

Knute Carl Buehler, M.D.

The Center: Orthopaedic & Neurosurgical Care and Research
2200 N.E. Neff Road Suite 200
Bend, Oregon 97701
Phone: (541) 382-3344
E-mail: kbuehler@thecenteroregon.com

Education:

Doctorate of Medicine: 1991
Johns Hopkins School of Medicine, Baltimore, Maryland, 1986-1991

Master of Arts: 1990
Oxford University, Oxford, England, 1988-1990
Major: Politics and Economics

Bachelor of Science: 1986
Oregon State University, Corvallis, Oregon, 1982-1986
Major: Microbiology Minor: U.S. History

Professional Training:

Fellowship in Lower Extremity Reconstruction with Drs. Clifford Colwell and Richard Walker
Scripps Clinic and Research Foundation, Division of Orthopedic Surgery
San Diego, California, 1996-1997

Resident in Orthopedics
Oregon Health Sciences University, Division of Orthopedics and Rehabilitation
Portland, Oregon, 1992-1996

Surgical Internship
Oregon Health Sciences University, Department of Surgery
Portland, Oregon, 1991-1992

Honors/Activities:

Board Certified – American Board of Orthopedic Surgery, 2000

1996 O.H.S.U Chief Resident Grace Under Pressure Award

Johns Hopkins School of Medicine:

Biomedical Research Grant, 1987

Chairperson, East Baltimore Youth Sports Clinic, 1987

Representative Johns Hopkins Medical School Council, 1986-1988

Oxford University:

Rhodes Scholarship

Graduated with Honors

Merton College Tennis, 1988-1990

Oxford University Strategic Studies Group, 1988-1990

Oregon State University:

First Rhodes Scholar in OSU History

Outstanding Graduating Senior in Science

Varsity Baseball, 1982-1985

Middlekauf Scholarship for Excellence in Microbiology, 1983-1985

OSU Research Fellowship Award, 1985

Community Activities:

Board of Directors, Cascade Healthcare Community, 2007 to present

Multi-hospital system with gross revenue of over \$600 million per year

Board Member, High Desert Museum, Bend, Oregon, 2007

Member, Board of Advisors, Oregon State University, Central Oregon, 1999 to 2006

Air War College National Security Forum, Maxwell Air Force Base, Montgomery, AL, May 2004

Oregon Rhodes Scholarship Selection Committee, 1991-1995

Executive Board Member, Coalition for Campaign Finance Reform, 1993-1994

Co-authored ballot measure 9 and helped direct campaign, which was successful in obtaining 77% support among Oregon voters.

Schneider Memorial Lecturer, Southern Oregon State University, 1993

Advisor to Perot 1992 Presidential Campaign on health care issues, 1992

Oregon Republican Roundtable, 2008

Oregon Open Primary Steering Committee, 2008

Publications:

K. Buehler, Efficiency Must Accompany Equity in Health Care, *The Oregonian*, May 27, 1991.

K. Buehler, J. Thompson, P. Sponseller, P. Griffin, Prospective Study of Early Spica Casting Outcomes in the Treatment of Femoral Shaft Fractures in Children, *Journal of Pediatric Orthopedics*, January 1995.

K. Buehler, T. Keenen, Lymphangioma of the Spine, *Spine*, January 1995.

R. Beals, **K. Buehler**, Treatment of Patellofemoral Instability in Childhood by Creation of a Femoral Sulcus, *Journal of Pediatric Orthopedics*, June 1997.

K. Buehler, J. Green, T. S. Woll, P. Duwelius, Treatment of Proximal Third Tibia Fractures with Intramedullary Nailing, *Journal of Orthopedic Trauma*, June 1997.

J. D. Thompson, **K. Buehler**, P. Sponseller, D. Gray, B. Black, S. Buckley, P. Griffin, Shortening in Femoral Shaft Fractures in Children Treated with Spica Cast, *Clinical Orthopedics Related Research*, May 1997.

P. Duwelius, **K. Buehler**, J. Green, The Universal Distractor: The Evolution of a Technique to Reduce Tibia Fractures, *Techniques in Orthopedics*, December 1997.

K. Buehler and R. Walker, Crescentic Femoral Osteotomy For Polymethylmethacrylate Removal During Revision Total Hip Arthroplasty, *Orthopedics*, June 1997.

K. Buehler, W. Petersilege, D. D'Lima, C. Colwell, R. Walker, Late Deep Venous Thrombosis and Delayed Weightbearing Following Total Hip Arthroplasty, *Clinical Orthopedics Related Research*, April 1999.

