

DUKE UNIVERSITY MEDICAL CENTER

CURRICULUM VITAE

for  
Permanent Record  
and the  
Appointments and Promotions Committee

Date Prepared: September 11, 2018

**Name:** Padma Gulur, MD

**Primary academic appointment:** Duke University School of Medicine

**Primary academic department:** Anesthesiology

**Present academic rank and title:** Professor  
Executive Vice Chair of Performance and Operations  
Medical Director Acute Pain Consult Service

**Medical Licensure:** North Carolina License # 2016-01218  
Date of License: 10/25/2017  
California Full Medical License, 2014  
Massachusetts Full Medical License, 2004

**Specialty certifications;** Board Certified in Anesthesiology, 2006  
Board Certified in Pain Medicine, 2006

**Date of Birth:** 10/25/1972      **Place:**

**Citizen of:** United States

<b>Education:</b>	<b>Institution:</b>	<b>Date:</b>	<b>Degree:</b>
<b>High School:</b>			
<b>College:</b>	The Indian School, Kuwait City, Kuwait	1991	
<b>Graduate or Professional School</b>	Bangalore Medical College, Karnataka University Bangalore, India	1998	MBBS

**Professional Training and Academic Career:**

<u>Institution</u>	<u>Position/Title</u>	<u>Dates</u>
Berkshire Medical Center Tufts University	Internship, Internal Medicine	2001-2002
Boston Medical Center Boston University	Residency, Anesthesiology	2002-2005
Boston Medical Center Boston University	Chief Resident, Anesthesiology	2004-2005
Massachusetts General Hospital Harvard Medical School	Fellowship, Pain Medicine	2005-2006
Harvard Medical School Department of Anesthesia, Critical Care, & Pain Medicine	Instructor	2006-2011
Massachusetts General Hospital Department of Anesthesia, Critical Care & Pain Medicine	Director, Pain Services	2008-2014
Massachusetts General West Massachusetts General Hospital Department of Anesthesia, Critical Care & Pain Medicine	Director, Center for Pain Medicine	2009-2014
Massachusetts General Hospital Department of Anesthesia, Critical Care & Pain Medicine	Fellowship Director, Acute Pain and Regional Anesthesia	2012-2014
Harvard Medical School Department of Anesthesia, Critical Care, & Pain Medicine	Assistant Professor	2011-2014
University of California, Irvine Department of Anesthesiology & Perioperative Care	Professor Vice Chair, Pain Director, Medical Student Chronic Pain Rotation	2014-2016
Duke University School of Medicine	Professor Department of Anesthesiology Medical Director Acute Pain Consult Service Vice Chair, Operations and Performance Executive Vice Chair of Performance and Operations	2016-present  2016-June 2018  June 2018-present

**Publications:****Refereed Journals:**

1. **GulurP**, Nishimori M, Ballantyne JC. Regional anaesthesia versus general anaesthesia, morbidity and mortality. *Best Pract Res Clin Anaesthesiol.* 2006;20:249-263. PMID: 16850776
2. **GulurP**, Soldinger SM, Acquadro MA. Concepts in pain management. *Clin Podiatr Med Surg.* 2007;24:333-351. PMID: 17430773
3. **GulurP**, Rodi SW, Washington TA, Cravero JP, Fanciullo GJ, McHugo GJ, Baird JC. Computer face scale for measuring pediatric pain and mood. *J Pain.* 2009;10:173-9. PMID: 19010740
4. Brookman J, Sair H, Benkwitz C, **Gulur P**. Wandering epidural catheter. *Anesthesiology.* 2010; 113:1198. PMID: 20938338
5. Lehmann N, Joshi GP, Dirkmann D, Weiss M, **GulurP**, Peters J, Eikermann M. Development and longitudinal validation of the overall benefit of analgesia score: a simple multi-dimensional quality assessment instrument. *Br J Anaesth.* 2010;105:511-518. PMID: 20693179
6. Jamison B, Washington T, **GulurP**, Fanciullo G, Arscott JR, McHugo GJ, Baird JC. Reliability of a preliminary 3-D pain mapping program. *Pain Med.* 2011;12:344-351. PMID: 21276186
7. Bhatia G, Lau ME, Koury KM, **GulurP**. Intrathecal drug delivery (ITDD) systems for cancer pain. *F1000Research.* 2013;2:96. PMID: 24555051
8. **GulurP**, Buonanno FS. Intracranial hypotension caused by anterior cervical CSF alleviated by an epidural blood patch. *Headache.* 2013;53:838-841. PMID: 23405991
9. Kang S, Singh J, Vidal Melo M, **GulurP**. Spinal cord stimulation for intercostal neuralgia in a patient with implantable cardiac defibrillator and biventricular pacing. *Neuromodulation.* 2013;17:386-388. PMID: 23837496
10. Keel J, Lau ME, **GulurP**. Spinal cord stimulation for radicular pain following retained bullet in the spinal canal. *Pain Physician.* 2013;16:E103-E106. PMID: 23511684
11. Wang JP, Lau M, **Gulur P**. Delayed Spinal Epidural Hematoma after Epidural Catheter Removal with Reinitiation of Warfarin. *J Cardiothorac Vasc Anesth.* 2014; 28(6): 1566-569. PMID: 24075636
12. **GulurP**, El Saleeby C, Watt LD, Koury KM, Cohen AR. Elevated lidocaine serum levels following the use of a needle free device in healthy adult volunteers. *Pediatric Emergency Care:*2014;30:355-359. PMID: 24786988

13. **GulurP**, Williams L, Chaudhary S, Koury K, Jaff M. Opioid tolerance—A predictor of increased length of stay and higher readmission rates. *Pain Physician*. 2014;17:E503-E507. PMID: 25054400
14. Pace M, Koury KM, **GulurP**. Epidurals in patients on thromboprophylaxis with unfractionated heparin three times a day – Value of partial thromboplastin time testing. *Anesth Analg*. 2014;119:1215-1218. PMID: 25225890
15. Nizamuddin SL, Koury KM, Lau ME, Watt LD, **GulurP**. Use of targeted transversus abdominus plane blocks in pediatric patients with anterior cutaneous nerve entrapment syndrome. *Pain Medicine*. 2014;17:E634-E637. PMID: 25247912
16. **GulurP**, Cohen AR, Watt L, Lau ME, El Saleeby C. Elevated lidocaine serum concentration following subcutaneous lidocaine administration using a needle free device in pediatric patients. *Pediatric Emergency Care*. 2014;30: 829–831. PMID: 25198765
17. Bengali R, Huang M, **GulurP**. The use of an intrathecal pump to manage intractable cancer pain in a pediatric patient: A case report. *J Pediatr Hematol Oncol*. 2014;36:e162-e164. PMID: 23652866
18. **GulurP**, Tsui B, Pathak R, Koury KM, Lee H. Retrospective analysis of the incidence of epidural haematoma in patients with epidural catheters and abnormal coagulation parameters. *Br J Anaesth*. 2015;114:808–811. PMID: 25614136
19. Koury KM, Tsui B, **GulurP**. Incidence of serotonin syndrome in patients treated with fentanyl on serotonergic agents. *Pain Physician*. 2015;18:E27–E30. PMID: 25675067
20. **GulurP**, Koury K, Arnstein P, Lee H, McCarthy P, Coley C, Mort E. Morphine versus hydromorphone: Does choice of opioid influence outcomes? *Pain Res Treat*. 2015;2015:482081. PMID: 26609431
21. Shah S, Banh ET, Koury K, Bhatia G, Nandi R, **GulurP**. Pain management in pregnancy: Multimodal approaches. *Pain Res Treat*. 2015;2015:987483. PMID: 26448875
22. Brown R, Fortier MA, Zolghadr S, **GulurP**, Jenkins BN, Kain ZN. Postoperative pain management in children of Hispanic origin: A descriptive cohort study. *Anesth Analg*. 2016;122:497–502. PMID: 26505577
23. Arnstein P, Koury K, Lee H, **GulurP**. Morphine before hydromorphone – Results of a quality improvement initiative. *Glob Anesth Perioper Med*. 2016;2. DOI: 10.15761/GAPM.1000140.
24. Aronson S, Westover J, Guinn N, Setji T, Wischmeyer P, **Gulur P**, Hopkins t, Sevier TM, Lagoo-Deendayalan S, Heflin MT, Thompson A, Swaminathan M, Flanagan E. *Anesth Analg*. 2018;126:682-690. PMID: 29200059

