



**Robert S. Bray, Jr., M.D.**

Diplomate, American Board of Neurological Surgery

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**EDUCATION**

**Undergraduate**                      **University of California, San Diego, 1975-1977**  
La Jolla, California

**Colgate University, 1973-1975**  
Hamilton, New York

**Medicine**                              **Doctor of Medicine, 1977-1980**  
Baylor College of Medicine  
Houston, Texas

**POSTGRADUATE TRAINING**

**Internship**                            **Flexible Surgical Internship, 1980-1981**  
Baylor Affiliated Hospitals  
Houston, Texas

**Residency Training**                **Neurosurgery Resident, 1981-1985**  
Baylor Affiliated Hospitals  
Houston, Texas

**Chief Resident**                      **Neurosurgery Chief Resident, 1985-1986**  
Baylor Affiliated Hospitals  
Houston, Texas

**APPOINTMENT**

**2006 to present**                      **Founding Director & CEO**  
D.I.S.C. - Diagnostic and Interventional Spinal Care  
Marina del Rey, California

**2006 - 2007**                            **Medical Director**  
Saint John's Spine Institute  
Saint John's Health Center

<b>2002 - 2006</b>	<b>Founding Director</b> Institute for Spinal Disorders Cedars-Sinai Medical Center Los Angeles, California
<b>Rev. 12/05</b> <b>1996-2002</b>	<b>Director</b> Cedars-Sinai Institute for Spinal Disorders Los Angeles, California
<b>1993-present</b>	<b>Attending Neurosurgeon</b> Century City Hospital Los Angeles, California
<b>1993-1997</b>	<b>Board of Directors</b> Century City Hospital Los Angeles, California
<b>1993-1996</b>	<b>Chief of Neurosurgery</b> Daniel Freeman Hospital System Inglewood, California
<b>1991-1996</b>	<b>Director/Co-Founder</b> West Coast Spine Institute Los Angeles, California
<b>1989-1993</b>	<b>Chief of Neurosurgery</b> Century City Hospital Los Angeles, California
<b>1988-1989</b>	<b>Chief of Neurosurgery</b> David Grant Medical Center United States Air Force
<b>1980-1986</b>	<b>Clinical Instructor</b> Baylor College of Medicine Houston, Texas
<b>1977</b>	<b>Research and Teaching Assistant</b> Department of Chemistry University of California, San Diego San Diego, California
<b>1976-1977</b>	<b>Research Assistant</b> Department of Physics University of California, San Diego San Diego, California

## **CURRENT RESEARCH ACTIVITIES**

1. Medtronic DIAM Spinal Stabilization System, 2006
2. NuVasive NEO DISC Artificial Cervical Disc 2006
3. ZimmerSpine DYNESYS Dynamic Stabilization System 2006
4. Cervitech PCM Artificial Disc 2005
5. Link Charite Lumbar Artificial Disc IDE Study, 2001-2005
6. Sulzer Spine-Tech Healos, 1999

## **PAST RESEARCH ACTIVITIES**

1. Suppression of allergic encephalomyelitis in SJL mouse, Baylor Department of Immunology and Neurology, Houston, Texas, 1986
2. Computer analysis of human brain compliance and blood flow, Baylor College of Medicine and TIRR, Houston, TX, 1984-1986
3. High energy rare halogen gas ionization pulse laser, UCSD Department of Physics, La Jolla, CA 1977
4. Isolation human PGE by HPLC, UCSD Department of Pharmacy, La Jolla, CA, 1977
5. Computer analysis NMR Organic Spectra, Colgate University Users Library, Hamilton, NY, 1975

## **PROFESSIONAL ORGANIZATIONS**

American Association of Neurological Surgeons  
Congress of Neurological Surgeons  
North American Spine Society  
Association of Military Surgeons

### ***Previous:***

California Association of Neurological Surgeons  
Los Angeles County Medical Association  
California Medical Association

