

## **CURRICULUM VITAE**

*DECEMBER 21, 2022*

**NEEL ANAND, MD**

### **CURRENT POSITION**

January 2022 – Present      **Medical Director, Spine Center**  
Cedars-Sinai Medical Center, Los Angeles, California

July 2013 to Present      **Professor of Orthopaedic Surgery**  
Department of Orthopaedics  
Cedars-Sinai Medical Center  
Los Angeles, California

**Website:**      [www.anandspinegroup.com](http://www.anandspinegroup.com)

### **EDUCATION**

1979-1983      **MEDICAL SCHOOL**  
**MBBS, Doctor of Medicine,**  
University of Bombay, T.N. Medical College  
Bombay, India

Dec 1983-Dec 1989      **ORTHOPAEDIC RESIDENCY**  
**University of Bombay,**  
B.Y.L. Nair Hospital  
Bombay, India

Jan 1990-Jun 1993      **ORTHOPAEDIC RESIDENCY**  
**Royal College of Surgeons of England,**  
Royal Liverpool University Hospital & Royal Liverpool Children's Hospital,  
Liverpool, United Kingdom

July 1993-Feb 1994      **SPINE SURGERY FELLOWSHIP**  
**Reconstructive Spinal Surgery,**  
Spinal Associates of North Central Florida, Univ. of Florida, Gainesville, Florida  
**Chester Sutterlin III, MD; Gary Lowery, MD**

Mar 1994-Jul 1994      **SPINE SURGERY FELLOWSHIP**  
**Scoliosis and Spinal Deformities,**  
Hospital for Special Surgery, Cornell University  
New York, New York  
**Ohenaba Boachie-Adjei, MD; David Levine, MD**

Aug 1994-Jul 1995

**ORTHOPAEDIC TRAUMA FELLOWSHIP**  
**Pelvic, Acetabular & Complex Trauma,**  
Hospital for Special Surgery, Cornell University  
New York, New York  
**David Helfet, MD**

1995-1996

**INTERNSHIP**  
**New York Medical College,**  
Lincoln Medical and Mental Health Center &  
Our Lady of Mercy Medical Center, Bronx, New York

1996-2000

**ORTHOPAEDIC RESIDENCY**  
**Albert Einstein College of Medicine,**  
Orthopaedic Program at The Bronx-Lebanon Hospital Center  
Bronx, New York

**Elective Residency Spine Surgery Rotation, Nov 1998-Jan 1999**  
Texas Back Institute  
Plano, Texas

## **ACADEMIC DEGREES**

1983

M.B.B.S, University of Bombay

1988

M.S.(Orthopaedics), University of Bombay

1988

D.Orth (Dipomate in Orthopaedics)

1988

F.C.P.S. (Fellow of the College of Physicians and Surgeons)

1992

M.ch.Orth (Masters in Orthopaedics), University of Liverpool, UK

## **LICENSES**

1984 to present

Maharashtra Medical Council, India

1992, expired

General Medical Council (GMC), UK

1994, expired

Royal College of Surgeons in England

1998, expired

New York Medical License

2000, expired

Nevada Medical License

2000 to Present

California Medical License (A73431)

## **BOARD CERTIFICATIONS**

1994 to present  
2004, 2013

ECFMG Certification (USMLE: 0-461-669-4)  
American Board of Orthopaedic Surgeons

## **PREVIOUS POSITIONS**

2000 to Present	Attending Physician Cedars-Sinai Institute for Spinal Disorders Los Angeles, California
2002 to 2005	Director, Spine Trauma Cedars-Sinai Institute for Spinal Disorders Los Angeles, California
2005 to 2007	Director, Minimally Invasive Spine Surgery Cedars-Sinai Institute for Spinal Disorders Los Angeles, California
2005 to 2007	Director, Spine Fellowship Cedars-Sinai Institute for Spinal Disorders Los Angeles, California
2005 to April 2012	Director, Orthopedic Spine Surgery Cedars-Sinai Spine Center Los Angeles, California
April 2012 to 2021	Director, Spine Trauma Cedars-Sinai Spine Center Los Angeles, California

## **PROFESSIONAL ACTIVITIES**

### **Cedars Sinai Committee Services**

2016-2019	Clinical Academic Promotions and Appointments Council (Clin-APAC)
2020-2022	CME Committee

### **Professional Associations/Society Committee service & Memberships**

2003	Founding Member – <b>Society for Lateral Access Surgery (SOLAS)</b>
2003	National Director – <b>ONE Spine Society</b>
2004	Charter Member – <b>Society of Nucleus Arthroplasty (SONA)</b>
2004 – 2007	Member, <b>Complex Spine Study Group (CSSG)</b>

2004 – 2009	Member, <b>Minimal Access Surgical Therapy (MAST) Deformity Focus Group</b>
2004 – 2009	Member, <b>Degenerative Spine Study Group (DSSG)</b>
2004 – 2009	Member, <b>Spine Trauma Study Group (STSG)</b>
2007-2008	<b>Scoliosis Research Society (SRS) - Web Site Committee</b>
2007-2008	Instrumentation Committee of Scoliosis Research Society (SRS)
2011-2012	Program Committee (ISASS) <b>International Society for the Advancement of Spinal Surgery.</b>
2011-2014	Educational Committee (ISASS) <b>International Society for the Advancement of Spinal Surgery.</b>
2011–2014	Education Committee, SMISS
2011-2016	Publication Committee (ISASS) <b>International Society for the Advancement of Spinal Surgery.</b>
2011-2012	Treasurer, SMISS ( <b>Society for Minimally Invasive Spinal Surgery</b> )
2013–2019	Adult Deformity Committee (SRS) <b>Scoliosis Research Society</b>
2014-2015	Program Committee (ISASS)
2016-2022	<b>American Academy of Orthopaedic Surgeons (AAOS)</b> Spine Program Committee:
2017-2018	Program Committee (ISASS) <b>International Society for the Advancement of Spinal Surgery.</b>
2004 - Present	Member – <b>Society for Minimally Invasive Spinal Surgery (SMISS)</b>
2011 - Present	Member <b>International Spine Study Group (ISSG)</b>
2012 - Present	Member <b>Minimally Invasive International Spine Study Group (MISSG)</b>
2020 - Present	Board of Directors, <b>SMISS (Society for Minimally Invasive Spinal Surgery)</b>
2021 - Present	Special Advisor to the <b>CDC</b> , Division of Tuberculosis Elimination [National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention
2022	Executive Committee and Orthopaedic Liason <b>AANS (American Association of Neurological Surgeons)</b>
2023	Treasurer, SMISS ( <b>Society for Minimally Invasive Spinal Surgery</b> )
2024	Secretary, SMISS ( <b>Society for Minimally Invasive Spinal Surgery</b> )
2025	President Elect, SMISS ( <b>Society for Minimally Invasive Spinal Surgery</b> )
2026	<b>PRESIDENT, SMISS (Society for Minimally Invasive Spinal Surgery)</b>

## Editorial And Review Work

1. Reviewer – NASS Annual Meeting, 2009, 2012, 2013
2. Peer Reviewer: ISSAS Journal 2012-2014
3. European Spine Journal – Assistant Editorial Board, 2014
4. Reviewer – AAOS Annual Meeting, 2017, 2018, 2019, 2020, 2021
5. Reviewer – SRS/IMAST, 2013-2022
6. Reviewer – SAS/ISASS Annual Meeting, 2009, 2012, 2013, 2014, 2015, 2016, 2018, 2019, 2021, 2022
7. Reviewer – SMISS Annual Meeting, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2021, 2022
8. Editor: Gray's Anatomy, 41<sup>st</sup> Ed, 2016
9. Editor: Gray's Anatomy, 42<sup>nd</sup> Ed, 2019
10. Editor: Gray's Surgical Anatomy, 2019
11. Editor: Gray's Anatomy, 43<sup>rd</sup> Ed, 2023
12. Editor: JBJS JOPA (Journal of Bone and Joint Surgery- Journal of Orthopaedics for Physician Assistants), 2018 - Present

## **Consulting Activities & Industry Relations**

### Consulting:

Medtronic, 2002 – Present  
Spinal Balance 2017 – present  
Spinal Simplicity 2017 – present  
Viseon, 2018 – Present  
Depuy-Synthes, 2018 – Present  
On-Point Surgical 2020 - Present

### Stocks, Stock Options, Private Investments: (All Presently active)

Medtronic 2002,  
Globus Medical 2004  
Atlas Spine 2004  
Paradigm Spine, 2004  
AF Cell 2005  
Bonovo 2006  
Spinal Balance, 2017  
Spinal Simplicity, 2017  
Viseon, 2018  
On-Point Surgical 2020

### Royalties:

Medtronic, 2004  
Globus Medical, 2006  
Elsevier 2015

### Surgical Advisory Board:

Globus Medical, 2004  
Spinal Balance, 2017  
Spinal Simplicity, 2017  
Viseon, 2018  
On-Point Surgical, 2020

Board of Directors: Society for Minimally Invasive Spine Surgery (SMISS), 2020

## **HONORS AND SPECIAL AWARDS**

1980           **Honors in Human Anatomy: University of Bombay / Bombay, India**

1987/88       **Best Resident:** B.Y.L. Nair Charitable Hospital / Bombay, India

- 1988 **Dr H.D. Dastur Gold Medal: (1st Rank), FCPS Orth. Examinations, Bombay, India**
- 1992 **Khazenifar Gold Medal:** Best overall clinical performance at the Mch. Orth. Examinations, University of Liverpool, UK
- 2011 **Leon Wiltse Award for Best Clinical Paper:** Las Vegas, SAS 2011: “Long Term 2 to 4 year Clinical and Functional Outcomes of Minimally Invasive Surgery (MIS) for Adult Spinal Deformity”
- 2012 **Orthopedics This Week Spine Technology Awards:** Category: Minimally Invasive Care. SMISS
- 2015 **Best Paper, SMISS 2015:** Analysis of the 10 best and 10 worst functional outcomes to Circumferential Minimally Invasive Surgical (CMIS) correction of Adults Spinal Deformity (ASD)
- 2017 **Andrew N. Swanson, M.D., Memorial Award,** Hospital for Special Surgery, New York *(In honor of Dr. Swanson to recognize an alumnus who has excelled in either spine education, research, practice or humanitarian efforts)*
- 2019 **John Moe Annual Visiting Professor,** Twin Cities Spine Center, St-Paul-Minneapolis, Minnesota
- 2020 **Best Paper, SMISS 2020:** Prevalence and Modes of Hardware Failure with Circumferential Minimally Invasive Surgical (CMIS) Correction of Adult Spinal Deformity (ASD)- A 13 Year Experience
- 2021 **Surgical Advisor to the CDC –** Spinal TB infections secondary to allograft implantation
- 2023 **Albert Scholar Award for Best Paper, DSPN (Disorders of Spine and Peripheral Nerves) AANS/CNS Spine Section 2023:** Selective Thoracolumbar Fusion in Adult Spinal Deformity (ASD) Double Curves with Circumferential Minimally Invasive Surgery (CMIS): 2-year Minimum Follow Up

## RESEARCH GRANTS & AWARDS

### Current Grants

#### 1. Pro00032661: Posterior Non-Fusion Spinal Stabilization study

Start Funding Date: 13-Jun-2013

End Funding Date: Ongoing Title and Number: Stabilimax NZ Study Participants Collection of Follow up Data, Clinical Investigational Plan, R-001

Role: PI

Source of Funding: Rachiotek, LLC

#### 2. Pro00046984: TOPS System

Start Funding Date: 11-Aug-2017

End Funding Date: Ongoing

Title and Number: Investigational Device Exemption Application for the Clinical Investigation of the TOPS™ System; Pivotal FDA/IDE Clinical Study

Role: PI

Source of Funding: Premia Spine, LTD.

**3. Pro00044738: Improving risk/benefit ration for scoliosis surgery**

Start Funding Date: 11-Oct-2017

End Funding Date: Ongoing

Title and Number: Improving risk/benefit ratio for Surgical treatment of Degenerative Lumbar Scoliosis

Role: PI

Source of Funding: National Institutes of Health

**4. Pro00052325: Human tissue collection repository from CSMC subjects for use in future research studies**

Start Funding Date: 23-Mar-2018

End Funding Date: Ongoing

Title and Number: Human tissue collection repository from CSMC subjects for use in future research studies

Role: Co-Investigators

Study PI: Wafa Tawackoli

Role: Co-Investigators Neel Anand, MD,

Source of Funding: Internal CSMC Funding

**5. Pro00050785: Intrasept Procedure for Chronic Low Back Pain**

Start Funding Date: 25-Apr-2018

End Funding Date: Ongoing

Title and Number: A Prospective, Randomized, Multi-Center Study of Intraosseous Basivertebral Nerve Ablation for the Treatment of Chronic Low Back Pain, FDA/IDE Clinical Study

Role: PI

Source of Funding: Relievent Medsystems: 8500 Normandale Lake Blvd, Suite 2150 Minneapolis, MN 55437

**6. Pro00055069: P-15L - Bone Graft in Transforaminal Lumbar Interbody Fusion with Instrumentation**

Start Funding Date: 11-Nov-2019

End Funding Date: Ongoing

Title and Number: An Assessment of P-15L Bone Graft in Transforaminal Lumbar Interbody Fusion with Instrumentation

Study PI: Sang Kim

Role: Co-Investigators Neel Anand, MD, Hyun Bae, MD, Eli Baron, MD, Terrence Kim, MD, Edward Nomoto

Source of Funding: Cerapedics, Inc.

**7. STUDY00000534: Nudges for Degenerative Scoliosis**

Start Funding Date: 04-Sep-2020

End Funding Date: Ongoing

Title and Number: USING BEHAVIORAL SCIENCE TO IMPROVE THE APPROPRIATENESS OF SURGERY FOR DEGENERATIVE LUMBAR SCOLIOSIS

1R21AG059214-01A1

Role: PI

Source of Funding: National Institute on Aging R21 Grant

**8. STUDY00000847, STRUCTURE Study, Kuros Biosciences, KUR-113/01**

Start Funding Date: 23-Nov-2020

End Funding Date: Ongoing

Title and Number: A Prospective, Randomized, controlled, single-blind, dose-finding, multi-Center, parallel group study of the safeTy and efficacy of KUR-113 Bone Graft (TGplPTH1-34 in fibrin) versus local autograft for the treatment of patients undergoing single-level transforaminal lumbar Interbody fusion:

Role: PI

Source of Funding: KUROS BIOSURGERY AG, Wagistrasse 25 8952 Schlieren Switzerland

**9. STUDY00001481: CAD MIS Study**

Start Funding Date: 29-Dec-2021

End Funding Date: Ongoing

Title and Number: Prospective Multicenter Evaluation of Complex Adult Spinal Deformity (CAD) treated with Minimally Invasive Surgery (MIS)

Role: Co-Investigators: Neel Anand, MD, Praveen Mummaneni, MD, Paul Park, MD, Gregory Mundis, MD, Juan Uribe, MD, Dean Chou, MD, Robert Eastlack, MD, Richard Fessler, MD, Adam Kanter, MD, Pierce Nunley, MD, David Okonkwo, MD, Khoi Than, MD, Michael Wang, MD, Kai-Ming Fu, MD, Kojo Hamilton, MD, Jay Turner, MD

Source of Funding: International Spine Study Group Foundation (ISSGF), Nuvasive

**10. STUDY00002259: Vertebral Bone Proteomics**

Start Funding Date: 17-Oct-2022

End Funding Date: Ongoing

Title and Number: Identification of Serum and Vertebral Bone Marrow Biomarkers that May Predict Bone Health in Spine Surgery

Study PI: Corey Walker

Co-Investigators: Neel Anand, MD, Sang Kim, MD, Jason Moore, MD, Tiffany Grace Perry, MD, Alexander Tuchman, MD

Source of Funding: Internal CSMC Funding

**Past Grants**

**1. Pro00051597: Tranexamic Acid Spinal Fusion Study**

Start Funding Date: 11-Nov-2018

End Funding Date: 23-Sep-2020

Title and Number: Multicenter, randomized, double-blind, parallel group study comparing tranexamic acid (test) to placebo (control) for prevention of postoperative blood loss after complex spinal fusion surgery (defined as T2 to Pelvis/Sacrum and greater than 4 Functional Spinal Units to Measure Efficacy and safety of tranexamic acid in spinal fusion surgery

Role: PI

Source of Funding: Exela Pharma Sciences, LLC

**2. NuQu**



Start Funding Date: 2013

End Funding Date: 2017

Title and Number: A Phase II, Randomized, Double Blind, Placebo Controlled Study Evaluating the Treatment of Degenerative Lumbar Discs with Allogeneic Cultured Chondrocytes (NuQu),

Role: PI

Source of Funding: ISTO Technologies, Inc, St. Louis, MO

### 3. **Acadia Facet Replacement System (AFRS)**

Start Funding Date: 2009

End Funding Date: 2017

Title and Number A Clinical Study to evaluate the Acadia Facet Replacement System (AFRS); Pivotal FDA/IDE Clinical Study

Role: PI

Source of Funding: Facet Solutions, Hopkinton, MA/Globus Medical, Audubon, PA

### 4. **NUBAC™ Disc Arthroplasty**

Start Funding Date: 2009

End Funding Date: 2010

Title and Number Trial Evaluating the Safety and Effectiveness of NUBAC™ Disc Arthroplasty

Role: PI

Source of Funding: Pioneer Surgical Technology, Inc, Marquette, MI

### 5. **STABILIMAX NZ™ Dynamic Spine Stabilization System**

Start Funding Date: 2007

End Funding Date: 2010

Title and Number: A Clinical Study Comparing Dynamic Stabilization of the Lumbar Spine with the STABILIMAX NZ™ Dynamic Spine Stabilization System to Posterolateral Instrumented Fusion; Pivotal FDA IDE Clinical Study

Role: PI

Source of Funding: Applied Spine Technologies, New Haven, CT

### 6. **DIAM Spinal Stabilization System**

Start Funding Date: 2007

End Funding Date: 2008

Title and Number: A Prospective Randomized Controlled Clinical Investigation of DIAM Spinal **Stabilization System** in Patients with Lumbar Degenerative Disc Disease; Pivotal FDA IDE Clinical study

Role: PI

Source of Funding: Medtronic Inc, Memphis, TN

### 7. **NeoDisc**

Start Funding Date: 2006

End Funding Date: 2009

Title and Number: A Pivotal Multi-Center Randomized Controlled Trial Evaluating the Safety and Effectiveness of NeoDisc versus Instrumented Anterior Cervical Discectomy and Fusion (ACDF) in Subjects with Single Level Cervical Disc Disease; Pivotal FDA IDE Clinical study

Role: PI

Source of Funding: Nuvasive, San Diego, CA

### 8. **Dynesys Spinal System**

Start Funding Date: 2003

End Funding Date: 2006

Title and Number: A Clinical Study of the Dynesys Spinal System as a Non-Fusion for Spinal Stabilization;  
Pivotal FDA IDE Clinical study

Role: PI

Source of Funding: Zimmer Spine, Minneapolis, MN

#### **9. PCM Artificial Cervical Disc Replacement**

Starting Funding Date: 2006

End Funding Date: 2008.

Title and Number: A Pivotal Multi-Center Randomized Controlled Trial Evaluating the Safety and Effectiveness of PCM **Artificial Cervical Disc Replacement** versus Instrumented Anterior Cervical Discectomy and Fusion (ACDF) in Subjects with Single Level Cervical Disc Disease; Pivotal FDA IDE Clinical study

Co-Investigators: John Regan, MD, Neel Anand, MD, Patrick.J.Johnson, MD, Rober Bray, MD

Source of Funding: Cervitech Inc., Rockaway, NJ,

#### **10. Bryan Cervical Disc Prosthesis**

Starting Funding Date: 2003

End Funding Date: 2005.

Title and Number: A Pivotal Multi-Center Randomized Controlled Trial Evaluating the Safety and Effectiveness of Bryan Cervical Disc Prosthesis versus Instrumented Anterior Cervical Discectomy and Fusion (ACDF) in Subjects with Single Level Cervical Disc Disease; Pivotal FDA IDE Clinical study

Co-Investigators: Patrick.J.Johnson, MD, John Regan, MD, Neel Anand, MD, Rober Bray, MD

Source of Funding: Medtronic Inc, Memphis, TN

#### **11. SBIII Charité Lumbar Disc Prosthesis,**

Starting Funding Date: 2001

End Funding Date: 2004.

Title and Number: A Pivotal Multi-Center Randomized Controlled Trial Evaluating the Safety and Effectiveness of SBIII Charité Lumbar Disc Prosthesis versus Anterior Lumbar Interbody Fusion (ALIF) in Subjects with Single Level Lumbar Disc Disease; Pivotal FDA IDE Clinical study

Co-Investigators: John Regan, MD, Neel Anand, MD, Patrick.J.Johnson, MD, Rober Bray, MD

Source of Funding: Johnson and Johnson, Raynham, MA

## **INVITED LECTURES AND PRESENTATIONS**

### **International Presentations**

1. Dynesys **Spine Technology Education Group. Los Cabos, August 2004**
2. Minimally Invasive Lumbar Fusion/Posterior Lumbar Interbody Fusion. **Whistler Spine Course, British Columbia, Canada, January 2005**
3. Minimally Disruptive TLIF **IMAST (International Meeting of Advanced Spinal Technology) Annual Meeting, Banff, Canada, July 2005**

4. Percutaneous Stabilization of Thoracolumbar Fractures **IMAST (International Meeting of Advanced Spinal Technology) Annual Meeting, Banff, Canada, July 2005**
5. Kyphoplasty Workshop **IMAST (International Meeting of Advanced Spinal Technology) Annual Meeting, Banff, Canada, July 2005**
6. Dynesys **2nd Annual Innovative Techniques in Spine Surgery Symposium, Los Cabos, August 2005**
7. Instructor, Kyphoplasty Workshop **2nd Annual Innovative Techniques in Spine Surgery Symposium, Los Cabos, August 2005**
8. Minimally Invasive Fusion Surgery, **IOACON (Indian Orthopaedic Association Conference), Bombay, India. December 2005**
9. Lumbar Disc Herniations, **IOACON (Indian Orthopaedic Association Conference), Bombay, India. December 2005**
10. Dynamic Non-Fusion Technology, **IOACON (Indian Orthopaedic Association Conference), Bombay, India. December 2005**
11. Microdecompression for Spinal Stenosis, **IOACON (Indian Orthopaedic Association Conference), Bombay, India. December 2005**
12. XLIF, **IOACON (Indian Orthopaedic Association Conference), Bombay, India. December 2005**
13. Cantilever TLIF, **IOACON (Indian Orthopaedic Association Conference), Bombay, India. December 2005**
14. MRI Standards in Spine Trauma **Spine Trauma Study Group (STSG) Meeting, Vancouver, January 2006**
15. Panel Discussion on Posterior Dynamic Stabilization, **1<sup>st</sup> Spine Technology Summit, Montreal, Quebec, Canada, May 2006**
16. Instructional Course: Posterior Non-Fusion Technology, **6<sup>th</sup> Spine Arthroplasty Society (SAS) Annual Meeting, Montreal, Quebec, Canada, May 2006**
17. Dynesys, **3rd Annual Innovative Techniques in Spine Surgery Symposium, Los Cabos, June 2006**
18. Lytic Spondylolisthesis How I do it, **3rd Annual Innovative Techniques in Spine Surgery Symposium, Los Cabos, June 2006**
19. Neuromonitoring, **3rd Annual Innovative Techniques in Spine Surgery Symposium, Los Cabos, June 2006**
20. Moderator: Spondylolisthesis Symposium, **IMAST, Athens, Greece, July 2006**
21. Instructor ICL: Posterior Percutaneous Instrumentation for Spine Trauma, **IMAST, Athens, Greece, July 2006**

22. Instructor Dynesys Workshop. **Whistler Spine Course, British Columbia, Canada, January 2007**
23. Faculty Adolescent Idiopathic Scoliosis Update, **Whistler Spine Course, British Columbia, Canada, January 2007**
24. Faculty Debate: Cervical Arthroplasty is the standard of Care. **ONE Spine Mtg, Controversies in Spine Surgery, Cancun, February 2007**
25. Faculty Debate: Fusion for Degenerative Spondylolisthesis . **ONE Spine Mtg, Controversies in Spine Surgery, Cancun, February 2007**
26. Faculty Debate: Posterior Non-Fusion Stabilization for DDD . **ONE Spine Mtg, Controversies in Spine Surgery, Cancun, February 2007**
27. Moderator & Instructor Minimally Invasive Techniques in Spine Trauma . **ONE Spine Mtg, Controversies in Spine Surgery, Cancun, February 2007**
28. Moderator & Instructor Posterior Dynamic Stabilization . **ONE Spine Mtg, Controversies in Spine Surgery, Cancun, February 2007**
29. Faculty Panel Discussion on Posterior Dynamic Stabilization **2nd Spine Technology Summit, Berlin, Germany, May 2007**
30. Faculty Meet the Expert: Dynesys **7th Spine Arthroplasty Society (SAS) Annual Meeting, Berlin, Germany, May 2007**
31. Faculty: Round Table Discussion, Dynesys, **4th Annual Innovative Techniques in Spine Surgery Symposium, Los Cabos, June 2007**
32. Faculty: Round Table, Vertebral Augmentation Kyphoplasty for Trauma, **4th Annual Innovative Techniques in Spine Surgery Symposium, Los Cabos, June 2007**
33. Faculty: Minimal Access Surgery, Nerve Surveillance for MIS applications. **4th Annual Innovative Techniques in Spine Surgery Symposium, Los Cabos, June 2007**
34. Moderator: Cervical and Lumbar Arthroplasty, **IMAST (International Meeting for Advanced Spinal Technologies), Bahamas, July 2007**
35. Early Bird Round Table Case Discussion Panel Lumbar Spine Challenges, **IMAST (International Meeting for Advanced Spinal Technologies), Bahamas, July 2007**
36. Instructor: Advanced Topics in MAST, Multilevel Percutaneous Pedicle Screw Instrumentation for Degenerative Scoliosis, **IMAST (International Meeting for Advanced Spinal Technologies), Bahamas, July 2007**
37. Instructor: AxiaLIF: Advanced Techniques and Indications in Complex Lumbar Spine, **IMAST**

**(International Meeting for Advanced Spinal Technologies), Bahamas, July 2007**

38. Faculty Symposium: Advances in the Treatment of Thoracolumbar Scoliotic Deformity, Minimally Invasive Posterior Correction Procedures, **World Spine IV: Fourth Interdisciplinary Congress on Spine Care, Istanbul, Turkey, July 2007**
39. Faculty Symposium: Minimally Invasive Spinal Surgery, Posterior Thoracolumbar Minimally Invasive Strategies, **World Spine IV: Fourth Interdisciplinary Congress on Spine Care, Istanbul, Turkey, July 2007**
40. Guest Speaker Cervical Disc Arthroplasty will be the Standard of Care in the Future, **SINCOL: SIMPOSIO INTERNACIONAL DE COLUNA, Rio De Janeiro, Brazil August 2007**
41. Faculty Dynesys for degenerative disc disease, **SINCOL: SIMPOSIO INTERNACIONAL DE COLUNA, Rio De Janeiro, Brazil August 2007**
42. Faculty Dynesys, Complications and How to avoid them, **SINCOL: SIMPOSIO INTERNACIONAL DE COLUNA, Rio De Janeiro, Brazil August 2007**
43. Faculty PEMF for Cervical Spine Fusion, results of a prospective randomized trial, **SINCOL: SIMPOSIO INTERNACIONAL DE COLUNA, Rio De Janeiro, Brazil August 2007**
44. **Visiting Professor:** L5-S1 Minimally Invasive Fusion at the End of Long Scoliosis Constructs, MAST, TLIF **Huashan Hospital, Shanghai, China November 5, 2007,**
45. **Visiting Professor:** L5-S1 Minimally Invasive Fusion at the End of Long Scoliosis Constructs, MAST, TLIF **2nd Hospital of ZJ Medical School, Hangzhou, November 6, 2007**
46. **Visiting Professor:** L5-S1 Minimally Invasive Fusion at the End of Long Scoliosis Constructs, MAST, TLIF **Zhongda Hospital, Nanjing, November 7, 2007**
47. **Key Note Speaker:** Posterior Motion Segment Stabilization **Chinese Orthopedic Association Meeting, Zhengzhou, China, November 2007**
48. **Visiting Professor,** The State of Minimally Invasive Spine Surgery, **Apollo Hospital, Chennai, India, January 2008**
49. Faculty Symposium Indications for Posterior Dynamic Stabilization, **APSAS (Asia Pacific Spine Arthroplasty Society) Annual Meeting, Seoul, Korea, January 2008**
50. Cervical Spine: Best Treatment Options, **ONE Spine Controversies in Spine Surgery, Cancun, February 2008**
51. Aging Spine Options for Sustained Fixation and MIS Treatments, **ONE Spine Controversies in Spine Surgery, Cancun, February 2008**

52. The Lumbar Spine: Best Treatment Options, **ONE Spine Controversies in Spine Surgery, Cancun, February 2008**
53. Posterior Non-Fusion Devices; Stabilimax NZ and Dynesys **5<sup>th</sup>Innovative Techniques in Spine Surgery, Los Cabos, Mexico, June 2008**
54. Posterior Disc Replacement; Transforaminal Disc, **5<sup>th</sup>Innovative Techniques in Spine Surgery, Los Cabos, Mexico, June 2008**
55. Minimally Invasive Surgery; Nerve Surveillance for MIS applications, **5<sup>th</sup>Innovative Techniques in Spine Surgery, Los Cabos, Mexico, June 2008**
56. Moderator: Cervical and Lumbar Arthroplasty Early Bird Round Table Case, **IMAST (International Meeting for Advanced Spinal Technologies), Hong Kong, July 2008**
57. Discussion Panel Lumbar Spine Challenges, **IMAST (International Meeting for Advanced Spinal Technologies), Hong Kong, July 2008**
58. Instructor: Multilevel Percutaneous Pedicle Screw Instrumentation for Degenerative Scoliosis, **IMAST (International Meeting for Advanced Spinal Technologies), Hong Kong, July 2008**
59. Instructor: AxiaLIF: Advanced Techniques and Indications in Complex Lumbar Spine, **IMAST (International Meeting for Advanced Spinal Technologies), Hong Kong, July 2008**
60. Surgical Treatment of Vertebral Compression Fractures, **First Brazilian Congress of Minimally Invasive Spinal Surgery and Techniques, Gramado, Brazil Aug. 2008**
61. Multilevel Percutaneous 360 Degree Fusion for Adult Degenerative Scoliosis, **First Brazilian Congress of Minimally Invasive Spinal Surgery and Techniques, Gramado, Brazil Aug. 2008**
62. Debater: Degenerative Disease Lumbar II, **First Brazilian Congress of Minimally Invasive Spinal Surgery and Techniques, Gramado, Brazil Aug. 2008**
63. Pedicle Based Stabilization: What Have We Learned?, **First Brazilian Congress of Minimally Invasive Spinal Surgery and Techniques, Gramado, Brazil Aug. 2008**
64. Invited Speaker: US Experience DIAM vs. Microdecompression, **DIAM Clinical Investigators Meeting OUS Clinical Trial, Nice, France September 2008**
65. Faculty: Trans1 Workshop L5-S1 Minimally Invasive Fusion at the End of Long Scoliosis Constructs, **NASS Annual Meeting, Toronto, October 2008**
66. Faculty: Trans1 Workshop L5-S1 Minimally Invasive Fusion at the End of Long Scoliosis Constructs, **Emerging Techniques and Technologies in Spine Surgery, Toronto, Canada, November 2008**
67. Faculty: Master Techniques in Minimally Invasive Spine Surgery; MIS Radiographic Anatomy **Spine Arthroplasty Society (SAS) Annual Meeting, London, UK, April 2009.**
68. Moderator Percutaneous Techniques, **Spine Arthroplasty Society (SAS) Annual Meeting, London, UK, April 2009.**

