Stanford



Grace Xiong, MD

Assistant Professor of Orthopaedic Surgery

CLINICAL OFFICE (PRIMARY)

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ACADEMIC CONTACT INFORMATION

- **Alternate Contact**

  Zubair Mohmand - Academic Administrator

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Bio

BIO

Dr. Grace Xiong is a board-certified spine surgeon, Assistant Professor, and the Patient Safety Director for the Department of Orthopaedic Surgery at Stanford Health Care. She completed her undergraduate education at Harvard College and her medical education at Stanford University. She completed residency in orthopaedic surgery (Harvard Medical School) where she was a chief resident and trained under orthopaedic leaders at Massachusetts General Hospital, Brigham and Women's Hospital, Beth Israel Deaconess Hospital, and Boston Children's Hospital. This was followed by fellowship training in spinal surgery at the Rothman Orthopaedic Institute and Jefferson University under the tutelage of world-renowned mentors including Drs. Alexander Vaccaro, Alan Hilibrand, and Christopher Kepler.

Dr. Xiong's surgical expertise spans the full spectrum of spinal disorders. This includes degenerative cervical, thoracic, and lumbar conditions, particularly spinal disc herniations, spinal stenosis, spinal cysts, spondylolisthesis, and spondylosis causing radiculopathy, myelopathy, claudication, and sciatica. She specializes in both minimally invasive and complex reconstructive and revision spinal surgery. She is particularly interested in the use of motion-preserving approaches to restore function, accelerate recovery, and decrease the need for future spinal surgery for patients. She was awarded the William H. Thomas award for excellence and collegiality in patient care. Patients choose Dr. Xiong for her thoughtful approach in diagnosis and careful use of surgery only when necessary.

Nationally, Dr. Xiong serves as the Associate Editor for leading medical journals in spine care including Spine and Spine Open. She also serves as the Chair of the Resident and Fellow Education Committee for the North American Spine Society and is a member of the Adult Spine Evaluation Committee for the American Academy of Orthopaedic Surgeons.

Dr. Xiong's main research interests stem from her careful observations of clinical gaps facing patients with spinal issues. She has over 50 peer-reviewed medical publications. Her research focuses on improving the diagnosis and treatment of patients with chronic spinal cord injury, improving clinical outcomes in spinal surgery, and improving health access and equity to spinal care. She is a member of the AO Knowledge Forum, an international research consortium of spine surgeons aimed at improving care for patients with spinal trauma or spinal infections. She is also a member of the North

American Spine Society, the American Academy of Orthopaedic Surgeons, the Cervical Spine Research Society, and is an Emerging Leader of the American Orthopaedic Association.

CLINICAL FOCUS

- Orthopaedic Surgery

ACADEMIC APPOINTMENTS

- Assistant Professor-Univ Med Line, Orthopaedic Surgery
- Member, Bio-X
- Member, Wu Tsai Human Performance Alliance
- Member, Wu Tsai Neurosciences Institute

HONORS AND AWARDS

- Stanford Bio-X Travel Award, Stanford University (2017)
- Medical Student Achievement Award, Ruth Jackson Orthopaedic Society (2016)
- Dr. George G. Katsas Award, Massachusetts Medical Society (2017)
- Cervical Spine Research Society Annual Meeting Scholarship Award, Cervical Spine Research Society (2022)
- Member, Gold Humanism Honor Society (GHHS) (2017)
- Outstanding Paper Award, North American Spine Society Annual Meeting (2022)
- Henry J. Mankin Thesis Day Clinical Research Award, Harvard Combined Orthopaedic Residency Program (2023)
- James H. Herndon Award for Exemplary Commitment to Resident Education, Harvard Combined Orthopaedic Residency Program (2023)
- William H. Thomas Award for Excellence in Orthopaedics, Harvard Combined Orthopaedic Residency Program (2023)

PROFESSIONAL EDUCATION

- Fellowship: Thomas Jefferson Univ Hospital (2024) PA
- Residency: Harvard Combined Orthopaedic Residency Program (2023) MA
- Medical Education: Stanford School of Medicine (2018) CA
- Bachelor of Arts, Harvard College (2012)

LINKS

- LinkedIn: https://www.linkedin.com/pub/grace-xiong/3b/461/b9a

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Dr. Xiong’s research is focused on improving the care and management of patients with subacute and chronic spinal cord injury, improving clinical outcomes in spinal surgery, and improving health access to spinal care.

