Surgery University of Missouri Health Sciences Center Columbia, Missouri
1995-1999	Attending Physician and Shareholder/Partner Jackson County Orthopaedics, Inc. Blue Springs, Missouri
1994-1995	Attending Physician in Orthopaedic Surgery Cambridge Hospital/Harvard Medical School Cambridge, Massachusetts
1993-1995	Assistant in Orthopaedic Surgery Harvard Medical School Boston, Massachusetts

HONORS AND AWARDS

Alpha Gamma Sigma Honor Society, San Joaquin Delta College (1980)
Teaching Assistantships, Chemistry and Physics, San Joaquin Delta College (1980-81)
A.A. degree with High Honors, San Joaquin Delta College (1981)
B.S. degree with High Honors, University of California-Davis (1982)
Alpha Zeta Honor Society, University of California-Davis (1982)
Teaching Assistantships, Genetics and Biochemistry, University of California-Davis (1982-83)
Dept. of Physiology Basic Science Research Prize, Cornell University Medical College (1987)
Honors In Research with M.D. degree, Cornell University Medical College (1987)
Department of Orthopaedic Surgery Prize, University of Missouri-Kansas City School of
Medicine (1990, 1991, 1992, and 1993)
Rex L. Diveley Orthopaedic Research Award, University of Missouri –Kansas City School of
Medicine (1990, 1992, and 1993)
Richard H. Kiene Orthopaedic Award, University of Missouri -Kansas City School of Medicine
(1990, 1991, and 1992)
St. Luke's Hospital House Staff Research Award, University of Missouri School of Medicine
(1991)

MEMBERSHIPS

American Academy of Orthopaedic Surgeons
Mid-America Orthopaedic Association, 2000-
Orthopaedic Research Society, 2000-

NATIONAL COMMITTEES

Academic Business and Practice Management Committee of American Association of Orthopaedic Surgeons, 2002 - Active.

SCIENTIFIC PRESENTATIONS

“Alpha-Adrenergic Blockade Alters Regional Perfusion During E. Coli Bacteremia.” First International Shock Congress and Tenth Annual Conference on Shock, Montreal, Canada, 1987.

“Dorsal Capsulodesis of the Scaphoid for Scapholunate Dissociation.” American Orthopaedic Association Residents’ Conference, Kansas City, Missouri, 1991.

“Concentration- and Calcium- Dependent Binding of Acidic Phosphoproteins to Type-I Collagen.” American Society for Bone and Mineral Research, San Diego, California, 1991.

“The Oblique Trochanteric Osteotomy.” 23rd Annual Hip Course, Harvard Medical School, Boston, Massachusetts, 1993.

“Factors in Trochanteric Union.” 24th Annual Hip Course, Harvard Medical School, Boston, Massachusetts, 1994.

“Wear in Monoblock versus Modular Femoral Stems.” 25th Annual Hip Course, Harvard Medical School, Boston, Massachusetts, 1995.

“Fate of Trochanters in Revision Total Hip Arthroplasty.” 25th Annual Hip Course, Harvard Medical School, Boston, Massachusetts, 1995.

“Trochanteric Escape in Revision Total Hip Arthroplasty.” 25th Annual Hip Course, Harvard Medical School, Boston, Massachusetts, 1995.

“A Comparison of Polyethylene Wear Between Femoral Stems of Different Modularity, Porous-Coating, and Metal Composition.” Annual Meeting of the American Academy of Orthopaedic Surgeons, Atlanta, Georgia, 1995.

“Cementless Cups into Prior Allografts.” 29th Annual Hip Course, Harvard Medical School, Boston, Massachusetts, 1999.

“Ceramic Femoral Components in Total Knee Replacement” Mid-Central States Orthopaedic Society/Missouri State Orthopaedic Association Annual Meeting, Branson, Missouri, June 2000.

“Ceramic Femoral Head Fractures” 4th Annual Symposium on Alternate Bearings in Total Joint Arthroplasty, Maui, Hawaii, 2001.

“Zirconia Ceramic Femoral Component in Total Knee Replacement” 4th Annual Symposium on Alternante Bearings in Total Joint Arthroplasty, Maui, Hawaii, 2001.

