

CURRICULUM VITAE

BRIAN DERHAKE, M.D., M.S.

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EDUCATION

- 07/2010-06/2011 Pain Medicine Fellowship
Pain Management Department
Cleveland Clinic
Cleveland, Ohio
- 07/2007-06/2010 Anesthesiology Residency
Department of Anesthesiology and Perioperative Medicine
University of Louisville Affiliated Hospitals
Louisville, Kentucky
- 07/2006-06/2007 Internship
Department of Internal Medicine
University of Louisville Affiliated Hospitals
Louisville, Kentucky
- 2005-2006 M.S. of Physiology
University of Louisville Department of Physiology and Biophysics
Louisville, Kentucky
- 2001-2005 M.D.
University of Louisville School of Medicine
Louisville, Kentucky
- 1997-2001 B.S. of Biology, Cum Laude
Xavier University
Cincinnati, Ohio

EMPLOYMENT

- 08/2016-present The Pain Institute: Pain Medicine Physician

ACADEMIC APPOINTMENTS

- 07/2015-07/2016 Chief of Pain Services

University of Louisville Department of Anesthesiology and
Perioperative Medicine
Louisville, Kentucky

11/2014-07/2016 Director of University of Louisville Pain Medicine Clinic
University of Louisville Department of Anesthesiology and
Perioperative Medicine
Louisville, Kentucky

07/2014-07/2016 Rotation Education Director of Pain Medicine
University of Louisville Department of Anesthesiology and
Perioperative Medicine
Louisville, Kentucky

04/2014-07/2016 Associate Operating Room Director
University of Louisville Hospital
Louisville, Kentucky

11/2013-07/2016 Assistant Professor of Anesthesiology
University of Louisville Department of Anesthesiology and
Perioperative Medicine
Louisville, Kentucky

OTHER POSITIONS AND EMPLOYMENT

07/2011-10/2013 Pain Medicine Physician
Pain Management Kentucky, P.L.L.C.
Louisville and Bardstown, Kentucky

CERTIFICATION AND LICENSURE

9/28/2013 Advanced Cardiac Life Support by the National ACLS Testing Center

9/28/2013 Basic Life Support by the National ACLS Testing Center

8/18/2012 Subspecialty Certification in Pain Medicine by the American Board of
Anesthesiology

9/24/2011 Diplomate of Anesthesiology by the American Board of Anesthesiology

6/16/2011 Kentucky State Medical License (active)

4/20/2011 DEA number (active)

10/04/2010 Indiana State Medical License (active)

PROFESSIONAL MEMBERSHIPS AND ACTIVITIES

- 2014 Strategic Planning Group of the Emerging Medical Concepts Committee: Greater Louisville Medical Society
- 2013-2014 Nominating Committee: Greater Louisville Medical Society
- Current/Former Member: American Society of Anesthesiologists
Louisville Society of Anesthesiologists
Kentucky Society of Anesthesiologists
Kentucky Medical Association
Greater Louisville Medical Society

HONORS AND AWARDS

- 2015 Aldrete Award for Clinical Excellence and Teaching. This was presented by the 2014-2015 University of Louisville Anesthesiology and Perioperative Medicine Residents. Each year the anesthesiology residents vote to give an award to one faculty member from the University of Louisville in recognition of both clinical excellence as well as resident education.
- 2014 Personal invitation from St. Xavier High School to speak on their 150 year anniversary documentary describing my role as a founding member and board member of the St. Francis Xavier Service Organization. Topics included how volunteer service has influenced my outlook on life and influenced my professional career as a physician in an active university practice caring for patients of various different socioeconomic backgrounds. This organization has provided countless hours of local community service since the inception in 1996.
- 2014 Distinction of Excellence as one of America's Top Physicians by Consumers' Research Council of America based on experience, training, professional associations, and board certification. This Council does not accept fees, donations, sponsorships or advertising from any individuals, professionals, corporations or associations. This policy is strictly adhered to, insuring an unbiased selection.
- 2014 AcademicKeys Who's Who in Medicine Higher Education
- 2011 Selected by Dr. Nagy Mekhail to teach in the cadaver lab at the annual Cleveland Clinic Pain Management Meeting. Pain practitioners from around the country attended this meeting to learn the newest cutting-edge pain management techniques. Topics personally taught include Cervical

and Lumbar Medial Branch Blocks and Radiofrequency Ablation over several days in a hands-on cadaver laboratory.

