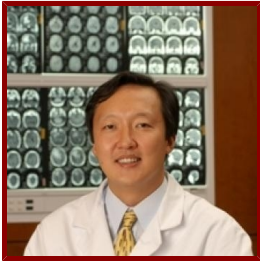


# Stanford

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## Jon Park, MD, FRCSC

Saunders Family Professor  
Neurosurgery

### CLINICAL OFFICE (PRIMARY)

- **Stanford Neuroscience Health Center**

213 Quarry Rd

4th Fl MC 5958

Palo Alto, CA 94304

**Tel** (650) 723-6469

**Fax** (650) 725-0390

### ACADEMIC CONTACT INFORMATION

- **Alternate Contact**

Ann Chee - Administrator

**Email** [achee@stanford.edu](mailto:achee@stanford.edu)

**Tel** (650) 736-8590

### Bio

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#### BIO

Jon Park, M.D., F.R.C.S.C is the Saunders Family Endowed Professor in Neurosurgery, the Chief of Spine Neurosurgery, Director of Spine Research Laboratory, and Director of Spine Fellowship Program at Stanford University Medical Center. His clinical practice specializes in surgically and non-surgically managing the spinal disorders that affect people's lives, such as debilitating pain and weakness that comes from spine disc problems, spine tumors, spine scoliosis, and spine trauma.

Dr. Park is an internationally recognized leader in the field of spine surgery. He is an active member of American Association of Neurosurgery, North American Spine Surgery, Scoliosis Research Society, and Cervical Spine Research Society. His research focuses on spinal disc regeneration in an effort to target the underlying causes using stem cells and mesenchymal stem cells for inter-vertebral disc regeneration. His research also pioneers in spinal bio-mechanics to apply mechanical principles to ensure spinal stability.

#### CLINICAL FOCUS

- Minimally Invasive Spine surgery
- Spine Trauma
- Cyberknife Spine Tumor
- Spine Tumor Surgery
- Spine Deformity Surgery
- Neurological Surgery

#### ACADEMIC APPOINTMENTS

- Professor - University Medical Line, Neurosurgery
- Member, Bio-X

#### ADMINISTRATIVE APPOINTMENTS

- Chief, Spine Neurosurgery, Stanford UMC., (2006- present)

- Professor, Stanford University School of Medicine, (2017- present)
- Associate Professor, Stanford Univ. School of Medicine, Department of Neurosurgery, (2010-2017)
- Director, Comprehensive Spine Neurosurgery Program. Spine Fellowship and Spine Research Program, Stanford UMC., (2006- present)
- Assistant Professor, Stanford Univ. School of Medicine, Department of Neurosurgery, (2003-2009)
- Assistant Professor, University of Washington School of Medicine, Neurological Surgery, (2000-2003)
- Clinical Instructor, UCLA School of Medicine, Neurological Surgery, (1999-2000)

## HONORS AND AWARDS

- Stanford University School of Medicine Academic Grant Recipient, Stanford (2003-2004)
- Saunders Family Endow Chair, Stanford University (2017)
- President of Fellow's Society, Montreal Neurological Institute, Montreal Neurological Institute (1998-1999)
- Kathleen Whipple Scholarship, University of Rochester School of Medicine (1990-1993)
- Robert I. Weed Hematology Research Fellowship, Johns Hopkins University (1991)
- HANA Graduate Merit Scholarship, Johns Hopkins University (1990)
- Health Commendation Award, City of Baltimore (1986)

## PROFESSIONAL EDUCATION

- Fellowship: UCLA Medical Center Dept of Neurosurgery (2000) CA
- Residency: Montreal Neurological Institute (1999) QC Canada
- Residency: University of Washington Medical Center (1995) WA
- Board Certification: Neurological Surgery, American Board of Neurological Surgery (2005)
- Spine Fellowship, UCLA Medical Center , Neurological Surgery (2000)
- Chief Resident, McGill University, Neurosurgery , Neurological Surgery (1999)
- Fellowship, Lahey Hitchcock Medical Center , Interventional Neuroradiology (1997)
- Intern & Resident, University of Washington , General Surgery (1995)
- B.A., Johns Hopkins University , Biophysics (1989)

