

## CURRICULUM VITAE

Basavana Goudra MD FRCA FCARCSI

Work Address: Department of Anesthesia, Hospital of the University of Pennsylvania  
Philadelphia PA, 19104, USA

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Main Appointment: Clinical Associate Professor of Anesthesiology and Critical Care Medicine  
Perelman School of Medicine  
Director of Endoscopy Anesthesia at the Penn Presbyterian Medical Center.

Additional Appointment: Consultant to the Food and Drug Administration (FDA) in the Anesthetic and Analgesic Drug Products /Drug Safety and Risk Management advisory Committee.

### **EDUCATION**

1981 – 1986 (MBBS) Bangalore Medical College, Bangalore, India

1986 – 1987 (Internship) Combined Hospitals, Bangalore Medical College, Bangalore, India

### **POSTGRADUATE TRAINING**

1992 – 1995 Anesthesia Residency – Jawaharlal Institute of Postgraduate Medical Education and Research, Pondicherry, India

1996-2003 Registrar/Specialist Registrar, National Specialist Registrar Training Program, Ireland

07-1-2014 to 06-30-2018 Hospital of the University of Pennsylvania, Philadelphia, PA 19104 (4 years training approved by the American Board of Anesthesiology)

### **APPOINTMENTS**

1987-1992 Flight Lieutenant, Medical officer, Indian Air Force, India

2004 – 2008 Consultant Anesthetist, National Health Service (NHS) United Kingdom

2007-2008 Honorary Senior Lecturer, Birmingham University, Birmingham UK

2008-2016 Assistant Professor, Department of Anesthesia, Hospital of the University of Pennsylvania, Philadelphia PA, 19104, USA  
2016- Associate Professor, Department of Anesthesia, Hospital of the University of Pennsylvania, Philadelphia PA, 19104, USA

### **HONORS AND AWARDS**

1992 All India rank 21, All India Post Graduate Entrance Examination conducted by the All India Institute of Medical Sciences, New Delhi, India.

**INVENTIONS** Goudra Bite Block, Goudra Airway and Goudra Mask Airway, More information at [goudra.com](http://goudra.com)

### **BOARD CERTIFICATIONS**

1987 MBBS, Medical Council of India  
1992 MD, Anesthesiology, Medical Council of India  
1999 FRCA, Fellow of the Royal College of Anesthetists, London  
1999 FCARCSI, Fellow of the college of anesthetists, Royal College Surgeons in Ireland

### **MEDICAL/SCIENTIFIC MEMBERSHIP**

2012-2014 Member Abstract Review Subcommittee, American Society of Anesthesiology  
2012-present Member, Educational Track Subcommittee, American Society of Anesthesiology

### **JOURNALS**

#### **Reviewer**

Anesthesia and Analgesia  
Journal of Anesthesiology and Clinical Pharmacology  
British Journal of Anesthesia  
European Journal of Anesthesia  
Journal of Clinical anesthesia  
Digestive Diseases and Sciences  
Gastrointestinal Endoscopy

World Journal of Gastroenterology

Indian Journal of Anesthesia

### **Editorial Board Member**

Gastroenterology & Hepatology, Millennium Medical Publishing

Australasian Medical Journal (AMJ)

Anesthesiology research and practice

### **PUBLICATIONS (PEER REVIEWED)**

Goudra B, Gouda G, Mohinder P. Recent Developments in Drugs for GI Endoscopy Sedation [published online ahead of print, 2020 Jan 8]. *Dig Dis Sci.* 2020;10.1007/s10620-020-06044-5. doi:10.1007/s10620-020-06044-5

Goudra B, Singh PM. GI Endoscopy Sedation in Patients with Cirrhosis: Routine or Unpredictable? [published online ahead of print, 2019 Nov 13]. *Dig Dis Sci.* 2019;10.1007/s10620-019-05949-0. doi:10.1007/s10620-019-05949-0

Goudra B, Gouda D, Gouda G, Singh A, Balu A, Gouda P. Possible Bias in the Publication Trends of High Impact Factor Anesthesiology and Gastroenterology Journals -An Analysis of 5 Years' Data. *Anesth Essays Res.* 2018;12(3):611–617. doi:10.4103/aer.AER\_116\_18

Goudra B. Big Sleep: Beyond Propofol Sedation During GI Endoscopy. *Dig Dis Sci.* 2019;64(1):1–3. doi:10.1007/s10620-018-5287-

Gouda B, Gouda G, Borle A, Singh A, Sinha A, Singh PM. Safety of non-anesthesia provider administered propofol sedation in non-advanced gastrointestinal endoscopic procedures: A meta-analysis. *Saudi journal of gastroenterology: official journal of the Saudi Gastroenterology Association.* 2017 May;23(3):133.

