



Edward R. Mariano, MD, MAS

Professor of Anesthesiology, Perioperative and Pain Medicine at the Palo Alto Veterans Affairs Health Care System

CONTACT INFORMATION

- **Alternate Contact**

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Bio

BIO

After graduating from Georgetown University School of Medicine, Dr. Mariano completed his anesthesiology residency at Stanford University Medical Center and pediatric anesthesiology fellowship at Stanford University Medical Center/Lucile Packard Children's Hospital with emphases on clinical investigation and regional anesthesiology and acute pain medicine for children.

He joined the Department of Anesthesiology at the University of California, San Diego (UCSD), in 2004, where he founded the Regional Anesthesiology and Acute Pain Medicine program. He served as Division Chief until 2010 and pioneered the use of continuous peripheral nerve blocks for patients having same-day surgery at UCSD. His Regional Anesthesiology and Acute Pain Medicine Fellowship at UCSD, founded in 2006, was the first one-year fellowship in this subspecialty in California.

Dr. Mariano returned to the Stanford community in 2010 and is currently a Professor of Anesthesiology, Perioperative and Pain Medicine with a Master of Advanced Studies Degree in Clinical Research. His research interests include the development of techniques and patient care pathways to improve postoperative pain control and other surgical outcomes and has published over 150 peer-reviewed articles. He serves as Chief of the Anesthesiology and Perioperative Care Service and Associate Chief of Staff for Inpatient Surgical Services at the Veterans Affairs Palo Alto Health Care System and Program Director of the Stanford Regional Anesthesiology and Acute Pain Medicine Fellowship Program. He is on the Board of Directors for the American Society of Regional Anesthesia and Pain Medicine and California Society of Anesthesiologists and is a recipient of the Veteran Health Administration's John D. Chase Award for Physician Executives Excellence. More recently he has worked on key national healthcare initiatives: The Joint Commission standards review panel on pain assessment and management in the acute care setting, Centers for Medicare and Medicaid Services' MACRA Episode-Based Cost Measures development, the FDA public workshop on regional anesthesia, national technical expert panels on the development and ongoing review of quality measures related to pain management., and the National Academy of Medicine Action Collaborative Countering the U.S. Opioid Epidemic.

Dr. Mariano manages his own self-titled blog edmariano.com, and you can follow him on Twitter (@EMARIANOMD).

ACADEMIC APPOINTMENTS

- Professor - Med Center Line, Anesthesiology, Perioperative and Pain Medicine

ADMINISTRATIVE APPOINTMENTS

- Chief, Anesthesiology and Perioperative Care Service, VA Palo Alto Health Care System, (2010- present)
- Associate Chief of Staff, Inpatient Surgical Services, VA Palo Alto Health Care System, (2013- present)

HONORS AND AWARDS

- Resident of the Year, Department of Anesthesia; Stanford University (2003)
- Teacher of the Year, Department of Anesthesiology; University of California, San Diego (2005)
- Health Care Champion, San Diego Business Journal (2007)
- Top "40 Under 40" in San Diego, San Diego Metropolitan Magazine (2007)
- Special Service Award, Department of Anesthesiology; University of California, San Diego (2010)
- 2012 Distinguished Visiting Professor in Anesthesiology, Hospital for Special Surgery (2012)
- 2012 Dr. Benigno Sulit, Jr. Memorial Lecturer, Philippine Society of Anesthesiologists (2012)
- Best of Meeting Abstract, 2013 Spring Annual Meeting, American Society of Regional Anesthesia and Pain Medicine (2013)
- Best of Meeting Abstract, 2014 Spring Annual Meeting, American Society of Regional Anesthesia and Pain Medicine (2014)
- John D. Chase Award for Executive Excellence, Veterans Health Administration (2015)
- Ellis N. Cohen, MD, Achievement Award, Stanford Department of Anesthesiology, Perioperative and Pain Medicine (2017)
- Keynote Speaker, Cleveland Clinic Regional Anesthesia Course (2018)
- Top 10 Anesthesiologists to Follow on Twitter, LifeWIRE Group (2018)
- Keynote Speaker, Penn State Hershey Regional Anesthesia Course (2019)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Editorial Board, Journal of Cardiothoracic and Vascular Anesthesia (2008 - present)
- Editorial Board, Regional Anesthesia and Pain Medicine (2009 - present)
- Editorial Board, Seminars in Cardiothoracic and Vascular Anesthesia (2011 - present)
- Editor-in-Chief, American Society of Regional Anesthesia and Pain Medicine News (2012 - 2015)
- Board of Directors, American Society of Regional Anesthesia and Pain Medicine (2015 - present)
- Chair, ACGME Milestones for Regional Anesthesiology and Acute Pain Medicine Fellowship (2016 - present)
- Chair, Committee on Regional Anesthesia and Acute Pain Medicine, American Society of Anesthesiologists (2017 - present)
- Council Member, Association of Anesthesiology Subspecialty Program Directors (2017 - present)
- Member, National Academy of Medicine Action Collaborative on Countering the U.S. Opioid Epidemic (2018 - present)
- Speaker, California Society of Anesthesiologists (2018 - present)

