


Stanford



Eric Sun

Assistant Professor of Anesthesiology, Perioperative and Pain Medicine (Adult-MSD) and, by courtesy, of Health Research and Policy (Health Services Research) at the Stanford University Medical Center

 Curriculum Vitae available Online

CLINICAL OFFICES

- **Anesthesia Department**

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Bio

CLINICAL FOCUS

- Anesthesia

ACADEMIC APPOINTMENTS

- Assistant Professor - Med Center Line, Anesthesiology, Perioperative and Pain Medicine
- Assistant Professor - Med Center Line (By courtesy), Health Research & Policy

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Member, Committee on Health and Public Policy, American Society of Anesthesiologists (2015 - 2017)
- Member, Committee on Anesthesia Workforce Trends, American Society of Anesthesiologists (2018 - present)
- Member, National Academies of Science, Engineering, and Medicine ad hoc Committee on Evidence- Based Clinical Practice Guidelines to Prescribing Opioids for Acute Pain (2018 - present)
- Associate Editor, Anesthesiology (2019 - present)
- Associate Editor, Anesthesia and Analgesia (2015 - present)

PROFESSIONAL EDUCATION

- Medical Education: Pritzker School of Medicine University of Chicago Registrar (2010) IL
- Board Certification: Anesthesia, American Board of Anesthesiology (2016)
- PhD, University of Chicago Booth Graduate School of Business , Business Economics (2006)
- Residency: Stanford University
- Internship: Santa Clara Valley Medical Center CA United States of America

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

My research examines questions of health economics and health policy, with a focus on economics and policy in the perioperative setting. Current research topics include the economics of treatments for chronic pain, as well as how physician practice organization affects outcomes and costs.

Teaching

STANFORD ADVISEES

Postdoctoral Research Mentor

Chris Rishel

Publications

PUBLICATIONS

- **Assessment of Out-of-Network Billing for Privately Insured Patients Receiving Care in In-Network Hospitals.** *JAMA internal medicine*
Sun, E. C., Mello, M. M., Moshfegh, J., Baker, L. C.
2019
- **Outcomes Associated With Overlapping Surgery-Reply.** *JAMA*
Sun, E., Kheterpal, S., Jena, A. B.
2019; 322 (3): 275–76
- **Trends in Direct Hospital Payments to Anesthesia Groups: A Retrospective Cohort Study of Nonacademic Hospitals in California.** *Anesthesiology*
O'Connell, C., Dexter, F., Mauler, D. J., Sun, E. C.
2019
- **Association of Overlapping Surgery With Perioperative Outcomes.** *JAMA*
Sun, E., Mello, M. M., Rishel, C. A., Vaughn, M. T., Kheterpal, S., Saager, L., Fleisher, L. A., Damrose, E. J., Kadry, B., Jena, A. B.
2019; 321 (8): 762–72
- **Risk and Risk Factors for Chronic Opioid Use Among Opioid-Naive Patients With Newly Diagnosed Musculoskeletal Pain in the Neck, Shoulder, Knee, or Low Back.** *Annals of internal medicine*
Moshfegh, J., George, S. Z., Sun, E.
2018
- **Anesthesia Care Team Composition and Surgical Outcomes.** *Anesthesiology*
Sun, E. C., Miller, T. R., Moshfegh, J., Baker, L. C.
2018
- **Association of Early Physical Therapy With Long-term Opioid Use Among Opioid-Naive Patients With Musculoskeletal Pain** *Jama Network Open*
Sun, E. C., Moshfegh, J., Rishel, C. A., Cook, C. E., Goode, A. P., George, S. Z.
2018; 1 (8)
- **Comparison of Anesthesia Times and Billing Patterns by Anesthesia Practitioners** *Jama Network Open*
Sun, E. C., Dutton, R. P., Jena, A. B.
2018; 1 (7)
- **Association of Early Physical Therapy With Long-term Opioid Use Among Opioid-Naive Patients With Musculoskeletal Pain.** *JAMA network open*
Sun, E., Moshfegh, J., Rishel, C. A., Cook, C. E., Goode, A. P., George, S. Z.
2018; 1 (8): e185909
- **Comparison of Anesthesia Times and Billing Patterns by Anesthesia Practitioners.** *JAMA network open*
Sun, E. C., Dutton, R. P., Jena, A. B.
2018; 1 (7): e184288