- 2010-2011 Selected to a Cleveland Clinic Pain Management Fellowship as one of ten fellows from well over 300 applicants. This is one of the elite Pain Medicine Fellowships in the country with personal training from many of the foremost leaders and innovators in the field.
- 2011 After completion of the Pain Management Fellowship, I was offered a faculty position in the Cleveland Clinic Pain Management Department, a position with many applicants nationwide.
- 2010 Kosair Children's Hospital Pediatric Anesthesia Award 2010 winner. This award is given annually to the best pediatric anesthesiology resident in the graduating class of the University of Louisville Department of Anesthesiology and Perioperative Medicine.
- 2005-2006 Research Stipend Recipient. \$22,000 was allocated from one of Dr. R. Neil Garrison's NIH grants while attaining a Masters in Physiology and working in his laboratory.
- 2000 Research Stipend Recipient. A summer scholar monetary allotment was paid through Dr. Gary C. Vitale and the University of Louisville Department of Surgery for research performed as a pre-medical student.
- 1997-2001 Xavier University Service Fellowship: Full tuition, room, board and book scholarship of a 4-year duration based on academic excellence, community service, and leadership. Recipients are given the opportunity to perform 10 hours of volunteer service per week through a wide variety of Cincinnati organizations.
- 1999-2001 Xavier University's Lacrosse Team: Elected Team President. This included management of all details of the team including coaching practice and games, scheduling games, handling of the team finances, ordering uniforms, organizing transportation and accommodations for away games and tournaments, as well as organizing all aspects of home games and tournaments.
- 1997-2001 Xavier University Lacrosse Team: 4 year member. I spent 3 years as captain and starting center midfielder.
- 1997 National Merit Scholarship Program: Finalist
- 1997 St. Xavier High School: Graduation Speaker, class of 1997

COMMITTEE ASSIGNMENTS AND ADMINISTRATIVE SERVICES

- 2015-07/2016 Faculty Forward Committee: Member, University of Louisville Department of Anesthesiology and Perioperative Medicine. This committee is tasked with determining the distribution of academic time within the department.
- 2015-07/2016 Physician Representative to the Interdisciplinary Pain Committee at the University of Louisville
- 2014-07/2016 Executive Faculty and Board of Directors: Member, University of Louisville Physicians. This position was granted after winning a contested election within the University of Louisville Department of Anesthesiology and Perioperative Medicine. The physician in this position is the sole representative from the department to the Board and has voting rights for Board decisions.
- 2014-07/2016 SIBUP Committee: Member. This position was granted after a contested election within the University of Louisville Department of Anesthesiology and Perioperative Medicine. Physicians on this committee are tasked with determining the percentages of raises in salaries for all anesthesiologists in the department.
- 2014-07/2016 Clinical Competency Committee Member within the University of Louisville Department of Anesthesiology and Perioperative Medicine. This position was granted after a nomination and election by other members of the committee. Responsibilities include resident evaluation, education and promotion as well as development of plans of action to assist struggling residents.
- 2014-07/2016 Interview Committee Member within the University of Louisville Department of Anesthesiology and Perioperative Medicine. This entails interviewing potential residents, fellows and faculty members applying to join the department. This also includes voting rights for ranking applicants and offering employment.
- 06/18/2014 Student Promotions Committee Meeting. I served on this committee to hear a grievance from a first year medical student. The committee was tasked with determining whether to allow this student to repeat his first year of medical school, or to expel the student due to inadequate performance.

EDUCATIONAL ACTIVITIES

Teaching Activities:

2013-07/2016 Teaching activities related to my faculty role in the University of Louisville Department of Anesthesiology and Perioperative Medicine. This includes a variety of clinical and non-clinical responsibilities including:

- Education, instruction, and supervision of Resident Anesthesiologists regarding all aspects of anesthesia care in the main operating room, regional anesthesia service, high-risk obstetrical service, and trauma anesthesia service.

- Instruction and supervision of Certified Registered Nurse Anesthetists in the main operating room and trauma anesthesia service.

- Education, instruction, and supervision of fellows and residents learning a wide variety of Interventional Pain Medicine techniques, indications, medication management strategies, and roles of adjunct therapies such as physical therapy and occupational therapy in the University of Louisville Pain Medicine Clinic.