Basu D, Singh PM, Tiwari A, Goudra B. Meta-analysis comparing radial versus femoral approach in patients 75 years and older undergoing percutaneous coronary procedures. *Indian Heart Journal.* 2017 Sep 1;69(5):580-8.

Brohan J, Goudra BG. The Role of GABA Receptor Agonists in Anesthesia and Sedation. *CNS drugs.* 2017 Oct 1;31(10):845-56.

Singh PM, Panwar R, Borle A, Mulier JP, Sinha A, Goudra B. Perioperative analgesic profile of dexmedetomidine infusions in morbidly obese undergoing bariatric surgery: a meta-analysis and trial sequential analysis. *Surgery for Obesity and Related Diseases.* 2017 Aug 1;13(8):1434-46.

Goudra B, Shah D, Balu G, Gouda G, Balu A, Borle A, Singh PM. Repetitive transcranial magnetic stimulation in chronic pain: A meta-analysis. *Anesthesia, essays and researches*. 2017 Jul;11(3):751.

Singh PM, Borle A, Trikha A, Michos L, Sinha A, Goudra B. Role of Periarticular Liposomal Bupivacaine Infiltration in Patients Undergoing Total Knee Arthroplasty-A Meta-analysis of Comparative Trials. *J Arthroplasty*. 2016 Oct 8

Goudra B, Singh PM. Failure of Sedasys: Destiny or Poor Design? *Anesth Analg*. 2016 Nov 17;

Goudra, Basavana, Singh, Preet Mohinder: *Airway Devices in GI Endoscopy*. Springer International Publishing Springer International Publishing, Page: 145-153, Oct 2016.

Goudra B, Singh PM. Reply to" State of the Art in Airway Management During GI Endoscopy: The Missing Pieces". *Digestive diseases and sciences*. 2017 May 1;62(5):1388.

Goudra B, Singh PM. Airway management during upper GI endoscopic procedures: state of the art review. *Digestive diseases and sciences*. 2017 Jan 1;62(1):45-53.

Singh PM, Panwar R, Borle A, Goudra B, Trikha A, van Wagensveld BA, Sinha A. Efficiency and safety effects of applying ERAS protocols to bariatric surgery: a systematic review with meta-analysis and trial sequential analysis of evidence. *Obesity surgery*. 2017 Feb 1;27(2):489-501.

Goudra, Basavana, Singh, Preet Mohinder: *Future Research and Directions in Out of Operating Room Anesthesia*. Springer International Publishing. Springer International Publishing, Page: 453-460, Oct 2016.

Goudra, Basavana, Arora, Shubhangi: *Cosmetic Procedures and Office Based Sedation*. Springer International Publishing. Springer International Publishing, Page: 319-328, Oct 2016.

Goudra B, Singh PM: Sedation for gastrointestinal endoscopy - Is it time for standardization of services? *AMJ* 2016;9(9):371–374. <http://dx.doi.org/10.4066/AMJ.2016.2777> 9, Oct 2016.

Goudra B, Singh PM (Editors): *Anesthesia for Out of Operating Room Procedures-A Comprehensive Review*. Springer International Publishing oct 2016.

Singh, Preet Mohinder, Borle, Anuradha, Goudra, Basavana Gouda: *Translational Research in Pain and Itch (Advances in Experimental Medicine and Biology)*. *Anesthesia & Analgesia* Oct 2016.

