

CURRICULUM VITAE

Raj Rao, M.D.
Professor of Orthopaedic Surgery and Neurosurgery
Chairman, Department of Orthopaedic Surgery
George Washington University

Address:

George Washington University Medical Faculty Associates
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Citizenship:

USA

Education and Fellowships:

07/1995-06/1996	Spine Surgery Fellow: Harry Herkowitz, MD William Beaumont Hospital Royal Oak, MI
07/1991-06/1995	Resident, Orthopaedic Surgery University of Southern California Los Angeles, CA
06/1990-06/1991	Internship, General Surgery University of Southern California Los Angeles, CA
01/1990-06/1990	Research Fellow: Augusto Sarmiento, MD University of Southern California, Los Angeles, CA
09/1988-11/1989	Research Fellow: Thomas. W. Phillips, MD St. Joseph's Hospital, London, Ontario, Canada
12/1987-08/1988	Research Fellow: Prof. Udo Rodegerdts Orthopadische Klinik Seepark Bremerhaven, Germany
07/1984-09/1987	M.S. Orthopaedics University of Bombay, India
11/1978-06/1984	M.D., University of Bombay Bombay, India

Faculty Appointments:

Current (09/2015)	Professor of Orthopaedic Surgery and Neurosurgery Chairman, Department of Orthopaedic Surgery George Washington University, Washington, D.C.
01/2011-08/2015	Vice Chairman Department of Orthopaedic Surgery Medical College of Wisconsin Milwaukee, WI
07/2007-08/2015	Professor Department of Orthopaedic Surgery Medical College of Wisconsin Milwaukee, WI
01/2010-08/2015	Professor Department of Neurosurgery Medical College of Wisconsin Milwaukee, WI
10/2000-08/2015	Professor Orthopaedic & Rehabilitation Engineering Center Marquette University and MCW Milwaukee, WI
07/2003-06/2007	Associate Professor Department of Orthopaedic Surgery Medical College of Wisconsin Milwaukee, WI
09/1999-06/2003	Assistant Professor Department of Orthopaedic Surgery Medical College of Wisconsin Milwaukee, WI
05/1997-08/1999	Clinical Instructor Department of Orthopaedic Surgery University of California, Davis, CA
07/1993-6/1995	Volunteer Clinical Faculty University of Southern California Los Angeles, CA

Prior private practice:

08/1996-08/1999	Private practice: Spine Surgery, Orthopaedics Sutter North Medical Foundation Large multispecialty system, northern California
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George Washington University Administrative Appointments:

09/2015 – Chair, Program Director, Department of Orthopaedics
George Washington University

09/2015 – Medical Executive Committee
George Washington University Hospital

09/2015 – Quality Council
George Washington University Hospital

02/2016 - Chair, Physician Compensation Committee
Medical Faculty Associates at GWU

09/2015 – 04/2017 Member, Budget Initiatives Team
Medical Faculty Associates at GWU

10/2015- Crimson Quality Steering Committee
George Washington University Hospital

MCW Administrative Appointments:

07/2010 – 08/2015 Member, Program Evaluation Committee
Department of Orthopaedic Surgery, MCW

07/2010 – 08/2015 Member, Clinical Competency Committee
Department of Orthopaedic Surgery, MCW

09/1999 – 08/2015 Member, Residency Selection Committee

09/1999 – 08/2015 Director, Division of Spine Surgery
Director, Spine Surgery Fellowship
Department of Orthopaedic Surgery, MCW

09/1999 – 06/2011 Director of Medical Student Clerkships
Department of Orthopaedic Surgery, MCW

06/2011 Course Director–M4 Integrated Selectives
Medical College of Wisconsin

a) Anatomic Basis of Musculoskeletal Problems
In collaboration with Dept of Cell Biology,
Neurobiology and Anatomy

b) Comprehensive Understanding of Spinal Disorders
In collaboration with Dept of Physical Medicine and
Rehabilitation

09/1999 – 06/2011 Course Director
Department of Orthopaedic Surgery
Medical College of Wisconsin

a) M4 sub-internship
b) M4 elective
c) M3 elective rotation

Hospital Staff Privileges:

09/2015-	George Washington University Hospital Washington, DC
09/1999-05/2017	Froedtert Memorial Lutheran Hospital Milwaukee, WI
11/1999-05/2017	Children's Hospital of Wisconsin Milwaukee, WI – Consulting Staff
05/2010-05/2017	Community Memorial Hospital - Affiliate Staff Menomonee Falls, WI – Dec 1, 2010
05/2000- 06/2011	St. Joseph's Hospital – Courtesy staff Milwaukee, WI–valid 2 yrs from Jul 1, 2009
10/1999-03/17/06	VA Medical Center Milwaukee, WI
12/1999-10/2003	St. Francis Hospital – Courtesy staff Milwaukee, WI
08/1996-08/1999	Rideout Memorial Hospital Marysville, CA
08/1996-08/1999	Fremont Medical Center Yuba City, CA

Specialty Boards and Certification:

Board Certification American Board of Orthopaedic Surgery

Licensure

District of Columbia License

DC Controlled Substance License

California Medical Licensure

DEA

Awards and Honors:

- 04/2017 Elected President-Elect of Lumbar Spine Research Society, April 2017
- 05/2014 2014 David Selby Award for contributing greatly to the art and science of spinal disorder management through service to the North American Spine Society. (~ 9,000 members)
- 05/2015 "Volunteer Family of the Year Award" – Salvation Army; Wisconsin & Upper Michigan Region.
- 05/2015 Recognized by Froedtert Memorial Lutheran Hospital as one of highest scoring providers for patient care in the inpatient environment 2014 (~ 800 physicians on staff)
- 10/2014 Faculty Service Award – presented by Faculty Council, MCW for exemplary committee service in 2013.
- 09/2014 Appointed Chair US FDA panel on Orthopaedic and Rehabilitation Devices
- 05/2014 "Volunteer Family of the Year Award" – Salvation Army; Wisconsin & Upper Michigan Region.
- 02/2014 Achievement Award – exemplary volunteer service to AAOS
- 04/2013 Recognized by Froedtert Memorial Lutheran Hospital as one of top 20 highest scoring physicians for patient care in the inpatient environment 2011- 2012 (~ 800 physicians on staff)
- 12/2012 Voting Panel Member – MEDCAC (Medicare Evidence Development and Coverage Advisory Commission); Centers for Medicare and Medicaid Services. Invited based on expertise in field of orthopaedic surgery. Two year term.
- 11/2012 Best poster 2012. Cureus Online Medical Journal. Thoracolumbar Spine Injuries in the Elderly Involved in Motor Vehicle Collisions: A Study of 661 Elderly Subjects. Presented by Evan Sobel, BS
- 08/2011 Recognition for delivery of quality in back pain care by National Committee for Quality Assurance (NCQA)
- 06/2011 Best Research Paper: MCW Orthopaedic Research Day. Long Term Radiographic Follow-up of Uninstrumented Anterior Cervical Decompression and Fusion. Presented by Brandon Rebholz, MD

03/2011 Becker's Orthopedic and Spine Review - Top 100 Best Spine Surgeons and Specialists in America

3/2009 Appointed Editor for Orthopaedic Knowledge Update: Spine. A premier Orthopaedic textbook for the Spine published by the American Academy of Orthopaedic Surgeons

10/2008 Guest of Honor, GE Healthcare Asian Pacific American Celebration, Pewaukee, Wisconsin

06/2008 'Outstanding Orthopaedic Faculty Instructor 2007-2008' award presented by Orthopaedic Surgery residents, Medical College of Wisconsin

7/2009 Organizational Excellence Recognition Pin: Recognized by Reward and Recognition Committee, Froedtert Memorial Lutheran Hospital for outstanding customer service.

06/2008 Best Research Paper: MCW Orthopaedic Research Day. The Anatomical Course of the Vertebral Artery in the Subaxial Spine: A Computerized Tomographic Study of the Vertebral Artery Foramen in an Asymptomatic Young Population. Presented by Steve Malik, MD

06/2008 Elected to American Orthopaedic Association Orthopaedic Honor Society composed of chairmen, program directors, and other leaders in the orthopaedic community. Selection for membership by nomination and voting by membership.

