

Curriculum Vitae



Address

Name Hak Sun Kim
Sex Male
Present Position: Professor and Chairman, Department of Orthopedic Surgery
Yonsei University, College of Medicine, Seoul, Republic of Korea
Date of Birth January 11, 1962
Place of Birth Republic of Korea
Personal status Married and two sons
Present Address Department of Orthopedic Surgery, 50-1, Yonsei-ro, Seodaemun-gu,
Seoul, Republic of Korea, 03722
City/Country/Zip 50-1, Yonsei-ro, Seodaemun-gu, Seoul, Republic of Korea, 03722
Telephone (Work): (822)-2019-1481
E-mail: haksunkim@yuhs.ac
Telephone (Home): (822)-596-8189
Home Address: Jam-Won Hahn-Shin Apartment 347-905, Jam-Won Dong
Seo-Cho Ku, Seoul, Republic of Korea

Medical Education

Yonsei University, Medical School 1981. 3.1- 1985.2.28
Shinchun-Dong, Seoul, Korea
Degree: Medical Doctor

Graduate Education

Yonsei University, The Graduate School 1992.9.1- 1994.8.28
Shinchun-Dong, Seoul, Korea
Degree: Master of Art

Wonkwang University, The Graduate School 1996.9.1- 1999.8.31
Iksan Si, Jeonbuk, Korea
Degree: Doctor of Philosophy

Post Graduate

1. Severance Hospital 1988.3.1-1989.2.28
Shinchun-Dong, Seoul, Korea
Degree: Internship
2. Severance Hospital 1989.3.1-1993.2.28
Shinchun-Dong, Seoul, Korea
Degree: Orthopedic Residency
3. Wonkwang University, College of Medicine. 1993.3.1. - 1996.2.29
Shinyoung-Dong, 344-2.
Ik-San, Republic of Korea, 570-180
Position: Full time instructor
4. Yonsei University, College of Medicine 1996.3.1 -
Youngdong Severance Hospital-Dong, Seoul, Korea, 135-270
Position: Assistant Professor
5. Emory University, Spine Center 1999.06 – 2000. 12
Position: Post Doc fellow
Korea Foundation for Advanced Studies

Board Certification

Orthopedic, 1993. Korean Orthopedic Association
ID No. 1767

Licenser

Medical Doctor, 1985, Korean Medical Association
ID No. 28783

Award

Vice Award of Korean Orthopedic Association, 1995
Title: Multiple neurotization in preganglionic whole arm type of brachial
Plexus injury

Beat Award of Korean Orthopedic Association, 1996
Title: Treatment of tibial pilon fractures using ring fixator and
arthroscopy

Vice Award of Korean Fracture Association, 1997

Title: Ipsilateral fibular transfer in a large tibia defect using ring fixators

Award of North American Spine Society, 2000

Title: LIM mineralization protein-1 (LMP-1) induces de novo new bone formation in vitro and vivo.

Best Poster Award of Spine Arthroplasty Society 2006

Title: Tissue engineering of the intervertebral disc with cultured nucleus pulposus cells using atelocollagen scaffold and growth factors

Award of Korea Society of Spine Surgery, 2009

Polyaxial screws with thick rod versus monoaxial screws with thin rod in video-assisted thoracoscopic scoliosis surgery (VATS).

J Kor Soc Spine Surg, 15: 9-17, 2008

Award of Korea Society of Spine Surgery, 2011

Tissue engineering of the intervertebral disc with cultured nucleus pulposus cells using atelocollagen scaffold and gene therapy

J Kor Soc Spine Surg, 17: 49 - 56, 2010

Award of Japanese Orthopedic Research Society, 2012

Functional Outcome of NM scoliosis Surgery

Vice Award of Korean Orthopedic Association, 2014

Functional outcomes in Duchene muscular dystrophy scoliosis: comparison of the differences between surgical and nonsurgical treatment.

Suk KS, Lee BH, Lee HM, Moon SH, Choi YC, Shin DE, Ha JW, Song KM, Kim HS.