Singh, Preet Mohinder, Goudra, Basavana: *Propofol Infusion Platforms*. Springer

Goudra Basavana, Singh Preet Mohinder: More questions than answers: Comparison of the risk of cardiopulmonary adverse events between propofol and traditional anesthesia for gastrointestinal endoscopy, *Clin Gastroenterol Hepatol Off Clin Pract J Am Gastroenterol Assoc*,

Goudra Basavana, Singh Preet Mohinder: Forward Progress of Sedation for Gastrointestinal Endoscopy Requires Taking a Step Back. *Gastroenterology* Jul 2016

Singh PM, Borle A, Gouda D, Makkar JK, Arora MK, Trikha A, Sinha A, Goudra B. Efficacy of palonosetron in postoperative nausea and vomiting (PONV)—a meta-analysis. *Journal of Clinical Anesthesia*. 34: 459-82, Nov 30 2016

Makkar Jeetinder Kaur, Singh Preet Mohinder, Jain Divya, Goudra Basavana: Particulate vs Non-Particulate Steroids for Transforaminal Epidural Steroid Injections: Systematic Review and Meta-analysis of the Current Literature. *Pain physician* 19(6): 327-40, Jul 2016.

Goudra BG, Singh PM, Jackson M, Sinha AC. Epidural chloroprocaine bolus in emergency cesarean section—lessons learned from a near mishap. *J Anaesthesiol Clin Pharmacol*. 2016 Apr-Jun;32(2):263-5

Basavana Goudra AN, Singh PM, Borle A, Carlin A, Gouda G. Association between type of sedation and the adverse events associated with gastrointestinal endoscopy: an analysis of 5 years' data from a tertiary center in the USA. *Clinical endoscopy*. 2017 Mar;50(2):161.

Goudra B, Singh PM. Providing Deep Sedation for Advanced Endoscopic Procedures: The Esthetics of Endoscopic Anesthetics. *Dig Dis Sci*. 2016 Apr 12;

Goudra B, Alvarez A, Singh PM. Practical considerations in the development of a non-operating room anesthesia practice. *Curr Opin Anaesthesiol*. 2016 Apr 6;

Singh PM, Borle A, Goudra BG. Use of computer-assisted drug therapy outside the operating room. *Curr Opin Anaesthesiol*. 2016 Apr 6;

Singh PM, Borle A, Ramachandran R, Trikha A, Goudra BG. Fontan's circulation with dextrocardia, recent pulmonary embolism, and inferior vena cava filter: Anesthetic challenges for urgent hysterectomy. *Ann Card Anaesth*. 2016 Mar;19(1):177–81.

Singh PM, Borle A, Shah D, Sinha A, Makkar JK, Trikha A, et al. Optimizing Prophylactic CPAP in Patients Without Obstructive Sleep Apnoea for High-Risk Abdominal Surgeries: A Meta-regression Analysis. *Lung*. 2016 Apr;194(2):201–17.

Goudra B, Singh PM, Gouda G, Sinha AC. Peroral endoscopic myotomy—initial experience with anesthetic management of 24 procedures and systematic review. *Anesth Essays Res* 2016;10:297-300

Goudra B, Singh P M, Borle A, Gouda G. Effect of introduction of a new electronic anesthesia record (Epic) system on the safety and efficiency of patient care in a gastrointestinal endoscopy suite-comparison with historical cohort. *Saudi J Anaesth* 2016;10:127-31

Goudra B, Singh PM, Gouda G, Borle A, Carlin A, Yadwad A. Propofol and non-propofol based sedation for outpatient colonoscopy-prospective comparison of depth of sedation using an EEG based SEDLine monitor. *J Clin Monit Comput.* 2016 Oct;30(5):551-7

Goudra B, Nuzat A, Singh PM, Gouda GB, Carlin A, Manjunath AK. Cardiac arrests in patients undergoing gastrointestinal endoscopy: A retrospective analysis of 73,029 procedures. *Saudi J Gastroenterol* 2015;21:400-11

Goudra B, Singh P. Anesthesia for gastrointestinal endoscopy: A subspecialty in evolution? *Saudi J Anaesth.* 2015;0(0):0.

Goudra BG, Singh PM, Borle A, Farid N, Harris K. Anesthesia for Advanced Bronchoscopic Procedures: State-of-the-Art Review. *Lung.* 2015 Apr 29;193(4):453–65.

Goudra BG, Singh PM, Gouda G, Borle A, Gouda D, Dravida A, et al. Safety of Non-anesthesia Provider-Administered Propofol (NAAP) Sedation in Advanced Gastrointestinal Endoscopic Procedures: Comparative Meta-Analysis of Pooled Results. *Dig Dis Sci.* 2015 Sep;60(9):2612–27.

