

Academic Appointments:

08/2011 - 03/2016, Assistant Professor of Pain Management and Anesthesiology, Department of Anesthesiology, SUNY Downstate.

05/2013 - 03/2016, Assistant Professor of Pain Management and Anesthesiology, Department of Anesthesiology, NYU Langone.

03/2017 – 8/2020, Assistant Professor of Pain Management and Clinical Anesthesiology, Vanderbilt University, Nashville, Tennessee.

Medical Work Experience:

Interventional Pain Physician, San Francisco, CA

August, 2020 – Present

- Emphasis on Neuromodulation. Including stimulation of dorsal root ganglion, epicritic pathways and peripheral stimulation. Trials and permanent hardware implantation.
- Expertise with kyphoplasty and Osteocool technology.

Assistant Professor of Pain Management and Clinical Anesthesiology, Vanderbilt University Medical Center, Nashville, TN

March, 2017 – August, 2020

- Primary Focus is staffing the Complex Interventional Cancer Pain clinic.

Cancer patients in both the palliative and survivor phases were offered appropriately aggressive treatments ranging from ultrasound guided botox injections treating trismus and/or torticollis, to complex intermittent CT guided procedures in which entire cervical nerve roots were ablated with radiation. Four procedures that had not been previously described in the literature, were performed with intermittent CT guidance, all with positive outcomes. Met weekly with a multidisciplinary committee of oncologists, supportive oncologists, radiation oncologists and functional neurosurgeons in order to formulate optimal multidisciplinary plans for these complex patients.

- Founded a completely new interventional pain practice in a Vanderbilt satellite campus, staffing this office one day a week. The clinic was at full capacity within one year.

- Served approximately one day per week on the acute pain service, teaching and performing a large volume of regional anesthesia. Procedures performed include thoracic epidural catheter placement, all manner of truncal blocks and brachial plexus blocks, and a large variety of other lower extremity and upper extremity blocks.
- Consistently staffed both the inpatient acute and inpatient chronic pain services.
- Dedicated 75% of clinical time to interventional pain, and 25% to: regional anesthesia, acute pain, and operating room anesthesia.

Locum Tenens in Anesthesiology and Regional Anesthesia, NY and PA

March, 2016 – March, 2017

Director of Pain Management, Assistant Professor of Pain Management and Anesthesiology, NYU Langone, Brooklyn, NY

August, 2011 – March 2016.

- Transformed a large existing pain practice from an office previously relying on opioid prescriptions, to a practice based on interventional pain techniques.
- Founded a completely new private interventional pain practice in New York City, in parallel with an interventional clinic for underserved patients.
- Created the hospital's first peripheral nerve catheter program, which required extensive training and education of other physicians, nurses, administrators and other providers.
- Presented regular formal lectures to medical students and residents on the topics of: general pain management, chronic pain management, interventional pain management, regional anesthesiology and acute pain management. Countless didactics are provided on a daily basis to medical students and residents.
- Provided weekly ultrasound workshops for the anesthesia residents.
- Created an elective in pain management, in which over 17 residents have chosen to spend four weeks working five days a week with this physician. The elective is focused on both acute and chronic pain management.

Anesthesiology and Pain Management, Facility Medical Director and Chairman, Anesthesiology and Interventional Pain, Loris Health Care System, Loris, S.C.

August, 2010 – August, 2011.

- Created very successful interventional pain practice from nothing, and was promoted to Chairman of Anesthesiology after practicing only two months.

· Dedicated 66% of time to busy interventional pain practice, with 34% of time committed to general anesthesia.

Board Certifications:

Diplomate, American Board of Anesthesiology, Subspecialty Pain Medicine

Diplomate, American Board of Anesthesiology

Education:

Fellowships Pain Management – ACGME Accredited Interventional Pathway,
Virginia Mason Medical Center, Seattle, WA

August, 2009 – August, 2010.

Intermittent CT Guided Pain Procedures “Fellowship”

The National Hospital for Neurology and Neurosurgery,

London, UK

April, 2010 – May, 2010.

Residency Anesthesiology,
Virginia Mason Medical Center,
Seattle, WA
2006-2009.

Internship Categorical General Surgery, Indiana University Medical Center,
Indianapolis, IN
2005-2006.

M.D. Indiana University Medical Center, Indianapolis, IN
2001-2005.

B.S. Highest Distinction,

Indiana University, Bloomington, IN

1995-2000.

Recent Publications

Yeung AM, Huang J, Nguyen KT, Xu NY, **Hughes LT**, Agrawal BK, Ejskjaer N, Klonoff DC. Painful Diabetic Neuropathy: The Need for New Approaches. *J Diabetes Sci Technol*. 2022 Oct 28:19322968221132252. doi: 10.1177/19322968221132252. Epub ahead of print. PMID: 36305521.

Yeung AM, Huang J, Nguyen KT, Xu NY, **Hughes LT**, Agrawal BK, Ejskjaer N, Klonoff DC. Spinal Cord Stimulation for Painful Diabetic Neuropathy. *J Diabetes Sci Technol*. 2022 Nov 17:19322968221133795. doi: 10.1177/19322968221133795. Epub ahead of print. PMID: 36384312.