## LINKS

- Get a Second Opinion: <https://stanfordhealthcare.org/second-opinion/overview.html>

## Research & Scholarship

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### CURRENT RESEARCH AND SCHOLARLY INTERESTS

Non-fusion dynamic spinal stabilization, artificial disc technologies, and regenerative spinal technologies.

## Teaching

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### STANFORD ADVISEES

#### Postdoctoral Faculty Sponsor

Lingzi Ma

### GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Biophysics (Phd Program)
- Neurosciences (Phd Program)

## Publications

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### PUBLICATIONS

- **Treatment Concept and Technical Considerations of Biportal Endoscopic Spine Surgery for Lumbar Spinal Stenosis.** *Asian spine journal*  
Park, J., Ahn, D. K., Choi, D. J.  
2023
- **A neurovascular-unit-on-a-chip for the evaluation of the restorative potential of stem cell therapies for ischaemic stroke.** *Nature biomedical engineering*  
Lyu, Z., Park, J., Kim, K., Jin, H., Wu, H., Rajadas, J., Kim, D., Steinberg, G. K., Lee, W.  
2021
- **External validation of a predictive model of adverse events following spine surgery.** *The spine journal : official journal of the North American Spine Society*  
Fatemi, P., Zhang, Y., Han, S. S., Purington, N., Zygorakis, C. C., Veeravagu, A., Desai, A., Park, J., Shuer, L. M., Ratliff, J. K.  
2021
- **Objective activity tracking in spine surgery: a prospective feasibility study with a low-cost consumer grade wearable accelerometer.** *Scientific reports*  
Stienen, M. N., Rezaii, P. G., Ho, A. L., Veeravagu, A., Zygorakis, C. C., Tomkins-Lane, C., Park, J., Ratliff, J. K., Desai, A. M.  
2020; 10 (1): 4939
- **Association between Physician Industry Payments and Cost of Anterior Cervical Discectomy and Fusion in Medicare Beneficiaries.** *World neurosurgery*  
Liu, C. n., Ahmed, K. n., Chen, C. L., Dudley, R. A., Gonzales, R. n., Orrico, K. n., Yerneni, K. n., Stienen, M. N., Veeravagu, A. n., Desai, A. n., Park, J. n., Ratliff, J. K., Zygorakis, et al  
2020
- **Improving the Patient-Physician Relationship in the Digital Era - Transformation From Subjective Questionnaires Into Objective Real-Time and Patient-Specific Data Reporting Tools.** *Neurospine*  
Maldaner, N., Desai, A., Gautschi, O. P., Regli, L., Ratliff, J. K., Park, J., Stienen, M. N.  
2019; 16 (4): 712–14
- **Objective measures of functional impairment for degenerative diseases of the lumbar spine: a systematic review of the literature** *SPINE JOURNAL*  
Stienen, M. N., Ho, A. L., Staartjes, V. E., Maldaner, N., Veeravagu, A., Desai, A., Gautschi, O. P., Bellut, D., Regli, L., Ratliff, J. K., Park, J.  
2019; 19 (7): 1276–93
- **Patient Satisfaction and Press Ganey Scores for Spine Versus Nonspine Neurosurgery Clinics.** *Clinical spine surgery*  
Chen, Y., Johnson, E., Montalvo, C., Stratford, S., Veeravagu, A., Tharin, S., Desai, A., Ratliff, J., Shuer, L., Park, J.  
2019
- **Reliability of the 6-minute walking test smartphone application.** *Journal of neurosurgery. Spine*  
Stienen, M. N., Gautschi, O. P., Staartjes, V. E., Maldaner, N. n., Sosnova, M. n., Ho, A. L., Veeravagu, A. n., Desai, A. n., Zygorakis, C. C., Park, J. n., Regli, L. n., Ratliff, J. K.  
2019: 1–8
- **Characterization of Brain Dysfunction Induced by Bacterial Lipopeptides That Alter Neuronal Activity and Network in Rodent Brains** *JOURNAL OF NEUROSCIENCE*  
Kim, K., Zamaleeva, A. I., Lee, Y., Ahmed, M., Kim, E., Lee, H., Pothineni, V., Tao, J., Rhee, S., Jayakumar, M., Inayathullah, M., Sivanesan, S., Red-Horse, et al  
2018; 38 (50): 10672–91
- **Posterior open reduction and internal fixation of C1 fractures: the C-clamp technique** *ACTA NEUROCHIRURGICA*  
Gelinias-Phaneuf, N., Stienen, M., Park, J.  
2018; 160 (12): 2451–57
- **Radiographic Rate and Clinical Impact of Pseudarthrosis in Spine Radiosurgery for Metastatic Spinal Disease.** *Cureus*  
Zhang, M., Appelboom, G., Ratliff, J. K., Soltys, S. G., Adler, J. R., Park, J., Chang, S. D.  
2018; 10 (11): e3631
- **Assessment of Biomechanical Changes After Sacroiliac Joint Fusion by Application of the 3-Dimensional Motion Analysis Technique** *WORLD NEUROSURGERY*  
Jeong, J., Leasure, J. M., Park, J.  
2018; 117: E538–E543

