Michael Alexander Kiefer, M.D.

Office Address: Georgetown Pain Management

2021 K Street, NW

Suite 605

Washington, DC 20006

**Clinical Experience**

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| 10/17-present  7/16-7/17  7/16-7/17  7/13-6/16  6/12-6/13 | Interventional Pain Medicine Physician  Fellow Physician  Fellow Physician  Resident Physician  Intern | Georgetown Pain Management  Pain Medicine  Anaesthesia  Anesthesiology and Perioperative Care  Internal Medicine | Washington, DC  Greenbelt, MD  Massachusetts General Hospital  Harvard Medical School  Georgetown University Hospital  Georgetown University Hospital/Washington Hospital Center |

**Hospital Affiliations**

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| 10/17-present | Attending Physician | Department of Anesthesiology and Perioperative Care | Georgetown University Hospital |

**Education**

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| 8/06-5/12  5/02-5/03  8/97-5/01 | M.D.  Non-degree study  B.A. | Medicine  Post-baccalaureate  Premedical Program  Religion | Weill Cornell Medical College, New York, NY  Temple University, Philadelphia, PA  St. Olaf College, Northfield, MN |

**Medical Licensure**

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| 7/21/17  6/20/17  6/7/17  5/19/16 | Maryland Medical License, Active, License No: D00083916, Renewal/Expiration Date: 8/31/2020  District of Columbia Medical License, Active, License No: D045426, Renewal/Expiration Date: 12/31/2020  Virginia Medical License, Active, License No: 0101262604, Renewal/Expiration Date: 3/31/2022  Massachusetts Medical License, Active, License No: 266235, Renewal/Expiration Date: 3/3/2021 |

**Board Certifications**

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| 4/6/2017  9/9/17 | Anesthesiology, American Board of Anesthesiology, Expiration/Renewal Date: 12/31/2027  Pain Medicine, American Board of Anesthesiology, Expiration/Renewal Date: 12/31/2027 |

**Additional Licensure**

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| 4/10/18  3/10/18 | Certifying Provider, Medical Cannabis, Maryland Medical Cannabis Commission  Certified Buprenorphine Practitioner, Substance Abuse and Mental Health Services Administration, U.S Department of Health and Human Services |

**Other Professional Positions**

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| 1/05-7/06 | Glaxosmithkline, Stevenage, United Kingdom  Associate Scientist, Biopharmaceutical Centre of Excellence in Drug Discovery   * Developed a novel intradermal microneedle vaccine delivery system * Evaluated efficacy of DNA delivery modalities/formulations * Developed and tested novel excipients to improve particle-mediated epidermal delivery of DNA and adjuvants for use in DNA vaccination |

**Predoctoral Research Training**

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| 5/03-8/04  6/08-5/09    8/11-4/12 | University of Pennsylvania School of Medicine, Philadelphia, PA  Research Associate, Molecular Brain Resuscitation Laboratory   * Mentored by Dr. Robert Neumar, MD, PhD, Department of Emergency Medicine * Studied the molecular pathways responsible for delayed neuronal death after cerebral ischemic insult * Evaluated potential therapies *in vivo* designed to minimize neuronal death following ischemic insult   The Rockefeller University, New York, NY  Research Student,Laboratory of Dr. James Krueger**,** MD, PhD   * Conducted a full-time, year-long translational tumor immunology research project designed to elucidate the role of tumor-associated macrophages in the cutaneous squamous cell carcinoma microenvironment   Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA  Research Student, Laboratory of Dr. Brian Snyder, MD, PhD   * Participated in a full-time research fellowship to study gene expression and morphometry of developing lung tissue in a rabbit model of thoracic insufficiency syndrome (TIS) * Studied the effects of surgical intervention (VEPTR-placement) on rabbits with infantile scoliosis and TIS |

**Committee Service**

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| 2006-2010  2006-2008  2015-2016  2015-2016  2016 | Medical Student Executive Committee  Medical Student Research Day Planning Committee  Ad Hoc Ethics Committee  Transplant Ethics Sub-committee  Committee for Internal Review of MGH Vascular & Interventional Radiology Fellowship | Student Research Representative  Member  Resident Member  Resident Member  Fellow Representative | Weill Cornell Medical College  Weill Cornell Medical College  Georgetown University Hospital  Georgetown University Hospital  Massachusetts General Hospital |