11/2006 Appointed to US Food and Drug Administration Advisory Panel: Orthopaedic and Rehabilitation Devices Responsible for providing scientific input to FDA on all Orthopaedic, Spinal and Rehabilitation devices submitted to FDA for approval

09/2006 2006 Learning Resources Innovative Educational Project Award. Presented by Dean at 2006 MCW Convocation. Selected for award by Curriculum and Evaluation Committee, MCW, for "Introduction to Clinical Examination of the Musculoskeletal System – Development of an Orthopedic Examination DVD-ROM for M3 and M4 students"

04/2006 Runner up Outstanding Paper Award for Surgical Science from NASS (North American Spine Society) and The Spine Journal, 2006

09/2005 Selected by American Academy of Orthopaedic Surgeons to Leadership Fellows Program 2006-7. Program designed to identify and develop leadership within structure of AAOS.

06/2005 First Place - Resident Paper Presentations Wisconsin Orthopedic Society meeting Waukesha, WI, June 2005

11/2001 Research presented by Snehal Dalal, MD, resident Third Place: Best Research Award

National Resident and Fellows Conference
 Sponsored by Sofamor- Danek, New Orleans, LA
 Research presented by P. Singhal, MD, resident
 3rd best paper of over 100 papers submitted
 08/1993 First place: Best Research Award
 XI National Orthopaedic Residents Conference
 Smith and Nephew Richards, Memphis, TN
 Best paper of over 200 papers submitted
 11/1992 Orthopaedic In-training Examination– 98 percentile
 11/1991 Orthopaedic In-training Examination– 99 percentile
 08/1987 Ranked first, University of Bombay
 M.S. Orthopaedics examination
 02/2009 Listed in Guide to America’s Top Orthopedists. Published by
 SLD Industries, Inc.
 05/2008 Included in ‘Guide to America’s Top Physicians’ 2008
 Edition. Published by Consumer’s Research Council of
 America
 09/2005 Included in ‘Guide to America’s Top Physicians’ 2004-2005
 Edition. Published by Consumer’s Research Council of
 America
 07/2005 Included in 2006 60th Diamond Edition of Marquis Who’s
 Who in America, based on ‘reference value of outstanding
 achievements’.
 2/2010 Inaugural recipient of AAOS Achievement Award.
 Recognition by for volunteer work on behalf of American
 Academy of Orthopaedic Surgeons.
 08/2010 Included in 2010-11 “Leading Physicians of the World”, by
 International Association of Health Care Professionals.
 10/2010 Milwaukee Business Journal - 2010-11 “Southeastern
 Wisconsin’s Best Doctors”.
 11/2011 Milwaukee Business Journal - included in 2011-12
 “Southeastern Wisconsin’s Best Doctors”.
 01/2012 Listed in Best Doctors in America 2011-12 database
 03/2012 M Magazine - one of Metro Milwaukee’s Best Doctors
 01/2013 Selected for Best Doctors in America 2013 database
 05/2013 Castle Connolly Top Doctor in Orthopaedic Surgery
 12/2013 Selected as Doctor of Excellence by Leaders in Healthcare
 Network. Published in Physicians Review.
 12/2013 Milwaukee Business Journal - Top Doctor in Southeastern
 Wisconsin.
 02/2014 Best Doctors in America 2014 database
 01/2015 M Magazine - one of Metro Milwaukee’s Best Doctors
 08/2015 Milwaukee Magazine - Top Doctor - peer recognition
 02/2017 Castle Connolly Top Doctor in Orthopaedic Surgery

Business Management / Leadership Education:

- 05/2014 Wharton School of Business, University of Pennsylvania. An Introduction to Marketing. 9 week online course.
- 04/2012 Kellogg School of Business Management, Northwestern University, Executive Management Course. Three day course on Strategies for effective persuasion in Negotiations, Leadership and Organizational Change, Avoiding Risks: Taking them wisely, Dispute and Conflict Management.
- 03/2010 Measuring and Communicating Value in Spine Care: Setting an Agenda for Action. Workshop on national healthcare trends, focusing on concept of “value”.
- 01/2009 Kellogg School of Business Management, Northwestern University, Executive Management Course. “Competing in the Marketplace”. Three day course on Marketing strategies, Optimizing negotiating skills, Healthcare law
- 11/ 2008 Kellogg School of Business Management, Northwestern University, Executive Management Course. “The Power of Information is in the Numbers”. Three day course on Financial Accounting, Cost accounting, Entrepreneurial accounting – valuation, Charitable Donations
- 09/ 2008 Kellogg School of Business Management, Northwestern University, Executive Management Course. “Essential Human Resource Skills for Optimal Asset Utilization”. Three day course on Teams, Conflicts, Service, Performance Appraisal and Motivation
- 2006/7 Leadership Fellow – American Academy of Orthopaedic Surgeons. Multiple meetings over the course of one year with executive MBA type courses / training in leadership, advocacy.
- 2003/2004 Faculty Leadership Course – University of Milwaukee Business School / MCW – Executive MBA course – three one week sessions over one year period

Invited Professorships:

06/2017	Invited Professor, Twelfth Annual Charles H. Epps, Jr. M.D. Lecture. Howard University, Washington, DC
03/2017	Visiting Professor, Brown University Orthopaedics Providence, Rhode Island
02/2017	Visiting Professor, Yale University Orthopaedics New Haven, CT
04/2016	Visiting Professor, Orthopaedic Grand Rounds – Georgetown University, Washington, DC
11/2014	Orthopaedic Grand Rounds – UCSF Fresno Department of Orthopaedic Surgery, Fresno, CA
05/2013	Orthopaedic Grand Rounds – William Beaumont Hospital and Oakland University Program, Royal Oak, MI
09/2012	Orthopaedic Grand Rounds – University of Chicago, Chicago, IL
05/2012	Orthopaedic Grand Rounds – Combined Residency Program Harvard University, Boston
03/2012	Department of Orthopaedic Surgery University of Kansas, Wichita
03/2010	Department of Orthopaedic Surgery Texas Tech University of Health Sciences, Lubbock, Texas
04/2008	Department of Orthopaedic Surgery Brown University, Providence, Rhode Island
09/2006	Department of Orthopaedic Surgery University of Miami, Miami, Florida

National Health Policy Efforts: 2008-2011

Coordinated and led national health policy related advocacy efforts on behalf of North American Spine Society. Examples of activity include:

- Development of coherent advocacy program for North American Spine Society

- Spokesman for Alliance of Specialty Medicine - coalition of specialty medicine organizations in Washington, D.C., representing over 100,000 physicians
- Coordinated and assisted with development of multiple advocacy “position papers” for the North American Spine Society, on
 - Medicare Sustainable Growth Rate Formula
 - Comparative Effectiveness Research
 - Physician Quality Reporting Initiative
 - Medical Liability Reform
 - Physician Ownership of Medical Facilities
- Interfaced with multiple members of the House and Senate.
- Invited panelist Medicare Coverage Advisory Commission - MedCAC - Clinical Use of Bone Morphogenetic Proteins
- Attended Alliance of Specialty Medicine Washington D.C. meetings in July 2009, July 2010, July 2011. Met with members of Congress, CMS, media to discuss healthcare reform issues.
- Attend MedPAC meetings and review deliberations.
- Attended fundraisers for members of Congress in Washington, D.C. and in Wisconsin.
- Multiple letters to members of Congress on various healthcare reform issues.
- Multiple media interviews on issues pertaining to health policy / advocacy and spine surgery
- Fundraiser at home for members of Congress
- Hosted Advocacy reception at North American Spine Society, October 2010. Guest - Paul Begala, former Democratic White House advisor and CNN host
- Hosted Advocacy reception at North American Spine Society, November 2011. Guest - Karl Rove, former Republican White House advisor and Fox News host

Memberships in Professional and Honorary Societies:

Current (04/2008)	Founding member, Lumbar Spine Research Society
Current (06/2008)	American Orthopaedic Association
Current (07/1995)	American Academy of Orthopaedic Surgeons
Current (06/2001)	Order of Merit
	Orthopaedic Research and Education Foundation
Current (01/2011)	American Medical Association
Current (07/2016)	Washington DC Medical Society
10/1998-03/2015	North American Spine Society
09/1999-08/2015	Milwaukee Orthopaedic Society
07/2003–08/2015	Wisconsin Orthopaedic Society
06/2000-06/2001	Medical Society of Milwaukee County

01/2001-12/2003 Association of American Physicians from India
06/2000-06/2001 Wisconsin State Medical Society
09/1996-09/1999 California Medical Association
09/1996-09/1999 Yuba Sutter Colusa Counties Medical Association
06/1996-06/2000 American Medical Association
07/1995-12/2003 University of Southern California: Graduate Orthopaedic
Society

Leadership and Committee Positions - National:

Current (09/2014)	Chairperson, US FDA Orthopaedic and Rehabilitation Devices Panel
03/2014-03/2016	Member, Board of Directors American Academy of Orthopaedic Surgeons (30,000 member organization)
Current (04/2013)	Executive Board of Directors Lumbar Spine Research Society
Current (05/2008)	Chair, Ethics and Conflict of Interest Committee Lumbar Spine Research Society
Current (06/2015)	Member, Academic Leadership Committee American Orthopaedic Association
10/2008- 03/2014	<u>Board of Directors, NASS</u> (9,000 member organization)
02/2011 – 03/2014	<u>Chairman, AAOS Diversity Advisory Board</u> American Academy of Orthopaedic Surgeons Responsible for promotion of culturally competent care and gender and racial / ethnic diversity amongst Orthopaedic providers in the United States.
01/2013- 09/2014	Voting Panel Member, MEDCAC; US Govt CMS Medicare Evidence Development and Coverage Advisory Committee, Baltimore, MD. 2-4 year term.
10/2011 – 03/2014	Chairman, Continuing Medical Education Committee North American Spine Society
10/2008-10/2011	Chairman, Advocacy Committee North American Spine Society
05/2011	American Academy of Orthopaedic Surgeons – North American Spine Society Combined Executive Leadership Strategic Review
11/2004- 10/2011	North American Spine Society; Advocacy Committee To develop and advocate at Federal and State level for NASS positions on national health care policy and high
11/2006 – 12/2012	US Food and Drug Administration Advisory Panel Voting Member, Orthopaedic and Rehabilitation Devices Panel.
09/2010	Invited Guest Panel Member Medicare Coverage Advisory Commission
01/2009-10/2011	Board of Specialty Societies, Health Policy Committee American Academy of Orthopaedic Surgeons
07/2006 – 03/2010	American Academy of Orthopaedic Surgeons – Diversity Advisory Board
05/2010	American Academy of Orthopaedic Surgeons – North American Spine Society Combined Executive Leadership Strategic Review
03/2008- 10/2009	Chairman, Public Affairs Committee North American Spine Society

	Charged with shepherding forward a new era of excellent communication with the public. Spearheaded development of patient education oriented website for NASS.
02/2005-3/2007	American Academy of Orthopaedic Surgeons – Evaluations Committee Member Formulation of annual residency Orthopedic in-training examinations (OITE), and AAOS Self Assessment Examinations for surgeons in practice
08/2006	National Association of Spine Specialists (NASS6) Executive strategic planning committee meeting
02/2001-6/2004	American Academy of Orthopaedic Surgeons Candidate Member Services Committee
01/2004-03/2004	American Academy of Orthopaedic Surgeons Project Team looking into resident benefits from AAOS

Leadership and Committee Positions - Regional/Local:

06/2001-08/2015	Affiliate Member, Orthopaedic and Rehabilitation Engineering Center, Medical College of Wisconsin / Marquette University
06/1999	President-elect of Yuba–Sutter–Colusa Counties Medical Association. (Did not serve - moved to Wisconsin)
06/1996	Alternate Delegate - California Medical Association
06/1995	California House Officer delegate to AMA Resident Physician Section
06/1993	Los Angeles County delegate to California House Officers Medical Society

Committee Service:

Medical College of Wisconsin Committees:

06/2014-06/2017	Elected member, Nominating Committee Medical College of Wisconsin
08/2012-06/2015	Member, Medical College Physicians Compensation Committee (MCW Group wide practice plan)
06/2011-06/2014	Dean's Appointee, Nominating Committee Medical College of Wisconsin
11/2012-10/2013	Member, Search Committee Chairman of Radiology Medical College of Wisconsin
02/2013-06/2013	Member, Search Committee

	Vice President, Perioperative Services Froedtert Memorial Lutheran Hospital
11/2011-11/2012	Member, Search Committee Chairman of Physical Medicine and Rehabilitation Medical College of Wisconsin
08/2011-07/2013	Member, Search Committee Medical Director of Anesthesia Operations Medical College of Wisconsin
07/2007-07/2008	Member, Search Committee Chairman of Department of Surgery Medical College of Wisconsin
07/2005-06/2007	Chairman, Nominating Committee Medical College of Wisconsin
05/2004-06/2007	Elected member, Nominating Committee Medical College of Wisconsin
09/2004-06/2007	Alternate Orthopaedic Representative, Faculty Council Medical College of Wisconsin
01/2004-	Orthopaedic Surgery representative Multidisciplinary Pain Task Force Committee Medical College of Wisconsin Physicians Group
02/2001-08/2004	Orthopaedic Representative, Faculty Council Medical College of Wisconsin

MCW Department of Orthopaedics Committees:

10/2009-08/2015	Chair, Clinical Oversight Committee Department of Orthopaedic Surgery Medical College of Wisconsin
09/1999-08/2015	Member, Resident Selection Committee Department of Orthopaedic Surgery Medical College of Wisconsin
05/2002-08/2015	Member, Orthopaedic Research Committee Department of Orthopaedic Surgery Medical College of Wisconsin
09/2004-02/2005	Member, Ad-Hoc committee- Dept Research Goals Dept of Orthopedic Surgery Medical College of Wisconsin

Hospital Committees:

09/2015 -	Member, Medical Executive Committee George Washington University Hospital
10/2013-08/2015	Member, Surgery Council Executive leadership for surgical services Froedtert Memorial Lutheran Hospital

12/2011-08/2015	Member, Executive Team, Ambulatory Services Froedtert Memorial Lutheran Hospital Executive leadership for all ambulatory services Froedtert Memorial Lutheran Hospital
01/2011-08/2015	Member, Surgical Services Committee Froedtert Memorial Lutheran Hospital
06/2011-08/2015	Member, Ambulatory Services Steering Committee Froedtert Memorial Lutheran Hospital
06/2000-08/2015	Member, Trauma Committee Froedtert Memorial Lutheran Hospital
06/2001-06/2008	Member, Quality / Utilization Subcommittee of Patient Care Services Committee Froedtert Memorial Lutheran Hospital
03/1999-08/1999	Member, Surgery Review Committee Fremont – Rideout Hospital Group
03/1998-03/1999	Member, Utilization Review Committee Fremont – Rideout Hospital Group
06/1997-06/1998	Member, Managed Care Committee Sutter North Medical Group

Journal Editorial Board / Review Board:

Current (08/2006)	Associate Editor – The Spine Journal
Current (01/2014)	Editorial Board – Spine Surgery Today – multidisciplinary platform serving as news and information source for 8,000 spine surgeons and neurosurgeons
01/2013- 09/2014	Editorial Board – Journal of Bone & Joint Surgery Reviews Resigned to avoid conflict of interest with Board of Directors position at AAOS
Current (02/2003)	Editorial review panel - Journal of Bone & Joint Surgery
Current (08/2000)	Editorial review panel - Spine
Current (05/2008)	Editorial review panel - Journal of the American Academy of Orthopaedic Surgeons
Current (10/2007)	Editorial review panel - Orthopaedic Knowledge Online
Current (11/2003)	Editorial review panel - The Spine Journal
05/2006-04/2007	Editorial review panel - Journal of Spinal Disorders and Techniques

Program Committees/ Scientific Session Moderator:

2005	Abstract reviewer; 5th Combined Meeting of North American Spine Society and the Japanese Spine Research Society, Spine Across the Sea. July 23-27, 2006, Maui, Hawaii
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- 2008 Scientific session moderator, Lumbar spine. Lumbar Spine Research Society, Chicago, IL. April 2008
- 2008 Scientific session moderator, Biomechanics of the Spine, North American Spine Society, Annual Meeting, Toronto, Canada. October 2008
- 2010 Symposium moderator, Health Care Reform – Representing Ourselves in Washington, DC. North American Spine Society, Annual Meeting, Orlando, Florida. October 2010
- 2011 Symposium moderator, Surgical Techniques, North American Spine Society, Annual Meeting, Chicago, November 2011
- 2011 Scientific abstract reviewer; North American Spine Society, Annual Meeting, Chicago, IL. October 2011
- 2011 Scientific session moderator, Spine Study Group, Palm Beach, FL, May 2011
- 2011 Scientific session moderator, Lumbar spine. Lumbar Spine Research Society, Chicago, IL. April 2011
- 2012 Scientific session moderator, Spinal Deformity. Spine Across the Sea – Combined meeting of Japanese Society for Spine Surgery and North American Spine Society, Kauai, HI. July 29- August 2, 2012
- 2012 Scientific session moderator, Degenerative Spondylolisthesis Lumbar spine. Lumbar Spine Research Society, Chicago, IL. April 2012
- 2012 Program committee and scientific abstract reviewer, North American Spine Society, Annual Meeting, Dallas, October 2012
- 2012 Symposium moderator, North American Spine Society, Annual Meeting, Dallas, October 2012
- 2013 Program committee and scientific abstract reviewer, North American Spine Society, Annual Meeting, New Orleans, October 2013
- 2013 Scientific session moderator, Cervical Surgery, North American Spine Society, Annual Meeting, New Orleans, October 2013
- 2013 Symposium moderator: State of the Art World Spine Care: A Review of Practices from Different Regions of the World. North American Spine Society, Annual Meeting, New Orleans, October 2013
- 2013 Program committee and scientific abstract reviewer, NASS Summer Spine Meeting, Naples, July 31-Aug 3, 2013
- 2013 Scientific session moderator, Spine Trauma and Surgery. NASS Summer Spine Meeting, Naples, July 31- August 3, 2013