**Chapters in Books:**

1. **GulurP**, Weber D, Acquadro M. Section 4, Chapter 18: Anesthetics. In: Albert D, Miller J, Azar D & Blodi B, eds. *Albert and Jakobiec's Principles and Practice of Ophthalmology* 3rd Edition. Philadelphia, PA: Elsevier Saunders; 2008. 193-206.
2. **GulurP**, Stojanovic M. Chapter 33: Rheumatic and arthritic disorders. In: Mehta N, Moloney G, Bana D, and Scrivani S, eds. *Head, Face and Neck Pain. Science, Evaluation and Management*. Hoboken, NJ: John Wiley & Sons, Inc.; 2009. 576-588.
3. **GulurP**, Abdi S. Chapter 49: Pain in children. In: Smith H, ed. *Current Therapy in Pain*. Philadelphia, PA: Elsevier Saunders; 2009. 373-380.
4. Spektor B, **GulurP**, Rathmell J. Diagnostic and therapeutic blocks. In: Lynch M, Craig K, Peng P, eds. *Clinical Pain Management: A practical guide*. Oxford: Wiley Blackwell; 2010. 153-161.
5. Ahn Y, Wainger B, **GulurP**. Trigeminal neuralgia. In: Lennard T, ed. *Pain Procedures in Clinical Practice: Expert consult, 3rd Ed*. Philadelphia, PA: Elsevier; 2011. 297-304.
6. **GulurP**, Kain ZN, Fortier MA. Psychological aspects of pediatric anesthesia. In: Smith H, ed. *Anesthesia for Infants and Children, 9e*. Philadelphia, PA: Elsevier; 2016. 266-278.

**Selected Abstracts:**

1. Fanciullo G, **GulurP**, Washington T, Mudge B, McHugo G, and Baird J. Children's computer assessment of pain and mood [abstract]. *J Pain* 2008; 9:S65.
2. Washington T, **GulurP**, Fanciullo G, Jamison R, McHugo G, and Baird J. Three-dimensional pain mapping [abstract]. *J Pain* 2008; 9:S66.
3. Keel J, **GulurP**. Spinal cord stimulation for radicular pain following retained bullet in the spinal canal [abstract]. Massachusetts Hospital Clinical Research Day. May 2008.
4. **GulurP**, Shin N, Baird J. Poster on children's computer assessment of pain and mood [abstract]. Massachusetts General Hospital Clinical Research Day. 2009.
5. Washington T, **GulurP**, Fanciullo G, Jamison R, McHugo G, and Baird J. Reliability of three-dimensional pain mapping [abstract]. Massachusetts General Hospital Clinical Research Day. 2010.
6. Newmark J, **GulurP**. Delayed spinal epidural hematoma after epidural catheter removal with reinitiation of Warfain: A case report [abstract]. Massachusetts General Hospital Clinical Research Day. October 2011.

7. **GulurP**, Palilla D, Cassedy E, Lau M. Urinary tract infections in patients with epidurals and urinary catheters compared to postoperative patients with urinary catheters alone [abstract]. Massachusetts General Hospital Clinical Research Day. October 2011.
8. **GulurP**, Watt L, Lozowski D, Gifford M, Israel E. Improving the management of needle insertion pain and distress in children: a MGHfC 2011 quality improvement initiative [abstract]. Massachusetts General Hospital Clinical Research Day. October 2011.
9. **Gulur P**, Buonanno F. A complicated case of intracranial hypotension caused by anterior cervical cerebrospinal fluid leak alleviated by a thoracocervical epidural blood patch [abstract]. International Anesthesia Research Society. May 2012.
10. Watt L, Lau M, Latif S, **GulurP**. Anterior cutaneous nerve entrapment syndrome (ACNES) in children [abstract]. American Society of Interventional Pain Physicians Meeting. June 2012.
11. Keel J, Lau M, **GulurP**. Spinal cord stimulation for radicular pain following retained bullet in the spinal canal [abstract]. NYSSA Post Grad Assembly Meeting. August 2012.
12. **Gulur P**, King S. Spinal cord stimulation for intercostal neuralgia in a patient with Implantable Cardiac Defibrillator and Biventricular pacing [abstract]. American Society of Anesthesiologists, Annual Meeting. October 2012.
13. **Gulur P**, Newmark J, Wang J. Delayed spinal epidural hematoma after epidural catheter removal with re-initiation of Warfarin: A case report [abstract]. American Society of Anesthesiologists, Annual Meeting. October 2012.
14. **GulurP**, Buonanno F. A complicated case of intracranial hypotension caused by anterior cervical cerebrospinal fluid leak alleviated by a thoracocervical epidural blood patch [abstract]. Massachusetts General Clinical Research. October 2012.
15. Watt L, Lau M, **GulurP**. Summary of patient outcome data for a chronic pain clinic new pediatric [abstract]. Massachusetts General Hospital for Children Clinical Research Day. December 2012.
16. Latif S, Watt L, Lau M, **GulurP**. Anterior cutaneous nerve entrapment syndrome (ACNES) in children [abstract]. Massachusetts General Hospital for Children Clinical Research Day. December 2012.
17. **GulurP**, Saleeby C, Watt L, Koury K, Cohen A. Elevated lidocaine serum levels following the delivery of a needle free device [abstract]. Acute Pain Management Symposium. September 2013.
18. Bengali R, Huang M, **GulurP**. The use of an intrathecal pump to manage intractable cancer pain in a pediatric patient: A case report [abstract]. Massachusetts General Hospital for Children Clinical Research Day. October 2013.

19. **GulurP**, Saleeby C, Watt L, Koury K, Cohen A. Elevated lidocaine serum levels following the delivery of a needle free device [abstract]. Massachusetts General Clinical Research Day. October 2013.
20. **GulurP**, Saleeby C, Watt L, Koury K, Cohen A. Elevated lidocaine serum levels in healthy adult volunteers following the use of a needle free device [abstract]. 39<sup>th</sup> Annual Regional Anesthesiology and Acute Pain Medicine Meeting. April 2014.
21. Pace M, Koury K, **GulurP**. Epidurals in patients on thromboprophylaxis with unfractionated heparin three times a day – Value of partial thromboplastin time testing [abstract]. 39<sup>th</sup> Annual Regional Anesthesiology and Acute Pain Medicine Meeting. April 2014.
22. Kim DJ, Watt L, **Gulur P**, Edwards DA. Spinal cord stimulation for complex regional pain syndrome type II in a pediatric patient [abstract]. American Society of Anesthesiologists Annual Meeting. October 2014.
23. Chaichana KK, Watt L, Carinci A, Anderson TA, Scemama De Gialluly P, **Gulur P**, Leeman MR, Shank E, Wang JP, Edwards DA. Fentanyl at 750 mcg/hr: Pain management of a pediatric patient with Castleman’s disease and paraneoplastic pemphigus [abstract]. American Society of Anesthesiologists Annual Meeting. October 2014.
24. Crawford L, **GulurP**, Gilligan C, Rathmell J, Chen L, Edwards DA. A retrospective review of spinal cord stimulator and drug delivery device infections [abstract]. American Society of Regional Anesthesia and Pain Medicine Annual Meeting. November 2014.
25. **GulurP**, Banh E, Koury K, Pradeep A. Spine surgery in opioid tolerant patients – prevalence and patterns of opioid use in the year after surgery [abstract]. American Society of Interventional Pain Physicians 17<sup>th</sup> Annual Meeting. April 2015.
26. **GulurP**, Banh E, Pradeep A, Lee H, Koury K, Chitilian H. Level of training and its effect on success rates of epidural catheters placed for postoperative pain [abstract]. American Society of Regional Anesthesia and Pain Medicine 40<sup>th</sup> Annual Meeting. May 2015.
27. Blickenstaff J, Banh E, Ahn J, **GulurP**. Limited access to outpatient specialty care in pain leads to increased utilization of acute hospital care resources [abstract]. American Society of Regional Anesthesia and Pain Medicine 40<sup>th</sup> Annual Meeting. May 2015.
28. **GulurP**, Banh E, Koury K, Arnstein P, Lee H, McCarthy P, Coley C, Mort E. Morphine versus hydromorphone: does choice of opioid influence outcomes? [abstract]. American Society of Regional Anesthesia and Pain Medicine 40<sup>th</sup> Annual Meeting. May 2015.
29. Arnstein P, Banh E, Koury K, Lee H, **GulurP**. Morphine before hydromorphone – Results of a quality improvement initiative [abstract].. American Society of Regional Anesthesia and Pain Medicine, 40<sup>th</sup> Annual Meeting. May 2015.
30. Field R, Ahn KS, Alem N, Schwid HA, Vadera S, Garson L, **GulurP**, Vakharia SB, Cannesson M, Kain ZN. Introduction of the perioperative surgical home concept to neurosurgical service lines [abstract]. American Society of Anesthesiologists Annual Meeting, A1284, October 2015.

