

Keun-young Anthony Kim, MD FAANS

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## Curriculum Vitae

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## EDUCATION AND TRAINING

- Member and fellow: American Association of Neurological Surgeons (F.A.A.N.S.)
- Member: Congress of Neurological Surgeons Member and fellow, American Association of Neurological Surgeons (F.A.A.N.S.)
- Member: Spine section of the CNS-AANS
- Member, Orange County Medical Association 2013 to current
- *Diplomate*: Board-certification by the American Board of Neurological Surgery (ABNS)
- Spine Fellowship, USC-Affiliated Spine Training Wakefield Hospital/Royal Adelaide Hospital, *Adelaide and Canberra, Australia*  
New Advances in Artificial Disks and Posterior Dynamic Stabilization of the Spine Matt Mcdonald MD and Justin Pik MD
- Fellowship: Complex and Minimally Invasive Spine, Michael Y. Wang, MD Los Angeles County-University of Southern California, Department of Neurosurgery *Los Angeles, California*
- Residency and Internship in Neurological Surgery: Los Angeles County-University of Southern California, Department of Neurosurgery, *Los Angeles, California*.
- Residency Pediatric Neurosurgery: Childrens Hospital Los Angeles, Department of Neurosurgery, *Los Angeles, California*. Division of Pediatric Neurological Surgery.
- Doctor of Medicine, M.D. 2000: University of Southern California School of Medicine, *Los Angeles, California*.
- Bachelor of Sciences (BS intensive) in Biology & Bachelor of Arts (BA) in Music: Yale University, *New Haven, Connecticut*.

## Current sub-specialization

Stealth / computer-guidance Spine surgery

Transpedicular approach / Smith-Peterson / Ponte's osteotomies  
Scoliosis/deformity  
Revision& Failed back syndrome  
Vertebral augmentation/PMMA for instrumentation  
cervico-thoracic junction  
Lumbo-pelvic junction including S2A1  
spinal cancer  
Cyberknife  
minimal invasive spine surgery  
mini-open deformity correction  
Pedicule screw instrumentation  
Spinal cord paddle stimulation  
non-invasive cerebral transmagnetic stimulation

Awake craniotomies for brain cancer

## AWARDS

- **nominated** “Best Doctors of Orange County” 2015. Orange County Medical Association (OCMA)
- “Best Doctors of Orange County” 2014. Orange County Medical Association (OCMA)
- “Best Doctors of Orange County” 2013. Orange County Medical Association (OCMA)
- Values in Action 2010, Mission Hospital, Mission Viejo.
- Depuy-Acromed Fellowship Award in Spine, *LAC-USC Dept of Neurosurgery*
- Graduation with Highest Distinction, *USC School of Medicine*
- AMA-ERF Medical Achievement Award, *USC School of Medicine*
- First Prize, Retzius Neuroanatomy Contest, *Childrens Hospital Los Angeles.*
- Alpha Omega Alpha Medical Honor Society, *USC School of Medicine*
- Dean’s Scholar, Years I, II, III, and IV, *USC School of Medicine.*

## DISCLOSURES

Integra Spine                      Consulting, Product development, Education of surgeons  
2006 - current

Integra Spine	Royalty for D-planar screws
Aurora Spine	Product development.
Ulrich Spine	prior Consulting. Education of surgeons. 2011- 2012
Depuy Spine	Consulting. Speaking engagements, prior fellowship and product development 2005-present
Medtronic	Prior training of spine representatives, 2004-2006

## Titles

Medical Advisor	Brain Treatment Center/USC Ctr NeuroRestoration Newport Beach, CA. 2011 to current
Medical Advisor	Make-A-Wish Foundation, Irvine, CA. OC and IE chapter, 2012 to current
Executive committee	Mission Hospital Neuroscience Institute Mission Viejo, CA 2013 to present
Trauma committee	Mission Hospital Mission Viejo, CA 2007 to present
Critical Care Committee	Mission Hospital Mission Viejo, CA 2007 to present
Perioperative committee	Mission Hospital 2013

## Current Research

Stealth-guidance and computer assistance for mini-open or minimally invasive deformity correction

Noninvasive trans-magnetic stimulation or Magnetic Resonance Therapy for alleviation of autism spectrum disorder behaviors, Alzheimers, PTSD, drug-addiction, and chronic pain syndrome (in conjunction with Dr. Charles Liu, Dept for Neurosurgery at University of Southern California).

## INVITED LECTURES

- 1) KA Kim "Injury from Pediatric Falls" CHLA Critical Care Pediatric Trauma Conference, July 12, 2000.

