

## Curriculum Vitae

**David A. Bomback, M.D., F.A.A.O.S.**

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### **Medical Training**

- Fellowship*                      Spine/Scoliosis Fellowship  
Hospital for Special Surgery  
New York, NY  
8/2004 – 7/2005
- Residency*                        Department of Orthopaedics and Rehabilitation  
Yale University School of Medicine, Yale New Haven Hospital  
Chief Resident Orthopaedic Surgery  
2000-2004
- Internship*                        Department of Surgery  
Yale University School of Medicine, Yale New Haven Hospital  
PGY-1 General Surgery  
1999-2000

### **Education**

- Medical*                            Columbia College of Physicians and Surgeons  
Columbia University, New York, NY  
M.D.1999
- Undergraduate*                    Columbia College  
Columbia University, New York, NY  
B.A. Biological Sciences 1995

### **Honors & Awards**

- I.I. Rabi Scholar (Science and Mathematics), Columbia College, 1991-1995  
Cum Laude, Columbia College, 1995  
Alpha Omega Alpha, Columbia College of Physicians and Surgeons, 1999  
Doctor Harry S. Altman Award  
    Outstanding achievement in pediatric ambulatory care  
    Columbia College of Physicians and Surgeons, 1999  
Herbert J. Bartelstone Award  
    Exceptional accomplishments in pharmacology  
    Columbia College of Physicians and Surgeons, 1999  
Robert G. Bertsch Prize  
    Emulating Dr. Bertsch's ideals of the humane surgeon  
    Columbia College of Physicians and Surgeons, 1999  
Rosamond Kane Cummins '52 Award  
    Graduate entering orthopaedics with academic excellence, sensitivity, kindness,  
    devotion to patients and the fine human qualities that she exemplified  
    Columbia College of Physicians and Surgeons, 1999

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Orthopaedic Research and Education Foundation  
New York Metropolitan Area Resident Research Symposium  
3<sup>rd</sup> Place Award Recipient; May 9, 2003

Wayne O. Southwick Orthopaedic Surgery Award  
Yale graduating Chief Resident who exemplifies the qualities and characteristics of Dr. Southwick (former Chairman of Orthopaedics, Yale New Haven Hospital); June, 2004.

O. Donald Chrisman Award  
Yale graduating Chief Resident for most outstanding thesis presentation and excellence in research; June, 2004.

### **Licensure**

Board Certified : American Board of Orthopaedic Surgery  
New York State Medical License  
Connecticut State Medical License

### **Professional Affiliations**

North American Spine Society  
American Academy of Orthopaedic Surgeons  
Alpha Omega Alpha Society  
Yale Orthopaedic Association  
Fairfield County Medical Association  
Connecticut State Medical Society  
Danbury Hospital Dept. of Surgery  
Danbury Hospital Dept. of Pediatrics  
The Spine Center at Danbury Hospital

### **Presentations**

“Cervical Spondylosis”, Orthopaedic Resident Conference  
Yale University School of Medicine, New Haven, CT, 2000

“Evaluation of Back Pain in Children”, Orthopaedic Resident Conference  
Yale University School of Medicine, New Haven, CT, 2000

“Articular Cartilage: To Repair or Not Repair”, Orthopaedic Grand Rounds  
Yale University School of Medicine, New Haven, CT, 2001

“Congenital Spine Deformities”, Orthopaedic Resident Conference  
Yale University School of Medicine, New Haven, CT 2001

“Thoracolumbar Spine Trauma”, Orthopaedic Resident Conference  
Yale University School of Medicine, New Haven, CT 2002

“Capitolunate Arthrodesis: A Percutaneous Technique without Bone Graft”, poster presentation: American Society for Surgery of the Hand National Meeting, Phoenix, AZ, 2002