- Education, instruction, and supervision of fellows and residents learning to perform surgeries for a variety of chronic pain conditions including Complex Regional Pain Syndrome and intractable back pain. Techniques include Spinal Cord Stimulator and Intrathecal Pain Pump implantation, revision and removal in the University of Louisville Operating Rooms.

- Education, instruction, and supervision of residents while staffing the Inpatient Acute Pain Service.

- Education, instruction, and supervision for Oral Surgery and Otolaryngology residents rotating through the Anesthesiology Department with individual instruction on all aspects of anesthetic care including hands-on teaching in the operating rooms with a focus on airway management, intubation, and intravenous line placement skills.

- Education, instruction, and supervision of medical students rotating through the Anesthesiology Department with individual instruction on all aspects of anesthetic care including hands-on teaching in the operating rooms with a focus on pre-operative assessment, cardiology clearance, airway management, intubation, and basic anesthesia care.

Courses and Lectures to Professionals:

12/11/2015 University of Louisville, Department of Anesthesiology and Perioperative Medicine, Grand Rounds
Complex Regional Pain Syndrome and Multimodal Analgesia Options

- 10/1/2015 University of Louisville, Department of Anesthesiology and Perioperative Medicine, Grand Rounds. Invited speaker: Benjamin Abraham MD, faculty member, The Cleveland Clinic Dept. of Pain Management. Median Arcuate Ligament Syndrome.
- 9/4/2015 University of Louisville Pre-operative Nurse Monthly Meeting. The Importance of Pre-operative Readiness and Nursing Participation to Enable Increased Utilization of Regional Anesthesia in Surgical Patients.
- 8/10/2015 University of Louisville Pain Nurse Champion Meeting Lecture Trauma Pain and Analgesic Modalities
- 5/12/2015 University of Louisville Trauma Nurse Lecture Series Multimodal and Regional Anesthesia in the Trauma Patient
- 12/3/2014 University of Louisville, Department of Anesthesiology and Perioperative Medicine, Grand Rounds
A Case of CO2 Pulmonary Embolism After Inadvertent Trochar Placement and Insufflation Into a Patient Liver
- 10/16/2014 University of Louisville, Department of Anesthesiology and Perioperative Medicine, Journal Club Presentation
Opioid Induced Hyperalgesia: Clinical Implications for the Pain Practitioner by SM Silverman
- 10/16/2014 University of Louisville, Department of Anesthesiology and Perioperative Medicine, Journal Club Presentation
Effect of a Preoperative Gabapentin on Postoperative Analgesia in Patients with Inflammatory Bowel Disease Following Major Bowel Surgery: A Randomized, Placebo-Controlled Trial by NT Siddiqui, et al
- 10/13/2014 University of Louisville, Pain Nurse Champion Meeting
Analgesia and Nursing Management of Brachytherapy Patients
- 8/29/2014 University of Louisville, Department of Anesthesiology and Perioperative Medicine, Grand Rounds
Anesthetic Concerns for the Delivery of Brachytherapy
- 3/26/2014 University of Louisville, Pharmacy and Therapeutics Committee of Physicians and Pharmacists
Guidelines for Administration of Low-Dose, (Sub-Anesthetic) Ketamine Infusions for Analgesia
- 2/20/2014 University of Louisville, Nursing Director and Manager Monthly Meeting

Guidelines for Administration of Low-Dose, (Sub-Anesthetic) Ketamine Infusions for Analgesia

- 5/18/2012 University of Louisville, Department of Orthopedics, Grand Rounds
Interventional Pain Management: A Cleveland Clinic Perspective
- 12/5/2011 Fort Knox, Department of Medicine, Grand Rounds
Interventional Pain Management: Updates and Approaches
- 11/30/2011 Norton Podiatry Society Meeting
Complex Regional Pain Syndrome and Treatment Strategies with
Neurostimulation, Interventions and Medications
- 4/15/2011 Cleveland Clinic Department of Oncology, Grand Rounds
Non-Steroidal Anti-Inflammatory Drugs
- 2/20/2010 Midwest Anesthesia Residents Conference
Vigileo Cardiac Index Monitoring for Cesarean Section in a Patient with
History of Mustard Procedure for Congenital Transposition of the Great
Arteries
- 1/15/2010 University of Louisville, Department of Anesthesiology and Perioperative
Medicine, Grand Rounds
Vigileo Cardiac Index Monitoring for Cesarean Section in a Patient with
History of Mustard Procedure for Congenital Transposition of the Great
Arteries
- 4/28/2006 University of Louisville, Department of Surgery, Grand Rounds
Effect of Immune Enhancing Diets with L-arginine, Omega 3 Fatty Acids,
and Nucleotide Fragments on Intestinal Blood Flow, Cytokine Production,
and Nutritional Parameters in a Chronic Rat Feeding Model

