Curriculum Vitae

Name:	Thomas M. Austin Jr.
Work Email:	thomas.austin@Vanderbilt.Edu

Education

08/1995 - 05/2000	B.S. in Chemistry/Physics from University of West Florida, Pensacola, FL
08/2003 - 05/2007	M.D. from Vanderbilt University Medical School, Nashville, TN
08/2012 - Present	M.S. in Statistics from Texas A&M University

Training

07/2000 - 09/2002	Training in Peace Corps, Republic of Vanuatu
07/2007 - 06/2008	Internship in Transitional from Mayo Clinic, Jacksonville, FL
07/2008 - 06/2011	Residency in Anesthesiology from Vanderbilt University Medical Center, Nashville, TN
08/2011 - 07/2012	Fellowship in Pediatric Anesthesiology from Vanderbilt University Medical Center, Nashville, TN

Licensure and Certification

2009 - Present	Medical License of Tennessee United States
2011 - Present	BLS
2011 - Present	ACLS
2012 - Present	PALS
2012 - 2022	Primary Certification, Anesthesiology
2013 - 2023	Primary Certification, Pediatric Anesthesiology

Academic Appointments

07/2011 - 07/2012	Instructor in Clinical Anesthesiology, Vanderbilt University (Nashville, Tennessee)
08/2011 - 07/2012	Clinical Fellow in Anesthesiology, Vanderbilt University (Nashville, Tennessee)
08/2012 - 05/2015	Assistant Professor of Anesthesiology, Vanderbilt University (Nashville, Tennessee)

Professional Organizations

1996	American Chemical Society
2003	American Medical Association
2008	American Society of Anesthesiologists
2008	Tennessee Society of Anesthesiologists
2011	The Society of Pediatric Anesthesia
2013	American Statistical Association
2014	American Physiological Society

Professional Activities

Intramural

08/2012 - Present	Fellow Selection Committee, Anesthesiology
08/2012 - Present	REACH Committee, Anesthesiology
08/2012 - Present	Vanderbilt Anesthesiology Clinical Research Advisory Committee (VACRAC), Anesthesiology
08/2012 - Present	Resident Selection Committee, Anesthesiology

Teaching Activities

09/2012 - Present	Mock Oral Board, Examiner
09/2012 - Present	Pediatric Regional Anesthesia, Lecturer
10/2012 - Present	Statistics I, Lecturer
12/2012 - Present	Mediastinal Masses, Lecturer
01/2013 - Present	Statistics II, Lecturer
02/2013 - Present	Pediatric Acute Pain Management, Lecturer
03/2013 - Present	Emergence Delirium, Lecturer
03/2013 - Present	Statistics III, Lecturer
04/2013 - Present	PACU Issues, Lecturer
09/2013 - Present	Brain & Behavior: Neuromuscular Junction, Lecturer

Research Supervision / Mentorship

06/2013 - 08/2013	Maxie Phillips, B.S. Current Position: Medical Student. (Medical Student, Research)
06/2014 - 08/2014	Alex Seelochan, B.S. Current Position: Meharry Medical Student. (Medical Student, Research)
06/2014 - 08/2014	Bryan Willis, B.S. Current Position: Meharry Medical Student. (Medical Student, Research)
07/2014 - Present	Aaron Broman, M.D. Current Position: Pediatric Anesthesia Fellow. (Post-doc Fellow, Education)
07/2014 - Present	Thanh Nguyen, M.D. Current Position: Assistant Professor. (Faculty, General Mentorship)

Other Significant Activities

07/2012	ad hoc Reviewer: Anesthesiology
11/2013	Statistical Editor: Journal of Medical Systems
06/2014	ad hoc Reviewer: Journal of Pain Research
11/2014	ad hoc Reviewer: Local and Regional Anesthesia
02/2015	ad hoc Reviewer: Drug Design, Development and Therapy
05/2015	ad hoc Reviewer: CNS Drugs

Grants and Funding

UWF — Austin (PI) — 07/1998 - 06/1999
University of West Florida COST Research Grant
Synthesis of Nonlinear Optical Material n-Decyl Ferrocenoate
Role: Principal Investigator
Total Cost: $1,000.00

CTSA — Austin (PI) — 12/2010 - 03/2011
VICTR Research Grant
Kinase Expression in Human DRG Neurons
Role: Principal Investigator
Total Cost: $2,000.00

FAER — Austin (PI) — 07/2012 - 06/2014
FAER Mentored Research Training Grant-BS
Effect of Neuronal K-Cl Cotransporter KCC2 Activation on Pain Perception
Role: Principal Investigator
Total Cost: $175,000.00

Industry — Thanh Nguyen, MD (PI) — 08/2012 - 08/2013
Hospira
Phase IV, Open-Label, Safety Study Evaluating the Use of Dexmedetomidine in Pediatric Subjects Undergoin Procedure-Type Sedation

Role: Co-Investigator
Total Cost: $50,346.00

1T32GM108554-1 Austin (PI) 07/2014 - 06/2016
NIGMS
Attenuation of Pain Perception Through the Targeted Inhibition of SPAK/OSR1
Role: Principal Investigator
Total Cost: $111,000.00

CTSA Humphrey Lam, MD (PI) 09/2014 - Present
VICTR
Fibrinolysis in Pediatric Spinal Fusions
Role: Co-Investigator
Total Cost: $2,000.00