31. Hemmad A, Banh E, Green J, Alem N, Vu TQ, Koury K, **GulurP**. A preliminary assessment of intrathecal sufentanil equianalgesic conversion ratios and efficacy [abstract]. American Society of Anesthesiologists Annual Meeting, A1084, October 2015.
32. **GulurP**, Pradeep A, Alem N, Banh E. A longitudinal outcomes evaluation of the effectiveness of celiac plexus blocks in patients experiencing chronic abdominal pain [abstract]. American Society of Regional Anesthesia and Pain Medicine 14th Annual Meeting. November 2015.
33. **GulurP**, Banh E, Dayal R, Pradeep A. Accidental prescription overdose deaths and marijuana: association or aberration? [abstract]. American Society of Regional Anesthesia and Pain Medicine 14th Annual Meeting. November 2015.
34. Desai V, Khemlani V, Lo T, Eshelman M, Banh E, **GulurP**. Patient satisfaction scores and their correlation to the dose of opioids administered in the perioperative [abstract]. American Society of Regional Anesthesia and Pain Medicine 41<sup>st</sup> Annual Meeting. March 2016.
35. Burns T, Banh E, Calderon MD, **GulurP**. Fluoroscopy-guided pudendal nerve blocks in the treatment of chronic pelvic pain a single center outcomes evaluation [abstract]. American Society of Regional Anesthesia and Pain Medicine 41<sup>st</sup> Annual Meeting. March 2016.
36. Dang J, Desai V, Nguyen D, Banh E, **Gulur P**. Prevalence and characteristic of opioid use prior to admission based on gender, age, and ethnicity [abstract]. *Anesth Analg* 2016;122; S-203.
37. Record BC, Chavda AN, Ong E, Osann K, Dayal R, **GulurP**. Ongoing monitoring for aberrant opioid related behaviors: A five question patient assessment tool [abstract]. American Society of Anesthesiologists Annual Meeting, A1051, October 2016.
38. Ong EW, Banh E, Eshelman MA, Kandil A, Engwall SA, **GulurP**. Prevalence of opioid tolerance in future Medicare beneficiaries: Impact on healthcare utilization and federal spending [abstract]. American Society of Anesthesiologists Annual Meeting, A1293, October 2016.
39. Desai V, Dang J, Nguyen D, Ong E, Gimenez K, **GulurP**. Influence of ethnicity on HCAHPS survey results: is random sampling adequate? [abstract]. American Society of Anesthesiologists Annual Meeting, A1279, October 2016.
40. Ong E, Burns T, Lo T, Ahn J, **GulurP**. Paradoxical increases in opioid-tolerant hospital admissions amidst falling opioid prescribing [abstract]. American Society of Anesthesiologists Annual Meeting, A2124, October 2016.
41. Ong E, Brentlinger G, Pirrello R, Merrill D, **GulurP**. Non-pharmacological options for pain management in hospitals: Experience from a single center [abstract]. American Society of Anesthesiologists Annual Meeting, A2125, October 2016.
42. Banh E, Ong E, Hua C, Schultz V, Ahn K, **GulurP**. Patient education strategies: a comparison of pre-operative and post-operative patient-controlled epidural analgesia (PCEA) teaching [abstract]. American Society of Anesthesiologists Annual Meeting, A4113, October 2016.



43. Desai V, Ong E, Tyagi N, Vaughn D, Sun C, **GulurP**. Efficacy of gabapentin and celecoxib as preemptive analgesia strategies in spine fusion surgery [abstract]. American Society of Anesthesiologists Annual Meeting, A4161, October 2016.
44. Banh E, Ong E, Desai V, Garson L, **GulurP**. Patient satisfaction with pain management and its effect on hospital readmission rates [abstract]. American Society of Anesthesiologists Annual Meeting, A4191, October 2016.
45. Pleticha J, Prakken S, Buchheit T, **GulurP**, Bearrows S, Westover J, Aronson S. Financial impact of intensive outpatient pain management of Duke Health System high utilizers [abstract]. *Anesth Analg* 2017; 124:786.
46. Ray N, Komaki K, Ong E, **GulurP**. Pain satisfaction scores (HCAHPS) in patients on opioid tolerant doses at the time of admission. Duke Anesthesiology Academic Evening. May 2017.
47. Ray N, Komaki K, Ong E, Aronson S, **GulurP**. High Doses of Opioids at Discharge – Top Surgical Procedures. Duke Anesthesiology Academic Evening. May 2017.
48. **GulurP**, Prakken S, Ong E, Buchheit T. Effect of a state medical board guideline on safe opioid prescribing: Experience at a large regional academic medical center. Duke Anesthesiology Academic Evening. May 2017.
49. Ganesh A, Ray N, Komaki K, Ong E, Aronson S, **GulurP**. Poor Outcomes in Patients on High Doses of Opioids Prior to Surgery – Time for Perioperative Optimization for Pain. Duke Anesthesiology Academic Evening. May 2017.
50. Ganesh A, Komaki K, Ong E, **Gulur** . Geographic distribution of high resource utilizers suffering from low back and neck pain: Experience from a regional academic medical center. Duke Anesthesiology Academic Evening. May 2017.
51. Chavda AN, Record BC, Alem, **GulurP**. Safe opioid prescribing: Role of validated monitoring tools to identify aberrant behaviors [abstract]. American Society of Anesthesiologists Annual Meeting, A1122, October 2017.
52. **GulurP**, Ganesh A, Komaki K, Ong E. Geographic distribution of high resource utilizers suffering from low back and neck pain: Experience from a regional academic medical center [abstract]. American Society of Anesthesiologists Annual Meeting, A2226, October 2017.
53. Ray N, Komaki K, Ong EW, Aronson S, **GulurP**. High doses of opioids at discharge: Top surgical procedures [abstract]. American Society of Anesthesiologists Annual Meeting, A2219, October 2017.
54. Ray N, Komaki K, Ong EW, **GulurP**. Pain satisfaction scores (HCAHPS) in patients on opioid tolerant doses at the time of admission [abstract]. American Society of Anesthesiologists Annual Meeting, A1004, October 2017.

55. **GulurP**, Prakken S, Ong EW, Buchheit T. Effect of a state medical board guideline on safe opioid prescribing: Experience at a large regional academic medical center [abstract]. American Society of Anesthesiologists Annual Meeting, A3077, October 2017.
56. Ganesh A, Ray N, Komaki K, Ong E, Aronson S, **GulurP**. Poor outcomes in patients on high doses of opioids prior to surgery: Time for perioperative optimization of pain [abstract]. American Society of Anesthesiologists Annual Meeting, A2235, October 2017.
57. **GulurP**. Perioperative Pain Care Clinic - Successfully reducing 90 day postoperative opioid use in chronic opioid users [abstract]. Accepted for presentation at the American Society of Anesthesiologists Annual Meeting, A1009, October 2018.
58. **GulurP**. Impact of outpatient comprehensive pain management on the healthcare costs in patients on opioid therapy [abstract]. Accepted for presentation at the American Society of Anesthesiologists Annual Meeting, A3118, October 2018.
59. **GulurP**. O-net: Opioid dose based predictive model for risk of readmissions [abstract]. Accepted for presentation at the American Society of Anesthesiologists Annual Meeting, A4275, October 2018.