Courses and Lectures to Fellows, Residents, and Students:

- 6/28/2016 University of Louisville Department of Anesthesiology and Perioperative
Medicine lecture to residents.
Basic Board Exam Preparation
- 12/22/2015 University of Louisville Department of Anesthesiology and Perioperative
Medicine lecture to residents.
Pain Mechanisms and Pathways
- 12/15/2015 University of Louisville Department of Anesthesiology and Perioperative
Medicine lecture to residents.
Neuromuscular and Synaptic Transmission

- 11/18/2015 University of Louisville Department of Anesthesiology and Perioperative Medicine lecture to residents.
Perioperative pharmacologic pain management
- 10/20/2015 University of Louisville Department of Anesthesiology and Perioperative Medicine lecture to residents.
Anesthetic Complications
- 9/30/2015 University of Louisville, Department of Anesthesiology and Perioperative Medicine, lecture to residents. Invited speaker: Benjamin Abraham MD, faculty member, The Cleveland Clinic Dept. of Pain Management.
Perioperative Care of the Pain Patient
- 6/3/2015 University of Louisville Department of Anesthesiology and Perioperative Medicine lecture to residents.
Perioperative Pain Management
- 1/27/2015 University of Louisville Department of Pain Medicine Lecture to Fellow and Residents. Psychological Aspect of Pain, Addiction, and the Utilization of the Opioid Risk Tool in Opioid-Treated Cancer Patients.
- 1/14/2015 University of Louisville Department of Pain Medicine Lecture to Fellow and Residents.
Complex Regional Pain Syndrome, Practical Points for Diagnosis and Treatment.
- 1/7/2015 University of Louisville Department of Pain Medicine Journal Club
A Randomized Trial of Epidural Glucocorticoid Injections for Spinal Stenosis.
- 12/23/2014 University of Louisville Department of Anesthesiology and Perioperative Medicine lecture to residents.
Pain Mechanisms and Pathways
- 12/16/2014 University of Louisville Department of Anesthesiology and Perioperative Medicine lecture to residents.
Neuromuscular and Synaptic Transmission
- 11/19/2014 University of Louisville Department of Pain Medicine lecture to fellow and residents.
Sacroiliac joint pathology and treatment
- 10/14/2014 University of Louisville Department of Anesthesiology and Perioperative Medicine lecture to residents.
Anesthetic Complications

- 7/9/2014 University of Louisville Regional Anesthesia and Acute Pain Service.
Epidural Anesthesia: Technique Modification and Trouble-shooting
- 6/4/2014 University of Louisville Department of Anesthesiology and Perioperative
Medicine lecture to senior residents.
Complex Regional Pain Syndrome and Anesthetic Implications
- 6/4/2014 University of Louisville Department of Anesthesiology and Perioperative
Medicine lecture to senior residents.
Cancer Pain and Anesthetic Implications
- 4/2/2014 University of Louisville Regional Anesthesia and Acute Pain Service
Introduction to Ultrasound-Guided Needle Placement
- 4/1/2014 University of Louisville Regional Anesthesia and Acute Pain Service
Introduction to Regional Anesthesia and Acute Pain

MENTORING AND ADVISING

2014-07/2016 Faculty Advisor to the Anesthesia Interest Group at the University of
Louisville School of Medicine

Research Advisor to Residents

Faculty Advisor and Mentor to Multiple Anesthesia Residents and Medical Students

Advisor and Mentor to High School Student including day-long operating room shadowing opportunities, career advice, course selection advice, study advice, and ongoing personal availability for any future questions or concerns

CLINICAL ACTIVITIES

- 07/2015-07/2016 Chief of Pain Services: University of Louisville Department of Anesthesiology and Perioperative Medicine. This role was created in July of 2015 to combine the chronic pain medicine, regional anesthesia, and acute pain management services to form a unified Pain Medicine Service allowing for better patient care, resident education, and utilization of resources. This position includes a wide variety of responsibilities related to the daily operations of the service in regards to staff responsibilities, policy formation, resident and fellow education, scheduling etc.
- 11/2014-07/2016 Director of Pain Medicine: University of Louisville Pain Medicine Clinic. This includes a wide variety of responsibilities related to

the daily operations of the clinic in regards to staff responsibilities, policy formation, resident and fellow education, scheduling etc.