69. Rationale and Methods of Minimally Invasive Spine Surgery in Treatment of Spinal Deformity **WENMISS (World Endoscopic & Minimally Invasive Spine Surgery) Kota Kinabaul, Malaysia, May 21-23, 2009**
70. Fusion of L5/S1 using AXILIF technique, **WENMISS (World Endoscopic & Minimally Invasive Spine Surgery) Kota Kinabaul, Malaysia, May 21-23, 2009**
71. Overview of Current Methods of Diagnosis of Disc Degeneration and Low Back Pain, **WENMISS (World Endoscopic & Minimally Invasive Spine Surgery) Kota Kinabaul, Malaysia, May 21-23, 2009**
72. Scoliosis – Case Presentation, **WENMISS (World Endoscopic & Minimally Invasive Spine Surgery) Kota Kinabaul, Malaysia, May 21-23, 2009**
73. Percutaneous Stabilization and Selective Fusion for Ankylosing Spondylitis and DISH, **WENMISS (World Endoscopic & Minimally Invasive Spine Surgery) Kota Kinabaul, Malaysia, May 21-23, 2009**
74. Rationale of AXILIF Concept – Overview and Results, **WENMISS (World Endoscopic & Minimally Invasive Spine Surgery) Kota Kinabaul, Malaysia, May 21-23, 2009**
75. Minimally Invasive Posterior Pedicle Based Non-Fusion Stabilization, **WENMISS (World Endoscopic & Minimally Invasive Spine Surgery) Kota Kinabaul, Malaysia, May 21-23, 2009**
76. Anterior Surgery for Adult Deformities: How do Lateral Approaches Change our Treatment Strategies in this Population?, **IMAST (International Meeting for Advanced Spinal Technologies), Vienna, Austria, July 2009**
77. Minimally Invasive Fusion of L5-S1 at the end of long fusions, **SINCOL: SIMPOSIO INTERNACIONAL DE COLUNA, Rio De Janeiro, Brazil July 2009**
78. Minimally Invasive Correction of Scoliosis, **SINCOL: SIMPOSIO INTERNACIONAL DE COLUNA, Rio De Janeiro, Brazil July 2009**
79. Posterior Non-fusion stabilization What we know today, **SINCOL: SIMPOSIO INTERNACIONAL DE COLUNA, Rio De Janeiro, Brazil July 2009**
80. Kyphoplasty / Vertebroplasty The differences and result, **SINCOL: SIMPOSIO INTERNACIONAL DE COLUNA, Rio De Janeiro, Brazil July 2009**
81. Percutaneous MIS Fixation Multilevel Introduction, **3<sup>rd</sup> Annual Dubai Spine Masters, Dubai, UAE, May 2010**
82. Trans Sacral Screw Fixation, **3<sup>rd</sup> Annual Dubai Spine Masters, Dubai, UAE, May 2010**
83. Clinical Performance: Stabilimax Pedicle Based Motion Preservation System, **7th Annual Innovative Techniques in Spine Surgery Symposium, Los Cabos, Mexico, June 2010**
84. MIS Applications for Trauma, **7th Annual Innovative Techniques in Spine Surgery Symposium, Los Cabos, Mexico, June 2010**
85. AxiaLIF: Clinical Results, **7th Annual Innovative Techniques in Spine Surgery Symposium, Los**

**Cabos, Mexico, June 2010**

86. Deformity Challenges Panel, **ONE Spine: Controversies in Spine Surgery, Bahamas, June 2010**
87. MIS L5-S1 Fusion, **ONE Spine: Controversies in Spine Surgery, Bahamas, June 2010**
88. Lumbar Spine, Best treatment options: Case Panel, **ONE Spine: Controversies in Spine Surgery, Bahamas, June 2010**
89. Use of Minimally Invasive Correction of Adult Degenerative Lumbar Scoliosis, **ONE Spine: Controversies in Spine Surgery, Bahamas, June 2010**
90. The Aging Spine: Case Panel, **ONE Spine: Controversies in Spine Surgery, Bahamas, June 2010**
91. Faculty: Adult Deformity: Less Invasive Paracoccygeal Approaches and the use of Navigation and Percutaneous, **IMAST (International Meeting for Advanced Spinal Technologies), Toronto, Canada, July 2010**
92. Pedicle Screw systems in the treatment of adult deformity, **IMAST (International Meeting for Advanced Spinal Technologies), Toronto, Canada, July 2010**
93. Approaches to Degenerative Disc Disease: Non-operative, Fusion, Arthroplasty, Nucleus Replacement Lumbar Degenerative Panel, **IMAST (International Meeting for Advanced Spinal Technologies), Toronto, Canada, July 2010**
94. Workshop: Decision Making relative to Extension to the Sacrum Pelvis: Hands On Demonstration, **IMAST (International Meeting for Advanced Spinal Technologies), Toronto, Canada, July 2010**
95. Workshop: The Role of Minimally Invasive Surgery in Adult Degenerative Deformity: Hands On Demo DLIF workshop, **IMAST (International Meeting for Advanced Spinal Technologies), Toronto, Canada, July 2010**
- 96.
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- 100.
101. Minimal Access to Spine Surgery Gas Assisted Laparoscopic ALIF **Emerging Technologies in Spinal Surgery, Washington DC, October 2002**
102. Panel Discussion Minimally Invasive Surgery, **Emerging Technologies in Spinal Surgery, Washington DC, October 2002**
103. **Third Annual Symposium on Current Concepts in Spinal Disorders. La Quinta, CA, February 2004**  
Cantilever TLIF  
Dynesys
104. **NASS Workshop on "Surgical Approaches and Techniques for the Lumbar Spine" St. Louis,**



**Missouri, April 2004**

Open and Laparoscopic Approaches for ALIF.

**105. NASS, Chicago, Illinois, October 2004**

TLIF Workshop

**106. Non-Fusion Technologies/"Soft Restraints", Practical Anatomy & Surgical Education, St. Louis, Missouri, November 2004**

Posterior Interbody Fusion Techniques (Open PLIF and TLIF),

**107. 72<sup>nd</sup> American Association of Orthopedic Surgeons (AAOS) Annual Meeting. Wash., D.C., February 2005**

Symposium: Anterior Thoracolumbar Spinal Surgery: Minimal and Maximally Invasive

**108. National Osteoporosis Foundation (NOF) 6<sup>th</sup> Int'l Symposium on Osteoporosis. Wash., DC, April 2005**

Vertebroplasty and Kyphoplasty

**109. North American Spine Society (NASS) Spring Break 2005 - Spring into Motion. BalHarbour, FL, April 2005**

Dynesys

**110. Hands-on Cadaver Instructional Course, San Diego April 2005**

Instructor XLIF Training Course

Instructor Minimally Invasive TLIF Training Course

**111. Spine Trauma Study Group, New York, NY, April 2005**

Advances in Kyphoplasty

Alternatives to Cement Augmentation

**112. Posterior Dynamic Stabilization Instructional Course, Santa Monica, CA May 2005**

Case Presentations Dynesys

**113. Loma Linda Dept of Orthopaedic Annual Meeting, Mammoth Lakes, CA September 2005**

Posterior Dynamic Stabilization Dynesys

**114. Technologies in Spine Surgery, Washington DC, September 2005**

XLIF

**115. NASS Annual Meeting, Philadelphia, September 2005**

Instructor Dynesys Workshop

**116. American College of Rheumatology (ACR) National Meeting, San Diego, November 2005**

Orthopaedic Symposium, Advances in Orthopaedic Surgery Vertebroplasty and Kyphoplasty

**117. Hands-on Cadaver Instructional Course, San Diego, December 2005**

XLIF Training Course Instructor

Minimally Invasive TLIF Training Course Instructor

118. **Fifth Annual Symposium on Current Concepts in Spinal Disorders. Las Vegas, Nevada, February 2006**  
Dynesys: Dynamic Non-Fusion Stabilization  
Posterior Lumbar Artificial Disc Devices  
XLIF  
Cadaver Workshop: MAST TLIF, Thoracic Pedicle Screws
119. **72<sup>nd</sup> American Association of Orthopedic Surgeons (AAOS) Annual Meeting. Chicago, March 2006**  
Symposium: Anterior Thoracolumbar Spinal Surgery: Minimal and Maximally Invasive XLIF
120. **Scoliosis Association Meeting, La Jolla, April 2006**  
Posterior Non-Fusion Stabilization Dynesys
121. **Global Spine 2006, Las Vegas, June 2006**  
The Role for Minimally Invasive Surgery in Spine Trauma  
Cadaver Workshop MAST TLIF
122. **NASS Annual Meeting, Seattle, September 2006**  
Trans1 Workshop
123. **"Contemporary Surgical Techniques in Spine Trauma", Phoenix, October 2006**  
The MRI & PLC: How it can Guide Treatment in T/L Trauma  
Debate: Cervical Fracture Dislocations
124. **Minimally Invasive Surgery of the Spine (SMISS) 2006, San Diego, November 2006**  
Moderator: Case Presentations  
Instructor: XLIF Workshop
125. **Dynesys Course and Workshop, Las Vegas, November 2006**  
Case Presentations Dynesys for DDD
126. **HSS Alumni Meeting, New York, November 2006**  
Debate: Posterior Non-Fusion Stabilization for DDD
127. **Globus Annual Sales Meeting, Tampa, January 2007**  
Posterior Non-Fusion Stabilization for DDD
128. **Spine Trauma Study Group (STSG) Meeting, Denver, January 2007**  
MRI to evaluate Cervical Discoligamentous Complex in Cervical Spine Trauma
129. **73<sup>rd</sup> American Association of Orthopedic Surgeons (AAOS) Annual Meeting. San Diego, February 2007**  
Symposium: Anterior Thoracolumbar Spinal Surgery: Minimal and Maximally Invasive XLIF
130. **MAST Cadaver Workshop, Satellite Training Center, Marina Del Rey, CA. February 2007**  
MAST TLIF

Thoracic Pedicle Screws  
Direct Lateral Interbody Fusion  
Posterior Dynamic Stabilization  
Multilevel Percutaneous Pedicle Screw Fixation

**131. 6th Annual Symposium on Current Concepts in Spinal Disorders. Las Vegas, Nevada, March 2007**

Faculty Dynamic Non-Fusion Stabilization for Lumbar DDD  
Faculty Posterior Lumbar Artificial Disc Devices  
Faculty Lateral Artificial Disc Replacement  
Faculty Fusion less Scoliosis Surgery in the Pediatric Spine  
Faculty NeoDisc Cervical Artificial Disc Replacement  
Faculty Multilevel Percutaneous Pedicle Screw Fixation  
Moderator Posterior Dynamic Stabilization Symposium  
Instructor Cadaver Workshop: MAST TLIF, Thoracic Pedicle Screws

**132. San Diego Spine Meeting, San Diego, CA. March 2007**

Faculty Posterior Non-Fusion Stabilization for Lumbar DDD

**133. A Comprehensive Spine Review for Residents & Fellows, White Sulphur Springs, WV, May 2007**

Faculty Pediatric Spinal Deformity  
Faculty Adult Spinal Deformity  
Faculty Congenital Spinal Disorders

**134. Spine Trauma Study Group (STSG) Meeting, Tampa, June 2007**

Moderator Spinal Trauma Outcomes, breakout session

**135. City Wide San Diego Spine Conference, San Diego, June 2007**

Guest Speaker Minimally Invasive Spine Surgery Update on the Science and Technology

**136. Congress of Neurological Surgeons Workshop, San Diego, Sep 2007**

Faculty CD Horizon Longitude Training,

**137. Congress of Neurological Surgeons Workshop, San Diego, Sep 2007**

Faculty Minimally Invasive Multilevel Percutaneous Instrumentation for Trauma and Complex Deformity,

**138. The Leaders in Spine Surgery Series, Advanced Decision Making with Emphasis on Posterior Solutions, Las Vegas, Oct 2007**

Panel Lumbar and Cervical Degenerative Case Discussions  
Instructor Cadaver Workshop

**139. NASS Annual Meeting, Austin, October 2007**

Faculty: Trans1 Workshop L5-S1 Minimally Invasive Fusion at the End of Long Scoliosis Constructs

140.

**141. Minimally Invasive Surgery of the Spine Annual Meeting, San Diego, Nov. 2007**

Faculty Posterior Motion Segment

142. **Current Concepts in Spine Surgery, Los Angeles, December 2007**  
 Course Chair Posterior Dynamic Stabilization  
 Posterior Lumbar Disc Arthroplasty
143. **17<sup>th</sup> Annual Dr. Tom Lowe Spine Symposium: The Surgical Management of Spinal Disorders, Beaver Creek, January 2008**  
 Faculty Lumbar Degenerative Disc Disease Indications and Surgical Options  
 Faculty Lumbo-Sacral Fixation Challenges and Complications  
 Faculty Lumbar Degenerative Disorders Approach Options: MIS vs. Open  
 Faculty TL Trauma Challenges and Complications
144. **APEC Current Techniques in Advanced Spine Care, Memphis, January 2008**  
 Faculty MAST TLIF Overview  
 CD Horizon Longitude Multilevel Percutaneous Fixation  
 Direct Lateral Interbody Fusion Technique  
 Overview of Neuromonitoring
145. **Selby Spine Society Meeting, Park City, UT, January 2008**  
 Faculty Minimally Invasive Correction and Fusion for Adult Scoliosis
146. **Seventh Annual Symposium on Current Concepts in Spinal Disorders, Las Vegas, February 2008**  
 Course Chair  
 Faculty Multilevel Percutaneous Pedicle Fixation for Spine Trauma  
 Faculty Dynesys What Have We Learned?  
 Faculty Stabilimax NZ  
 Faculty Multilevel Percutaneous 360 Degree Fusion for Adult Degenerative Scoliosis  
 Faculty Cervical ADR Will Become the Standard of Care Cervical ADR Debates  
 Moderator Lumbar ADR Debates: Reality & Controversy  
 Instructor Saw Bones Workshop: Longitude Fusion System, Prestige Cervical Artificial Disc
147. **Winter Spinal Clinics, Cranial and Spinal Surgery, Snow Mass, CO, February 2008**  
 Faculty Extreme Lateral Interbody Fusion (XLIF) for Scoliosis  
 Minimally Invasive L5-S1 Fusion and Correction for Adult Scoliosis
148. **Minimally Invasive Deformity Course, Oakland CA, March 2008**  
 Faculty MIS TLIF  
 Direct Lateral Interbody Fusion,  
 CD Longitude Multilevel Percutaneous Fixation
149. **Stabilimax NZ Surgeon Training, Dallas, TX, April 2008**  
 Faculty Technique, Pearls & Tips, Case Presentation
150. **MAST Deformity Focus Group Meeting, Memphis, TN, April 2008**  
 Faculty Minimally Invasive Adult Degenerative Scoliosis  
 Faculty MIS TLIF  
 Direct Lateral Interbody Fusion,  
 CD Longitude Multilevel Percutaneous Fixation

151. **Minimally Invasive Deformity Course, Denver, CO, April 2008**  
 Faculty MIS TLIF  
 Direct Lateral Interbody Fusion,  
 CD Longitude Multilevel Percutaneous Fixation
152. **Minimally Invasive Deformity Course, in conjunction with AANS Annual Meeting Chicago, IL , April 2008**  
 Faculty MIS TLIF  
 Direct Lateral Interbody Fusion,  
 CD Longitude Multilevel Percutaneous Fixation
153. **3<sup>rd</sup> Spine Technology Summit, Miami, FL, May 2008**  
 Faculty Panel Discussion on Cervical Total Disc Replacement  
 Panel Discussion on The Aging Patient Revolution in Spine Care  
 Presenter Dynesys Dynamic Stabilization  
 Presenter Triumph TDR
154. **8th Spine Arthroplasty Society (SAS) Annual Meeting, Miami, FL, May 2008**  
 Faculty Moderator Innovative Technologies  
 Presenter: Novel Minimally Invasive Percutaneous Multi-Level 360 Degree Fusion for Lumbar Degenerative Scoliosis Feasibility, Technique and Early Results  
 Presenter: Dynamic Stabilization and Indications in Back Pain; Stabilimax NZ Clinical Inv. Meeting  
 Presenter: Transl AxiaLIF. A Novel Fusion Technique. Instructional course presented for Transl
155. **SRS/AAOS Current Trends & Treatment Methods in Pediatric and Adult Spinal Deformity, Dallas, TX, May 2008**  
 Faculty Presenter: Multilevel Percutaneous 360 Degree Fusion for Adult Degenerative Scoliosis
156. **1<sup>st</sup> World Congress of Minimally Invasive Spine Surgery and Techniques, Honolulu, HI, June 2008**  
 Faculty Presenter: Pre-Course Discussion on Posterior Dynamic Stabilization and Dynesys  
 Presenter: Minimally Invasive Deformity Correction  
 Presenter: Symptomatic Adjacent Disease  
 Presenter: Pedicle Based Dynamic Stabilization
157. **Western Spine Symposium, San Diego, CA, August 2008**  
 Faculty Moderator: Surgical Options for Low Back Pain  
 Presenter: In 2010 what would you do?  
 Presenter: Multilevel Percutaneous 360 Degree Fusion for Adult Degenerative Scoliosis
158. **Minimally Invasive Deformity Course, St Louis, MO, August 2008**  
 Faculty MIS TLIF,  
 Direct Lateral Interbody Fusion,  
 CD Longitude Multilevel Percutaneous Fixation
159. **1<sup>st</sup> Inaugural Association of Presacral Spine Surgeons Meeting, Las Vegas, NV, October 2008**  
 Faculty: Presenter: AxiaLIF for Adult Deformity

160. **Society of Minimally Invasive Spine Surgeons Annual Meeting, Las Vegas, NV, November 2008**  
Faculty: Multilevel Percutaneous 360 Degree Fusion for Scoliosis
161. **Minimally Invasive Deformity Course, Scottsdale, AZ, December 2008**  
Faculty MIS TLIF,  
Direct Lateral Interbody Fusion,  
CD Longitude Multilevel Percutaneous Fixation
162. **Presacral Fusion L5-1 Surgeon Training Course, New Orleans, LA, December 2008**  
Faculty Trans1 AxiaLIF
163. **18th Annual Dr. Tom Lowe Spine Symposium: The Surgical Management of Spinal Disorders, Beaver Creek, January 2009**  
Faculty Lumbar Degenerative Disc Disease Indications and Surgical Options  
Faculty Lumbo-Sacral Fixation Challenges and Complications  
Faculty Lumbar Degenerative Disorders Approach Options: MIS vs. Open  
Faculty TL Trauma Challenges and Complications
164. **Eighth Annual Symposium on Current Concepts in Spinal Disorders, Las Vegas, January 2009**  
Course Chair  
Faculty Multilevel Percutaneous Pedicle Fixation for Spine Trauma  
Faculty Dynesys What Have We Learned?  
Faculty Multilevel Percutaneous 360 Degree Fusion for Adult Degenerative Scoliosis  
Moderator Lumbar ADR Debates: Reality & Controversy
165. **Presacral Fusion L5-1 Surgeon Training Course, Park City, UT, February 2009**  
Moderator /Faculty Trans1 AxiaLIF
166. **Winter Spinal Clinics, Cranial and Spinal Surgery, Snow Mass, CO, February 2009**  
Faculty Minimally Invasive L5-S1 Fusion and Correction for Adult Deformity
167. **Minimally Invasive Deformity Course, Denver, CO, March 2009**  
Faculty MIS TLIF,  
Direct Lateral Interbody Fusion,  
CD Longitude Multilevel Percutaneous Fixation
168. **Preservation of Motion in the Spine, Duck Keys, FL, April 2009**  
Faculty Preservation of Motion in Lumbar spine
169. **4<sup>th</sup> Annual Course: Sharpening Your Spine Surgery Skills, Burr Ridge, IL, May 15-16, 2009**  
Course Co-Chairman  
Moderator: Lumbar Spine: Minimally Invasive Adult Degenerative and Deformity Correction  
Faculty: Current and Emerging Minimally Invasive Posterior Techniques  
Surgical Video: Lumbar Percutaneous Screw Placement
170. **Complex Spine Study Group Meeting (CSSG), Washington DC, August 7, 2009**  
Faculty: MIS Deformity Applications

171. **Presacral Fusion L5-1 Surgeon Training Course, Indianapolis, IN, September 2009**  
Faculty Trans1 AxiaLIF
172. **MAST Direct Lateral Interbody Fusion Technique Course, Denver, CO, September 2009**  
Faculty Lateral Anatomy and Physiology Review
173. **2<sup>nd</sup> Annual Symposium Association of Presacral Spine Surgeons, Las Vegas, October 2009**  
Faculty Clinical Results of 18 Month Deformity Study
174. **Annual Meeting of the Society for Minimally Invasive Spine Surgery, Las Vegas, October, 2009**  
Faculty Technology Forum: Lumbar Spinal Stenosis Treatment Options  
Presentation: Direct Lateral Interbody Fusion Technique
175. **6<sup>th</sup> Annual Meeting Innovative Techniques in Spine Surgery, Scottsdale, AZ, October 2009**  
Faculty Posterior dynamic stabilization: Indications and Results  
Oxygenated Scaffolds  
MIS Applications for Trauma  
Moderator MIS Round Table Discussion / Faculty AxiaLIF Clinical Results
176. **NASS 24<sup>th</sup> Annual Meeting, San Francisco, CA, November 2009**  
Faculty Advances in the Surgical Treatment of Acute Spine Trauma Course:  
Minimally Invasive Stabilization of TL Fractures  
Critical Concepts in Adult Deformity Surgery Course: Minimally Invasive Deformity  
Correction: Anterior and/or Posterior Approaches  
DLIF Workshop  
Trans1 Workshop
177. **Complex Spine Study Group (CSSG) San Diego, CA, January 2010**  
Faculty Debate: MIS vs. Open Procedure for Adolescent Scoliosis
178. **Association of Presacral Spine Surgeons (APSS): Problems and solutions in adult scoliosis treatment: The role of Lumbosacral Fixation, New York, NY, January 2010**  
Faculty Clinical Data Presentation  
Faculty Clinical Data Panel Discussion
179. **MAST Direct Lateral Interbody Fusion Technique Course, Scottsdale, AZ, January 2010**  
Faculty Lateral Anatomy and Physiology Review
180. **Ninth Annual Symposium on Current Concepts in Spinal Disorders, Las Vegas, February 2010**  
Course Co-Chair  
Moderator Minimally Invasive Innovative Technologies  
Faculty MIS for Spine Trauma  
Minimally Invasive Fixation in AIS/MIS Scoliosis Surgery: It is possible?  
Anatomical Facet Replacement System  
X-Stop  
Stabilimax NZ
181. **4<sup>th</sup> Annual Advances in Neurology and Neurosurgery Symposium, Marina Del Rey, CA, February 2010**  
Faculty ACDF vs. Disc Arthroplasty

182. **Presacral Fusion L5-1 Surgeon Training Course, San Diego, CA, March 2010**  
Faculty Trans1 AxiaLIF
183. **Preservation of Motion in the Spine; Duck Keys, FL, April 2010**  
Faculty Experience with Stabilimax a posterior dynamic stabilization system  
ACADIA Facet Replacement Results  
MIS Correction of Scoliosis
184. **10<sup>th</sup> Annual Global Symposium on Motion Preservation Technology (SAS), New Orleans, LA, April 2010**  
Moderator MIS Case Presentation/Discussion
185. **2<sup>nd</sup> World Congress of Minimally Invasive Spinal Surgery and Techniques (WCMISST); Las Vegas, NV, June 2010**  
Faculty MISS Deformity Correction, Posterior Approach  
Faculty Dynamic Stabilization, Pedicle Based
186. **Association of Presacral Spine Surgeons (APSS): Adult Complex Spine Workshop: Current Concepts in Lumbosacral Fixation, Las Vegas, NV, June 2010**  
Faculty MIS Complex Spine Clinical Data  
Case Presentation Discussion
187. **NASS (North American Spine Society) 25<sup>th</sup> Annual Meeting, Orlando, FL, October 2010**  
Moderator: Lumbar Total Disc Arthroplasty  
Faculty: Innovations in Minimally Invasive Surgery for the Complex Spine: Workshop
188. **Annual Meeting of the Society for Minimally Invasive Spine Surgery (SMISS); Miami, FL, October 2010**  
Faculty: Indications and Results for MIS Surgical Approach (Single Approach Posterior or Lateral vs. Combined) for Adult Scoliosis  
Scoliosis Panel discussion  
DLIF workshop
189. **Minimally Invasive Spinal Surgery and Navigation Hands-on Symposium, Weill-Cornell Medical College, New York, NY Dec. 2-4, 2010**  
Faculty Advanced MIS: Patient selection and principles for deformity correction  
Surgical demonstration  
AxiaLIF and XLIF challenges: How I do it.  
Future of MIS: Panel Discussion
190. **Spine on the Mountain: Innovation Meets Practice, Vail, CO, January 27-30, 2011**  
Faculty: Deformity at the Junctions: Panel Discussion  
MIS for Spinal Deformity: Hype or Reality?  
MIS Complications of Neurologic Decompression: Adequacy of Decompression, Spinal Fluid Leaks, and Neurologic Injury
191. **Tenth Annual Symposium on Current Concepts in Spinal Disorders, Las Vegas, February 2011**  
Course Co-Chair  
Moderator: Frontier Technologies



Faculty: Complications and Controversies: Surgery with New Technology Case Presentations  
Deformity: Surgery with New Technology Case Presentations

192. **Winter Spinal Clinics, Cranial and Spinal Surgery, Snow Mass, CO, February 27-March 1, 2011**  
Faculty: Controversies in Lumbar Spine Surgery: Innovative Technologies
193. **Current Solutions in Spine Surgery, Duck Keys, FL, Mar 30-Apr 1, 2011**  
Moderator: Updates  
Faculty: Case Presentation  
Anchoring Long Constructs with AxiaLIF
194. **Presacral Fusion L5-1 Surgeon Training Course, San Francisco, CA, April 9, 2011**  
Faculty Transl AxiaLIF
195. **Int'l Society for the Advancement of Spine Surgery (ISASS/SAS) Meeting, Las Vegas, NV April, 2011**  
Faculty: Work shop: MAST Correction Technique
196. **Spine Technology Summit, Napa, CA, May 11, 2011**  
Faculty: Personalized Stem Cell Therapy
197. **Innovative Techniques in Spine Surgery: 2011, Cabo, June 24-25, 2011**  
Faculty: Surgical Techniques and pearls: MIS Applications for Trauma  
Techniques and Complications: Pre-Sacral for L5-S1 Isthmic Spondylolisthesis
198. **18<sup>th</sup> IMAST (International Meeting for Advanced Spinal Technologies), Copenhagen, Denmark, July 2011**  
Faculty: Adult Deformity: Minimally Invasive Lateral and Transsacral Techniques for Deformity Correction  
MIS: Optimal Treatment of Significant (50-Degree) Thoracolumbar Scoliosis in 50-Year-Old
199. **Hibbs Spine Society, Louisville, KY, September 2011**  
Faculty Can MIS Correction of Spinal deformity avoid the need for Routine Osteotomies?
200. **SRS Annual meeting (Scoliosis Research Society), Louisville, KY, September 2011**  
Workshop Minimally Invasive Lumbosacral Fusion for Scoliosis Constructs
201. **Annual Meeting of the Society for Minimally Invasive Spine Surgery (SMISS); Las Vegas, NV, Oct 2011**  
Lab: Fundamentals of Lateral MIS  
Technology Forum: MIS Advanced Complex Spine Techniques  
Round Table: Deformity  
Moderator: Deformity and Trauma  
Faculty: New Technology and Advanced Techniques
202. **Decision Making Strategies for Complex Degenerative Conditions Course; New Orleans, LA, October 2011**  
Faculty Minimally Invasive Options: Treatment options, Surgical Pearls on Procedures
203. **NASS (North American Spine Society) 26<sup>th</sup> Annual Meeting, Chicago, IL, November 2011**  
Lab Course: Minimally Invasive Spine Surgery Hands-on Course

Faculty MIS: Complication Review and Avoidance  
Trauma: Thoracolumbar Fractures & Dislocations: Indications for Open vs. MIS

**204. Spine Fellow Live Course, IEP; Miami, FL. November 18, 2011**

Moderator Deformity and Trauma  
Faculty Role of Motion Preserving Reconstruction  
Degenerative Lumbar Scoliosis

**205. 21<sup>st</sup> Annual Tom Lowe Spine Symposium: The surgical Management of Spinal Disorders, Beaver Creek, CO Jan 13-16, 2012;**

Faculty What is the role of MIS for deformity now?  
When should we do traditional method vs. MIS?  
What is the 2-5-year follow-up with rigorous assessment of implant complications and non-union?  
Faculty Minimally invasive surgery in the elderly: Increasing safety or increasing risks?  
Panel Adult Deformity I, Adult Deformity II, MIS techniques, Aging Spine

**206. Spine on the Mountain: Innovation Meets Practice, Vail, CO, January, 2012**

Faculty MIS for Spinal Deformity: Can We Get Optimal Sagittal Plane Correction?  
Lumbar Multilevel Degeneration  
When Does a Lumbar Degenerative Case Become a Deformity?  
Adult Deformity

**207. 11th Annual Symposium on Current Concepts in Spinal Disorders, Las Vegas, February 2012**

Course Co-Chair  
Moderator: Frontier Technologies  
Faculty: Deformity: Minimally Invasive Correction of Severe (>50%) Thoracolumbar Scoliosis

**208. Winter Spinal Clinics, Cranial and Spinal Surgery, Snow Mass, CO, February, 2012**

Faculty: Minimally Invasive Lumbosacral Fixation with AxiaLIF at the Bottom of Long Constructs in Adult Spinal Deformity

**209. ISASS 12 (Int'l Society for the Advancement of Spine Surgery), Barcelona, Spain, March, 2012**

Moderator: Minimally Invasive Surgery

**210. Current Solutions in Spine Surgery, Duck Keys, FL, April 17-21, 2012**

Faculty: Minimally Invasive AxiaLIF for Anterior Column Support in Long Segment Constructs: Minimum 1 year Functional and Clinical Outcomes

**211. Dubai Spine Masters: Complex Spine Reconstruction & Deformity Management Strategies, Dubai, UAE. May 6-8 2012**

Moderator: Adult Deformity MIS Techniques  
Moderator: Case Presentation: Minimally Invasive Technique for Adult Deformity Case  
Faculty: Minimally Invasive Techniques for Adult Deformity Correction with Focus on Direct Lateral Techniques  
Faculty: Management of Degenerative Spinal Stenosis and Spondylolisthesis: Role for MIS  
Debate: Best Treatment for Degenerative Spondylolisthesis Is Interbody Fusion  
Debate: Moderate Deg. Scoliosis in an Elderly Patient. The Safest and Best Procedure Is Minimally Invasive  
Video Case presentation: MIS Fusion Techniques  
Panel: Ideal Image Guidance Case. Is Image Guidance Really Better?