J Bone Joint Surg Am. 2014 Mar 5;96(5):409-15

Academic and Social Society Activities

Members of Korea Orthopedic Surgery 1993. 03 -

Member of North American Spine Society Member 2002. 03 -

Member of Korean Society of Spine Surgery 1996. 03 -

Index Committee Members for Korean Orthopedic Association 2000. 11 - 2004.02

Association Members of the Korean Editorial Advisory Practice for Doctors 2001. 03 - 2004.02

Korean Society of Spine Surgery Micro Surgery Division Director 1998. 11-1999. 06

Secretary General of Korean Traffic Medicine, 1997 06-1999. 06

Member of Korean Society of Spine Surgery Scientific Committee 2009.03 -

Secretary General of Korea Arthroplasty Society, 2004. 03 – 008. 02

Active Fellow of Scoliosis Research Society 2006. 02 – present

Growing Spine Committee Members of Scoliosis Research Society Members 2012. 02

Editorial Board of Asian Spine Journal 2005. 05 -present

Editorial Board of Korean Orthopedic Surgery 2006. 05 - 2011. 04

Advisory Committee of Health Insurance Review and Assessment Service, Seoul, 2011. 03 -2014. 02

Advisory Committee for the Korea National Pension 2007.03-present

Korean Delegate for Scoliosis Reaserach Society 2015-09 – present

Chairman of Board Counsils of Korean Orthopaedic Association 2018. 11 – 2019. 10

Presidents of Korean Spine Surgery Society 2019. 06 –2020. 05

Editor in Chief 2020. 06 - present

Publication

1. **Hak-Sun Kim**, Jun-Sheop Jahng, Dae-Young Han, Hui-Wan Park: Ipsilateral Momentary Fibular Transfer in a Large Tibia Defect Using Ring Fixator International Orthopedic 1998
2. **Hak-Sun Kim**: Modification of step-cut osteotomy in cubitus varus The Journal of Pediatric Orthopadic Part B April, 1998
3. **Hak-Sun Kim**, Sang Soo Kim, Hong Jun Han, Churl Hong Chun, Jun Seop Jahng: Treatment of Tibial Pilon Fractures Using Ring Fixators and Arthroscopy. Clinical Orthopedic and Related Research 1997. Jan
4. Dae-Moo Shim, Min-Ho Kim, Jong-Hwan Kim, Hong-Jun Han, Byung-Chang Lee, **Hak-Sun Kim**: Corticospinal Tract Projection to the Lumbar Spinal Cord Through Lateral Funiculi in the Rat. The Journal of Wonkwang Medical Science Vol.11, pp.1-12, Aug. 1995
5. Lee HM, **Kim HS**, Kim DJ, Suk KS, Park JO, and Kim NH: Reliability of magnetic resonance imaging in detecting posterior ligament complex injury in thoracolumbar spinal fractures. Spine. 2000 Aug 15;25(16):2079-84.
6. **Kim HS**, Kim NH, Lee HM, Park HW, Ha JW, Park JO: Sexual dysfunction in men with paraparesis in lumbar burst fractures. Spine 2000 Sep 1;25(17):2187-

7. Viggswarapu M, Boden SD, Liu Y, Hair GA, Louis-Ugbo J, Murakami H, **Kim HS**, Mayr MT, Hutton WC, Titus L. Adenoviral delivery of LIM mineralization protein-1 induces new-bone formation in vitro and in vivo. *J Bone Joint Surg Am* 2001 Mar;83-A(3):364-76
8. Heller JG, **Kim HS**, Carlson GW. Subarachnoid--pleural fistulae--management with a transdiaphragmatic pedicled greater omental flap: report of two cases. *Spine* 2001 Aug 15;26(16):1809-13
9. Suh DY, Boden SD, Louis-Ugbo J, Mayr M, Murakami H, **Kim HS**, Minamide A, Hutton WC. Delivery of recombinant human bone morphogenetic protein-2 using a compression-resistant matrix in posterolateral spine fusion in the rabbit and in the non-human primate. *Spine* 2002 Feb 15;27(4):353-60
10. Louis-Ugbo J, **Kim HS**, Boden SD, Mayr MT, Li RC, Seeherman H, D'Augusta D, Blake C, Jiao A, Peckham S. Retention of 125I-labeled recombinant human bone morphogenetic protein-2 by biphasic calcium phosphate or a composite sponge in a rabbit posterolateral spine arthrodesis model. *J Orthop Res* 2002 Sep;20(5):1050-9
11. Akamaru T, Suh D, Boden SD, **Kim HS**, Minamide A, Louis-Ugbo J. Simple carrier matrix modifications can enhance delivery of recombinant human bone morphogenetic protein-2 for posterolateral spine fusion. *Spine*. 2003 Mar 1;28(5):429-34.
12. **Kim HS**, Viggswarapu M, Boden SD, Liu Y, Hair GA, Louis-Ugbo J, Murakami H, Minamide A, Suh DY, Titus L. Overcoming the immune response to permit ex vivo gene therapy for spine fusion with human type 5 adenoviral delivery of the LIM mineralization protein-1 cDNA. *Spine*. 2003 Feb 1;28(3):219-26. (IF 1.819)
13. Park HW, **Kim HS**, Hahn SB, Yang KH, Choi CH, Park JO, Jung SH Correction of lumbosacral hyperlordosis in achondroplasia *Clin Orthop*. 2003 Sep;(414):242-9
14. Louis-Ugbo J, Murakami H, **Kim HS**, Minamide A, Boden SD. Evidence of osteoinduction by Grafton demineralized bone matrix in nonhuman primate spinal fusion. *Spine*. 2004 Feb 15;29(4):360-6
15. **Kim HS**, Park JO, Lee HM, Shin DE, Ha JW, Shim DJ, Lee KI. Radiographic and Functional Outcome after Surgical Management of Severe Scoliosis in Skeletally Immature Patients with Muscular Dystrophy *Journal of Spinal Disorders & Techniques* 2004 Dec;17(6):505-10.
16. Si-Young Park, Seong-Hwan Moon, Moon-Soo Park, **Hak-Sun Kim**, Youn-Jin

