

# CURRICULUM VITAE



**JAMES J. LYNCH MD, FACS, FAANS**  
Chairman / CEO of Spine Nevada  
Chairman / CEO of IXE Healthcare Group

Spine Nevada is a division of IXE Healthcare Group.

December 2020

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## PERSONAL INFORMATION

NAME James Joseph Lynch

PLACE OF BIRTH New York

NATIONALITY American

### WORK ADDRESS & ADDRESS FOR CORRESPONDENCE

Spine Nevada  
9990 Double R Blvd, Suite 200  
Reno, Nevada 89521  
Tel: 775-348-8800  
Fax: 775-348-8818

## EDUCATION

### MEDICAL SCHOOL

Trinity College Medical School 1984 - 1991  
University of Dublin, Dublin

## QUALIFICATIONS

MB, BCh, BAO (Trinity College, Dublin)	June 1991
MA (Trinity College, Dublin)	Dec 1991
Foreign Medical Graduate Examinations	Jan 1993
FRCSI Part A (Dublin)	Feb 1993
FRCSI Part B (Dublin)	June 1995
American Board of Neurological Surgery written examination	April 1998
American Board Certified Neurological Surgeon	June 2007

## HONORS & AWARDS

Full Academic Scholarship: Trinity College Medical School, Dublin Honors: - Anatomy, Biochemistry, Chemistry Embryology, Ophthalmology.

Best Doctors Award: The Best Doctors in America - 2007-2008

Becker's: Top 10 Spine Surgeons to Know - 2009

Becker's: Top 50 Spine Surgeons & Specialists to Know -2010

Becker's: Top 100 Spine Surgeons & Specialists to Know - 2011

Becker's: Top 200 Spine Surgeons & Specialists to Know - 2012

Becker's: 176 Physician Leaders in the Ambulatory Surgery Center Industry - 2012

Becker's: 102 Surgeons Focused on Spine Surgery Research - 2013

Becker's: Annual Spine Leadership Award - 2013

Becker's: 92 Spinal Surgeon Device Inventors & Innovators to Know - 2013

The Leading Physicians of the World: Top Neurological Surgeon in Nevada - 2013

Consumer Council of America: America's Top Neurosurgeons - 2007 - 2013

High Fives Foundation: Inaugural Community Five Award - 2014

Becker's: 101 Physician Leaders to Know in the ASC Industry - 2014

Becker's Spine Review: Spine Surgeons to Know - 2014

Becker's Spine Review: 20 Spine Surgeons Leading ASCs - 2014

Becker's Spine Review: 36 Spine Surgeons Performing Artificial Disc Replacement - 2014

Becker's ASC Review: Physician Leaders to Know in ASC Industry - 2014

Becker's: 156 ASC industry physician leaders to know - 2015

Becker's Spine Review: Spine Surgeon Leader to Know - 2015

Becker's: 164 ASC industry physician leaders to know - 2016

Becker's Spine Review: 334 Spine Surgeons to Know - 2016

Becker's: 181 ASC industry physician leaders to know - 2017

## APPOINTMENTS

1. Consultant Neurosurgeon/ Spinal Surgeon  
Spine Nevada  
9990 Double R Blvd., Suite 200  
Reno, NV 89521
2. Chairman/CEO and Founder  
Spine Nevada  
9990 Double R Blvd., Suite 200  
Reno, NV 89521
3. Chief of Neurosurgery - 2004 - 2010  
St. Mary's Hospital  
235 West 6th Street  
Reno, Nevada
4. President/CEO and Chairman  
Surgery Center of Reno  
343 Elm St  
Reno, NV 89502  
St. Mary's Hospital Campus
5. Director of Spine Surgery  
Surgery Center of Reno
6. Director of Spine Program  
Regent Surgical Health  
Developing Ambulatory Surgical Centers and Specialty Hospitals
7. Medical Director  
High Fives Foundation  
Non-Profit Organization for Cord Injuries
8. Board Member  
High Fives Foundation
9. Clinical Assistant Professor  
University of Nevada, Reno School of Medicine

10. Founder  
Rounds 4 Heroes - Merged with Feed Our Heroes  
Organization dedicated to supporting frontline workers by providing healthy food to help fuel the fight against COVID-19.