PROFESSIONAL EDUCATION

- Doctor of Medicine, Georgetown University School of Medicine , Medicine (1999)
- Internship, Georgetown University / INOVA Fairfax Hospital , Transitional (2000)
- Residency, Department of Anesthesia; Stanford University , Anesthesiology (2003)
- Fellowship, Department of Anesthesia; Stanford University / Lucile Packard Children's Hospital , Pediatric Anesthesiology (2004)
- Master of Advanced Studies, University of California, San Diego , Clinical Research (2008)

COMMUNITY AND INTERNATIONAL WORK

- Volunteer Medical-Surgical Mission, Ecuador
- Volunteer Medical-Surgical Mission, Philippines

LINKS

- VA Palo Alto Anesthesiology Website: <http://www.paloalto.va.gov/anesthesiology.asp>
- My Website: <http://edmariano.com>
- Follow Me on Twitter: <http://twitter.com/EMARIANOMD>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

My clinical research interests include the development of techniques and patient care pathways to improve postoperative pain control and other surgical outcomes for patients of all ages. I have published over 150 peer-reviewed articles in these research areas. Most of my work has centered around the application of continuous peripheral nerve blocks (also known as "perineural catheters") to provide target-specific pain relief after surgery in the form of extended-duration local anesthetic infusions. In 2007, I published a case-control study investigating the use of continuous femoral nerve blocks on an outpatient basis compared to the same therapy performed in-hospital in terms of hospitalization costs. This study is widely-referenced by other investigators interested in perioperative management and health-care cost-containment. In the subsequent years, I have either led, as principal investigator, or participated in, as co-investigator, multiple randomized clinical trials involving orthopedic patients. For joint arthroplasty in particular, I have been a co-investigator on 3 randomized clinical trials, including one multi-center study, evaluating the use of local anesthetic perineural infusion in knee and hip arthroplasty patients to decrease time to discharge eligibility. In these 3 studies, discharge eligibility was determined by pain scores, need for intravenous opioids for analgesia, and ambulation distance achieved; in all 3 studies, continuous local anesthetic was found to be superior to placebo infusion. More recently, I have investigated variations in local anesthetic regimen for perineural infusion and innovative catheter placement techniques, such as the use of ultrasound guidance. My studies on local anesthetic infusion concentration have shown that dose is the predominant factor influencing perineural infusion effects, and the resulting numbness (motor block) varies among anatomic sites. I have published several randomized clinical trials and case series establishing ultrasound guidance as an effective and efficient technique for perineural catheter insertion in adults and children. In 5 clinical studies, I have shown that ultrasound facilitates faster perineural catheter insertion with higher success rates compared to traditional techniques (e.g., electrical stimulation). The application of ultrasound to identify anatomic variability is critical to accurate placement of these catheters and their subsequent infusion effects.

My current ongoing research projects involve simulation-based training of anesthesiologists in ultrasound-guided perineural catheter techniques, the use of regional analgesia in the treatment of intractable phantom limb pain (a multi-center grant awarded by the Department of Defense), preclinical and clinical studies evaluating perineural catheter equipment and placement methods, and the analyses of large databases within VA to maximize the benefits and minimize the side effects of anesthetic, analgesic, and surgical interventions in the acute care setting.