- **Predicting complication risk in spine surgery: a prospective analysis of a novel risk assessment tool.** *Journal of neurosurgery. Spine*  
Veeravagu, A., Li, A., Swinney, C., Tian, L., Moraff, A., Azad, T. D., Cheng, I., Alamin, T., Hu, S. S., Anderson, R. L., Shuer, L., Desai, A., Park, et al  
2017; 1-11
- **3D patterned stem cell differentiation using thermo-responsive methylcellulose hydrogel molds.** *Scientific reports*  
Lee, W., Park, J.  
2016; 6: 29408
- **Building an electronic health record integrated quality of life outcomes registry for spine surgery** *JOURNAL OF NEUROSURGERY-SPINE*  
Azad, T. D., Kalani, M., Wolf, T., Kearney, A., Lee, Y., Flannery, L., Chen, D., Berroya, R., Eisenberg, M., Park, J., Shuer, L., Kerr, A., Ratliff, et al  
2016; 24 (1): 176-185
- **3D patterned stem cell differentiation using thermo-responsive methylcellulose hydrogel molds** *Scientific Reports*  
Lee, W., Park, J.  
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- **Clavicle pain and reduction of incisional and fascial pain after posterior cervical surgery.** *Journal of neurosurgery. Spine*  
Duetzmann, S., Cole, T., Senft, C., Seifert, V., Ratliff, J. K., Park, J.  
2015; 23 (6): 684-689
- **Sacral Peak Pressure in Healthy Volunteers and Patients With Spinal Cord Injury With and Without Liquid-Based Pad** *NURSING RESEARCH*  
Duetzmann, S., Forsey, L. M., Senft, C., Seifert, V., Ratliff, J., Park, J.  
2015; 64 (4): 300-305
- **Sacral Peak Pressure in Healthy Volunteers and Patients With Spinal Cord Injury: With and Without Liquid-Based Pad.** *Nursing research*  
Duetzmann, S., Forsey, L. M., Senft, C., Seifert, V., Ratliff, J., Park, J.  
2015; 64 (4): 300-305
- **Biomechanical Analysis of a Novel Pedicle Screw Anchor Designed for the Osteoporotic Population** *WORLD NEUROSURGERY*  
Gates, T. A., Moldavsky, M., Salloum, K., Dunbar, G. L., Park, J., Bucklen, B.  
2015; 83 (6): 965-969
- **Biomechanical Comparisons of Pull Out Strengths After Pedicle Screw Augmentation with Hydroxyapatite, Calcium Phosphate, or Polymethylmethacrylate in the Cadaveric Spine** *WORLD NEUROSURGERY*  
Yi, S., Rim, D., Park, S. W., Murovic, J. A., Lim, J., Park, J.  
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- **Spinal Sealant System Provides Better Intraoperative Watertight Closure Than Standard of Care During Spinal Surgery A Prospective, Multicenter, Randomized Controlled Study** *SPINE*  
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- **Biomechanical Comparison of Cervical Fixation via Transarticular Facet Screws without Rods versus Lateral Mass Screws with Rods** *WORLD NEUROSURGERY*  
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- **Biomechanical Analysis of Disc Pressure and Facet Contact Force After Simulated Two-Level Cervical Surgeries (Fusion and Arthroplasty) and Hybrid Surgery** *WORLD NEUROSURGERY*  
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- **Directed Axonal Outgrowth Using a Propagating Gradient of IGF-1.** *Advanced materials*  
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- **Directed axonal outgrowth using a propagating gradient of IGF-1** *ADVANCED MATERIALS*  
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2014; 26: 4936-4940
- **Minimally Invasive Surgery for Lumbar Decompression in Obese Patients.** *J Spine*  
Smith, Z. A.  
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- **Primary surgical management by reduction and fixation of unstable hangman's fractures with discoligamentous instability or combined fractures** *JOURNAL OF NEUROSURGERY-SPINE*  
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M Kalani, G Li, S Mindea, J Park  
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- **The Design of a Heterocellular 3D Architecture and its Application to Monitoring the Behavior of Cancer Cells in Response to the Spatial Distribution of Endothelial Cells** *ADVANCED MATERIALS*  
Lee, W., Park, J.  
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- **Biomechanical Evaluations of Various C1-C2 Posterior Fixation Techniques** *SPINE*  
Sim, H. B., Lee, J. W., Park, J. T., Mindea, S. A., Lim, J., Park, J.  
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- **Biomechanical Analysis of the Range of Motion After Placement of a Two-Level Cervical ProDisc-C Versus Hybrid Construct** *SPINE*