- **Association between concurrent use of prescription opioids and benzodiazepines and overdose: retrospective analysis** *BMJ-BRITISH MEDICAL JOURNAL*
Sun, E. C., Dixit, A., Humphreys, K., Darnall, B. D., Baker, L. C., Mackey, S.
2017; 356
- **"Opt Out" and Access to Anesthesia Care for Elective and Urgent Surgeries among U.S. Medicare Beneficiaries.** *Anesthesiology*
Sun, E. C., Dexter, F., Miller, T. R., Baker, L. C.
2017; 126 (3): 461-471
- **Distribution of Prescription Opioid Use Among Privately Insured Adults Without Cancer: United States, 2001-2013.** *Annals of internal medicine*
Sun, E. C., Jena, A. B.
2017
- **Incidence of and Risk Factors for Chronic Opioid Use Among Opioid-Naive Patients in the Postoperative Period.** *JAMA internal medicine*
Sun, E. C., Darnall, B. D., Baker, L. C., Mackey, S.
2016; 176 (9): 1286-1293
- **No Significant Association between Anesthesia Group Concentration and Private Insurer Payments in the United States** *ANESTHESIOLOGY*
Sun, E. C., Dexter, F., Macario, A., Miller, T. R., Baker, L. C.
2015; 123 (3): 507-514
- **Concentration In Orthopedic Markets Was Associated With A 7 Percent Increase In Physician Fees For Total Knee Replacements.** *Health affairs (Project Hope)*
Sun, E., Baker, L. C.
2015; 34 (6): 916-21
- **An economic evaluation of the war on cancer** *JOURNAL OF HEALTH ECONOMICS*
Lakdawalla, D. N., Sun, E. C., Jena, A. B., Reyes, C. M., Goldman, D. P., Philipson, T. J.
2010; 29 (3): 333-346
- **Is the food and drug administration safe and effective?** *JOURNAL OF ECONOMIC PERSPECTIVES*
Philipson, T. J., Sun, E.
2008; 22 (1): 85-102
- **Cost-benefit analysis of the FDA: The case of the prescription drug user fee acts** *JOURNAL OF PUBLIC ECONOMICS*
Philipson, T., Berndt, E. R., Gottschalk, A. H., Sun, E.
2008; 92 (5-6): 1306-1325
- **American Society for Enhanced Recovery and Perioperative Quality Initiative-4 Joint Consensus Statement on Persistent Postoperative Opioid Use: Definition, Incidence, Risk Factors, and Health Care System Initiatives** *ANESTHESIA AND ANALGESIA*
Kent, M. L., Hurley, R. W., Oderda, G. M., Gordon, D. B., Sun, E., Mythen, M., Miller, T. E., Shaw, A. D., Gan, T. J., Thacker, J. M., McEvoy, M. D., POQI-4 Working Grp
2019; 129 (2): 543-52
- **American Society for Enhanced Recovery and Perioperative Quality Initiative-4 Joint Consensus Statement on Persistent Postoperative Opioid Use: Definition, Incidence, Risk Factors, and Health Care System Initiatives.** *Anesthesia and analgesia*
Kent, M. L., Hurley, R. W., Oderda, G. M., Gordon, D. B., Sun, E., Mythen, M., Miller, T. E., Shaw, A. D., Gan, T. J., Thacker, J. K., McEvoy, M. D., POQI-4 Working Group
2019
- **Anaesthetic care of patients undergoing primary hip and knee arthroplasty: consensus recommendations from the International Consensus on Anaesthesia-Related Outcomes after Surgery group (ICAROS) based on a systematic review and meta-analysis.** *British journal of anaesthesia*
Memsoudis, S. G., Cozowicz, C., Bekeris, J., Bekere, D., Liu, J., Soffin, E. M., Mariano, E. R., Johnson, R. L., Hargett, M. J., Lee, B. H., Wendel, P., Brouillette, M., Go, et al
2019
- **Regional Anesthesia and Readmission Rates After Total Knee Arthroplasty.** *Anesthesia and analgesia*
Chi, D., Mariano, E. R., Memsoudis, S. G., Baker, L. C., Sun, E. C.
2019; 128 (6): 1319-27
- **Intraoperative analgesic regimens and surgical duration after spine surgery Response** *NEUROSURGICAL FOCUS*
O'Connell, C., Sun, E., Ratliff, J. K., Veeravagu, A.