**Professional Societies**

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| 2012-  2012-  2013-    2014-  2015-  2016-2017  2016-  2016-  2016- | American Society of Anesthesiologists  DC Society of Anesthesiologists  International Anesthesia Research Society  American Society of Regional Anesthesia and Pain Medicine  2015-2017 Member-at-large, Resident Section Committee  2015-2017 ASRA Newsletter Subcommittee  2015-2017 Education Subcommittee  2015-2017 IT Subcommittee  American Pain Society  Massachusetts Society of Anesthesiologists  North American Neuromodulation Society  American Academy of Pain Medicine  Spine Intervention Society (SIS) |
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**Honors and Awards**

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| 1998  1999  2008  2015  2015 | Theta Alpha Kappa  Psi Chi  Individual Research Training Grant  Medical Student Teacher of  the Year  “Power of One” Nomination | St. Olaf College  St. Olaf College  Dana Foundation Program in Human Immunology  Georgetown University Hospital  Children’s National Medical Center | Religious Studies Honor Society  Psychology Honor Society  Research Award  Teaching Award  Clinical Excellence Award |

**Teaching Experience**

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| 2004  2012-2016  2012-2016  2012-2016  2014  2016  2016-2017  2017  2017  2017-present  2017-present | Identification of Novel Biochemical Markers for Ischemic Neurodegeneration  Daily clinical teaching of medical students  ABA Keywords Review, biannual  Textbook Chapter Review, biannual  Medical Ethics: A 4-year-old Girl With a Bleeding Tonsil  Puff: the Magic Analgesic? The Basic Science and Clinical Evidence of Medical Cannabis  Daily clinical teaching of residents and medical students  Genicular Nerve Radiofrequency Ablation  Ah! My Aching Back: Primer on Diagnosis and Treatment of Lower Back Pain  Chronic Pain Lecture Series (Monthly conference)  Daily clinical teaching of residents and medical students | Dept. of Emergency Medicine  Grand Rounds  Operating rooms, clinics, ICUs  Anesthesiology Resident Conference  Anesthesiology Resident Conference  Dept. of Anesthesiology  Grand Rounds  Dept. of Anesthesiology  Grand Rounds  MGH Center for Pain Medicine  MGH Center for Pain Medicine Interventional Lecture Series  Department of Anesthesia, Critical Care and Pain Medicine Grand Rounds  Dept. of Anesthesiology  Resident Conference  Clinics, procedure Suite, operating rooms | University of Pennsylvania  Georgetown University Hospital  Georgetown University Hospital  Georgetown University Hospital  Georgetown University Hospital  Georgetown University Hospital  Massachusetts General Hospital/ Harvard Medical School  Massachusetts General Hospital/ Harvard Medical School  Massachusetts General Hospital/ Harvard Medical School  Georgetown University Hospital  Georgetown Pain Management |

**Peer-reviewed Publication**

1. Siman R, Zhang C, Roberts VL, Pitts-Kiefer A, Neumar RW. Novel surrogate markers for acute brain damage: cerebrospinal fluid levels correlate with severity of ischemic neurodegeneration in the rat. *Journal of Cerebral Blood Flow and Metabolism*. 2005; 25(11):1433-1444.
2. Chen Z, Kontonotas D, Friedman D, Pitts-Kiefer A, Zhang C, Frederick J, Siman R, Neumar R. Developmental status of neurons selectively vulnerable to rapidly triggered post-ischemic caspase activation. *Neuroscience Letters*. 2005; 376(3):166-170.
3. Bluth M, Zaba L, Moussai D, Suarez-Farinas M, Kaporis H, Fan L, Pierson K, White, T, Pitts-Kiefer A, Guttman-Yassky E, Krueger J, Lowes M, Carucci J. Myeloid dendritic cells from human squamous cell carcinoma are poor stimulators of T cell proliferation. *Journal of Investigative Dermatology*. 2009;129(10):2451-2462.
4. Pettersen JS, Fuentes-Duculan J, Suarez-Farinas M, Pierson KC, Pitts-Kiefer A, Fan L, Belkin DA, Wang CQ, Bhuvanendran S, Johnson-Huang LM, Bluth MJ, Krueger JG, Lowes MA, Carucci JA. Tumor-associated macrophages in the cutaneous SCC microenvironment are heterogeneously activated. *Journal of Investigative Dermatology.* 2011; 131(6):1322-30.
5. Caetano-Lopes J, Rodrigues A, Lopes A, Vale AC, Pitts-Kiefer MA, Vidal B, Perpétuo IP, Monteiro J, Konttinen YT, Vaz MF, Nazarian A, Canhão H, Fonseca JE. Rheumatoid Arthritis Bone Fragility Is Associated With Upregulation of IL17 and DKK1 Gene Expression. *Clinical Reviews in Allergy and Immunology.* 2014 Aug; 47(1):38-45.
6. Shea CA, Burns S, Pitts-Kiefer MA, Ahmed SU. Conventional thermal versus water-cooled genicular nerve radiofrequency lesioning (RFL): a retrospective chart review. *Interventional Pain Management Reports.* 2019; 3(6):167-172.