She is particularly interested in improving how we diagnose and treat subacute and chronic causes for spinal cord injury. Unlike patients who sustain an accident and experience sudden spinal cord injury leading to paralysis, patients who have other causes of spinal cord injury may have a slower onset. These may be due to factors such as infections or arthritis but can have similarly devastating impacts on patients who experience numbness, pain, and loss of function. Improving how we diagnose and treat these other forms of spinal cord injury is a significant opportunity to improve the function and quality of life for patients.

Dr. Xiong is also interested in improving outcomes after surgery, as well as improving health access to patients for spinal care. She and her team are using newer technologies and resources, including artificial intelligence and national databanks, to better understand how we can improve surgical care for patients.

Teaching

STANFORD ADVISEES

Postdoctoral Faculty Sponsor

Sanket Mehta

Publications

PUBLICATIONS

- **Radiation in Spine Care: A Comprehensive Review of Radiation Sources, Emerging Technology, Cancer Risk, and Radiation Stewardship.** *The spine journal : official journal of the North American Spine Society*
  Crawford, A. M., Namiri, N. K., Corvi, J. J., Issa, T. Z., Muniz, R. S., Lin, J. D., Bronson, W. H., Chaudhary, S. B., Hecht, A. C., Kalra, M. K., Lightsey, H. M., Xiong, G. X., Striano, et al
  2026
- **The Role of the AO Spine Primary Infection Classification in Evaluating Medical and Surgical Management: A Narrative Review.** *Global spine journal*
  Kweh, B. T., Vaccaro, A. R., Schroeder, G. D., Aly, M. M., El-Sharkawi, M., Dandurand, C., Neuhoff, J., Karamian, B. A., Xiong, G. X., Chhabra, H. S., Bransford, R., Joaquim, A. F., Tee, et al
  2026: 21925682261507650
- **Development of a Natural Language Processing Algorithm to Aid Creation of a Surgical Spine Database.** *The spine journal : official journal of the North American Spine Society*
  Wong, H. J., Song, M., Miller, S. L., Damle, E. B., Muniz, R., Mehta, S., McFarlane, K., Berg, A., Li, Y. D., Koltsov, J. C., Xiong, G. X.
  2026
- **Practical Application of the AO Spine Primary Infection Classification System: Clarifying Definitions, Borderline Cases and Common Misinterpretations.** *Global spine journal*
  Kweh, B. T., Vaccaro, A. R., Schroeder, G., Aly, M., El-Sharkawi, M., Dandurand, C., Neuhoff, J., Karamian, B., Xiong, G., Chhabra, H. S., Bransford, R., Joaquim, A. F., Tee, et al
  2026: 21925682261498682
- **Introduction to the Special Issue on Medicare's Transforming Episode Accountability Model (TEAM): a mandatory bundled payment model that includes spinal fusion.** *The spine journal : official journal of the North American Spine Society*
  Martin, B. I., Xiong, G. X., Bono, C. M.
  2026
- **Evaluating the Utility of Staphylococcus aureus Nasal Screening in Preventing Surgical Site Infections in Elective Orthopaedic Surgery: A Propensity-Matched Analysis.** *The Journal of bone and joint surgery. American volume*
  Leijs, L. J., Kha, S. T., Lucaciu, A. R., Gholipour, A., Coan, J., van der Wal, R. J., Xiong, G. X., Tobert, D. G.
  2026
- **Implantation choices, fusion preferences and implant removal after fixation in C1-C2 fractures: An AO Spine Knowledge Forum expert survey.** *European spine journal : official publication of the European Spine Society, the European Spinal Deformity Society, and the European Section of the Cervical Spine Research Society*
  Kanna, R. M., Ng, M., Joaquim, A. F., Schroeder, G. D., El-Sharkawi, M., Guiroy, A., Yurac, R., Karamian, B. A., Dandurand, C., Vaccaro, A. R., Xiong, G., Bransford, R., Holas, et al
  2026
- **Spilling the Tea in TEAM: Unanticipated Consequences of Medicare's Transforming Episode Accountability Model (TEAM).** *The spine journal : official journal of the North American Spine Society*
  Gong, J. F., Xiong, G. X.
  2026