## PREVIOUS

Neurosurgical International Fellowship  
Mayo Clinic, USA  
June 1993-June 1994

Neurosurgical Residency Mayo Clinic, USA. June 1994 - June 2000

Clinical & Research Spine Fellowship

1. The National Hospital for Neurology and Neurosurgery, Queen Square
  2. The Royal National Orthopaedic Hospital, London
  3. Great Ormond Street Children's Hospital Supervisor: Prof. Alan Crockard
- July 1998 - June 1999

Spine Fellowship

Mayo Clinic  
July 1999 - June 2000

Clinical & Research Spine Fellow

Department of Neurosurgery, Barrow Neurological Institute Supervisors: Volker Sonntag MD, Curtis Dickman MD Phoenix, Arizona, USA  
July 2000 - June 2001

Spinal Surgeon / Neurosurgeon Sierra Neurosurgery Group 85 Kirman Ave  
Reno, NV 89502  
July 2001-July 2004

## OTHER

Medical House Officer, St. James' Hospital, Dublin July 1991 - Dec 1991

Surgical House Officer, St. James' Hospital, Dublin Jan 1992 - June 1992

Neurosurgical Visiting SHO, Royal Victoria Hospital, Belfast July 1992 - Sept 1992

Anatomy Demonstrator, Trinity College, Dublin Sept 1992 - May 1993

## MEMBERSHIPS

Joint Section AANS | CNS Spine and Peripheral Nerve

SMISS - Society Minimally Invasive Spine Surgery

Fellow American Association of Neurological Surgeons

SOLAS - Society of Lateral Access Surgeons

Congress of Neurological Surgeons

Fellow Royal College Surgeons

North American Spine Society

American Medical Association

Mayo Alumni Association

Trinity College Alumni

## RESEARCH PUBLICATIONS

### RESEARCH EXPERIENCE

Spinal Research Fellowship

The National Hospital for Neurology and Neurosurgery Queen Square, London

Supervisor: Prof. Alan Crockard

July 1998 - June 1999

1. A prospective study of a posterior rod implant (CerviFix) to facilitate complex cervical reconstruction.
2. A retrospective study of a ten-year experience with the extreme lateral approach to the skull base.
3. A case report on endovascular coil treatment of an arterio-venous fistula resulting from C1-2 transarticular screws.



4. Book chapters on Primary Bone Disease of the Skull Base, Maxillotomy and Extended Maxillotomy, and Transoral Approaches.

Clinical and Biomechanical Research Fellowship

Barrow Neurological Institute & Spinal Biomechanics Research Laboratory Phoenix, Arizona

Supervisors: Volker KH Sonntag MD and Curtis Dickman MD July 2000 - June 2001

"A biomechanical evaluation of an instrumentation system using C1 lateral mass screw fixation as a segment-saving procedure".

Published in Spine 2005

Principal Clinical Investigator

Bryan Artificial Disc Prosthesis IDE Study - Medtronic Reno site

May 2003-present

## PEER-REVIEWED PUBLICATIONS

1. Duke DA, Lynch JJ, Ebersold MJ: Venous air embolism in sitting and supine patients undergoing vestibular schwannoma resection.

Neurosurgery 42; 6: 1282-1287, 1998

2. Lynch JJ, Parvizi J, Scheithauer BW, Krauss WE: Development of postoperative fibromatosis after resection of an intraspinal meningioma.

Journal of Neurosurgery (Spine 1) 90:121-124, 1999

3. Lynch JJ, Valentine AR, Kitchen ND, Crockard HA: Endovascular coil treatment of an arteriovenous fistula from C 1 M2 transarticular screws.

Submitted to Journal of Neurosurgery

4. Leavitt JA, Lynch JJ, Meyer FB: Trochlear nerve palsy associated with temporal lobectomy and amygdalohippocampectomy: a prospective study.

Published in Neurosurgery

5. Friedman JA, Lynch JJ, Scheithauer BW, Raffel C: Management of mixed pineal germ cell tumors with residual mature teratoma.