PM Singh,S Arora,A Borle,P Varma,A Trikha,B G Goudra: Evaluation of Etomidate for seizure duration in Electroconvulsive therapy: A Systematic review and Meta-analysis. *Journal of ECT* Jan 2015.

Basavana GG Goudra, Chandra Mouli, Preet Mohinder Singh, Veerendra Sandur: Goudra bite block for upper gastrointestinal endoscopy. *Journal of Research in Medical Sciences* 19(11), November 2014.

Basavana Gouda Goudra, Eilish Galvin, Preet Mohinder Singh, Jimme Lions: Effect of site selection on pain of intravenous cannula insertion: A prospective randomised study. *Indian Journal of Anesthesia* 58(6): 732-35, November 2014

Goudra BG, Singh PM, Galvin E: Comparison of compliance of glove use between anesthesia providers (attending anesthesiologists, anesthesia nurses and resident trainees): A prospective blinded observational study. *AANA Journal* 82(5): 363-67, October 2014

Goudra BG, Singh PM, Carlin A, Manjunath AK, Reihmer J, Gouda GB, et al. Effect of Gum Chewing on the Volume and pH of Gastric Contents: A Prospective Randomized Study. *Dig Dis Sci.* 2014 Nov 2;

Goudra B. Singh P.Propofol alternatives in gastrointestinal endoscopy anesthesia. *Saudi J Anaesth.* 2014;8(4):540-545.

Goudra B, Singh P. Remimazolam: The future of its sedative potential. *Saudi J Anaesth.* 2014;8(3):388-91.

Goudra BG, Singh PM. SEDASYS, sedation, and the unknown. *J Clin Anesth.* 2014 Jun 7;

Singh P, Goudra B, Sinha A, Arora S. Changing trends of hemodynamic monitoring in ICU - from invasive to non-invasive methods: Are we there yet? *Int J Crit Illn Inj Sci.* 2014;4(2):167.

Goudra B, Chandramouli M, Singh P, Sandur V. Goudra ventilating bite block to reduce hypoxemia during endoscopic retrograde cholangiopancreatography. *Saudi J Anaesth.* 2014;8(2):299.

Goudra BG, Kronish K, Wong S, Ni J. Intubation difficulties in a patient with an esophageal foreign body. *J ClinAnesth.* 2014 Feb 25;

Goudra B, Singh PM. ERCP: The Unresolved Question of Endotracheal Intubation. *Dig Dis Sci.* 2013 Nov 13;

Goudra BG, Singh PM, Sinha AC. Anesthesia for ERCP: Impact of Anesthesiologist's Experience on Outcome and Cost. *Anesthesiol Res Pract.* 2013;2013:570518.

Goudra B, Singh P, Sinha A. Outpatient endoscopic retrograde cholangiopancreatography: Safety and efficacy of anesthetic management with a natural airway in 653 consecutive procedures. *Saudi J Anaesth.* 2013;7(3):259.

Goudra B, Singh P. Remifentanil in labor. *J ObstetAnaesthCrit Care.* 2013;3(2):74.

Goudra BG SP, Manjunath AK RJ, Lanfranco AR ACS, Kassem Harris. Effectiveness of high dose remifentanil in preventing coughing and laryngospasm in non-paralyzed patients for advanced bronchoscopic procedures. *Ann Thorac Med.* 2014;(9):23–8.

Goudra BG. Comparison of Acoustic Respiration Rate, Impedance Pneumography and Capnometry Monitors for Respiration Rate Accuracy and Apnea Detection during GI Endoscopy Anesthesia. *Open J Anesthesiol.* 2013;03(02):74–9.

Goudra BG, Singh PM. Vitamin D and anesthesia: Is our present knowledge sufficient? *J AnaesthesiolClinPharmacol.* 2014 Jan;30(1):19.

Goudra BGB, Singh PM. Cardiac arrests during endoscopy with anesthesia assistance. *JAMA Intern Med.* 2013 Sep 23;173(17):1659–60.