- 2) KA Kim, MW Wang. An Analysis of pediatric head injury from falls. AANS Pediatric section, Nov 3, 1999, # 175.
- 3) KA Kim, Larry T Khoo. Effective Use of Technology in Web Page Development and Poster Preparation. Practical clinic/workshop [039] at the AANS, Chicago, April 7, 2002.
- 4) KA Kim, ML Levy. Long-term outcome following gunshot wound to the spine in children and adolescents. AANS Pediatric Section, Dec 7, 2002. # 114.
- 5) KA Kim. When should a pediatrician consult a neurosurgeon. CHLA Pediatric Residents meeting, June 2003.
- 6) MLJ Apuzzo, KA Kim. Advanced imaging modalities in Concussion. Congress of Neurological Surgeons, San Francisco, October 18, 2004
- 7) KA Kim. Fundamentals of the Spine and Instrumentation. Sofamor-Danek Spine Head Quarters Invited Lecture and Anatomy Course. Memphis, TN, August 2005.
- 8) KA Kim. Fundamentals of the Spine and Instrumentation II. Sofamor-Danek Spine Head Quarters Invited Lecture and Anatomy Course. Memphis, TN, October 5, 2005.
- 9) KA Kim. Fundamentals of the Spine and Instrumentation. Sofamor-Danek Spine Head Quarters Invited Lecture and Anatomy Course. Memphis, TN, October 26, 2005.
- 10) KA Kim, M McDonald. Neurosurgery and the Community. Coonawarra General Practitioners Meeting, Coonawarra, Australia, February 10, 2006.
- 11) KA Kim. Recent Advances in the detection of facet disease. Flinders Medical Center Neurosurgical Group, Adelaide, South Australia, February 16, 2006.
- 12) KA Kim, MY Wang. Morphologic predictors of SPECT-positive facet disease on MRI. AANS Oral Presentation. Plenary session III, San Francisco CA, April 26, 2006.
- 13) Kim KA, McDonald M, Pik JHT, Wang MY. Device for Intervertebral Assisted Motion (DIAM) for Posterior Dynamic Stabilization: 18 months clinical and sagittal balance outcome compared with control. Western Neurosurgical Meeting Talk, Blaine WA, Sept 19, 2006.
- 14) Kim KA, McDonald M, Pik JHT, Wang MY. Dynamic Intraspinous Spacer Technology for Posterior Dynamic Stabilization: initial 18 month experience. Accepted as an Oral Presentation for the *American Academy of Neurological Surgeons*, Georgia, Oct 18-21 2006.
- 15) Kim KA, Bader Mary Kay. Reducing Secondary Injury in TBI: teamwork, protocols and hypothermia. 6<sup>th</sup> New York Symposium on Neurological Emergencies & Neurocritical care. Columbia University. New York, NY. June 3, 2009.
- 16) Kim KA. Therapeutic hypothermia in Neurocritical care. Invited lecture at Stroke and Neurocritical care Conference. Western Medical Center, Santa Ana, CA. August 22, 2009.

#### ABSTRACTS *accepted and/or presented*

- 1) Wang L, Kim A, Schreiber S, McComb JG, Weiss MH, Zlokovic BV. Thrombomodulin Expression in Brain Microvessels From Spontaneously Hypertensive

Rats. [Abstract 521.14] **Society for Neuroscience**, 28th Annual Meeting, Los Angeles, California, 1998.

2) Wang MY, Kim A. An analysis of pediatric head injury from falls. [Oral Poster 175] **Congress of Neurological Surgeons** Annual Meeting, Boston, Massachusetts, Nov 3, 1999.

3) Khoo LT, Kim A, Laich DT, Geisler F, Samudrala S. Anterior Plating for Cervical Trauma: The Effect of Plate Design on Graft Subsidence and the Preservation of Segmental Lordosis [Oral Poster 747] **AANS** 70th Annual Meeting, Chicago, IL, April 8, 2002.

4) Khoo L, Kim A, Samudrala S, Fessler RG. A historical testament Pott's distemper and the genesis of spinal surgery. Oral Presentation. **AANS/CNS section on Surgery of the Spine & Peripheral Nerve**, Annual Meeting, Orlando, Florida, February 27, 2002.

5) Kim KA, Apuzzo MLJ, Adkins R, Levy ML. Long-term outcome following gunshot wound to the spine in adolescents and children. Oral Presentation. **AANS/CNS section on Pediatric Neurosurgery**, Annual Meeting, Scottsdale, Arizona, December 07, 2002.