- 04/2014-07/2016 Associate Operating Room Director: University of Louisville Hospital. This position entails the typical responsibilities of an operating room director including case scheduling and daily assignments of faculty, residents and CRNAs.
- 2013-07/2016 Faculty Anesthesiologist: University of Louisville Hospital. In addition to the teaching responsibilities required by this position, there are associated clinical duties for providing anesthesia services throughout the hospital. Service locations include: Main OR, level-one trauma, off-site (Cardiac Catheterization, Endoscopy, MRI, CT, Pre-op holding, and PACU), OBGYN and high-risk OB, regional anesthesia service, acute pain service, pain medicine clinic, coverage of ICU difficult intubations and codes. This role includes in-house call for nights and weekends.
- 2013-07/2016 Faculty Anesthesiologist: Health Sciences Outpatient Surgery Center. This role includes clinical duties for providing outpatient general anesthesia and monitored anesthesia care in the operating rooms and endoscopy suites. This also includes performing regional anesthesia on appropriate patients.

RESEARCH EXPERIENCE

- 2005-2006 Research position in the laboratory of R. Neal Garrison, M.D., University of Louisville Department of Surgery examining the individual components of immune enhancing diets in a chronic rat feeding model and how they affect intestinal blood flow, cytokine production, and nutritional parameters (weight and blood glucose). Several clinical and experimental studies have examined the beneficial effects of immunonutrients such as L-arginine, omega 3 fatty acids, and nucleotide fragments. These studies suggest that the benefits of immune enhancing diets depend on the nutritional components of the diet, the route of nutrient delivery, and the time of nutrient delivery in the course of injury or illness. The mechanisms of immunonutrition host protection might involve gut mucosal immunity and/or altered inflammatory processes.
- 2000 Research position with Gary C. Vitale M.D., University of Louisville Department of Surgery. The project with which I was involved investigated biliary fistula healing times in sphincterotomy vs. stent placement in humans.

POSTER PRESENTATIONS:

Jonathan F. Romero M.D., **Brian M. Derhake M.D.** Venous air embolism after trochar insertion. Medically Challenging Case Poster – American Society of Anesthesiologists Annual Meeting 2016 Chicago, IL.

Brian G. Ferguson, D.O., **Brian M. Derhake, M.D.** The use of Cross-Field Ventilation to achieve One-Lung Ventilation in a patient with a Distal Trachea Mass. Medically Challenging Case Poster – American Society of Anesthesiologists Annual Meeting 2015 San Diego, CA.

Paul B. Mick, M.D., Sean P. Clifford, M.D., **Brian M. Derhake, M.D.** Combined Spinal-Epidural Anesthesia for Vaginal Delivery in a Patient With Takayasu’s Arteritis. Poster – Society for Obstetric Anesthesia and Perinatology Annual Meeting 2015 Colorado Springs, CO.

Ashley K. Amsbaugh MD, Mark J Amsbaugh MD, Moataz N. El-Ghamry MD, **Brian M Derhake MD, MS.** Optimal Epidural Analgesia During Invasive Brachytherapy For Treatment Of Gynecological Cancer. Poster - American Radium Society May 2, 2015 Kauai, HI.

Amsbaugh A, Amsbaugh MJ, El-Ghamry M, **Derhake B.** “Optimal Epidural Analgesia During Invasive Brachytherapy For Treatment Of Gynecological Cancer”. Oral Presentation - American Society of Regional Anesthesia Fall Meeting 2015 San Francisco, CA.

Amsbaugh MJ, Amsbaugh A, El-Ghamry M, **Derhake B.** Optimal Epidural Analgesia During Invasive Brachytherapy For Treatment Of Gynecological Cancer. Poster - American Medical Association Research Symposium 2014 Dallas, TX.

Amsbaugh MJ, Amsbaugh A, **Derhake B,** et al. High Dose Rate Interstitial Brachytherapy using the Syed-Neblett Template for Treatment of Locally Advanced Gynecologic Cancer. Poster - ABS Gynecologic Cancers Symposium 2014 Chicago, IL.

