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-present7/16-7/177/16-7/177/13-6/166/12-6/13 | Interventional Pain Medicine PhysicianFellow PhysicianFellow PhysicianResident PhysicianIntern | Georgetown Pain ManagementPain MedicineAnaesthesiaAnesthesiology and Perioperative CareInternal Medicine | Washington, DCGreenbelt, MD Massachusetts General HospitalHarvard Medical SchoolGeorgetown University HospitalGeorgetown 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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| 8/06-5/125/02-5/038/97-5/01 | M.D.Non-degree studyB.A. | MedicinePost-baccalaureate Premedical ProgramReligion | Weill Cornell Medical College, New York, NYTemple University, Philadelphia, PASt. Olaf College, Northfield, MN |

**Medical Licensure**

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| 7/21/176/20/176/7/175/19/16 | Maryland Medical License, Active, License No: D00083916, Renewal/Expiration Date: 8/31/2020District of Columbia Medical License, Active, License No: D045426, Renewal/Expiration Date: 12/31/2020Virginia Medical License, Active, License No: 0101262604, Renewal/Expiration Date: 3/31/2022Massachusetts Medical License, Active, License No: 266235, Renewal/Expiration Date: 3/3/2021 |

**Board Certifications**

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| 4/6/20179/9/17 | Anesthesiology, American Board of Anesthesiology, Expiration/Renewal Date: 12/31/2027Pain Medicine, American Board of Anesthesiology, Expiration/Renewal Date: 12/31/2027 |

**Additional Licensure**

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| 4/10/183/10/18 | Certifying Provider, Medical Cannabis, Maryland Medical Cannabis CommissionCertified 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 KingdomAssociate 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
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**Predoctoral Research Training**

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| 5/03-8/046/08-5/09 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, MAResearch 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
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**Committee Service**

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| 2006-20102006-2008 2015-20162015-20162016 | Medical Student Executive CommitteeMedical Student Research Day Planning CommitteeAd Hoc Ethics CommitteeTransplant Ethics Sub-committeeCommittee for Internal Review of MGH Vascular & Interventional Radiology Fellowship | Student Research RepresentativeMemberResident MemberResident MemberFellow Representative | Weill Cornell Medical CollegeWeill Cornell Medical CollegeGeorgetown University HospitalGeorgetown University HospitalMassachusetts General Hospital |

**Professional Societies**

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| --- | --- |
| 2012-2012-2013- 2014-2015-2016-20172016-2016-2016- | American Society of AnesthesiologistsDC Society of AnesthesiologistsInternational Anesthesia Research SocietyAmerican Society of Regional Anesthesia and Pain Medicine2015-2017 Member-at-large, Resident Section Committee2015-2017 ASRA Newsletter Subcommittee2015-2017 Education Subcommittee 2015-2017 IT SubcommitteeAmerican Pain SocietyMassachusetts Society of AnesthesiologistsNorth American Neuromodulation SocietyAmerican Academy of Pain MedicineSpine Intervention Society (SIS) |
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**Honors and Awards**

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| 19981999200820152015 | Theta Alpha KappaPsi ChiIndividual Research Training GrantMedical Student Teacher of the Year“Power of One” Nomination | St. Olaf CollegeSt. Olaf CollegeDana Foundation Program in Human ImmunologyGeorgetown University Hospital Children’s National Medical Center | Religious Studies Honor SocietyPsychology Honor SocietyResearch AwardTeaching AwardClinical Excellence Award |

**Teaching Experience**

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| 20042012-20162012-20162012-2016201420162016-2017201720172017-present2017-present | Identification of Novel Biochemical Markers for Ischemic NeurodegenerationDaily clinical teaching of medical studentsABA Keywords Review, biannualTextbook Chapter Review, biannualMedical Ethics: A 4-year-old Girl With a Bleeding TonsilPuff: the Magic Analgesic? The Basic Science and Clinical Evidence of Medical CannabisDaily clinical teaching of residents and medical studentsGenicular Nerve Radiofrequency AblationAh! My Aching Back: Primer on Diagnosis and Treatment of Lower Back PainChronic Pain Lecture Series (Monthly conference)Daily clinical teaching of residents and medical students | Dept. of Emergency Medicine Grand RoundsOperating rooms, clinics, ICUsAnesthesiology Resident ConferenceAnesthesiology Resident ConferenceDept. of Anesthesiology Grand RoundsDept. of Anesthesiology Grand RoundsMGH Center for Pain MedicineMGH Center for Pain Medicine Interventional Lecture SeriesDepartment of Anesthesia, Critical Care and Pain Medicine Grand RoundsDept. of AnesthesiologyResident ConferenceClinics, procedure Suite, operating rooms | University of PennsylvaniaGeorgetown University HospitalGeorgetown University HospitalGeorgetown University HospitalGeorgetown University HospitalGeorgetown University HospitalMassachusetts General Hospital/ Harvard Medical SchoolMassachusetts General Hospital/ Harvard Medical SchoolMassachusetts General Hospital/ Harvard Medical SchoolGeorgetown University HospitalGeorgetown 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