SCIENTIFIC PRESENTATIONS – Continued

“Experience with Ceramic Knee Femur” Orthopedic Review Symposium, Vail Colorado, January 2002.

“Minimally Invasive Total Knee Technique & Results” and “Minimally Invasive Total Hip Replacement” Contemporary Topics in Orthopedics, Vail Colorado, January 2-3, 2003.

“Ceramic-on-Ceramic Bearings in Total Hip Replacement”, 33rd Annual Course, Advances in Arthroplasty, Harvard Medical School, Cambridge, MA, September 17-20, 2003.

“Ceramic Total Knee Replacement” The 6th Annual Symposium on Alternative Bearing Surfaces in Total Joint Replacement, San Francisco, California, September 22-24, 2003.

“Characterization of Surface Damage to Alumina Bearings in Total Hip Arthroplasty”, 17th Annual Symposium of the International Society for Technology in Arthroplasty, Rome, Italy, September 23-25, 2004.

“Ceramics Dislocation” and “My First 50 Cases”, 34th Annual Course, Advances in Arthroplasty, Harvard Medical School, Cambridge, MA, September 29-October 2, 2004.

“Encore Ceramic-Ceramic and Status of PDP”, “Ceramic Total Knee Replacement”, “MIS THR: Not an Easy Road”. The 7th Annual Symposium on Alternative Bearing Surfaces in Total Joint Replacement, Philadelphia, PA, October 14-15, 2004.

RESEARCH GRANTS AWARDED

1990-91 Children’s Mercy Hospital Research Endowment, Kansas City, Missouri:
“The Binding of Acidic Phosphoproteins to Type-I Collagen” \$5,000.00

1990-91 St. Luke’s Hospital Research Endowment, Kansas City, Missouri:
“The Binding of Acidic Phosphoproteins to Type-I Collagen” \$6,500.00

1991-92 Children’s Mercy Hospital Research Endowment, Kansas City, Missouri:
“The Binding of Transforming Growth Factor-beta to Acidic Phosphoproteins in vitro” \$5,000.00

2001 Harry S. Truman Veterans’ Administration Hospital Research Foundation, Columbia, Missouri: “Nano-Ceramic Composites for a New Generation of Artificial Hip and Knee Components” \$40,000.00

PUBLICATIONS

Fantini GA, Shiono S, **Bal BS** and Shires GT: “Adrenergic Mechanism Contribute to Alterations in Regional Perfusion during Normotensive E. Coli Bacteremia.” J Trauma 29:1251-1257, 1989.

Bal BS and Gurba DM: “Coumadin-Induced Necrosis of the Skin after Total Knee Replacement. A Case Report.” J Bone Joint Surg 73A:129-130, 1991.

PUBLICATIONS - Continued

Chen Y, **Bal BS** and Gorski JP: "Calcium and Collagen Binding Properties of Osteopontin, Bone Sialoprotein, and Bone Acidic Glycoprotein-75 from Bone." *J Biochem* 267:24871-24878, 1992.

Bal BS and Jones L,Jr: "Arthroscopic Resection of a Chondroblastoma in the Knee. A Case Report." *J Arthroscopy and Related Surg* 11:216-219, 1995.

Bal BS, Sampath SAC and Burke DW: "A Technique for Cementing the Patella Component in Total Knee Arthroplasty." *Am J Orthop* 24:358, 1995.

Jasty M, Bragdon C, **Bal BS** and Harris WH: "Acetabular Modularity" In: Galante JO, Rosenberg AG, Callaghan JJ, Eds. *Total Hip Revision Surgery*, Bristol-Myers-Squibb/Zimmer Orthopaedic Symposium Series, Raven Press, New York, NY, Ch. 6:73-80, 1995.

Bal BS: "A Technique for Comparison of Leg Lengths during Total Hip Arthroplasty." *Am J Orthop* 25(1):61-2, 1996.

McGrory BJ, **Bal BS** and Harris WH: "Current Concepts of Six Trochanteric Osteotomies for Total Hip Arthroplasty." *J Am Acad Orthop Surgeons* 4:258-267, 1996.