## **ACCREDITATIONS**

California Medical Licensure (C042201)  
Diplomate, American Board of Neurological Surgery, 1991  
Drug Enforcement Administration Certificate, 1987  
American Board of Neurological Surgery, 1986  
California Board of Medical Quality Assurance, 1986  
Texas State Board of Medical Examiners, 1981

## **ACTIVE HOSPITAL COMMITTEES**

Clinical Values Performance Improvement Committee  
Surgical Performance Improvement Committee  
Director Spine Leadership Committee

## UNITED STATES AIR FORCE

1989-1998	Major, USAF MC Reserve
1988-1989	Major/Chief of Neurosurgery, David Grant Medical Center
1987-1989	Instructor, Advanced Trauma Life Support (ATLS)
1987-1989	Instructor, C-4 Combat Casualty
1988	Regional Director, ATLS Instructors Course
1986	Medical Service Core Reserve
1977-1980	(Recipient, <u>Health Professional Scholarship</u> )

## PUBLICATIONS

1. **Bray, RS:** Users guide Trinity computer systems. PC Magazine, February 1984.
2. **Bray RS,** Lynch R, Grossman RG, Foreman D: Management of neurosurgical problems in pregnancy. Clin Perinatol 14(1): 243-257, Mar 1987.
3. **Bray RS,** Chodroff NG, Narayan RK, Grossman RG: A new fiberoptic monitoring device... Berlin, Springer-Verlag
4. Robertson CS, Narayan RK, Constant CF, Grossman RG, Gokaslan ZL, Pahwa R, Caram P Jr, **Bray RS Jr,** Sherwood AM: Clinical experience with a continuous monitor of intracranial compliance. J. Neurosurg 71(5 Pt 1):673-680, Nov 1989.
5. Gillespie L, **Bray R,** Levin N, Delamarter R: Lumbar nerve root compression and interstitial cystitis--response to decompressive surgery. Br J Urol 68(4):361-364, Oct 1991.
6. Mink JH, Deutsch AL, Goldstein TB, **Bray R,** Pashman R, Armstrong II, Sinel M, Gart A: Spinal imaging and intervention: 1998. Phys Med Rehabil Clin N Am. 9(2):343-380, May 1998, vii, Review.
7. Tsai RY, Yang RS, **Bray RS Jr:** Microscopic laminotomies for degenerative lumbar spinal stenosis. J Spinal Disord 11(S):389-394, Oct 1998.
8. Anand N, Regan JJ, **Bray RS:** Cervical Spine Disability Questionnaire and Treatment Intensity Questionnaire-Objective Outcome Measures of Cervical Spine Functional Status. An Analysis of Psychometric Properties, December 2001.
9. **Bray RS,** Robert Schonmayr Weisbaden: Minimally Invasive Surgery on the Spine. *Innovstion 10 Carl Zeiss, 2001.*
10. Stokes JK, Villavicencio AT, Liu PC, **Bray RS,** Johnson JP: Posterior atlantoaxial stabilization: A new alternative to C1-2 transarticular screws. Neurosurgical Focus 12(1): Article 6, January 2002.
11. Anand N, Regan JJ, **Bray RS:** Posterior Cervical Foraminotomy - Long-term Results and Functional Outcome of a Consecutive Series of Patients with Minimum 2-year Follow-Up. *The Spine Journal 2(2):5,* March 2002.
12. Johnson JP, Laurysen C, Cambron HO, Pashman RS, Regan JJ, Anand N, **Bray RS:** Sagittal alignment and the Bryan Cervical Artificial Disc. Neurosurgical Focus 17(6):E14, 2004.