***Non-refereed Publications:***

***Print***

1. Rivera R, **GulurP**, Rathmell J. Book Review, Interventional pain management: image guided procedures, 2nd Ed. *Anesth Analg*. 2009;108:389-390.
2. Woodbury A, Williams K, **GulurP**. Patients and their pain experience in the hospital: The HCAHPS imperative with payments at risk in value-based purchasing environment. *ASA Newsletter*. 2014;78:28-29.
3. **GulurP**, Ahn J, Alem N. Spinal cord stimulation and implanted cardiac devices - contraindication versus risk optimization. *NANS Newsletter*. Summer 2015.
4. Cyriac J, Alem N, Ahn K, **GulurP**, Kain Z. Implementation of the perioperative surgical home at UC Irvine. *ASRA Newsletter*. Nov 30, 2015.
5. **GulurP**, Ahn K, Cyriac J. Inpatient pain management – A patient-ventric, value-based care delivery mode. *ASRA Newsletter*. Dec 21 2015.

***Digital***

1. **GulurP**, Ahn Y. Faculty 1000, www.f1000.com, medical research peer review of: Gottschalk A, Ford J, Association between epidural analgesia and cancer recurrence after colorectal cancer surgery, *Anesthesiology*. 2010;113:27-34.
2. **GulurP**, Mehta P. Faculty 1000, www.f1000.com, medical research peer review of: The efficacy and safety of fentanyl buccal tablet compared with immediate-release oxycodone for the

management of breakthrough pain in opioid-tolerant patients with chronic pain. Ashburn MA, Slevin KA, Messina J, Xie F. *Anesth Analg*. 2011;112:693-702.

3. **GulurP**, Latif S. Faculty 1000, www.f1000.com, medical research peer review of: A comparison of epidural analgesia and traditional pain management effects on survival and cancer recurrence after colectomy: a population-based study. KC Cummings III, F Xu, LC Cummings and GS Cooper. *Anesthesiology*. 2012;116:797-806.
4. **GulurP**, Latif S. Faculty 1000, www.f1000.com, medical research peer review of: Characteristics of Distribution of Morphine and Metabolites in Cerebrospinal Fluid and Plasma with Chronic Intrathecal Morphine Infusion in Humans. M Wallace and TL Yaksh. *Anesth Analg*. 2012;115:797-804. Epub 2012 Jul 19.
5. **GulurP**, Latif S. Faculty 1000, www.f1000.com, medical research peer review of: Pacemaker or defibrillator surgery without interruption of anticoagulation. Birnie DH, Healy JS, Wells GA, Verma A, Tang AS, Krahn AD, Simpson CS, Ayala-Paredes F, Coutu B, Leiria TL, Essebag V. *N Engl J Med*. 2013; 368:2084-2093.
6. **GulurP**. Acute pain management in the "substance user." *Harvard Online CME, Pain Management and End of Life Care Module*. 2013.
7. **GulurP**. Acute pain management of the opioid tolerant patient. *Regional Anesthesia ToolBox Lecture*. 2014.

#### **Other:**

#### **Policies and Guidelines**

##### *Pain Management; University of California, Irvine*

- 2016 Safe Opioid Prescribing Guidelines
- 2016 Chronic Opioid Therapy Patient-Provider Agreement
- 2016 Chronic Opioid Therapy Consent
- 2016 Cancer Pain Guidelines
- 2016 Acute Pain Guidelines
- 2016 Managing Pain During Hospitalization – Pain Expectation
- 2016 Lidocaine Policy
- 2016 Non-Pharmacological Treatment for Pain

##### *Acute Pain; University of California, Irvine*

- 2016 Epidural Management Guidelines
- 2016 Inpatient Pain Service Policies & Procedures
- 2016 Peripheral Nerve Catheter Management Policy
- 2016 Regional Pain Services Policies & Procedures
- 2016 Time-Out Policy
- 2015 Buprenorphine (Suboxone, Subutex, Zubsolv, Bunavail) Guideline
- 2014 Intralipid Protocol

*Chronic Pain; University of California, Irvine*

- 2016 Anticoagulation Guidelines
- 2016 Discharge Criteria
- 2016 Intrathecal Guidelines
- 2016 NPO Guidelines
- 2015 Moonlighting Policy

*Pain Medicine; Department of Anesthesiology & Perioperative Care, University of California, Irvine*

- 2016 Safe Opioid Prescribing Guidelines
- 2016 Headache Management Guidelines
- 2016 Non-Operative Low Back Pain Management Guidelines
- 2016 Peripheral Nerve Catheters Guidelines
- 2016 Regional Complications (Outpatient) Management Guidelines
- 2015 Absentee Policy
- 2015 Academic Policies for Advancement
- 2015 Dress Code Policy
- 2015 Duty Hours Policy
- 2015 iPad Policy
- 2015 Minimum Performance Criteria, Academic Probation and Remediation Policies
- 2015 Fellow On-Call & Beeper Policy
- 2015 Supervision and Handoff Policy
- 2015 Vacation & Education Leave Policy
- 2015 Interventional Protocol for Fellows-UCI Pain

*Massachusetts General Hospital*

- 2010 Epidural Analgesia and PCEA (Patient Controlled Epidural Analgesia)
- 2010 Epidural drug policy and guidelines
- 2010 Lidocaine J-Tip Delivery Device for Venipuncture and IV Cannulation in Infants and Children
- 2010 Patient Controlled Analgesia (PCA) Intravenous
- 2010 Opioid safety and prescribing guidelines
- 2009 Epidural analgesia and management guide
- 2009 Nubain drug policy
- 2009 Patient controlled epidural analgesia guidelines
- 2008 Pediatric pain management dose card
- 2008 Intrathecal Analgesia Care and Monitoring

***Patient Educational Material****Pain Management; Duke University*

- 2017 Patient Education Materials, Perioperative Pain Clinic

*Pain Management; University of California, Irvine*

- 2016 Chronic Opioid Therapy Patient-Provider Agreement
- 2016 Chronic Opioid Therapy Consent

*Massachusetts General Hospital*

- 2014 Post Procedural Instructions
- 2014 Pre-Procedure Regional
- 2011 Nerve block catheters for pain relief after surgery
- 2011 Epidural & PCEA during childbirth
- 2011 Pain relief after your surgery
- 2011 How to use a PCA pump to track your pain

**Scholarly and Professional Societies**

- |           |  |                 |
|-----------|--|-----------------|
| 2016      | International Neuromodulation Society              | Member          |
| 2015-     | California Society of Anesthesiologists            | Member          |
| 2014-     | North American Neuromodulation Society             | Member          |
| 2005-     | American Society of Interventional Pain Physicians | Lifetime Member |
| 2004-     | Spine Intervention Society (International)         | Member          |
| 2002-     | Massachusetts Medical Society                      | Member          |
| 2002-     | American Medical Association                       | Member          |
| 2002-     | American Society of Anesthesiologists              | Member          |
| 2002-2014 | Massachusetts Society of Anesthesiologists         | Member          |

***Professional Awards and Special Recognitions:***

- 2002 Resident of the Year  
Critical Care Anesthesia Department  
Boston University
- 2002 Jennifer Saballa Award  
Excellence in Compassionate Care  
Boston University
- 2009 Citizenship Award  
New Program Development (Acute Pain Service)  
MGH DACCPM
- 2009 Partners in Excellence  
Outstanding Performance and Commitment to Excellence for the Acute Pain Service  
Partners Health Care System, Inc.
- 2009 Citizenship Award  
New Program Development (Acute Pain Service)  
MGH DACCPM
- 2009 Partners in Excellence  
Outstanding Performance and Commitment to Excellence for the Acute Pain Service  
Partners Health Care System, Inc.