- **Intervertebral disc degeneration.** *Nature reviews. Disease primers*
  Hammoor, B. T., Lai, C. S., Xiong, G. X., Elliott, D. M., Snyder, B., Vresilovic, E., Bono, C. M., Freedman, B. R.
  2026; 12 (1): 5

- **Widening Gaps in Episode of Care Markers between Medicare Managed Care and Medicare Fee-for-Service in Spinal Fusion.** *The spine journal : official journal of the North American Spine Society*
  Pius, A. K., Wong, H., Koltsov, J. C., Hu, S. S., Schoenfeld, A. J., Xiong, G. X.
  2026

- **External performance of the Spinal Infection Treatment Evaluation (SITE) score and Spinal Instability Spondylodiscitis Score (SISS) in predicting operative intervention for de novo spinal infections.** *The spine journal : official journal of the North American Spine Society*
  Xiong, G. X., Huang, R., Narayanan, R., Ezeonu, T., Duscova, E., Banko, S., Prischak, L., Senthil, A., Alfonsi, S., Clark, M., Woods, B. I., Kurd, M. F., Rihn, et al
  2025

- **Statistics for Spine Care Practitioners and Clinician-Scientists: A Practical Guide to Study Design, Analysis and Interpretation.** *Spine*
  Crawford, A. M., Striano, B. M., Xiong, G. X., Dalton, J., Oris, R. J., Schoenfeld, A. J., Vaccaro, A. R.
  2025

- **Laminectomy and fusion better maintains horizontal gaze than laminoplasty in cervical spondylotic myelopathy** *NORTH AMERICAN SPINE SOCIETY JOURNAL*
  Hammoor, B. T., Cohen, L. L., Xiong, G. X., Lightsey, H. M., Lindsey, M., Fogel, H. A., Tobert, D. G., Hershman, S. H.
  2025; 21: 100575

- **Guidelines for returning to activity after spinal deformity surgery.** *Spine deformity*
  Turtle, J. D., Mehta, J. S., Parent, S., Xiong, G. X., Cheung, J. P., Welborn, M. C., Vaccaro, A. R., Cahill, P. J., Pellisé, F., Hu, S. S.
  2024

- **What Happens to Sagittal Alignment Following Laminoplasty Versus Laminectomy and Fusion?** *WORLD NEUROSURGERY*
  Lindsey, M. H., Lightsey, H. M., Xiong, G. X., Goh, B., Simpson, A. K., Hershman, S. H.
  2024; 184: E211-E218

- **Use of vancomycin and gentamicin-impregnated calcium sulfate beads for the prevention of surgical site infection in adult spinal deformity** *SPINE JOURNAL*
  Xiong, G. X., Hammoor, B. T., Simpson, A. K., Hershman, S. H.
  2024; 24 (2): 330-332

- **Projected lifetime cancer risk for patients undergoing spine surgery for isthmic spondylolisthesis** *SPINE JOURNAL*
  Crawford, A. M., Striano, B. M., Lightsey, H. M., Zhu, J. S., Xiong, G. X., Schoenfeld, A. J., Simpson, A. K.
  2023; 23 (6): 824-831