Professional Activities Intramural:

Committees:

04/2017 – Present, Complex Cancer Pain Committee, Medicine, provide consultation and procedures for complex cancer pain and pain related to cancer therapy. This committee meets once or twice a week, Interventional Pain Representative.

06/2017 – Present, QMMI Committee, Vanderbilt University Quality Committee, Interventional Pain/Chronic Pain Representative.

Teaching Activities, Formal Lectures:

07/2017 - 2017

Methadone, Research, Preparation and Presentation of Material, APS Team Room, Pain Management Fellow and Anesthesia Resident Lecture, Interventional and Chronic Pain Division. 1 Hour Lecture.

08/2017 - 2017

Muscle Relaxants, Research, Preparation and Presentation of Material, APS Team Room, Pain Management Fellow and Anesthesia Resident Lecture, Interventional and Chronic Pain Division. 1 Hour Lecture.

05/2018 - 2018

Back Pain: Radicular, Axial and Muscular, Research, Preparation and Presentation of Material, Vanderbilt - Out Patient Pain Center, One Hundred Oaks, Pain Management Fellow and Anesthesia Resident Lecture, Interventional and Chronic Pain Division. 1 Hour Lecture.

06/2018 - 2018

Opioid Pain Medications for Acute and Chronic Pain, Research, Preparation and Presentation of Material, Vanderbilt - Out Patient Pain Center, One Hundred Oaks, Pain Management Fellow and Anesthesia Resident Lecture, Interventional and Chronic Pain Division. 1 Hour Lecture.

7/18/18 – 2018

Epidural Analgesia, Research, Preparation and Presentation of Material, TVC - 4648, Fellow and Resident Lecture, Regional and Acute Pain Division. 1 Hour Lecture.

08/16/2018 - 2018

Opioid Pharmacology, Research, Preparation and Presentation of Material, TVC - 4648, Fellow and Resident Lecture, Regional and Acute Pain Division. 1 Hour Lecture.

08/22/2018 - 2018

Opioid, Opioid Conversions and Methadone, Research, Preparation and Presentation of Material, TVC - 4648, Fellow and Resident Lecture, Regional and Acute Pain Division. 1 Hour Lecture.

09/11/2018 - 2018

Predictors of Postoperative Pain, Research, Preparation and Presentation of Material, TVC - 4648, Fellow and Resident Lecture, Regional and Acute Pain Division. 1 Hour Lecture.

10/17/18 – 2018

Overview of Pain Management, Vanderbilt University School of Medicine, Medical Student Lecture. 1 Hour Lecture.

10/30/18 – 2018

Back Pain: Radicular, Axial and Muscular, Vanderbilt University Medical Center, TVC, Room 4648, Regional Fellow and Resident Lecture, 1 Hour Lecture.

11/12/18 – 2018

Hyperalgesia, Secondary to Opioids and Other Etiologies, Vanderbilt University Medical Center, TVC, Room 4648, Regional Fellow and Resident Lecture, 1 Hour Lecture.

11/14/18– 2018

Spinal Headaches and Blood Patch Therapy, Vanderbilt University Medical Center, TVC, Room 4648, Regional Fellow and Resident Lecture, 1 Hour Lecture.

3/19/2019 – 2019

Spinal Headaches, “Post Membrane Puncture Headaches”, Research, Preparation and Presentation of Material, APS Team Room, Regional Fellows and Anesthesia Residents. 1 Hour Lecture.

4/11/2019 – 2019

Overview of Pain Management, Vanderbilt University School of Medicine, Medical Student Lecture. 1 Hour Lecture.

5/13/2019 – 2019

Spinal Headaches, “Post Membrane Puncture Headaches”, Research, Preparation and Presentation of Material, APS Team Room, Pain Management Fellow and Anesthesia Resident Lecture, Interventional and Chronic Pain Division. 1 Hour Lecture.

8/14/19 - 2019

Opioid Pharmacology, TVC, Room 4648, Regional Fellow and Resident Lecture, 1 Hour Lecture

8/21/19 - 2019

Methadone, Research, Preparation and Presentation of Material, APS Team Room, Pain Management Fellow and Anesthesia Resident Lecture, Interventional and Chronic Pain Division. 1 Hour Lecture.

9/18/19 - 2019

Predictors of Postoperative Pain, Research, Preparation and Presentation of Material, TVC - 4648, Fellow and Resident Lecture, Regional and Acute Pain Division. 1 Hour Lecture.

9/25/19 - 2019

Principles of Neuromodulation, TVC, Room 4648, Regional Fellow and Resident Lecture, 1 Hour Lecture.

10/8/19 - 2019

Back Pain: Radicular, Axial and Muscular, Research, Preparation and Presentation of Material, Vanderbilt - Out Patient Pain Center, One Hundred Oaks, Pain Management Fellow and Anesthesia Resident Lecture, Interventional and Chronic Pain Division. 1 Hour Lecture.