- Choi, and Hwan-Mo Lee. Intradiscal electrothermal treatment for chronic lower back pain patients with internal disc disruption. *Yonsei Medical Journal* 2005, 46:539-545.
17. Moon ES, **Kim HS**, Park JO, Shin DE, Ha JW, Shim DJ, Kwak YH, Lee KI. Comparison of the predictive value of myelography, computed tomography and MRI on the treadmill test in lumbar spinal stenosis. *Yonsei Med J.* 2005 Dec 31;46(6):806-11.
 18. **Kim HS**, Lee CS, Jeon BH, Park JO. Sagittal plane analysis of adolescent idiopathic scoliosis after VATS (video-assisted thoracoscopic surgery) anterior instrumentations. *Yonsei Med J.* 2007; 48:90-6.
 19. Moon ES, **Kim HS**, Park JO, Moon SH, Lee HM, Shin DE, Ha JW, Ahn EK, Shim DJ, Chung JY. The incidence of new vertebral compression fractures in women after kyphoplasty and factors involved. *Yonsei Med J.* 2007 Aug 31;48(4):645-52.
 20. Ho-Joong Kim, Sul-Gee Kim, Hwan-Mo Lee, Hak-Sun Kim, Eun-Su Moon, Jin-Oh Park, Nam-Heon Seol, and Seong-Hwan Moon: Risk factors associated with the halo phenomenon after lumbar fusion surgery and its clinical significance. *Asian Spine Journal* 2008 June Volume2, number 1. 22-26.
 21. **Hak-Sun Kim**, Kwang-Il Lee, Hyang Kim, Un-Hye Kwon, Mi-Ran Nam, Ju-Woong Jang, In-Je Cho, Boram Kim, Hwan-Mo Lee, Seong-Hwan Moon. Tissue Engineering of the Intervertebral Disc with Cultured Nucleus Pulposus Cells Using Atelocollagen Scaffold and Gene Therapy. *J Kor Soc Spine Surg*, 17: 49-56, 2010.
 22. **Kim HS**, Park JO, Nanda A, Kho PA, Kim JY, Lee HM, Moon SH, Ha JW, Ahn EK, Shin DE, Kim SJ, Moon ES. Video-Assisted Thoracoscopic Surgery for Correction of Adolescent Idiopathic Scoliosis: Comparison of 4.5 mm versus 5.5 mm Rod Constructs. *Yonsei Med J.* 2010 Sep;51(5):753-60
 23. Moon ES, Nanda A, Park JO, Moon SH, Lee HM, Kim JY, Yoon SP, **Kim HS**. *J Kor Soc Spine Surg*, 15: 9-17, 2008. *Spine (Phila Pa 1976)*. 2010 Jul 14.
 24. **Kim HS**, Ju CI, Kim SW Bilateral pedicel stress fracture accompanying spondylolysis in a patient with ankylosing spondylitis. *J Korean Neurosurg Soc.* 2010 Jul; 48(1):70-1
 25. Kim H, **Kim HS**, Moon ES, Yoon CS, Chung TS, Song HT, Suh JS, Lee YH, Kim S. Scoliosis imaging: What radiologists whuold know. *Radiographics.* 2010 Nov; 30(7):1823-42.
 26. Chong HS, **Kim HS**, Ankur N, Kho,PA, Kim SJ, Kim DY, Park JO, Moon SH,