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- “Osteoinductive Technologies: Are all created equal?” Emerging Technologies in Spinal Surgery Conference (DePuy AcroMed Sponsored), Washington, DC, October 2002.
- “State of the Art: BMPs and other Biologics for Spinal Fusion.” Controversies in Lumbar Spine Surgery Symposium II (DePuy AcroMed Sponsored), Las Vegas, NV, April 2003.
- “Kyphoplasty”, Orthopaedic Grand Rounds, Yale University School of Medicine, New Haven, CT, 2003
- “Comparison of OP-1 versus Grafton in an athymic posterolateral spine fusion model”, Southern Orthopaedic Association’s Annual Meeting, Wash. D.C., Nov. 2002; World Spine II, Chicago, IL, Aug. 2003; North American Spine Society, San Diego, CA, Oct. 2003.
- “Posterolateral lumbar fusions in athymic rats: characterization of a model”, podium presentation: World Spine II, Chicago, IL, Aug. 2003  
poster presentations: International Society for the Study of the Lumbar Spine, Vancouver, Canada May 2003; Orthopaedic Trauma Association, Salt Lake City, Utah, Oct. 2003.
- “The Spine: History and Physical Exam” Hospital for Special Surgery Spine Conference, New York, NY, 2004.
- “Rheumatoid Arthritis of the Cervical Spine” Hospital for Special Surgery Spine Conference, New York, NY 2004
- “Video-Assisted Thoracoscopic Surgery compared with Thoracotomy: Early and late follow-up of radiographic and functional outcome” International Meeting of Advanced Spine Techniques, July 2005; Banff, Alberta, Canada
- “Video-Assisted Thoracoscopic Surgery compared with Thoracotomy: Early and late follow-up of radiographic and functional outcome” 40<sup>th</sup> Annual Scoliosis Research Society Meeting, Miami, FL, Oct. 2005
- “Adolescent Idiopathic Scoliosis” Danbury Hospital Dept. of Pediatrics Grand Rounds; May 2006.
- “Adult Degenerative Scoliosis” Danbury Hospital Dept. of Surgery Grand Rounds; March 2006.
- “Lumbar Spinal Stenosis: Evaluation and Management” Danbury Hospital Dept. of Medicine Grand Rounds; May 2006.
- “Evaluation of Back Pain in Children and Adolescents” Danbury Hospital Pediatric Nursing Symposium; Sept. 2006.
- “X-Stop Surgery” Danbury Medical Town Meeting; Dec. 2006.
- “Advances in the Treatment of Spinal Deformities” Danbury Hospital Orthopaedic Forum; Feb. 2007.
- “Adult Scoliosis” Yale University Dept. of Orthopaedics Grand Rounds; Jan. 2007.

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“Current Concepts in Rehabilitation: Lumbar Spinal Stenosis”; Bethel Health Care Center; Oct. 2007.

### **Publications**

- Bomback DA. Intussusception: Current concepts. *Emergency and Office Pediatrics*, 11:4, 133-135, 1998.
- Bomback DA, Zikria BA, Freeman HM. Visceral plural lung graft for myocardial injury: Case report. *The Journal of Trauma, Injury, Infection, and Critical Care*, 48:1, 149-151, 2000.
- Slade JF III, Bomback DA. Capitulate arthrodesis: A percutaneous technique without bone graft. Presented American Society for Surgery of the Hand, Wrist Arthroscopy Course, Mayo Clinic, Rochester, MN, May 10-12, 2002.
- Slade JF III, Bomback DA. Limited incision capitulate arthrodesis for radioscaphoid arthritis. *Atlas of the Hand Clinics*, April 2003.
- Holmes S, Bomback DA, Baumgaertner MR. Coronal fractures of the femoral condyle: A brief report of five cases. *Journal Orthop Trauma*, 18(5): 316-319, 2004.
- Grauer J, Bomback DA, Lugo R, Troiano N, Patel T, Friedlaender GE. Posterolateral lumbar fusions in athymic rats: characterization of a model. *The Spine Journal*, 4: 281-286, 2004.
- Bomback DA, Grauer J, Lugo R, Troiano N, Patel T, Friedlaender GE. Comparison of posterolateral lumbar fusion rates of grafton putty and OP-1 in an athymic rat model. *Spine*, 29:15, 1612- 1617, 2004.
- Bomback DA, Grauer J. Bone morphogenetic proteins: Spinal fusion applications. *Principles of Molecular Neurosurgery*, Vol. 18. Karger. Basel, Switzerland. pp.52-64. 2005.
- Pappou I, Bomback DA, Girardi FP. Destructive spondyloarthropathy of the cervical spine and an amyloid mass causing myelopathy in a patient on chronic hemodialysis with diffuse beta-2 amyloidosis. Manuscript submitted to *Eur Spine Journal*.
- Farmer JC, Bomback DA, Sculco TP. Neck pain. *Hospital for Special Surgery: Manual of Rheumatology and Outpatient Orthopedic Disorders, Diagnosis and Therapy*. 5<sup>th</sup> edition. pp. 139-144, 2006.
- Bomback DA, Cunningham M, Boachie-Adjei O. Revision deformity surgery. Accepted for publication in *Essential Concepts of Spinal Deformity Surgery*, 2008.
- Bomback DA, Charles G, Widmann R, Boachie-Adjei O. Video-Assisted Thoracoscopic Surgery compared with thoracotomy: Early and late follow-up of radiographic and functional outcome. *The Spine Journal*, Vol. 7, Issue 4, Pages 399-405. July 2007.
- Cunningham DE, Bomback DA, Boachie-Adjei O. Revision Deformity Surgery. *Surgical Management of Spinal Deformities*. pp. 399-417, 2009.