K. Buehler, W. Petersilege, D. D'Lima, C. Colwell, R. Walker, Venous Thromboembolic Disease after Hybrid Hip Arthroplasty with Negative Duplex Screening, *Clinical Orthopedics Related Research*, 361:168-177, 1999.

K. Buehler, E. Venn-Watson, D. D'Lima, C. Colwell, Press-Fit Condylar Modular Total Knee System: 8 to 10 year Results, *Journal of Arthroplasty*, Sept. 1999.

D. D'Lima, **K. Buehler**, A. Urquhart, C. Colwell, RH Walker, The Effect of the acetabular and femoral component on the range of motion of the hip at different head-neck ratios, *Journal of Bone and Joint Surgery*, March 2000.

K. Anderson, **K. Buehler**, D. Markel, Computer-Assisted Navigation in Total Knee Arthroplasty: Comparison with Conventional Methods, *Journal of Arthroplasty*, October, 2005.

K. Buehler, D. Rogers, M. Mahoney, The Exeter Femoral Stem: 8 to 10 year Results, submitted *Journal of Arthroplasty*, March 2007.

K. Buehler, Computer Assisted TKA - The State of the Art in 2008, accepted for publication *Techniques in Knee Surgery*, 2008

R. Molli, K. Anderson, K. Buehler, D. Markel, Computer Assisted Navigation Software Advancements Improve the Accuracy of TKA, submitted for publication, *Journal of Arthroplasty*, 2009.

Book Chapter:

Hozack, WJ, et al, Book Chapter by Knute Buehler, MD. Image Free Navigation in Total Knee Arthroplasty. In *Minimally Invasive Total Joint Arthroplasty*. 2004

Presentations:

Prospective Study of Children's Femoral Shaft Fracture. Presented at the following:

Orthopedic Grand Rounds, Johns Hopkins Hospital, Baltimore, Maryland; May 1991.
Orthopedic Section American Academy of Pediatrics, New Orleans, Louisiana; October 1991.
Southern Orthopedic Association, Vancouver, British Columbia; August 1992.
Orthopedic Grand Rounds, Oregon Health Sciences University, Portland, Oregon; January 1993.
Pediatric Orthopedic Society of North America, Toronto, Canada; March 1993.
Dilehunt Memorial Lectures, Shriners Hospital, Portland, Oregon; May 1993.
Orthopedic Trauma Association, New Orleans, Louisiana; September 1993.

Equity and Efficiency in Health Care Reform. Presented at the following:

Schneider Memorial Lecture, Southern Oregon State University; May 1993.

Update and Review of Bone Pathology. Presented at the following:

Orthopedic Grand Rounds, Oregon Health Sciences University, Portland, Oregon; January 1994.

The Perot Movement in Oregon. Presented at the following:

Oregon League of Women Voters, Tualatin, Oregon; January 1994.
Willamette University, Salem, Oregon; February 1994.

Challenging Problems in the Surgical Management of Tibial Shaft Fractures. Presented at the following:

Orthopedic Grand Rounds, Oregon Health Sciences University, Portland, Oregon; June 1994.

Controversies in the Treatment of Developmental Dysplasia of the Hip. Presented at the following:

Shriners Hospital for Crippled Children Grand Rounds, Portland, Oregon; December 1994

Treatment of Patellofemoral Instability in Childhood by Creation of a Femoral Sulcus. Presented at the following:

AAOS Travelling Fellows Symposium, Portland, Oregon; September 1995.
Western Orthopedic Association, Sante Fe, New Mexico; October 1995.

Treatment of Proximal Third Tibia Fractures with Intramedullary Rodding-A New Technique.

Presented at the following:

Orthopedic Grand Rounds, Oregon Health Sciences University, Portland, Oregon; January 1995.
Beaver Day Scientific Program, Portland, Oregon; June 1996.

The Effects of Anti Interleukin-8 on Post Tourniquet Ischemic Swelling. Presented at the following:

National Orthopaedic Fellows Foundation, Charlotte, North Carolina; November 1996.
Scripps Clinic and Research Foundation, San Diego, California; December 1996.

The Argument For Proximal One-Third Coated Uncemented Total Hip Arthroplasty. Presented at the following:

Clinical Management of the Arthritic Hip and Knee, Rancho Mirage, California; November 1996.

Press-Fit Condylar Modular Total Knee System: 8 to 10 year Results. Presented at the following:

Oregon Orthopedic Association, Salishan Resort, Oregon; November 1997.
American Academy of Orthopedic Surgeons, New Orleans, Louisiana; March 1998

The Bricklayer - Roseburg High School Commencement; June 1998.