212. **SMISS Course: Advances in MIS, Miami, FL. May 19, 2012**  
 Faculty: AxiaLIF: Indications, technique and outcomes  
 Lab: AxiaLIF
213. **Innovative Techniques in Spine Surgery: Carlsbad, CA, June 21-23, 2012**  
 Faculty: AxiaLIF+: The next generation of lumbosacral fusion  
 Faculty: Minimally invasive approaches to spinal trauma  
 Faculty: VEO Lateral Access System: Seeing is Believing  
 Debate: Surgical Management of symptomatic lumbar degenerative scoliosis: Open full-curve deformity correction is optimum;
214. **AANS Course: Minimally Invasive Lateral Interbody Fusion, Chicago, IL June 29-30, 2012**  
 Faculty: Minimally Invasive Lateral Retroperitoneal Transpsoas Approach: Complications and Avoidance
215. **19<sup>th</sup> IMAST (International Meeting for Advanced Spinal Technologies), Istanbul, Turkey, July 2012**  
 Faculty: Minimally Invasive Lateral and Trans-Sacral Techniques for Deformity Correction  
 Debate: Optimal Treatment of Moderate (30-Degree) Thoracolumbar Scoliosis with Stenosis in 70-Year-Old  
 Workshop: MIS Approaches for the Complex Spine
216. **Spine Across the Sea, Kauai, Hawaii, July 29-Aug 2, 2012**  
 Moderator: Best Poster Presentations  
 Faculty: Minimally Invasive Lateral Access to the Lumbar Spine
217. **Scoliosis Research Society (SRS) 47<sup>th</sup> Annual Meeting, Chicago Sept 5-8, 2012**  
 Faculty: Direct lateral approaches in lumbar scoliosis  
 MIS Pelvic fixation techniques  
 Degenerative lumbar curve requiring decompression and interbody fixation
218. **Annual Meeting of the Society for Min. Invasive Spine Surgery (SMISS), Miami, FL, Sept, 2012**  
 Debate: MIS Deformity; Fixation to Pelvis: MIS Presacral Approach is Best Option  
 Workshop:
219. **NASS (North American Spine Society) 27<sup>th</sup> Annual Meeting, Dallas, TX, October 24-27, 2012**  
 Faculty: Minimally Invasive Spine Surgery Hands-on Course: LLIF
220. **Spine Fellow Live Course, IEP; San Diego, CA. November 16-18, 2012**  
 Faculty: MIS Approaches to Deformity and Trauma  
 Low Back Pain with DDD: Role of Motion Preserving Reconstruction
221. **Deformity Course, Tampa, FL, January 25-26, 2013**  
 Course Director  
 Faculty: Surgery workshop
222. **12<sup>th</sup> Annual Symposium on Current Concepts in Spinal Disorders, Las Vegas, NV, Jan 31-Febr 2 2013**  
 Course Co-Chair  
 Moderator: Controversies in Spine Surgery  
 Faculty: The Challenges and Controversies in MIS Correction of Spinal Deformity

223. **Winter Clinics, Cranial and Spinal Surgery, Snow Mass, CO February 24-26, 2013,**  
 Faculty: Complications: MIS Lateral Transpoas Approach Complications and Avoidance  
 Faculty: Emerging Treatments: Circumferential MIS Strategies for the Correction of Moderate to Severe Adult Scoliosis (>50 degrees)
224. **ISASS (Int'l Society for the Advancement of Spine Surgery) Annual meeting, Vancouver, Canada, April 3-5, 2013**  
 Moderator: Cervical Arthroplasty - Oral Posters
225. **LSRS – Lumbar Spine Research Society 6th annual meeting Chicago, IL, April 11-12, 2013**  
 Faculty: MIS for Deformity Correction
226. **Ganga Hospital Operative course, Coimbatore, India, April 25-28, 2013**  
 Faculty: Surgery workshop
227. **SMISS Cadaver Lab, Miami, FL, May 18, 2013**  
 Faculty: Surgery workshop
228. **Deformity Correction Course, Tampa, FL, June 7, 2013**  
 Faculty: Surgery workshop
229. **Spine Technology and Educational Group Organization 10th Annual Symposium “State of Spine Surgery: A Think Tank”, Cabo, Mexico, June 20-22, 2013**  
 Panelist in case presentations  
 Faculty: MIS treatment of degenerative scoliosis
230. **AOSpine Master Deformity Course, Dubai, UAE, September 28-30, 2013**  
 Lectures in:  
 Adult Scoliosis – Case Presentation  
 Minimally Invasive TLIF  
 Direct Lateral Interbody Fusion  
 MIS Screw Rod Placement  
 Developmental Kyphosis  
 Pediatric Scoliosis – Case Presentation  
 Spinal-Pelvis Fixation Update  
 Degenerative Scoliosis Sagittal and Coronal Balance  
 Severe Adult Idiopathic Scoliosis – Case Presentation  
 VCR for Severe Scoliosis  
 Is Anterior Surgery Necessary?
231. **AOSpine Webinar; Minimally Invasive Spinal Surgery and Navigation – MIS Basics, Oct 2, 2013**  
 Faculty: The Evidence - MIS Fusion Comparative Effectiveness  
 Faculty: MIS – Case Presentation
232. **2013 Midwest Deformity Peer to Peer Course, Chicago, IL, October 25-26, 2013**  
 Panel: Pseudoarthrosis in Adult Deformity: How I have dealt with it.  
 Panel: De-Rotation is AIS: How I do it  
 Panel: Sacro-Pelvic Fixation: What went wrong?  
 Faculty: Adult Idiopathic Scoliosis – Case Presentation  
 Faculty: Worst Case – Case Presentation

233. **Annual Meeting of the Society for Min. Invasive Spine Surgery (SMISS), Las Vegas, NV, Oct 2013**  
 Course Director  
 Faculty: Limitations of MIS Techniques for Correction of Spinal Deformity  
 Faculty: Complications and Reality of MIS Lateral Approach
234. **WENMISS, New Delhi, India, November 7, 2013**  
 Faculty: DLIF complications  
 Faculty: MIS strategies for Degenerative Scoliosis  
 Faculty: DLIF Technique
235. **7<sup>th</sup> Annual MIS and Navigation Course, NYCMIS Course, New York, NY, Dec 12-14, 2013**  
 Faculty: Long Term MIS Results for Scoliosis  
 Faculty: Trans Sacral AxiaLIF Fusion  
 Panel: MIS debate
236. **23<sup>rd</sup> Annual Tom Lowe Spine Symposium: The surgical Management of Spinal Disorders, Beaver Creek, CO Jan 17-20,2014**  
 Workshop: Motion Preservation vs. Fusion for Spinal Stenosis
237. **13<sup>th</sup> Annual Symposium on Current Concepts in Spinal Disorders, Las Vegas, NV, Jan 30-Feb 1, 2014**  
 Course Co-Director  
 Moderator: Minimally Invasive Surgeries & New Technologies  
 Moderator: Lumbar Spine and Deformities  
 Faculty: Limitations and Ceiling Effects of MIS Deformity Correction
238. **2014 Winter Clinics, Cranial and Spinal Surgery, Snow Mass, CO, February 23-24, 2014,**  
 Faculty: MIS Correction of Spinal Deformity: Long Term Results (2 to 5 Years)
239. **1<sup>st</sup> Annual SMISS Contemporary Techniques for Minimally Invasive Spinal Surgery, St. Louis, MO, Mar 28-29, 2014**  
 Faculty: MIS for Selected Deformity Applications  
 Faculty: Workshop
240. **Current Solutions in Spine Surgery, Duck Key, FL, April 2-5, 2014**  
 Faculty: Complications for MIS  
 Faculty: Surgical Strategies for corrections of Scoliosis – Long Term Outcomes  
 Faculty: Management of Degenerative Spondylolisthesis and Spinal Stenosis – Role of MIS
241. **ISASS (Int'l Society for the Advancement of Spine Surgery) Annual meeting, Miami, FL, Apr 30-May 2, 2014**  
 Faculty: Adult Scoliosis MIS – case presentation
242. **PUMCH Annual Spine Conference, Beijing, China, May 23-25, 2014**  
 Key Note Speaker  
 Faculty: Evolution of MIS Strategies for Correction of Adult Spinal Deformity – 10-year experience  
 Faculty: Complications and Avoidance Strategies in MIS Correction of Spinal Deformity
243. **Spine Technology and Educational Group Organization 11<sup>th</sup> Annual Symposium State of Spine Surgery: A Think Tank, Cabo, Mexico, June 26-28, 2014**

- Faculty: MIS Lateral Approach; L3-4-5 stenosis with mild scoliosis, Lateral anatomic plexus constrains  
Faculty: Spinal Sagittal Balance: Role of anterior surgery in deformity surgery
244. **21<sup>st</sup> IMAST (International Meeting for Advanced Spinal Technologies), Valencia, Spain, July 16-19, 2014**  
Workshop: Minimizing Post-Op Complications and Maximizing Correction in Lateral Procedures
245. **Annual Meeting of the Society for Min. Invasive Spine Surgery (SMISS), Miami, FL, Sept 19-21, 2014**  
Moderator: Applying MISS in Treating Various Patient Types: Patients with Deformities  
Moderator: Controversies – Free Papers  
Workshop: Clinical and Economic Justification for Treating Elderly Adult Deformity with MIS
246. **Castellvi Spine Meeting, Duck Keys, FL, May 2015**  
Debate: L4-5 Spondylolisthesis discussing Lateral Transpoas vs TLIF.
247. **Spine Technology and Educational Group Organization, 12<sup>th</sup> Annual Symposium, Los Cabos, Mexico, June 18-20, 2015**  
Faculty: Cervicothoracic Deformity – Do MIS techniques have a role?  
Faculty: Discussion-MIS: What I've Learned and What the Future Holds.  
Moderator: Case-Based Lecture: Rod bending: Art or science?
248. **Sixth annual ONE Spine Residents & Fellows Course, Seattle, WA, August 14-16, 2015**  
Faculty: Minimally Invasive Surgery for Spine Fractures
249. **Annual Meeting of the North American Spine Society (NASS), Chicago, IL, October 14-17, 2015**  
Faculty: Hands-On Course: Minimally Invasive Spine Surgery; Percutaneous Fixation Techniques: Pedicle, Cortical, Iliac
250. **MISSICON – Minimally Invasive Spine Surgeons of India**  
Faculty: Live Surgery – Demonstration of MIS-TLIF  
Faculty: Posterior MIS stabilization techniques in TL trauma  
Faculty: My Best MIS Case & My Worst MIS Case  
Faculty: The evolution of minimally invasive spine surgery in the treatment of adult spine deformity – A ten-year experience.  
Faculty: Complications and avoidance strategies to prioritize safety in the MIS treatment of adult spinal deformity.  
Faculty: Managing instrumentation failure in MIS  
Debate: L4-5 Stenosis with Spondylolisthesis
251. **International Forum of Minimally Invasive Spine Surgery, Shanghai, China, October 30 – November 1, 2015**  
Faculty: Current status of MISS for degenerative scoliosis.  
Faculty: Case Discussion: Tips and Tricks – Most Challenging Cases for MISS.  
Faculty: Case Discussion: Worst Experience of MISS – complications and management
252. **Annual Meeting of the Society for Minimally Invasive Spine Surgery (SMISS), Las Vegas, NV, November 5-7, 2015**  
Debate: MISS vs. Open for Spinal Deformity  
Faculty: Discussion Panel, Expert Case Discussions; Deformity and Revision

253. **9<sup>th</sup> New York City Minimally Invasive Spine and Navigation Course: “Case-Based and Hand-On”, New York, NY, December 17-19, 2015**  
 Faculty: Step-by-Step: OLIF  
 Faculty: Cadaver Lab
254. **19<sup>th</sup> Annual Selby Spine Conference, Park City, UT, January 14-16, 2016**  
 Faculty: MIS techniques for sagittal plane correction in adult degenerative deformity
255. **Cedars-Sinai 15<sup>th</sup> Annual Symposium on Current Concepts in Spinal Disorders, Las Vegas, NV, February 4-6, 2016**  
 Course Director  
 Moderator: Minimally Invasive Surgeries  
 Faculty: Deformities: The pros and cons of a staged surgical protocol in the circumferential MIS correction of adult spinal deformity – 10-year experience  
 Moderator: The art of Spine Surgery  
 Faculty: New Technologies – Minimally invasive cervical facet fusion
256. **2016 Winter Clinics for Cranial & Spinal Surgery, Snowmass, CO, February 21-25, 2016**  
 Faculty: Influence of Lordotic and hyperlordotic lateral cages on the actual lordosis achieved at each segmental level.
257. **Minimally Invasive Fusion Cadaveric Workshop and Symposium, Sydney Australia, February 26-27, 2016**  
 Faculty: History and Overview of Minimally Invasive Procedures and Techniques  
 Faculty: Minimally Invasive Trauma Techniques - Indications, patient Profiles, Advantages and Disadvantages, Surgical Technique and Cases  
 Faculty: Minimally Invasive deformity Techniques – Indications, patient Profiles, Advantages and Disadvantages, Surgical Technique and Cases  
 Faculty: Thoracic Access and Lateral Fusion - Indications, patient Profiles, Advantages and Disadvantages, Surgical Technique and Cases  
 Faculty: Cadaver Lab
258. **Skull to Sacrum, Jersey City, NJ, March 31-April 2, 2016**  
 Faculty: Case Discussion Breakouts - Minimally Invasive  
 Moderator: Live Surgery, T10-Pelvis with PSO and OLIF procedure  
 Faculty: Video Surgery: MAST Deformity Correction  
 Faculty: Hands on Workshop, Cadaver Lab
259. **The International Society for the Advancement of Spine Surgery (ISASS), Las Vegas, NV, April 6-8, 2016**  
 Faculty: Symposium: Minimally Invasive correction of adult spinal deformity – Circumferential MIS correction of ASD  
 Faculty: Symposium: New Technologies – Hype or incremental value? LLIF for degenerative spondylolisthesis
260. **SpineWeek, Singapore, May 16-20, 2016**  
 Chairman: ISASS  
 Moderator: ISASS Abstract Session I  
 Moderator: ISASS Abstract Session II  
 Faculty: ISASS Case Discussion: L4-5 Grade 1 degenerative spondylolisthesis with stenosis Back (50%) and leg pain (50%) – MIS TLIF

Faculty: Asia Pacific Spine Society – MIS adult spinal deformity surgery: Is it better?

**261. Operative Spine Forum, Mumbai, India, May 23-24, 2016**

Faculty: Live Surgery – MIS TLIF

Faculty: Symposium – MIS TLIF

Faculty: Debate – Dynamic stabilization vs. Fusion

Faculty: Live Surgery – Direct Lateral Interbody Fusion

Faculty: Symposium – Longitude 2

Faculty: Panel Discussion – Tube vs. Endoscopic spine decompression

**262. 23<sup>rd</sup> IMAST (International Meeting for Advanced Spinal Technologies), Washington, D.C., July 13-16, 2016**

Moderator: Novel Treatment Techniques in Spinal Deformity

Faculty: Novel Treatment Techniques in Spinal Deformity; Case Presentations and Panel Discussion

Moderator: Two-Minute Point Presentations

Faculty: Early and late reoperation rates and etiologies are similar between cMIS and HYB techniques for ASD correction

Faculty: How does case type, LOS and Comorbidities affect Medicare DRG reimbursement for Minimally Invasive Surgery (MIS) deformity?

Moderator: Emerging Technologies in Spine Surgery

**263. Scoliosis Research Society (SRS) Prague, Szech Republic September 21 – September 24, 2016** Debate: MIS Surgery for Adult Spinal Deformity is the Wave of the Future

**264. 2<sup>nd</sup> Annual International Spinal Deformity Symposium (ISDS) Chicago, IL November 11 – November 12, 2016**

N Anand ; How are we progressing? How would I have treated a case 10 years ago and how and why I've changed today: Adult Lumbar Degenerative Kyphoscoliosis – Flexible

**265. Annual Forum of the Society for Minimally Invasive Spine Surgery (SMISS), Las Vegas, NV October 13–15, 2016**

Faculty: Lateral Pre-psoas, Presentation

Moderator: Does Concave versus Convex Approach Matter When using Lateral Lumbar Interbody Fusion for Adult Scoliosis?

Moderator: Treatment of the Fractional Curve with Circumferential Minimally Invasive (cMIS) Interbody versus Open Surgery without Interbody Fusion: An Analysis of Surgical Outcomes

Moderator: Impact of Multi-Level Interbody Fusion in the Treatment of Severe Adult Scoliosis (Thoracolumbar Coronal Cobb Angle >50 Degrees)

Faculty: Patient Evaluation: MIS, Hybrid, or Open, Presentation

**266. Sagittal Balance and Junctional Spine Master Course, Baltimore, MD, November 4-5, 2016,**

Course Co-chair: A two day Sagittal Balance and Junctional Spine Master Course and hands-on bioskills cadaver lab

**267. Cedars-Sinai 16<sup>th</sup> Annual Symposium on Current Concepts in Spinal Disorders, Las Vegas, NV, February 2-4, 2017**

Course Director

Moderator: Deformities

Moderator: Common Spine Debates



Debate: 50-Degree Adult Thoracolumbar Scoliosis with Sagittal Imbalance: CMIS is Optional in the Future

268. **American Academy of Orthopaedic Surgeons (AAOS) Annual Meeting, San Diego, CA, March 14-18, 2017**  
Moderator: Adult spinal deformity, Scientific paper session
269. **The International Society for the Advancement of Spine Surgery (ISASS), Boca Raton, FL, April 12 – 14, 2017**  
Moderators: Values and Outcomes in Spine Surgery
270. **2017 CASTELLVI SPINE, Monroe, Florida, May 10 - 13, 2017**  
Faculty: Anterior Lumbar Interbody Fusion (ALIF), Case Presentation  
Faculty: Anterior Column Reconstruction, Case Presentation
271. **Spine Masters' Surgical Techniques, St Louis, MO, May 18-20, 2017**  
Faculty: Minimally Invasive Approaches Using Lateral or Anterior Approach in Combination with a Posterior Approach for Treatment of Adult Spinal Deformity  
Faculty: Future of MIS  
Faculty: MIS Lateral Technique, Cadaveric Lab
272. **24<sup>th</sup> IMAST (International Meeting for Advanced Spinal Technologies), Cape Town, July 12-15 2017**  
Faculty: I Can Do It Better with Less Morbidity, Role of MIS  
Faculty: Adult Deformity, Advances on Treatment; Case Presentation  
Faculty: Spine Trauma, Diagnosis and Treatment; Case Presentation  
Faculty: How to Determine when a Decompression will Suffice vs a Decompression and Fusion for the Lumbar Spine
273. **Eighth Annual ONE Spine Residents & Fellows Course, Seattle Science Foundation, August 11–13, 2017**  
Faculty: Hands-on Cadaver Lab, Minimally Invasive  
Faculty: Minimally Invasive Spine Techniques
274. **52<sup>nd</sup> Scoliosis Research Society (SRS) Annual Meeting & course, Philadelphia, PA, September 6-9, 2017**  
Faculty: MIS Spinal Surgery – An Updated Global Perspective  
Faculty: MIS Approach Selection: When to Use LLIF?  
Faculty: Role of MIS in ASD Correction
275. **Spine Summit 2018**, The Annual Meeting of the AANS/CNS Section on Disorders of the Spine and Peripheral nerves  
Faculty: Minimally Invasive Considerations and Case Presentations
276. **Cedars-Sinai 17<sup>th</sup> Annual Symposium on Current Concepts in Spinal Disorders, Las Vegas, NV, February 8-10, 2018**  
Moderator: Common Spine topics: Disc herniation and DDD  
Faculty: Technique Videos & Discussion on Circumferential Minimally Invasive Surgery for Adult Spinal Deformity

277. **2018 Castellvi Spine by Fore, Foundation for orthopaedic research and education, Casa Marina, FL, May 10-12, 2018**  
 Faculty: Spine Biomechanics & Technology: Where Do We Stand  
 Faculty: Advances in Spinal Technology  
 Moderator: Complications & Solutions
278. **The 15th Annual State of Spine Surgery Think Tank, Aruba, June 21-23, 2018**  
 Faculty: ALIF in the lateral position  
 Faculty: What did we learn from pedicle based non-fusion surgery?  
 Faculty: Pre-psoas LLIF  
 Moderator: Spinal Deformity
279. **25<sup>th</sup> IMAST (International Meeting for Advanced Spinal Technologies), Los Angeles, CA, July 11-14, 2018**  
 Faculty: Complications of Lateral and Antepsoas Approach: To Spare or Spear  
 Faculty: Use of Lateral and Antepsoas Approach to Assist with Correction  
 Moderator: Cervical and Trauma
280. **Seattle Science Foundation: 4th Annual MIS Outpatient Spine Symposium, July 21, 2018**  
 Faculty: OLIF at L5 -S1  
 Faculty: MIS Deformity Correction
281. **2018 San Diego Visiting Professorship Annual Meeting, San Diego, California, July 27, 2018**  
 Faculty: Multilevel MIS Oblique Lumbar Interbody Fusion for Adult Spinal Deformity  
 Faculty: Adult Spine Panel Discussion
282. **Skull to Sacrum, New York, NY, September 13-15, 2018**  
 Faculty: MIS Deformity Principles  
 Faculty: PJK Case Discussions: Extending TL into Cervical Spine  
 Faculty: My Worst Case Ever: What I've learned and what I'd do differently
283. **Scoliosis Research Society (SRS) 53<sup>rd</sup> Annual Meeting& Course, Bologna, Italy, October 10-13, 2018**  
 Faculty: Circumferential Minimally Invasive Surgery (CMIS) for ASD – The Cutting Edge  
 Faculty: MIS Adult Deformity  
 Faculty: The minimally invasive spinal deformity surgery algorithm: a reproducible rational framework for decision making in minimally invasive spinal deformity surgery
284. **The 21st Annual Meeting of the Japanese Society of Minimally Invasive Spine Surgery, Japan, November 28-30, 2018**  
 Faculty: MIS correction for adult spinal deformity
285. **Cedars- Sinai 18th Annual Symposium on Current Concepts in Spinal Disorders, Las Vegas, NV, February 7-9, 2019**  
 Moderator: Common Spine Case Presentations – How Would I Treat My Mom?  
 Moderator: MIS Debates
286. **AAOS 2019 Annual Meeting, Las Vegas, NV, March 12-16, 2019**  
 Faculty: Adult Spine Deformity  
 Faculty: What is the Role of Anterior, Oblique, Posterior, and Laterally Based Surgery: How Can They

Help?

Faculty: Minimally Invasive Surgery versus Standard Open Techniques in the Lumbar Spine: Indications, Contraindications, and Controversies

**287. 12th Annual SOLAS Meeting, Miami, FL, May 16-18, 2019**

Faculty: Pre-psoas lumbar, single-level

Faculty: Fusion/Subsidence

**288. Twin Cities Spine Surgeons; 2019 John H. Moe Visiting Professor Symposium, St. Paul-Minneapolis, MN, May 31, 2019**

Faculty: The Evolution and Development of Circumferential Minimally Invasive Spine Surgery (CMIS) for Adult Spinal Deformity(ASD) - A 15-year Saga

Faculty: Pearls and Pitfalls to Avoid in CMIS Rx of ASD - Use of a Strategic Staged Systematic Protocol with Case Review

**289. The 16th Annual State of Spine Surgery Think Tank, Aruba, June 27-29, 2019**

Faculty: Technology Update – Medtronic; Implant Architecture and Biologics: Combining Fixation, Osteointegration, and Bone Grafting to Promote Fusion

Faculty: L4-5 lateral Interbody fusion: Facts and fiction; Ante-psoas approaches address the shortcomings of transpsoas fusion

**290. Annual Meeting of the North American Spine Society (NASS), Chicago, IL, September 25-28, 2019**

Faculty: Oblique Lateral Interbody Fusion

**291. Skull to Sacrum, October 10-11, 2019**

Faculty: Standardizing Spine Care to Drive Optimization

Faculty: My LIF is Better than Yours

Faculty: The Evolution of MIS Deformity Surgery

**292. Annual Forum of the Society for Minimally Invasive Spine Surgery (SMISS), Las Vegas, NV, October 31-November 2, 2019**

Faculty: MIS Complication and What I Learned

**293. Selby Spine Conference, Park City, UT, January 30-February 2, 2020**

Faculty: The Incremental Value of New Technologies

Faculty: Hospital Perspective on New Technologies in Spine Surgery

**294. 2020 Winter Clinics for Cranial & Spinal Surgery, Snowmass Village, CO, February 23-27, 2020**

Faculty: How Pre-psoas Lateral Approach has Changed the Paradigm and Complications for Lateral Approaches in the Circumferential Minimally Invasive Correction of Adult Spinal Deformity

**295. The 36<sup>th</sup> Annual Meeting of the AANS/CNS Section on Disorders of the Spine and Peripheral Nerves, Spine Summit, Las Vegas, NV, March 5-8, 2020**

Faculty: Minimally invasive deformity results in a lower incidence of PJK

Faculty: MIS for deformity is feasible, cost effective and sustainable

**296. AAOS 2020 Annual Meeting, Orlando, FL, March 24-28, 2020**

Faculty: Minimally Invasive Surgery versus Standard Open Techniques in the Lumbar Spine Indications, Contraindications, and Controversies

Faculty: What is the Role of Anterior, Oblique, Posterior, and Laterally Based Surgery: How Can They

Help?

297. **Virtual Global Spinel Community, April 1, 2020**  
Panel Discussion: Impact of Covid 19 on the Spine World
298. **Global Webinar on Covid -19, April 28, 2020**  
Faculty and Panelist
299. **Castellvi Spine Symposium, Key Largo, FL, April 29- May 2, 2020**  
Faculty: Infection Rates are too high  
Faculty: ALIF v OLIF
300. **MIS Lateral Approach, Seattle Science Foundation (SSF), Seattle, May 14, 2020**  
Chairman  
Faculty: MIS Lateral Fusion as an adjunct to Circumferential MIS Rx of ASD
301. **MIS Techniques for Correction of Short Segment Degenerative Scoliosis, June 17, 2020**  
Moderator and Case Review
302. **NASS Annual Meeting, San Diego, Oct, 2020**  
Symposium Speaker: OLIF – Do I need an Access Surgeon?
303. **Global Virtual Anterior Degenerative Spine Advisory Board, October 17, 2020**  
Panelist and Case Presentation
304. **Skull to Sacrum, Virtual, Nov 2020**  
Faculty: MIS Strategies for Deformity Correction - A 17 year journey  
Panelist: TLIF for Deformity Applications
305. **SSF Spine Trauma Course, Virtual, Nov 21, 2020**  
Faculty: Advances in MIS for Spine Trauma
306. **14<sup>th</sup> NYC Spinal Endoscopy, Robotics, 3D & Augmented Realty Symposium, NYC, Dec, 2020**  
Faculty: MIS Deformity Correction - Where are we?
307. **Bombay Spine Society Conference (BSSCON), Mumbai, Dec 2020**  
Faculty: My worst Cases – My best Learnings  
Faculty: Adult Deformity – Is Surgery worth it, Final Verdict!!!
308. **Selby Spine Annual Meeting, Park City, Jan 28-30, 2021**  
Faculty: Cost in considering the Adaption of New technology – Perspective of Physisican, Patient, Payer, Hospital  
Faculty: MIS Deformity Correction - Where are we?  
Faculty: My worst Cases – My best Learnings
309. **Association of the Spine Society of India Conference (ASSICON), Delhi, Jan 30, 2021**  
Faculty: Single Position 360 degree Spine Surgery  
Faculty: Robotics in ASD
310. **Minimally Invasive Spine Surgery Virtual Education, February, 2021**  
Faculty: Case Presentations

Faculty: ALIF L5-S1 in the Lateral Position

311. **SSF Advanced Lateral Approaches to the Spine, Virtual, February 27, 2021**  
Faculty: Pre-Psoas Approach for ASD
312. **Global Virtual Anterior Degenerative Spine Advisory Board, April 22, 2021**  
Faculty: Pre-Psoas LLIF (OLIF)
313. **Depuy-Synthes Unleash ATP and Lateral Course, Long Beach, April 24, 2021**  
Faculty: Anterior to the Psoas – Why I adopted this approach?
314. **ISASS Annual Meeting, Miami, May 12-15, 2021**  
Faculty: Role of MIS Approaches in Deformity Surgery  
Faculty: Integrating navigated Robotics into my Practice
315. **Combined Association of Spine Surgeons of India (ASSI) Course, August 27, 2021**  
Faculty: OLIF – Technique, Pearls of Wisdom & Potential Pitfalls
316. **AAOS 2021 Annual Meeting, San Diego, CA, Aug 31-Sept 3, 2021**  
Moderator: Minimally Invasive Surgery vs. Standard Open Techniques in the Lumbar Spine:  
Indications, Contraindications, and Controversies
317. **SRS Annual Meeting, St Louis, Sep 22-25, 2021**  
Faculty: MIS is the best way to prevent PJK
318. **1st SMISS-AP Virtual Meeting combined with KSNS, Sep 28, 2021**  
Keynote Speaker: Development of Circumferential Minimally Invasive Surgery for Adult Spinal  
Deformity
319. **Annual Forum of the Society for Minimally Invasive Spine Surgery (SMISS), Las Vegas, NV  
October 28-30, 2021**  
Faculty: Minimally Invasive Management of the Complex Spine Patient  
Faculty: Single position for the anterior column recon, but my arms are killing me with lateral  
screws
320. **Serbian Spine Society Meeting, Serbia, October 28, 2021**  
Keynote Speaker: Role of MIS Approaches in ASD
321. **103<sup>rd</sup> Annual HSS Alumni Association Meeting, October 29, 2021**  
Panelist: Technology in Spine Surgery
322. **Bombay Spine Society (BSSCON) Operative Course, Mumbai, November 14, 2021**  
Faculty: OLIF Video
323. **15<sup>th</sup> NYC Spinal Endoscopy, Robotics, 3D & Augmented Reality Symposium, NYC, Dec, 2021**  
Socratic Debate; Circumferential Mis for Spinal deformity Correction  
Faculty: MIS for ASD , Where are we today?