- 2009 Partners in Excellence  
Outstanding Performance and Commitment to Excellence for Patient Safety  
Partners Health Care System, Inc.
- 2009 Partners in Excellence  
Outstanding Performance and Commitment to Excellence for Patient Safety  
Partners Health Care System, Inc.
- 2010 Citizenship Award  
Teaching, Clinical Expertise, Research  
MGH DACCPM
- 2012 Partners in Excellence  
Acute Pain Service: Operational Efficiency Partners Health Care System, Inc.
- 2012 The One Hundred Significant Contributions to the Fight Against Cancer  
MGH Cancer Center
- 2013 Patient Safety Star  
Quality Treatment & Service Excellence in Patient Quality & Safety  
MGH Center for Quality & Safety

***Editorial Experience:******Reviewer:***

Annals of Surgery (*ad hoc*)  
Anesthesia & Analgesia (*ad hoc*)  
Anesthesiology (*ad hoc*)  
Elsevier E-Abstract (*ad hoc*)  
Emergency Medicine Journal (*ad hoc*)  
Journal of Neuromodulation (*ad hoc*)  
Journal of Obstetrics and Gynecology (*ad hoc*)  
Journal of Pain (*ad hoc*)  
Journal of Pediatric Hematology/Oncology (*ad hoc*)(*ad hoc*)  
World Journal of Surgery (*ad hoc*)

***Organizations and Participation:******International***

International Neuromodulation Society  
Education and Research Committee 2016 - present  
Young Neuromodulators - Mentorship 2016 - present

North American Neuromodulation Society  
Women in Neuromodulation 2015 - present  
Scientific Meeting Planning Committee 2015 - present

International Association for the Study of Pain  
Acute Pain Special Interest Group 2013 - present

***National***

American Board of Anesthesiology  
MOCA Pain Medicine Committee 2016 - present  
Pain Medicine Examination Writer 2012 - present

American Medical Association  
CPT Advisory Committee 2015 - present

American Society of Anesthesiologists  
Committee on Economics 2015 - present  
Committee on Pain Medicine 2014 - present  
Subcommittee on Education: Perioperative Surgical Home 2014 - present  
Abstract Review Subcommittee on Chronic and Cancer Pain 2013 - present

American Society of Regional Anesthesia  
ACGME Accreditation Exploratory Committee 2013 - 2015  
Acute Pain and Regional Fellowship Directors Committee 2012 - 2015

Food and Drug Administration  
FDA Advisory Committee, Pharmacy Compounding 2014 - present

***Local and Regional***

Duke University Health System  
Member, Opioid Safety Committee 2016 - present  
Member, Anesthesiology IT Committee 2016 - present

California Health Care Foundation  
Regional Opioid Safety Coalition; Lead 2015 - 2016

University of California, Irvine  
Chair, Pain Executive Committee 2014 - 2016  
Member, Curriculum Committee – Perioperative Medicine Certificate Program Review  
2014 - 2016  
Member, Finance Committee 2014 - 2016  
Member, Ortho PSH Oversight Committee 2014 - 2016  
Member, Quest Ambulatory Governance Committee 2014 - 2016  
Member, Sedation Committee 2014 - 2016

Massachusetts General Hospital  
Pain Management Care Redesign Team; Chair 2013 - 2014  
Opiate Safety Initiative; Chair 2009 - 2014  
Long-term Credentialing Committee; Anesthesia, Critical Care & Pain Medicine 2008 - 2011  
Multidisciplinary Pain Safety Issues Committee; Chair 2008 - 2014

Pain and Sedation Subcommittee, Medication Education Safety and Approval Committee  
(MESAC), Chair 2008 - 2014  
Resident Recruitment Committee; Anesthesia, Critical Care & Pain Medicine 2008 - 2014

***External Support:***

**Present:**

PI  
Pain Management for Opioid Tolerant Patients: A Randomized Controlled Trial  
NIA via NBER  
2017

**Past:**

PI  
Pain Management for Opioid Tolerant Patients: A Randomized Controlled Trial  
JPAL  
2016

PI  
Determining Optimal Pain Medication Prescription for Postoperative Outpatient Surgical Pain Using An  
Innovative Oral Patient Controlled Analgesia (PCA) Device  
UCI ICTS: NIH CTSA  
2016

PI  
Pain Management Options for Opioid Tolerant Patients: A randomized controlled trial  
MIT-JPAL  
2016

Co-PI  
Effect of Ultra-low Dose Naloxone on Remifentanyl-induced Hyperalgesia  
UCI ICTS: NIH CTSA  
2016

PI  
Determining Optimal Pain Medication Prescription for Postoperative Outpatient Surgical Pain Using An  
Innovative Oral Patient Controlled Analgesia (PCA) Device  
UCI ICTS: NIH CTSA  
2016

Lead  
Orange County Collaborative on Prescription Drug Abuse  
UCI  
2016



Lead  
Regional Opioid Safety Coalition Grant  
California Healthcare Foundation  
2015

Co-PI  
Effect of Ultra-low Dose Naloxone on Remifentanyl-induced Hyperalgesia  
UCI  
2014

Co-Investigator for multi-center study  
PI for Massachusetts General Hospital  
A Randomized, Double Blind, Placebo Controlled, Parallel Group Study of the Efficacy and Safety of Pregabalin (BID) in Subjects with Post-Traumatic Peripheral Neuropathic Pain  
Industry sponsored: Pfizer  
2013 - 2014

Co-Investigator for multi-center study  
PI for Massachusetts General Hospital  
An Open-Label, Multicenter Study for the Safety, Pharmacokinetics, and Efficacy of Buprenorphine Transdermal System (BTDS) in Children from 7 to 16 Years of Age, Inclusive, Who Require Continuous Opioid Analgesia for Moderate to Severe Pain  
Industry Sponsored: Purdue  
2012 - 2014

Co-Investigator  
Optimal Method of Pain management in Patients with Multiple Rib Fracturs  
Industry Sponsored: On-Q  
2012 - 2014

PI  
Lidocaine Serum Levels in Healthy Adult Volunteers: a Pilot Evaluation of the J-Tip Delivery System  
Massachusetts General Hospital  
2012

Co-Investigator for multi-center study  
PI for Massachusetts General Hospital  
Computer Assessment of Children's Pain and Mood Phase II  
NIH SBIR 215587  
2009-2011

Co-Investigator for multispecialty study  
PI  
3-D Pain Mapping  
NIH SBIR  
2009

Co-Investigator

A Phase 3, Multicenter, Randomized, Placebo-controlled, Double-blind Study to Evaluate the Efficacy and Safety of the Sterile Lidocaine Hydrochloride Monohydrate (LHM) Product in Adult Subjects  
Industry sponsored: Anesiva  
2006 - 2007

Co-Investigator for multi-center study  
PI for Massachusetts General Hospital  
Children's Computer Assessment of Pain and Mood Phase I  
NIH SBIR  
2006 - 2007

***Mentoring Activities:***

Harvard Premedical Society's Physician Mentorship Program for Premedical Students.  
Mentored 3 students / 4-6 meetings per year  
Harvard Medical School  
2011-2014

MGH Institute of Health Professions Physician Mentorship Program  
MGH Institute of Health Professions  
2012

***Education / Teaching Activities:***

**Teaching and Supporting Learners**

Duke University School of Medicine

"Perspectives on Pain," Department of Anesthesiology Fellows, March 2017

"Rethinking Your Practice in the Context of an Opioid Epidemic," Department of Anesthesiology Fellows, September 2017

"Pharmacology of Opioids," Department of Anesthesiology CA-1 Residents, November 2017

"Pediatric Pain Assessment and Management," Pain Medicine Fellows, March 2018.