CLINICAL TRIALS

- Optimizing Catheter Insertion Technique for Ultrasound-guided Continuous Peripheral Nerve Blocks, Recruiting
- Follow-Up Study to Assess Implementation of Ultrasound-Guided Regional Anesthesia Skills, Not Recruiting

Teaching

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Anesthesia (Fellowship Program)

Publications

PUBLICATIONS

- **Problem with the Pecs II block: the long thoracic nerve is collateral damage** *REGIONAL ANESTHESIA AND PAIN MEDICINE*
Miller, B., Pawa, A., Mariano, E.
2019; 44 (8): 817-+
- **Implementation of the IPACK (Infiltration between the Popliteal Artery and Capsule of the Knee) block into a multimodal analgesic pathway for total knee replacement** *KOREAN JOURNAL OF ANESTHESIOLOGY*
Kandarian, B., Indelli, P. F., Sinha, S., Hunter, O. O., Wang, R. R., Kim, T., Kou, A., Mariano, E. R.
2019; 72 (3): 238-44
- **Regional Anesthesia and Readmission Rates After Total Knee Arthroplasty**
Chi, D., Mariano, E. R., Memtsoudis, S. G., Baker, L. C., Sun, E. C.
LIPPINCOTT WILLIAMS & WILKINS.2019: 1319-27
- **Comparing two posterior quadratus lumborum block approaches with low thoracic erector spinae plane block: an anatomic study** *REGIONAL ANESTHESIA AND PAIN MEDICINE*
Elsharkawy, H., Bajracharya, G., El-Boghdadly, K., Drake, R. L., Mariano, E. R.
2019; 44 (5): 549-55
- **Overdose Risk Associated with Opioid Use upon Hospital Discharge in Veterans Health Administration Surgical Patients** *PAIN MEDICINE*
Mudumbai, S. C., Lewis, E. T., Oliva, E. M., Chung, P. D., Harris, B., Trafton, J., Mariano, E. R., Wagner, T., Clark, J., Stafford, R. S.
2019; 20 (5): 1020-31
- **Opioid-free anaesthesia - what would Inigo Montoya say?** *ANAESTHESIA*
Elkassabany, N. M., Mariano, E. R.
2019; 74 (5): 560-63
- **Problem with the Pecs II block: the long thoracic nerve is collateral damage.** *Regional anesthesia and pain medicine*
Miller, B., Pawa, A., Mariano, E.
2019
- **Medical education research methodology: accuracy and design** *REGIONAL ANESTHESIA AND PAIN MEDICINE*
Kumar, A. H., Mariano, E. R., Udani, A. D.
2019; 44 (4): 534
- **Medical education research methodology: accuracy and design.** *Regional anesthesia and pain medicine*
Kumar, A. H., Mariano, E. R., Udani, A. D.
2019
- **Patient education and engagement in postoperative pain management decreases opioid use following knee replacement surgery** *PATIENT EDUCATION AND COUNSELING*
Yajnik, M., Hill, J. N., Hunter, O. O., Howard, S. K., Kim, T., Harrison, T., Mariano, E. R.
2019; 102 (2): 383-87
- **Quality of Patient Education Materials on Safe Opioid Management in the Acute Perioperative Period: What Do Patients Find Online?** *Pain medicine (Malden, Mass.)*
Kumar, G., Jaremko, K. M., Kou, A., Howard, S. K., Harrison, T. K., Mariano, E. R.
2019
- **A short, sustainable intervention to help reduce day of surgery smoking rates among patients undergoing elective surgery.** *Journal of clinical anesthesia*
Coffman, C. R., Howard, S. K., Mariano, E. R., Kou, A., Pollard, J., Boselli, R., Kangas, S., Leng, J.
2019; 58: 35-36
- **Practice Patterns in Perioperative Nonopioid Analgesic Administration by Anesthesiologists in a Veterans Affairs Hospital.** *Pain medicine (Malden, Mass.)*
Kwong, J. Z., Mudumbai, S. C., Hernandez-Boussard, T., Popat, R. A., Mariano, E. R.
2019