- 2013 Scientific session moderator, Basic Science and Biomechanics. NASS Summer Spine Meeting, Naples, July 31- August 3, 2013
- 2013 Technique workshop faculty, Cervical Spine Stabilization. NASS Summer Spine Meeting, Naples, July 31- August 3, 2013
- 2015 Scientific session moderator, Patient Outcomes. Lumbar Spine Research Society, Chicago, IL. April 2015
- 2016 Scientific session moderator, Patient Outcomes. Lumbar Spine Research Society, Chicago, IL. April 2016
- 2017 Scientific session moderator, Lumbar Surgical Interventions. Lumbar Spine Research Society, Chicago, IL. April 2017

American Board of Orthopaedic Surgery:

- 2013-2017 Oral examiner - Part II examination of orthopaedic surgeons seeking certification and recertification from ABOS

AAOS Orthopaedic Educators Course Faculty:

- 2012 Faculty - 45th Annual American Academy of Orthopaedic Surgeons Course for Orthopaedic Educators. Bloomington, Illinois, November 4-8, 2012

Bibliography:

Journal Publications/Original Papers:

1. Thakur A.J., Karkhanis A.R., RAO, R., Mahajan A.J.: Treatment of intracapsular fracture of the femoral neck by Asnis cannulated hip screws. J Postgrad Med; 34(2): 67-71, 1988
2. Thakur A.J., Karkhanis A.R., Mahajan A.J., RAO, R.: One plane external fixation for management of complicated fractures of tibia. J Postgrad Med; 34(4): 237-241, 1988
3. Phillips T.W., RAO, R.: Destructive arthropathy of the hip following pelvic irradiation: report of four cases. Can J Surg; 32(5): 353-357, 1989
4. RAO, R., Rodegerdts U., Ettinger P., Pepplinkhuisen C.: Revision Total Hip Arthroplasty Using Cementless Components. Contemporary Orthopaedics. 527-531, 1989
5. Phillips T.W., RAO, R.: Bateman bipolar hips with autologous bone graft reinforcement for dysplastic acetabula. Clin Orthop; 251:104-112, 1990
6. Phillips T.W., Gurr K.R., RAO, R.: Hip implant evaluation in an arthritic animal model. Arch Orthop Trauma Surg; 109(4): 194-196, 1990
7. Sarmiento A., McKellop H.A., Llinas A., Park S.H., Lu B., Stetson W., RAO, R.: Effect of loading and fracture motions on diaphyseal tibial fractures. J Orthop Res; 14(1): 80-84, 1996
8. RAO R., Herkowitz H.: Lumbar Spinal Stenosis. Current Opinion in Orthopaedics. 7; 11:36-40, 1996
9. RAO R., Herkowitz H.: The Surgical Management of Complicated Spinal Stenosis and Spondylolisthesis. Operative Techniques in Orthopaedics. 1997
10. RAO, R., Bains R.S., Lum G.: Acute traumatic vertical axis rotational dislocation of the patella. Orthopaedics; 20(8): 713-715, 1997.
11. Yoganandan N, Cusick JF, Pintar FA, RAO, R: Whiplash Injury Determination with Conventional Spine Imaging and Cryomicrotomy. Spine 26; (22) 2443-2448, 2001
12. Chivukula M., RAO R., Macchi J., Ghazala F., Rao N.R., Komorowski R., Shidham V.B.: FNAB Cytology of Chordoma Masquerading as

- Adenocarcinoma: A Case Report. *Diagnostic Cytopathology*, 26(5): 306-309, 2002
13. RAO, R, Wang M, Singhal P, McGrady LM, Rao S.: Intradiscal Pressure and Kinematic Behavior of Lumbar Spine following Bilateral Laminotomy and Laminectomy. *The Spine Journal*, 2:320-6, 2002
 14. RAO, R.: Pathophysiology, Natural History and Clinical Features of Neck pain, Cervical Radiculopathy and Myelopathy. *Journal of Bone and Joint Surgery*, 84-A, 10: 1872-81, 2002
 15. RAO R, Singrakhia M.: The painful osteoporotic vertebral compression fracture: Pathogenesis, Evaluation, and roles of vertebroplasty and kyphoplasty in its management. *Journal of Bone & Joint Surgery*, 85-A, 2010-2022, 2003
 16. RAO R, Singhal P.: Delayed development of neurological deficit from an occipital fracture. *Journal of Bone & Joint Surgery*, 86-A, 1047-1050, 2004
 17. RAO R, Wang M, Singrakhia M, McGrady LM: Mechanical Evaluation of Posterior Wiring as a Supplement to Anterior Cervical Plate Fixation. *Spine*, 29, (20) 2256-59, 2004
 18. RAO R, Wang M, McGrady LM, Perlewitz TJ, David KS: Does anterior cervical plating predispose to adjacent segment changes? *Spine*, 30, (24) 2788-92, 2005
 19. Stemper B, Yoganandan N, RAO R, Pintar F: Reflex Muscle Contraction in the Unaware Occupant in Whiplash Injury. *Spine*, 30, (24) 2794-98, 2005
 20. RAO R, David KS, Wang M: Biomechanical changes at adjacent segments following anterior lumbar interbody fusion using tapered cages. *Spine*, 30, (24) 2772-76, 2005
 21. Stemper B, Yoganandan N, RAO R, Pintar F: Influence of Thoracic Ramping on Whiplash Kinematics. *Clinical Biomechanics*, 20(10):1019-28, 2005
 22. David KS, RAO R: Bilateral C5 motor paralysis following anterior cervical surgery. *Clin Neurol Neurosurg*, 108(7):675-681, 2006
 23. Stemper BD, Yoganandan N, Pintar FA, RAO RD: Anterior longitudinal ligament injuries in whiplash may lead to cervical instability. *Med Eng Physics* 28(6):515-524, 2006.