"Perspectives on Pain," Department of Anesthesiology Fellows, March 2018

University of California, Irvine

Supervise and Train Fellows, Anesthesia and PM&R Residents, and Medical Students in Chronic Pain Clinic in outpatient clinical setting / Gottschalk Medical Plaza  
2014 - 2016

Supervise and Train Fellows and Anesthesia Residents in Acute Pain Service  
2014-2016

Pain Management Didactic Program  
Pain Fellows, Residents, Medical Students  
2014-2016

Pain Medicine Cadaver Teaching Symposium  
Chronic Pain Faculty, Pain Fellows, Residents  
2015

Neuroscience – Sensory Systems and Pain Course  
Medical Students  
2016

Anatomy: Cadaver lab on neuraxial access  
2016

Massachusetts General Hospital:  
Supervise and Train Fellows, Anesthesia Residents, and Medical Students in MGH Chronic Pain Clinic  
in outpatient clinic setting  
2006 - 2014

Resident Lectures  
Resident Rotators in the Chronic Pain Service  
2006 - 2014

Journal Club  
Clinical Fellows in Pain Medicine  
2006 - 2014

Supervise and Train Fellows, Anesthesia Residents, and Medical Students in MGH Acute Pain Service  
2008 - 2014

Pediatric Pain Management in Chronic Abdominal Pain  
Pediatric GI Fellows and Pediatric Fellows  
2008 - 2014

Pediatric Pain Lecture  
Pediatric Residents and Fellows  
2008-2014

Fellowship Orientation Lecture Series: Intrathecal Pumps; Pediatric Pain; Chronic Abdominal Pain;  
Basic Neurological Examination  
Clinical Pain Fellows (primary audience), Rotating anesthesia residents, Medical students  
2008-2014

Acute Pain Lecture Series  
Resident Rotators in the Acute Inpatient Pain Service  
2008-2014

Acute Pain Lecture Series  
Resident Rotators in the Acute Inpatient Pain Service  
2008-2014

Acute Pain Management Updates  
SICU Fellows  
2010-2014

MGH Child Neurology CME Course, Harvard Medical School -2013  
Pediatric Pain Management

Tufts University  
Course for Master's Degree Students  
Tufts University, Boston, MA - 2008  
"Postoperative Pain Management"

***Development of Courses/Educational Programs***

University of California, Irvine

Acute Pain Didactics for Residents  
Rotation curriculum  
2014-2016

Chronic Pain Didactics for Residents  
Rotation curriculum  
2014-2016

Acute Pain Didactics for Fellows  
Full fellowship year curriculum  
2014-2016

Chronic Pain Didactics for Fellows  
Full fellowship year curriculum  
2014-2016

Introduction to Perioperative Surgical Home  
3 day course for new Residents in Anesthesiology  
2014-2016

Challenging Cases Course  
2014-2016

Multidisciplinary QA/QI  
2014-2016

Massachusetts General Hospital

Developed online 8 part modules, with pre- and post- tests, for inpatient pain resident rotators. Modules are a required component of the residents' education on the acute pain service – post tests are submitted and graded as part of their rotation

Pain Champions  
Continuing education course for nursing staff  
2012-2013

Harvard Medical School

Acute Pain Symposium  
2012-2014

***Development of Assessment Tools and Methods***

University of California, Irvine

OSCE Skills Exam  
2014 - 2016

Pre & Post Rotation Testing for Residents in Anesthesiology  
2014 - 2016

***Education Management / Leadership***

Fellowship Director (ACGME), Pain Medicine  
Department of Anesthesiology & Perioperative Care  
University of California, Irvine  
2014 - 2016

Director, Medical Student Chronic Pain Rotation  
Department of Anesthesiology & Perioperative Care  
University of California, Irvine  
2014-2016

Fellowship Director, Acute Pain and Regional Anesthesia  
Department of Anesthesia, Critical Care, & Pain Medicine  
Massachusetts General Hospital  
2012-2014

Course Director, Acute Pain Management Symposium  
Harvard Medical School  
2012-2014

***Invited Lectures and Presentations:***Visiting Professorships

Visiting Professor, Grand Rounds, Carney Hospital, Dorchester, MA - 2006  
"Spinal Cord Stimulation"

Visiting Professor, Craniofacial Pain Center Rounds, Tufts University, Boston, MA - 2007  
"Interventional Options for the Treatment of Rheumatic and Osteoarthritic Conditions of the Cervical Spine"

Visiting Professor, Nursing Grand Rounds Carney Hospital, Dorchester, MA - 2007  
"Perspectives in Pain Management"

Visiting Professor, Grand Rounds, Carney Hospital, Dorchester, MA - 2007  
"Opioid Rotation"

Visiting Professor, Pain Center Rounds, Tufts University, Boston, MA - 2012  
"Management of Pediatric Pain: Interventional approaches"

Visiting Professor, Grand Rounds, Tufts Medical Center, Boston, MA - 2013  
"Acute Pain Management in the Opioid Tolerant Patient"

Visiting Professor, University of California – San Francisco, San Francisco, CA - 2013  
"Hydromorphone – Evolving Concern"

Visiting Professor, University of California – San Francisco, San Francisco, CA - 2013  
"Acute Pain Management in the Opioid Tolerant Patient"

Visiting Professor, University of Nebraska, Lincoln, NE - 2014  
"Acute Pain Management in the Opioid Tolerant Patient"

Visiting Professor, Pediatric Pain Grand Rounds, Massachusetts General Hospital, Boston, MA - 2014  
"Overview Pediatric Pain Management: Updates"

Visiting Professor, University of Nebraska, Lincoln, NE - 2014  
"Adductor Canal Blocks vs Femoral Nerve Blocks"

Visiting Professor, Department of Medicine, Grand Rounds, University of California Irvine, Irvine, CA - 2014  
"Advances in Pain Management"

Visiting Professor, University of Florida, Gainesville, FL - 2014  
"Opioid Tolerance in the Substance User"

Visiting Professor, University of Florida, Gainesville, FL - 2014  
"Acute Pain Management in the Opioid Tolerant Patient"

Visiting Professor, Cedars Sinai, Los Angeles, CA - 2015

“Value Based Healthcare Performance Models: A Case Study in Pain Management”

Visiting Professor, Grand Rounds, Fountain Valley Regional Medical Center, Fountain Valley, CA - 2015

“Achieving Pain Control in Your Patients”

Visiting Professor, Grand Rounds, Department of Anesthesiology, Drexel University, Philadelphia, PA - 2017

“Value Based Healthcare Performance Models: A Case Study in Pain Management”

Visiting Professor, Grand Rounds, Department of Anesthesiology, University of Colorado, Denver, CO, February 2018

“Perioperative Pain Clinic: A value proposition for improved outcomes”

Visiting Professor, Grand Rounds, Department of Anesthesiology, University of North Carolina at Chapel Hill, Chapel Hill, NC, September 2018

"Perioperative Pain Care: A value-based population health strategy"

### ***International Meetings (Invited)***

1<sup>st</sup> World Congress on Innovation in Anesthesia, All India Institute of Medicine, New Delhi, India

Lecture: “Peripheral Nerve Stimulation” - 2009

First Affiliated Hospital, Zhejiang University, Hangzhou China

Lecture: “Pain Management in the Opioid Tolerant Patient” - 2013

World Institute of Pain, Kolkata, India

Panel Discussion, Global Pain and Suffering, Solutions, International Symposium - 2013

“Cervical Interventions”

World Institute of Pain, Kolkata, India

Scientific Chair, Global Pain and Suffering, Solutions, International Symposium - 2013

“Cancer Pain”

XIII Congreso Anual Medica Sur Sociedad de Medicos, 2013, Quintana Roo, Mexico

Lecture: “Philosophical Aspects of Pain” - 2013

XIII Congreso Anual Medica Sur Sociedad de Medicos, 2013, Quintana Roo, Mexico

Lecture: “Rational Evidence-Based Approach to the Treatment of Acute Pain in the Opioid Tolerant Patient” - 2013

International Anesthesia Research Society Annual Meeting, San Diego, CA - 2013

Lecture: “Elevated Lidocaine Serum Concentration Following J-Tip® Administration in Pediatric Patients”

All India Institute of Medical Sciences, New Delhi, India - 2014

Lecture: "Setting up of Acute Pain Services"

International Conference on Recent Advances in Pain 2015, Kolkata, India - 2015

Lecture: "SCS and Neuropathic Pain"

International Conference on Recent Advances in Pain 2015, Kolkata, India - 2015

Lecture: "Challenges in Visceral Pain"

North American Neuromodulation Society Annual Meeting, Las Vegas, NV - 2015

Lecture: "Neuromodulation in special populations"

Pain Management Conference, Cleveland Clinic Abu Dhabi, United Arab Emirates - 2016

Lecture: "Advanced Pain Management in Cancer Patients"

North American Neuromodulation Society 20th Annual Meeting, Las Vegas, NV, January 2017

Moderator: Scientific and Clinical Advances in Intrathecal Therapy II

North American Neuromodulation Society 21st Annual Meeting, Las Vegas, NV, January 2018

Moderator: Plenary Session II: Next Generation Neuroscience

International Anesthesia Research Society 2018 Annual Meeting, Chicago, IL, April 2018

Panel: Preoperative Management and Optimization Strategies

Speaker: "Perioperative Pain Care: Care pathways to manage high resource utilizers"

EBPOM 2018: Annual London Peri-Operative Medicine Congress, London, UK, July 2018

Speaker: "Does Choice of Opioid Influence Health Outcomes?"