324. **Selby Spine Conference, Park City, UT, January 27 - January 29, 2022**  
 Faculty: Why isn't MIS Surgery more economically Incentivized? Or is it??  
 Faculty: Concave degeneration at L4/5 in Adult Deformity: to fuse or not to fuse?
325. **Barrows Neurological Institute (BNI) MIS Symposium, February 11, 2022**  
 Faculty: MIS is not for everyone, but when indicated is superior
326. **2022 Winter Clinics for Cranial & Spinal Surgery, Snowmass Village, CO, February 23-27, 2020**  
 Faculty: A Simple Novel Way to revise Loose Screws
327. **8th Annual Advanced Lateral Approaches to the Spine; March 5, 2022, Seattle, WA**
328. **AAOS 2022 Annual Meeting; March 22 –25, 2022, Chicago, Illinois**  
 Faculty: Avoiding Pitfalls in Adult Spinal Deformity Surgery
329. **27<sup>th</sup> IMAST (International Meeting for Advanced Spinal Technologies), Miami, CA, Apr 6 -9, 2022**  
 Faculty: MIS for ASD without Osteotomies – Is it for everyone?
330. **Global Spine Symposium, Las Vegas, May 31, 2022**  
 Faculty: Moderate to Severe Deformity – CMIS without Osteotomies
331. **ISASS 22<sup>nd</sup> Annual Conference; June 1-4, 2022; The Atlantis Hotel, The Bahamas**  
 Faculty: Staging deformity revision surgery: Saves time and reduces risks
332. **10th Annual SSF Spine Masters Course: Insights for Seasoned Spine Surgeons Saturday, Seattle Science Foundation: June 18, 2022**  
 Faculty: Circumferential Minimally Invasive Treatment for Severe Adult Spinal Deformity Without a Posterior Column Osteotomies Can Reduce PJK & Hardware Failure
333. **State of Spine Surgery Think Tank, Cabo, Mexico; June 23–25, 2022**  
 Faculty: Why MIS Approaches to deformity Surgery?  
 Faculty: Circumferential Minimally Invasive Treatment for Severe Adult Spinal Deformity Without a Posterior Column Osteotomies Can Reduce PJK & Hardware Failure
334. **8th Annual MIS Spine Symposium; Seattle Science Foundation, July 23, 2022**  
 Faculty: Preferred Approaches for Adult Deformity: MIS, TLIF, Lateral or ALIF  
 Faculty: Oblique Lateral Interbody Fusion (OLIF) vs. Lateral  
 Faculty: Panel Discussion: Too Many MIS LIFs: Which is Best?
335. **Medtronic Spine Deformity Education Symposium, August 26-27, 2022, Las Vegas, NV**  
 Faculty: Comparison of Outcomes for MIS vs. Open Surgery for Adult Spine Deformity - Prospective Analysis of 2-year Outcomes  
 Faculty: Percutaneous Pedicle Screws, Percutaneous Iliac Fixation, Percutaneous Rod Insertion, Lateral Interbody, ACR with ALL Release, OLIF, Osteotomies
336. **SRS 57th Annual Meeting, Sept 14-17, 2022, Stockholm, Sweden**  
 Faculty: Tips and Tricks to Avoid PJK and Pseudarthrosis with MIS at the TL Junction
337. **SMISS Annual Forum, September 29-October 1, 2022, Las Vegas, NV**

Faculty: Go Small or Go Home -- in Deformity

Faculty: Tips to avoid PJK when crossing the junction with MIS techniques

## **TEACHING ACTIVITIES**

### **COURSE DIRECTOR/CO-DIRECTOR/CHAIRMAN**

1. Course Director, Fifth Annual Symposium on Current Concepts in Spinal Disorders, Las Vegas, NV, Feb 3-4, 2006.
2. Course Director, Sixth Annual Symposium on Current Concepts in Spinal Disorders, Las Vegas, NV, Mar 1-3, 2007
3. Chairman, Current Concepts in Spine, Los Angeles, CA, Dec 8, 2007
4. Course Director, Seventh Annual Symposium on Current Concepts in Spinal Disorders, Las Vegas, NV, Feb 1-3, 2008
5. Course Director, Eighth Annual Symposium on Current Concepts in Spinal Disorders, Las Vegas, NV, Jan 29-Feb 1, 2009
6. Course Co-Chairman, 4<sup>th</sup> Annual Course on Sharpening Your Surgery Skills, Burr Ridge, IL, May 15-16, 2009
7. Course Co-Chairman, Association of Presacral Spine Surgeons (APSS): Problems and solutions in adult scoliosis treatment: The role of Lumbosacral Fixation, New York, NY, January 2010
8. Course Co-Director, Ninth Annual Symposium on Current Concepts in Spinal Disorders, Las Vegas, NV, Feb. 2-4, 2010
9. Course Chairman, Association of Presacral Spine Surgeons (APSS): Adult Complex Spine Workshop: Current Concepts in Lumbosacral Fixation, Las Vegas, NV, June 2010
10. Course Co-Director, Tenth Annual Symposium on Current Concepts in Spinal Disorders, Las Vegas, NV, Feb. 3-5, 2011
11. Course Co-Director, 11th Annual Symposium on Current Concepts in Spinal Disorders, Las Vegas, NV, Feb. 2-4, 2012
12. Course Director, Deformity Course, Tampa, FL, January 25-26, 2013
13. Course Co-Director, 12th Annual Symposium on Current Concepts in Spinal Disorders, Las Vegas, NV, Jan 31- Feb. 2, 2013
14. Course Chairman, SMISS, Las Vegas, NV, November 1-3, 2013

15. Course Co-Director, 13th Annual Symposium on Current Concepts in Spinal Disorders, Las Vegas, NV, Jan 30- Feb. 1, 2014
16. Course Co-Director, 13th Annual Symposium on Current Concepts in Spinal Disorders, Las Vegas, NV, Jan 30- Feb. 1, 2015
17. Course Co-Director, 15th Annual Symposium on Current Concepts in Spinal Disorders, Las Vegas, NV, Jan 30- Feb. 1, 2016
18. Course Co-Director, 16th Annual Symposium on Current Concepts in Spinal Disorders, Las Vegas, NV, Jan 30- Feb. 1, 2017
19. Course Co-Director, 17th Annual Symposium on Current Concepts in Spinal Disorders, Las Vegas, NV, Jan 30- Feb. 1, 2018
20. Course Co-Director, 18th Annual Symposium on Current Concepts in Spinal Disorders, Las Vegas, NV, Jan 30- Feb. 1, 2019
21. Chairman, Disc Arthroplasty Summit, Los Angeles, CA, Nov 15, 2019
22. Chairman, Disc Arthroplasty Summit, Los Angeles, CA, 2020
23. Chairman, Disc Arthroplasty Summit, Los Angeles, CA, 2021
24. Chairman, Disc Arthroplasty Summit, Los Angeles, CA, 2022

## **VISITING PROFESSOR**

**Hackensack university, New Jersey, Visiting Professor, February 28-29, 2022**

**University of Colorado, Denver, Visiting Professor, February 24, 2022**

**Orthopaedic Spine Hospital, Columbia University, NYC, Visiting Professor, Dec 20, 2021**

**Seattle Science Foundation (SSF) Neurosurgery Grand Rounds, Visiting Professor, April 1, 2021**

**University of California San Francisco (UCSF), Visiting Professor, September 2020**

**Twin Cities Spine Center, John Moe Visiting Professor, St-Paul-Minneapolis, MN, May 2019**

**New York University, Hospital for Joint Diseases, New York, NY, December 2015 – Minimally Invasive Surgery for Adult Spinal Deformity – A 12-year Journey**

**Tampa Bay Orthopaedic Society, Tampa, FL, December 2009 – Minimally Invasive Surgery for correction and fusion of Scoliosis**

**University of South Florida, Department of Orthopedics & Sports Medicine Grand Rounds, Tampa, FL, December 2009 – The Technique as well as the Do's and Don'ts of Minimally Invasive Surgery for**



## Spinal Deformity

**University of Virginia Department of Spine Surgery Grand Rounds, Charlottesville, VA, August 2008** – Multilevel Percutaneous 360 Degree Fusion for Adult Degenerative Scoliosis; Direct Lateral Interbody Fusion; CD Longitude Multilevel Percutaneous Fixation

**University of California San Diego, Combined Orthopaedic and Neurosurgery Grand Rounds, San Diego, CA, June 2007** – Posterior Non-Fusion Stabilization for Lumbar DDD

## INTRAMURAL LECTURES AND CONFERENCES

1. Current update and concepts in burst fractures. Cedars-Sinai Medical Center, Institute for Spinal Disorders, Spine Conference, Los Angeles, CA, June 4, 2003
2. Dynamic stabilization: a conceptual revolution. Cedars-Sinai Medical Center, Institute for Spinal Disorders, Spine Conference, Los Angeles, CA, June 18, 2003
3. Stabilization for degenerative disc disease: fusion and non-fusion techniques. Cedars-Sinai Medical Center, Institute for Spinal Disorders, Back Pain Conference, Los Angeles, CA, June 14, 2003
4. Thoracic pedicle screws. Cedars-Sinai Medical Center, Institute for Spinal Disorders, Spine Conference, Los Angeles, CA, March 24, 2004
5. Non-fusion spinal instrumentation technologies. Cedars-Sinai Medical Center, Institute for Spinal Disorders, Spine Conference, Los Angeles, CA, May 12, 2004
6. Motion preservation in spinal surgery. Cedars-Sinai Medical Center, Institute for Spinal Disorders, Spine Conference, Los Angeles, CA, January 26, 2005
7. Posterior non-fusion stabilization with Dynesys: beyond the IDE study. Cedars-Sinai Medical Center, Institute for Spinal Disorders, Spine Conference, Los Angeles, CA, August 17, 2005
8. Beat back pain and save your spinal motion: surgery without fusion. Cedars-Sinai Medical Center, Institute for Spinal Disorders, Back Pain Conference, Los Angeles, CA, August 20, 2005
9. Beat back pain and save your spinal motion: surgery without fusion. Cedars-Sinai Medical Center, Institute for Spinal Disorders, Back Pain Conference, Las Vegas, NV. February 2006
10. Office Orthopaedics: The Essentials of Non-Operative Musculoskeletal Care: Acute Back Pain, Cedars-Sinai Medical Center, Institute for Spinal Disorders, Los Angeles, CA, May 20, 2006
11. Posterior Non-Fusion Stabilization: Cedars-Sinai Medical Center, Institute for Spinal Disorders, Spine Conference Grand Rounds, Los Angeles, CA, October 18, 2006
12. Baron, EM, Anand, N. Future Concepts in Artificial Disc Treatment of Cervical Spine Disorders. Cervical Spine Community Conference. Cedars Sinai Medical Center. Los Angeles, CA. February 3, 2007
13. Beat back pain and save your spinal motion: surgery without fusion. Cedars-Sinai Medical Center, Institute for Spinal Disorders, Back Pain Conference, Las Vegas, NV. March 2007

14. Beat back pain and save your spinal motion: surgery without fusion. Cedars-Sinai Medical Center, Institute for Spinal Disorders, Back Pain Conference, Los Angeles, CA. March 2007
15. Spine Trauma in Ankylosing Spondylitis: Medical and Surgical Approach to Spine Disease and Spine Deformity in Ankylosing Spondylitis. Cedars-Sinai Medical Center, Institute for Spinal Disorders, Los Angeles, CA. March 2007
16. The State of Minimally Invasive Spine Surgery Today: Cedars-Sinai Medical Center, Institute for Spinal Disorders, Spine Conference Grand Rounds, Los Angeles, CA, April 25, 2007
17. Posterior Non-Fusion Stabilization for DDD – An update: Cedars-Sinai Medical Center, Institute for Spinal Disorders, Spine Conference Grand Rounds, Los Angeles, CA, May 2007
18. Baron, EM, Anand, N. New Developments in Spine Surgery. Temple Community Hospital, Los Angeles, CA. Tuesday, May 15, 2007
19. Baron, EM, Anand, N. Extreme Lateral Interbody Fusion. Nursing Staff Presentation. Cedars Sinai Medical Center. Los Angeles, California. June 26, 2007
20. The State of Minimally Invasive Spine Surgery Today: Cedars-Sinai Medical Center, Research Dept Grand Rounds, Los Angeles, CA, July 2007
21. Baron, EM, Anand, N. Minimally Invasive Spinal Surgery. Sherman Oaks Hospital & Health Center, Sherman Oaks, California. July 26, 2007
22. Baron, EM, Anand, N. Future Concepts in Artificial Disc Treatment of Cervical Spine Disorders. Cervical Spine Community Conference. Cedars Sinai Medical Center. Los Angeles, CA. February 3, 2007
23. Baron, EM, Anand, N. New Developments in Spine Surgery. Temple Community Hospital, Los Angeles, CA. May 15, 2007
24. Baron, EM, Anand, N. Extreme Lateral Interbody Fusion. Nursing Staff Presentation. Cedars Sinai Medical Center. Los Angeles, CA. June 26, 2007
25. Baron, EM, Anand, N. Minimally Invasive Spinal Surgery. Sherman Oaks Hospital & Health Center, Sherman Oaks, California. July 26, 2007
26. Baron, EM, Anand, N. X-STOP® Interspinous Process Decompression (IPD®) System. Primary Care Physician Informational Lecture, Beverly Hills, CA. September 20, 2007
27. Baron, EM, Anand, N. Cement Augmentation for Osteoporotic Fractures –Kyphoplasty versus Vertebroplasty. Primary Care Physician Informational Lecture, Beverly Hills, CA. September 20, 2007
28. Thoracic pedicle screws. Cedars-Sinai Medical Center, Institute for Spinal Disorders, Spine Conference, Los Angeles, CA, August 1, 2007
29. Baron, EM, Anand, N. Atypical Diagnoses in the Cervical Spine that should NOT Be Missed. 2008 Interdisciplinary Symposium Cervical Spine Trauma. Presented by Southern California University of Health Sciences and Diagnostic and Interventional Spinal Care. Southern California University of Health Sciences Performing Arts Center, Whittier, CA. February 24, 2008.

30. Baron, EM, Anand, N. Minimally Invasive Percutaneous Multilevel 360 Degree Fusion for Deg. Scoliosis - Feasibility Study. Cervical Spine Community Lecture. Cedars Sinai Medical Center. Los Angeles, California. Saturday, March 15, 2008
31. Anand, N. Baron, EM, Stabilization of the Spine without Fusion. Spine Community Lecture. Cedars Sinai Medical Center. Los Angeles, CA. Saturday, March 15, 2008
32. Rivadeneira, D., Anand, N., Minimally Invasive Surgery L5-S1 Fusion: A Spine and Colorectal Perspective; Cedars-Sinai Spine Center, Spine Conference, Los Angeles, CA, September 23, 2009
33. Anand, N, Baron EM, Minimally Invasive Surgery: Correction of Adult Scoliosis; Cedars-Sinai Spine Center, Spine Conference, Los Angeles, CA, November 18, 2009
34. Anand, N., Baron, EM., Zarembinski, CJ. Latest Advances in Spine Care; Cedars-Sinai Medical Center, Community Lecture, Los Angeles, CA, December 8, 2009
35. Anand, N., Anatomy and Pathology of Scoliosis & Current Treatments; LAUSD District 8 School Nurses Lecture, Gardena, CA, February 2010
36. Anand, N., Minimally Invasive Spinal Surgery – State of the Art; T.N. Medical College reunion, New York, NY, August 2010
37. Anand, N., Kahwaty, S., Scoliosis Screening and Education; Scoliosis Association Community Outreach. Mission Viejo, CA, October 8, 2011
38. Anand, N.; Minimally Invasive Surgery for Correction of Scoliosis, 10-year experience, Cedars-Sinai Spine Center, Spine Conference, Los Angeles, CA, March 13, 2013
39. Anand, N.: Lumbar Minimally Invasive Surgery – An Overview. State of the Art Spine Care, Cedars-Sinai Spine Center, Los Angeles, CA, November 16, 2013
40. Anand, N.: Trauma Conference, Cedars-Sinai Spine Center, Los Angeles, CA, January 11, 2017
41. Anand, N.: New FDA Trials: TOPS & LimiFlex, Cedars-Sinai Spine Center, Los Angeles, CA, August 9, 2017
42. Anand, N.: Minimally Invasive Spine Surgery, Fellows Didactic Lecture, Cedars-Sinai Spine Center, Los Angeles, CA, March 27, 2019

## **FELLOWS TRAINED**

John K. Stokes, MD 2001-2002  
 Paul C. Liu, MD 2001-2002  
 Alan T. Villavicencio, MD 2001-2002  
 F. Clifford Roberson, MD 2001-2002  
 Darren Bergey, MD 2002-2003  
 Mark Wolgin, MD 2002-2003  
 Firooz Amjadi, MD 2002-2003

Ali Abazari, MD 2002-2003  
Karin Swartz, MD 2003-2004  
Saad Khairi, MD 2003-2004  
Chris Lycette, MD 2003-2004  
Hamid Miraliakbar, MD 2003-2004  
S. Craig Meyer, MD 2003-2004  
Toki Oyelese, MD 2004-2005  
Khawar Siddique, MD 2004-2005  
John Hamilton, MD 2004-2005  
Hooman Melamed, MD 2004-2005  
Brian Perri, DO 2004-2005  
Anthony Hadden, MD 2005-2006  
Tooraj Gravori, MD 2005-2006  
Edward Rustamzadeh, MD 2005-2006  
Justin Paquette, MD 2005-2006  
Stepan Kasimian, MD 2005-2006  
Eli Baron, MD 2006-2007  
Kevin Ammar, MD 2006-2007  
Raman Rabbani, MD 2006-2007  
Richard Wupperman, MD 2007-2008  
Curt Freudenberger, MD 2007-2008  
Ty Thaiyananthan, MD 2007-2008  
Terrence Kim, MD 2008-2009  
Paul Salinas, MD 2008-2009  
J. Scott Schoeb, MD 2008-2009  
Stephen Scibelli, MD 2009-2010  
Kamal Woods, MD 2009-2010  
Thomas Phillips, MD 2010-2011  
Harvinder Bedi, MD 2011-2012  
M.Kamran Khan, DO 2011-2012  
Ali Shirzadi, MD 2011-2012  
Nicholas Slimack, MD 2012-2013  
Ashley T. Simela, MD 2013-2014  
Zeeshan M. Sardar, MD 2014-2015  
Andrea M. Simmonds, MD 2014-2015  
Justin D. Millard, MD 2015-2016  
Jason M. Cuellar, MD 2015-2016  
Victor Lo, MD 2016-2017  
Christopher Kong, MD 2016-2017  
Jared Ament, MD 2016-2017  
Saqib Hasan, MD 2017-2018  
Ajit Jada, MD 2017-2018  
Michael McGinity, MD: 2018-2019  
Robert Ravinsky, MD: 2018-2019  
Alisa Alayan, MD: 2018-2019

**Comprehensive Minimally Invasive Spine Surgery, Super Fellow (Post Spine Fellowship spend 6 months in exclusive Minimally Invasive Spine Surgery)**

Alisa Alayan, MD: Aug 2019 – Jan 2020

Andrew Chung, DO: Aug 2020 – Jan 2021  
David Gendelberg, MD: Feb 2021 – July 2021  
Jose Humberto Jimenez, MD: August 2021 – Jan 2022  
Jerry Robinson, MD: August 2022 – Jan 2023

### Visiting National and International Surgeons Hosted

March 2017 – **INDIA** – Dr Hrushikesh Mehata at Spine Care Clinic, Pune  
April 2017 – **INDIA** – Dr Jairam Jagiasi at Hinduhridaysamrat Balasaheb Thackeray Medical College & Dr RN Cooper Hospital, Mumbai  
August 2017 – **THAILAND** – Dr Vit Kotheeranuraka at King Chulalongkorn Memorial Hospital, Bangkok  
October 2017 – **INDIA** – Dr Avinash Jain at The Abhoy Clinic, Indore  
November 2017 – **BRAZIL** - Dr Rodrigo Lima at Santa Lucia Hospital, Brazilia  
April 2018 – **INDIA** - Dr Srikanth Reddy Dumpa at Sai Bhaskar Spine Center, BMR Hospital  
September 2018 – **AUSTRALIA** - Dr Arvind Dubey at Royal Hobart Hospital, Tasmania  
September 2018 – **AUSTRALIA** - Dr Yagnesh Vellore at Austin Hospital, Heidelberg  
March 2019 – **UK** - Dr Andrew Bowey at Royal Victoria Infirmary, Newcastle  
March 2019 – **UK** - Dr John Andrews at Royal Victoria Infirmary, Newcastle  
March 2019 – **BRAZIL** - Dr Rodrigo Lima at Santa Lucia Hospital, Brazilia  
May 2019 – **INDIA** - Dr Ayush Sharma at Central Railway Hospital, Mumbai  
October 2019 – **INDIA** – Dr Ankit Patel at Bombay Hospital & Medical Research Center, Mumbai

## BIBLIOGRAPHY / PUBLICATIONS

### A.) RESEARCH PAPERS – PEER REVIEWED

1. **Anand N**, DeLima DF, Tanna DD: Internal Fixation of Pott's Fractures. *Clinical Orthopedics India* 3:113-119, 1988.
2. **Anand N**, DeLima DF, Rao AA, Tanna DD: Harrington Rod versus Segmental Spinal Instrumentation for Traumatic Spines. *Clinical Orthopedics India* 4:33-38, 1989.
3. **Anand N**, Agrawal VA, Laheri VJ, Tanna DD: Intramedullary Fixation of Fracture of Shaft Femur with K-Nail. *Bombay Hospital Journal* 31 (3):63-68, 1989.
4. **Anand N**, DeLima DF, Tanna DD: Isolated Posterior Dislocation of the Radial Head in an Adult. *Bombay Hospital Journal* 32 (4):115-116, 1990.
5. Agrawal VA, Maniar RN, **Anand N**, Talwalkar CA: Papineau Bone Grafting in cases of Infected Bony Cavities and Infected Non-Unions. *Bombay Hospital Journal* 32 (2):25-28, 1990.
6. **Anand N**, Klenerman L: Ankle Fractures in the Elderly - MUA v/s ORIF. *Injury* 24 (2):116-120, 1993.

7. **Anand N**, Tanna DD. Unconventional Pedicle Spinal Instrumentation - The Bombay Experience (A study of 90 patients - Late Results). *Spine* 19:2150-2158, 1994.
8. **Anand N**, Levine DL, Burke S, Bansal M: Neuropathic (Charcot) Spinal Arthropathy in Charcot-Marie-Tooth Disease. *J Bone and Joint Surg.* 79-A (8):1235-1239, August 1997.
9. **Anand N**, Helfet DL, Malkani AL, Quinn TJ, Green DST, Burga S: Intraoperative Monitoring of Motor Pathways during Operative Fixation of Acute Acetabular Fractures. *The Journal of Orthopedic Trauma* 11(1):2-6, 1997.
10. **Anand N**, Idio Jr. FG, Remer S, Hoppenfeld S: The Effects of Perioperative Blood Salvage and Autologous Blood Donation on Transfusion Requirements in Scoliosis Surgery. *Journal of Spinal Disorders* 11(6):532-534, December 1998.
11. **Anand N**, Helfet DL: Acute Both Column Fractures of the Acetabulum, Orthopaedic Grand Rounds-Trauma, AAOS CD ROM Publications, 2000.
12. **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.
13. **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.
14. **Anand N**, Regan JJ: Video-Assisted Thoracoscopic Surgery for Thoracic Disc Herniation – Classification and Outcome Study of 100 Consecutive Cases with Min. 2-year Follow-up. *Spine* 27 (8): 871-879, 2002.
15. **Anand N**, Helfet DL, Kloen P, Rosen, HS: Open Reduction and Internal Fixation of Delayed Unions and Nonunions of Fractures of the Distal Part of the Humerus. *J Bone and Joint Surg.* 85-A(1):33-40, Jan 2003.
16. **Anand N**, Helfet DL, Kloen P, Rosen HS: ORIF of Delayed Unions and Nonunions of Distal Humeral Fractures Surgical Technique. *J Bone and Joint Surgical Techniques*, 86-A (1):18-29, March 2004.
17. Johnson JP, Lauryssen C, Cambron HO, **Anand N**, Pashman RS, Regan JJ, Bray R: Sagittal alignment and the Bryan cervical artificial disc. *Neurosurg Focus* 17(6): E14, Dec 15, 2004.
18. Johnson JP, Pashman RS, Lauryssen C, **Anand N.**, Regan JJ, Bray RS: The Changing Role for Neurosurgeons and the Treatment of Spinal Deformity. *J Neurosurg Spine* 2:233-242, March 2005.
19. Harrop JS, Vaccaro AR, Hurlbert RJ, Wilsey JT, Baron EM, Shaffrey CI, Fisher CG, Dvorak MF, Oner FC, Wood KB, **Anand N**, Anderson DG, Lim MR, Lee JY, Bono CM, Arnold PM, Rampersaud YR, Fehlings MG; Spine Trauma Study Group: Intrarater and interrater reliability and validity in the assessment of the mechanism of injury and integrity of the posterior ligamentous complex: a novel injury severity scoring system for thoracolumbar injuries. Invited submission from the Joint Section Meeting on Disorders of the Spine and Peripheral Nerves, March 2005. *J Neurosurgery Spine* 4(2):118-122, Feb 2006.
20. James S. Harrop, M.D., Alexander R. Vaccaro, M.D., R. John Hurlbert, M.D., Ph.D., Jared T. Wilsey, Ph.D., Eli M. Baron, M.D., Christopher I. Shaffrey, M.D., Charles G. Fisher, M.D., Marcel F. Dvorak,

- M.D., F. C. Öner, M.D., Kirkham B. Wood, M.D., **Neel Anand, M.D.**, D. Greg Anderson, M.D., Moe R. Lim, M.D., Joon Y. Lee, M.D., Christopher M. Bono, M.D., Paul M. Arnold, M.D., Y. Raja Rampersaud, M.D., Michael G. Fehlings, M.D., Ph.D., and The Spine Trauma Study Group Intrarater and interrater reliability and validity in the assessment of the mechanism of injury and integrity of the posterior ligamentous complex: a novel injury severity scoring system for thoracolumbar injuries Invited submission from the Joint Section Meeting on Disorders of the Spine and Peripheral Nerves, March 2005. *WSJ*. 2006;1(2):40-44
21. **Anand N**, Vaccaro AR, Lim MR, Lee JY, Arnold P, Harrop JS, Ratliff J, Rampersaud R, Bono CM, Spine Trauma Group: Evolution of Thoracolumbar Trauma Classification Systems: Assessing the conflict between mechanism and morphology of injury. *Top Spinal Cord Inj Rehabil* 2006;12 (1): 70-78
  22. Rampersaud YR, **Anand N**, Dekutoski MB.: Use of minimally invasive surgical techniques in the management of thoracolumbar trauma: current concepts. *Spine*. 2006 May 15;31(11 Suppl):S96-102; discussion S104. Review
  23. Bono CM, Vaccaro AR, Hurlbert RJ, Arnold P, Oner FC, Harrop J, **Anand N**: Validating a Newly Proposed Classification System for Thoracolumbar Spine Trauma: Looking to the Future of the Thoracolumbar Injury Classification and Severity Score (TLICS), *J Orthop Trauma*. 2006 Sep;20 (8): 567-572
  24. **Anand N**, Hamilton JF, Perri BR, Miraliakbar H, Goldstein T: Cantilever TLIF with structural allograft and rhBMP2 for correction and maintenance of segmental sagittal lordosis: clinical, radiographic and functional outcome. *Spine*. 2006 Sep 15;31(20):E748-53
  25. Raja Rampersaud Y, Fisher C, Wilsey J, Arnold P, **Anand N**, Bono CM, Dailey AT, Dvorak M, Fehlings MG, Harrop JS, Oner FC, Vaccaro AR.: Agreement between Orthopedic and Neurosurgeons regarding a new algorithm for the treatment of thoracolumbar injuries: a multi-center reliability study. *J Spinal Disord Tech*. 2006 Oct;19(7):477-482
  26. Perri BR, Cooper M, Laurysen C, **Anand N**: Adverse swelling associated with use of rh-BMP-2 in anterior cervical discectomy and fusion: a case study. *The spine journal* 2007;7:235-239.
  27. **Anand N**, Ratliff J, Vaccaro AR, Lim MR, Lee JY, Arnold P, Harrop JS, Rampersaud YR, Bono CM, and the Spine Trauma Study Group: Regional Variability in Use of a Novel Assessment of Thoracolumbar Spine Fractures: United States versus International Surgeons. Neurosurgery (in review)
  28. John Ratliff, **Neel Anand** , Alexander Vaccaro , Moe Lim , Joon Lee , Paul Arnold , James Harrop , Raja Rampersaud , Christopher Bono , Ralf Gahr: Regional Variability in Use of a Novel Assessment of Thoracolumbar Spine Fractures: United States versus International Surgeons. *World J Emerg Surg*. 2007 Sep 7;2 (1):24 17825106
  29. **Anand, N**, Baron, EM, Bray, RS. Benefits of Paraspinal muscle-sparing approach versus the conventional Midline approach for Posterior NonFusion Stabilization – Comparative analysis of clinical and functional outcomes. *SAS Journal September 2007 (Vol. 1, Issue 3, Pages 93-99)*. DOI: SASJ-2007-0006-RR
  30. **N. Anand**, E. Baron. Unilateral TLIF with Unilateral Instrumentation: A Consecutive Series of 35 Patients with Minimum 2 Year Follow-up. *The Spine Journal, Volume 7, Issue 5, Pages 157S-158S*
  31. Ali Araghi, **Neel Anand**, Harvinder Sandhu, Hyun Bae; Clinical Symposium I: Pedicle-Based Posterior Non-Fusion Stabilization; *The SAS Journal; December 2007 (Vol. 1, Issue 4, Pages 147-159)*