Goudra BG, Singh PM, Sinha A. Providing anesthesia in a remote location for radiation oncology in an adult - Problems and solutions. *J AnaesthesiolClinPharmacol.* 2014 Jan;30(1):114–6.

Goudra BG, Singh PM, Chandrasekhara V. SEDASYS(®), Airway, Oxygenation, and Ventilation: Anticipating and Managing the Challenges. *Dig Dis Sci*. 2014 Jan 8;

Goudra BG, Singh PM. Clinical perspective on statistical equivalence. *J AnaesthesiolClinPharmacol*. 2013 Oct;29(4):457–8.

Sinha AC, Singh PM, Williams NW, Ochroch EA, Goudra BG. Aprepitant's prophylactic efficacy in decreasing postoperative nausea and vomiting in morbidly obese patients undergoing bariatric surgery. *Obes Surg*. 2014 Feb;24(2):225–31.

Goudra BG, Singh PM, Penugonda LC, Speck RM, Sinha AC. Significantly reduced hypoxemic events in morbidly obese patients undergoing gastrointestinal endoscopy: Predictors and practice effect. *J AnaesthesiolClinPharmacol*. 2014 Jan;30(1):71–7.

Goudra BG, Penugonda LC, Sinha A. A novel way of anesthetizing and maintaining airway/ventilation in an ultra-morbidly obese patient presenting for upper GI endoscopy. *J ClinAnesth*. 2012 Nov;24(7):604–5.

Goudra BG, Ortego A, Selassie M, Sinha AC. Lessons from providing total intravenous anesthesia (TIVA) to a morbidly obese patient (294 kg [648 lbs], body mass index 85.5 kg/m<sup>2</sup>). *J ClinAnesth*. 2013 Aug;25(5):428–9.

Goudra BG, Singh PM. Anesthesia for gastrointestinal endoscopy in patients with left ventricular assist devices: initial experience with 68 procedures. *Ann Card Anaesth*. 2013 Dec;16(4):250–6.

Sinha AC, Purohit M, Singh PM, Goudra BG. Difficult mask ventilation: Tegaderm for sealing a patient's fate! *J ClinAnesth*. 2013 Oct 4;

Goudra BG, Penugonda LC, Sinha AC. Intra-lingual succinylcholine for the treatment of adult laryngospasm in the absence of IV access. *J AnaesthesiolClinPharmacol*. 2013 Jul;29(3):426–7.

Sinha AC, Goudra BG. Bigger and bigger challenges: Evidence-based or expert-opinion based practice? *J AnaesthesiolClinPharmacol*. 2013 Jan;29(1):4–5.

Goudra BG, Singh PM. Best of both worlds-endotracheal intubation without paralysis. *J AnaesthesiolClinPharmacol*. 2014 Apr 1;30(2):172.

Khan JA, Rafi M, Goudra B. Malfunctioning dual valve antireflux Y-connector set. *J ClinAnesth*. 2007 Nov;19(7):563–4.



Gouda BB, Lydon AM, Badhe A, Shorten GD. A comparison of the effects of ranitidine and omeprazole on volume and pH of gastric contents in elective surgical patients. *Eur J Anaesthesiol.* 2004 Apr;21(4):260–4.

Shorten G, Dolovich M, Kuang A, Rhem R, Gouda B, Monkman S, et al. Safety and efficiency of metered dose inhaler delivery of salbutamol in the intubated rabbit. *Crit Care Med.* 2000 Apr;28(4):1055–8.

### **BOOKS**

Out of Operating Room Anesthesia: A Comprehensive Review, Basavana G. Goudra, MD, and Preet M. Singh, MD (editors) Springer, USA, 2017

Anesthesiology-A Practical Approach: Basavana Goudra Vidya Chidambaran, Michael Duggan, Mark Powell, Hari Krovvidi, Elizabeth Duggan, Preet Mohinder Singh, Springer, USA, 2018

Anesthesia for uncommon and emerging procedures, Basavana Goudra, Michael Green, Preet Mohinder Singh, in preparation, Publisher Springer, USA.

### **BOOK CHAPTERS**

Goudra BG, Singh N: Anesthesia for transurethral resection of prostate. *Essence of Anesthesia Practice*, 3rd Edition. Fleisher LA, Roizen MF (eds.). Elsevier, Page: 556, 2010.