ORAL PRESENTATION and E-POSTER MODERATED SESSION:

Amsbaugh AK, Amsbaugh MJ, El-Ghamry M, **Derhake B.** Optimal Epidural Analgesia During Invasive Brachytherapy for Treatment of Gynecological Cancer. 13th American Society of Regional Anesthesia and Pain Medicine Annual Meeting. November 13, 2014 San Francisco, California.

PUBLICATIONS:

Peer Reviewed Journal Articles, Original Research:

Clifford SP, Mick PB, **Derhake BM**. Combined Spinal-Epidural for Vaginal Delivery in a Parturient with Takayasu's Arteritis. *Journal of Investigative Medicine High Impact Case Reports* 2016 Dec 1;4(4)

Amsbaugh A, Amsbaugh MJ, El-Ghamry M, **Derhake B**. Optimal Epidural Analgesia for Patients Diagnosed with Gynecologic Cancer Undergoing Interstitial Brachytherapy. *Journal of Clinical Anesthesia* (2016) 35, 509-515

Clifford SP, Mick PB, **Derhake BM**. A Case of Transfusion Error in a Trauma Patient With Subsequent Root Cause Analysis Leading to Institutional Change. *Journal of Investigative Medicine High Impact Case Reports* Apr-Jun 2016: 1-4

Robert CG. Martin, Eric Schwartz, JoAnn Adams, Ian Farah, **Brian M Derhake**. Intra-operative Anesthesia Management in Patients Undergoing Surgical Irreversible Electroporation of the Pancreas, Liver, Kidney, and Retroperitoneal Tumors. *Anesth Pain Med* 2015 April; 5(2): e22786.

Mark J. Amsbaugh, Ashley K. Amsbaugh, **Brian M Derhake**, Lynn P. Parker, Daniel S. Metzinger, Moataz N. El-Ghamry. High Dose Rate Interstitial Brachytherapy Using the Syed-Neblett Template for Treatment of Locally Advanced Gynecologic Cancer. *Brachytherapy* 02/2015

Hurt RT, Garrison RN, **Derhake BM**, Matheson PJ. Fish oil increases blood flow in the ileum during chronic feeding in rats. *Nutr Res* 2012 Nov;32(11):837-43

Ryan T. Hurt, Paul J. Matheson, **Brian M Derhake**, El Rasheid Zakaria, Richard N. Garrison. Article: M1863 The Immunonutrient Fish Oil Increases Blood Flow in the Ileum During Chronic Feeding in Rats. *Gastroenterology* 04/2008; 134(4)

Book Chapter:

Derhake B, Cheng J. (2011) The Evaluation: What to tell my doctor. In Kaye, A. (Ed): *Understanding Pain*. Praeger/ABC Press.

Peer Reviewed Abstracts:

Mark J. Amsbaugh, MD, Ashley K. Amsbaugh, MD, **Brian M Derhake, MD, MS**, Lynn P. Parker, MD, Daniel S. Metzinger MD, Moataz N. El-Ghamry, MD. High Dose Rate Interstitial Brachytherapy using the Syed-Neblett Template for Treatment of Locally Advanced Gynecologic Cancer. *Brachytherapy* Jan-Feb 2015. Volume 14, Issue 1, 103.

Amsbaugh A, Amsbaugh MJ, El-Ghamry M, **Derhake B**. Optimal Epidural Analgesia During Invasive Brachytherapy For Treatment Of Gynecological Cancer. *Regional Anesthesia and Pain Medicine Supplement*. Nov 2014

Hurt RT, Matheson PJ, **Derhake BM**, Zakaria ER, Garrison RN. Omega-3 fatty acids selectively augment ileal blood flow and downregulate the pro-inflammatory response in rats. *Gastroenterol* 2008;134(4) Supplement 2: A-878.

Journal Submissions:

Hurt RT, Matheson PJ, **Derhake BM**, Zakaria ER, Garrison RN. Omega-3 fatty acids selectively augment ileal blood flow and downregulate the pro-inflammatory response in rats. (Submitted- *J Surg Res*).