13. Johnson JP, Pashman RS, Laurysen C, Anand N, Regan JJ, **Bray RS**: The changing role for neurosurgeons and the treatment of spinal deformity. *J Neurosurg Spine* 2(3):233-242, Mar 2005
14. Anand N, Baron E, Johnson JP, **Bray RS**: Posterior Non-Fusion Stabilization of the Lumbar Spine for Degenerative Disc Disease. *Clinical and Radiological Results* 2006.
15. Anand N, Baron E, Perri B, **Bray RS**: Comparisons of traditional midline approach vs. muscle sparing paraspinous approach for posterior non-fusion stabilization of the lumbar spine - an analysis of functional outcomes. 2006
16. Anand N, Baron E, **Bray RS**: The Benefit of Para-spinal Muscle Sprains Approach; Compared to the Conventional Midline Approach for Posterior Non-Fusion Stabilization. 2006.
17. **Bray RS**: InterPlate Spine Fusion Device: Subsidence Control With out Stress Shielding. Futuretech, Orthopedic Product News, September 2006, p22-25 Enquiry No 30.
18. **Bray RS**: Should You Add Spine Surgery? Reimbursement, case volume and capital expenses are key to out patient neurosurgery. *Outpatient Surgery Magazine* Vol. VIII, No.3: 74-78, March 2007
19. **Bray RS**: Spine Procedures Move to Outpatient Setting. *Same Day Surgery* Vol. 31(7):80-82, July 2007
20. **Bray RS**: Ask the Doctor at St. John's. "Oh My Aching Back!" *Jewish Journal* Vol. 22 No.22: 2
21. **Bray RS**: Spine Surgery Migrates to Outpatient Setting. "Minimally invasive procedures fuel the trend" *OR Manager* Vol.23, No.11: 25-27 November, 2007
22. **Bray RS**: Spine Surgery Revolution. Minimally invasive techniques and surgeons who continue to push the envelope have helped create a new industry. *Outpatient Surgery Magazine*. 2-6 November, 2007
23. Vokshoor A, **Bray RS**: Spines Imaging Potential. Minimally invasive techniques have raised the demand for capturing quality anatomical pictures. *Outpatient Surgery Magazine*. 35-37 November, 2007
24. **Bray RS**: Advertorial. *Jewish Journal Southern California Medicine*. Vol. 23 No. 30:40 March 2008
25. **Bray RS**: Getting Back in Action. Five things you may not know. *Brentwood Media, West Side Today*: 43. May 2008

## PRESENTATIONS

1. **Bray RS**: Microprocessor based ICU monitoring systems: ICU support systems. Annual Proceedings IEEE, 1982.
2. **Bray RS**: Management of head injury/spinal cord injury. Canadian International Neurology Meeting, June 1985.
3. **Bray RS**: Ligament preservation in microdiscectomies. Richard Lende Winter Neurosurgery Conference, Snowbird, UT, February 1990.