24. RAO RD, Gourab K, David KS: Operative Treatment of Cervical Spondylotic Myelopathy. *Journal of Bone & Joint Surgery*, 88-A, 7:1619-1640, 2006
25. RAO RD, Bagaria VB, Cooley BC: Posterolateral Intertransverse Lumbar Fusion in a Mouse Model: Surgical Anatomy and Operative Technique. *The Spine Journal*, 7(1): 61-7, Jan 2007. (Runner up Outstanding Paper Award)
26. Wang M, Dalal S, Bagaria VB, McGrady L, RAO RD: Changes in the Lumbar Foramen after Anterior Interbody Fusion with Tapered or Cylindrical Cages. *The Spine Journal*, 7(5): 563-9, 2007
27. RAO RD, Currier BL, Albert TJ, Bono CM, Marawar SV, Poelstra KA, Eck JC: Degenerative Cervical Spondylosis: Clinical Syndromes, Pathogenesis and Management. *Journal of Bone & Joint Surgery*, 89-A: 1360-1378, 2007
28. Stemper BD, Marawar SV, Yoganandan N, Shender BS, Rao RD: Quantitative Anatomy of Subaxial Cervical Lateral Mass: An Analysis of Safe Screw Lengths for Roy-Camille and Magerl Techniques. *Spine*, 33(8): 893-7, 2008
29. Jones TR, Rao RD: Pathophysiology of Low Back Pain. *Seminars in Spine Surgery – Axial Low Back Pain*. 20(2): 78-86, June 2008
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3. RAO, R, Schilligo, N: How the 2008 Election Will Shape Health Care Policy. SpineLine. North American Spine Society. 47-49, Nov-Dec 2008
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1. Editor. Raj D. Rao. Orthopaedic Knowledge Update: Spine 4. Textbook published by American Academy of Orthopaedic Surgeons, Rosemont, IL. 2011. A premier textbook on the spine, read internationally by surgeons and non-surgeons.
2. Editors E. Caceres Palou, Raj Rao. Patologia degenerativa de la columna cervical. (Degenerative Pathology of the Cervical Spinal Column) Spanish language monograph. Combined publication of the AAOS and Spanish Orthopedic Society SECOT. 2005.
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4. Invited Editorial Commentary. Raj D. Rao Journal of Bone and Joint Surgery. Mortality Following the Diagnosis of a Vertebral Compression Fracture. July 2008
5. Guest Editor. Raj D. Rao. Seminars in Spine Surgery. Complications in Spine Surgery, Volume 21, No 3, September 2009
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9. Invited Editorial Commentary. Raj D. Rao Journal of Bone and Joint Surgery. Risk Factors for Immediate Postoperative Complications and Mortality Following Spine Surgery. September 2011
10. Invited Perspective. Raj D. Rao. SpineLine. Off-label or off course? Reflections on the use of BMP-2. October 2011.
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5. RAO R., Fischgrund J.: Disorders at the Cervicothoracic Junction. The Adult and Pediatric Spine. Third edition. Editors John Frymoyer and Samuel Wiesel. Lippincott Williams & Wilkins, Philadelphia. 2004
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7. RAO R.: Neck pain: Epidemiology, Pathophysiology and Clinical Evaluation. Monograph on 'Neck Pain'. American Academy of Orthopaedic Surgeons, Rosemont, Illinois. 2004
8. RAO R, David K.: Lumbar Spine Degenerative Disorders. Orthopaedic Knowledge Update 8. American Academy of Orthopaedic Surgeons, Rosemont, Illinois. 2005.
9. RAO R. Dolor cervical, radiculopatía cervical y mielopatía cervical: fisiología, historia natural y valoración clínica. Chapter translated and published in Spanish in Patología degenerativa de la columna cervical. (Degenerative Pathology of the Cervical Spinal Column) Editors E. Caceres Palou, Raj Rao. Combined publication of the AAOS and Spanish Orthopedic Society SECOT. 2005.
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13. RAO R, Bagaria V: Pathophysiology of the intervertebral disk. Orthopaedic Knowledge Update- Spine 3, AAOS, Rosemont, Illinois, 2006
14. Faciszewski T, McKiernan F, RAO R: Management of Osteoporotic Vertebral Compression Fractures. Orthopaedic Knowledge Update- Spine 3, AAOS, Rosemont, Illinois, 2006
15. RAO R: Clinical Syndromes of Neck Pain and Radiculopathy. Rothman-Simeone – The Spine. Fifth Edition. Editors Harry N. Herkowitz, Steven Garfin, Frank J. Eismont, Gordon R. Bell, Richard Balderston. WB Saunders Elsevier, Philadelphia, PA. 2006
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2. RAO R, Rodegerdts U: Cervical Osteochondrosis – A Possible Etiologic Basis in Lower Spinal Deformity. Cervical Spine Research Society Meeting, Marseilles, France, 07/1988
3. Rodegerdts U, RAO R: The Cervical Spine Infected After Surgery. Cervical Spine Research Society Meeting, Marseilles, France, 07/1988
4. Phillips TW, Nguyen LT, RAO R, Snel JL: A Torsional Test to Study Porous Ingrowth Interfacial Shear Characteristics. Canadian Orthopaedic Research Society (CORS) Annual Meeting, Vancouver, Canada, 1990

5. Phillips TW, Nguyen LT, RAO R, Snel JL: A Biomechanical Test of Interfacial Shear Characteristics in Cementless Prosthetic Fixation. Engineering Applications of Mechanics, 10th Symposium, Kingston, Canada, 1990
6. Phillips TW, Nguyen LT, RAO R, Snel JL: A New Biomechanical Test to Compare Ingrowth and Fixation of Porous Implants. Societe Internationale de Research en Orthopedique et Traumatologie (SIROT), 5th General Meeting, Montreal, Canada, 10/1990
7. McKellop H, Sarmiento A, RAO R, Llinas A, Lu B, Kalbac D, Park SH: In-vivo Measurement of the Motions of a Tibial Fracture Treated with a Functional Brace. Orthopaedic Research Society Meeting, Washington D.C., 02/1992
8. Rao S, Goswami A, RAO R: Measuring Proximal Dens Migration in Rheumatoid Arthritis – A New Method. California Orthopaedic Association Annual Meeting, Newport Beach, California, 1993
9. Rao S, Goswami A, RAO R: Measuring Proximal Dens Migration in Rheumatoid Arthritis – A New Method. Western Orthopaedic Association, Seattle, Washington, 1993
10. RAO R, Rao S, Goswami A: Bilateral Laminotomy Versus Laminectomy – Is There a Difference? Smith & Nephew Richards Eleventh Annual Orthopaedic Residents Conference, Memphis, Tennessee, 08/1993
11. RAO R, Rao S, Goswami A: Bilateral Laminotomy Versus Laminectomy – Is There a Difference? Spine + Science + Management Meeting for Spine Surgeons, New Orleans, Louisiana, 03/1996
12. Herkowitz H, RAO R: Sacroiliac Joint Dysfunction. Denver Spine Institute: Winter Conference, Breckenridge, Colorado, 03/1996
13. RAO R: Back Pain: The Science Behind the Disease, FMLH community outreach program, 11/1999
14. RAO R: Neck Pain: The Signs and Symptoms, FMLH community outreach program, 01/2000
15. RAO R: Kyphoplasty and the instrumentation, FMLH Operating Room Nurses In-service, 03/2000
16. RAO R: Back Pain - The Science Behind the Disease, 12th Annual Sports Medicine Symposium, MCW, 03/2000

17. RAO R: Wisconsin State Orthopaedic Society Annual Meeting Madison, WI. Invited Guest Speaker – Neck Pain – The Science Behind the Disease, 05/2000
18. RAO R: Neck Pain – The Science Behind the Disease. CME Lecture, St. Francis Hospital Family Practice, Milwaukee, WI, 05/2000
19. RAO R: Cervical Degenerative Disc Disease, Department of Internal Medicine Grand Rounds, MCW, 08/2000
20. RAO R: Osteoporotic Vertebral Compression Fractures, Department of Physical Medicine and Rehabilitation Grand Rounds, MCW, 10/2000
21. RAO R: Osteoporotic Vertebral Compression Fractures – The Kyphoplasty Option. 31st Annual Winter Refresher Course for Family Practice, Waukesha, WI, 01/2001
22. RAO R: Neck Pain – The Science Behind the Disease. Grand Rounds, Invited Guest Speaker. United States Naval Hospital, Great Lakes, Illinois, 02/2001
23. RAO R: Cervical Degenerative Disc Disease. Grand Rounds, Invited Guest Speaker, St. Mary's Hospital, Milwaukee, WI, 03/2001
24. New Technique Offers Help for Painful Osteoporosis, Froedtert Today Interview, 05/2001
25. RAO R, Wang M, Singhal P, McGrady LM, Rao S: Biomechanical Behavior of the Spine following Laminotomy and Laminectomy. American Society of Mechanical Engineers – Summer Bioengineering Conference, Snowbird, Utah, 06/ 2001
26. RAO R: Neck Pain – The Science Behind the Disease. Grand Rounds, Invited Guest Speaker, St. Agnes Hospital, Fond du Lac, WI, 10/2001
27. Yoganandan N, Pintar F, Stemper BD, Cusick JF, Gennarelli TA, RAO R: Single Rear Impact Produces Lower Cervical Spine Soft Tissue Injuries. International IRCOBI Conference on the Biomechanics of Impact; October, 2001 – Isle of Man, UK
28. RAO R, Wang M, Singhal P, McGrady L, Rao S: Internal Disc Stresses and Kinematic Behavior of Lumbar Spine Following Laminotomy and Laminectomy. North American Spine Society, 16th Annual Meeting, Seattle, WA, 11/ 2001