Bal BS, Jiranek W and Harris WH: "Periprosthetic Osteolysis Around an Uncemented Endoprosthesis. A Case Report." *J Arthroplasty*, 12(3):346-9, 1997.

Bal BS and Sandow T: "Bilateral Femoral Neck Fractures with Negative Bone Scans. A Case Report." *Orthopaedics* 19(11):974-6, 1998.

Bal BS, Maurer B and Harris WH: "Trochanteric Union Following Revision Total Hip Arthroplasty." Accepted for publication by *J Arthroplasty* 13(1):29-33, 1998.

Bal BS, Vandelune D, Gurba DM and Harris WH: "Polyethylene Wear in Cases Using Femoral Stems of Similar Geometry, but Different Metals, Porous Layer, and Modularity." *J Arthroplasty* 13: 492-499, 1998.

Bal BS, Maurer T, Harris W: "Revision of the Acetabular Component without Cement After a Previous Acetabular Reconstruction with Use of a Bulk Femoral Heal Graft in Patients Who Had Congenital Dislocation or Dysplasia." *J Bone Joint Surg* 81A(12): 1703-1706, 1999.

Bal BS: "Lateral Compartment Arthritis" *eMedicine* 2002; Section 1-11.

Oonish H, Kim SC, Clark IC, Asano T, **Bal BS**, Kyomoto M, and Masuda S: "Retrieved Ceramic Total Knee Prosthesis in Clinical Use for 23 Years." *Key Engineering Materials/Bioceramics* 15: 240-242:797-800, 2003.

Ray A, Kuroki K, Cook JL, **Bal BS**, Kenter K, Aust G, and Ray BK: "Induction of Matrix Metalloproteinase 1 Gene Expression is Regulated by Inflammation-Responsive Transcription Factor SAF-1 in Osteoarthritis." *Arthritis & Rheumatism* 48 (1): 134-135, 2003.

PUBLICATIONS - Continued

Cook JL, Kuroki K, Kenter K, Marberry K, Brawner T, Geiger T, Jayabalan, MD, **Bal BS**: “Bipolar and Monopolar Radiofrequency Treatment of Osteoarthritic Knee Articular Cartilage.” J Knee Surgery 17(2): 99-108, March 2004.

Bal BS: “Orthopaedic Resident Education in Academic Practice.” AAOS Academy Bulletin 2004.

Yagil E, Kazmier P, Rahaman MN, **Bal BS**, Estes DM: “Comparison of the Response of Primary Human Blood Monocytes and the U937 Human Monocytic Cell Line to Two Different Sizes of Alumina Particles.” J of Ortho Research 22(4): 832-838, 2004.

Kumar D, Shakya A, Kuroki K, Cook JL, **Bal BS**, Ray A, Ray BK: “Induction of Matrix metalloproteinases in Chondrocyte Cells of Osteoarthritic Cartilage is Mediated by Inflammation-Responsive Transcription Factors.” FASEB J 18(8): C93, 2004.

Calhoun JH, Yin L, **Bal BS**: “Clinical Features and Microbiology of Osteomyelitis.” UpToDate, Rose BD (Ed), UpToDate, Wellesley, MA, 2004.

Morsi K, Keshavan H, **Bal BS**: “Hot Pressing of Graded Ultrafine-Grained Alumina Bioceramics” Materials Science and Engineering A 386: 384-389, September 2004.

PUBLICATIONS, NOT PEER-REVIEWED

Mahowald ML, **Bal BS**, Burkman RT, Jones KW, Killilea T, Guay DRP, Scherger JE (eds): “The Role of Nonprescription Analgesics in Treating Mild to Moderate Pain: Clinical and Economic Considerations.” A CME/CPE activity sponsored by the University of Minnesota, 2000.

POSTERS

Bal BS, Cherry K, Edelstein D, et al.: “Prospective Randomized Study Comparing Ceramic/Ceramic and Ceramic/PE Bearing Surfaces in Total Hip Arthroplasty.” The American Academy of Orthopaedic Surgeons 69th Annual Meeting, Dallas, Texas, February 2002.