2018; 45 (3)

- **Treating Chronic Pain: Is Buprenorphine the (or Even an) Answer?** *Anesthesia and analgesia*
Sun, E. C., Mao, J., Anderson, T. A.
2018; 127 (2): 336–37
- **Preoperative depression, lumbar fusion, and opioid use: an assessment of postoperative prescription, quality, and economic outcomes.** *Neurosurgical focus*
O'Connell, C., Azad, T. D., Mittal, V., Vail, D., Johnson, E., Desai, A., Sun, E., Ratliff, J. K., Veeravagu, A.
2018; 44 (1): E5
- **United States State-Level Variation in the Use of Neuraxial Analgesia During Labor for Pregnant Women.** *JAMA network open*
Butwick, A. J., Bentley, J., Wong, C. A., Snowden, J. M., Sun, E., Guo, N.
2018; 1 (8): e186567
- **Liposomal Bupivacaine Does Not Reduce Inpatient Opioid Prescription or Related Complications after Knee Arthroplasty: A Database Analysis.** *Anesthesiology*
Pichler, L., Poeran, J., Zubizarreta, N., Cozowicz, C., Sun, E. C., Mazumdar, M., Memtsoudis, S. G.
2018
- **Cost-benefit Analysis of Maintaining a Fully Stocked Malignant Hyperthermia Cart versus an Initial Dantrolene Treatment Dose for Maternity Units.** *Anesthesiology*
Ho, P. T., Carvalho, B., Sun, E. C., Macario, A., Riley, E. T.
2018
- **A matched case-control comparison of hospital costs and outcomes for knee replacement patients admitted postoperatively to acute care versus rehabilitation.** *Journal of anesthesia*
Tse, B. K., Walters, T. L., Howard, S. K., Kim, T. E., Memtsoudis, S. G., Sun, E. C., Kou, A., Graham, L., King, R., Mariano, E. R.
2017
- **Lack of Association Between the Use of Nerve Blockade and the Risk of Postoperative Chronic Opioid Use Among Patients Undergoing Total Knee Arthroplasty: Evidence from the MarketScan Database.** *Anesthesia and analgesia*
Sun, E. C., Bateman, B. T., Memtsoudis, S. G., Neuman, M. D., Mariano, E. R., Baker, L. C.
2017
- **Hospitals with briefer than average lengths of stays for common surgical procedures do not have greater odds of either re-admission or use of short-term care facilities.** *Anaesthesia and intensive care*
Dexter, F., Epstein, R. H., Dexter, E. U., Lubarsky, D. A., Sun, E. C.
2017; 45 (2): 210-219
- **Into the Wilderness?: The Growing Importance of Nonoperating Room Anesthesia Care in the United States.** *Anesthesia and analgesia*
Lu, A. C., Wald, S. H., Sun, E. C.
2017; 124 (4): 1044–46
- **In Response.** *Anesthesia and analgesia*
Sun, E. C., Bateman, B. T., Memtsoudis, S. G., Neuman, M. D., Mariano, E. R., Baker, L. C.
2017
- **Chronic Opioid Use After Surgery: Implications for Perioperative Management in the Face of the Opioid Epidemic.** *Anesthesia and analgesia*
Hah, J. M., Bateman, B. T., Ratliff, J., Curtin, C., Sun, E.
2017; 125 (5): 1733–40
- **Lack of Association Between the Use of Nerve Blockade and the Risk of Persistent Opioid Use Among Patients Undergoing Shoulder Arthroplasty: Evidence From the MarketScan Database.** *Anesthesia and analgesia*
Mueller, K. G., Memtsoudis, S. G., Mariano, E. R., Baker, L. C., Mackey, S., Sun, E. C.
2017
- **Readmissions to Different Hospitals After Common Surgical Procedures and Consequences for Implementation of Perioperative Surgical Home Programs.** *Anesthesia and analgesia*
Dexter, F., Epstein, R. H., Sun, E. C., Lubarsky, D. A., Dexter, E. U.
2017