Goudra BG, Ashish S: Anatomy of the spinal cord for pain procedures. *Interventional Pain Medicine*. Gupta A (eds.). Oxford University Press, Page: 3-8, 2012.

Goudra BG, Chandrashekhar V: Anesthesia for ERCP. *The 5-Minute Anesthesia Consult*. Singh-Radcliff N (eds.). Lippincott Williams & Wilkins, Page: 259-65, 2012.

Sinha A, Goudra B: Pharmacotherapy for pain management. *Interventional Pain Medicine*. Gupta A (eds.). Oxford University Press, Page: 9-14, 2012.

Goudra BG, Farid N: What is the optimal airway management in patients undergoing gastrointestinal endoscopy? *Evidence-Based Practice of Anesthesiology*, 3rd Edition. Fleisher LA (eds.). Elsevier, Page: 124-30, 2013.

Goudra BG and Singh PM , *Principles of Total Intravenous Anesthesia (Chapter 4) "Essentials of Pharmacology for Anesthesia, Pain Medicine, and Critical Care"*) Edited by Kaye, Alan David, Kaye, Adam M., Urman, Richard D. Published by Springer Science 2015- New York

#### Alternative Media:

Goudra BG: Anesthesia for inguinal herniorraphy. *Clinical Decision Support in Anesthesia*. Fleisher LA, Davis PJ, Hawkins J, McGoldrick KE, Mulroy M, Newman M, Wiener-Kronish JP (eds.). Saunders Elsevier, 2012 Notes:  
[www.decisionsupportinmedicine.com/Anesthesiology](http://www.decisionsupportinmedicine.com/Anesthesiology)

#### LECTURES BY INVITATION

Dec, 2007 "Total Intravenous Anaesthesia Current Trends", Annual Meeting of Indian Society of Anaesthesiologists, Vizag, India

Jan, 2008 "Target Controlled Infusions in Anaesthesia", Manipal Hospital ,Bangalore

May, 2010 "Anesthesia for GI Endoscopy", Shanghai Jiaotong University School of Medicine, Shanghai, China

Jun, 2010 "Anesthesia for Advanced Endoscopy Procedures", Benenden Hospital, Kent, England TN17 4AX

Aug, 2010 "Total Intravenous Anesthesia-Theory to Practice", Indian Society of Anaesthetists Annual Meeting of Karnataka Chapter - Silver Jubilee Conference, Karnataka, India

Apr, 2011 "Total Intravenous Anesthesia-Theory to Practice", Grand Rounds, Department of Anesthesiology, Albert Einstein Medical Center, Philadelphia, PA

May, 2012 "TIVA in GI Endoscopy", Grand Rounds, Hahnemann Hospital, Philadelphia PA

Oct, 2013 "Improving Safety and Efficiency in Out-of-OR Anesthesia: GI Endoscopy", Panel Discussion, American Society of Anesthesiologists Annual Meeting, San Francisco CA

Oct, 2013 "Intubation Should Rarely Be Necessary for Airway Management in

Patients Undergoing ERCP", Speaker-CON, American Society of Anesthesiologists Annual Meeting, San Francisco, CA

Oct, 2014 Non-Operating Room Anesthesia: Techniques, American society of Anesthesiology Annual meeting New Orleans 2014

Oct, 2015 Anesthesia for GI endoscopy, American society of Anesthesiology Annual meeting New Orleans 2015

Oct, 2015 Use of Supraglottic Airway Devices in out of OR locations American society of Anesthesiology Annual meeting New Orleans 2015

Oct, 2015 MAC is more dangerous than GA-Reality or Myth, American society of Anesthesiology Annual Meeting New Orleans 2015

Oct 2016 Anesthesia for GI Endoscopy-High risk area or risky practice, American society of Anesthesiology Annual meeting, Chicago, 2016

Nov 2016 Cardiac Arrests During Gastrointestinal Endoscopy-Prevention and Treatment, Indian society of Anesthesiology Annual meeting, Ludhiana India

Nov 2016 Procedural sedation, Indian society of Anesthesiology Annual meeting, Ludhiana India

Oct 2017 Airway management for ERCP (Endoscopic Retrograde cholangiopancreatography) counter point session; moderator and speaker; at the American society of Anesthesiology Annual meeting, Boston, 2017