6) Kim KA, Heller AC, Pinsky G, Gonzales I, Commins D, McComb JG, Giannotta, SL, Weiss MH. Four rare cases of cerebral solitary fibrous tumor (C-SoFT) including a unique case in the basal ganglia of a child. Poster. **CNS** Annual Meeting, Denver, Colorado, September 2003.

7) Kim KA, Oh B, Pinsky G, Gruen JP, Giannotta SL. Vector-analysis correlating cerebral injury to outcome post-civilian gunshot wound to the head: discovery of a GSW fatality zone in the cerebrum. **CNS** Annual Meeting, Denver, Colorado, September 2003. Oral presentation and poster 24.

8) Kim KA, Tillou A, Velmahos G, Demetriades D, Gruen JP. Vector- and grid-analysis of cerebral injury patterns in civilian fatal gunshot wounds to the head. Oral Presentation. **AAST** Annual Meeting, May 2003.

9) Oh BC, Wang MY, Kim KA, Weiss MH. Excision of adenomas originating in the pituitary stalk. Poster. **CNS** Annual Meeting, 2003.

10) Gandhi CD, Krieger MD, Chen ML, Kim KA, McComb JG. The Association between tumor resection and survival in pediatric anaplastic astrocytomas. Oral Poster. **AANS** Annual meeting, May 2004

11) Kim KA, Gandhi CD, Hohuan D, Krieger M, McComb JG. Lack of ventricular response on head CT in pediatric shunted patients with surgery-proven hydrocephalus. Oral Presentation. **AANS** Annual meeting, May 2004.

12) Kim KA, Germaine R BS, McNatt S, Liu CL, Fischback D, Esnashari N, Kim P, Larsen DL, Teitelbaum G, Giannotta SG. Computed Tomography Angiography (CTA) for Assessment of Cerebral Vasospasm due to Aneurysmal Subarachnoid Hemorrhage. Poster # 1016. **AANS** Annual meeting, New Orleans, April 2005.

13) Kim KA, Germaine R BS, McNatt S, Liu CL, Fischback D, Esnashari N, Kim P, Larsen DL, Teitelbaum G, Giannotta SG. Computed Tomography Angiography (CTA) for Assessment of Aneurysm Coilability in Patients post-Aneurysmal Subarachnoid Hemorrhage (SAH). Poster # 1026. **AANS** Annual meeting, New Orleans, April 2005.

14) Kim, KA, MY Wang. Correlation of Magnetic Resonance Imaging and SPECT in determining facet-associated pain. Poster # 312. **Congress of Neurological Surgeons** Annual Meeting, Boston MA, 2005.

15) Kim KA, Aho CA, Heller AC, Fishback D, Giannotta SL. Retrosigmoid Craniotomy augmented by Subtraction petrous apex ridge via transdural approach. Poster # 530. **Congress of Neurological Surgeons** Annual Meeting, Boston, MA, 2005.

16) Kim KA, Wang MY. MRI-based morphologic predictors of SPECT positive facet arthropathy in patients with axial back pain. Poster. **NASS** Annual Meeting, Philadelphia PA, 2005.

17) KA Kim, MY Wang. Morphologic predictors of SPECT-positive facet disease on MRI. **AANS** Oral Presentation. **Main Plenary session III**, San Francisco CA, April 26, 2006.

18) Wang MY, Kim D, Kim KA. Correction of late traumatic kyphotic spinal deformities using posteriorly placed intervertebral distraction cage. Poster. Accepted for **NASS** Annual Meeting Seattle, WA, Sept 2006.

19) Kim KA, McDonald M, Pik JHT, Wang MY. Device for Intervertebral Assisted Motion (DIAM) for Posterior Dynamic Stabilization: 18 months clinical and sagittal balance outcome compared with control. Accepted as one of five resident invited presentations for the **Western Neurosurgical Meeting**, Blaine WA, Sept 19, 2006.

20) Kim KA, Wang MY, Ledezma C, Nicholas D, Wycoff RR. MR-myelogram may detect fluid around inflamed facet joints and predict positive response to lumbar facet injection. Accepted as Select poster for the Spine Section # 27. Drs. Michael Groff and Jim Harrop mediating. The **Congress of Neurological Surgeons** Annual Meeting, Chicago, October 9, 2006.

21) Kim KA, Kim D, Wang MY. Late traumatic kyphotic spinal deformities from a posterior-only approach. Accepted as Select poster for the Spine Section # 28. Drs. Michael Groff and Jim Harrop mediating. The **Congress of Neurological Surgeons** Annual Meeting. Chicago, October 9, 2006.