2018 Morpheus Annual Symposium, London, UK, August 2018

Speaker: "Opioids: Can we kick the habit? The US Experience"

### ***National Scientific Meetings (Invited)***

American Society of Anesthesiologists Annual Meeting, New Orleans, LA, October 2009

Speaker: "Spinal Cord Stimulation for Radicular Pain Secondary to Retained Bullet"

MGMA Annual Anesthesia Conference, Chicago, IL, April 2015

Speaker: "Perioperative Surgical Home – An administrator's role"

American Society of Interventional Pain Physicians, Orlando, FL, April 2015

Speaker: "Morphine over Hydromorphone, Does Choice of Opioid Influence Outcomes?"

Speaker: "Spine Surgery in Opioid Tolerant Patients – Prevalence and Patterns of Opioid Use in the Year after Surgery"



American Society of Regional Anesthesia and Pain Medicine 40<sup>th</sup> Annual Regional Anesthesiology & Acute Pain Medicine Meeting, Las Vegas, NV, May 2015

Speaker: "Morphine versus hydromorphone: does choice of opioid influence outcomes?"

Speaker: "Morphine before hydromorphone – Results of a quality improvement initiative"

American Society of Anesthesiology Annual Meeting, San Diego, CA, October 2015

Speaker: "The Chronic Pain Patient: Costs Associated with Their Care and the Best Approach to Creating a Value Based Healthcare Model"

Speaker: "Billing and Compliance-Avoiding Fraud, Maximizing Potential"

Speaker: "Can Pharmacogenetic Testing Improve the Treatment of Pain?"

Panel Discussion: "Opioids Are Safe and Effective and Should Continue as the Cornerstone for Analgesic Management Perioperatively"

Speaker: "Epidural Steroid Injections: Do We Really Need the Steroid?"

Society of American Gastrointestinal and Endoscopic Surgeons Annual Meeting, Boston, MA, March 2016

Speaker: "Non-Narcotic Pain Management Alternatives for Hernia Surgery"

American Society of Anesthesiology Annual Meeting, Chicago, IL, October 2016

Panel Discussion: "Optimizing Your Revenue and Minimizing Your Risk"

Speaker: "Prioritizing and Selecting Regional and Neuraxial Anesthetic Choices in the Patient with Chronic Pain"

Speaker: "Intrathecal Pumps are the Most Effective Form of Opioid Delivery"

Speaker: "Pharmacogenetics in the Treatment of Pain"

ASA Practice Management 2017, Grapevine, TX, January 2017

Speaker: "Pain Coding: Changes for 2017"

American Society of Regional Anesthesia 16th Annual Pain Medicine Meeting, Orlando, FL - November 2017

PBLD: "Coding and Compliance: Do's and Don'ts"

Moderator: Resident/Fellow Program: The Business of Medicine: A Crash Course in Practice Management 2017

Speaker: Resident/Fellow Program: "Pain Medicine Coding and Compliance"

Speaker: ASA Practice Management Portfolio Session: "Reporting Measures and Payment Models/Coding for Pain Medicine Services"

ASA Practice Management 2018, New Orleans, LA, January 2018

Speaker: "Pain Coding: Changes for 2018"

Association of Physician Assistants in Cardiothoracic and Vascular Surgery 37th Annual Meeting, Miami, FL, April 2018

Speaker: "Prescribing Controlled Substances"

Speaker: "Perioperative Pain"

American Alliance of Orthopaedic Executives 2018 Annual Conference, Orlando, FL, April 2018

Speaker: "Clinical Models for Orthopaedic Value Based Care: What you need to know"

American Association for Thoracic Surgery 98th Annual Meeting, San Diego, CA, April 2018

Speaker: "Perioperative Pain Management in the Anti-Narcotic Era"

19th Annual Duke Anesthesiology Conference, Controversies in Perioperative Medicine, Orlando, FL, June 2018

Speaker: "Postoperative Rescue Teams: How do we fit in?"

Speaker: "Perioperative Pain Clinic"

Speaker: "Leadership Models: Why we need to be better managers"

### **Instructional Courses, Workshops, Symposiums (National)**

American Society of Anesthesiologists Annual Meeting, New Orleans, LA - 2009

Instructor, Cadaver Course

"Spinal Cord Stimulation"

Abdel Mehio Ultrasound-Guided Regional Anesthesia Course and Workshop, Massachusetts Society of Anesthesiologists - 2012

"Complications in Regional Anesthesia"

Gator RAP Workshop, University of Florida, Gainesville, FL - 2014

"Complications in Regional Anesthesia"

Work-Related Injury Workshop: New Challenges & New Solutions, Boston Medical Center, Waltham, MA - 2014

"Dependency & Addition: Early Detection and Prevention"

Faculty Ultrasound Guided Blocks Workshop, Regional Anesthesia Service, Massachusetts General Hospital, Boston, MA - 2014

Evidence Based Perioperative Medicine USA Masters Course: A Perioperative Care Practicum, Atlanta, GA, April 2018

Speaker: Session: Standing Up a Preoperative Pain Clinic - "The Rationalization; Data Outcomes;

Economics: The practice realities: screening, workflow and workforce, financials, and tracking

Speaker: Case Study and Panel Discussion

### **Posters (International and National Meetings)**

International Anesthesia Research Society, Boston, MA - 2012

A Complicated Case of Intracranial Hypotension Caused by Anterior Cervical Cerebrospinal Fluid Leak Alleviated by a Thoracocervical Epidural Blood Patch

American Society of Interventional Pain Physicians Meeting, Washington DC - 2012

Anterior Cutaneous Nerve Entrapment

American Society of Anesthesiology Annual Meeting, San Diego, CA - 2015

A Preliminary Assessment of Intrathecal Sufentanil Equianalgesic Conversion Ratios and Efficacy

American Society of Regional Anesthesia and Pain Medicine 40<sup>th</sup> Annual Meeting, Las Vegas, NV - 2015  
 Limited Access to Outpatient Specialty Care in Pain Leads to Increased Utilization of Acute Hospital Care Resources

American Society of Regional Anesthesia and Pain Medicine 40<sup>th</sup> Annual Meeting, Las Vegas, NV - 2015  
 Level of Training and Its Effect on Success Rates of Epidural Catheters Placed for Postoperative Pain

**Regional Presentations and Posters:**

Cancer Pain Rounds, DACCPM, Massachusetts General Hospital, Boston, MA - 2005  
 "Mucositis; Cancer Pain"

Chronic Pain Rounds, DACCPM, Massachusetts General Hospital, Boston, MA - 2005  
 "Iatrogenic Central Pain Syndrome"

Interventional Pain Lecture Series, DACCPM, Massachusetts General Hospital, Boston, MA - 2005  
 "Laser Discectomy; Neurolytic Blocks; Epiduroscopy"

Cancer Pain Rounds, DACCPM, Massachusetts General Hospital, Boston, MA - 2006  
 "Conversion Disorder"

Chronic Pain Rounds, DACCPM, Massachusetts General Hospital, Boston, MA - 2006  
 "Role of Intrathecal Drug Delivery in End of Life Care"

Chronic Pain Rounds, DACCPM, Massachusetts General Hospital, Boston, MA - 2006  
 "Somatic Symptomatology and Iatrogenic Misadventures"

Cancer Pain Rounds, DACCPM, Massachusetts General Hospital, Boston, MA - 2006  
 "Chronic Abdominal Pain of Unclear Etiology – Pain Management"

Interventional Pain Lecture Series, DACCPM, Massachusetts General Hospital, Boston, MA - 2006  
 "SCS IPG Analysis & Reprogramming; Epiduroscopy"

Surgical Grand Rounds, DACCPM, Massachusetts General Hospital, Boston, MA - 2009  
 "Patient Controlled Epidural Analgesia"

Anesthesia Grand Rounds Case Conference, DACCPM, Massachusetts General Hospital, Boston, MA - 2009  
 "Epidural Management"

Harvard Anesthesia Update: Innovation and Transformation in Anesthesiology, Boston, MA - 2010  
 "Acute Pain Service: An anesthesiologist's domain?"