Published in Neurosurgery

6. Holt JS, Lynch JJ, Chamberlain RH, Sonntag VK.H,: Biomechanical Comparison of Posterior Fixation Technique.

Accepted in Journal of Neurosurgery: Spine

7. Maher C, Lynch JJ, Meyer FB: Skull Base Fibrous Dysplasia- 82 surgical cases.  
Published in Pediatric Neurosurgery
8. Bartolomei JC, Hen J, Lemole GM, Lynch JJ, Dickman CA, Sonntag VKS: Stereotactic applications in Spine Surgery.  
BNI Quarterly 17:1-6
9. Christensen DM, Eastlack RK, Lynch JJ, Yaszemski MJ, Currier BL: C1 anatomy and dimensions relative to lateral mass screw placement.  
Spine 32:844-848, 2007
10. Hott JS, Lynch JJ, Chamberlain RH, Sonntag VK, Crawford NR: Biomechanical comparison of C1-2 posterior fixation techniques.  
J Neurosurg Spine 2:175-181, 2005

## PUBLICATIONS IN PREPARATION

11. Casey ATH, Lynch JJ, Taylor BA, Crockard HA: A posterior rod implant system that facilitates complex cervical reconstruction - a prospective study of 100 cases.  
In preparation for Journal of Neurosurgery
12. Cohen A, Lynch JJ, Krauss WE: Synovial cysts of the thoracic spine. In preparation for Neurosurgery
13. Dixon G, Lynch JJ, Perkins WJ, Meyer FB: Hyperfibrinolysis complicating removal of a central neurocytoma. Case Report  
In preparation for Journal of Neurosurgery

## ABSTRACTS

14. Duke DA, Lynch JJ, Ebersold MJ: Venous air embolism in sitting and supine patients undergoing vestibular schwannoma resection.  
Congress of Neurological Surgeons, Annual Meeting  
New Orleans, September 30, 1997. Neurosurgery 1997;41:3
15. Lynch JJ, Duke DA, Ratfel C: Management of mixed pineal germ cell tumors with residual mature teratoma.  
Congress of Neurological Surgeons, Annual Meeting  
New Orleans, September 30, 1997. Neurosurgery 1997;41:3

16. Lynch JJ, Leavitt JA, Duke DA, Meyer FB: Trochlear nerve palsy associated with temporal lobectomy and amygdalohippocampectomy: a prospective study  
Congress of Neurological Surgeons, Annual Meeting Seattle, October 3, 1998.  
Neurosurgery 1998;43 (3):692
17. Lynch JJ, Duke DA, Meyer FB: Skull base fibrous dysplasia, 82 cases - The Mayo Clinic experience.  
North American Skull Base Society, Annual Meeting Hawaii, February 18,1998. Skull Base Surgery 1998;8(1):25
18. Lynch JJ, Duke DA, Krauss WK.: Remote development of cervicomedullary dysfunction after untreated odontoid type 11 fractures  
North American Spine Society, Annual Meeting San Francisco, October 29, 1998  
Proceedings 13th Annual North American Spine Society 1998: 1 08
19. Lynch JJ, HA Crockard. The extreme lateral approach to the craniovertebral junction: a ten-year experience, with 55 cases.  
North American Skull Base Society, Tenth Annual Meeting Chicago, May 29,1999. Skull Base Surgery 1999, 9(1):22
20. Allibone JB, Lynch JJ, Cheeseman A, Powell M. Mid-face degloving approach to the skull base.  
North American Skull Base Society, Tenth Annual Meeting Chicago, May 29, 1999. Skull Base Surgery 1999, 9(1):2

## PRESENTATIONS

1. Lynch JJ. Carotid Body Tumors. AANN Mississippi Basin Chapter Rochester, March 12, 1996
2. Lynch JJ. Spinal Meningiomas: A Review. AANN Mississippi Basin Chapter Rochester, January 10, 1997
3. Duke DA, Lynch JJ, Ebersold MJ: Venous Air Embolism in Sitting and Supine Patients Undergoing Vestibular Schwannoma Resection. (Poster)  
Congress of Neurological Surgeons, Annual Meeting New Orleans, September 30, 1997
4. Lynch JJ, Duke DA, Raffel C: Management of Mixed Pineal Germ Cell Tumors with Residual Mature Teratoma. (poster)  
Congress of Neurological Surgeons, Annual Meeting New Orleans September 30, 1997