- Lee HM, Moon ES. Video-assisted thoracoscopic surgery plus lumbar mini-open surgery for adolescent idiopathic scoliosis. *Yonsei Med J.* 2011 Jan; 52(1): 130-6.
27. Kim HJ, Chun HJ, Han CD, Moon SH, Kang KT, **Kim HS**, Park JO, Moon ES, Kim BR, Sohn JS, Shin SY, Jang JW, Lee KI, Lee HM. The risk assessment of a fall in patients with lumbar spinal stenosis. *Spine.* 2011 April 20; 36(9): E588-92
28. Kim SJ, Kim WR, **Kim HS**, Park HW, Cho YW, Jang SH, Hwang SJ, Ahn SH. Abnormal spontaneous activities on needle electromyography and their relation with pain behavior and nerve fiber pathology in a rat model of lumbar disc herniation. *Spine.* 2011 Nov 15; 36(24):E1562-7.
29. Chong HS, Moon ES, Park JO, Kim DY, Kho PA, Lee HM, Moon SH, Kim YS, **Kim HS**. Value of preoperative pulmonary function test in flaccid neuromuscular scoliosis surgery. *Spine.* 2011 Oct 1; 36(21): E1391-94.
30. Kim HJ, Kang KT, Moon SH, Chun HJ, **Kim HS**, Park JO, Moon ES, Kim BR, Sohn JS, Lee HM. The quantitative assessment of risk factors to over stress at adjacent segments after lumbar fusion: removal of posterior elements and pedicle screws. *Spine.* 2011 Aug 1; 36 (17): 1367-73.
31. Moon ES, Nanda A, Park JO, Moon SH, Lee HM, Kim JY, Yoon SP, **Kim HS**. Pelvic obliquity in neuromuscular scoliosis: radiologic comparative results of single-stage posterior versus two-stage anterior and posterior approach. *Spine (Phila Pa 1976).* 2011 Jan 15;36(2):146-52.
32. Moon SH, Lee HM, Chun HJ, Kang KT, **Kim HS**, Park JO, Moon ES, Chong HS, Sohn JS, Kim HJ. Surgical outcome of lumbar fusion surgery in patients with Parkinson disease. *J Spinal Disord Tech.* 2012 Oct;25(7):351-5.
33. Moon ES, **Kim HS**, Sharma V, Park JO, Lee HM, Moon SH, Chong HS. Analysis of single nucleotide polymorphism in adolescent idiopathic scoliosis in Korea: for personalized treatment. *Yonsei Med J.* 2013 Mar 1;54(2):500-9
34. Kim DY, Moon ES, Park JO, Chong HS, Lee HM, Moon SH, Kim SH, **Kim HS**. The Thoracic Lordosis Correction Improves Sacral Slope and Walking Ability in Neuromuscular Scoliosis. *J Spinal Disord Tech.* 2013 Nov 5. [Epub ahead of print]
35. Suk KS, Lee BH, Lee HM, Moon SH, Choi YC, Shin DE, Ha JW, Song KM, **Kim HS**. Functional outcomes in Duchenne muscular dystrophy scoliosis: comparison of the differences between surgical and nonsurgical treatment. *J*

Bone Joint Surg Am. 2014 Mar 5;96(5):409-15

36. **Kim HS.** Evidence-based of nonoperative treatment in adolescent idiopathic scoliosis. *Asian Spine J.* 2014 Oct;8(5):695-702.
37. Chong HS, Padua MR, Kim JS, Lee HM, Moon SH, Suk KS, **Kim HS.** Usefulness of Noninvasive Positive-pressure Ventilation During Surgery of Flaccid Neuromuscular Scoliosis. *J Spinal Disord Tech.* 2015 Oct;28(8):298-300.
38. Huh S, Eun LY, Kim NK, Jung JW, Choi JY, **Kim HS.** Cardiopulmonary function and scoliosis severity in idiopathic scoliosis children. *Korean J Pediatr.* 2015 Jun;58(6):218-23.
39. **Kim HS,** Suk KS, Moon SH, Lee HM, Kang KC, Lee SH, Kim JS. Safety evaluation of freehand lateral mass screw fixation in the subaxial cervical spine: evaluation of 1256 screws. *Spine (Phila Pa 1976).* 2015 Jan 1;40(1):2-5
40. Suk KS, Baek JH, Park JO, **Kim HS,** Lee HM, Kwon JW, Moon SH, Lee BH. Postoperative quality of life in patients with progressive neuromuscular scoliosis and their parents. *Spine J.* 2015 Mar 1;15(3):446-53.
41. Lee BH, Park JO, **Kim HS,** Suk KS, Lee SY, Lee HM, Yang JH, Moon SH. Spinal sagittal balance status affects postoperative actual falls and quality of life after decompression and fusion in-situ surgery in patients with lumbar spinal stenosis. *Clin Neurol Neurosurg.* 2016 Sep; 148:52-9. doi: 10.1016/j.clineuro.2016.06.016.
42. Lee BH, Yang JH, **Kim HS,** Suk KS, Lee HM, Park JO, Moon SH. Effect of Sagittal Balance on Risk of Falling after Lateral Lumbar Interbody Fusion Surgery Combined with Posterior Surgery. *Yonsei Med J.* 2017 Nov;58(6):1177-1185. doi: 10.3349/ymj.2017.58.6.1177.
43. Shim, DW, Lee BH, Seo Jiwoon, Hong HJ, Shin SC, **Kim HS.** Efficacy of computed tomography in prediction of operability of L5/S1 foraminal stenosis using region of interest A STROBE-compliant retrospective study. *Medicine: October 2019 - Volume 98 - Issue 42 - p e17422,* doi: 10.1097/MD.00000000000017422.
44. Yang JH, Kim KS, Lee GH, **Kim HS.** Comparison of survival analysis between surgical and non-surgical treatments in Duchenne muscular dystrophy scoliosis *Spine J* 2020 Nov;20(11):1840-1849. doi: 10.1016/j.spinee.2020.06.004. Epub 2020 Jun 11.
45. Shin JW, Park SR, Kim SK, **Kim HS.** Posterior Device Fixation Using Pedicle Screws in Patients with Degenerative Spine Disease: A Prospective, Single-