29. Yoganandan N, Stemper BD, Pintar FA, Cusick JF, RAO R: Susceptibility of the C5-6 Intervertebral Joint for Neck Pain in Whiplash. Cervical Spine Research Society, Monterey, CA, 11/2001
30. RAO R, Wang M, Perlewitz TJ, McGrady LM, Yoganandan N: Anterior Cervical Plating – Does It Increase Adjacent Segment Stress? Cervical Spine Research Society, Monterey, CA, 11/2001
31. RAO R: Cervical Spine Injuries, Department of Emergency Medicine Grand Rounds, MCW, 12/2001
32. RAO R: Cervical Spine Trauma – An Overview, 3rd Annual Trauma Workshop: Department of Anesthesiology, MCW, 01/2002
33. Conley R, RAO R, Wang M, Harris G: Biomechanical Evaluation of Hamstrings Length During Gait in Adults with Low Back Pain. Orthopaedic Research Society Meeting, Dallas, TX, 02/2002
34. RAO R, Wang M, Perlewitz TJ, McGrady LM, Yoganandan N: Anterior Cervical Plating – Does It Increase Adjacent Segment Stress? Orthopaedic Research Society Meeting, Dallas, TX, 02/2002
35. Goswami AKD, Rao S, RAO R: Posterior Spinal Decompression Procedures – A Biomechanical Study on Spinal Instability. American Academy of Orthopaedic Surgeons Annual Meeting, Dallas, TX, 02/2002
36. RAO R, Wang M, Singhal P, McGrady L, Rao S: Internal Disc Stresses and Kinematic Behavior of Lumbar Spine Following Bilateral Laminotomy and Laminectomy. American Academy of Orthopaedic Surgeons Annual Meeting, Dallas, TX, 02/2002
37. RAO R: Instructional Course Lecture - Neck Pain, Radiculopathy and Myelopathy: Pathophysiology, Natural History and Clinical Evaluation. American Academy of Orthopaedic Surgeons Annual Meeting, Dallas, TX, 02/2002
38. RAO R: Invited Instructional Course Evaluator: Kyphosis of the Thoracic and Thoracolumbar spine in the Pediatric Patient: A Current Concepts Approach. American Academy of Orthopaedic Surgeons Annual Meeting, Dallas, TX, 02/2002
39. RAO R: Neck Pain – The Science Behind the Disease. All Staff Grand Rounds - Invited Guest Speaker, Waukesha Hospital, Waukesha, WI, 02/2002

40. RAO R: Minimally Invasive Treatment for Osteoporotic Vertebral Fractures. Invited Guest Speaker, Wisconsin Society of Physical Medicine and Rehabilitation: 4th Annual Education Symposium, Elkhart Lake, WI, 04/2002
41. RAO R, Wang M, Singhal P, McGrady L, Rao S: Internal Disc Stresses and Kinematic Behavior of Lumbar Spine Following Bilateral Laminotomy and Laminectomy. 35th Annual American Orthopaedic Association / Orthopaedic Education and Research Foundation Residents Conference, Dallas, TX, 04/2002
42. RAO R: Update on Osteoporosis and New Treatment Options for Vertebral Compression Fractures, Internal Medicine - Geriatrics Research Conference VA Medical Center, Milwaukee, 05/2002
43. RAO R: Cervical Radiculopathy and Myelopathy, Community Pain Management Physicians, 05/2002
44. RAO R: Post-operative Pain Management in Orthopaedics, Primary care physician group, Madison, WI, 06/2002
45. RAO R: Minimally Invasive Treatment for Osteoporotic Vertebral Fractures. Distinguished Guest Speaker, Mid-America Osteopathic Convention & Scientific Assembly, Milwaukee, WI, 06/2002
46. RAO R: Osteoporotic Vertebral Compression Fractures – Minimally Invasive Treatment Options. Invited Moderator, Special Interest Group Discussion, North American Spine Society Meeting, Montreal, Canada. October 2002
47. RAO R, Wang M, McGrady LM: Mechanical Evaluation of Posterior Wiring as Supplement to Anterior Cervical Plate Fixation. Cervical Spine Research Society, Miami, FL, 12/ 2002
48. RAO R: Instructional Course Lecture - Neck Pain, Radiculopathy and Myelopathy: Pathophysiology, Natural History and Clinical Evaluation. American Academy of Orthopaedic Surgeons Annual Meeting, New Orleans, LA, 02/2003
49. RAO R, Wang M, McGrady LM: Mechanical Evaluation of Posterior Wiring as Supplement to Anterior Cervical Plate Fixation. Orthopaedic Research Society, New Orleans, LA, 02/2003
50. RAO R: IDET – Who is a Candidate? What are the Results? The Spine Study Group, 14th Symposium. Palm Beach, FL, 4/2003

51. RAO R: Anatomy of the Cervical Spine – Importance for Decompression / Instrumentation. The Spine Study Group, 14th Symposium. Palm Beach, FL, 4/2003
52. RAO R: Cervical Subaxial Spine Trauma, Department of Orthopaedic Surgery Grand Rounds, 07/2003
53. RAO R: Injuries to the Cervical Spine, Department of Emergency Medicine Grand Rounds, MCW, 10/2003
54. RAO R: Anterior Surgery for Cervical Myelopathy. Invited Moderator, Special Interest Group Discussion, North American Spine Society Meeting, San Diego, California. October 2003
55. RAO R: Osteoporotic Vertebral Compression Fractures – Newer Treatment Options. Invited Moderator, Special Interest Group Discussion, North American Spine Society Meeting, San Diego, California. October 2003
56. RAO R, Wang M, Singrakhia MD, McGrady LM, Maciolek L: Effects of kyphotic malalignment of cervical fusion on adjacent segments. Poster presentation. Cervical Spine Research Society, Scottsdale, AZ, 12/ 2003
57. RAO R: Instructional Course Lecture - Neck Pain, Radiculopathy and Myelopathy: Pathophysiology, Natural History and Clinical Evaluation. American Academy of Orthopaedic Surgeons Annual Meeting, San Francisco, CA, 03/2004
58. RAO R: Anatomy of the Cervical Spine. Contemporary Management of Spinal Disorders – Decision Making for New Technology. The Spine Study Group, 15th Symposium. Palm Beach, FL, 5/2004
59. RAO R: Techniques of Anterior Cervical Discectomy and Corpectomy. Spine Surgery: Advanced Applications and Techniques. Orthopedic Learning Center, AAOS, Rosemont, IL, 11/2004
60. RAO R: Intradiscal Electrothermal Therapy – An Update. Spine Surgery: Advanced Applications and Techniques. Orthopedic Learning Center, AAOS, Rosemont, IL, 11/2004
61. RAO R: Artificial Cervical Disc Replacement. Spine Surgery: Advanced Applications and Techniques. Orthopedic Learning Center, AAOS, Rosemont, IL, 11/2004
62. RAO R: Instructional Course Lecture - Neck Pain, Radiculopathy and Myelopathy: Anterior Surgery for Neck Pain, Cervical Radiculopathy and

- Myelopathy. American Academy of Orthopaedic Surgeons Annual Meeting, Washington, D.C., 02/2005
63. RAO R: Degenerative Spondylolisthesis: Posterolateral decompression and fusion vs PLIF/ TLIF. New Technology: Concepts and Controversies. The Spine Study Group, 16th Symposium. Palm Beach, FL, 6/2005
 64. RAO R: Pedicle Screw Based dynamic stabilization technology. New Technology: Concepts and Controversies. The Spine Study Group, 16th Symposium. Palm Beach, FL, 6/2005
 65. RAO R: Cervical Spinal Cord Injury, Department of Emergency Medicine Grand Rounds, MCW, 10/2005
 66. RAO R: Instructional Course Lecture - Neck Pain, Radiculopathy and Myelopathy: Anterior Surgery for Neck Pain, Cervical Radiculopathy and Myelopathy. American Academy of Orthopaedic Surgeons Annual Meeting, Chicago, IL, 03/2006
 67. RAO R: Complications of Surgical Management of Spine Trauma. New Technology: Concepts and Controversies. The Spine Study Group, 17th Symposium. Palm Beach, FL, 5/2006
 68. RAO R: Anterior Operative Management of Cervical Myelopathy. New Technology: Concepts and Controversies. The Spine Study Group, 17th Symposium. Palm Beach, FL, 5/2006
 69. Dalal S, RAO R, Wang M, David, K: Biomechanical comparison of foraminal changes following ALIF with cylindrical and tapered cages. Poster presentation. 119th Annual meeting of the American Orthopaedic Association, June 21-24, 2006, San Antonio, TX
 70. RAO R: Operative Management of Cervical Myelopathy. Visiting Professor, Department of Orthopaedics Grand Rounds, University of Miami, FL 9/2006
 71. RAO RD, Gourab K, McGrady LM, Alsheik N, Wang M: Alteration in Load Sharing of Anterior Cervical Implants with Change in Cervical Sagittal Alignment. Cervical Spine Research Society, December 2, 2006, Palm Beach, FL
 72. RAO R: Fractures and Dislocations of the Cervical Spine, Annual Trauma Workshop: Department of Anesthesiology, MCW, 01/2007
 73. RAO R: Instructional Course Lecture - Neck Pain, Radiculopathy and Myelopathy: Anterior Surgery for Neck Pain, Cervical Radiculopathy and