22) Kim KA, McDonald M, Pik JHT, Wang MY. Dynamic Intraspinous Spacer Technology for Posterior Dynamic Stabilization: initial 18 month experience. Accepted as an Oral Presentation for the **American Academy of Neurological Surgeons**, Georgia, Oct 18-21, 2006. Presentation declined as I was not member of the Academy.

23) Kim KA, McDonald M, Pic JHT, Taghva A, Wang MY. Dynamic intraspinal spacer technology for posterior dynamic stabilization: VAS, MacNab, and Sagittal radiographic assessment at mean 29 months follow-up. Oral Presentation # 102 **AANS/CNS Section on Spine & Peripheral Nerves** Annual Meeting, Phoenix, AZ, March 7 – 10, 2007.

24) Kim KA, McDonald M, Pic JHT, Taghva A, Wang MY. Dynamic intraspinal spacer technology for posterior dynamic stabilization: initial clinical series and radiographic assessment at mean 29 months follow-up. Presented as Oral Presentation to the **AANS** Annual Meeting, Washington DC, April 14-19, 2007.

- 25) Taghva A, Kim KA, Russin J, Giannotta S. Use of Cerebral Oxygenation Monitoring as a guide to Triple H therapy for SAH-induced vasospasm. CNS Annual Meeting ,San Diego, CA 2007.
- 26) Kim KA, Bader MK, Wang J, Lee Andrew, Polderman, K. Correlating foley temperature to cerebral cortical temperature in 9 patients undergoing hypothermia to 33 degrees Celcius. CNS Annual Meeting, Chicago IL, October 7-9, 2012.
- 27) Kim KA, Taghva A, Jin Y, Liu CY. Improved autism behaviors after noninvasive cerebral trans-magnetic stimulation using customized frequency modulation: follow-up mean 24 months. AANS Annual Meeting, San Francisco, April 2014.
- 28) Kim KA, Taghva A. Versatility and accuracy of intraoperative surface registration for spinal navigation and instrumentation in 50 consecutive revision operations. AANS Annual Meeting, San Francisco, April 2014.

#### PEER-REVIEW PUBLICATIONS *accepted or in process of final review*

- 1) Nelson K, Kim K, "Monitoring cDNA synthesis," a technical report. *Biochemica* Vol. 11, No.4, 1994.
- 2) Kim KA, Wang MY, Griffith P, Summers S, Levy ML. Analysis of pediatric head injury from falls. *Neurosurgical Focus* 8 (1): article 3, 2000.
- 3) Ninomia T, Wang L, Kumar SR, Kim A, Zlokovic BV. Brain Injury and cerebrovascular fibrin deposition correlate with reduced anti-thrombotic brain capillary functions in a hypertensive stroke model. *J Cereb Blood Flow Metab* 20(6): 998-1009, 2000.
- 4) Wang MY, Kim KA, Griffith PM, Summers S, McComb JG, Levy ML, Mahour GH. Injuries from falls in the pediatric population: an analysis of 729 cases. *J Ped Surg*, Vol. 36 (10): 1528 – 1534, 2001.
- 5) Wang MY, Kim KA, Griffith PM, Summers S, Levy ML. Head injury in 729 children who suffered unintentional falls. *J Neurosurgery* 2001.
- 6) Salim A, Kim KA, Kimbrell BJ, Petrone P, Roldan G, Asensio JA. The Kluver-Bucy syndrome as a result of minor head trauma. *Southern Medical Journal*. 95 (8): 929 - 931, 2002.
- 7) Swadron SP, S Selco, KA Kim, G Fischberg, G Sung, The Acute Cerebrovascular Event. In: *Surgical emergencies in the medical ill*. Emergency Medicine Clinics of North America. WB Saunders Co, Inc. accepted for publication 2002.
- 8) Kim KA, Pinsky G, Gonzales I, McComb JG, Giannotta, SL, Unusual presentations of Cerebral Solitary Fibrous Tumor (C-SoFT).: report of four cases. *Neurosurgery* 54(4): 1104 – 1109, 2004
- 9) Wang MY, Kim KA, Liu CY, Kim P, Apuzzo MLJ. Reliability of three-dimensional fluoroscopy for detecting pedicle screw violations in the thoracic and lumbar spine. *Neurosurgery* 54 (5): 1138 – 1148, 2004
- 10) Kim KA, Wang MY, McNatt S, Pinsky G, Liu C, Giannotta SL, Apuzzo MLJ. Vector analysis correlating bullet trajectory to outcome post-civilian through-and-through gunshot wound to the head: using imaging cues to predict fatal outcome. *Neurosurgery* 57: 737 – 747, 2005.