Trauma Rounds, DACCPM, Critical Care Trauma Team, Massachusetts General Hospital, Boston, MA - 2010

"The Perfect Pain Killer"

Trauma Rounds, DACCPM, Critical Care Trauma Team, Massachusetts General Hospital, Boston, MA - 2010

"Pain Management in the Critically Ill and Trauma Patient"

Otolaryngology Rounds, DACCPM, Massachusetts Eye & Ear Infirmary, Boston, MA - 2010

"Acute Postoperative Pain Management"

Anesthesia Grand Rounds Case Conference, DACCPM, Massachusetts General Hospital, Boston, MA - 2010

"Post Dural Puncture Headache"

Harvard Anesthesia Update: Innovation and Transformation in Anesthesiology, Boston, MA - 2011

"Postoperative Pain Management in Opioid Tolerant Patients"

MGHfC Case Conference, DACCPM, Massachusetts General Hospital, Boston, MA - 2012

"The Approach to Acute Pain Management in Inflammatory Arthritis"

Primary Care Pediatrics Conference, Harvard Medical School, Boston, MA - 2012

"Pain Management in the Outpatient Setting"

NYSSA Postgrad Assembly Meeting - 2012

"Spinal Cord Stimulation for Radicular Pain Following Retained Bullet in the Spinal Canal"

56<sup>th</sup> Annual Meeting of the New England Society of Anesthesiologists, Lenox, MA - 2013

"Spectrum of Acute to Chronic Pain: Modifiable by perioperative practice?"

56<sup>th</sup> Annual Meeting of the New England Society of Anesthesiologists, Lenox, MA - 2013

"Acute Pain Management in the Opioid Tolerant and Suboxone Patient"

MESAC Monthly Meeting, Massachusetts General Hospital, Boston, MA - 2013

"Morphine First Initiative"

Quality Oversight Committee Meeting, Massachusetts General Hospital, Boston, MA - 2013

"Morphine First Initiative"

PACU Monthly Staff Meeting, DACCPM, Massachusetts General Hospital, Boston, MA - 2013

"Comparison of Outcomes with Continuous Transversus Abdominis Plane (TAP) Block versus Epidural Analgesia for Elective Abdominal Surgery"

OB/GYN Grand Rounds, DACCPM, Massachusetts General Hospital, Boston, MA - 2013

"Effective Pain Management: From pharmacology to regulatory considerations"

Chiefs Council, Massachusetts General Hospital, Boston, MA - 2013

"Morphine First Initiative"

University of California Irvine Medical Center, Orange, CA - 2014

“Pain Management of a Pediatric Patient with Castleman’s Disease and Paraneoplastic Pemphigus”

Montclair Hospital Medical Center, Montclair, CA - 2014

“Pain Assessment and Management”

Paul Merage School of Business, University of California Irvine, Irvine, CA - 2014

“Healthcare Policy on Prescription Drugs”

University of California Irvine, Irvine, CA - 2014

“Fostering Excellence”

Ortho Group Meeting, Massachusetts General Hospital, Boston, MA - 2014

"Opioid Tolerance"

NP Pharmacology Conference, Massachusetts General Hospital, Boston, MA - 2014

"Medical Marijuana"

Medical Operation Meeting, Massachusetts General Hospital, Boston, MA - 2014

"Opioid Equivalence"

Quality & Safety Weekly Didactics Meeting, Massachusetts General Hospital, Boston, MA - 2014

"Opiate and Insulin Dosing Conversion"

Quality & Safety Monthly Meeting, Massachusetts General Hospital, Boston, MA - 2014

"Elevated Lidocaine Levels with J-Tip"

DACCPM Case Conference, Massachusetts General Hospital, Boston, MA - 2014

"Pain Management in the Substance User"

DACCPM Grand Rounds, Massachusetts General Hospital, Boston, MA - 2014

"Opioid Tolerance"

Arnold and Mabel Beckman Center of the National Academies of Sciences and Engineering, Irvine, CA - 2015

“Project Champion’s Address to Collaborative”

Family Health Center, University of California Irvine, Irvine, CA - 2015

“Pain Management in Primary Care”

Paul Merage School of Business, University of California Irvine, Irvine, CA - 2015

“Impact of Opioid Tolerance”

Chino Valley Medical Center, Chino, CA - 2015

“Pain Perception: A Patient’s Perspective”

Montclair Hospital Medical Center, Montclair, CA - 2015

“Pain Perception: A Patient’s Perspective”

Heritage Victor Valley Medical Group, Victorville, CA - 2015  
“Pain Management – Regulatory Considerations”

Whittier Medical Center, City of Industry, CA - 2015  
“Chronic Pain Management for In-Patients on Long Term Medications”

Department of Anesthesiology and Perioperative Care, University of California Irvine, Irvine, CA - 2015  
“Perioperative Surgical Home – Pathways to Success”

Placentia Linda Hospital, Placentia, CA - 2015  
“New Pain Management Guidelines”

University of California Irvine Medical Center, Orange, CA - 2015  
“Safe Opioid Prescribing”

Chino Valley Medical Center, Chino, CA - 2015  
“Pain Assessment – A Patient’s Perspective”

The Pain Society of the Carolinas Annual Meeting, Asheville, NC, September 2016  
“An Acute Pain Service – Past, Present, and Future”

California Society of Anesthesiologists Fall Anesthesia Meeting, Waimea, HI, October 2016  
“Case-Based Learning: Billing and Compliance”  
“Use of Epidural Steroid Injection and Spinal Cord Stimulation”  
“Personalized Medicine: The Role of Pharmacogenetic Testing in Chronic Pain”  
“Prescribing Opioids: Keeping the Patient and Your Practice Safe”  
“Anesthesia and the Substance User: Perioperative Considerations”

Newport Beach Public Library, Newport Beach, CA - 2016  
“Managing Your Pain- How Your Doctor Can Help You and How You Can Help Yourself”

Department of Anesthesiology and Perioperative Care, Grand Rounds, University of California Irvine, Irvine, CA - 2016  
“Acute Pain Management in the Substance User”

Department of Family Medicine, University of California Irvine, Irvine, CA - 2016  
“Pain Management in Primary Care”

Department of Medicine, University of California Irvine, Irvine, CA 2016  
“Substance Abuse”

Department of Anatomy and Neurobiology, University of California Irvine, Irvine, CA - 2016  
“Pain Modulation”

Fountain Valley Regional Medical Center, Grand Rounds, Fountain Valley, CA - 2016  
“Achieving Pain Control in Your Patients”

Montclair Hospital Medical Center, Montclair, CA - 2016  
"Pain Perception: A Patients Perspective"

CalOptima, Orange, CA - 2016  
"New Pain Management Guidelines: From Pharmacology to Regulatory Considerations"

Pain Nurses of North Carolina, Pain Management in 2018, Durham, NC, February 2018  
"Advanced Pain Management in Cancer Patients"

13th Annual Duke Health Quality and Safety Conference, Durham, NC, March 2018  
"Safe Opioid Prescribing: Implementation of a critical imperative"

Frye Regional Medical Center, Hickory, NC, June 2018  
"Pain Management"

Durham County Department of Public Health, Strategies for Managing Pain, Durham, NC, July 2018  
"Manage Your Pain: How your doctor can help you and how you can help yourself"