4. **Bray RS:** Laser disc decompression. Richard Lende Winter Neurosurgery Conference, Snowbird, UT, February 1991.
5. Tsai RY, Yang RS, **Bray RS Jr:** Microscopic laminotomies for degenerative lumbar spinal stenosis. North American Spine Society, Vancouver, Canada, October 1996.
6. Anand N, Regan JJ, **Bray RS:** Posterior Cervical Foraminotomy - Long-term Results and Functional Outcome of a Consecutive Series of Patients with minimum 2-year follow-up. NASS Annual Meeting, Seattle, October 2001.
7. Anand N, Regan JJ, **Bray RS:** Cervical Spine Disability Questionnaire and Treatment Intensity Questionnaire - Objective Outcome Measures of Cervical Spine Functional Status. An Analysis of Psychometric Properties. CSRS Annual Meeting, Monterey, CA, December 2001.
8. Anand N, Regan JJ, **Bray RS:** Posterior Cervical Foraminotomy - Long-term Results and Functional Outcome of a Consecutive Series of Patients with minimum 2-year follow-up. The AAOS 69<sup>th</sup> Annual Meeting, Dallas, February 2002.
9. Stokes JK, Villavincencio A, Liu PC, **Bray RS,** Regan JJ, Johnson JP: Image guidance in sacral tumor resection. American Association of Neurological Surgeons, Chicago, Illinois, April 2002.
10. Perri B, Oyelese A, **Bray RS,** Johnson JP: Strategies for correction of cervical kyphosis. Richard Lende Winter Neurosurgery Conference, Snowbird, UT, January 29, 2005.
11. Miraliakbar H, Johnson JP, Maccabi G, Stokes JK, Laurysen C, **Bray RS:** C1-2 fusion using facet arthrodesis without posterior structural bone grafting: Clinical results on a new technique. AANS/CNS Joint Section on Disorders of the Spine and Peripheral Nerves, Phoenix, AZ, Mar 2005.
12. Johnson JP, Laurysen C, Cambron HO, Pashman RS, Regan JJ, Anand N, **Bray RS:** Sagittal alignment and the Bryan Cervical Artificial Disc. AANS/CNS Joint Section on Disorders of the Spine and Peripheral Nerves, Phoenix, AZ, Mar 2005.
13. Regan JJ, Perri B, Goldstein T, **Bray RS,** Johnson JP, Laurysen C: Complications of the Charite Artificial Disc replacement: Analysis of 85 single site consecutive cases from the prospective FDA IDE trial. AANS/CNS Joint Section on Disorders of the Spine and Peripheral Nerves, Phoenix, AZ, Mar 2005.
14. Johnson JP, Stokes JK, Oyelese A, **Bray RS,** Laurysen C: C1-2 fusion using facet arthrodesis without posterior structural bone grafting: A new technique. American Association of Neurological Surgeons, New Orleans, LA, April 2005.
15. Johnson JP, Laurysen C, Cambron HO, Pashman RS, Regan JJ, Anand N, **Bray RS:** Sagittal alignment and the Bryan Cervical Artificial Disc. American Association of Neurological Surgeons, New Orleans, LA, April 2005.
16. Regan JJ, Miraliakbar H, Johnson JP, Laurysen C, **Bray R,** Pashman RS, Goldstein T: Evaluation of the Learning Curve Associated with Artificial Disc Replacement: Analysis from the prospective randomized FDA IDE Study of the Charite Artificial Disc. Spine Arthroplasty 5, New York, NY, May 5, 2005.
17. Wolcott WP, Johnson JP, Pashman RS, **Bray RS,** Anand N, Cambron HO: Sagittal alignment of the Bryan Cervical Artificial Disc. Spine Arthroplasty 5, New York, NY, May 2005.

18. Perri B, Oyelese A, **Bray RS**, Johnson JP: Cervical kyphosis classification with strategies and techniques for correction of type-specific deformities. International Meeting on Advanced Spine Technologies (IMAST), Banff, Alberta, Canada, July 2005.