32. **Anand, N**, Baron, EM, Thaiyananthan, T, Khalsa, K, Goldstien, TB. Minimally invasive spinal fusion for lumbar degenerative scoliosis: Feasibility Study. *Journal of Spinal Disorders and Techniques*. October 2008, 21(7):459-67.
33. **Anand, N**, Baron, EM, Bray, RS, Jr. Modified Muscle-Sparing Paraspinal Approach for Stabilization and Interlaminar decompression – A Minimally Invasive Technique for Pedicle Screw-Based Posterior Non-Fusion Stabilization. *SAS Journal*. March 2008 (Vol. 2, Issue 1, Pages 40-42). DOI: SASJ- 2007-0120-MIS
34. Mark Dekutoski, **Neel Anand**, Ralf Gahr, Laurie Mihalik, Paul Huddleston; Open vs Percutaneous Stabilization of Thoracic and Lumbar Fracture in Ankylosing Spondylitis and DISH. *The Spine Journal*, Volume 8, Issue 5, page 181S (2008)
35. **Neel Anand**, Harvinder Sandhu: Clinical Symposium II: Interspinous-based Dynamic Stabilization; *The SAS Journal*; September 2008 (Vol. 2, Issue 3, Pages 150-154)
36. Mark Dekutoski, Paul Huddleston, **Neel Anand**, Joseph Riina, Robert Isaacs, Ralf Gahr; Thoracolumbar Fracture Management with Selective Fusion and Instrumentation Removal Open vs Percutaneous Stabilization of Thoracic and Lumbar Fracture in Ankylosing Spondylitis and DISH. *The Spine Journal*, Volume 9, Issue 5, pages 83-84S (2009)
37. A Ploumis, R Ponnappan, J Sarbello, M Dvorak, M Fehlings, E Baron, **N. Anand**, D. Okonkwo, A Patel, A Vaccaro: Thromboprophylaxis in Traumatic and Elective Spinal Surgery; *SPINE Volume 35, Number 3, pp 323–329 (2010)*
38. **N. Anand**, R. Rosemann, B Khalsa, E Baron; Mid-term to long-term clinical and functional outcomes of minimally invasive correction and fusion for adults with scoliosis; *Neurosurg Focus 28 (3):E6, (2010)*
39. Samudrala S, Vaynman S, Thiayananthan T, Ghostine S, Bergey DL, **Anand N**, Pashman RS, Johnson JP. Cervicothoracic junction kyphosis: surgical reconstruction with pedicle subtraction osteotomy and Smith-Petersen osteotomy. *JNeurosurg Spine*. 2010 Dec;13(6):695-706.
40. **Anand, N**, Baron, EM; Minimally Invasive Treatment of Adult Scoliosis. *Seminar in Spine Surgery, 2011*
41. **Anand, N**, Baron, EM; Minimally Invasive Approaches for the Correction of Adult Spinal Deformity. *European Spine Journal, 2012. Supplement: Innovative concepts in scoliosis treatment*
42. **Anand, N**, Baron, EM. Urologic Injury as a Complication of the Transpoas Approach for Discectomy and Interbody Fusion – A report of 3 cases. *J Neurosurg Spine*. 2012 Nov 2.
43. **Anand N**, Baron EM: Role of Dynesys as Pedicle-Based Nonfusion Stabilization for Degenerative Disc Disorders; *Advances in Orthopedics*; 2012;2012:218385. doi: 10.1155/2012/218385
44. O. Boachie-Adjei, **N. Anand**, G. Fleischer, K. Kabaish, M. Melgar, R. Nasca, T. Raley; Neurosurgical forum Letter to the Editor: Lumbar Interbody Fusion; *J Neurosurg: Spine / January 11, 2013*
45. Popovich JM Jr, Welcher JB, Hedman TP, Tawackoli W, **Anand N**, Chen TC, Kulig K; Lumbar facet joint and intervertebral disc loading during simulated pelvic obliquity. *Spine J*. 2013 May 21. doi:pii: S1529-9430(13)00412-9. 10.1016/j.spinee.2013.04.011. PMID: 23706384 [PubMed.gov]



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46. **Anand N**, Johnson JP, Melamed H, Hunt L, Pashman RS, Wolcott WP: Asymmetric pedicle subtraction osteotomy with partial vertebrectomy for correction of fixed combined coronal and sagittal imbalance: a new twist on an old technique. Congress of Neurological Surgeons, Boston, Massachusetts, Oct. 2005.
47. **Anand N**, Hamilton J: Unilateral Pedicle Screws with Cantilever Transforaminal Lumbar Interbody Fusion (TLIF) in the Treatment of Single Level Degenerative Scoliosis: A Case Series with Analysis of a Novel Surgical Technique, Congress of Neurological Surgeons, Boston, Massachusetts, October 2005.
48. **Anand N**, Gravori T: Transverse Ligamentous Injuries: Mechanism of Injury, Classification, Initial Treatment, Definitive Treatment, Prognosis, Complications, Cervical Spine Trauma, November 2005.
49. Johnson JP, Melamed H, **Anand N**, Hunt LA, Pashman RS, Wolcott PW: Asymmetric pedicle subtraction osteotomy with partial vertebrectomy for correction of fixed combined coronal and sagittal imbalance: a new twist on an old technique. American Assoc of Neurological Surgeons, San Francisco, CA, April 2006.
50. **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 Society* 6, Montreal, Quebec, Canada, May 2006.
51. **Anand N**, Perri BR, Bray RS: Radiological analysis of segmental lumbar sagittal alignment following posterior non-fusion stabilization with the Dynesys system. IMAST, Athens, Greece, July 2006.
52. **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.
53. **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, Athens, Greece, July 2006.
54. **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.
55. **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. NASS, Seattle, September 2006.
56. Johnson JP, Chuang S, Hunt L, **Anand N**, Pashman RS, Hedman T: Investigation of Injectable Collagen Crosslinking as an Alternative and Adjunctive Procedure in the Treatment of Spinal Deformity. Congress



of Neurological Surgeons Annual Meeting, Chicago, Illinois, October 2006

57. DimaSheyn, Gadi Pelled, ZulmaGazit, Christopher J. Zarembinski, **Neel Anand**, Johnson J. Patrick, Dan Gazit: Injectable Adult Stem Cells as a Novel Therapeutic Platform for Anterior and Posterior Spinal Fusion. Joint Section of Spine/Peripheral Nerve Meeting. AANS/CNS. March 2007. Phoenix, AZ
58. **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
59. **Anand, N**, Baron, EM, Siddique, K, Perri, B, Bray, RS Jr. Comparison of traditional midline approach versus muscle splitting paraspinous 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
60. **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
61. **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.
62. **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
63. **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
64. Ghostine, S, Baron, EM, **Anand, N**. TLIF with Unilateral Instrumentation - A Prospective Study of 35 Patients with Minimum 2 Year Follow-Up. *CNS September 15-20, 2007 San Diego, CA*.
65. **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
66. **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
67. **Anand, N**, Ghostine, S, Baron, EM. TLIF with Unilateral Instrumentation: Long-term results in 35 patients. North American Spine Society (NASS), Austin, TX, 2007
67. **Anand, N**, Thaiyananthan, T, Khalsa, K, Baron, EM, Ammar, KN. Minimally Invasive Percutaneous Multilevel 360 Degree Fusion for Lumbar Degenerative Scoliosis - A Feasibility Study. Georgia Neurosurgical Society Fall Meeting. November 17, 2007. Atlanta, Georgia.
68. **Anand, N**, Baron, EM, Thaiyananthan, T. Feasibility of Long Segment Percutaneous Minimally Invasive Correction and Fusion for Lumbar Degenerative Scoliosis. Society for Minimally Invasive Surgery of the

Spine (SMISS) 2<sup>nd</sup> Annual Meeting, San Diego, CA. November 16-17, 2007

69. **Anand N**, Khalsa, K, Thaiyananthan, T, Baron, EM. Minimally Invasive Percutaneous Multilevel 360-degree fusion for Lumbar Degenerative Scoliosis - A Feasibility Study. Spine Arthroplasty Society Asia Pacific Conference Seoul, Korea. January 16-18, 2008.
70. **Anand N**, Thaiyananthan, T, Baron, EM. A Minimally Invasive Percutaneous Multilevel 360-degree fusion for Lumbar Degenerative Scoliosis – Early Results. Joint Section of Spine/Peripheral Nerve Meeting. AANS/CNS. February 27 – March 1, 2008. Orlando, FL
71. **Neel Anand, MD**, Eli M. Baron, MD, Ty Thaiyananthan, MD. Novel Minimally Invasive Percutaneous Multilevel 360-degree fusion for Lumbar Degenerative Scoliosis – Feasibility, Technique and Early Results. Spine Arthroplasty Society (SAS) Annual Meeting, May 6-9 2008, Miami Beach, FL
72. **Neel Anand, MD**, Richard Wupperman, MD, Eli M. Baron, MD. Minimally invasive AxiaLIF L5-S1 interbody fusion for anterior column support at the end of a long segment fusion: Early results. Spine Arthroplasty Society (SAS) Annual Meeting, May 6-9 2008, Miami Beach, FL
73. **Neel Anand, MD**, Eli Baron, MD, Robert S. Bray, MD. Posterior Non-Fusion Stabilization of the Lumbar Spine for Degenerative Disc Disease – Minimum 2 year Clinical, Radiological and Functional Results for Back Pain. Spine Arthroplasty Society (SAS) Annual Meeting, May 6-9 2008, Miami, FL
74. P. McAfee, D. Sengupta, **N. Anand**, G. Deol, N. Khanna, D. Tyndall, R. Balderston, A. Ingallhalikar. TRIUMPH™ Posterolateral Artificial Disc Biomechanics: The Effect of Posterior Tethering. Spine Arthroplasty Society (SAS) Annual Meeting, May 6-9 2008, Miami Beach, FL
75. W. Taylor, I. Armstrong, **N. Anand**, B. Arnold, M. Rich. Mechanical testing of a Novel Percutaneous Pedicle Screw-based Motion Neutralization System. Spine Arthroplasty Society (SAS) Annual Meeting, May 6-9 2008, Miami Beach, FL
76. **Anand, N**, Baron, EM, Thaiyananthan, G. Minimally Invasive Percutaneous Multilevel 360-degree fusion for Lumbar Degenerative Scoliosis - Radiologic and Clinical Follow-up. Accepted International Meeting on Advanced Spinal Techniques (IMAST), Hong Kong, 2008
77. **Anand, N**, Wupperman, R, Baron, EM. Minimally invasive AxiaLIF L5-S1 interbody fusion for anterior column support at the end of a long segment fusion. International Meeting on Advanced Spinal Techniques (IMAST) Hong Kong, 2008
78. Huddleston, P, Dekutoski, M, **Anand, N** et.al. Percutaneous Instrumentation of Thoracic and Lumbar Injuries via Novel Unconstrained/Steerable Rod: Preliminary Results. International Meeting on Advanced Spinal Techniques (IMAST) Hong Kong, 2008
79. **Anand, N**, Baron, EM, Thaiyananthan, G. Minimally Invasive Percutaneous Multilevel 360-degree fusion for Lumbar Degenerative Scoliosis – Radiologic and Clinical Follow-up. World Congress of Minimally Invasive Spinal Surgery and Techniques (WCMISST 2008), June 3-7, 2008, Honolulu, Hawaii, USA
80. **Anand, N**, Rosemann, R, Baron, EM. Minimally Invasive Circumferential Correction and Fusion of Lumbar Degenerative Scoliosis: 1 year or greater results. Society for Minimally Invasive Surgery of the Spine (SMISS) 2<sup>nd</sup> Annual Meeting, Henderson, NV. November 14-15, 2008

81. **Anand, N**, Rosemann, R, Baron, EM. Minimally invasive AxiaLIF L5-S1 Interbody Fusion for anterior column support at the end of a long segment fusion: 1 year Clinical and Functional Outcome. Society for Minimally Invasive Spine Surgery (SMISS), November 13-15, 2008. Henderson, NV
82. **Neel Anand, MD**, Rebecca Rosemann, PA-C, Paul Salinas, MD, Eli M. Baron, MD. Can Minimally Invasive Adult Spinal Deformity Correction maintain Lordosis and Global Sagittal Balance? System. Spine Arthroplasty Society (SAS) Annual Meeting, 2009, London, UK
83. **Neel Anand, MD**, Rebecca Rosemann PA-C, Eli M. Baron, MD Minimally invasive AxiaLIF L5-S1 Interbody Fusion for anterior column support at the end of a long segment fusion: 1 year Clinical and Functional Outcome. Spine Arthroplasty Society (SAS) Annual Meeting, 2009, London, UK
84. **Neel Anand, MD**; Eli Baron, MD, Rebecca Rosemann, MS, PA-C Posterior Non-Fusion Stabilization of the Lumbar Spine for Degenerative Disc Disease with the Dynesys System – Minimum 3 year Clinical, Radiological and Functional. Spine Arthroplasty Society (SAS) Annual Meeting, 2009, London, UK
85. **Neel Anand, MD**, Eli M. Baron, MD, Rebecca Rosemann, PA-C; Minimally Invasive Percutaneous Circumferential Correction and Fusion for Adult Spinal Deformity: 1.5-year Clinical and Radiological results. Spine Arthroplasty Society (SAS) Annual Meeting, 2009, London, UK
86. **Anand, N**, Baron, EM, Rosemann, R, Härtl, R, Kitchel, S, Patel, V, Safety and Complication Profile of Percutaneous Lumbosacral Interbody Fusion. 16th International Meeting on Advanced Spine Techniques (IMAST), July, 2009, Vienna, Austria
87. **Anand, N**, Rosemann, R, Baron, EM. Minimally invasive AxiaLIF L5-S1 Interbody Fusion for anterior column support at the end of a long segment fusion: 1 year Clinical and Functional Outcome. 16th International Meeting on Advanced Spine Techniques (IMAST), July, 2009, Vienna, Austria
88. **Anand, N**, Baron, EM, Rosemann, R. Minimally Invasive Percutaneous Circumferential Correction and Fusion for Adult Spinal Deformity: 1.5 year Clinical and Radiological Results. 16th International Meeting on Advanced Spine Techniques (IMAST), July, 2009, Vienna, Austria.
89. **Anand, N**, Baron, EM, Rosemann, R. Posterior Non-Fusion Stabilization of the Lumbar Spine for Degenerative Disc Disease with the Dynesys System– Minimum 3 year Clinical, Radiological and Functional Outcomes. 16th International Meeting on Advanced Spine Techniques (IMAST), July 2009, Vienna, Austria.
90. **Anand, N**, Rosemann, R, Salinas, P, Baron, EM. Can Minimally Invasive Adult Spinal Deformity Correction maintain Lordosis and Global Sagittal Balance? 16th International Meeting on Advanced Spine Techniques (IMAST), July 2009, Vienna, Austria.
91. **Anand, N**, Rosemann, R, Lorio, M. One year results from a US IDE trial evaluating a dynamic stabilization system designed to restore the neutral zone. 16th International Meeting on Advanced Spine Techniques (IMAST), July 2009, Vienna, Austria.
92. **Anand, N**, Baron, EM, Rosemann, R, Härtl, R, Kitchel, S, Patel, V, Safety and Complication Profile of Percutaneous Lumbosacral Interbody Fusion. Congress of Neurological Surgeons meeting New Orleans, Louisiana, October 24 - 29, 2009.
93. Mark Dekutoski, Paul Huddleston, **Neel Anand**, Joseph Riina, Robert Isaacs, Ralf Gahr; Thoracolumbar Fracture Management with Selective Fusion and Instrumentation Removal Open vs Percutaneous

Stabilization of Thoracic and Lumbar Fracture in Ankylosing Spondylitis and DISH. North American Spine Society (NASS), San Francisco, CA, November 2009

94. **N. Anand**, B. Robie, N. Wharton, L. Ferrara, K. Yonemura, A.E. Castellvi: Quantity and Quality of Motion in Stenosis Patients; SAS 10<sup>th</sup> Annual meeting, New Orleans, LA, April 2010
95. A.E. Castellvi, A. Khandha, N. Wharton, L. Ferrara, **N. Anand**, J. Cheng; An Analysis of the PostOp Performance of the Stabilimax® Posterior Dynamic Stabilization (PDS) Implant through Measurement of Range of Motion (ROM) and InterPedicular Travel (IPT); SAS 10<sup>th</sup> Annual meeting, New Orleans, LA, April 2010
96. **N. Anand**, R. Rosemann, E. Baron; Mid to Long Term, 1-2 Year Radiological Analysis of Minimally Invasive Surgery for Adult Scoliosis; SAS 10<sup>th</sup> Annual meeting, New Orleans, LA, April 2010
97. **N. Anand**, R. Rosemann, B. Khalsa, E. Baron; Minimally Invasive AxiaLIF L5-S1 Interbody Fusion for Anterior Column Support at the End of a Long Segment Fusion: 1 to 2 year Clinical and Functional Outcomes; SAS 10<sup>th</sup> Annual meeting, New Orleans, LA, April 2010
98. **N. Anand**, R. Balderstone, P.C. McAfee, S.R. Chinthakunta, S. Khalil, A. Ingalhalikar, M. Moldavsky; Fatigue Effect on an Artificial Posterolateral Lumbar Disc Replacement: An in-vitro Cadaveric Model; SAS 10<sup>th</sup> Annual meeting, New Orleans, LA, April 2010
99. R. Balderstone, **N. Anand**, G.S. Deol, S.R. Chinthakunta, S. Khalil, A. Ingalhalikar, M. Moldavsky; Determining Physiologic Fatigue Characteristics of an Artificial Posterolateral Lumbar Disc Replacement Using Center of Rotation; SAS 10<sup>th</sup> Annual meeting, New Orleans, LA, April 2010
100. **N. Anand**, R. Balderstone, S.R. Chinthakunta, S. Khalil, A. Ingalhalikar, M. Moldavsky; Quantifying Subsidence of a Novel Artificial Posterolateral Lumbar Disc Replacement Post-Fatigue Testing: A Cadaveric Study; SAS 10<sup>th</sup> Annual meeting, New Orleans, LA, April 2010
101. R. Balderstone, **N. Anand**, N. Khanna, S.R. Chinthakunta, S. Khalil, A. Ingalhalikar; Migration of an Artificial Posterolateral Lumbar Disc Replacement (PLDR) Pre-fatigue and Post-fatigue: An in-vitro Cadaver Model; SAS 10<sup>th</sup> Annual meeting, New Orleans, LA, April 2010
102. R. Dryer, J. Regan, C. Hartjen, W.B. Rodgers, D. DiRisio, K. Pettine, J. Youssef, A. Rhyne, E. Laxer, M. Lorio, J. Marzluff, J. Highsmith, K. Rahn, R. Shugart, A.D. Tahernia, C. Morgan, W. Ceola, **N. Anand**, R. Delamarter, S. Hodges; Prospective US IDE Trial: Interim Results for the Treatment of Symptomatic Lumbar Spinal Stenosis with Facet Replacement in 100 Patients Enrolled at 15 Centers; NASS 25<sup>th</sup> Annual Meeting, Orlando, FL, October 2010
103. **N. Anand**, E. Baron; Safety and Complications of Profile of Percutaneous Lumbosacral Axial Interbody Fusion, Society for Minimally Invasive Spine Surgery (SMISS), Miami, FL, October 2010.
104. D. DiRisio, J. Regan, C. Hartjen, R. Dryer, W.B. Rodgers, K. Pettine, J. Youssef, A. Rhyne, E. Laxer, L. Spector, M. Lorio, J. Marzluff, J. Highsmith, K. Rahn, R. Shugart, A.D. Tahernia, C. Morgan, T. Briggs, J. Ferguson, **N. Anand**, R. Delamarter, S.C. Humphreys, S. Hodges, P. Connolly, Treatment of 110 Symptomatic Lumbar Stenosis Patients at 16 Centers in an FDA IDE Facet Replacement Study; American Assoc. Neurological Surgeons Annual Meeting, Denver, CO, April 9-13, 2011
105. **N. Anand**, S. Kahwaty, S. Daroudi, E. Baron, Long Term 2 to 4 year Clinical and Functional Outcomes of Minimally Invasive Surgery (MIS) for Adult Spinal Deformity, ISASS, Las Vegas, NV, April, 2011

106. **N. Anand**, S. Kahwaty, E. Baron, S. Daroudi, A. King, O. Boachie-Adjei, Multicenter Minimally Invasive AxiaLIF L5-S1 Interbody Fusion for Anterior Column Support at the End of a Long Segment Construct: Feasibility, Safety, Complications, Early and Late 3 Year Outcomes, ISASS/SAS, Las Vegas, NV, April 26-29, 2011
107. J.A. Youssef, J.J. Regan, C.A. Hartjen, R.F. Dryer, W.B. Rodgers, K. Pettine, D.J. DiRisio, A.L. Rhyne, E.B. Laxer, L.B. Spector, M.P. Lorio, J.M. Marzluff, J.M. Highsmith, K.A. Rahn, R.M. Shugart, A.D. Tahernia, C.J. Morgan, T.B. Briggs, J.F. Ferguson, W.M. Ceola, **N. Anand**, R.B. Delamarter, S.C. Humphreys, S. Hodges, P. Connolly; Prospective Randomized FDA IDE Pivotal Study of Symptomatic Lumbar Spinal Stenosis Patients Treated with ACADIA™: Interim Perioperative and Clinical Outcomes for the Investigational Device, ISASS/SAS, Las Vegas, NV, April 26-29, 2011
108. **Anand, Neel**; Kahwaty, Sheila; Daroudi, Shideh; Baron, Eli; Boachie-Adjei, Ohenaba, Multicenter Minimally Invasive AxiaLIF L5-S1 Interbody Fusion for Anterior Column Support at the End of a Long Segment Construct: Feasibility, Safety, Complications, Early and Late 3 Year Outcomes, Int'l Society for the Study of the Lumbar Spine (ISSLS), Gothenburg, Sweden, June 14-18, 2011
109. **Anand, Neel**; Daroudi, Shideh; Kahwaty, Sheila; Baron, Eli, Long Term 2 To 4 Year Clinical and Functional Outcomes of Minimally Invasive (MIS) For Adult Spinal Deformity, Int'l Society for the Study of the Lumbar Spine (ISSLS), Gothenburg, Sweden, June 14-18, 2011
110. **Neel Anand, MD**; Sheila Kahwaty, PA-C; Babak Khandehroo, MD; Eli Baron, MD; Two to Four Year Functional Outcomes of Minimally Invasive Surgery (MIS) for Adult Spinal Deformity, IMAST, Copenhagen, Denmark, July 13-16, 2011
111. Dennis Crandall, MD; Eric Huish, BS; Sigurd H. Berven, MD; **Neel Anand, MD**; Murali P. Kadaba, PhD, MBA; Ryan McLemore, PhD; Radiographic Comparison of Fixed Cage vs. Expandable Cage in TLIF, IMAST, Copenhagen, Denmark, July 13-16, 2011
112. **Neel Anand, MD**; Sheila Kahwaty, PA-C; Babak Khandehroo, MD; Eli Baron, MD; Two to Four Year Functional Outcomes of Minimally Invasive Surgery (MIS) for Adult Spinal Deformity; SRS 46<sup>th</sup> Annual Meeting, Louisville, KY, September 14-17, 2011
113. **Neel Anand, MD**; Babak Khandehroo, MD; Jeffrey Toll, BA; Eli M Baron, MD; Sheila Kahwaty, PA-C; Long Term Clinical and Functional Outcomes of Minimally Invasive Surgery for Significant Thoracolumbar Scoliosis (COBB angle greater than 30°); SMISS Annual Meeting, Las Vegas, Nevada, October 21-23, 2011
114. **Neel Anand, MD**; Babak Khandehroo, MD; Jeffrey Toll, BA; Eli M Baron, MD; Sheila Kahwaty, PA-C; Long Term 2 to 4 year Clinical and Functional Outcomes of Minimally Invasive Surgery (MIS) for Adult Spinal Deformity; SMISS Annual Meeting, Las Vegas, Nevada, October 21-23, 2011
115. **Neel Anand, MD**; Babak Khandehroo, MD; Jeffrey Toll, BA; Eli M Baron, MD; Sheila Kahwaty, PA-C; Minimally Invasive AxiaLIF for Anterior Column Support in Long Segment Constructs: Minimum 1 year Functional and Clinical Outcomes; SMISS Annual Meeting, Las Vegas, Nevada, October 21-23, 2011
116. **Anand, N**, Khandehroo, B, Kahwaty S, Baron, E. M. Can Transsacral AxiaLIF Fixation at the Bottom of a Long Construct Avoid the Need for Iliac Bolt? International Society for the Advancement of Spine Surgery (ISASS) - Barcelona, Spain - March 20-23, 2012

117. **Anand, N**, Khandehroo, B, Kahwaty S, Baron, E. M. Can Minimally Invasive Surgical Strategies for Deformity Correction Avoid the Need for Routine Osteotomies in Moderate to Severe Adult Scoliosis? International Society for the Advancement of Spine Surgery (ISASS) - Barcelona, Spain - March 2012
118. **Anand, N**, Khandehroo, B, Kahwaty S, Baron, E. M. Minimally Invasive Pedicle Screw Instrumentation and Fusion for Adult Scoliosis - Functional and Radiological Outcomes; International Society for the Advancement of Spine Surgery (ISASS) - Barcelona, Spain - March 20-23, 2012
119. **N. Anand**, T. Castellvi, K. Yonemura, S. Kitchel, B.C. Cheng, B. Robie; 24 month functional outcomes from a US IDE trial evaluating a lumbar posterior dynamic stabilization (PDS) system with Interpedicular Travel (IPT) International Society for the Advancement of Spine Surgery (ISASS) - Barcelona, Spain - March 20-23, 2012
120. S.H. Kitchel, **N. Anand**, A. Castellvi, K. Yonemura, B. Cheng, B. Robie; Failure Analysis of Patients in a US IDE trial of a Posterior Dynamic Stabilization System Who Did Not Achieve Primary Success Endpoints; International Society for the Advancement of Spine Surgery (ISASS) - Barcelona, Spain - March 20-23, 2012
121. B.C. Cheng, S. Kitchel, A.E. Castellvi, K. Yonemura, **N. Anand**, B. Robie; Radiographic Assessment of Stabilimax Patients at 12 mos. Follow up; International Society for the Advancement of Spine Surgery (ISASS) - Barcelona, Spain - March 20-23, 2012
122. S.H. Kitchel, **N. Anand**, A. Castellvi, K. Yonemura, B. Cheng, B. Robie; Screw Radiolucency Is Not Predictive of Clinical Failure at 2 years in Posterior Pedicle Based Dynamic Stabilization; International Society for the Advancement of Spine Surgery (ISASS) - Barcelona, Spain - March 20-23, 2012
123. **Anand, Neel**, Khandehroo, Babak, Baron, Eli, Kahwaty Sheila; Does Minimally Invasive Surgical (MIS) Treatment of Adult Spinal Deformities Affect the Incidence of Proximal Junctional Kyphosis? 19<sup>th</sup> International Meeting on Advanced Spine techniques (IMAST); Istanbul, Turkey, July 18-21, 2012
124. **Anand, Neel**, Khandehroo, Babak, Baron, Eli, Kahwaty Sheila; Can Transsacral AxiaLIF Fixation at the Bottom of a Long Construct Avoid the Need for Iliac Bolt? Scoliosis Research Society; 19<sup>th</sup> International Meeting on Advanced Spine techniques (IMAST); Istanbul, Turkey, July 18-21, 2012
125. **Anand, Neel**, Khandehroo, Babak, Baron, Eli, Kahwaty Sheila; Can Minimally Invasive Surgical Strategies for Deformity Correction Avoid the Need for Routine Osteotomies in Moderate to Severe Adult Scoliosis? Scoliosis Research Society; 19<sup>th</sup> International Meeting on Advanced Spine techniques (IMAST); Istanbul, Turkey, July 18-21, 2012
126. **Anand, Neel**, Khandehroo, Babak, Baron, Eli, Kahwaty Sheila; Minimally Invasive Pedicle Screw Instrumentation and Fusion for Adult Scoliosis - Functional and Radiological Outcomes; Scoliosis Research Society; 19<sup>th</sup> International Meeting on Advanced Spine techniques (IMAST); Istanbul, Turkey, July 18-21, 2012
127. **Anand, Neel**, Khandehroo, Babak, Baron, Eli, Kahwaty Sheila; Long Term 2 to 5 year Clinical and Functional Outcomes of Minimally Invasive Surgery (MIS) for Adult Spinal Deformity; Scoliosis Research Society; 19<sup>th</sup> International Meeting on Advanced Spine techniques (IMAST); Istanbul, Turkey, July 18-21, 2012
128. **Neel Anand, MD**; Babak Khandehroo, MD; Eli Baron, MD; Sheila Kahwaty, PA-C; Does Minimally Invasive Surgical (MIS) Treatment of Adult Spinal Deformities Affect the Incidence of Proximal

Junctional Kyphosis (PJK)?, Annual Meeting of the Society for Minimally Invasive Spine Surgery (SMISS), Miami, FL, September 21-23, 2012

129. **Neel Anand, MD;** Babak Khandehroo, MD; Eli Baron, MD; Sheila Kahwaty, PA-C; Can Minimally Invasive Surgical (MIS) Strategies for Deformity Correction Avoid the Need for Routine Osteotomies in Moderate to Severe Adult Scoliosis? Annual Meeting of the Society for Minimally Invasive Spine Surgery (SMISS), Miami, FL, September 21-23, 2012
130. **Neel Anand, MD;** Babak Khandehroo, MD; Eli Baron, MD; Sheila Kahwaty, PA-C; Technique Related complications of circumferential Minimally Invasive Spinal Surgery (MISS) for correction of Spinal Deformity - A 5-year experience. Annual Meeting of the Society for Minimally Invasive Spine Surgery (SMISS), Miami, FL, September 21-23, 2012
131. **Neel Anand, MD;** Babak Khandehroo, MD; Eli Baron, MD; Sheila Kahwaty, PA-C; Complications of Minimally Invasive Spinal Surgery (MISS) for Correction of Spinal Deformity – A 5-year experience. Annual Meeting of the American Academy of Orthopaedic Surgeons (AAOS), Chicago, IL, March 18-23, 2013.
132. **Neel Anand, MD;** Babak Khandehroo, MD; Eli Baron, MD; Sheila Kahwaty, PA-C; Technique Related complications of circumferential Minimally Invasive Spinal Surgery (MISS) for correction of Spinal Deformity - A 5-year experience. Annual Meeting of the International Society for the Study of the Lumbar Spine (ISSLS), Scottsdale, Arizona, May 13-17, 2013.
133. **Neel Anand, MD;** Babak Khandehroo, MD; Eli Baron, MD; Sheila Kahwaty, PA-C; Does Minimally Invasive Surgical (MIS) Treatment of Adult Spinal Deformities Affect the Incidence of Proximal Junctional Kyphosis (PJK)? Annual Meeting of the International Society for the Study of the Lumbar Spine (ISSLS), Scottsdale, Arizona, May 13-17, 2013.
134. **N. Anand,** B. Khandehroo, S. Kahwaty, E.M. Baron, Complications of Minimally Invasive Spinal Surgery (MISS) for Correction of Spinal Deformity – A 5-year experience. Annual Meeting of International Society for the Advancement of Spine Surgery (ISASS), Vancouver, Canada, April 3-5, 2013.
135. **N. Anand,** B. Khandehroo, S. Kahwaty, E.M. Baron, Does Minimally Invasive Surgical (MIS) Treatment of Adult Spinal Deformities Affect the Incidence of Proximal Junctional Kyphosis (PJK)? Annual Meeting of International Society for the Advancement of Spine Surgery (ISASS), Vancouver, Canada, April 3-5, 2013.
136. W.D. Tobler, T.J. Raley, **N. Anand,** R.J. Nasca, M.A. Melgar; Axial Presacral L4 to S1 Interbody Fusion using AxiaLIF and Posterior Instrumentation. Clinical Outcomes. Annual Meeting of International Society for the Advancement of Spine Surgery (ISASS), Vancouver, Canada, April 3-5, 2013.
137. W.D. Tobler, **N. Anand,** M.A. Melgar, T.J. Raley, R.J. Nasca; Evaluation of Lumbar Lordosis in Patients treated with the AxiaLIF 2 Level Implant and Posterior Instrumentation. Annual Meeting of International Society for the Advancement of Spine Surgery (ISASS), Vancouver, Canada, April 3-5, 2013.
138. D.G. Crandall, S. Berven, **N. Anand,** A. Byrd, M. Kadaba, J. Revella; Improving Segmental Lordosis with a Crescent Shaped Hydraulic Expandable TLIF Cage: Safety, Efficacy and Early Clinical Outcomes. Annual Meeting of International Society for the Advancement of Spine Surgery (ISASS), Vancouver, Canada, April 3-5, 2013.