- 11) Kim KA, Wang MY. Anesthesia considerations in cervical myelopathy. Spine J 2006. Accepted and in publication.
- 12) Wang MY, Kim KA, Hoh DJ. Minimally Invasive Spine Surgery. Contemporary Neurosurgery accepted 2005 and published 2005.
- 13) Wang MY, Kim KA, Oh BC, Lim MR, Lee JY, Alberts TJ. Static versus dynamic plating for anterior cervical spinal fusion. Roundtables in Spinal Surgery-current controversies in cervical spine surgery. 1(3): 3-10, 2005.
- 14) Lim MR, Lee JY, Albert TJ, Kim KA, Liu CY, Wang MY. Alternative grafting materials. Roundtables in Spinal Surgery-current controversies in cervical spine surgery. 1(3): 11-16, 2005.
- 15) Wang MY, Kim KA, Liu CY, Lim MR, Lee JY, Albert TJ. A comparison of options: laminectomy, laminoplasty, or laminectomy with fusion. Roundtables in Spinal Surgery-current controversies in cervical spine surgery. 1(3): 17-27, 2005.
- 16) Lim MR, Lee JY, Albert TJ, Kim KA, Liu CY, Wang MY. Fusion versus motion. Roundtables in Spinal Surgery-current controversies in cervical spine surgery. 1(3): 27 - 34, 2005.
- 17) Wang MY, Kim D, Kim KA. Correction of late traumatic thoracic or thoracolumbar kyphotic spinal deformities using posteriorly placed intervertebral distraction cage. Neurosurgery accepted July 2007 with pending date for publication.
- 18) Kim KA, Wang MY. MRI-based morphologic predictors of SPECT positive facet arthropathy in patients with axial back pain. Neurosurgery 59 (1): 147 – 156, July 2006.
- 19) Kim KA, McDonald M, Pik JHT, Khoeir JP, Wang MY. Dynamic intraspinous spacer technology for posterior stabilization: case control study on the safety, sagittal angulation, and pain outcome at 1 year follow-up. Neurosurgical Focus Vol 22(1): article 7, Jan 2007.
- 20) Khoeir JP, Kim KA, Wang MY. Classification of posterior dynamic stabilization Devices. Neurosurgical Focus Vol 22 (1): article 3, Jan 2007.
- 21) Kim KA, Taghva A, Peterson K, Liu CY. Improved autism behaviors after noninvasive cerebral trans-magnetic stimulation using customized frequency modulation: follow-up mean 24 months. World Neurosurgery submitted Oct 2013.
- 22) Taghva A, Kim KA. Class III data on transmagnetic stimulation for the treatment of PTSD. World Neurosurgery submitted Spring 2014
- 23) Kim KA. Class I data on transmagnetic stimulation for the treatment of autism. In writing.

### **BOOK CHAPTERS *accepted or published***

- 1) Khoo LT, Kim KA, Fessler RG. Posterior fixation of the cervicothoracic junction. In: The Cervical Spine Study Group (eds). Manual of Cervical Spine Internal Fixation, Quality Medical Publishers, St. Louis, 2001. Accepted for publication 2001.
- 2) KA Kim, S Leary, ML Levy. Overview, posterior approach to Thoracic Syrinxes and Syringo-subarachnoid shunting. In: Fessler R, Sekhar L eds. Atlas of Neurosurgical Techniques. Thieme, 2002. Accepted for publication 2002.



3) KA Kim, S Leary, ML Levy. Shunting of Thoracic Syrinxes-Pleural and Peritoneal In: Fessler R, Sekhar L eds. Atlas of Neurosurgical Techniques. Thieme, 2002. Accepted for publication 2002.

4) KA Kim, AP Amar, ML Levy. Controversies in penetrating spinal cord injury. In: Amar AP, Apuzzo MLJ eds., The Neurosurgeon's management of spinal cord injury. Futura Publishing Co, Inc. 2003. Accepted for publication 2002.

5) KA Kim, B Kateb, P Dyck, S Samudrala. Chapter 83. Lumbar Spine Tumors - posterior approach. In: Herkowitz HN, Dvorak J, Bell G, Nordin M, Grob D, eds. The Lumbar Spine 3rd ed., Lippincott Williams & Wilkins. Accepted for publication 2003.

6) MY Wang, KA Kim, B Oh. Lateral lumbar interbody fusion. In: Kim D, eds. Surgical Anatomy and Techniques to the Spine, Philadelphia, 2004.