5. Lynch JJ, Duke DA, Meyer FB: Skull Base Fibrous Dysplasia, 82 Cases - The Mayo Clinic Experience.  
International Skull Base Meeting - North American Skull Base Society Meeting Hawaii, February 18, 1998
6. Lynch JJ, Meyer FB: Treatment of Low Grade Glioma Utilizing Awake Cortical Mapping and Neuronavigation  
North Central Cancer Treatment Group (NCCTG) meeting Rochester, April 18, 1998
7. Lynch JJ, Leavitt JA, Duke DA, Meyer FB: Trochlear Nerve Palsy Associated with Temporal Lobectomy and Amygdalohippocampectomy A Prospective Study.  
The Congress of Neurological Surgeons, Annual Meeting Seattle, October 3, 1998
8. Lynch JJ, Duke DA, Krauss WK: Remote Development of Cervicomedullary Dysfunction After Untreated Odontoid Type II Fracture.  
North American Spine Society, Annual Meeting San Francisco, October 29, 1998
9. Lynch JJ, Leavitt JA, Meyer FB: Diplopia Following Anterior Temporal Lobectomy and Amygdalohippocampectomy.  
The Irish Neurology Association, Annual Meeting Dublin, May 7, 1999
10. Lynch JJ, HA Crockard: Extreme lateral approach to the craniovertebral junction: a ten-year experience with 55 cases  
North American Skull Base Society, Annual Meeting Chicago, May 30, 1999
11. Allibone J, Lynch JJ, Cheeseman A, Powell M: Mid-face degloving approach to the skull base.  
North American Skull Base Society, Annual Meeting Chicago, May 30, 1999
12. Lynch JJ, Krauss WE: Synovial cysts of the thoracic spine (Poster) Congress of Neurological Surgeons, Annual Meeting  
Boston, October 30, 1999
13. Lynch JJ, Crockard HA: The long-term effects of the extreme lateral approach to the craniovertebral junction.  
Society of British Neurological Surgeons, Annual Meeting Cork, October 1, 1999
14. Lynch JJ, Allibone JB, Casey ATH, Taylor BA, Crockard HA: A posterior rod implant system that facilitates complex cervical reconstruction-a prospective study of 50 cases.  
Society of British Neurological Surgeons, Annual Meeting Cork, October 3, 1999

15. Lynch JJ, Crockard HA: The long-term effects of the extreme lateral approach to the craniovertebral junction.  
North American Skull Base Society Meeting Phoenix, March 19, 2000
16. Crockard HA, Lynch JJ: The extreme lateral approach to the craniovertebral junction.  
Spanish Skull Base Society Ovieda, March 30th, 2000
17. Crockard HA, Lynch JJ: A posterior rod implant system that facilitates complex cervical reconstruction  
Spanish Skull Base Society Ovieda, March 30th, 2000
18. Lynch JJ, Crockard HA: (poster)  
American Association of Neurological Surgeons, Annual Meeting San Francisco, April 8, 2000
19. Lynch JJ, Allibone JB, Casey ATH, Taylor BA, Crockard HA: A posterior rod implant system that facilitates complex cervical reconstruction- a prospective study of 50 cases.  
American Association of Neurological Surgeons, Annual Meeting San Francisco, April 8, 2000
20. Crockard HA, Lynch JJ: Experience of occipitocervical fusion in complex deformity and tumor with CerviFix system.  
Ninth Annual Conference of Neurosurgical Techniques and Tools Nagoya, Japan April 21\_22ud, 2000
21. Crockard HA, Lynch JJ: The long-term effects of the extreme lateral approach to the craniovertebral junction.  
Ninth Annual Conference of Neurosurgical Techniques and Tools Nagoya, Japan April 21\_22ud, 2000
22. Christensen D, Lynch JJ, Yaszemski MJ, Currier BL: C1 Anatomy and dimensions relative to lateral mass screw placement.  
Minnesota Orthopedic Society Meeting Minneapolis, May 12, 2000
23. Lynch JJ, Christensen D, Yaszemski MJ, Currier BL: C1 Anatomy and dimensions relative to lateral mass screw placement.  
Cervical Spine Research Society Meeting London, June 22, 2000
24. Lynch JJ, Allibone JB, Casey ATH, Taylor BA, Crockard HA: A posterior rod implant system that facilitates complex cervical reconstruction- a prospective study of 50 cases.  
Cervical Spine Research Society Meeting London, June 22, 2000