## POSTERS

1. Johnson JP, Laurysen C, Cambron HO, Pashman RS, Regan JJ, Anand N, **Bray RS**: Sagittal alignment and the Bryan Cervical Artificial Disc. AANS/CNS Joint Section on Disorders of the Spine and Peripheral Nerves, Phoenix, AZ, Mar 2005.
2. Johnson JP, Laurysen C, Cambron HO, Pashman RS, Regan JJ, Anand N, **Bray RS**: Sagittal alignment and the Bryan Cervical Artificial Disc. American Association of Neurological Surgeons, New Orleans, LA, April 2005.
3. Miraliakbar H, Johnson JP, Maccabi G, Stokes JK, **Bray RS**, Laurysen C: C1-2 fusion using facet arthrodesis without posterior structural bone grafting: A new technique. American Association of Neurological Surgeons, New Orleans, LA, April 2005.
4. Wolcott WP, Johnson JP, Pashman RS, **Bray RS**, Anand N, Cambron HO: Sagittal alignment of the Bryan Cervical Artificial Disc. Spine Arthroplasty 5, New York, NY, May 2005.
5. Perri B, Oyelese A, **Bray RS**, Johnson JP: Cervical kyphosis classification with strategies and techniques for correction of type-specific deformities. International Meeting on Advanced Spine Technologies (IMAST), Banff, Alberta, Canada, July 2005.
6. Miraliakbar H, Johnson JP, Maccabi G, Stokes JK, **Bray RS**, Laurysen C: C1-2 instrumented fusion using facet arthrodesis without posterior structural bone grafting: Clinical results on a new technique. Cervical Spine Research Society, San Diego, CA, December 2005.
7. Perri B, Oyelese A, **Bray RS**, Johnson JP: Strategies and techniques for correction of degenerative and post-surgical cervical kyphotic deformity. AANS/CNS Section on Disorders of the Spine and Peripheral Nerves, Lake Buena Vista, FL, March 2006.
8. Oyelese A, Perri B, **Bray RS**, Johnson JP: Strategies and techniques for correction of degenerative and post-surgical cervical kyphotic deformity. American Association of Neurological Surgeons, San Francisco, CA, April 2006.
9. Anand N, **Bray RS**: Comparison of traditional midline approach versus muscle splitting paraspinous approach for posterior non-fusion stabilization of the lumbar spine – an analysis of early functional outcome. Spine Arthroplasty 6, Montreal, Quebec Canada, May 2006.
10. Anand N, Perri BR, **Bray RS**: Radiological analysis of segmentallumbar sagittal alignment following posterior non-fusion stabilization with the Dynesys system. IMAST Athens, Greece, July 2006.
11. Anand N, **Bray RS**: Comparison of traditional midline approach versus muscle splitting paraspinous approach for posterior non-fusion stabilization of the lumbar spine – an analysis of early functional outcome. IMAST Athens, Greece, July 2006.
12. Anad N, Perri BR, **Bray RS**: Hybrid combined fusion and non-fusion posterior stabilization of the lumbar spine with the Dynesys System: early clinical, radiological and functional outcomes . IMAST Athens, Greece, July 2006.

13. Anand N, **Bray RS**: Posterior non-fusion stabilization of the lumbar spine for degenerative disc disease – clinical, radiological and functional results. IMAST Athens, Greece, July 2006
14. Anand N, **Bray RS**: Comparison of traditional midline approach versus muscle splitting paraspinal approach for posterior non-fusion stabilization of the lumbar spine- an analysis of early functional outcome. NASS, Seattle, September 2006.
15. Anand, N, Baron, EM, Johnson, JP, **Bray, RS Jr.** Posterior Non-Fusion Stabilization of the Lumbar Spine for Degenerative Disc Disease – Clinical, Radiological and Functional Results. Joint Section of Spine/Peripheral Nerve Meeting. AANS/CNS. March 2007. Phoenix, AZ
16. Anand, N, Baron, EM, Siddique, K, Perri, B, **Bray, RS Jr.** Comparison of traditional midline approach versus muscle splitting paraspinal approach for posterior non-fusion stabilization of the lumbar spine – An analysis of functional outcome. Joint Section of Spine/Peripheral Nerve Meeting. AANS/CNS. March 2007. Phoenix, AZ
17. Anand, N, Baron, EM, Johnson, JP, **Bray, RS Jr.** Posterior Non-Fusion Stabilization of the Lumbar Spine for Degenerative Disc Disease – Clinical, Radiological and Functional Results. Spine Arthroplasty Society (SAS) 7th Annual Meeting, Berlin, May 2007
18. Anand N, Perri BR, **Bray RS**: Hybrid combined fusion and non-fusion posterior stabilization of the lumbar spine with the Dynesys system: early clinical, radiological and functional outcomes. Spine Arthroplasty Society (SAS) 7th Annual Meeting, Berlin, May 2007.
19. Anand, N, Baron, EM, Johnson, JP, **Bray, RS Jr.** Posterior Non-Fusion Stabilization of the Lumbar Spine for Degenerative Disc Disease – Clinical, Radiological and Functional Results. IMAST, Bahamas, July 2007
20. Anand N, Perri BR, **Bray RS**: Hybrid combined fusion and non-fusion posterior stabilization of the lumbar spine with the Dynesys system: early clinical, radiological and functional outcomes. IMAST, Bahamas, July 2007
21. Anand, N, Baron, EM, Johnson, JP, **Bray, RS Jr.** Posterior Non-Fusion Stabilization of the Lumbar Spine for Degenerative Disc Disease – Clinical, Radiological and Functional Results. WOA, San Diego, CA, July 2007
22. Anand N, Perri BR, **Bray RS**: Hybrid combined fusion and non-fusion posterior stabilization of the lumbar spine with the Dynesys system: early clinical, radiological and functional outcomes. WOA, San Diego, CA, July 2007