The Rhodes Scholarship. Presented at the following:

Oregon State University, Corvallis, Oregon; May 1998
Bend Rotary, Bend, Oregon; October 1999

The Argument for a Polished Tapered Femoral Component. Presented at the following:

Update on Hip and Knee Replacement, Los Cabos, Mexico; June 1999
Polished Stem Meeting, Charleston, South Carolina; October 1999
Update on Hip and Knee Replacement, Los Cabos, Mexico; June 2000
Smith & Nephew CPCS Study Group, Tucson, Arizona; October 2003

Thromboembolism Prophylaxis after Orthopedic Surgery. Presented at the following:

St. Charles Medical Center, Grand Rounds. Bend, Oregon; October 2000.
Rhône-Poulenc Invitational Lecture, Portland, Oregon; May 2001
Rhône-Poulenc Invitational Lecture, Portland, Oregon; April 2003
St. Charles Medical Center, Grand Rounds, Bend, Oregon; January 2005

Prevention and Treatment of Total Hip Arthroplasty Dislocation. Presented at the following:

Surgical Management of Degenerative Conditions of the Hip and Knee. Los Cabos, Mexico; June 2001

Fireside Case Presentations. Presented at the following:

Strategies to Improve Outcomes in Joint Replacement. La Quinta Resort, La Quinta, CA; October 2001

Knee Replacement and Surgical Navigation. Presented at the following:

Osteonics Invitational Lecture, Portland, Oregon; April 2002
Surgical Management of Degenerative Conditions of the Hip and Knee. Los Cabos, Mexico; June 2002
Oregon Radiological Meeting, Bend, Oregon; March 2003
Live Surgery Symposium: Hip and Knee Reconstruction, Phoenix, Arizona; May 2003
Surgical Management of Degenerative Conditions of the Hip and Knee. Los Cabos, Mexico; June 2003
8th Annual Residents Symposium, Denver, Colorado; August 2003
Innovations in Hip and Knee Replacement, Salt Lake, Utah; February 2004

Innovations in Hip and Knee Replacement, San Diego, California; May 2004

Evolution of Total Knee Replacement Techniques and Instrumentation. Presented at the following:

Surgical Management of Degenerative Conditions of the Hip and Knee. Los Cabos, Mexico; June 2002
Live Surgery Symposium: Hip and Knee Reconstruction. Phoenix, Arizona; May 2003
Surgical Management of Degenerative Conditions of the Hip and Knee. Los Cabos, Mexico; June 2003
8th Annual Residents Symposium. Denver, Colorado; August 2003
Advanced Total Hip and Knee Surgical Symposium. Monterey, California; May 2005
New Techniques in Hip and Knee Replacement. San Diego, California; May 2006
Minimal Invasive Knee Replacement Seminar, Seattle, Washington; May 2007
Live Hip and Knee Surgery Symposium, St. Cloud, Minnesota; April 2008

Radiographic and Survival Analysis of the Cemented Exeter Femoral Component. Presented at Western Orthopaedic Association, 66th Annual Meeting, Maui, Hawaii; August 2002.

The Digital Revolution: Computer Assisted Total Knee Arthroplasty. Presented at the following:

Hip/Knee Surgical Navigation Learning Lab. Orlando, Florida; August 2004
Asia Pacific Symposium on Emerging Surgical Technology and Computer Assisted Surgery. Hong Kong, China; November 2004.
Hip/Knee Surgical Navigation Learning Lab. Chicago, Illinois; February 2005
Grand Rounds – Baylor University Medical School. Houston, Texas; March 2005
Hip/Knee Surgical Navigation Learning Lab. Denver, Colorado; April 2005
Stryker Invitational Lecture, San Francisco, California; April 2005
California Orthopedic Association Annual Meeting, Monterey California; May 2005
Grand Rounds, Cleveland Clinic, Cleveland, Ohio; September 2005
Hip and Knee MIS – Navigation Course, Las Vegas, Nevada, October; 2005
Grand Rounds, Mayo Clinic, Rochester, Minnesota; October; 2005
Oregon Orthopedic Association Annual Meeting, Salishan Resort, Oregon; November 2005
Stryker Ambassador Symposium, Las Vegas, Nevada; March 2006
MIS Knee Symposium and Lab, Seattle, Washington; April 2006
Advanced Total Hip and Knee Arthroplasty Surgical Symposium, Scripps Clinic, San Diego, California; May 2006
2006 Orthopedic Resident Review Course, San Francisco, California; October 2006
Hip/Knee Surgical Navigation Learning Lab. Dallas, Texas; June 2006
Hip/Knee Surgical Navigation Learning Lab. Minneapolis, Minnesota; August 2006
Hip and Knee Surgical Navigation Cadaver Course, Las Vegas, Nevada; October 2006
Hip and Knee Surgical Navigation Course, Phoenix, Arizona; December 2006
American Academy of Orthopedic Surgeons Annual Meeting, San Diego, California; February 2007
Hip and Knee Surgical Navigation Course, Dallas, Texas; March 2007
Hip and Knee Surgical Navigation Course, Chicago, Illinois; July 2007
Yantai Shan Hospital, Yantai, China; June 2007
Qingdao University Medical School, Qingdao, China; June 2007
Hangzhou Zhejiang State TCM Hospital, Hangzhou, China; June 2007
Peking University People's Hospital, Beijing, China; July 2007
Ji Shui Tan Hospital, Beijing, China; July 2007
Peking Union Medical College, Beijing, China; July 2007
Zhengzhou Henan State People's Hospital, China; July 2007
Hip and Knee Surgical Navigation Course, Seattle, Washington; September 2007
Hip and Knee Surgical Navigation Course, Phoenix, Arizona; October 2007
Hip and Knee Surgical Navigation Course, Las Vegas, Nevada; December 2007
Hip and Knee Surgical Navigation Course, Ft. Lauderdale, Florida; February 2008

Stryker International Research and Technology Center, New Delhi, India; April 2008

The Digital Revolution: Computer Advances in Hip and Knee Replacement Surgeries. Presented at the following:

Oregon State University – Cascade Campus, Bend, Oregon; February 2006

Design Rationale for the Triathlon Knee System. Presented at the following:

MIS Knee Symposium and Lab, Seattle, Washington; April 2006

The Argument for a Tapered Noncemented Femoral Component. Presented at the following:

Advanced Total Hip and Knee Arthroplasty Surgical Symposium, Scripps Clinic, California; May 2006

5 th Chinese Speaking Orthopedic Society Congress, Xian, China; September 2006

Navigated MIS Total Knee Arthroplasty. Presented at the following:

5 th Chinese Speaking Orthopedic Society Congress, Xian, China; September 2006.

Management of Femoral Bone Deficiency in Revision Total Hip Arthroplasty. Presented at the following:

5th Chinese Speaking Orthopedic Society Congress, Xian, China; September 2006.

Pitfalls and Pearls of Computer Navigated TKA – Experiences after 1000 Cases, Presented at the following:

Yantai Shan Hospital, Yantai, China; June 2007

Qingdao University Medical School, Qingdao, China; June 2007

Hangzhou Zhejiang State TCM Hospital, Hangzhou, China; June 2007

Peking University People's Hospital, Beijing, China; July 2007

Ji Shui Tan Hospital, Beijing, China; July 2007

Peking Union Medical College, Beijing, China; July 2007

Zhengzhou Henan State People's Hospital, China; July 2007

Orthopedic Reconstruction New Treatment Innovations, San Francisco, California;

October 2007

Past, Present and Future of Computer Assisted TKA, Presented at the Following:

Advanced Techniques in Computer Assisted Hip and Knee Replacement, Bend, Oregon; August 2007

Orthopedic Reconstructions New Treatment Innovations, San Francisco, California; October 2007

Live Hip and Knee Surgery Symposium, St. Cloud; Minnesota, April 2008

Beijing 301 Hospital, Beijing, China; November 2008

Peking University People's Hospital, Beijing, China; November 2008

Yantai Shan Hospital, Yantai, China; November 2008

Zhongshan No. 1 Hospital, Guangzhou, China; November 2008

Macau Government Hospital, Macau, China; November 2008

Chinese Orthopedic Association Annual Meeting, Suzhou, China; November 2008

Hip and Knee Surgical Navigation Learning Lab. Faculty at the following learning labs:

Memphis, Tennessee; June 2005

Dallas, Texas; August 2005

Orlando, Florida; October 2005

Phoenix, Arizona; December 2005

Denver, Colorado; February 2006

Phoenix, Arizona; April 2006

Dallas, Texas; June 2006

Minneapolis, Minnesota August 2006
Las Vegas, Nevada; October 2006
Phoenix, Arizona; December 2006
Dallas, Texas; March 2007
Seattle, Washington; May 2007
Chicago, Illinois; July 2007
Bend, Oregon; August 2007
Seattle, Washington; September 2007
Phoenix, Arizona; October 2007
Las Vegas, Nevada; December 2007
Ft. Lauderdale, Florida, February 2008
Mahwah, New Jersey, August 2008

Scientific Grants / Research:

National Orthopaedic Fellows Foundation:

The Effects of Anti Interleukin-8 on Post Tourniquet Ischemic Swelling-\$5,000 Grant;
November 1996

Howmedica Corporation:

Survival Analysis Exeter Polished Femoral Implant - \$100,000 Grant; 1998 - present.