- **Aiming to Refine the Interscalene Block: Another Bullseye or Missing the Mark?** *Anesthesiology*
Elkassabany, N. M., Mariano, E. R.
2019
- **Reply to Dr Price: Interfascial plane blocks - a Time to Pause.** *Regional anesthesia and pain medicine*
Elsharkawy, H., Pawa, A., Mariano, E. R.
2019; 44 (1): 138
- **Peripheral nerve blocks are not associated with increased risk of perioperative peripheral nerve injury in a Veterans Affairs inpatient surgical population.** *Regional anesthesia and pain medicine*
Yajnik, M., Kou, A., Mudumbai, S. C., Walters, T. L., Howard, S. K., Edward Kim, T., Mariano, E. R.
2019; 44 (1): 81–85
- **What's in a Word? Qualitative and Quantitative Analysis of Leadership Language in Anesthesiology Resident Feedback.** *Journal of graduate medical education*
Arkin, N., Lai, C., Kiwakyou, L. M., Lochbaum, G. M., Shafer, A., Howard, S. K., Mariano, E. R., Fassiotto, M.
2019; 11 (1): 44–52
- **Implementation of the IPACK (Infiltration between the Popliteal Artery and Capsule of the Knee) block into a multimodal analgesic pathway for total knee replacement.** *Korean journal of anesthesiology*
Kandarian, B., Indelli, P. F., Sinha, S., Hunter, O. O., Wang, R. R., Kim, T. E., Kou, A., Mariano, E. R.
2019
- **Outcomes of Ambulatory Upper Extremity Surgery Patients Discharged Home with Perineural Catheters from a Veterans Health Administration Medical Center.** *Pain medicine (Malden, Mass.)*
King, R., Mariano, E. R., Yajnik, M., Kou, A., Kim, T. E., Hunter, O. O., Howard, S. K., Mudumbai, S. C.
2019
- **Comparing two posterior quadratus lumborum block approaches with low thoracic erector spinae plane block: an anatomic study.** *Regional anesthesia and pain medicine*
Elsharkawy, H., Bajracharya, G. R., El-Boghdadly, K., Drake, R. L., Mariano, E. R.
2019
- **Opioid-free anaesthesia - what would Inigo Montoya say?** *Anaesthesia*
Elkassabany, N. M., Mariano, E. R.
2019
- **Preoperative Ultrasound-Guided Botulinum Toxin A Injection Facilitates Closure of a Complex Abdominal Wall Hernia: A Case Report.** *A&A practice*
Tamboli, M., Kitamura, R., Ma, W., Kumar, G., Harrison, T. K., Wang, R. R., Mariano, E. R., Leng, J. C.
2019
- **Sharing Lessons Learned to Prevent Adverse Events in Anesthesiology Nationwide.** *Journal of patient safety*
Soncrant, C., Neily, J., Sum-Ping, S. J., Wallace, A. W., Mariano, E. R., Leissner, K. B., Mills, P. D., Mazzia, L., Paull, D. E.
2019
- **I Tweet, Therefore I Learn: An Analysis of Twitter Use Across Anesthesiology Conferences.** *Anesthesia and analgesia*
Schwenk, E. S., Jaremko, K. M., Park, B. H., Stiegler, M. A., Gamble, J. G., Chu, L. F., Utengen, A., Mariano, E. R.
2019
- **Regional Anesthesia and Readmission Rates After Total Knee Arthroplasty.** *Anesthesia and analgesia*
Chi, D., Mariano, E. R., Memtsoudis, S. G., Baker, L. C., Sun, E. C.
2019; 128 (6): 1319–27
- **Reply to Dr Price: Interfascial plane blocks - a Time to Pause** *REGIONAL ANESTHESIA AND PAIN MEDICINE*
Elsharkawy, H., Pawa, A., Mariano, E. R.
2019; 44 (1)
- **Future directions in regional anaesthesia: not just for the cognoscenti.** *Anaesthesia*
Turbitt, L. R., Mariano, E. R., El-Boghdadly, K.
2019