## **VISITING PROFESSOR**

Annual Meeting International Association of Spinal Surgeons, Mexico, September 1999. Cervical fractures, stenosis, and instruments.

## **KEYNOTE SPEAKER**

German Neurosurgical Society, August 2001.  
Korean Neurosurgical Society, October 2002.

## INVITED SPEAKER

1. Veterans Hospital, Northridge, CA, December 1994. Advances in Spinal Surgery.
2. Cincinnati, OH, July 1994. Minimally Invasive Thoracic Spine Approaches.
3. Community Lecture, Los Angeles, CA, March 1996. Avoiding Spine Surgery.
4. Management of Spinal Compressive Neuropathies, Sydney, Australia, April 1996.
5. Microsurgical Spine Approaches/Treatment of Spinal Disorders, Chiropractic Sports Sciences Symposium, Atlanta, GA, July 1996.
6. Sulzer Spine-Tech, San Diego, CA, June 1999. Lumbar cages and interbody fusions anterior vs. posterior indicators.
7. Baylor Department of Neurosurgery, Grand Rounds; Houston, TX, September 1999. Anterior cervical fusion.
8. Sulzer Spine-Tech, Squaw Creek, CA, August 2001: 1. Posterior fixation concepts. 2. BAK fusions. 3. Surgical indications for interbody fusions.
9. Spine Education Summit, Vail, Co, February 2004.
10. OsteoTech Bone Grafting Think Tank, Newport Beach, CA, February 2005.
11. NuVasive National Sales Meeting, San Diego, CA, January 2006: Optimal Surgeon Partnering.
12. Departments of Orthopedic Surgery and Neurosurgery, Grand Rounds, University of California, San Diego, CA, February 2006:
13. Current Concepts in Spinal Disorders Cedars Sinai Annual Symposium, February 2006: Lumbar artificial disc replacement and cervical plate design.
14. Strategies and techniques for correction of degenerative and post-surgical kyphotic deformity. AANS/CNS Section on Disorders of the Spine and peripheral nerves, Lake Buena Vista, Florida, March 2006
15. Medtronic National Sales Marketing breakout speaker, Phoenix, AZ, August 2006.
16. Medtronic Training Center, Marina del Rey, CA, February 2007.
17. Medtronic, San Antonio, TX, February 2007: CD Horizon AGILE System.
18. Medistra Hospital, Jakarta, Indonesia, February 2007.
19. International Hospital and Mitra Hospital, Surabaya, Indonesia, February 2007.
20. AORN, Orlando, FL, March 2007.
21. Medtronic, Phoenix, AZ, March 2007, CD Horizon AGILE System.
22. Medtronic Tucson, AZ, March 2007: CD Horizon AGILE System.
23. Medtronic, San Francisco, CA, March 2007: CD Horizon AGILE System
24. AAASC, Denver, CO, May 2007.
25. Medtronic, Redmond, OR, May 2007; Dynamic Stabilization System.
26. Medtronic, Los Angeles, CA May 2007, CD HORIZON AGILE System.
27. AORN, Louisville, Kentucky, July 14-18, 2007
28. Medtronic, San Francisco, CA August 2007, CD HORIZON AGILE System.
29. Medtronic, Seoul, Korea, September 2007, CD HORIZON AGILE System.
30. AORN, Anaheim, CA, March 31, 2008

## COURSE FACULTY MEMBER

Faculty, Cervical Spine Practical Course, American Association of Neurological Surgeons, Houston, TX, April 2000.