Formal Mentees, Anesthesia Residents

06/2017 - 7/2020

Shaun Kouni, MD, M.D. VUMC - Department of Anesthesiology, Current Position: Mentor to resident in Anesthesiology (Resident, General Mentorship).

06/2017 - 7/2020

Bennett Roman, MD, M.D. VUMC - Department of Anesthesiology, Current Position: Mentor to resident in Anesthesiology (Resident, General Mentorship).

Recent Presentations at Scientific Meetings:

1. Shaun Kuoni, MD and Lorenzo Hughes, MD. ASRA World Congress. ASRA; New York City, New York. 2018 Apr 19; Selective Cervical (C2-C3) Nerve Root Chemical Neurolysis for the Successful Treatment of Advanced Head and Neck Cancer Pain.

This is the first time this procedure has been described in the literature, and the procedure was published with the Vanderbilt resident in anesthesiology, Dr. Kuoni.

2. Lauren Poe, DO and Lorenzo Hughes, MD. Memorial Sloan Kettering's 2nd Annual Congress: Interventional Pain Symposium; New York City, New York. 2019 September 11;

Intermittent CT Guided Bilateral Pudendal Nerve Radiofrequency Ablation and Genitofemoral Chemical Nerve Ablation For Cancer Related Penile Pain.

This is the first time this procedure has been described in the literature, and the procedure was published with the Vanderbilt resident in anesthesiology, Dr. Poe.

3. Atish Patel, MD and Lorenzo Hughes, MD. ASRA Pain Meeting: Interventional Pain Presentations; New Orleans, Louisiana. 2019 November 15; Complete Resolution of Intractable Cervical Cancer-Related Pain with Intermittent CT Guided Radiofrequency Ablation of the Left C2 and C3 Nerve Roots.

This is the first time this procedure has been described in the literature, and the procedure was published with the Vanderbilt resident in anesthesiology, Dr. Patel.

4. Claire Spradling MD, Atish Patel, MD, David Edwards, MD, PhD, and Lorenzo Hughes, MD. Tennessee Pain Society: Challenging Cases; Nashville, Tennessee. 2019 October 11; Substitution Of Intrathecal Pump Opioid For Clonidine in End-Stage Adrenal Cystic Carcinoma.

Other Presentations at Scientific Meetings:

Hughes, Mulroy. "Improved Resident Communication and Teamwork Skills Following a Departmental Communication Seminar," ASA 2007. (An ASA Featured Oral Presentation).

Hughes, Mulroy. "Improved Resident Communication and Teamwork Skills Following a Departmental Communication Seminar," Western Anesthesia Resident Conference 2007.

External Grand Rounds:

1. Lorenzo Hughes, MD. Grand Rounds, With CME Credit Earned by Participants. Baptist Healthcare System; Madisonville, Kentucky. 2018 May 3; Alternative Therapies to Opioids in Chronic Pain.
2. Lorenzo Hughes, MD. Grand Rounds, With CME Credit Earned by Participants. Fort Campbell; Clarksville, Tennessee. 2018 October 11; Alternative Therapies to Opioids in Chronic Pain.
3. Lorenzo Hughes, MD. Trover Symposium, With CME Credit Earned by Participants. Baptist Healthcare System; Madisonville, Kentucky. 2018 October 26; Alternative Therapies to Opioids in Chronic Pain.
4. Lorenzo Hughes, MD. Grand Rounds, With CME Credit Earned by Participants. Baptist Healthcare System; Hopkinsville, Kentucky. 2019 September 19; Alternative Therapies to Opioids in Chronic Pain.

Internal Grand Rounds:

1. Lorenzo Hughes, MD. Grand Rounds. Department of Anesthesiology, Vanderbilt University Medical Center; Nashville, Tennessee. 2018 Feb 23; Interventional Options for Cancer Pain.
2. Lorenzo Hughes, MD. Palliative Care Grand Rounds. Palliative Care Department, Vanderbilt University Medical Center; Nashville, Tennessee. 2018 Mar 2; Neuraxial Interventional Pain Options for Palliative Care Patients.
3. Lorenzo Hughes, MD. Palliative Care Grand Rounds, Vanderbilt University Medical Center. Department of Palliative Care; Nashville, Tennessee. 2018 Jun 1; Survey of Interventional Pain Options for Palliative Care Patients.

Other Research Experience:

Fellowship in Epidemiology of Melanoma,

Memorial Sloan Kettering, New York, NY

2002.

Other Specialized Training:

07/2017 Kyphoplasty and Osteocool Training: Didactics and Technical Cadaver Training - 10 hours.

Select volunteer Experience:

Port-Au-Prince, Haiti

Duties: OR Anesthesia and Acute Pain. Performed 25 blocks using only paresthesia technique for orthopedic surgeries. We did not suffer a single failed block. (The nerve stimulator was broken during its transport to Haiti)

November, 2013.

Select Work MD Experience Outside Medicine:

Mountain Response Team – Ski Patrol, Vail Resorts,

Vail, CO

Ski Season, 2000 – 2001.