**Book Chapters**

1. Pitts-Kiefer MA, De Marchi L. Principles of Doppler Ultrasound. In: Freeman B and Berger J, ed. Anesthesiology Core Review – Part One: BASIC Exam. New York, NY: McGraw-Hill; 2014.
2. Pitts-Kiefer MA, De Marchi L. Transcutaneous and Surgical Airways. In: Freeman B and Berger J, ed. Anesthesiology Core Review – Part One: BASIC Exam. New York, NY: McGraw-Hill; 2014.
3. Pitts-Kiefer MA, De Marchi L. Intubation and Tube Exchange Adjuncts. In: Freeman B and Berger J, ed. Anesthesiology Core Review – Part One: BASIC Exam. New York, NY: McGraw-Hill; 2014.
4. Pitts-Kiefer MA, De Marchi L. Types of Endotracheal Tubes. In: Freeman B and Berger J, ed. Anesthesiology Core Review – Part One: BASIC Exam. New York, NY: McGraw-Hill; 2014.
5. Pitts-Kiefer MA, De Marchi L. Lung Mechanics. In: Freeman B and Berger J, ed. Anesthesiology Core Review – Part One: BASIC Exam. New York, NY: McGraw-Hill; 2014.
6. Pitts-Kiefer MA, Hanallah M. Morbid Obesity. In: Freeman B and Berger J, ed. Anesthesiology Core Review – Part Two: ADVANCED Exam. New York, NY: McGraw-Hill; 2016.
7. Pitts-Kiefer MA, Bellil L. Postpartum Hemorrhage. In: Freeman B and Berger J, ed. Anesthesiology Core Review – Part Two: ADVANCED Exam. New York, NY: McGraw-Hill; 2016.
8. Pitts-Kiefer MA, De Marchi L. Restrictive Pulmonary Disease. In: Freeman B and Berger J, ed. Anesthesiology Core Review – Part Two: ADVANCED Exam. New York, NY: McGraw-Hill; 2016.
9. Pitts-Kiefer MA, De Marchi L. Obstructive Pulmonary Disease. In: Freeman B and Berger J, ed. Anesthesiology Core Review – Part Two: ADVANCED Exam. New York, NY: McGraw-Hill; 2016.
10. Pitts-Kiefer MA, De Marchi L. Preoperative Pulmonary Evaluation. In: Freeman B and Berger J, ed. Anesthesiology Core Review – Part Two: ADVANCED Exam. New York, NY: McGraw-Hill; 2016.
11. Earls B, Kiefer MA. Disc Herniation and Radiculopathy. In: Mao J, ed. Spine Pain Care – A Comprehensive Clinical Guide. New York: Springer; 2019
12. Kiefer MA. Epidural Steroid Injections. In: Rathmell J and Brenner G, ed. MGH Handbook of Pain Medicine. Philadelphia: Lippincott Williams and Williams; 2019

**Invited Oral Presentations**

1. Pitts-Kiefer A. 2004. Identification of novel biochemical markers for ischemic neurodegeneration. Annual Meeting of the Society for Academic Emergency Medicine, Orlando, FL.