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  - **"Mini-transthoracic supradiaphragmatic approach to the thoracolumbar junction"** *Korean J Spine*  
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2010; 7 (4): 249-254
  - **Imaging correlation of the degree of degenerative L4-5 spondylolisthesis with the corresponding amount of facet fluid** *JOURNAL OF NEUROSURGERY-SPINE*  
Cho, B. Y., Murovic, J. A., Park, J.  
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  - **Fracture-related Thoracic Kyphotic Deformity Correction by Single-stage Posterolateral Vertebrectomy With Circumferential Reconstruction and Stabilization Outcomes in 30 Cases** *JOURNAL OF SPINAL DISORDERS & TECHNIQUES*  
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  - **Imaging Correlation of the Degree of Degenerative L4-L5 Spondylolisthesis with the Corresponding Amount of the Facet Fluid.** *Journal of Neurosurgery: Spine*  
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- **Biomechanical comparison: stability of lateral-approach anterior lumbar interbody fusion and lateral fixation compared with anterior-approach anterior lumbar interbody fusion and posterior fixation in the lower lumbar spine** *JOURNAL OF NEUROSURGERY-SPINE*  
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- **A biomechanical comparison of three surgical approaches in bilateral subaxial cervical facet dislocation** *JOURNAL OF NEUROSURGERY-SPINE*  
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- **Surgical treatment of tumors involving the cervicothoracic junction.** *Neurosurgical focus*  
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- **Vertebral body replacement with an expandable cage for reconstruction after spinal tumor resection.** *Neurosurgical focus*  
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- **Effect of Frameless Stereotaxy on Accuracy of C1-C2 Transarticular Screw Placement** *J Neurosurgery*  
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