Faculty, APEC Advances in Spine Cadaver Course, Medtronic, Memphis, TN, February 2007

## CHAPTERS

1. **Bray, RS.** Biopsy of the brain in AIDS. In: Texas Medicine, Houston, TX, June 1986.
2. Stokes JK, Lim JY, **Bray RS**, Johnson JP. Anterior plate fixation of the cervical spine. In: Wilkins RH and Rengachary SS (eds.) **Neurosurgery 3rd Edition**, McGraw-Hill Publishers, New York, NY (submitted).
3. **Bray RS.** Hockey. In: Spinal/Head Injuries (in press).

## **FELLOWS TRAINED:**

John K. Stokes, M.D. 2001-2002  
Paul C. Liu, M.D. 2001-2002  
Alan T. Villavincencio, M.D. 2001-2002  
F. Clifford Roberson, M.D. 2001-2002  
Darren Bergeny, M.D. 2002-2003  
Mark Wolgin, M.D. 2002-2003  
Firooz Amjadi, M.D. 2002-2003  
Ali Abazari, M.D. 2002-2003  
Karin Swartz, M.D. 2003-2004  
Saad Khalri, M.D. 2003-2004  
Chris Lycette, M.D. 2003-2004  
Hamid Miraliakbar, M.D. 2003-2004  
S. Craig Meyer, M.D. 2003-2004  
Toki Oyelese, M.D. 2004-2005  
Khawar Siddique, M.D. 2004-2005  
John Hamilton, M.D. 2004-2005  
Brian Perri, D.O. 2004-2005  
Anthony Hadden, M.D. 2005-present  
Tooraj Gravori, M.D. 2005-present  
Edward Rustamzadeh, M.D. 2005-present  
Mukesh Misra, M.D. 2005-present  
Justin Paquette, M.D. 2005-present  
Stepan Kaimian, M.D. 2005-present

## **PATENTS, COPYRIGHTS, DEVELOPMENTS**

2007	Implant subsidence control
2007	Lateral mount implant device
2007	Spine implants
2006	Slidable bone plate system
2006	Implant subsidence control
2006	Bone fastener assembly for bone retention apparatus
2006	Procedure for aligning and stabilizing bone elements
2006	InterPlate
2006	Cervical dynamic stabilization system
2005	SmartPlate spinal implant
2003	Bone plate stabilization system and method for its use
2003	Slidable bone plate system
1998	Anterior stabilization device
1998	Bone plate and bone screw guide mechanism
1998	Anterior Cervical Plate System, Blackstone
1996	Surgical Instruments/Bone Shaver, Johnson & Johnson
1996	Intervertebral Stabilization Device
1995	Surgical Instruments/Curettes, Johnson & Johnson
1995	Microsurgical curette
1995	Bone shaver
1986	Cranial Drill Apparatus, CMI
1986	Fiberoptic Intracranial Pressure Monitor, RSB Spine
1985	ICP Computer Waveform Analysis System, RSB Spine
1984	Intensive Care Unit Support System, RSB Spine
1984	Surgical methods and apparatus for bone removal
1983	Surgical methods and apparatus for bone removal

## TECHNICAL CONSULTING

2006-present Consultant, Medtronic  
2001-present Advisory Board, RSB SPINE - Implant design, Medical Director  
1998-present Advisory Board, **Cortek** - Bone Graft Products  
1997-present Advisory Board, **Integra Life Sciences** - Spinal Products/Bone Substitute  
1999-present Advisory Board, **Sulzer Spine-Tech** - Implant design  
1998-present Consultant, Zeiss: Microscope design  
1996-present Consultant, Blackstone Medical: Cervical Plate Design  
1993-present Consultant, Codman, Johnson & Johnson Instrument Design  
1990-1993 Consultant, Laserscope  
1984-1987 Vice-President, Research and Development, Neurotrak, Inc. TX  
1981-1987 Development Consultant, Trinity Computing Systems, Inc. TX  
1985-1989 Consultant, Camino Laboratories, CA  
1983-1989 Co-Founder and Vice-President, Custom Medical Instruments, Ca  
1983-1989 Consultant, Immunetech Pharmaceuticals, CA