139. R. Haque, MD; G.M. Mundis, MD; Y. M. Ahmed, BS; T. Y. El Ahmadih, MD; M.Y. Wang, MD; P.V. Mummaneni, MD; J. S. Uribe, MD; D.O. Okonkwo, MD, PhD; **N. Anand, MD**; A.S. Kanter, MD; Flu Marca, MD; V. Lafage, PhD; J.S. Terran, BS; V. Deviren, MD; R.G. Fessler, MD, PhD; International Spine Study Group; Comparison of Radiographic Results After Minimally Invasive (MIS), Hybrid (HYB) and Open (OPEN) Surgery for Adult Spinal Deformity (ASD): A Multi-Center Study of 184 Patients. 20<sup>th</sup> Int'l Meeting on Advanced Spine Techniques (IMAST), Vancouver, Canada, July 10-13, 2013
140. G.M. Mundis, MD; V. Lafage, PhD; B.A. Akbarnia, MD; R.K. Eastlack, MD; M.Y. Wang, MD; J. S. Uribe, MD; **N. Anand, MD**; P.V. Mummaneni, MD; D.O. Okonkwo, MD, PhD; A.S. Kanter, MD; Flu Marca, MD; R.G. Fessler, MD, PhD; C.I. Shaffrey, MD; V. Deviren, MD; International Spine Study Group; A Prospective Propensity Matched Cohort Analysis of Minimally Invasive (MIS), Hybrid (HYB), and Open Spine Surgery (OPEN) for the Treatment of Adult Spinal Deformity (ASD); 20<sup>th</sup> Int'l Meeting on Advanced Spine Techniques (IMAST), Vancouver, Canada, July 10-13, 2013
141. M.Y. Wang, MD; P.V. Mummaneni, MD; K-M. Fu, MD, PhD; **N. Anand, MD**; D.O. Okonkwo, MD, PhD; A.S. Kanter, MD; F. La Marca, MD; R.G. Fessler, MD, PhD; J.S. Uribe, MD; C.I. Shaffrey, MD; V. Lafage, PhD; R. Haque, MD; V. Deviren, MD; G.M. Mundis, MD; International Spine Study Group; Less Invasive Surgery for Treating Adult Spinal Deformities (ASD): Ceiling Effects for Cobb Angle Correction with Three Different Techniques; 20<sup>th</sup> Int'l Meeting on Advanced Spine Techniques (IMAST), Vancouver, Canada, July 10-13, 2013
142. J.S. Uribe, MD; G.M. Mundis, MD; D.O. Okonkwo, MD, PhD; A.S. Kanter, MD; R.K. Eastlack, MD; M.Y. Wang, MD; P.V. Mummaneni, MD; **N. Anand, MD**; R.G. Fessler, MD, PhD; F. La Marca, MD; P. Park, MD; V. Lafage, PhD; C.I. Shaffrey, MD; V. Deviren, MD; International Spine Study Group; Are Complications in Adult Spinal Deformity (ASD) Surgery Related to Approach or Patient Characteristics? A Prospective Propensity Matched Cohort Analysis of Minimally Invasive (MIS), Hybrid (HYB), and Open (OPEN) Approaches; 20<sup>th</sup> Int'l Meeting on Advanced Spine Techniques (IMAST), Vancouver, Canada, July 10-13, 2013
143. D. Crandall, MD; J.A. Byrd, MD; S.H. Berven, MD; **N. Anand, MD**; M.P. Kadaba, PhD, MBA; J. Revella, RN; L. Taylor; An Expandable Crescent Shaped TLIF Cage to Improve Segmental Lordosis: Safety, Efficacy, and Early Clinical Outcomes. 20<sup>th</sup> Int'l Meeting on Advanced Spine Techniques (IMAST), Vancouver, Canada, July 10-13, 2013
144. P.V. Mummaneni, MD; M.Y. Wang, MD; V. Lafage, PhD; J. Ziewacz, MD, MPH; J.S. Terran, BS; D.O. Okonkwo, MD, PhD; J.S. Uribe, MD; **N. Anand, MD**; R.G. Fessler, MD, PhD; A.S. Kanter, MD; Flu Marca, MD; C.I. Shaffrey, MD; V. Deviren, MD; G.M. Mundis, MD; International Spine Study Group; Does Minimally Invasive Posterior Instrumentation (PPI) Prevent Proximal Junctional Kyphosis (PJK) in Adult Spinal Deformity (ASD) Surgery? A Prospectively Acquired Propensity Matched Cohort Analysis; 20<sup>th</sup> Int'l Meeting on Advanced Spine Techniques (IMAST), Vancouver, Canada, July 10-13, 2013
145. D. Crandall, MD; L. Taylor; J.A. Byrd, MD; S.H. Berven, MD; **N. Anand, MD**; M.P. Kadaba, PhD, MBA; J. Revella, RN; Improving Local and Regional Lordosis in Degenerative Scoliosis: Preliminary Findings on the Effect of an Expandable TLIF Cage; 20<sup>th</sup> Int'l Meeting on Advanced Spine Techniques (IMAST), Vancouver, Canada, July 10-13, 2013
146. R.K. Eastlack, MD; G.M. Mundis, MD; M.Y. Wang, MD; P.V. Mummaneni, MD; J.S. Uribe, MD; D.O. Okonkwo, MD, PhD; B.A. Akbarnia, MD; **N. Anand, MD**; A.S. Kanter, MD; P. Park, MD; V. Lafage, PhD; C.I. Shaffrey, MD; R.G. Fessler, MD, PhD; V. Deviren, MD; International Spine Study Group; Is There a Patient Profile That Characterizes a Patient as a Candidate for Minimally Invasive Surgery (MIS) to Treat Adult Spinal Deformity (ASD)?; 20<sup>th</sup> Int'l Meeting on Advanced Spine Techniques (IMAST),



Vancouver, Canada, July 10-13, 2013

147. **Neel Anand MD**, Babak Khandehroo MD, Eli M. Baron MD, Sheila Kahwaty PA-C; Limitations and Ceiling Effects of Circumferential Minimally Invasive Surgical (cMIS) techniques for the Treatment of Adult Scoliosis - Analysis of a 6-year experience, Annual Meeting of SMISS, Las Vegas, NV, Oct 1-3 2013
148. **N. Anand**, B. Khandehroo, S. Kahwaty, E.M. Baron; Is there a limitation to correction of Sagittal balance with Circumferential Minimally Invasive Surgical (CMIS) correction of Adult Spinal Deformity (ASD)? 28<sup>th</sup> Annual Meeting of the North American Spine Society (NASS), New Orleans, LA, October 9-12, 2013.
149. **N. Anand**, B. Khandehroo, S. Kahwaty, E.M. Baron; Does the Thoracolumbar Upper Instrumented Vertebra (UIV) Level Make a Difference in Proximal Junctional Kyphosis (PJK) with Circumferential Minimally Invasive Surgical (CMIS) Correction of Adult Spinal Deformity (ASD)? 28<sup>th</sup> Annual Meeting of the North American Spine Society (NASS), New Orleans, LA, October 9-12, 2013.
150. G.M. Mundis, B.A. Akbarian, P. Mummaneni, A. Kanter, D. Okonkwo, P. Park, J. Uribe, V. Deviren, **N. Anand**, M. Wang, F. La Marca, R. Fessler, S. Nguyen, R.K. Eastlack, International Spine Study Group: Adult Spinal Deformity Treated with Minimally Invasive Techniques: 2-year Multicenter Clinical and Radiological Outcomes Study Comparing Circumferential MIS and Hybrid Surgery. 7<sup>th</sup> Annual SOLAS Research Meeting, Miami, FL, April 29, 2014.
151. B. Bolinger, K.M. Fu, P. Park, G.M. Mundis, **N. Anand**, F. La Marca, J. S. Uribe, M. Y. Wang, A.S. Kanter, D. Okonkwo, R. Fessler, V. Deviren, S. Nguyen, C.I. Shaffrey, B. Liabaud, B. Diebo, P. Mummaneni, International Spine Study Group: Do MIS Deformity Interventions Result in Similar Reductions of Disability Compared with Traditional Open Correction at 1 and 2 Years? A Propensity Matched Cohort Analysis. 7<sup>th</sup> Annual SOLAS Research Meeting, Miami, FL, April 29, 2014.
152. B. Bolinger, A.S. Kanter, G.M. Mundis, P. Mummaneni, **N. Anand**, R. Fessler, P. Passias, P. Park, F. La Marca, J. S. Uribe, M. Y. Wang, B. Liabaud, B. Diebo, B.A. Akbarian, C.I. Shaffrey, D. Okonkwo, International Spine Study Group: Re-Operation Rates in Minimally Invasive, Hybrid and Open Surgery Treatment for Adult Spinal Deformity with Minimum 2-year Follow-up. 7<sup>th</sup> Annual SOLAS Research Meeting, Miami, FL, April 29, 2014.
153. **N. Anand**, B. Khandehroo, E.M. Baron, S. Kahwaty, J.E. Cohen, R.B. Cohen: Limitation and ceiling effects of Circumferential minimally Invasive Surgical (CMIS) Techniques for the Treatment of Adult Scoliosis- Analysis of a 6-year Experience. Annual Meeting of International Society for the Advancement of Spine Surgery (ISASS), Miami, FL April 30- May 2, 2014.
154. **N. Anand**, B. Khandehroo, E.M. Baron, S. Kahwaty, J.E. Cohen, R.B. Cohen: Reoperation and Immediate Readmission Rates after Circumferential Minimally Invasive Surgical (CMIS) Correction of Adult Spinal Deformities (ASD); Annual Meeting of International Society for the Advancement of Spine Surgery (ISASS), Miami, FL April 30- May 2, 2014.
155. **N. Anand**, B. Khandehroo, E.M. Baron, S. Kahwaty, J.E. Cohen, R.B. Cohen: 5 Year Outcomes and Survivorship Analysis of Posterior Pedicle Screw Non-Fusion Stabilization; Annual Meeting of International Society for the Advancement of Spine Surgery (ISASS), Miami, FL April 30- May 2, 2014.
156. **N. Anand**, B. Khandehroo, E.M. Baron, S. Kahwaty, J.E. Cohen, R.B. Cohen: Correction of Sagittal Profile and Pelvic Parameters with CMIS Techniques for Treatment of Adult Scoliosis; Annual Meeting

of International Society for the Advancement of Spine Surgery (ISASS), Miami, FL April 30- May 2, 2014.

157. A.D. Tahernia, J. Youssef, **N. Anand**, D. Coric, K. Baker, J. Mayer: ACADIA Facet Replacement System IDE Study, Preliminary Outcomes at Two and Four Years Postoperative; Annual Meeting of International Society for the Advancement of Spine Surgery (ISASS), Miami, FL April 30- May 2, 2014.
158. **Neel Anand, MD**; Babak Khandehroo, MD; Eli Baron, MD; Sheila Kahwaty, PA-C: Reoperation and immediate Readmission Rates after Circumferential Minimally Invasive Surgical (cMIS) Correction of Adult Spinal Deformities (ASD); 7th Annual Lumbar Spine Research Society Meeting (LSRS), Chicago, IL, May 1-2, 2014
159. Gregory M. Mundis, Behrouz A. Akbarian, Praveen V. Mummaneni, Adam S. Kanter, David O. Okonkwo, Paul Park, Juan S. Uribe, Vedat Deviren, **Neel Anand**, Michael Y. Wang, Frank La Marca, Richard G. Fessler, Stacie Nguyen, Robert K. Eastlack, International Spine Study Group: Adult Spinal Deformity Treated with Minimally Invasive Techniques; Two-year Multicenter Clinical and Radiographic Outcomes Study Comparing Circumferential MIS and Hybrid Surgery; 21<sup>st</sup> Int'l Meeting on Advanced Spine Techniques (IMAST), Valencia Spain July 16-19, 2014.
160. Paul Park, Praveen V. Mummaneni, Gregory M. Mundis, **Neel Anand**, Pierce D. Nunley, Juan S. Uribe, Michael Y. Wang, Adam S. Kanter, David O. Okonkwo, Richard G. Fessler, Vedat Deviren, Stacie Nguyen, Christopher I. Shaffrey, Kai-Ming Fu, International Spine Study Group: Does the Use of Minimally Invasive Pedicle Screw Fixation Lower the Rate of PJK? 21<sup>st</sup> Int'l Meeting on Advanced Spine Techniques (IMAST), Valencia Spain July 16-19, 2014.
161. Kai-Ming Fu, Paul Park, Gregory M. Mundis, **Neel Anand**, Frank La Marca, Juan S. Uribe, Michael Y. Wang, Adam S. Kanter, David O. Okonkwo, Richard G. Fessler, Vedat Deviren, Stacie Nguyen, Christopher I. Shaffrey, Praveen V. Mummaneni, International Spine Study Group: Do MIS Deformity Interventions Result in Similar Reductions of Disability when Compared with Traditional Open Spinal Correction at One and Two Years? A Propensity Matched Cohort Analysis. 21<sup>st</sup> Int'l Meeting on Advanced Spine Techniques (IMAST), Valencia Spain July 16-19, 2014.
162. Richard G. Fessler, Praveen V. Mummaneni, **Neel Anand**, Donald J. Blaskiewicz, Juan S. Uribe, Michael Y. Wang, Adam S. Kanter, David O. Okonkwo, Paul Park, Vedat Deviren, Stacie Nguyen, Christopher I. Shaffrey, Behrouz A. Akbarian, Gregory M. Mundis, International Spine Study Group: Does Minimally Invasive Pedicle Screw Placement Prevent Reoperation for Distal Junctional Failure When Fusion is to L5? A Two- Year Follow up Study. 21<sup>st</sup> Int'l Meeting on Advanced Spine Techniques (IMAST), Valencia Spain July 16-19, 2014.
163. Christopher P. Ames, Justin K. Scheer, Michael D. Daubs, Jeffrey D. Coe, Kenneth j. Paonessa, Michael O. LaGrone, Michael D. Kasten, Rodrigo A. Amaral, Per D. Trobisch, Jung-Hee Lee, Daniele Fabris-Monterumici, **Neel Anand**, Andrew K. Cree, Robert A. Hart, Llyod A. Hey; Results of The 2014 SRS Global Delphi Surgeon Survey on PJK/PJF: A Report on Surgeon View of Prevention and Treatment Indications, Classification and Guidelines. 21<sup>st</sup> Int'l Meeting on Advanced Spine Techniques (IMAST), Valencia Spain July 16-19, 2014.
164. Adam S. Kanter, Gregory M. Mundis, Praveen V. Mummaneni, **Neel Anand**, Richard G. Fessler, Peter G. Passias, Paul Park, Virginie Lafage, Frank La Marca, Juan S. Uribe, Michael Y. Wang, Behrouz A. Akbarian, Christopher I. Shaffrey, David O. Okonkwo, International Spine Study Group: Re-Operation Rates in Minimally Invasive, Hybrid and Open Surgery Treatment for Adult Spinal Deformity with Minimum 2-year Follow-up. 21<sup>st</sup> Int'l Meeting on Advanced Spine Techniques (IMAST), Valencia Spain

July 16-19, 2014.

165. **Neel Anand, MD**; Babak Khandehroo, MD; Eli Baron, MD; Sheila Kahwaty, PA-C: 5-Year Outcomes and Survivorship Analysis of Posterior Pedicle Screw Non-Fusion Stabilization; Annual Meeting of the Society for Min. Invasive Spine Surgery (SMISS), Miami, FL, Sept 19-21, 2014
166. **Neel Anand, MD**; Babak Khandehroo, MD; Eli Baron, MD; Sheila Kahwaty, PA-C: Do Hyper-Lordotic Cages Help Create and Maintain Sagittal Alignment with MIS Correction of Adult Scoliosis?; Annual Meeting of the Society for Min. Invasive Spine Surgery (SMISS), Miami, FL, Sept 19-21, 2014
167. Bryan Bolinger, DO; Adam Kanter, MD; Gregory Mundis Jr., MD; Praveen Mummaneni, MD; **Neel Anand, MD**; Richard Fessler, MD, PhD; Peter Passias, MD; Paul Park, MD; Frank Lamarca, MD; Juan S. Uribe, MD; Michael Wang, MD; Behrooz Akbarnia, MD; Christopher Shaffrey, MD; David Okonkwo, MD, PhD: Re-Operation Rates in Minimally Invasive, Hybrid and Open Surgical Treatment for Adult Spinal Deformity with Minimum 2-Year Follow-up; Annual Meeting of the Society for Min. Invasive Spine Surgery (SMISS), Miami, FL, Sept 19-21, 2014
168. Paul Park, MD; Praveen Mummaneni, MD; Gregory Mundis Jr., MD; **Neel Anand, MD**; Pierce Nunley, MD; Juan S. Uribe, MD; Michael Wang, MD; Adam Kanter, MD; David Okonkwo, MD; Richard Fessler, MD; Vedat Deviren, MD; Stacie Nguyen, MPH; Christopher Shaffrey, MD; Kai-Ming Fu, MD: Does the Use of Minimally Invasive Pedicle Screw Fixation Lower the Rate of PJK and Reoperation for PJK?; Annual Meeting of the Society for Min. Invasive Spine Surgery (SMISS), Miami, FL, Sept 19-21, 2014
169. Kai-Ming G. Fu, MD; Paul Park, MD; Gregory M. Mundis, MD; **Neel Anand, MD**; Frank La Marca, MD; Juan S. Uribe, MD; Michael Wang, MD; Adam Kanter, MD; David Okonkwo, MD; Richard Fessler, MD; Vedat Deviren, MD; Stacie Nguyen, MPH; Barthelemy Liabaud, MD; Behrooz Akbarnia, MD; Christopher Shaffrey, MD; International Spine Study Group: Do MIS Deformity Interventions Result in Similar Reductions of Disability when Compared with Traditional Open Spinal Deformity Correction at One and Two- years? A Propensity Matched Cohort Analysis; 29<sup>th</sup> Annual Meeting of the North American Spine Society (NASS), San Francisco, CA, November 12-15, 2014.
170. Gregory M. Mundis, MD; Behrooz Akbarnia, MD; Adam Kanter, MD; David Okonkwo, MD; Paul Park, MD; Juan S. Uribe, MD; Vedat Deviren, MD; **Neel Anand, MD**; Michael Wang, MD; Frank La Marca, MD; Richard Fessler, MD; Stacie Nguyen, MPH; Barthelemy Liabaud, MD; Robert K. Eastlack, MD; Bassel G. Diebo, MD; International Spine Study Group: Adult Spinal Deformity Treated with Minimally Invasive Techniques: Two Year Multicenter Clinical and Radiographic Outcomes Study Comparing Circumferential MIS and Hybrid Surgery; 29<sup>th</sup> Annual Meeting of the North American Spine Society (NASS), San Francisco, CA, November 12-15, 2014.
171. Gregory M. Mundis Jr., MD; Jay D. Turner, MD, PhD; Vedat Deviren, MD; Juan S. Uribe, MD; Pierce D. Nunley, MD; Christopher I. Shaffrey, MD; **Neel Anand, MD**; Paul Park, MD; David O. Okonkwo, MD; Michael Y. Wang, MD; Shay Bess, MD; Adam S. Kanter, MD; Richard G. Fessler, MD, PhD; Stacie Nguyen, MPH; International Spine Study Group: A Critical Analysis of Sagittal Plane Deformity Correction with Minimally Invasive Adult Spinal Deformity Surgery: A Two-Year Follow-Up Study; 30<sup>th</sup> Annual Meeting of the North American Spine Society (NASS), Chicago, IL, October 14-17, 2015.
172. Dean Chou, MD; Michael Y. Wang, MD; Donald J. Blaskiewicz, MD; Stacie Nguyen, MPH; Christofer I. Shaffrey, MD; David O. Okonkwo, MD; Adam S. Kanter, MD; Vedat Deviren, MD; Juan S. Uribe, MD; Robert K. Eastlack, MD; Pierce D. Nunley, MD; **Neel Anand, MD**; Paul Park, MD; Gregory M. Mundis Jr., MD; International Spine Study Group: The impact of Minimally Invasive Spinal Deformity Surgery

on ICU and Hospital Stay; 30<sup>th</sup> Annual Meeting of the North American Spine Society (NASS), Chicago, IL, October 14-17, 2015.

173. **Neel Anand, MD**; Ryan Cohen; Jason Cohen; Babak Khandehroo, MD; Eli Baron, MD; Sheila Kahwaty, PA-C; Analysis of the 10 best and 10 worst functional outcomes of Circumferential Minimally Invasive Surgical (CMIS) correction of Adults Spinal Deformity (ASD); Annual Meeting for the Society for Minimally Invasive Spine Surgery (SMISS), Las Vegas, NV, November 5-7, 2015.
174. **Neel Anand, MD**; Zeeshan Sardar, MD; Paul Park, MD; Michael Wang, MD; Virginie Lafage, PhD; Stacie Nguyen, MPH; David Okonkwo, MD; Juan Uribe, MD; Robert Eastlack, MD; Richard Fessler, MD; Vedat Deviren, MD; Praveen Mummaneni, MD; Christopher Shaffrey, MD; Gregory Mundis Jr, MD; International Spine Study Group; Comparison Of Early And Late Complications After Circumferential Minimally Invasive And Hybrid Surgery For Adult Spinal Deformity; Annual Meeting for the Society for Minimally Invasive Spine Surgery (SMISS), Las Vegas, NV, November 5-7, 2015.
175. Paul Park, MD; Michael Wang, MD; Stacie Nguyen, MPH; Gregory Mundis, MD; Frank La Marca, MD; Juan Uribe, MD; **Neel Anand, MD**; David Okonkwo, MD, PhD; Adam Kanter, MD; Richard Fessler, MD, PhD; Robert Eastlack, MD; Dean Chou, MD; Vedat Deviren, MD; Pierce Nunley, MD; Christopher Shaffrey, MD; Praveen Mummaneni, MD; Comparison of Complications and Clinical and Radiographic Outcomes Between Non-Obese and Obese Patients with Adult Spinal Deformity Undergoing Minimally Invasive Surgery. Annual Meeting for the Society for Minimally Invasive Spine Surgery (SMISS), Las Vegas, NV, November 5-7, 2015.
176. **Neel Anand, MD**; Babak Khandehroo, MD; Ryan Cohen; Jason Cohen; Sheila Kahwaty, PA-C; Eli Baron, MD; Cedars-Sinai Medical Center: Analysis of Actual Segmental Lordosis Obtained with Lordotic and Hyperlordotic Later Cages- Analysis of 172 Levels. Annual Meeting for the Society for Minimally Invasive Spine Surgery (SMISS), Las Vegas, NV, November 5-7, 2015.
177. Dean Chou, MD; Michael Wang, MD; Kai-Ming Fu, MD; Gregory Mundis Jr, MD; Christopher Shaffrey, MD; David Okonkwo, MD; Adam Kanter, MD; Vedat Deviren, MD; Juan Uribe, MD; Pierce Nunley, MD; **Neel Anand, MD**; Paul Park, MD; Praveen Mummaneni, MD; International Spine Study Group; The Impact of Minimally Invasive Spinal Deformity Surgery on ICU and Hospital Stay; Annual Meeting for the Society for Minimally Invasive Spine Surgery (SMISS), Las Vegas, NV, November 5-7, 2015.
178. **Neel Anand, MD**; Babak Khandehroo; Jason Cohen; Ryan Cohen; Eli Baron, MD; Sheila Kahwaty; Cedars-Sinai Medical Center: Does poor post-op sagittal vertical alignment directly correlate with poor functional outcomes in patients with circumferential minimally invasive correction of adult spinal deformity? Annual Meeting of The international society for the advancement of spine surgery (ISASS), Las Vegas, NV, April 6-8, 2016.
179. J. Cuellar; **N. Anand**; K.-M. Fu; Z. Sardar; P. Park, M. Wang; V. Lafage; S. Nguyen, D. Okonkwo; J. Uribe; R. Eastlack, R. Fessler; V. Deviren; P. Mummaneni; C. Shaffrey; G. Mundis; International Study Group; Comparison of early and late complications after circumferential minimally invasive and hybrid surgery for adult spinal deformity. Annual Meeting of The international society for the advancement of spine surgery (ISASS), Las Vegas, NV, April 6-8, 2016.
180. G. Mundis; V. Deviren, J. Uribe; P. Nunley; P. Mummaneni; **N. Anand**; P. Park; D. Okonkwo; M. Wang; S. Bess; A. Kanter; R. Fessler; S. Nguyen; B. Akbaria; J. Zavatsky; International Spine Study Group: A critical analysis of sagittal plane deformity correction with minimally invasive adult spinal deformity surgery: A 2-year follow up study. Annual Meeting of The international society for the advancement of spine surgery (ISASS), Las Vegas, NV, April 6-8, 2016.

181. **N. Anand**; B. Khandehroo; J. Cohen; R. Cohen; E. Baron; S. Kahwaty; Cedars-Sinai Medical Center: Analysis of actual segmental lordosis obtained with lordotic and hyperlordotic lateral cages- Analysis of 218 levels. Annual Meeting of The international society for the advancement of spine surgery (ISASS), Las Vegas, NV, April 6-8, 2016.
182. P. Park; M. Wang; S. Nguyen; G. Mundis; F. La Marca; J. Uribe; **N. Anand**; D. Okonkwo; A. Kanter; R. Fessler; R. Eastlack; D. Chou; V. Deviren; P. Nunley; C. Shaffrey; P. Mummaneni; International Spine Study Group: Comparison of complications, clinical and radiographic outcomes between non-obese and obese patients with adult spinal deformity undergoing minimally invasive surgery. Annual Meeting of The international society for the advancement of spine surgery (ISASS), Las Vegas, NV, April 6-8, 2016.
183. **N. Anand**; J. Cohen; R. Cohen; B. Khandehroo; E. Baron; S. Kahwaty; Cedars-Sinai Medical Center: The incidence of proximal junctional kyphosis (PJK) in patients undergoing circumferential minimally invasive surgery (cMIS) for adult spinal deformity (ASD) – A 7-year experience. Annual Meeting of The international society for the advancement of spine surgery (ISASS), Las Vegas, NV, April 6-8, 2016.
184. A. Theologis; S. Nguyen; G. Mundis; B. Akbarnia; R. Eastlack; M. Wang; P. Mummaneni; J. Uribe; D. Okonkwo; **N. Anand**; A. Kanter; P. Park; R. Fessler; V. Deviren; International Spine Study Group: Circumferential fusion for thoracolumbar adult deformity surgery: Effect of open versus percutaneous pedicle screw fixation after MIS lateral interbody fusion. Annual Meeting of The international society for the advancement of spine surgery (ISASS), Las Vegas, NV, April 6-8, 2016.
185. D. Chou; M. Wang; K-M. Fu; G. Mundis; C. Shaffrey; D. Okonkwo; A. Kanter; V. Deviren; J. Uribe; P. Nunley; **N. Anand**; P. Park; P. Mummaneni; International Spine Study Group: The impact of minimally invasive spinal deformity surgery on ICU and Hospital Stay. Annual Meeting of The international society for the advancement of spine surgery (ISASS), Las Vegas, NV, April 6-8, 2016.
186. **N. Anand**; J. Millard; R. Cohen; J. Cohen; B. Khandehroo; E. Baron; S. Kahwaty; Cedars-Sinai Medical Center: Analysis of the 10 best and 10 worst functional outcomes of circumferential minimally invasive surgical (CMIS) correction of adult spinal deformity (ASD). Annual Meeting of The international society for the advancement of spine surgery (ISASS), Las Vegas, NV, April 6-8, 2016.
187. P. Park; D. Okonkwo; K-M. Fu; S. Nguyen; M. Wang; J. Uribe; **N. Anand**; G. Mundis; V. Deviren; R. Fessler; C. Shaffrey; D. Chou; P. Mummaneni; International Spine Study Group: Can MCID be achieved in elderly patients undergoing MIS deformity surgery? Annual Meeting of The international society for the advancement of spine surgery (ISASS), Las Vegas, NV, April 6-8, 2016.
188. **N. Anand**; J. Cohen; R. Cohen; B. Khandehroo; E. Baron; S. Kahwaty: The incidence of proximal junctional kyphosis (PJK) in patients undergoing circumferential minimally invasive surgery (cMIS) for adult spinal deformity (ASD). SpineWeek, Singapore, May 16-20, 2016.
189. P. Park; D. Okonkwo; K. Ming Fu; S. Nguyen; M. Wang; J. Uribe; **N. Anand**; G. Mundis; V. Deviren; R. Fessler; C. Shaffrey; D. Chou; P. Mummaneni: Can MCID be achieved in elderly patients undergoing MIS deformity surgery? SpineWeek, Singapore, May 16-20, 2016.
190. D. Chou; M. Wang; K. Ming Fu; S. Nguyen; G. Mundis; C. Shaffrey; D. Okonkwo; A. Canter; V. Deviren; J. Uribe; P. Nunley; **N. Anand**; P. Park; P. Mummaneni: The impact of minimally invasive spinal deformity surgery on ICU and hospital stay. SpineWeek, Singapore, May 16-20, 2016.

