

# Michael S. Shen, MD

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## Employment

- 2/10 – Current      **Advanced Orthopedics and Sports Medicine**, Denver, Colorado  
*Orthopedic Spine Surgeon*  
Board Status: Certified
- 8/06 – 1/10      **Cornerstone Orthopedics and Sports Medicine**, Louisville, Colorado  
*Orthopedic Spine Surgeon*

## Education

- 8/05 – 7/06      **The Spine Institute at Saint John's Health Center**, Santa Monica, California  
*Spine Surgery Fellow*
- 6/00 – 6/05      **NYU/Hospital for Joint Diseases**, New York, New York  
**Department of Orthopaedic Surgery**  
*Orthopaedic Surgery Resident*
- 8/96 – 5/00      **Tufts University School of Medicine**, Boston, Massachusetts  
*Doctor of Medicine*  
Alpha Omega Alpha Medical Honor Society
- 9/91 – 6/95      **University of California San Diego**, La Jolla, California  
*Bachelor of Science in Molecular Biology*  
Provost Honors

## Licensure

Colorado State Physician License, December 2005  
California S&O Fluoroscopy Permit, July 2005  
California State Medicine and Surgery License, March 2005  
United States DEA License, March 2005  
New York State Medicine and Surgery License, October 2001

## Certification

American Board Orthopaedic Surgery Step 2, July 2008  
American Board Orthopaedic Surgery Step 1, July 2005  
USMLE Step 3, September 2001  
USMLE Step 2, March 2000  
USMLE Step 1, June 1998

## Professional Affiliations

**North American Spine Society**  
**American Academy of Orthopaedic Surgeons**  
**Alpha Omega Alpha Medical Honor Society**  
**Colorado Medical Society**

## Research Experience

- 2/06 – 3/06 **Veteran's Administration Hospital**, Minneapolis, Minnesota  
Performed animal surgery and analysis investigating the effect of hydroxyapatite (HA) coating on the screw-bone interface in the Dynesys spine stabilization system in a sheep model.
- 11/98 – 12/98 **Children's Hospital of Los Angeles**, Los Angeles, California  
*Researcher, Department of Pediatric Neurosurgery*  
Completed an analytical review of prognostic factors in Craniopharyngiomas, which is being used in joint investigations performed by the Departments of Pediatric Neurosurgery and Pathology at the Children's Hospital of Los Angeles.
- 6/97 – 8/97 **Children's Hospital of Los Angeles Dept. of Hematology/Oncology Summer Research Fellowship Program**, Los Angeles, California  
*Researcher, Department of Pediatric Neurosurgery*  
Performed clinical research, pathological analysis, and literature review of pediatric tumors in and around the third ventricle with application for determining the best surgical approaches for resection.
- 7/95 – 8/96 **Scripps Research Institute**, La Jolla, California  
*Research Assistant, Department of Vascular Biology*  
Designed and performed experimental studies to analyze platelet Integrin protein function, activation, and adhesion.
- 6/94 – 8/94 **New York University Medical Center Summer Research Fellowship**, New York, New York  
*Research Assistant, Department of Dermatology/Pharmacology*  
Research and development of an inducible gene expression system to study Trichohyalin gene expression in normal epithelial and squamous cell carcinoma cell lines.
- 2/92 – 3/93 **Salk Institute for Cancer Research**, La Jolla, California  
*Research Assistant, Gene Expression Lab*  
Identified and analyzed cellular clones with multiple genetic sequence repeats and studied the role their gene amplification played in oncogenesis.
- 6/90 – 5/91 **Eleanor Roosevelt Institute for Cancer Research**, Denver, Colorado  
*Research Assistant, Department of Molecular Biology*  
Aided in genetically mapping the location of an unknown human gene found to be required for elevated HIV expression.
- 9/89 – 5/90 **University of Denver**, Denver, Colorado  
*Research Assistant, Department of Biology*  
Designed and performed experiments to elucidate the role of calcium, and other agents that might effect calcium levels, on the dispersal of pigment in melanophore cells.

## Teaching Experience

- 11/09                    **Stryker Young Lions Course**, Fort Lauderdale, Florida  
*Course Chairman*
- 6/09                    **Stryker X-ray and Boards Review Course**, Las Vegas, Nevada  
*Course Instructor*
- 9/97 – 5/00            **Tufts University School of Medicine**, Boston, Massachusetts  
*Tutor*  
Aided students in studying and preparing for both medical school courses and USMLE Step 1 & 2 exams.
- 3/94 – 6/95            **University of California, San Diego**, La Jolla, California  
*Teaching Assistant, Department of Biochemistry and Genetics*  
Organized formal weekly discussion sessions, tutored, and held office hours to review course material as well as sided in exam write-up and preparation.