- **The Effect of "Opt-Out" Regulation on Access to Surgical Care for Urgent Cases in the United States: Evidence from the National Inpatient Sample** *ANESTHESIA AND ANALGESIA*
Sun, E., Dexter, F., Miller, T. R.
2016; 122 (6): 1983-1991
- **In the United States, "Opt-Out" States Show No Increase in Access to Anesthesia Services for Medicare Beneficiaries Compared with Non-"Opt-Out" States.** *A & A case reports*
Sun, E. C., Miller, T. R., Halzack, N. M.
2016; 6 (9): 283-285
- **Does the Modifier "QZ" Accurately Reflect Independent Nurse Anesthetist Practice: And Why Does It Matter?** *A & A case reports*
Sun, E.
2016; 6 (7): 220-221
- **Does the Declining Lethality of Gunshot Injuries Mask a Rising Epidemic of Gun Violence in the United States?** *JOURNAL OF GENERAL INTERNAL MEDICINE*
Jena, A. B., Sun, E. C., Prasad, V.
2014; 29 (7): 1065-1069
- **Mortality Among High-Risk Patients With Acute Myocardial Infarction Admitted to US Teaching-Intensive Hospitals in July A Retrospective Observational Study** *CIRCULATION*
Jena, A. B., Sun, E. C., Romley, J. A.
2013; 128 (25): 2754-?
- **Confounding in the Association of Proton Pump Inhibitor Use With Risk of Community-Acquired Pneumonia** *JOURNAL OF GENERAL INTERNAL MEDICINE*
Jena, A. B., Sun, E., Goldman, D. P.
2013; 28 (2): 223-230
- **Behind-the-Counter Statins: A Silver Bullet for Reducing Costs and Increasing Access?** *HEALTH SERVICES RESEARCH*
Sood, N., Sun, E., Zhuo, X.
2012; 47 (1): 174-187
- **A Reexamination of the Costs of Medical R&D Regulation** *Forum for Health Economics & Policy*
Philipson, T. J., Sun, E. C., Goldman, D. P., Jena, A. B.
2012; 15 (2)
- **A Reexamination of the Costs of Medical R&D Regulation.** *Forum for health economics & policy*
Philipson, T. J., Sun, E., Goldman, D., Jena, A. B.
2012; 15 (2): 1-28
- **Do We Need the FDA? Improving the Regulation of Pharmaceutical Products** *Regulation vs Litigation: Perspectives from Economics and Law*
Philipson, T. J., Sun, E. C., Goldman, D. P.
edited by Kessler, D., Shleifer, A.
University of Chicago Press.2011
- **Can an Acute Pain Service Be Cost-Effective?** *ANESTHESIA AND ANALGESIA*
Sun, E., Dexter, F., Macario, A.
2010; 111 (4): 841-844
- **The Value of Specialty Oncology Drugs** *HEALTH SERVICES RESEARCH*
Goldman, D. P., Jena, A. B., Lakdawalla, D. N., Malin, J. L., Malkin, J. D., Sun, E.
2010; 45 (1): 115-132
- **The Contributions of Improved Therapy and Earlier Detection to Cancer Survival Gains, 1988-2000** *Forum for Health Economics & Policy*
Sun, E. C., Jena, A. B., Lakdawalla, D. N., Goldman, D. P.
2010; 13 (2)
- **Health and Wealth Disparities in the United States**
Philipson, T. J., Jena, A. B., Sun, E. C.

American Enterprise Institute Press.2010

- **Medicare Part D After 2 Years** *AMERICAN JOURNAL OF MANAGED CARE*
Joyce, G. F., Goldman, D. P., Vogt, W. B., Sun, E., Jena, A. B.
2009; 15 (8): 536-544
- **Drug licenses: A new model for pharmaceutical pricing** *HEALTH AFFAIRS*
Goldman, D. P., Jena, A. B., Phillipson, T., Sun, E.
2008; 27 (1): 122-129
- **Salivary gland cancer in the United States** *CANCER EPIDEMIOLOGY BIOMARKERS & PREVENTION*
Sun, E. C., Curtis, R., Melbye, M., Goedert, J. J.
1999; 8 (12): 1095-1100
- **Epidemiology of squamous cell conjunctival cancer** *CANCER EPIDEMIOLOGY BIOMARKERS & PREVENTION*
Sun, E. C., Fears, T. R., Goedert, J. J.
1997; 6 (2): 73-77