- Group, Therapeutic Pilot Study. *J Korean Soc Spine Surg.* 2020 Dec;27(4):131-137. <https://doi.org/10.4184/jkss.2020.27.4.131>
46. Kwon JW, Moon SH, Park SY, Park SJ, Park SR, Suk KS, Kim HS, Lee BH. Lumbar Spinal Stenosis: Review Update 2022. *Asian Spine J.* 2022 Oct;16(5):789-798. doi: 10.31616/asj.2022.0366. Epub 2022 Oct 21.
 47. Shin JW, Suk KS, Kim HS, Yang JH, Kwon JW, Lee HM, Moon SH, Lee BH, Park SJ, Park SR, Kim SK. Direct Internal Fixation for Unstable Atlas Fractures. *Yonsei Med J.* 2022 Mar;63(3):265-271. doi: 10.3349/ymj.2022.63.3.265.
 48. Seo J, Suk KS, Kwon JW, Kim N, Lee BH, Moon SH, Kim HS, Lee HM. Cervical foraminal stenosis as a risk factor for cervical kyphosis following cervical laminoplasty. *Spine J.* 2022 Aug;22(8):1271-1280. doi: 10.1016/j.spinee.2022.03.017. Epub 2022 Apr 3.
 49. Shin JW, Suk KS, Kim HS, Yang JH, Lee HM, Moon SH, Lee BH, Park JO, Park SJ, Park SR, Kim SK, Garcia JF. Changes in retro-odontoid mass after upper cervical spine surgery. *Sci Rep.* 2022 Nov 21;12(1):20035. doi: 10.1038/s41598-022-24436-7.
 50. Moon SH, Lee HM, Chun HJ, Kang KT, Kim HS, Park JO, Moon ES, Chong HS, Sohn JS, Kim HJ. Surgical outcome of lumbar fusion surgery in patients with Parkinson disease. *J Spinal Disord Tech.* 2012 Oct;25(7):351-5. doi: 10.1097/BSD.0b013e318224a625.
 51. Kim HS, Kwon JW, Park KB. Clinical Issues in Indication, Correction, and Outcomes of the Surgery for Neuromuscular Scoliosis: Narrative Review in Pedicle Screw Era. *Neurospine.* 2022 Mar;19(1):177-187. doi: 10.14245/ns.2143246.623. Epub 2022 Jan 29.
 52. Shin JW, He Q, Suk YJ, Kim SH, Kim HS. Comparison of the efficacy between sequential therapy with teriparatide and denosumab and denosumab monotherapy in suppressing fragility fracture risk. *Osteoporos Int.* 2022 Nov;33(11):2409-2416. doi: 10.1007/s00198-022-06495-8. Epub 2022 Aug 4.

Special Interest:

Spinal deformity surgery and minimal invasive spinal surgery
Bone biology and scoliosis genetic research
Osteoporosis

Special Abilities

Kim HS CV

Surgery for neuromuscular scoliosis

Endoscopic spine surgery

Growing surgery for Early onset scoliosis surgery

Osteoporosis

Signature _____ March 10, 2023