## Posters

- Pradhan B, Shen M, Kropf M, Bae H, Delamarter R. 3 and 4-Level Anterior Cervical Fusion with rhBMP-2, Allograft, and Dynamic Plate: Fusion Rates, Subsidence, Radiographic Incorporation and Complications. **2007 North American Spine Society Annual Meeting**, Austin, TX, Oct 23-27, 2007.
- Shen M**, Pradhan B, Bae H, Kropf M, Delamarter R. Single level artificial disc replacement at L4-5 versus L5-S1 - is there any difference in technique, morbidity, or result? **2006 North American Spine Society Annual Meeting**, Seattle, WA, Sept 26 – 30, 2006.
- Delamarter R, Bae H, Kropf M, Kanim L, **Shen M**, Pradhan B. 1 versus 2 versus 3-level lumbar artificial disc replacement – a prospective report of clinical outcomes with the ProDisc-L device. **2006 North American Spine Society Annual Meeting**, Seattle, WA, Sept 26 – 30, 2006.
- Shen M**, Pradhan B, Bae H, Kropf M, Delamarter R. Single level artificial disc replacement at L4-5 versus L5-S1 - is there any difference in technique, morbidity, or result? **2006 Scoliosis Research Society Meeting**, Monterey, CA, Sept 13 – 16, 2006.
- Spayde E, Pradhan B, Bae H, Kropf M, **Shen M**, Delamarter R. Return to work outcomes after lumbar artificial disc replacement. **2006 Spine Arthroplasty Society Annual Meeting**, Montreal, Quebec, Canada, May 10-13, 2006.

## Publications

**Shen M, Razi A, Lurie J, Weinstein J.** Retrolisthesis and lumbar disc herniation, A pre-operative assessment of patient function. *The Spine Journal*. July/August 2007; 7(4): 406-13.

**Shen M, Kim Y.** Osteoporotic vertebral compression fractures: a review of current surgical management techniques. *American Journal of Orthopaedic Surgery*. May 2007; 36(5): 241-48.

**Shen M, Kim Y.** Vertebroplasty and kyphoplasty, treatment techniques for managing osteoporotic vertebral compression fractures. *Bull Hosp Jt Dis*. 2006; 64(3-4); 106-13.

**Shen M, Meislin R.** A new method to utilize a motorized shaver in hip arthroscopy without the use of a cannula. *Arthroscopy: The Journal of Arthroscopy and Related Research*. July 2005; 21 (7); 895.

**Shen, M.** The role of calcium and other agents in melanophore cells. *AAAS Annual Meeting, Abstracts of Papers*. 157<sup>th</sup> National Meeting, February 14-19, 1991, 141.

**Shen M, Bae H, Maurer P, Peppelman W, Beutler W, Linovitz R, Westerlund E, Peppers T, Lieberman I, Kim C, Girardi F, Pradhan B.** Clinical experience using a novel bio-ceramic for treating vertebral compression fractures with two year follow-up. *Accepted for publication*

**Shen M, Kropf M, Bae H, Pradhan B, Spayde E, Delamarter R.** Early analysis of multi-level lumbar artificial disc replacement. *Submitted for publication*

**Shen M, Kropf M, Bae H, Pradhan B, Delamarter R.** Single level artificial disc replacement at L4-5 versus L5-S1. Is there any difference in technique, morbidity, or result? *Submitted for publication*

**Shen M, Kropf M, Bae H, Pradhan B, Delamarter R.** ProDisc artificial lumbar disc replacement: 2 – 4 year results from the two-level randomized study. *Submitted for publication*

**Shen M, Pradhan B, Delamarter R.** Fusion rate following multi-level anterior cervical discectomy and fusion using cervical plating and bone morphogenetic protein-2. *Submitted for publication*

## **Presentation**

**Shen M.** Cervical Spine Injuries in Rugby. **USA Rugby Medical Symposium**, Las Vegas, NV, February 12, 2010.

Pradhan B, Bae H, **Shen M**, Kropf M, Delamarter R. Three and four-level cervical fusion with rhBMP-2, allograft, and dynamic plate: fusion rates, subsidence, radiographic incorporation and complications. **Special interest poster presentation 2007 International Meeting of Advanced Spine Techniques**, Paradise Island, Bahamas, July 11-14, 2007.

Pradhan B, Bae H, **Shen M**, Kropf M, Delamarter R. L4-5 vs. L5-S1: Is 1 level more suited than the other for lumbar disc arthroplasty of fusion? A multi-center, prospective, randomized, and controlled comparison. **Special Interest poster presentation 2007 International Meeting on Advanced Spine Techniques**, Paradise Island, Bahamas, July 11-14, 2007.

**Shen M**, Pradhan B, Bae H, Kropf M, Delamarter R. Single level artificial disc replacement at L4-5 versus L5-S1 - is there any difference in technique, morbidity, or result? **Poster presentation for 2006 Western Orthopaedic Association Annual Meeting**, Santa Fe, NM, Oct 11-15, 2006.

Bae H, **Shen M**, Maurer P, Peppelman W, Beutler W, Linovitz R, Westerlund E, Peppers T, Lieberman I, Kim C, Girardi F, Pradhan B. Clinical experience using a novel bio-ceramic for treating vertebral compression fractures with one to two year follow-up. **Special interest poster presentation 2006 North American Spine Society Annual Meeting**, Seattle, WA, Sept 26 – 30, 2006.

**Shen M**, Pradhan B, Bae H, Kropf M, Delamarter R. Single level artificial disc replacement at L4-5 versus L5-S1 - is there any difference in technique, morbidity, or result? **Special interest poster presentation 2006 International Meeting on Advanced Spine Techniques**, Athens, Greece, July 12 – 15, 2006.

**Shen, M.** Surgical Options in Treatment of Calcaneal Fracture Malunions. **Annual Melvin Jahss Lecture Symposium**, Hospital for Joint Diseases, New York, NY, April 15, 2004.

**Shen, M.** Osteotome Positioning on C-Arm Intensification for the Berneese Periacetabular Osteotomy: Minimizing Osteotomy Related Complications. **The Pediatric Orthopaedic Society of New York Annual Meeting**, Mt. Sinai Hospital, New York, NY, April 2002.

## Languages

Fluent in Mandarin Chinese