- **Report of the "Women in Academic Spine" Initiative** *SPINE*
  Koshinski, J. L., Xiong, G. X., Agaronnik, N., Byrd, C., Call, C. M., Enchill, Z., Giberson-Chen, C., Hering, K., Hislop, C., McGovern, M. M., Parker, A., Schoenfeld, A. L., Yuen, et al
  2023; 48 (8): 515-518

- **The impact of radiotherapy on survival after surgical resection of chordoma with minimum five-year follow-up** *SPINE JOURNAL*
  Tobert, D. G., Kelly, S. P., Xiong, G. X., Chen, Y., MacDonald, S. M., Bongers, M. E., -Calderon, S., Newman, E. T., Raskin, K. A., Schwab, J. H.
  2023; 23 (1): 34-41

- **Prospective comparison of one-year survival in patients treated operatively and nonoperatively for spinal metastatic disease: results of the prospective observational study of spinal metastasis treatment (POST)** *SPINE JOURNAL*
  Xiong, G. X., Collins, J. E., Ferrone, M. L., Schoenfeld, A. J.
  2023; 23 (1): 14-17

- **C-reactive Protein-to-albumin Ratio in Spinal Epidural Abscess: Association with Post-treatment Complications** *JOURNAL OF THE AMERICAN ACADEMY OF ORTHOPAEDIC SURGEONS*
  Lindsey, M. H., Xiong, G. X., Lightsey, H. M., Giberson-Chen, C., Goh, B., Xu, R., Simpson, A. K., Schoenfeld, A. J.
  2022; 30 (17): 851-857

- **Insurance types are correlated with baseline patient-reported outcome measures in patients with adult spinal deformity** *JOURNAL OF CLINICAL NEUROSCIENCE*
  Amakiri, I. C., Xiong, G. X., Verhofste, B., Crawford, A. M., Schoenfeld, A. J., Simpson, A. K.
  2022; 103: 180-187
- **Impact of insurance type on patient-reported outcome measures in patients with lumbar disc herniation** *SPINE JOURNAL*
  Xiong, G. X., Goh, B. C., Agaronnik, N., Crawford, A. M., Smith, J. T., Hershman, S. H., Schoenfeld, A. J., Simpson, A. K.
  2022; 22 (8): 1309-1317
- **Microendoscopic Decompression for Lumbar Disc Herniations: An Analysis of Short and Long Term Patient Reported Outcome Measures** *JOURNAL OF THE AMERICAN ACADEMY OF ORTHOPAEDIC SURGEONS*
  Lightsey, H. M., Lindsey, M. H., Xiong, G. X., Crawford, A. M., Uzosike, A., Ahn, J., Schoenfeld, A. J., Simpson, A. K.
  2022; 30 (12): E859-E866
- **Orthopaedic Innovation and the Balance With Conflicts of Interest** *OPERATIVE TECHNIQUES IN ORTHOPAEDICS*
  Xiong, G. X., Kang, J. D.
  2022; 32 (2)
- **ALIF Versus TLIF for L5-S1 Isthmic Spondylolisthesis: ALIF Demonstrates Superior Segmental and Regional Radiographic Outcomes and Clinical Improvements Across More Patient-reported Outcome Measures Domains** *SPINE*