**Poster Presentations**

1. Chen Z, Kontonotas D, Friedman D, Pitts-Kiefer A, Zhang C, Frederick J, Siman R, and Neumar R. 2003. Developmental status of neurons selectively vulnerable to ultra-rapid post-ischemic caspase activation. Annual Meeting of the Society of Neuroscience, New Orleans, LA.
2. Bluth M, Zaba L, Moussai D, Suarez-Farinas M, Pitts-Kiefer A, Fan L, Pierson K, Guttman-Yassky E, Krueger J, Lowes M, Carucci, J. 2009. Myeloid dendritic cells from human squamous cell carcinoma are poor stimulators of T cell proliferation. Annual Meeting of the Society of Investigative Dermatology, Montreal, QB.
3. Pitts-Kiefer A, Bluth M, Fan L, Billick E, Lowes M, Carucci J. 2009. The human cutaneous SCC microenvironment is associated with CD163+ macrophages, IL-10 and MMPs 1, 3, 9, 10, 11, 13 and Annual Meeting of the Society of Investigative Dermatology, Montreal, QB.
4. Caetano-Lopes J, Rodrigues A, Lopes A, Vale AC, Pitts-Kiefer MA, et al. 2011. Rheumatoid Arthritis Bone Fragility Is Associated with Increased Dickkopf-1 Expression and Disturbances in the Bone Turnover Regulating genes. ACR/ARHP Scientific Meeting, Chicago, IL.
5. Caetano-Lopes J, Rodrigues A, Lopes A, Vale AC, Pitts-Kiefer MA, et al. 2011. Rheumatoid arthritis is associated with increased DKK1 expression and disturbances in the bone turnover regulating genes. 6th European Workshop on immune-mediated inflammation, Nice, France.
6. Olson JC, Pitts-Kiefer A, Glotzbecker M, Snyder B. 2012. An improved rabbit model for thoracic insufficiency syndrome. Annual Meeting of the Pediatric Orthopedic Society of North America, Denver, CO.
7. Olson JC, Pitts-Kiefer A, Takahashi A, Glotzbecker M, Snyder B. 2012. Trans-pulmonary mechanics in rabbit model of thoracic insufficiency syndrome. International Conference of the American Thoracic Society, San Francisco, CA.
8. Pitts-Kiefer A, Nguyen V. 2014. A difficult airway with cervical instability in the setting of pseudotumor cerebri, epilepsy, and mitochondrial disease:  anesthetic management in a 13-year-old. Anesthesiology (ASA) 2014 Annual Meeting, New Orleans, LA.
9. Pitts-Kiefer A, Ved S. 2014. Anesthetic management of a 2-year-old with muscle-eye-brain disease and a prior extubation failure. Anesthesiology (ASA) 2014 Annual Meeting, New Orleans, LA.
10. Pitts-Kiefer A, Dao H. 2014. Understanding the perioperative management of suboxone: severe pain, opioid overdose, and opioid withdrawal in a patient taking suboxone on the day of surgery. 13th Annual ASRA Pain Medicine Conference, San Francisco, CA.
11. Pitts-Kiefer A, Tesfayohannes N. 2015. Efficacy of a proprietary text streaming technology to prevent severe pain associated with primary trochlear headache: a case report. 40th Annual ASRA Regional Anesthesiology and Acute Pain Medicine Meeting. Las Vegas, NV.
12. Pitts-Kiefer A, Hwang G. 2015. Coexisting Lambert Eaton Myasthenic Syndrome and Guillain-Barre Syndrome as a paraneoplastic neurologic syndrome in a woman with metastatic ovarian serous carcinoma: anesthetic management of an exploratory laparotomy and hepatic resection. Anesthesiology (ASA) 2015 Annual Meeting, San Diego, CA.
13. Shea CA, Burns S, Pitts-Kiefer MA, Ahmed SU. 2017. Conventional thermal versus water-cooled genicular nerve radiofrequency lesioning (RFL): a retrospective chart review. MGH Research Day, Boston, MA.
14. Shea CA, Burns S, Pitts-Kiefer MA, Ahmed SU. 2017. Conventional thermal versus water-cooled genicular nerve radiofrequency lesioning (RFL): a retrospective chart review. Spine Intervention Society (SIS) 2017 Annual Meeting, San Francisco, CA.
15. Cestare T, Tesfayohannes N, Pitts-Kiefer A. 2018. Treatment of Lower Extremity Frostbite with Bilateral L3-L4 Sympathetic Blocks. Anesthesiology (ASA) 2018 Annual Meeting, San Francisco, CA
16. Earls B, Kiefer A, Tesfayohannes N. 2019. Stellate Ganglion Block May Improve Healing After Intra-arterial Injection of Sclerosing Agent to Superficial Temporal Artery. 2018 17th Annual ASRA Pain Medicine Conference, San Antonio, TX
17. Lawrence S, Earls B, Patel J, Kiefer A. Malignant Peripheral Nerve Sheath Tumor Presenting with Characteristic Radicular Symptoms. 2019 18th Annual ASRA Pain Medicine Conference, New Orleans, LA