## SPORTS CONSULTING

2008-Present Spine Consultant for the USA Men's Volleyball Team  
2008-Present D.I.S.C. Official Medical Center of the USA Men's Volleyball Team  
2007-Present D.I.S.C. Official Medical Center of the Los Angeles Kings NHL  
2007-Present Spine Consultant for the Los Angeles Clippers NBA  
1995-present Spine Consultant, Professional Volleyball / AVP  
1995-present Spine Consultant, NFL Oakland Raiders  
1995-1997 Neurological/Spine Consultant, Long Beach Ice Dogs

## INDUSTRIAL

1973-1975 Anaconda American Brass, CT  
Materials and Research Division

## INTRAMURAL PRESENTATIONS

1. Houston Regional Medical Engineering, Houston, TX, August 1984.
2. International ICP Symposium, Glasgow, Scotland, June 1985.
3. Sixth High Risk Patient Care Symposium, CA, August 1985.
4. Combined Neurology/Neurosurgery, Grand Rounds, Houston, TX, November 1985.
5. VA Neurological Nursing Symposium, November 1985.
6. VA Neurological Nursing Symposium, March 1986.
7. Association for Advancement Medical Instrumentation, April 1986.
8. Society of Clinical Air Force Surgeons, September 1986.
9. Congress Neurological Surgeons, March 1987.
10. American Association of Neurological Surgeons, Baltimore, M.D., April 1987.
11. Critical Care Symposium, Travis AFB, October 1987.
12. International ICP Symposium, New ICP Fiberoptic Monitoring Device, June 1988.
13. AORN Conference, Burbank, CA, June 1988.
14. Congress of Neurological Surgeons, Los Angeles, CA, October 1990.
15. AORN Conference, Burbank, CA, November 1990.
16. American Society of Orthopedic Surgeons, Anaheim, CA, March 1991.
17. Western Scientific Assembly, CMA, Reno, NV, March 1991.
18. Minimally Invasive Surgery Hong Kong Annual, Mt. Elizabeth Hospital Seminar, August 1991.

19. Kyung Hee University, Laserscope / LDD Lecture, Microsurgery, Seoul, South Korea, August 1991.
20. Los Angeles Chiropractic College - Sport Medicine, Internal Medicine - Spine Care Seminar, Los Angeles, CA November 1992.
21. Chiropractic Affiliated Health, Los Angeles, CA, March 1993.
22. Los Angeles Chiropractic College - Sports Medicine, Spine Care Practitioner's Seminar; Los Angeles, CA, August 1993.
23. Laserscope Regional Teaching Centers:
  - a. March 1992 La Jolla, CA
  - b. May 1992 Chicago, IL
  - c. August 1992 Squaw Creek, CA
  - d. March 1993 Charleston, SC
  - e. April 1993 Cincinnati, OH
24. Avoiding Back Surgery, Los Angeles, CA, February 1995.
25. Managing Back Pain, Los Angeles, CA, March 1995.
26. Spine Technology for Chiropractors, CA, August 1995.
27. Update for Chiropractors: Thoracic/Cervical Treatment, Los Angeles, CA, April 1996.
28. AANS Sixth Conference on Neural Trauma, June 1996.
29. Avoiding Spine Surgery, Community Lecture, Los Angeles, CA, September 1997.
30. Health & Fitness Fair, Marina Hospital, Marina del Rey, CA, July 2006.
31. Multidisciplinary Spine Update, Chiropractic Seminar, Marina del Rey, CA, November 2006.
32. Saint John's Hospital TV Show "Coffee Break", Santa Monica, CA, January 2007.