- **Teaching an old pain medicine society new tweets: integrating social media into continuing medical education.** *Korean journal of anesthesiology*
Jaremko, K. M., Schwenk, E. S., Pearson, A. C., Hagedorn, J., Udani, A. D., Md, G. S., Elkassabany, N. M., Snively, A., Mariano, E. R.
2019
- **Are Case Volume and Facility Complexity Level Associated With Postoperative Complications After Hip Fracture Surgery in the Veterans Affairs Healthcare System?** *CLINICAL ORTHOPAEDICS AND RELATED RESEARCH*
Wong, J. K., Kim, T., Mudumbai, S. C., Memtsoudis, S. G., Giori, N. J., Howard, S. K., Oka, R. K., King, R., Mariano, E. R.
2019; 477 (1): 177–90
- **Peripheral nerve blocks are not associated with increased risk of perioperative peripheral nerve injury in a Veterans Affairs inpatient surgical population** *REGIONAL ANESTHESIA AND PAIN MEDICINE*
Yajnik, M., Kou, A., Mudumbai, S. C., Walters, T. L., Howard, S. K., Kim, E., Mariano, E. R.
2019; 44 (1): 81–85
- **Perioperative Opioid Prescribing Patterns and Readmissions After Total Knee Arthroplasty in a National Cohort of Veterans Health Administration Patients.** *Pain medicine (Malden, Mass.)*
Mudumbai, S. C., Chung, P., Nguyen, N., Harris, B., Clark, J. D., Wagner, T. H., Giori, N. J., Stafford, R. S., Mariano, E. R.
2019
- **Impact of an Opioid Safety Initiative on Patients Undergoing Total Knee Arthroplasty: A Time Series Analysis.** *Anesthesiology*
Chen, Q., Hsia, H. L., Overman, R., Bryan, W., Pepin, M., Mariano, E. R., Mudumbai, S. C., Buchheit, T., Krishnamoorthy, V., Good, C. B., Brookhart, M. A., Raghunathan, K.
2019; 131 (2): 369–80
- **Patient-centred care in regional anaesthesia - a reply.** *Anaesthesia*
Turbitt, L. R., Mariano, E. R., El-Boghdadly, K.
2019; 74 (10): 1343–44
- **Essential elements of an outpatient total joint replacement programme.** *Current opinion in anaesthesiology*
Li, J., Rubin, L. E., Mariano, E. R.
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*
Memtsoudis, S. G., Cozowicz, C., Bekker, 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
- **Updates on multimodal analgesia and regional anesthesia for total knee arthroplasty patients.** *Best practice & research. Clinical anaesthesiology*
Kandarian, B. S., Elkassabany, N. M., Tamboli, M., Mariano, E. R.
2019; 33 (1): 111–23
- **Spinal anesthesia increases the rate of opioid-free recovery after transurethral urologic surgery.** *Journal of clinical anesthesia*
Tien, M., Kou, A., Leppert, J. T., Mariano, E. R., Mudumbai, S. C.
2019; 60: 109–10
- **A Pilot Project Using Eye-Tracking Technology to Design a Standardised Anaesthesia Workspace** *TURKISH JOURNAL OF ANAESTHESIOLOGY AND REANIMATION*
Hanhan, J., King, R., Harrison, T., Kou, A., Howard, S. K., Borg, L. K., Shum, C., Udani, A. D., Mariano, E. R.
2018; 46 (6): 411–15
- **A pragmatic approach to evaluating new techniques in regional anesthesia and acute pain medicine** *PAIN MANAGEMENT*
Mudumbai, S. C., Auyong, D. B., Memtsoudis, S. G., Mariano, E. R.
2018; 8 (6): 475–85
- **The road to accreditation for fellowship training in regional anesthesiology and acute pain medicine** *CURRENT OPINION IN ANESTHESIOLOGY*
Mariano, E. R., Rosenquist, R. W.
2018; 31 (5): 643–48
- **Patient education and engagement in postoperative pain management decreases opioid use following knee replacement surgery.** *Patient education and counseling*

Yajnik, M., Hill, J. N., Hunter, O. O., Howard, S. K., Kim, T. E., Harrison, T. K., Mariano, E. R.
2018