191. N. Anand; B. Khandehroo; J. Cohen; R. Cohen; E. Baron; S. Kahwaty: Analysis of actual segmental lordosis obtained with lordotic and hyperlordotic lateral cages – Is degenerative scoliosis a risk factor for adult thoracolumbar spinal fractures? A 7000 multi-racial Asian patients review analysis of 218 levels. SpineWeek, Singapore, May 16-20, 2016.
192. N. Anand; B. Khandehroo; J. Cohen; R. Cohen; E. Baron; S. Kahwaty: Does poor post-op sagittal vertical alignment directly correlate with poor functional outcomes in patients with circumferential minimally invasive correction of adult spinal deformity? SpineWeek, Singapore, May 16-20, 2016.
193. Robert K. Eastlack; Gregory M. Mudnis, Jr.; Stacie Nguyen; Praveen V. Mummaneni; David O. Okonkwo; Adam Kanter; **Neel Anand**; Paul Park; Pierce D. Nunley; Juan S. Uribe; Behrooz A. Akbarnia; Dean Chou; Vedat Deviren; International Spine Study Group: Early and late reoperation rates and etiologies are similar between cMIS and HYB for ASD correction. 23<sup>rd</sup> IMAST, Washington, D.C., July 13-16, 2016.
194. Pierce D. Nunley; Richard G. Fessler; Paul Park; Joseph M. Zavatsky; Gregory M. Mundis, Jr.; Juan S. Uribe; Robert K. Eastlack; Dean Chou; Michael Y. Wang; **Neel Anand**; Adam Kanter; Vedat Deviren; Praveen V. Mummaneni; International Spine Study Group: How does case type, length of stay, and comorbidities affect Medicare DRG reimbursement for Minimally Invasive (MIS) for deformity? 23<sup>rd</sup> IMAST, Washington, D.C., July 13-16, 2016.
195. G. Mundis, R. Eastlack, P. Mummaneni, D. Okonkwo, S. Nguyen A. Kanter, **N. Anand**, P. park, P. Nunley, J. Uribe, J. Zavatsky, D. Chou, V. Deviren, International Spine Study Group; Current MIS Techniques Fail to Optimize Spinopelvic Parameters in Patients with High Pelvic Incidence. Scoliosis Research Society (SRS) Prague, Szech Republic September 21 – September 24, 2016
196. Khoi Duc Than, MD; Stacie Nguyen, MPH; Paul Park, MD; Dean Chou, MD; Frank LaMarca, MD; Juan S. Uribe, MD; Todd D Vogel, MD; Pierce D. Nunley, MD; Robert K. Eastlack, MD; **Neel Anand, MD**, Mch Orth; Adam Kanter, MD; Praveen V. Mummaneni, MD; Gregory M. Mundis Jr., MD; International Spine Study Group: What Is The Effect Of Open Vs Percutaneous Screws On Complications Among Patients Undergoing Lateral Interbody Fusion for Adult Spinal Deformity? Scoliosis Research Society (SRS) Prague, Szech Republic September 21 – September 24, 2016
197. Gregory Mundis, Jr, MD; Robert Eastlack, MD; Praveen Mummaneni, MD; David Okonkwo, MD, PhD; Stacie Nguyen, MPH; Adam Kanter, MD; **Neel Anand, MD**; Paul Park, MD; Pierce Nunley, MD; Juan Uribe, MD; Joseph Zavatsky, MD; Dean Chou, MD; Vedat Deviren, MD; International Spine Study Group: Current MIS Techniques Fail to Optimize Spinopelvic Parameters in Patients with High Pelvic Incidence. Society for Minimally Invasive Spine Surgery (SMISS) Las Vegas, NV October 13 – October 15, 2016
198. Adam Kanter, MD; Joseph Zavatsky, MD; Gregory Mundis, Jr, MD; Zachary Tempel, MD; Stacie Nguyen, MPH; Dean Chou, MD; Paul Park, MD; Juan Uribe, MD; Michael Wang, MD; **Neel Anand, MD**; Robert Eastlack, MD; Praveen Mummaneni, MD; David Okonkwo, MD, PhD; and International Spine Study Grou; Does Concave versus Convex Approach Matter When using Lateral Lumbar Interbody Fusion for Adult Scoliosis? Society for Minimally Invasive Spine Surgery (SMISS) Las Vegas, NV October 13 – October 15, 2016
199. Dean Chou, MD; Praveen Mummaneni, MD; Pierce Nunley, MD; Joseph Zavatsky, MD; Robert Eastlack, MD; David Okonkwo, MD, PhD; Michael Wang, MD; Paul Park, MD; Juan Uribe, MD; **Neel Anand, MD**; Vedat Deviren, MD; Behrooz Akbarnia, MD; Stacie Nguyen, MPH; Gregory Mundis, Jr, MD; and International Spine Study Group; Treatment of the Fractional Curve with Circumferential

Minimally Invasive (cMIS) Interbody versus Open Surgery without Interbody Fusion: An Analysis of Surgical Outcomes. Society for Minimally Invasive Spine Surgery (SMISS) Las Vegas, NV October 13 – October 15, 2016

200. Joseph Zavatsky, MD; Michael Wang, MD; Paul Park, MD; Dean Chou, MD; Adam Kanter, MD; Juan Uribe, MD; Pierce Nunley, MD; Robert Eastlack, MD; Behrooz Akbarnia, MD; **Neel Anand, MD**; Stacie Nguyen, MPH; Praveen Mummaneni, MD; Gregory Mundis, Jr, MD; and International Spine Study Group; Impact of Multi-Level Interbody Fusion in the Treatment of Severe Adult Scoliosis (Thoracolumbar Coronal Cobb Angle > 50 Degrees). Society for Minimally Invasive Spine Surgery (SMISS) Las Vegas, NV October 13 – October 15, 2016
201. Pierce Nunley, MD; Richard Fessler, MD, PhD; Paul Park, MD; Joseph Zavatsky, MD; Gregory Mundis, Jr, MD; Juan Uribe, MD; Robert Eastlack, MD; Dean Chou, MD; Michael Wang, MD; **Neel Anand, MD**; Adam Kanter, MD; and Christopher Shaffrey, MD; How Do Case Type, Length of Stay, and Comorbidities Affect Medicare DRG Reimbursement for Minimally Invasive Surgery (MIS) for Deformity? Society for Minimally Invasive Spine Surgery (SMISS) Las Vegas, NV October 13 – October 15, 2016
202. Robert Eastlack, MD; Gregory Mundis, Jr, MD; Stacie Nguyen, MPH; Praveen Mummaneni, MD; David Okonkwo, MD, PhD; Adam Kanter, MD; **Neel Anand, MD**; Paul Park, MD; Pierce Nunley, MD; Juan Uribe, MD; Joseph Zavatsky, MD; Dean Chou, MD; Vedat Deviren, MD; and International Spine Study Group; Early and Late Reoperation Rates and Etiologies are Similar Between cMIS and HYB techniques for ASD correction. Society for Minimally Invasive Spine Surgery (SMISS) Las Vegas, NV October 13 – October 15, 2016
203. **N. Anand**, R. Cohen, B. Khandehroo, S. Kahwaty, E. Baron: Clinical and Radiological Fate of the Lumbosacral Junction Following ALIF vs. Axial Lumbar Interbody Fusion at the Bottom of a Long Construct in cMIS treatment of Adult Spinal Deformity. Society for Minimally Invasive Spine Surgery (SMISS) Las Vegas, NV October 13 – October 15, 2016
204. **N. Anand**, J. Cohen, R. Cohen, B. Khandehroo, S. Kahwaty, E. Baron: The incidence of Proximal Junctional Kyphosis (PJK) Based on Upper-Instrumented Vertebrae (UIV) in Patients Undergoing Circumferential Minimally Invasive Surgical (CMIS) Correction for Adult Spinal Deformity, NASS, Boston, MA October 26 – October 29, 2016
205. Khoi D. Than, MD; Stacie Nguyen, MPH; Paul Park, MD; Dean Chou, MD; Frank LaMarca, MD; Juan S. Uribe, MD; Todd Vogel, MD; Pierce D. Nunley, MD; Robert K. Eastlack, MD; **Neel Anand, MD**; Adam S. Kanter, MD; Vedat Deviren, MD; Gregory M. Mundis Jr., MD; International Spine Study Group; What is the Effect of Open versus Percutaneous Screws on Complications Among Patients Undergoing Lateral Interbody Fusion for Adult Spinal Deformity? NASS, Boston, MA October 26 – October 29, 2016
206. Adam S. Kanter, MD; Joseph M. Zavatsky, MD; Gregory M. Mundis Jr., MD; Zachary Tempel, MD; Stacie Nguyen, MPH; Dean Chou, MD; Paul Park, MD; Juan S. Uribe, MD; Michael Y. Wang, MD; **Neel Anand, MD**; Robert K. Eastlack, MD; Khoi D. Than, MD; David O. Okonkwo, MD; International Spine Study Group; Does Concave Versus Convex Approach Matter when Using Lateral Lumbar Interbody Fusion for Adult Degenerative Scoliosis? NASS, Boston, MA October 26 – October 29, 2016
207. Pierce D. Nunley, MD; Richard G. Fessler, MD, PhD; Paul Park, MD; Joseph M. Zavatsky, MD; Gregory M. Mundis Jr., MD; Juan S. Uribe, MD; Robert K. Eastlack, MD; Dean Chou, MD; Michael Y. Wang, MD; **Neel Anand, MD**; Adam S. Kanter, MD; Christopher I. Shaffrey, MD; International Spine Study

- Group: How Does Case Type, Length of Stay, and Comorbidities Affect Medicare DRG Reimbursement for Minimally Invasive Surgery (MIS) for Deformity? NASS, Boston, MA October 26 – October 29, 2016
208. J. Hue, **N. Anand**; What is Sagittal Balance , Sagittal Parameters and what are the Key Parameters to analyse the Sagittal Balance in Kalfas? Cervical Spine Sagittal Analysis; Sagittal Balance and Junctional Spine Master Course Baltimore, MD November 4 – November 5, 2016
  209. **N. Anand** ; Techniques, Indications, and Complication Avoidance for MIS Deformity. 11<sup>th</sup> Annual Congress of Chinese Orthopaedic Association Beijing, China November 17 – November 20, 2016.
  210. **Neel Anand, MD**, Dean Chou, MD, Robert K. Eastlack, MD, Richard G. Fessler, MD, Adam Kanter, MD, Praveen V. Mummaneni, Gregory M. Mundis, MD, Pierce D. Nunley, MD, Paul Park, MD, Christopher I. Shaffrey, MD, Juan S. Uribe, MD, Michael Y. Wang, MD, Joseph M. Zavatsky, MD, International Spine Study Group; How Does Case Type, Length of Stay, and Comorbidities Affect Medicare Diagnosis-related Group Reimbursement for Minimally Invasive Surgery for Deformity. AAOS Annual Meeting, San Diego, CA – March 14- March 18, 2017
  211. **Neel Anand, MD**, Dean Chou, MD, Robert K. Eastlack, MD, Richard G. Fessler, MD, Adam Kanter, MD, Praveen V. Mummaneni, Gregory M. Mundis, MD, Pierce D. Nunley, MD, Paul Park, MD, Christopher I. Shaffrey, MD, Juan S. Uribe, MD, Michael Y. Wang, MD, Joseph M. Zavatsky, MD, International Spine Study Group; What are the Differences in Medicare Diagnosis Related Group Reimbursement for Minimally Invasive Deformity Surgery in Academic vs. Private Hospitals in Different Geographic Regions. AAOS Annual Meeting, San Diego, CA – March 14- March 18, 2017
  212. Khoi Duc Than, Stacie Nguyen, Paul Park, Dean Chou, Frank La Marca, Juan S. Uribe, Todd D. Vogel, Pierce D. Nunley, Robert Eastlack, **Neel Anand**, Adam S. Kanter, Praveen V. Mummaneni, Gregory M. Mundis, Jr., International Spine Study Group; What is the Effect of Open Versus Percutaneous Screws on Complications Among Patients Undergoing Lateral Interbody Fusion for Adult Spinal Deformity? 33rd Annual Meeting Spine Summit Las Vegas, March 8-11,2017
  213. Pierce D. Nunley, Richard G. Fessler, Paul Park, Joseph M. Zavatsky, Gregory M. Mundis, Jr., Juan S. Uribe, Robert Eastlack, Dean Chou, Michael Y. Wang, **Neel Anand**, Adam S. Kanter, Stacie Nguyen, Christopher I. Shaffrey, Praveen V. Mummaneni, International Spine Study Group; How Does Case Type, Length of Stay, and Comorbidities Affect Medicare DRG Reimbursement for Minimally Invasive Surgery (MIS) for Deformity? 33rd Annual Meeting Spine Summit Las Vegas, March 8-11,2017
  214. Gregory M. Mundis, Jr., Robert Eastlack, Praveen V. Mummaneni, David O. Okonkwo, Stacie Nguyen, Adam S. Kanter, **Neel Anand**, Paul Park, Pierce D. Nunley, Juan S. Uribe, Joseph M. Zavatsky, Dean Chou, Vedat Deviren, International Spine Study Group; Current MIS Techniques Fail to Optimize Spinopelvic Parameters in Patients with High Pelvic Incidence. 33rd Annual Meeting Spine Summit Las Vegas, March 8-11,2017
  215. Robert Eastlack, Gregory M. Mundis, Jr., Stacie Nguyen, Praveen V. Mummaneni, David O. Okonkwo, Adam S. Kanter, **Neel Anand**, Paul Park, Pierce D. Nunley, Juan S. Uribe, Joseph M. Zavatsky, Dean Chou, Vedat Deviren, International Spine Study Group; Early and Late Reoperation Rates and Etiologies are Similar Between cMIS and HYB Techniques for ASD Correction. 33rd Annual Meeting Spine Summit Las Vegas, March 8-11,2017
  216. Michael Y. Wang, Joseph M. Zavatsky, Paul Park, Dean Chou, Adam S. Kanter, Juan S. Uribe, Pierce D. Nunley, Robert Eastlack, Behrooz A. Akbarnia, **Neel Anand**, Stacie Nguyen, Praveen V. Mummaneni,



- Gregory M. Mundis, Jr., International Spine Study Impact of Multi-level Interbody Fusion in the Treatment of Severe Adult Scoliosis (Thoracolumbar Coronal Cobb Angle >50 Degrees). 33rd Annual Meeting Spine Summit Las Vegas, March 8-11,2017
217. Joseph M. Zavatsky, Adam S. Kanter, Gregory M. Mundis, Jr., Zachary Tempel, Stacie Nguyen, Dean Chou, Paul Park, Juan S. Uribe, Michael Y. Wang, **Neel Anand**, Robert Eastlack, Praveen V. Mummaneni, David O. Okonkwo, International Spine Study Group; Does Concave Versus Convex Approach Matter when Using Lateral Lumbar Interbody Fusion for Adult Scoliosis? 33rd Annual Meeting Spine Summit Las Vegas, March 8-11,2017
218. Gregory M. Mundis, Jr., Jacob Januszewski, Juan S. Uribe, Michael Y. Wang, **Neel Anand**, David O. Okonkwo, Stacie Nguyen, Praveen V. Mummaneni, Pierce D. Nunley, Paul Park, Adam S. Kanter, Joseph M. Zavatsky, Robert Eastlack, Behrooz A. Akbarnia, International Spine Study Group; Patients with High Pelvic Tilt Achieve the Same Clinical Success as Those with Low Pelvic Tilt After Minimally Invasive Deformity Surgery. 33rd Annual Meeting Spine Summit Las Vegas, March 8-11,2017
219. Dean Chou, Praveen V. Mummaneni, Pierce D. Nunley, Joseph M. Zavatsky, Robert Eastlack, David O. Okonkwo, Michael Y. Wang, Paul Park, Juan S. Uribe, **Neel Anand**, Vedat Deviren, Behrooz A. Akbarnia, Stacie Nguyen, Gregory M. Mundis, Jr., International Spine Study Group; Treatment of the Fractional Curve with Circumferential Minimally Invasive (cMIS) Interbody Versus Oery Without Interbody Fusion- An Analysis of Surgical Outcomes. 33rd Annual Meeting Spine Summit Las Vegas, March 8-11,2017
220. **Neel Anand, MD**; Ryan Cohen, MS4; Jason Cohen, MS4; Babak Khanderoo, MD; Eli Baron, MD; Sheila Kahwaty, PA-C; Clinical and radiological fate of Lumbosacral Junction Following ALIF vs AxialIF at the bottom of a long construct in CMIS treatment of Adult Spinal Deformity. AAOS, San Diego, March 14-18, 2017
221. **N. Anand**, P. Nunley, R. Fessler, P. Park, J. Zavatsky, G. Mundis, J. Uribe, R. Eastlack, D. Chou, M. Wang, N. Anand, A. Kanter, C. Shaffrey), P. Mummaneni, International Spine Study Group; Case Type, Length of Stay and Comorbidities' Affect on Medicare DRG Reimbursement on Minimally Invasive Surgery (MIS) for Spinal Deformity. Annual Meeting of The international society for the advancement of spine surgery (ISASS), Boca Raton, April 12-14, 2017
222. **Neel Anand, MD**; Ryan Cohen, MS4; Jason Cohen, MS4; Babak Khanderoo, MD; Eli Baron, MD; Sheila Kahwaty, PA-C; An Analysis of Outcome Predictors with Circumferential Minimally Invasive Surgical Correction (CMIS) of Adult Spinal Deformity (ASD) - A Multivariate Linear Regression Analysis- Annual Meeting of The international society for the advancement of spine surgery (ISASS), Boca Raton, April 12-14, 2017
223. **Neel Anand, MD**; Ryan Cohen, MS4; Jason Cohen, MS4; Babak Khanderoo, MD; Eli Baron, MD; Sheila Kahwaty, PA-C; Clinical and Radiological Fate of the Lumbosacral Junction Following ALIF vs. AxialIF at the Bottom of a Long Construct in CMIS Treatment of Adult Spinal Deformity. Annual Meeting of The international society for the advancement of spine surgery (ISASS), Boca Raton, April 12-14, 2017
224. **Neel Anand, MD**; Ryan Cohen, MS4; Jason Cohen, MS4; Babak Khanderoo, MD; Eli Baron, MD; Sheila Kahwaty, PA-C; What is the Minimal Clinical Important Difference (MCID) in Patients Undergoing Circumferential Minimally Invasive Correction (CMIS) Correction of Adult Spinal Deformity (ASD)? Annual Meeting of The international society for the advancement of spine surgery (ISASS), Boca Raton, April 12-14, 2017

225. **Neel Anand, MD**; Ryan Cohen, MS4; Jason Cohen, MS4; Babak Khanderoo, MD; Eli Baron, MD; Sheila Kahwaty, PA-C; Analysis of Operative Outcomes in Elderly Patients Following Circumferential Minimally Invasive Surgical (CMIS) Correction of Adults Spinal Deformity (ASD)-Estate Ballroom. Annual Meeting of The international society for the advancement of spine surgery (ISASS), Boca Raton, April 12-14, 2017
226. **Neel Anand, MD**; Ryan Cohen, MS4; Jason Cohen, MS4; Babak Khanderoo, MD; Eli Baron, MD; Sheila Kahwaty, PA-C; Does Obesity Affect Outcomes of Patients Undergoing Circumferential Minimally Invasive Surgical (CMIS) Correction of Adults Spinal Deformity (ASD)? Annual Meeting of The international society for the advancement of spine surgery (ISASS), Boca Raton, April 12-14, 2017
227. Paul Park, MD; Gregory M. Mundis, MD; Khoi D. Than, MD; Kai-Ming Gregory Fu, MD, PhD; Stacie Nguyen, MPH; Juan S. Uribe, MD; Adam S. Kanter, MD; Pierce D. Nunley, MD; Robert K. Eastlack, MD; Richard G. Fessler, MD, PhD; **Neel Anand, MD**; Frank La Marca, MD; Praveen V. Mummaneni, MD; International Spine Study Group; Analysis of Complications with Staged Surgery for Less Invasive Treatment of Adult Spinal Deformity. 52<sup>nd</sup> Scoliosis Research Society (SRS) Annual Meeting & course, Philadelphia, PA September 6-9, 2017
228. **Neel Anand, MD**; Babak Khandehroo, MD; and Sheila Kahwaty, PAC; Management of Adult Spinal Deformity (ASD) with Marked Schwab Sagittal Modifier (++) Using Staged Circumferential Minimally Invasive Surgical (CMIS) Strategies- Can T2 to Pelvis Fusion be avoided? - A 2 year Outcome study. Society for Minimally Invasive Spine Surgery (SMISS) Las Vegas, Nevada September 14-16, 2017
229. **Neel Anand, MD**; Babak Khandehroo, MD; and Sheila Kahwaty, PAC; A Strategic Staged Surgical Protocol for Correcting Sagittal alignment parameters with Circumferential Minimally Invasive Surgery(CMIS) of Adult Spinal Deformity(ASD). Society for Minimally Invasive Spine Surgery (SMISS) Las Vegas, Nevada September 14-16, 2017
230. **Neel Anand, MD**; Babak Khandehroo, MD; and Sheila Kahwaty, PAC; The incidence of Proximal Junctional Kyphosis (PJK) and Proximal Junctional Failure (PJF) in Patients Undergoing Circumferential Minimally Invasive Surgical (CMIS) Correction for Adult Spinal Deformity- 2 to 10 year follow-up. Society for Minimally Invasive Spine Surgery (SMISS) Las Vegas, Nevada September 14-16, 2017
231. **Neel Anand**, Babak Khandehroo, Sheila Kahwaty; Management of Adult Spinal Deformity (ASD) with Marked Schwab Sagittal Modifier (++) Using Staged Circumferential Minimally Invasive Surgical (CMIS) Strategies- Can T2 to Pelvis Fusion be avoided?A 2 year Outcome study, AAOS Annual Meeting: March 6-10 2018 New Orleans, Louisiana
232. **Neel Anand**, Alisa Alayan, Jason Cohen, Ryan Cohen, Babak Khandehroo; Clinical and Radiological Fate of the Lumbosacral Junction Following ALIF vs. AxialIF at the Bottom of a Long Construct in CMIS TreatmentofAdult Spinal Deformity. AAOS Annual Meeting: March 6-10 2018 New Orleans, Louisiana
233. Gregory M. Mundis, Jr., Paul Park, Khoi D. Than, Kai-Ming G. Fu, Stacie Tran, Juan S. Uribe, Adam S. Kanter, David O. Okonkwo, Pierce D. Nunley, Robert Eastlack, Richard G. Fessler, **Neel Anand**, Frank La Marca, Praveen V. Mummaneni, International Spine Study Group; Analysis of Complications with Staged Surgery for Less Invasive Treatment of Adult Spinal Deformity; Spine Summit 2018- 34th Annual Meeting of the Section on Disorders of the Spine and Peripheral Nerves, March 14-17, 2018, Orlando, Florida

234. Michael Gerling, Gregory M. Mundis, Jr., Juan S. Uribe, Paul Park, Praveen V. Mummaneni, Kai-Ming G. Fu, Stacie Tran, Khoi D. Than, Pierce D. Nunley, David O. Okonkwo, Richard G. Fessler, **Neel Anand**, Robert Eastlack, International Spine Study Group; The Impact of Revision Surgery on Patients Undergoing MIS Correction of Adult Spinal Deformity: A Multicenter Study; Spine Summit 2018- 34th Annual Meeting of the Section on Disorders of the Spine and Peripheral Nerves, March 14-17, 2018, Orlando, Florida
235. Justin Ledesma, Robert Eastlack, Stacie Tran, Paul Park, Khoi D. Than, Praveen V. Mummaneni, Dean Chou, Adam S. Kanter, **Neel Anand**, Pierce D. Nunley, Frank La Marca, Richard G. Fessler, Juan S. Uribe, Gregory M. Mundis, Jr., International Spine Study Group Home versus Rehab: Factors That Influence Disposition After MIS Adult Spinal Deformity Surgery?; Spine Summit 2018- 34th Annual Meeting of the Section on Disorders of the Spine and Peripheral Nerves, March 14-17, 2018, Orlando, Florida
236. Peter G. Passias, Gregory W. Poorman, Dennis VasquezMontes, Gregory M. Mundis, Jr., **Neel Anand**, Santha R. Horn, Bassel G. Diebo, Cole Bortz, Frank Segreto, M. Burhan Janjua, Douglas C. Burton, Aaron J. Buckland, Michael Gerling, Alexandra Soroceanu, Robert Eastlack, D. Kojo Hamilton, Robert Hart, Frank Schwab, Virginie Lafage, Christopher I. Shaffrey, Daniel M. Sciubba, Shay Bess, Christopher P. Ames, Eric Klineberg; Predictive Analytics for Determining Extended Operative Time in Corrective ASD Surgery; Spine Summit 2018- 34th Annual Meeting of the Section on Disorders of the Spine and Peripheral Nerves, March 14-17, 2018, Orlando, Florida
237. **N. Anand**, B. Khandehroo, S. Kahwaty, C. Kong, E. Nomoto; Radiographic Analysis of Coronal and Sagittal Alignment Correction after a Strategic Staged Surgical Protocol for CMIS Correction of ASD, ISASS 18, April 11-13, 2018, Toronto, Canada
238. **N. Anand**, B. Khandehroo, S. Kahwaty, C. Kong, E. Nomoto ; Can T2 to Pelvis Fusion Be Avoided in Adult Spinal Deformity (ASD) with Marked Schwab Sagittal Modifier (++) Using Staged Circumferential Minimally Invasive Surgical (CMIS) Strategies - A Minimum 2 Year Outcome Study. ISASS 18, April 11-13, 2018, Toronto, Canada
239. **N. Anand**, B. Khandehroo, S. Kahwaty, C. Kong, E. Nomoto; Analysis of Operative Outcomes in Elderly Patients Following a Strategic Staged Circumferential Minimally Invasive Surgical (CMIS) Correction of Adults Spinal Deformity (ASD). ISASS 18, April 11-13, 2018, Toronto, Canada
240. Robert K. Eastlack, MD; Pierce D. Nunley, MD; Juan S. Uribe, MD; Paul Park, MD; Stacie Tran, MPH; Michael Y Y Wang, MD; Khoi D. Than, MD; David O Okonkwo, MD, PhD; Adam S. Kanter, MD; **Neel Anand, MD**; Richard G. Fessler, MD, PhD; Kai-Ming Gregory Fu, MD, PhD; Dean Chou, MD; Praveen V. Mummaneni, MD; Gregory M. Mundis, MD; International Spine Study Group; Impact of Lower Thoracic vs. Upper Lumbar UIV in MIS Correction of Adult Spinal Deformity. 25<sup>th</sup> IMAST (International Meeting for Advanced Spinal Technologies); July 11-14, 2018, LA California
241. Neel Anand, MD; Edward Nomoto, MD; Christopher Kong, MD; Babak Khandehroo, MD; Sheila Kahwaty, PA-C; Minimally Invasive Oblique Lateral Interbody Fusion (OLIF) at the bottom of a long construct (L5-S1) for Adult Spinal Deformity (ASD): Radiographic analysis and operative outcomes. Society for Minimally Invasive Spine Surgery (SMISS) Las Vegas, Nevada September 6-8, 2018
242. **Neel Anand, MD**; Edward Nomoto, MD; Christopher Kong, MD; Babak Khandehroo, MD; Sheila Kahwaty, PA-C; Minimally Invasive Multilevel Oblique Lumbar Interbody Fusion (OLIF): An Anatomical Single Position Approach for CMIS Correction of Adult Spinal Deformity (ASD). Society for Minimally Invasive Spine Surgery (SMISS) Las Vegas, Nevada September 6-8, 2018 Spinal Balance:

## Reducing Bacterial Dose During

243. Gregory M. Mundis Jr., MD; Eric S. Varley, DO; Juan S. Uribe, MD; Paul Park, MD; Stacie Nguyen, MPH; Pierce D. Nunley, MD; Adam S. Kanter, MD; **Neel Anand, MD**; Khoi D. Than, MD; David O. Okonkwo, MD; Richard G. Fessler, MD, PhD; Kai Fu; Michael Y. Wang, MD; Dean Chou, MD; Robert K. Eastlack, MD; International Spine Study Group16; Transforaminal versus Anterior Lumbar Interbody Fusion at L5-S1 in MIS Treatment of ASD: Effect on Spinopelvic Parameters and Outcomes in Degenerative Scoliosis; NASS 33<sup>rd</sup> Annual Meeting, Sept 26-29, 2018, LA California
244. Paul Park, MD; Robert K. Eastlack, MD; Kai Fu; Stacie Nguyen, MPH; Gregory M. Mundis Jr., MD; Juan S. Uribe, MD; Michael Y. Wang, MD; Khoi D. Than, MD; David O. Okonkwo, MD; Adam S. Kanter, MD; Pierce D. Nunley, MD; **Neel Anand, MD**; Richard G. Fessler, MD, PhD; Dean Chou, MD; International Spine Study Group; Is Achieving Optimal Spinopelvic Parameters Necessary to Obtain Substantial Clinical Benefit? Analysis of Patients Who Underwent Circumferential MIS or Hybrid Surgery with Open Posterior Instrumentation; NASS 33<sup>rd</sup> Annual Meeting, Sept 26-29, 2018, LA California
245. Aakash Agarwal, PhD; Boren Lin, PhD; **Neel Anand, MD**; Jeffrey C. Wang, MD; Anand Agarwal, MD; Christian Schultz, MD, MBA; Hossein K. Elgafy, MD, FRCSC, FRCS; Vijay K. Goel, PhD; Steven R. Garfin, MD; Dennis P. McGowan, MD; Chris Karas, MD  
Spinal Balance: Reducing Bacterial Dose During Instrumented Spine Surgery: A Clinical Study on a Novel and Effortless Method; NASS 33<sup>rd</sup> Annual Meeting, Sept 26-29, 2018, LA California
246. Paul Park, MD; Robert K. Eastlack, MD; Kai-Ming Gregory Fu, MD, PhD; Stacie Tran, MPH; Gregory M Mundis, MD; Juan S. Uribe, MD; Michael Y. Wang, MD; Khoi D. Than, MD; David O Okonkwo, MD, PhD; Adam S. Kanter, MD; Pierce D. Nunley, MD; **Neel Anand, MD**; Richard G. Fessler, MD, PhD; Dean Chou, MD; Praveen V. Mummaneni, MD; International Spine Study Group; Is Achieving Optimal Spinopelvic Parameters Necessary to Obtain Substantial Clinical Benefit: Analysis of Patients Who Underwent Circumferential MIS or Hybrid Surgery with Open Posterior Instrumentation. SRS 53<sup>rd</sup> Annual Meeting & course, Oct 10-13, 2018, Bologna, Italy.
247. **N. Anand**, E. Nomoto, C. Kong, B. Khandehroo, S. Kahwaty; Los Angeles, CA/US; Minimally Invasive Multilevel Oblique Lumbar Interbody Fusion (OLIF): An Anatomical Single Position Approach for CMIS Correction of Adult Spinal Deformity (ASD). ISASS19 - 19th Annual Conference, April 3 - April 5, 2019 - Anaheim, California, USA
248. **N. Anand**, E. Nomoto, C. Kong, M. McGinity, B. Khandehroo, S. Kahwaty; Los Angeles, CA/US; Long Term Results of Minimally Invasive In line Posterior Inferior iliac Spine (PIIS) Screw fixation for CMIS Correction of ASD – A Simple alternative to S2A1 screws for iliac Fixation. ISASS19 - 19th Annual Conference, April 3 - April 5, 2019 - Anaheim, California, USA
249. **N. Anand**, E. Nomoto, C. Kong, B. Khandehroo, S. Kahwaty; Los Angeles, CA/US; Minimally Invasive Multilevel Oblique Lumbar Interbody Fusion (OLIF): An Anatomical Single Position Approach for CMIS Correction of Adult Spinal Deformity (ASD). 12th Annual SOLAS Meeting, Miami, FL, May 16-18, 2019
250. **N. Anand**, E. Nomoto, C. Kong, M. McGinity, B. Khandehroo, S. Kahwaty; Los Angeles, CA/US; Long Term Results of Minimally Invasive In line Posterior Inferior iliac Spine (PIIS) Screw fixation for CMIS Correction of ASD – A Simple alternative to S2A1 screws for iliac Fixation. 12th Annual SOLAS Meeting, Miami, FL, May 16-18, 2019

