Research Interests

Ali Bydon, M.D.
Associate Professor of Neurosurgery
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- **Associate Professor**, Department of Neurosurgery
- **Co-Director**, Neurosurgical Medical Student Education
- **Director**, Neurosurgical Undergraduate Education
- **Director**, Spinal Column Biomechanics and Surgical Outcomes Lab
- **Clinical Director**, JHBMC Spine Program
General Research Interests

- Spinal column biomechanics
- Spinal surgery outcomes
- Spinal tumors
- Spinal infections
- Socioeconomics of spinal surgery
Spinal Column Biomechanics

- Accuracy of C2 pedicle screw placement using the freehand technique
Spinal Column Biomechanics

- Biomechanical impact of C2 pedicle screw length in an atlantoaxial fusion construct
Spinal Column Biomechanics

- Biomechanical analysis of 3 reconstruction techniques following total sacrectomy – An in-vitro human cadaveric model
Spinal Surgery Outcomes

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Risheng Xu, MA*‡§
Mohamed Macki, BS*‡
Rafael De la Garza-Ramos, MD*‡
Daniel M. Sciubba, MD*‡
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Received, May 10, 2013.
Accepted, October 7, 2013.
Published Online, October 21, 2013.

RESEARCH—HUMAN—CLINICAL STUDIES

Adjacent Segment Disease After Anterior Cervical Discectomy and Fusion in a Large Series
Adjacent Segment Disease After Anterior Cervical Discectomy and Fusion

Clinical Outcomes After First Repeat Surgery Versus Second Repeat Surgery

Risheng Xu, AM,*** Mohamad Bydon, MD,***† Mohamed Macki, BS,***† Rafael De la Garza-Ramos, MD,***† Daniel M. Sciubba, MD,***† Jean-Paul Wolinsky, MD,***† Timothy F. Witham, MD,***† Ziya L. Gokaslan, MD,***† and Ali Bydon, MD***†
Adjacent segment disease after anterior cervical discectomy and fusion: Incidence and clinical outcomes of patients requiring anterior versus posterior repeat cervical fusion

Mohamad Bydon¹,², Risheng Xu¹,²,³, Rafael De la Garza-Ramos¹,², Mohamed Macki¹,², Daniel M. Sciubba¹,², Jean-Paul Wolinsky¹,², Timothy F. Witham¹,², Ziya L. Gokaslan¹,², Ali Bydon¹,²

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Received: 26 September 13  Accepted: 25 October 13  Published: 16 April 14
Spinal Surgery Outcomes

Lumbar Fusion Versus Nonoperative Management for Treatment of Discogenic Low Back Pain

A Systematic Review and Meta-analysis of Randomized Controlled Trials

Mohamad Bydon, MD,* † Rafael De la Garza-Ramos, MD,* † Mohamed Macki, BS,* † Abdul Baker, MD,* † Ziya L. Gokaslan, MD,* † and Ali Bydon, MD* †
Adjacent-segment disease in 511 cases of posterolateral instrumented lumbar arthrodesis: floating fusion versus distal construct including the sacrum

Clinical article

Mohamad Bydon, M.D.,¹ ² Risheng Xu, A.M.,¹ ³ David Santiago-Dieppa, B.A.,¹ ² Mohamed Macki, B.S.,¹ ² Daniel M. Sciubba, M.D.,¹ ² Jean-Paul Wolinsky, M.D.,¹ ² Ali Bydon, M.D.,¹ ² Ziya L. Gokaslan, M.D.,¹ ² and Timothy F. Witham, M.D.¹ ²

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Clinical Study

Long-term outcomes after non-instrumented lumbar arthrodesis

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Spinal Surgery Outcomes

Clinical Neurology and Neurosurgery 120 (2014) 136–141

Contents lists available at ScienceDirect

Clinical Neurology and Neurosurgery

journal homepage: www.elsevier.com/locate/clineuro

Review

Spontaneous regression of sequestrated lumbar disc herniations: Literature review

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Spinal Tumor Surgery

Surgical outcomes of craniocervical junction meningiomas: A series of 22 consecutive patients

Mohamad Bydon\textsuperscript{a, b}, Ting Martin Ma\textsuperscript{a, b, d}, Risheng Xu\textsuperscript{a, b, c}, Jon Weingart\textsuperscript{a}, Alessandro Olivi\textsuperscript{a}, Ziya L. Gokaslan\textsuperscript{a, b}, Rafael J. Tamargo\textsuperscript{a}, Henry Brem\textsuperscript{a}, Ali Bydon\textsuperscript{a, b, *}

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Spinal Tumor Surgery

The Spine Journal (2013)

Review Article

Multiple primary intramedullary ependymomas: a case report and review of the literature

Mohamad Bydon, MD\textsuperscript{a,b}, Dimitrios Mathios, MD\textsuperscript{a,b}, Javier J. Aguayo-Alvarez, BA\textsuperscript{b}, Cherry Ho, MD, PhD\textsuperscript{c}, Ziya L. Gokaslan, MD\textsuperscript{a,b}, Ali Bydon, MD\textsuperscript{a,b,*}
Spinal Infections

Risk of infection following posterior instrumented lumbar fusion for degenerative spine disease in 817 consecutive cases

Clinical article

Kaisorn L. Chaichana, M.D., Mohamad Bydon, M.D., David R. Santiago-Dieppa, M.D., Lee Hwang, M.D., Gregory McLoughlin, M.D., Daniel M. Scuibba, M.D., Jean-Paul Wolinsky, M.D., Ali Bydon, M.D., Ziya L. Gokaslan, M.D., and Timothy Witham, M.D.

Department of Neurosurgery, Johns Hopkins University School of Medicine, Baltimore, Maryland
Socioeconomic and others

Trends in Medicare Payments to Physicians and Implantable Medical Device Makers

Mohamad Bydon, MD; Rafael De la Garza-Ramos, MD; Nicholas B. Abt, BS; Ziya L. Gokaslan, MD; Ali Bydon, MD
Original Research Paper

The cost-effectiveness of CT-guided sacroiliac joint injections: a measure of QALY gained

Mohamad Bydon, Mohamed Macki, Rafael De la Garza-Ramos, Mina Youssef, Ziya L. Gokaslan, Sherif Meleka, Ali Bydon

Johns Hopkins University School of Medicine, Baltimore, MD, USA
Safety of spinal decompression using an ultrasonic bone curette compared with a high-speed drill: outcomes in 337 patients

Clinical article

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Socioeconomic and others

Review

Post-surgical thoracic pseudomeningocele causing spinal cord compression

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