## RECENT WORK

1. Sekhon LHS, Sears W and Lynch JJ: Surgical management of traumatic thoracic spondyloptosis: review of 2 cases. (in press: J Clin Neurosci)
2. Lynch JJ, Sekhon LHS, Anderson MD, Riew KD, Haid RW, Heller JG, Duggal ND and Seex K: MR imaging clarity of the Bryan, Prodisc-C, Prestige LP and PCM cervical arthroplasty devices. Proceeds of the AANS/CNS Section on Disorders of the Spine and Peripheral Nerves 22nd Annual Meeting, Orlando, FL, CA, U.S.A., March 15th- 18th, 2006
3. Sekhon LHS, Anderson MD, Lynch JJ, Riew KD, Haid RW, Heller JG, Duggal ND and Seex K: MR imaging clarity of the Bryan, Prodisc-C, Prestige LP and PCM cervical arthroplasty devices. Proceeds of the North American Spine Society 21st Annual Meeting, Seattle, WA, U.S.A., September 2006
4. Sekhon LHS, Anderson MD, Lynch JJ, Riew KD, Haid RW, Heller JG, Duggal ND and Seex K: MR imaging clarity of the Bryan, Prodisc-C, Prestige LP and PCM cervical arthroplasty devices. Proceeds of European Cervical Spine Research Society Meeting, Berlin, Germany, 2006
5. Sekhon LHS, Anderson MD, Lynch JJ, Riew KD, Haid RW, Heller JG, Duggal ND and Seex K: MR imaging clarity of the Bryan, Prodisc-C, Prestige LP and PCM cervical arthroplasty devices. Proceeds of Congress of Neurological Surgeons Annual Meeting, Chicago, Illinois, 2006
6. Sekhon LHS, Anderson MD, Lynch JJ, Riew KD, Haid RW, Heller JG, Duggal ND and Seex K: MR imaging clarity of the Bryan, Prodisc-C, Prestige LP and PCM cervical arthroplasty devices. (submitted Spine)

## BOOK CHAPTERS

1. Lynch JJ, Crockard HA: Primary Bone Disease of the Skull Base. In: Robertson J, Robertson J, Cockharn H (eds): Cranial Base Surgery- Management, Complications and Outcome. Churchill Livingstone, New York 1999
2. Lynch JJ, Crockard HA: Surgery of Clival Cartilagenous Tumors- Maxillotomy and Extended Maxillotomy. In: Harsh G, Janecka I, Ojemann R (eds): Chordomas and Chondrosarcomas. Thieme, New York 20

## COURSES ATTENDED

Midas Rex Workshop Mayo Clinic Rochester, June 1994

Spinal Endoscopy Course

North American Spine Society, Annual Meeting San Francisco, October 1998

Cervical Spine Stabilization for Deformity and Tumors- Master class

The Royal College of Surgeons of England London, November 1998

Interbody Spinal fusion of the Lumbar and Cervical Spine Course

AANS ICNS Joint Section on Disorders of the Spine meeting Orlando, February 1999

Total Spine: Advanced Concepts and Constructs Course

Mexico, March 1999

Practice Management Course

Mexico, March 1999

Approaches to the Thoracic and Lumbar Spine- Master class

The Royal College of Surgeons of England London, March 1999

Comprehensive Spine Course

AO Synthes Spine Course

Mexico, April 1999

Approaches to the Skull Base- Master class

The Royal College of Surgeons of England London, April 1999

Skull Base Approaches- Practical Course

North American Skull Base Society, Annual Meeting Chicago, May 1999

Image -Guided Spinal Navigation -Practical Course

Congress of Neurological Surgeons, Annual Meeting Boston, October 1999

Minimally Invasive Techniques for the Lumbar Spine - Practical Course

Congress of Neurological Surgeons, Annual Meeting Boston, October 1999

Concepts in Interbody fusion- Anatomical Course

AO / Synthes Spine Minneapolis, October 1999

Thorascopic Spinal Surgery Course

Barrow Neurological Institute Phoenix, September 2000

SMISS Course

Las Vegas, November 2013

## FACULTY MEMBER AT COURSES

### **Cervical Spine Instrumentation Hands-on Course**

AO/Synthes London.

April 1999.

### **Spine and Craniofacial Workshop**

AO/Synthes Rochester.

October 1999.

### **Thorascopic Spinal Surgery - Master class**

Attending as Faculty

The Royal College of Surgeons of England London.

May 2000.

### **Cervical Spine Anterior, Posterior**

San Diego,

Sept 2003.

### **Cervical Spine Society Resident/Fellows Chicago,**

May 2004.

### **Becker's Spine, Neurosurgery and Pain Management**

Speaker.

- Turning Around an ASC - Tested Methods for Financial Improvement Case Studies and Analytical Tools
- How a Higher Acuity Neurosurgery/Spine Program can Achieve Wonderful Clinical and Financial Results for an ASC. Chicago, June 2007.

### **Becker's Ambulatory Surgery Center Conference & Exhibits**

Speaker. Using Spine and Bariatrics as the Cornerstone of a Thriving ASC, Chicago.

October 2007.