- **Do Hospitals Performing Frequent Neuraxial Anesthesia for Hip and Knee Replacements Have Better Outcomes?** *ANESTHESIOLOGY*
Memtsoudis, S. G., Poeran, J., Zubizarreta, N., Olson, A., Cozowicz, C., Moerwald, E. E., Mariano, E. R., Mazumdar, M.
2018; 129 (3): 428–39
- **Are Case Volume and Facility Complexity Level Associated With Postoperative Complications After Hip Fracture Surgery in the Veterans Affairs Healthcare System?** *Clinical orthopaedics and related research*
Wong, J. K., Kim, T. E., Mudumbai, S. C., Memtsoudis, S. G., Giori, N. J., Howard, S. K., Oka, R. K., King, R., Mariano, E. R.
2018
- **Using eye tracking technology to compare the effectiveness of malignant hyperthermia cognitive aid design** *KOREAN JOURNAL OF ANESTHESIOLOGY*
King, R., Hanhan, J., Harrison, T., Kou, A., Howard, S. K., Borg, L. K., Shum, C., Udani, A. D., Mariano, E. R., ADAPT Anesthesiology-Directed Ad
2018; 71 (4): 317–22
- **The road to accreditation for fellowship training in regional anesthesiology and acute pain medicine.** *Current opinion in anaesthesiology*
Mariano, E. R., Rosenquist, R. W.
2018
- **Association of Multimodal Pain Management Strategies with Perioperative Outcomes and Resource Utilization A Population-based Study**
Memtsoudis, S. G., Poeran, J., Zubizarreta, N., Cozowicz, C., Moerwald, E. E., Mariano, E. R., Mazumdar, M.
LIPPINCOTT WILLIAMS & WILKINS.2018: 891–902
- **Perioperative Surgical Home Reduces Rapid Response Calls to a Postoperative Surgical Ward: How Anesthesiologists Are Improving the Inpatient Safety Net.** *Seminars in cardiothoracic and vascular anesthesia*
Walters, T. L., Kim, T. E., Mariano, E. R., Lighthall, G. K.
2018: 1089253218761813
- **Regional Anesthesia and Readmission Rates After Total Knee Arthroplasty.** *Anesthesia and analgesia*
Chi, D., Mariano, E. R., Memtsoudis, S. G., Baker, L. C., Sun, E. C.
2018
- **A Pilot Project Using Eye-Tracking Technology to Design a Standardised Anaesthesia Workspace.** *Turkish journal of anaesthesiology and reanimation*
Hanhan, J., King, R., Harrison, T. K., Kou, A., Howard, S. K., Borg, L. K., Shum, C., Udani, A. D., Mariano, E. R.
2018; 46 (6): 411–15
- **A pragmatic approach to evaluating new techniques in regional anesthesia and acute pain medicine.** *Pain management*
Mudumbai, S. C., Auyong, D. B., Memtsoudis, S. G., Mariano, E. R.
2018
- **Designing the ideal perioperative pain management plan starts with multimodal analgesia.** *Korean journal of anesthesiology*
Schwenk, E. S., Mariano, E. R.
2018
- **Overdose Risk Associated with Opioid Use upon Hospital Discharge in Veterans Health Administration Surgical Patients.** *Pain medicine (Malden, Mass.)*
Mudumbai, S. C., Lewis, E. T., Oliva, E. M., Chung, P. D., Harris, B., Trafton, J., Mariano, E. R., Wagner, T., Clark, J. D., Stafford, R. S.
2018
- **Update on Selective Regional Analgesia for Hip Surgery Patients.** *Anesthesiology clinics*
Bugada, D., Bellini, V., Lorini, L. F., Mariano, E. R.
2018; 36 (3): 403–15
- **What Can Regional Anesthesiology and Acute Pain Medicine Learn from "Big Data"?** *Anesthesiology clinics*
Elkassabany, N. M., Memtsoudis, S. G., Mariano, E. R.
2018; 36 (3): 467–78
- **Regional Anesthesiology and Acute Pain Medicine in the Era of Value-Based Health Care.** *Anesthesiology clinics*
Elkassabany, N. M., Mariano, E. R.
2018; 36 (3): xiii-xiv