  Lightsey, H. M., Pisano, A. J., Striano, B. M., Crawford, A. M., Xiong, G. X., Hershman, S., Schoenfeld, A. J., Simpson, A. K.
  2022; 47 (11): 808-816
- **Insurance Type is Associated with Baseline Patient-Reported Outcome Measures in Patients with Lumbar Stenosis** *SPINE*
  Crawford, A. M., Xiong, G. X., Lightsey, H. M., Goh, B. C., Smith, J. T., Hershman, S. H., Schoenfeld, A. J., Simpson, A. K.
  2022; 47 (10): 737-744
- **The role of gender in academic productivity, impact, and leadership among academic spine surgeons** *SPINE JOURNAL*
  Agaronnik, N., Xiong, G. X., Uzosike, A., Crawford, A. M., Lightsey, H. M., Simpson, A. K., Schoenfeld, A. J.
  2022; 22 (5): 716-722
- **A Natural History of Patients Treated Operatively and Nonoperatively for Spinal Metastases Over 2 Years Following Treatment Survival and Functional Outcomes** *SPINE*
  Xiong, G. X., Fisher, M. W. A., Schwab, J. H., Simpson, A. K., Nguyen, L., Tobert, D. G., Balboni, T. A., Shin, J. H., Ferrone, M. L., Schoenfeld, A. J.
  2022; 47 (7): 515-522
- **Microendoscopic decompression of conjoined lumbosacral nerve roots** *BMJ CASE REPORTS*
  Lightsey, H. M., Xiong, G. X., Schoenfeld, A. J., Simpson, A. K.
  2022; 15 (3)
- **Does Operative Management of Epidural Abscesses Increase Healthcare Expenditures up to 1 Year After Treatment?** *CLINICAL ORTHOPAEDICS AND RELATED RESEARCH*
  Xiong, G. X., Crawford, A. M., Goh, B. C., Striano, B. M., Bensen, G. P., Schoenfeld, A. J.
  2022; 480 (2): 382-392
- **Spinal endoscopy: evidence, techniques, global trends, and future projections** *SPINE JOURNAL*
  Simpson, A. K., Lightsey, H. M., Xiong, G. X., Crawford, A. M., Minamide, A., Schoenfeld, A. J.
  2022; 22 (1): 64-74
- **Nasal screening for methicillin-resistant Staphylococcus aureus does not reduce surgical site infection after primary lumbar fusion** *SPINE JOURNAL*
  Xiong, G. X., Greene, N. E., Hershman, S. H., Schwab, J. H., Bono, C. M., Tobert, D. G.
  2022; 22 (1): 113-125
- **The NIMS framework: an approach to the evaluation and management of epidural abscesses** *SPINE JOURNAL*
  Xiong, G. X., Crawford, A. M., Striano, B., Lightsey, H. M., Nelson, S. B., Schwab, J. H.
  2021; 21 (12): 1965-1972
- **Comparison of Radiation Exposure Between Anterior, Lateral, and Posterior Interbody Fusion Techniques and the Influence of Patient and Procedural Factors** *SPINE*
  Striano, B. M., Xiong, G. X., Lightsey, H. M., Crawford, A. M., Pisano, A. J., Schoenfeld, A. J., Simpson, A. K.