### **Becker's Spine, Orthopedic & Pain Management-Driven ASC Conference:**

Improving Profits, Business and Legal Issues Speaker - Spine Surgery as a Core Driver in Multispecialty ASC. Chicago, June 2008.

### **9th Annual Becker's Spine, Orthopedic & Pain Management-Driven ASC Conference:**

Improving Profitability and Business and Legal Issues Speaker - Key Concepts to Improve the Profitability of Spine Programs. Chicago, June 2010.



**10th Annual Becker's Spine, Orthopedic & Pain Management-Driven ASC Conference:**  
Improving Profitability and Business and Legal Issues Speaker - The Next Five Years.  
Chicago.  
June 2011.

**11th Annual Becker's Orthopedic, Spine and Pain Management Driven ASC Conference:**  
Keynote panelist – "What Will Healthcare Reform Mean for Orthopedics, Spine, Pain  
Management and ASCs"  
Speaker – "Quantum shift needed in orthopedic and spinal implant strategy"  
Chicago.  
June 2013.

**12th Annual Becker's Spine, Orthopedic & Pain Management-Driven ASC Conference:**  
**The Business of Spine**  
Keynote panelist - "What Does the Sunshine Act Mean for Orthopedic and Spine Surgeons"  
Speaker – "Key Evolutions in the Device Arena" Chicago.  
June 2014.

**13th Annual Becker's Spine, Orthopedic & Pain Management-Driven ASC Conference + The  
Future of Spine**  
Keynote panelist on "ASCs, Orthopedics and Spine: The Next Five Years." Chicago.  
June 2015.

**14th Annual Becker's Spine, Orthopedic and Pain Management-Driven ASC Conference +  
The Business of Spine**  
Keynote panelist on "Independence, healthcare business & outpatient spine – 4 spine  
surgeons discuss the next 5 years" Chicago.  
June 2016.

**15th Annual Becker's Spine, Orthopedic and Pain Management-Driven ASC Conference +  
The Future of Spine**  
Keynote panelist on "ASC's, Orthopedics and Spine: The Next Five Years". Chicago.  
June 2017.

**16th Annual Spine, Orthopedic and Pain Management-Driven ASC Conference + The Future  
of Spine**  
Keynote Speaker on how ancillaries can help independent orthopedic and spine practices  
survive in an increasingly competitive market. Chicago.  
June 2018.

**12 Annual Minimally Invasive Surgery conference at Weill Cornell Medicine**  
3D Printing Impact on Spinal Implant Design and Function. New York City.  
December 2018.

**17th Annual Spine, Orthopedic and Pain Management-Driven ASC Conference + The Future of Spine**  
Keynote Speaker on Establishing a Comprehensive Musculoskeletal Ortho / Neuro Network  
- The 5 Critical Tenets. Chicago.  
June 2019.

**Esote 3rd International Meeting on WEIGHT-BEARING MRI**  
Virtual Keynote Presenter on Competitive Advantages of Weight-Bearing MRI in Surgical Planning.  
October 2019.

**9th Annual UCSF Techniques in Complex Spine Surgery**  
Presenter on 3D Technology and Complex Spine Surgery. Las Vegas.  
December 2019.

**IXE Healthcare Group and Renown Health Continuing Medical Education Event**  
Presentation on Optimizing Spine and Musculoskeletal Care through Multi-specialty Collaboration.  
February 2020.

**Spine, Orthopedic and Pain Management-Driven ASC Virtual Conference + The Future of Spine.**  
Keynote Panelist on Innovation, Creativity and Excellence.  
June 2020.

**Seattle Science Foundation, 5th Annual Robotics, Endoscopy, Emerging Technologies and Navigation Course**  
Augmented Reality in Spine Surgery.  
November 2020.

## REFEREES

1. Volker K.B. Sonntag, MD, FAANS  
Professor of Neurosurgery  
Barrow Neurological Institute 2910 N. Third Avenue Phoenix, Arizona, 85013  
602-406-3458
2. H. Alan Crockard, FRCS  
Consultant Neurosurgeon Department of Surgical Neurology The National Hospital  
for Neurology and Neurosurgery Queen Square  
London WC1N 3BG Tel: 44 171 8298714  
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3. David G. Piepgras, MD, FAANS  
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Rochester, Minnesota, 55901 - 507-284-2511
4. Frederic Meyer, MD, FAANS Professor of Neurosurgery Mayo Clinic  
Rochester, Minnesota, 55090 - 507-284-2511