251. R. Eastlack, J. Uribe, R. Fessler, K. Than, S. Tran, D. Chou, P. Park, K. Fu, M. Wang, A. Kanter, P. Mummaneni, D. Okonkwo, P. Nunley, **N. Anand**, G. Mundis, I.S. Study Group; DOES ACR RESULT IN GREATER MORBIDITY THAN LLIF ALONE WHEN TREATING ADULT SPINAL DEFORMITY? 12th Annual SOLAS Meeting, Miami, FL, May 16-18, 2019
252. R. Eastlack, D. Chou, J. Uribe, R. Fessler, K. Than, S. Tran, P. Park, K. Fu, M. Wang, A. Kanter, P. Mummaneni, D. Okonkwo, P. Nunley, **N. Anand**, G. Mundis, I.S. Study Group; TREATMENT OF ADULT SCOLIOSIS FRACTIONAL CURVE WITH MINIMALLY INVASIVE SURGERY: ANTERIOR VERSUS POSTERIOR APPROACH? 12th Annual SOLAS Meeting, Miami, FL, May 16-18, 2019
253. Park, P. Mummaneni, K. Than, P. Nunley, R. Eastlack, J. Uribe, M. Wang, S. Tran, R. Fessler, D. Okonkwo, **N. Anand**, D. Chou, K. Fu, G. Mundis, I.S. Study Group; Choosing Minimally Invasive vs. Open Surgery In The Treatment Of Adult Spinal Deformity (ASD): Analysis Of A Prospective, Non-Randomized Multicenter Study P. 12th Annual SOLAS Meeting, Miami, FL, May 16-18, 2019
254. Aakash Agarwal, PhD; Boren Lin, PhD; Hossein Elgafy, MD, FRCS, FRCS(C); Hossein Elgafy, MD, FRCS, FRCS(C); Vijay K. Goel, PhD; Anand K. Agarwal, MD; Chris Karas, MD; Steven R. Garfin, MD; Jeffrey C. Wang, MD; **Neel Anand, MD**. Can We Reduce the Infection Rates Associated with High Implant Density in Deformity Surgeries? Scoliosis Research Society (SRS) 54<sup>th</sup> Annual Meeting & Course, Montreal, Canada, September 18-21, 2019
255. **Neel Anand, MD**; Babak Khandehroo, MD; Sheila Kahwaty, PA-C; and Edward Nomoto, MD Reoperation and Complication Rates After Strategic Circumferential Minimally Invasive Surgical (CMIS) Correction of Adult Spinal Deformities (ASD) - A 7-year Study. Society for Minimally Invasive Spine Surgery (SMISS) Las Vegas, October 31-Nov 2, 2019
256. **Neel Anand, MD**; Babak Khandehroo, MD; Sheila Kahwaty, PA-C; and Edward Nomoto, MD Are the New Strategic Circumferential Minimally Invasive Surgical (CMIS) Techniques a Safe and Effective Approach for Correction of Adults Spinal Deformity (ASD) in Elderly Patients? Society for Minimally Invasive Spine Surgery (SMISS) Las Vegas, Oct 31-Nov 2, 2019
257. Gregory Mundis Jr., MD; Paul Park, MD; Robert Eastlack, MD; Juan Uribe, MD; Stacie Tran; Kenyu Ito, MD; Pierce Nunley, MD; Michael Wang, MD; Richard Fessler, MD, PhD; **Neel Anand, MD**; Adam Kanter, MD; David Okonkwo, MD; and Christopher Shaffrey, MD. A Prospective Analysis of Minimally Invasive Surgery for Adult Spinal Deformity: A Multicenter Study. Society for Minimally Invasive Spine Surgery (SMISS) Las Vegas, Oct 31-Nov 2, 2019
258. Dean Chou; Pierce Nunley; Robert Eastlack; Juan Uribe; Richard Fessler; Khoi Than; Paul Park; Kai-Ming Fu; Michael Wang; Adam Kanter; David Okonkwo; **Neel Anand**; Gregory Mundis; and Praveen Mummaneni. Revision Surgery Rates in Patients Undergoing Minimally Invasive Adult Spinal Deformity Surgery: Is There a Correlation with Roussouly Spine Type? Society for Minimally Invasive Spine Surgery (SMISS) Las Vegas, Oct 31-Nov 2, 2019
259. Robert Eastlack, MD; Dean Chou, MD; Juan Uribe, MD; Richard Fessler, MD; Khoi Than, MD; Stacie Tran; Paul Park, MD; Kai-Ming Fu, MD; Michael Wang, MD; Adam Kanter, MD; David Okonkwo, MD; Pierce Nunley, MD; **Neel Anand, MD**; Gregory Mundis, MD; Praveen Mummaneni, MD; and International Spine Study Group. Treatment of Adult Scoliosis Fractional Curve with Minimally Invasive Surgery: Anterior versus Posterior Approach? Society for Minimally Invasive Spine Surgery (SMISS) Las Vegas, Oct 31-Nov 2, 2019

260. Robert Eastlack, MD; Juan Uribe, MD; Richard Fessler, MD, PhD; Khoi Than, MD; Stacie Tran; Dean Chou, MD; Paul Park, MD; Kai-Ming Fu, MD; Michael Wang, MD; Adam Kanter, MD; David Okonkwo, MD; Pierce Nunley, MD; **Neel Anand, MD**; Praveen Mummaneni, MD; Gregory Mundis Jr., MD; and International Spine Study Group. Does ACR Result in Greater Morbidity than LLIF Alone When Treating Adult Spinal Deformity? Society for Minimally Invasive Spine Surgery (SMISS) Las Vegas, Oct 31-Nov 2, 2019
261. **Neel Anand, MD**; Alisa Alayan, MD; Edward Nomoto, MD; Babak Khandehroo, MD; Sheila Kahwaty, PA-C; Reoperation and complication Rates after Strategic Circumferential Minimally Invasive Surgical (cMIS) Correction of Adult Spinal Deformities (ASD) - a 7 year study. ISASS 20, San Juan, Puerto Rico, Feb 26-28, 2020
262. **Neel Anand, MD**; Alisa Alayan, MD; Edward Nomoto, MD; Babak Khandehroo, MD; Sheila Kahwaty, PA-C; Can Pelvic Tilt and Spino-pelvic Parameters be corrected with L5-S1 Oblique lateral Interbody Fusion (OLIF 5-1) at the bottom of a long construct in CMIS correction of ASD. ISASS 20, San Juan, Puerto Rico, Feb 26-28, 2020
263. **Neel Anand, MD**; Edward Nomoto, MD; Christopher Kong, MD; Babak Khandehroo, MD; Sheila Kahwaty, PA-C; Are the New Strategic Circumferential Minimally Invasive Surgical (CMIS) Techniques a Safe and Effective Approach for Correction of Adults Spinal Deformity (ASD) in Elderly Patients? 27th IMAST (International Meeting for Advanced Spinal Technologies), Athens, Greece, April 1-4, 2020.
264. **Neel Anand, MD**; Edward Nomoto, MD; Christopher Kong, MD; Babak Khandehroo, MD; Sheila Kahwaty, PA-C; Management of Severe Adult Spinal Deformity (ASD) with Circumferential Minimally Invasive Surgical Strategies: A 13-year study. 55<sup>th</sup> Scoliosis Research Society (SRS) Annual Meeting, September 2020.
265. **Neel Anand, MD**; Oblique Lumbar Interbody Fusion: Do I need an Approach Surgeon?. NASS 2020 Annual Meeting Virtual Experience, October 2020
266. Prevalence and modes of hardware failure with Circumferential Minimally Invasive Surgical (CMIS) correction of Adult Spinal Deformity (ASD)- A 13 year experience. Neel Anand, Alisa Alayan<sup>1</sup>, Christopher Kong, Edward K Nomoto<sup>2</sup>, Babak Khandehroo<sup>3</sup>, Sheila Kahwaty, AAOS 2021
267. Jeffrey I. Gum, MD; **Neel Anand, MD**: Integrating Navigated Robotics into My Practice: Two Unique Perspectives on Embracing the Mazor Robotic System, ISASS 21; Miami, FL, May 13-15, 2021
268. **Neel Anand, MD**, Alisa Alayan, MD, Chris Kong, MD, Babak Khandehroo, MD, Sheila Kahwaty, PA-C, Andrew S. Chung, DO: Management of Severe Adult Spinal Deformity with Circumferential Minimally Invasive Surgical Strategies – A 13-year experience; ISASS 21; Miami, FL, May 13-15, 2021
269. **Neel Anand, MD**, Andrew S. Chung, DO, Alisa Alayan, MD, Babak Khandehroo, MD, Sheila Kahwaty, PA-C: Prevalence and Modes of Posterior Hardware Failure with a Staged Protocol for Circumferential Minimally Invasive Surgical (CMIS) Correction of Adult Spinal Deformity (ASD) A 13-Year Experience; ISASS 21; Miami, FL, May 13-15, 2021
270. **Neel Anand, MD**, Edward Nomoto, MD; Christopher Kong, MD; Alisa Alayan, MD; Andrew Chung, DO; Babak Khandehroo, MD; and Sheila Kahwaty, PA-C: Prevalence and Modes of hardware failure with circumferential minimally invasive surgical (CMIS) correction of adult spinal deformity (ASD)- A 13 Year Experience. Society for Minimally Invasive Spine Surgery (SMISS), Chicago, June 6-12, 2020

271. David Gendelberg, Andrew Chung, Anita Anand, Arya Rao, Shriya Sharma, Christopher Kong, Babak Khandehroo, Sheila Kahwaty, **Neel Anand**: Does the global alignment and proportion (GAP) score predict mechanical complications in circumferential minimally invasive surgery for adult spinal deformity? SMISS Annual Forum 21, Las Vegas, NV October 28-30, 2021
272. Andrew Chung, David Gendelberg, Christopher Kong, Anita Anand, Arya Rao, Shriya Sharma, Babak Khandehroo, Sheila Kahwaty, **Neel Anand**: The relative contribution of anterior techniques vs. posterior techniques in restoring spinal balance in circumferential minimally invasive surgical correction of adult spinal deformity without osteotomies; SMISS Annual Forum 21, Las Vegas, NV October 28-30, 2021
273. **Neel Anand MD**, Andrew Chung DO, David Gendelberg MD, Anita Anand, Arya Rao, Edward Nomoto MD, Babak Khandehroo MD, Sheila Kahwaty PA-C.: The Relative Contribution of Anterior techniques versus Posterior techniques in restoring Spinal Balance in Circumferential Minimally Invasive Surgical (CMIS) Correction of Adult Spinal Deformity (ASD) without Osteotomies. 2022 AAOS annual meeting, March 22-26, 2022, Chicago
274. Oscar Krol, BA, New York, NY; Munish C Gupta, MD, FAAOS, Saint Louis, MO; Robert A Hart, MD, FAAOS, Seattle, WA; Richard A Hostin, MD, FAAOS, Dallas, TX; Andrew J Schoenfeld, MD, FAAOS, Medfield, MA; Khaled M Kebaish, MD, FAAOS, Baltimore, MD; Eric O Klineberg, MD, FAAOS, Sacramento, CA; Virginie Lafage, PhD, New York, NY; Han Jo Kim, MD, FAAOS, New York City, NY; Renaud Lafage, MS, Ny, NY; Breton G Line, BS, Denver, CO; Peter Gust Passias, MD, FAAOS, Westbury, NY; Gregory Michael Mundis, JR, MD, FAAOS, ENCINITAS, CA; Paul Park, MD, Ann Arbor, MI; Frank J Schwab, MD, New York, NY; Christopher I Shaffrey, MD, FAAOS, Durham, NC; Justin S Smith, MD, Charlottesville, VA; Bassel Diebo, MD, New York, NY; Shaleen Vira, MD, Dallas, TX; Christopher Ames, MD, San Francisco, CA; **Neel Anand MD, FAAOS**, Los Angeles, CA; Robert Shay Bess, MD, FAAOS, Castle Rock, CO; Douglas C Burton, MD, FAAOS, Kansas City, KS; Alan H Daniels, MD, FAAOS, E Providence, RI; Robert Kenneth Eastlack, MD, FAAOS, San Diego, CA; Jeffrey Gum, MD, FAAOS, Louisville, KY: Radiographic Malalignment has an Overall Greater Impact on Clinical Outcomes than Perioperative and Postoperative Complications in Adult Spinal Deformity Surgery. 2022 AAOS annual meeting, March 22-26, 2022, Chicago
275. Peter G. Passias MD, Peter Tretiakov BS, Rachel Joujon-Roche BS, Tyler Williamson MS, Oscar Krol BA, Bailey Imbo BA, Nima Alan MD, Pierce Nunley MD, Michael Wang MD, Paul Park MD, Adam Kanter MD, David Okonkwo MD, Robert Eastlack MD, Gregory Mundis MD, Dean Chou MD, Nittin Agarwal MD, Andrew Chan MD, Richard Fessler MD PhD, Juan Uribe MD, **Neel Anand MD**, Khoi Than MD, Gregory Brusko BS, Saman Shabani MD, Sumedh Shah MD, Kai-Ming Fu MD, Breton Line BS, Christopher Ames MD, Justin S. Smith MD PhD, Christopher Shaffrey MD, Robert Hart MD, Douglas Burton MD, Renaud Lafage MS, Virginie Lafage PhD, Frank Schwab MD, Shay Bess MD, Praveen Mummaneni MD, on behalf of the International Spine Study Group: Circumferential Minimally Invasive Adult Spinal Deformity Surgery Provides Incremental Benefit for Increasingly Frail Patients. ISASS 22 – 22nd Annual Conference, June 1-4, 2022
276. **Neel Anand, MD**, David Gendelberg, MD; Jose Jimenez Almonte, MD; Anita Anand, BA; Arya Rao, BA; Bardia Khandehroo, MS; Babak Khandehroo, MD; Sheila Kahwaty, PA-C: Does Peri-Operative Teriparatide in Osteoporotic Patients Help Increase Bone Density and Decrease Mechanical Complications – Minimum 2-year Radiological Study Measuring Hounsfield Units. ISASS22 – 22nd Annual Conference, June 1-4, 2022

277. **Neel Anand, MD**; José H Jiménez-Almonte, MD MS; David Gendelberg, MD; Anita Anand, BA; Arya Rao, BA; Bardia Khandehroo, MS; Babak Khandehroo, MD; Sheila Kahwaty, PA-C; Does the Severity of Facet Arthropathy Limit the Sagittal Re-alignment in Circumferential Minimally Invasive Surgical Correction of Adult Spinal Deformity? ISASS22 – 22nd Annual Conference, June 1-4, 2022
278. **Neel Anand, MD**; José H Jiménez-Almonte, MD MS; David Gendelberg, MD; Anita Anand, BA; Arya Rao, BA; Bardia Khandehroo, MS; Babak Khandehroo, MD; Sheila Kahwaty, PA-C; Does UIV level influence the Development of PJK/PJF in Patients Undergoing Circumferential Minimally Invasive Surgery for Adult spinal Deformity?- A 13-year Analysis with Minimum 2-year Follow-up; ISASS22 – 22nd Annual Conference, June 1-4, 2022
279. **Neel Anand, MD**, David Gendelberg, MD; Jose Jimenez Almonte, MD; Anita Anand, BA; Arya Rao, BA; Bardia Khandehroo, MS; Babak Khandehroo, MD; Sheila Kahwaty, PA-C; Is There a Correlation Between Degree of Facet Degeneration and Increase in Spinal Canal Volume after a Minimally Invasive Pre-psoas Interbody Fusion? –A Minimum 2 year Follow up Study, ISASS22 – 22nd Annual Conference, June 1-4, 2022
280. **Neel Anand MD**, Andrew Chung DO, David Gendelberg MD, Jose Jimenez MD, Anita Anand BS, Arya Rao BS, Babak Khandehroo MD, Sheila Kahwaty PA-C: Does Peri-Operative Teriparatide in Osteoporotic Patients Help Increase Bone Density, and Decrease Mechanical Complications – Minimum 2-year Radiological Study Measuring Hounsfield; SRS 57th annual meeting, Sept 14-17, 2022, Stockholm, Sweden
281. Peter G. Passias, MD; Peter Tretiakov, BS; Rachel Joujon-Roche, BS; Tyler K. Williamson, MS, BS; Oscar Krol, BS; Bailey Imbo, BA; Nima Alan, MD; Pierce D. Nunley, MD; Michael Y. Wang, MD; Paul Park, MD; Adam S. Kanter, MD; David O. Okonkwo, MD; Robert K. Eastlack, MD; Gregory M. Mundis, MD; Dean Chou, MD; Nitin Agarwal, MD; Andrew K. Chan, MD; Richard G. Fessler, MD; Juan S. Uribe, MD; **Neel Anand, MD**; Khoi D. Than, MD; Damian Brusko, MD; Saman Shabani, MD; Sumedh Shah, MD; Kai-Ming Gregory Fu, MD; Breton G. Line, BS; Christopher P. Ames, MD; Justin S. Smith, MD, PhD; Christopher I. Shaffrey, MD; Robert A. Hart, MD; Douglas C. Burton, MD; Renaud Lafage, MS; Virginie Lafage, PhD; Frank J. Schwab, MD; Shay Bess, MD; Praveen V. Mummaneni, MD; International Spine Study Group: Circumferential Minimally-Invasive Adult Spinal Deformity Surgery Provides Incremental Benefit for Increasingly Frail Patients; SRS 57th annual meeting, Sept 14-17, 2022, Stockholm, Sweden

## THESES SUBMITTED

1. **"Transpedicular Screw Fixation for Thoracolumbar and Lumbar Spinal Disorders" - The Bombay Experience**  
This Thesis was accepted to the *University of Liverpool* for the degree of *Mch.Orth. (1992)*.
2. **"Internal Fixation of Traumatic Spine - An analysis of various methods"**  
This Thesis was accepted to the *University of Bombay* for the degree of *M.S.Orth. (1988)*
3. **"Harrington Rod Instrumentation" - A method of treatment for fractures and fracture-dislocations of dorso-lumbar and lumbar spine with neurological involvement.**



This Thesis was accepted to the *College of Physicians and Surgeons of Bombay* for the degree of *F.C.P.S.Orth. (1988)*

## VIDEO PRESENTATIONS

1. **Anand N**, Hamilton J,: Cantilever TLIF (C-TLIF) for Maintenance and Correction of Segmental Sagittal Deformity. Innovative Treatment Options in Spine Surgery, SRS 39<sup>th</sup> Annual Meeting WEBCAST, Buenos Aires, September 2004.
2. **Anand N**, Hamilton J,: Cantilever TLIF (C-TLIF) for Reduction of Spondylolisthesis. Innovative Treatment Options in Spine Surgery, SRS 39<sup>th</sup> Annual Meeting WEBCAST, Buenos Aires, September 2004
3. Perri B, Siddique K, **Anand N**, Pashman RS, and Johnson JP. Charité SBIII Artificial Disc Replacement: Techniques for Surgical Implantation. Instructional Video in Vaccaro, AR, Baron, EM *Atlas of Spinal Surgery*. Elsevier Medical Publishing, Philadelphia. 2007
4. Brian Perri, **Neel Anand**, Gabriel Hunt, Leonel Hunt, MD: Cervicothoracic Deformity correction in Vaccaro, AR, Baron, EM *Atlas of Spinal Surgery*. Elsevier Medical Publishing, Philadelphia. 2007
5. **Neel Anand**, and Eli Baron: Paraspinal Approach and interlaminar decompression – A technique for Posterior Non-Fusion Stabilization. *SAS Journal. Winter 2008. 2:40–42. DOI: SASJ- 2007-0120-MIS*

**IN THE NEWS** (for additional news prior to 2013, please go to [www.anandspinegroup.com](http://www.anandspinegroup.com))

## 2013

- Becker's Spine Review: "24 Spine Surgeons Discuss Most Exciting Trends for the Future," February 14, 2013
- Bleacher Report: "Georgia LB Jarvis Jones Declares for Draft and Suffers from Spinal Stenosis," February 21, 2013
- San Francisco Chronicle: "Golden State Warriors Andrew Bogut's Disc Protrusion," February 25, 2013
- Becker's Spine Review: "9 Surgeons on Adopting Minimally Invasive Spine Techniques," April 11, 2013
- Bleacher Report: "Georgia LB Jarvis Jones Declares for Draft and Suffers from Spinal Stenosis," April 22, 2013
- Becker's Spine Review: "Bringing innovation to the operating room," May 3, 2013
- Becker's Spine Review: "Biggest Challenges Spine Surgeons Face in 2013," June 6, 2013
- WFAN (CBS) Sports Radio: "New York Giants' DE Jason Pierre-Paul Undergoes Spine Surgery," June 8, 2013

NFL Network "NFL AM": "New England Patriots' TE Rob Gronkowski Undergoes Spine Surgery," June 18, 2013

DailyRx.com: "Quitting Smoking Before Spine Surgery," June 18, 2013

Becker's Spine Review: "Where Spine Innovation Needs to be Headed," June 26, 2013

Becker's Spine Review: "One of the Country's Top Private Practices," June 26, 2013

Becker's Spine Review: "The Anand Spine Group to Participate in Clinical Trials for NuQu Disc Regeneration Therapy," July 2, 2013

Becker's Spine Review: "38 Spine Surgeons Researching Stem Cells," July 9, 2013

Becker's Spine Review: "Surgery in the ASC: 4 Myths Debunked," July 22, 2013

Becker's ASC Review: "Surgery in the ASC: 4 Myths Debunked," July 22, 2013

Becker's Spine Review: "5 Things to Know About Minimally Invasive Surgery & Spinal Deformity," August 16, 2013

About.com "Back & Neck Pain": "Laminectomy," September 5, 2013

Orthopedics This Week: "MIS Deformity Surgery Equal to Open Surgery," September 8, 2013

KFI-AM 640: "Bracing is Effective as Scoliosis Treatment," September 29, 2013

Becker's Spine Review: "Backing Bracing for Scoliosis Treatment," October 3, 2013

Green Bay Press-Gazette: "Green Bay Packers TE Jermichael Finley Suffers Bruised Spinal Cord," October 22, 2013

Becker's Spine Review: "Where Should the Spine Industry's Attention Be Focused Right Now," October 24, 2013

DailyRx.com: "Worse Spondylitis May Be New Reason to Kick the Habit," October 26, 2013

Becker's Spine Review: "Are Spine Surgeries Moving to Outpatient Settings," November 7, 2013

Bleacher Report: "Revisiting Jermichael Finley's Terrifying Neck Injury and Spinal Cord Contusion," November 13, 2013

Becker's Spine Review: "Key Advice for a Successful Practice: 5 Spine Surgeons Weigh In," November 21, 2013

Becker's Spine Review: "92 Spinal Surgeon Device Inventors & Innovators to Know," November 22, 2013

Becker's Spine Review: "51 Spine Surgeons on Top Leadership Strategies," November 25, 2013

Becker's Spine Review: "15 Spine Surgeon Editors of Professional Journals," December 6, 2013

Becker's Spine Review: "28 Spine Surgeon Leaders at Academic Medical Centers," December 20, 2013

Bleacher Report: “What We Know About Tony Romo’s Back Surgery,” December 27, 2013

Bleacher Report: “What Steve Nash is Facing in His Return to The Lakers,” December 27, 2013

## **2014**

Becker’s Spine Review: “Dr. Neel Anand Named Spine Surgeon of the Day,” January 20, 2014

Becker’s Spine Review: “22 Spine Surgeons Focused on Trauma Care,” January 22, 2014

Becker’s Spine Review: “5 Spine Surgeons Discuss Spine Surgery Trends in 2014,” January 23,

Becker’s Spine Review: “Spine Revision Surgery: How Correct Indication Makes the Difference,” January 29, 2014

Becker’s Spine Review: “Biggest Avenues for 2014 Spine Industry Growth: MIS, Biologics & More,” February 6, 2014

Bleacher Report: “Peyton Manning's Neck, 2014 Return: What Will Doctors Look for This Offseason?” February 7, 2014

Becker’s Spine Review: “Is Outpatient Spine Surgery a Positive Trend?” February 20, 2014

Becker’s Spine Review: “Spine Surgeon Leader to Know: Dr. Neel Anand,” February 27, 2014

Becker’s Spine Review: “Have Regulatory Burdens & Industry Changes Dampened Spine Surgeon Morale?” March 6, 2014

Becker’s Spine Review: “30 Spine Surgeons Focused on Trauma,” March 7, 2014

Becker’s Spine Review: “Technology, Research, Minimally Invasive Technique: What Concerns Spine Surgeons Most?” March 13, 2014

Becker’s Spine Review: “Spine Industry Leadership: How Does It Need to Evolve?” March 20, 2014

Bleacher Report: “Checking in on Jermichael Finley's Neck Injury, Medical and Free-Agency Status,” March 26, 2014

Becker’s Spine Review: “20 Cutting Edge Innovations in Spine,” April 1, 2014

Becker’s Spine Review: “35 Spine Surgeons Performing Artificial Disc Replacement,” April 15, 2014

Becker’s Spine Review: “Simple, Effective Strategies to Maintain Patient Satisfaction,” April 17, 2014

Becker’s Spine Review: “How Spine Outcomes Registries Are Transforming Treatment,” April 21, 2014

Becker’s Spine Review: “Advice to Young Surgeons: What 7 Spine Surgeons Have Never Forgotten,” April 24, 2014

Becker’s Spine Review: “The Most Challenging Reimbursement Issues in Spine Today,” May 8, 2014  
KABC-TV Ch. 7: “Osteoporosis Myths” May 15, 2014

ABC7.com: "Osteoporosis Myths" May 15, 2014

KDOC-TV Ch. 56: "Osteoporosis Myths," May 15, 2014

Becker's Spine Review: "The Most Satisfying Aspects of a Career in Spine Surgery," May 29, 2014

Bleacher Report "Under the Knife": MLB Injury Analysis on Trout, Myers, Teixeira and More," June 4, 2014

Becker's Spine Review: "What Drives Hospital Employment," June 26, 2014

Green Bay Press-Gazette: "Not All Neck Injuries (NFL) are Equal," July 6, 2014

Becker's Spine Review: "Game Changer: The Future of Spinal Biologics," July 10, 2014

Becker's Spine Review: "What Difference Would Medicare Reimbursement for Spine Surgery in ASCs Make," July 17, 2014

Bleacher Report "Under the Knife": "Best-Case, Worst-Case Injury Scenarios for David Wilson Following Neck "Burner," July 30, 2014

Becker's Spine Review: "Avoiding Spine Patient Dissatisfaction," July 31, 2014

Becker's Spine Review: "Positive Trends in Spine Surgery," August 7, 2014

Becker's Spine Review: "What Spine Surgeons Want Residents to Know," August 14, 2014

EverydayHealth.com: "What is Ankylosing Spondylitis? 9 Facts About a Surprising Cause of Back Pain," August 15, 2014

Becker's Spine Review: "Important Professional Lessons," August 28, 2014

Becker's Spine Review: "226 Spine Surgeons to Know," September 24, 2014

Becker's Spine Review: "Career-Defining Watershed Moments," October 2, 2014

Becker's Spine Review: "How Far Does Compassion Go? Surgeons Discuss Beside Manner," October 9, 2014

Becker's Spine Review: "62 Scoliosis-Focused Spine Surgeons to Know," October 10, 2014

Becker's Spine Review: "5 Key Trends in Cervical Disc Replacement," October 13, 2014

Becker's Spine Review: "Next Big Clinical Innovation in Spine," October 30, 2014

Becker's Spine Review: "What Makes Spine Surgeons Apprehensive about the Future," November 7, 2014

Hudson Reporter (New Jersey): "Advice to Young Surgeons: What 7 Spine Surgeons Have Never Forgotten," December 2, 2014

Becker's Spine Review: "Where Spine Surgery & Innovation is Headed: 10 Surgeons on Big Roadblocks,

Opportunities,” December 8, 2014

## **2015**

Ivanhoe Broadcast News: “ACADIA: Joint Replacement for Spine,” January 12, 2015

WAAY-TV (ABC) in Huntsville, Alabama: “ACADIA: Joint Replacement for Spine,” January 9, 2015

KTVA (CBS) in Alaska: “ACADIA: “ACADIA: Joint Replacement for Spine,” January 10, 2015

WNDU-TV (NBC) in South Bend, Indiana: “Joint Replacement for Spine,” January 12, 2015

KFDX-TV (NBC), KJTL-TV (FOX), and KJBO-TV (CW) in Wichita Falls, Texas and Lawton, Oklahoma: “Joint Replacement for Spine,” January 13, 2015

WWTW-TV (CBS Affiliate) and WWUP-TV (CBS Affiliate) in Cadillac-Traverse City, Michigan: “Joint Replacement for Spine,” January 13, 2016

Becker’s Spine Review: “18 Spine Surgeons on Patient Satisfaction,” January 16, 2015

KLAS-TV (CBS Affiliate) in Las Vegas, Nevada: “Joint Replacement for Spine,” January 19, 2015

WFMZ-TV in Allentown, Pennsylvania: “Joint Replacement for Spine,” January 22, 2015

KSAT-TV (ABC Affiliate) in San Antonio, Texas: “Joint Replacement for Spine,” January 28,

Becker’s Spine Review: “Joint Replacement for Spine,” January 29, 2015

WTAJ-TV (CBS Affiliate) in Central Pennsylvania: “Joint Replacement for Spine,” January 30, 2015

WTVF-TV (CBS Affiliate) in Nashville, Tennessee: “Joint Replacement for Spine,” January 30, 2015

Becker’s Spine Review: “55 Spine Surgeons on the Forefront of Biologics and Stem Cells,” February 10, 2015

Becker’s Spine Review: “Outpatient Spine Surgery Innovation: Key Concepts for Adding Cases,” February 11, 2015

KFSN-TV (ABC Affiliate) in Fresno, California: “Joint Replacement for Spine,” April 6, 2015

Becker’s Spine Review: “Which Spine Innovations Are Most Exciting to Surgeons,” April 9, 2015

Becker’s Spine Review: “What Are the Biggest Factors Adversely Affecting Independent Spine Practices,” April 30, 2015

Becker’s Spine Review: “Most Memorable Mentors,” May 11, 2015

Becker’s Spine Review: “Literature-Loving Spine Surgeons Discuss the Works that Influenced Them Most,” May 15, 2015

Becker’s Spine Review: “A Differentiated Approach in Lateral Spine Surgery: Oblique Lateral Interbody Fusion (OLIF at L2-L5),” May 26, 2015

Becker's Spine Review: "What are Spine Surgeons' Goals for the Future," May 29, 2015

Becker's Spine Review: "What Does the Frenetic Orthopedic Device Company M&A Activity Mean for Spine," June 4, 2015

Becker's Spine Review: "Dr. Neel Anand: Challenges & Opportunities in Spine Population Health," June 25, 2015

KFI-AM 640: "Standing All Day at Work May Hurt Spine," July 26, 2015

Becker's Spine Review: "What the future may bring for the spine industry," July 31, 2015

Kansas City Star: "Herniated disks, like the one Chiefs' Dontari Poe has, can be tough for linemen," August 1, 2015

Becker's Spine Review: "Spine Surgeons Predict Spine Surgeon ASC Ownership," August 4, 2015

Becker's Spine Review: "What percentage of spine surgeons will perform outpatient surgeries 5 years from now?" August 6, 2015

Becker's Spine Review: "Taking minimally invasive spine surgery international: What to expect in the future," August 6, 2015

Becker's Spine Review: "Hospital employment vs. independent practice employment," August 6, 2015

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