- **Do Hospitals Performing Frequent Neuraxial Anesthesia for Hip and Knee Replacements Have Better Outcomes?** *Anesthesiology*
Memsoudis, S. G., Poeran, J., Zubizarreta, N., Olson, A., Cozowicz, C., Mörwald, E. E., Mariano, E. R., Mazumdar, M.
2018
- **Using eye tracking technology to compare the effectiveness of malignant hyperthermia cognitive aid design.** *Korean journal of anesthesiology*
King, R., Hanhan, J., Harrison, T. K., Kou, A., Howard, S. K., Borg, L. K., Shum, C., Udani, A. D., Mariano, E. R.
2018
- **Moving anesthesiology educational resources to the point of care: experience with a pediatric anesthesia mobile app.** *Korean journal of anesthesiology*
Monroe, K. S., Evans, M. A., Mukkamala, S. G., Williamson, J. L., Jabaley, C. S., Mariano, E. R., O'Reilly-Shah, V. N.
2018
- **Care of the Patient With a Peripheral Nerve Block.** *Journal of perianesthesia nursing : official journal of the American Society of PeriAnesthesia Nurses*
Hunter, O. O., Kim, T. E., Mariano, E. R., Harrison, T. K.
2018
- **Preventing persistent pain after breast cancer surgery: still more work to be done.** *Minerva anesthesiologica*
Bugada, D., Ghisi, D., Mariano, E. R.
2018
- **Interfascial Plane Blocks: Back to Basics.** *Regional anesthesia and pain medicine*
Elsharkawy, H., Pawa, A., Mariano, E. R.
2018
- **Perioperative Pain Management for Total Knee Arthroplasty: Need More Focus on the Forest and Less on the Trees.** *Anesthesiology*
Webb, C. A., Madison, S., Goodman, S. B., Mariano, E. R., Horn, J. L.
2018; 128 (2): 420-21
- **Association of Multimodal Pain Management Strategies with Perioperative Outcomes and Resource Utilization: A Population-based Study.** *Anesthesiology*
Memsoudis, S. G., Poeran, J., Zubizarreta, N., Cozowicz, C., Mörwald, E. E., Mariano, E. R., Mazumdar, M.
2018
- **Implementation of clinical practice changes by experienced anesthesiologists after simulation-based ultrasound-guided regional anesthesia training.** *Korean journal of anesthesiology*
Kim, T. E., Ganaway, T., Harrison, T. K., Howard, S. K., Shum, C., Kuo, A., Mariano, E. R.
2017; 70 (3): 318-326
- **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., Memsoudis, 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., Memsoudis, S. G., Neuman, M. D., Mariano, E. R., Baker, L. C.
2017
- **Adherence to a Multimodal Analgesic Clinical Pathway: A Within-Group Comparison of Staged Bilateral Knee Arthroplasty Patients.** *Regional anesthesia and pain medicine*
Steckelberg, R. C., Funck, N., Kim, T. E., Walters, T. L., Lochbaum, G. M., Memsoudis, S. G., Giori, N. J., Indelli, P. F., Graham, L. J., Mariano, E. R.
2017
- **Upgrading a Social Media Strategy to Increase Twitter Engagement During the Spring Annual Meeting of the American Society of Regional Anesthesia and Pain Medicine.** *Regional anesthesia and pain medicine*
Schwenk, E. S., Jaremko, K. M., Gupta, R. K., Udani, A. D., McCartney, C. J., Snively, A., Mariano, E. R.
2017
- **Randomized comparison of popliteal-sciatic perineural catheter tip migration and dislocation in a cadaver model using two catheter designs.** *Korean journal of anesthesiology*
Steffel, L., Howard, S. K., Borg, L., Mariano, E. R., Leng, J. C., Kim, T. E.

2017; 70 (1): 72-76

- **Comparative Echogenicity of an Epidural Catheter and 2 New Catheters Designed for Ultrasound-Guided Continuous Peripheral Nerve Blocks.** *Journal of ultrasound in medicine : official journal of the American Institute of Ultrasound in Medicine*
Moy, D. M., Kim, T. E., Harrison, T. K., Leng, J. C., Carvalho, B., Howard, S. K., Shum, C., Kou, A., Mariano, E. R.
2017
- **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
- **The Perioperative Surgical Home Is Not Just a Name.** *Anesthesia and analgesia*
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