Astra Zeneca:

A Randomized, Double-blind, Comparative Study of H 376/95 and enoxaparin for the prevention of Venous Thromboembolism Following Total Hip Arthroplasty. 2000–2001.

Astra Zeneca:

A Randomized, Double-blind, Comparative Study of H 376/95 and Warfarin Coumadin®) for the prevention of Venous Thromboembolism Following Total Knee Arthroplasty. 2000-2001.

Smith & Nephew:

A Prospective, Multicenter, Clinical Study of the Collarless Polished Cemented Stem System. 2001-2006

Organon-Sanofi-Synthelabo:

Flexibility in Administration of Arixtra® for Prevention of Symptomatic Venous Thromboembolism (VTE) in Orthopedic Surgery. 2002-2004.

Stryker Orthopaedics:

Post Market Study of the Stryker Orthopaedics Triathlon CR Knee System. 2006-present.

Ortho-McNeil:

Comparison of the Safety and Efficacy of Patient Controlled Analgesia Delivered by Fentanyl HCl Transdermal System Versus Morphine IV Pump for Pain Management after Primary Unilateral Total Hip Replacement. 2003-2004.

Boehringer-Ingelheim:

A Phase III, randomized, parallel-group, double-blind, active controlled study to investigate the efficacy and safety of two different dose regimens (75 mg day 1 followed by 150mg day 2-completion and 110mg day 1 followed by 220 mg day 2-completion) of dabigatran etexilate administered orally (capsules), compared to enoxaparin 30 mg twice

a day subcutaneous for 12 – 15 days in prevention of venous thromboembolism in patients with primary elective total knee replacement surgery. (RE-MOBILIZE)

Completing work on multiple other studies, but cannot list due to confidentiality.

Professional Memberships:

Oregon Medical Association
Oregon Association of Orthopedics
American Association of Rhodes Scholars
Oxford Society of North America
Western Orthopedic Association

Professional Activities:

Board of Trustees, Oregon Medical Association, 1993-1994
St. Charles Medical Center Trauma Advisory Committee, 1998
St. Charles Medical Center Surgical Services Committee, 1998-2002
Central Oregon Independent Practice Association Utilization Management Committee, 1998
Member, Osteonics Corporation Hip Stem Design Team, 1998
President, Central Oregon Medical Society, 1999
Consultant, Smith & Nephew, Inc., Hip Team, 1999-2004
Board of Directors, Western Orthopedic Association, 2001-2002
Designing Surgeon, Polished Stem Team, Smith & Nephew, Inc., 1999-2004
Consultant, Stryker Corporation, Knee Team, 2000- present
Board of Directors, St. Charles Medical Center Foundation, 2003 - 2006
Board of Directors, Oregon Orthopedic Association, 1998-99, 2003-2007
President, Oregon Orthopedic Association, 2007

Professional Positions:

President, The Center: Orthopedic & Neurosurgical Care and Research, 2002-2005

- Managing partner for 30 person surgical group
- Assisted in concept development and building of 130,000 square foot building
- Assisted in concept development and opening of new ambulatory surgical center and MRI
- Assisted in concept development, negotiation of joint venture agreement with regional hospital for orthopedic and neurosurgical services
- Led revamped organizational structure to accommodate growth with Board re-organization, creation of Chief Medical Officer position and Clinical Operations Director

President, Buehler Research and Design, 2000 to present

- Consultant to orthopedic implant companies, Oregon Board of Medical Examiners and legal firms
- Product design of orthopedic surgery. Specializing in computer assisted surgical instruments and techniques

- Patents with products now being manufactured and sold world-wide for hip and knee replacement surgery

Medical License:

Oregon MD17817

California AO60187 (inactive)

Beijing, China (inactive)

Patents:

United States and European patents – details available upon request.

Hospital Staff Affiliations:

St. Charles Medical Center
2500 NE Neff Road
Bend, OR 97701
(541) 382-4321

August 1997 - Present

Central Oregon District Hospital
1253 N. Canal Blvd
Redmond, OR 97756
(541) 548-8131

August 1997 - 2001