- Myelopathy. American Academy of Orthopaedic Surgeons Annual Meeting, San Diego, CA, 02/2007
74. Wang M, Dalal S, David K, RAO R: Effects of Anterior Interbody Cages on Lumbar Foraminal Dimensions. Poster presentation. 53rd Annual meeting of the Orthopaedic Research Society, Feb 11-14, 2007, San Diego, CA
 75. RAO R: Anterior Decompression Instrumentation for Cervical Myelopathy. Clinical Challenges and their Treatment Options. The Spine Study Group, 18th Symposium. Palm Beach, FL, 5/2007
 76. Marawar S, RAO R, Stemper BD, Yoganandan N, Shender B: Computerized Tomographic Morphometric Analysis of Subaxial Cervical Pedicles in 98 Asymptomatic Volunteers. MCW Department of Orthopedics, Graduation Research Day, June 22, 2007
 77. RAO R: Diversity and Culturally Competent Care – An Orthopedist's responsibility, Orthopaedic Grand Rounds, Aug 29, 2007. Presented on behalf of Diversity Advisory Board, American Academy of Orthopaedic Surgeons
 78. RAO R: Don't Ignore the Neck: An Overview of Cervical Radiculopathy and Myelopathy. 20th Annual MCW Sports Medicine Symposium, Milwaukee, WI, March 17-18, 2008.
 79. RAO R: Instructional Course Lecture - Neck Pain, Radiculopathy and Myelopathy: Anterior Surgery for Neck Pain, Cervical Radiculopathy and Myelopathy. American Academy of Orthopaedic Surgeons Annual Meeting, San Francisco, CA, 03/2008
 80. RAO R: Operative Treatment of Cervical Spondylotic Myelopathy. Visiting Professor, Department of Orthopaedics Grand Rounds, Brown University, Providence, RI, 4/2008
 81. RAO R: The SPORT Trial – Operative vs Nonoperative Treatment for Lumbar Spinal Stenosis. The Spine Study Group, 18th Symposium. Palm Beach, FL, 5/2008
 82. RAO R: Anterior Cervical Discectomy and Fusion. The Spine Study Group, 18th Symposium. Palm Beach, FL, 5/2008
 83. Wang M, Tang S, McGrady LM, RAO R. Comparison of Supplementary Posterior Fixations for Two-Level ALIF with Stand-Alone Cages. 56th Annual meeting of the Orthopaedic Research Society, Mar 6-9, 2009, New Orleans, LA.

84. RAO R, Gourab K, Bagaria VB, Shidham VB, Metkar U, Brian CC. The Effect of Platelet Rich Plasma and Bone Marrow on Murine Posterolateral Lumbar Spine Arthrodesis with Bone Morphogenetic Protein. Lumbar Spine Research Society, Chicago, IL, 4/2009
85. RAO R: Medicare and National Healthcare Expenditures. North American Spine Society Coding Course, November 9-10, 2009, San Francisco, CA
86. RAO R: Healthcare Reform Update, North American Spine Society Annual Meeting, November 11-13, 2009, San Francisco, CA
87. RAO R: Degenerative Cervical Myelopathy – Decision Making and Operative Intervention. Visiting Professor, Department of Orthopaedic Surgery, Texas –Tech University, Lubbock, TX, 1/2010
88. Stemper BD, Yoganandan N, Rao R. Surgically-Relevant Cervical Spine Anatomical Characteristics. Rachidian Society Meeting, Hawaii, February 4, 2010
89. RAO R: Medicare and National Healthcare Expenditures. North American Spine Society Coding Course, October 4-5, 2010, Orlando, FL
90. RAO R: The Patient Care and Protection Act – An Overview. North American Spine Society Annual Meeting, October 5-9, 2010, Orlando, FL
91. RAO R: Health Care Legislation and Advocacy. North American Spine Society Annual Meeting, October 5-9, 2010, Orlando, FL
92. RAO R: Spine Advocacy Activities – A Review. North American Spine Society Annual Meeting, October 5-9, 2010, Orlando, FL
93. RAO R: Medicare – A Primer. Milwaukee Orthopaedic Society, March 1, 2011, Milwaukee, WI
94. RAO R: Complications in Cervical Spine Surgery. Current Concepts and Techniques in Spine. April 1, 2011, Royal Oak, MI
95. RAO R: What's next for Healthcare Reform. The Spine Study Group 21st Symposium. May 19-22, 2011, Palm Beach, FL
96. RAO R: Culturally Competent Care in an Orthopaedic Practice, September 23, 2011. Presented at Practice Management Symposium – Practice in an Era of Health Care Transformation, Chicago, Illinois
97. RAO R: Medicare 101 - A Primer. North American Spine Society Coding Course, November 1-2, 2011, Chicago, IL

98. RAO R: Modifying the physician reimbursement system. North American Spine Society Annual Meeting, November 2-5, 2011, Chicago, IL
99. Yoganandan N, Pintar FA, Lew SM, Rao RD, Rangarajan N, Eastwood D. Pediatric Cervical Spine Growth Using CT Scans; Biostatistics Day, Medical College of Wisconsin, Milwaukee, WI, January 20th, 2012
100. RAO R: Culturally Competent Care- An Orthopaedists Responsibility, February 9, 2012. Presented at Resource Center Theater, American Academy of Orthopaedic Surgeons Annual Meeting, San Francisco, CA
101. Wang M, Taneja A, Agarwal A, McGrady L, Rao R: Time-Dependent Behaviors of the Cervical Spinal Segment under Sustained Loading. Orthopaedic Research Society Annual Meeting, February 4-7, 2012, San Francisco, CA
102. Campbell-Kyureghyan, N., Burnett, D., Rao, R., Beschoner, K.: Assessment of Symmetry in Kinetic and Kinematic Parameters in Asymptomatic Subjects and Patients With LBP During Sit-to-Stand and Stand-to-Sit. International Society for Electrophysiology and Kinesiology Biennial Congress, July 19-21, 2012, Brisbane, Australia.
103. RAO R: Surgical Management of Degenerative Cervical Myelopathy. Visiting Professor, Department of Orthopaedics Grand Rounds, Kansas University Wichita Orthopaedic Residency Program, Wichita, KS, March 16, 2012
104. RAO R: An Algorithm for the Surgical Management of Cervical Myelopathy. Visiting Professor, Department of Orthopaedics Grand Rounds, Harvard University Combined Orthopaedic Residency Program, Boston, MA, May 2, 2012
105. RAO R: Lumbar Spine Research in the Past Year. The Spine Study Group 23rd Annual Symposium, May 17-20, 2012
106. RAO R: Top Five Papers in Spine Tumors and Infection in the Past Year. The Spine Study Group 23rd Annual Symposium, May 17-20, 2012
107. Sobel E, Berry C, Yoganandan N, Rao R: Thoracolumbar Spine Injuries in the Elderly Involved in Motor Vehicle Collisions: A Study of 661 Elderly Subjects. AMA –MSS Interim Meeting. 10th Annual AMA Research Symposium, Honolulu, HI, Nov 8-10, 2012
108. RAO R: Culturally Competent Care: University of Chicago Grand Rounds, Chicago, IL, Sept 26, 2012

109. RAO R: Regulatory Oversight of Use of Biologics in the United States. 2nd Annual Biologics Collaborative Meeting, Santa Monica, CA, October 5-6, 2012
110. RAO R: The Orthopaedic Workforce and Diversity, AAOS Orthopaedic Educators Course, Bloomington, IL, Nov 4-8, 2012
111. RAO R: The Role of the Medical Journal Editor. Association for Collaborative Spine Research Annual Meeting; San Diego, CA, Feb 15-16, 2013.
112. RAO R: Vertebroplasty and Kyphoplasty in the Management of Spinal Tumors. Association for Collaborative Spine Research Annual Meeting; San Diego, CA, Feb 15-16, 2013.
113. RAO R: FDA Regulation of Biological Agents in the Spine. Association for Collaborative Spine Research Annual Meeting; San Diego, CA, Feb 15-16, 2013.
114. RAO R; Berry C, MD; Yoganandan N, Agarwal A: Occupant and Crash Characteristics in Patients with Thoracolumbar Spine Injuries Following Motor Vehicle Collisions. Lumbar Spine Research Society, Chicago, IL, April 11-12, 2013
115. RAO R: Operative Intervention for Cervical Spondylotic Myelopathy. Visiting Professor, Department of Orthopaedics Grand Rounds, William Beaumont Hospital / Oakland University, Royal Oak, MI, May 20, 2013
116. Rao RD, Berry C, Agarwal A, Yoganandan N, Pintar FA: Characteristics of Thoracolumbar Injuries from Motor Vehicle Crashes. North American Spine Society Summer Meeting, Naples, FL, July 31-August 3, 2013
117. Stemper BD, Baisden JL, Rao RD, Yoganandan N: Quantification of Foraminal Stenosis in Lumbar Radiculopathy Patients. North American Spine Society Summer Meeting, Naples, FL, July 31 - August 3, 2013
118. Rao RD: Lateral mass and pedicle screw fixation for cervical spine reconstruction. North American Spine Society Summer Meeting, Naples, FL, July 31- August 3, 2013
119. Yoganandan, N, Pintar FA, Lew S, Rao RD: Geometrical properties of the pediatric cervical spine with a focus on C1 vertebra from birth to 18 years: applications to age-specific human body models. International