Oct 2018, Rules for safe sedation in GI endoscopy suite, Refresher course lecture delivered at the American society of Anesthesiology Annual meeting, San Francisco, 2018

Oct 2018, MAC is more dangerous than GA -reality or myth, point –counter point session; moderator and speaker; at the American society of Anesthesiology Annual meeting, San Francisco, 2018

Oct 2018, Dealing with anticipated and unanticipated events during GI endoscopy sedation, Clinical Forum, moderator and speaker; at the American society of Anesthesiology Annual meeting, San Francisco, 2018

Pre-procedural Evaluation of Patients Presenting for GI Endoscopy-Navigating Through Uncharted Waters, speaker and moderator at the American society of Anesthesiology Annual meeting, Orlando, Florida, 2019

All GI Endoscopies Need Propofol Sedation Versus Propofol Should be Used on Need-Only Basis, speaker at the American society of Anesthesiology Annual meeting, Orlando, Florida, 2019

Anesthesia for NORA: GI and Bronch Suites, speaker at the American society of Anesthesiology Annual meeting, Orlando, Florida, 2019

Drugs, Devices and Guidelines-Improving the Safety in GI Endoscopy Through Innovation and Improvisation, refresher course lecture delivered at the American society of Anesthesiology Annual meeting, Orlando, Florida, 2019

**Participation at the following Joint Meetings of the Anesthetic and Analgesic Drug Products Advisory Committee (AADPAC) and the Drug Safety and Risk Management Advisory Committee (DSaRM)**

May 22, 2018, to discuss NDA 209-588, buprenorphine sublingual spray, submitted by INSYS Development, Inc.

June 26, 2018, to discuss results of studies evaluating the abuse of Remoxy (oxycodone extended release) oral capsule

August 3, 2018 to discuss Transmucosal Immediate-Release Fentanyl (TIRF) Risk Evaluation and Mitigation Strategy (REMS)

October 11, 2018 to discuss new drug application (NDA) 210730, for oliceridine 1 milligram/milliliter injection, submitted by Trevena, Inc., for the management of moderate-to-severe acute pain in adult patients for whom an intravenous opioid is warranted

November 14, 2018 to discuss the results of studies evaluating the abuse of MNK-812 (oxycodone immediate release) tablet.

November 15, 2018 to discuss background information related to assessment of opioid analgesic sparing outcomes in clinical trials of acute pain and the need to focus on the development of opioid sparing and opioid replacement drugs, which have potential to reduce the need for and use of opioid analgesics.

December 17 - 18, 2018 to provide input and advice on strategies to increase the availability of naloxone products intended for use in the community.

June 11 - 12, 2019, to discuss the clinical utility and safety concerns associated with the higher range of opioid analgesic dosing (both in terms of higher strength products and higher daily doses) in the outpatient setting.

January 14, 2020, to discuss new drug application 211802 for oxycodol, a new molecular entity full mu-opioid receptor agonist, submitted by Nektar Therapeutics, for the management of chronic low back pain in adult patients with pain severe enough to require daily, around-the-clock, long-term opioid treatment and for which alternative treatment options are inadequate.

January 15, 2020 (AM Session), to discuss new drug application (NDA) 213426 for tramadol 44mg and celecoxib 56mg tablet, which contains a fixed dose combination of an opioid and an NSAID for the management of acute pain in adults that is severe enough to require an opioid analgesic and for which alternative treatments are inadequate.

January 15, 2020 (PM Session), to discuss new drug application (NDA) 209653 for oxycodone extended-release oral tablets for the management of pain severe enough to require daily, around-the-clock, long-term opioid treatment and for which alternative treatment options are inadequate

January 16, 2020, to discuss new drug application (NDA) 204803, bupivacaine extended-release solution for instillation, submitted by DURECT Corp., for the proposed indication of post-surgical analgesia.

GRANTS

**Past:**

Keystone Innovation Zone, Center for Research and Economic Development, East Stroudsburg University,)

Education and Development (E & D), Department of Anesthesiology, Hospital of the University of Pennsylvania, Philadelphia PA 19104

**Current:**

Unrestricted Research Grant to support Masimo Products Research, Masimo Corporation,