DEVELOPMENT

Innovative Educational Program:

- 11/18/15 In an effort to facilitate discussion and understanding between the Orthopedic and Anesthesia Residents regarding the basics of the specialties as well as to improve the efficiency of regional anesthesia in orthopedic procedures, a combined journal club and educational conference was held between the two specialties. I served as one of the two Anesthesia Faculty Moderators with Dr. Kelly Hines.
- 10/5/15 Co-Director and Co-Developer of the Anesthesia/Clinical Ties Workshop. This hands-on simulation center workshop was created in conjunction with Dr. Sean Clifford to fill an educational gap for medical students at The University of Louisville with the goal of advancing understanding, medical decision making, and technical skills in the field of Anesthesiology. The students were split into small groups and then allowed to rotate among the six different stations, each with a faculty educator. The topics included: Intubation techniques, IV/A-line placement, group discussion/QA for the general anesthesiologist, group discussion/QA for the anesthesia resident, spinal and epidural placement, basic airway management, and LMA insertion. Sessions were held on multiple dates.

POLICY AND IMPROVEMENT

- 2015 A new policy was initiated in conjunction with Kelly Hines, MD, Kimberly Williams, APRN, and Cynthia Foote, APRN, which allows for patients needing regional anesthesia at the University of Louisville to be preferentially roomed and worked up for first case starts. Previously, patients were randomly chosen to receive pre-operative workups by the nursing staff. This allows the regional team more time to block the patients prior to the first case start times, decreasing the likelihood of cancellations of regional procedures due to time constraints.
- 2015 New templates were created and implemented for many interventional pain procedures performed in the University of Louisville Pain Medicine Clinic. These

- more effectively communicate details of complicated procedures to improve record keeping and communication with collaborating physicians.
- 2015 Updates and changes were made to the University of Louisville's Pain Medicine Clinic Follow-Up Physician's Assessment Form to provide improved medical record keeping and to allow for more accurate documentation of patient conditions.
- 2015 Identification and resolution of a data input station shortage in the UofL Outpatient Surgery Center. This project began after frequent difficulties experienced by both CRNAs and Anesthesiologists in regard to a lack of input stations to upload patient and chart data to the Shareable Ink system. A meeting was held with three members of the Information Technology Staff in which a solution was proposed to increase available input stations. Subsequently, the appropriate computer modifications were made to allow for additional upload stations. This allows for increased access to input data and decreases the risk of losing charted patient information.
- 2015 Updates and changes were suggested and accepted to the University of Louisville's "Peripheral Nerve Catheters" Policy/Procedure.
- 2015 Updates and changes were suggested and accepted to the University of Louisville's "Epidural Analgesia: Administration and Monitoring" Policy/Procedure.
- 2015 Updates and changes were suggested and accepted to the University of Louisville's "Pain Management" Policy/Procedure.
- 2014 Identification and resolution of ECG machine malfunction in the UofL Outpatient Surgery Center. This project began with the identification of intermittent ECG malfunctions in four operating rooms. Over the course of two days, meetings were held with multiple technicians from Biomed as well as a technician from the Phillips Company (equipment supplier). These meetings included intraoperative demonstrations and explanations which I provided to help aid the technicians in solving the issue. The resolution of this issue has provided increased ECG accuracy and dependability, which has allowed for increased patient safety. Also, there has been a decrease in pre-induction time wasted in an attempt to make the ECG function properly. This ultimately decreases OR time.
- 2014 Introduction, creation and implementation of anesthesia preference card for IRE and ablation surgeries in conjunction with Robert Martin MD PhD and Joann Adams CRNA.
- 2014 Introduction and implementation of low-dose, sub-anesthetic ketamine infusion protocol for the University of Louisville Intensive Care Units. This policy was created in conjunction with the Charge Nurse of the Acute Pain Service, Kim

Williams RN, in an effort to allow the implementation of ketamine infusions for appropriate patients in the Intensive Care Units. The policy includes guidelines addressing: indications in critical care, indications in palliative care, routes of administration, dosing, potential accompanying orders, monitoring, and side effects. This also includes the creation of a standardized order form to help eliminate potential omissions and errors.

- 2014 Identification of erroneous data analysis and entry within the University of Louisville Department of Anesthesiology clinical assignment computer program used to assign faculty member's daily responsibilities. After consultation with a programming engineer and our departmental secretary, a solution was reached to ensure equitable daily scheduling within our department.
- 2014 Policy change introduction in the University of Louisville pre-operative holding unit to decrease post-operative corneal abrasions. Implementation was accomplished in conjunction with the nurse manager of the anesthesia pre-operative holding area, the post-anesthesia care unit, and the pain clinic. All nurses were subsequently made aware of this change at the pre-operative care meeting. This specifically involved changing the placement of oxygen saturation probes on every pre-operative patient to decrease the incidence of post-operative corneal abrasions.

PROFESSIONAL REFERENCES

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