Research Council on Biomechanics of Injury, Gothenberg, Sweden, September 11-13, 2013

120. Rajani R, Rao R: The Value of Cultural Competency in Orthopaedic Residency Programs. American Orthopaedic Association- CORD meeting, Montreal, Quebec, June 20-21, 2014
121. Rao, RD, Khatib O, Agarwal A: Factors Motivating Medical Student Career Choice and Selection of Orthopaedics. Research Day, Medical College of Wisconsin, Milwaukee, WI, Sept 10, 2014
122. Rao RD. Yoga – Making a Difference in The Aging Body. Medical College of Wisconsin. Professionalism Week Lectures. September 30, 2014, Milwaukee, WI
123. Delbar K Rao, R: Body Morphology and Its associations with Thoracolumbar Fractures Sustained in Motor Vehicle Collisions. Medical College of Wisconsin. Summer Student Research Program 2014 Research Day. October, 1, 2014, Milwaukee, WI
124. VanSycoc G, Ahmed AM, Engel T, Silkey J, Rao R. Patient Satisfaction – The Orthopaedic Clinic Experience. Froedtert Hospital and Medical College of Wisconsin Patient Safety and Quality Week. Poster Presentation. March 2015.
125. RAO R; Sobel EH, Berry CA, Yoganandan, N: Thoracic and Lumbar Spine Injury in Elderly Occupants – A Review of Occupant and Crash Characteristics. Lumbar Spine Research Society, Chicago, IL, April 9-10, 2015
126. Rao R: The Healthcare Horizon. Symposium on Healthcare Economics and Outcomes Measurement. Lumbar Spine Research Society, Chicago, IL, April 9-10, 2015
127. Beck C, Mukherjee S, Yoganandan N, Rao R: Incidence and Mechanism of Neurologic deficit Following Thoracolumbar Fractures Sustained in Motor Vehicle Collisions. 17th Annual Orthopaedic Research and Education Foundation/Orthopaedic Research Society Resident Research Symposium, April 17, 2015, University of Chicago, Chicago, IL
128. Berry CA, MD, Yoganandan N, Rao RD: Relationship between Seat Restraints and Thoracolumbar Fracture Patterns in Pediatric Occupants in Motor Vehicle Crashes. Presented at POSNA - Pediatric Orthopaedic Society of North America, April 29-May2, 2015, Atlanta, GA

129. Rao R, Khatib O, Agarwal A: Factors Motivating Medical Student Career Choice and Selection of Orthopaedics, American Orthopaedic Association Annual Meeting, June 24-27, 2015, Providence, Rhode Island
130. Rao R: The Aging Cervical Spine. Grand Rounds Speaker, Department of Internal Medicine, George Washington University, March 10, 2016, Washington, DC.
131. Rao R: Surgical Options for Cervical Myelopathy. Visiting Professor. Department of Orthopaedic Surgery, Georgetown University, April 12, 2016, Washington, DC.
132. Rao R: Maintaining a Health Neck and Back. Frontiers in Medicine. Forum for donors and public hosted by George Washington University. April 5, 2016
133. Heyer J, Cao N, Rao R: Postoperative Complications in Orthopaedic Spine Surgery- Is There a Difference Between Males and Females? Poster Presentation. American Orthopaedic Association, June 2017, Charlotte, NC
134. Heyer J, Cao N, Rao R: Postoperative Complications in Orthopaedic Spine Surgery- Is There a Difference Between Males and Females? Poster Presentation. Lumbar Spine Research Society, April 6-7, 2017, Chicago, IL
135. Pandarinath R, DeBritz J, Amdur R, Rao R: Sliding hip screw yields a lower 30-day complication rate than cephalomedullary nail fixation of intertrochanteric hip fractures. Podium Presentation. Southern Orthopaedic Association, June 28-July 1, 2017
136. Rao R. Symposium Moderator and Speaker. ACGME Governance of the Orthopaedic Surgery Residency: What is the current landscape? American Orthopaedic Association, June 2017, Charlotte, NC
137. Osborne J, Aliabouzar M, Zhou X, Rao R, Zhang LG, Sarkar K. Ultrasound and lipid-coated microbubbles for osteogenic differentiation of mesenchymal stem cells in 3D printed tissue scaffolds. Presented at the *174th meeting of the Acoustical Society of America*, New Orleans, Louisiana, December 4-8, 2017.
138. Samuel A Swenson, BS; Jacob T Gibby, BS; Steve Cvetko, Ph.D.; Ramin Javan, M.D.; Raj Rao, MD. Surgical Simulation of Pedicle Screw Placement Using Novel Holographic Technology. Poster presentation.

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139. Jacob T Gibby, BS; Samuel A Swenson, BS; Steve Cvetko, Ph.D.; Raj Rao, MD.; Ramin Javan, M.D. Accuracy of Spinal Pedicle Localization Utilizing Holographic Augmented Reality Guidance. Poster presentation. 118th ARRS Annual Meeting, Washington, D.C.; April 22-27, 2018.
140. Rao R. Session Moderator. Minimally Invasive Spine Surgery. Lumbar Spine Research Society, Chicago, IL, April 4-5, 2018
- 141.

Abstracts:

1. Yoganandan N, Pintar FA, Stemper BD, Cusick JF, RAO RD, Gennarelli TA. Single rear impact produces lower cervical spine soft tissue injuries. Proceedings of the IRCOBI Conference, October 10-12, 2001, Isle of Man (UK), pp201-211.
2. RAO R, Wang M, Singhal P, McGrady L, Rao S.: Internal Disc Stresses and Kinematic Behavior of Lumbar Spine after Laminotomy and Laminectomy. Proceedings of North American Spine Society 16th Annual Meeting - The Spine Journal, 2;2S: 12S, 2002
3. McKellop H., Sarmiento A., RAO R., Llinas A., Lu B., Kalbac D., Park S.H.: In-vivo Measurement of the Motions of a Tibial Fracture Treated with a Functional Brace. Transactions of the Orthopaedic Research Society, 17:412, 1992
4. Phillips T.W., Nguyen L.T., RAO R., Snel J.L.: A Torsional Test to Study Porous Ingrowth Interfacial Shear Characteristics. Orthopaedic Transactions, 15(1):179, 1991
5. Phillips T.W., Nguyen L.T., RAO R., Snel J.L.: A New Biomechanical Test to Compare Ingrowth and Fixation of Porous Implants. Transactions of the Societe Internationale de Research en Orthopedique et Traumatologie (SIROT), Montreal, Canada, p29, September 1990
6. Phillips T.W., Nguyen L.T., RAO R., Snel J.L.: A Biomechanical Test of Interfacial Shear Characteristics in Cementless Prosthetic Fixation. Proceedings of the 10th Symposium on Engineering Applications of Mechanics, 33-38, Kingston, Canada, 1990

7. Rao RD, Berry C, Yoganandan N, Agarwal A: Characteristics of Thoracolumbar Injuries from Motor Vehicle Crashes. Neurosurgical Focus Apr 2013 / Vol. 34 / No. 4, Pages A1-A43

Other Teaching/Educational Material:

1. RAO R: Clinical Examination of the Musculoskeletal System– DVD prepared for medical students rotating on the Orthopaedic surgery service at the Medical College of Wisconsin
2. Rao N, RAO R, Panikkar V,, Shidham V. Chordoma. eMedicine Journal [serial online]. 2001. Available at:
<http://www.emedicine.com/orthoped/topic49.htm>.