2021; 46 (23): 1669-1675

- **Open epidural blood patch to augment durotomy repair in lumbar spine surgery: surgical technique and cohort study** *SPINE JOURNAL*
  Xiong, G. X., Tobert, D., Fogel, H., Cha, T., Schwab, J., Shin, J., Bono, C., Hershman, S.
  2021; 21 (12): 2010-2018
- **Telemedicine Use in Orthopaedic Surgery Varies by Race, Ethnicity, Primary Language, and Insurance Status** *CLINICAL ORTHOPAEDICS AND RELATED RESEARCH*
  Xiong, G., Greene, N. E., Lightsey, H. M., Crawford, A. M., Striano, B. M., Simpson, A. K., Schoenfeld, A. J.
  2021; 479 (7): 1417-1425
- **Interventional procedure plans generated by telemedicine visits in spine patients are rarely changed after in-person evaluation** *REGIONAL ANESTHESIA AND PAIN MEDICINE*
  Crawford, A. M., Lightsey, H. M., Xiong, G. X., Striano, B. M., Greene, N., Schoenfeld, A. J., Simpson, A. K.
  2021; 46 (6): 478-481
- **Variability and contributions to cost associated with anterior versus posterior approaches to lumbar interbody fusion** *CLINICAL NEUROLOGY AND NEUROSURGERY*
  Crawford, M., Lightsey, M., Xiong, X., Striano, M., Pisano, J., Schoenfeld, J., Simpson, K.
  2021; 206: 106688
- **Telemedicine visits generate accurate surgical plans across orthopaedic subspecialties** *ARCHIVES OF ORTHOPAEDIC AND TRAUMA SURGERY*
  Crawford, A. M., Lightsey, H. M., Xiong, G. X., Striano, B. M., Schoenfeld, A. J., Simpson, A. K.
  2022; 142 (11): 3009-3016
- **Vancomycin-impregnated calcium sulfate beads compared with vancomycin powder in adult spinal deformity patients undergoing thoracolumbar fusion.** *North American Spine Society journal*
  Xiong, G., Fogel, H., Tobert, D., Cha, T., Schwab, J., Bono, C., Hershman, S.
  2021; 5: 100048
- **Surgical plans generated from telemedicine visits are rarely changed after in-person evaluation in spine patients** *SPINE JOURNAL*
  Lightsey, H. M., Crawford, A. M., Xiong, G. X., Schoenfeld, A. J., Simpson, A. K.
  2021; 21 (3): 359-365
- **Bisphosphonates and parathyroid hormone analogs for improving bone quality in spinal fusion: State of evidence** *ORTHOPEDIC REVIEWS*
  Atesok, K., Stippler, M., Striano, B. M., Xiong, G., Lindsey, M., Cappellucci, E., Psilos, A., Richter, S., Heffernan, M. J., Theiss, S., Papavassiliou, E.
  2020; 12 (2): 64-70
- **Decreased estimated blood loss in lateral trans-psoas versus anterior approach to lumbar interbody fusion for degenerative spondylolisthesis.** *Journal of spine surgery (Hong Kong)*
  Goodnough, L. H., Koltsov, J., Wang, T., Xiong, G., Nathan, K., Cheng, I.
  2019; 5 (2): 185–93
- **What Is the State of Quality Measurement in Spine Surgery?** *CLINICAL ORTHOPAEDICS AND RELATED RESEARCH*
  Bennett, C., Xiong, G., Hu, S., Wood, K., Kamal, R. N.
  2018; 476 (4): 725–31
- **Men and Women Differ in the Biochemical Composition of Platelet-Rich Plasma** *AMERICAN JOURNAL OF SPORTS MEDICINE*
  Xiong, G., Lingampalli, N., Koltsov, J. C. B., Leung, L. L., Bhutani, N., Robinson, W. H., Chu, C. R.
  2018; 46 (2): 409–19
- **Providing Specialty Care for the Poor and Underserved at Student-Run Free Clinics in the San Francisco Bay Area.** *Journal of health care for the poor and underserved*
  Liu, M. B., Xiong, G. n., Boggiano, V. L., Ye, P. P., Lin, S. n.
  2017; 28 (4): 1276–85
- **Metabolomic profiling in the prediction of gestational diabetes mellitus.** *Diabetologia*
  Bentley-Lewis, R., Huynh, J., Xiong, G., Lee, H., Wenger, J., Clish, C., Nathan, D., Thadhani, R., Gerszten, R.
  2015; 58 (6): 1329-32

- **A systematic review of metabolite profiling in gestational diabetes mellitus.** *Diabetologia*
  Huynh, J., Xiong, G., Bentley-Lewis, R.
  2014; 57 (12): 2453-64

- **Center of mass motion in swimming fish: effects of speed and locomotor mode during undulatory propulsion** *ZOOLOGY*
  Xiong, G., Lauder, G. V.
  2014; 117 (4): 269-281

- **Metabolomic Analysis Reveals Amino Acid Responses to an Oral Glucose Tolerance Test in Women with Prior History of Gestational Diabetes Mellitus.** *Journal of clinical & translational endocrinology*
  Bentley-Lewis, R., Xiong, G., Lee, H., Yang, A., Huynh, J., Kim, C.
  2014; 1 (2): 38-43

PRESENTATIONS

- Metabolomic Response to an Oral Glucose Challenge in Women with a History of Gestational Diabetes Mellitus - The Endocrine Society (June 2013)