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### Research

*Posterolateral lumbar fusions in athymic rats: characterizing a model.* (12/01 – 6/04)

An athymic rat model for posterolateral lumbar fusion has been previously introduced to study the effectiveness of different osteoinductive bone graft supplements or alternatives, but this model had not previously been fully characterized. Posterolateral spine fusions were performed on 60 rats among three groups: 20 athymic rats receiving no graft, 20 athymic rats receiving autograft, and 20 normothymic rats receiving autograft. Autograft fusion rates in athymic rats were found to be similar to normothymic rats, and no spontaneous fusions were noted when no graft was placed. This work supports utility of the athymic rat as a model for preclinical studies of bone graft alternatives, particularly for studying potentially immunogenic substances.

*OP-1 vs. demineralized bone matrix in an athymic rat posterolateral spine fusion model.* (12/01-6/04)

We hypothesize that the osteoinductive ability of osteogenic protein-1 (also known as BMP-7) exceeds that of extracted demineralized bone matrix products in posterolateral spinal applications. To prove this theory, we performed 120 posterolateral spine fusions on rats comparing fusion rates among four groups: no graft, autograft, DBM (Grafton putty), and OP-1. Rats were sacrificed at 3 and 6 weeks. Fusion was assessed by radiographic criteria, manual palpation, and histology. This is the first study directly comparing a DBM product to a BMP product in a spine fusion model.

*Video-assisted thoracoscopic surgery compared with thoracotomy: short and long term follow-up of radiographic and functional outcome.* (8/04 – 10/05). Comparing VATS vs. open thoracotomy with respect to percent curve correction, fusion rate, and functional outcome scores (SRS-22 and ODI). The VATS group (mean age, 30) averaged 5.4 anterior levels and 11 posterior levels fused. The thoracotomy group (mean age, 32) averaged 5.8 anterior levels and 12 posterior levels fused. Estimated blood loss was nearly identical for the posterior procedures in both groups, whereas the anterior blood loss was significantly higher in the thoracotomy group as compared with the VATS group (541 cc vs. 288 cc). Operative time did not differ significantly between the two cohorts. Percent curve correction immediately postoperative (52% correction VATS; 51% correction thoracotomy) as well as at the 2-year follow-up (50% VATS and 54% thoracotomy) was nearly identical. There was no difference in postoperative ODI ( $p=.6$ ) or SRS scores ( $p=.5$ ) between groups. Complications were frequent but not significantly different between the two groups ( $p=.3$ ).

*Iliac Screw Fixation: 2 year outcome study.* (9/05 – present). We are currently evaluating the long term outcome of pelvic fixation using a Galveston iliac screw technique. Specific factors being analyzed are hardware prominence, hardware removal, sacroiliac joint dysfunction, and hip pathology.