Honors / Awards

1996	Freshman Chemistry Award, UWF
1998	POLYED Chemistry Award, UWF
1998	University of West Florida Chemistry Alumni Scholarship, UWF
1999	Physical Chemistry Award, UWF
1999	Lowell Edwards Scholarship, UWF
2000	Solutia Chemistry Award, UWF
2004	Charles M. Ross Trust Scholarship, Charles M Ross Trust
2006	Class of 1964 Medical Scholarship Award, Vanderbilt Medical School
2007	B. H. Robbins Research Scholarship, Vanderbilt
2007	James Taylor Gwathmey Anesthesia Award, Vanderbilt Medical School
2010	Excellence in Obstetric Anesthesia Award, Vanderbilt
2011	ASA Resident Research Award, ASA, - Inhibition of KCC2 in Mouse Spinal Cord Neurons Leads to Hypersensitivity to Thermal Stimulation.
2011	Vice Chairs Award for Outstanding Scholarship, Vanderbilt
2011	AUA Resident Travel Award, AUA
2014	America's Top Anesthesiologists, Consumers' Research Council of America
2015	Leading Physicians of the World, International Association of Anesthesiologists
2015	Bronze Bougie Award, Vanderbilt Anesthesiology Residents

Publications

Peer Reviewed Publications

Research Articles

1. Obremskey WT, **Austin T**, Crosby C, Driver R, Kurtz W, Shuler F, Kregor P. Detection of Orthopaedic Implants by Airport Metal Detectors. J Orthop Trauma 2007 Feb;21(2):129-132.
2. Cannada LK et al. A Retrospective Review of High-energy Femoral Neck-shaft Fractures. J Orthop Trauma 2009 Apr;23(4):254-260.
3. Delpire E; **Austin TM**. Kinase Regulation of Na+-K+-2Cl- Cotransport in Primary Afferent Neurons. J Physiol 2010 Sep;588:3365-3378.
4. **Austin TM**; Delpire EJ. Inhibition of KCC2 in Mouse Spinal Cord Neurons Leads to Hypersensitivity to Thermal Stimulation. Anes Anal 2011 Dec;113(2011):1509-1515.
5. Franklin A; **Austin T**. The Use of a Continuous Brachial Plexus Catheter to Facilitate Inpatient Rehabilitation in a Pediatric Patient with Refractory Upper Extremity Complex Regional Pain Syndrome. Pain Practice 2012 May;(2012 May 2).
6. **Austin TM**, Botta E, Sripada R. Monoplegia Following Vascular Transposition. J Clin Anesth 2013 Jan;25(2):162-164.
7. **Austin T**, Franklin A. Outpatient Rehabilitation of Pediatric Complex Regional Pain Syndrome. J Clin Anesth 2013 Sep;25(6):514-515.

8. Ponce-Coria J, Markadieu N, **Austin TM**, Flammang L, Rios K, Welling PA, Delpire E. A novel Ste20-related proline/alanine-rich kinase (SPAK)-independent pathway involving calcium-binding protein 39 (Cab39) and serine threonine kinase with no lysine member 4 (WNK4) in the activation of Na-K-Cl cotransporters. The Journal of biological chemistry 2014 Jun;289(25):17680-8. PMID: 24811174 PMCID: PMC4067202.
9. **Austin TM**, Nannemann DP, Deluca SL, Meiler J, Delpire E. In silico analysis and experimental verification of OSR1 kinase - Peptide interaction. Journal of structural biology 2014 Jul;187(1):58-65. PMID: 24821279 PMCID: PMC4082687.
10. **Austin TM**, Lam HV, Shin NS, Daily BJ, Dunn PF, Sandberg WS. Elective change of surgeon during the OR day has an operationally negligible impact on turnover time. Journal of clinical anesthesia 2014 Aug;26(5):343-9. PMID: 25074630.
11. Lam H, Nguyen T, **Austin T**. Recurrent cardiomyopathy from recurrent pheochromocytoma in a pediatric patient. Paediatric anaesthesia 2014 Aug;24(8):888-9. PMID: 25039877.
12. Shisler D, **Austin TM**, Delpire E, Sawyer DB, Pandey AK. Syndrome of severe pain associated with a continuous bumetanide infusion. International journal of cardiology 2014 Oct; PMID: 25304072.
13. Nguyen TT, Hill S, **Austin TM**, Whitney G, Wellons JC, Lam HV. Utilizing Blood Sparing Surgical Techniques and Transfusion Algorithms is Associated with Decrease Blood Administration for Children Undergoing Primary Open Craniosynostosis Repair. J Neurosurg Pediatr 2015 Feb;Accepted for Publication.
14. Lam H, Kiberenge R, Nguyen T, Sobey JH, **Austin T**. Anesthetic management of a patient with isovaleric acidemia. A & A case reports 2015 Feb;4(3):37-8. PMID: 25642957.
15. Nguyen TT, Lam H, Phillips M, Edwards C, **Austin TM**. Intraoperative Optimization to Decrease Postoperative PRBC Transfusion in Children Undergoing Craniofacial Reconstruction. Paediatric anaesthesia 2015 Mar;25(3):294-300.
16. Lam H, Dare S, Nguyen T, **Austin T**. Anesthesia for a pediatric patient with cardiofaciocutaneous syndrome. A & A case reports 2015 Apr;4(7):95-6. PMID: 25827862.
17. Phillips M, Willis B, Lam HV, Nguyen TT, **Austin TM**. Bimodal Analgesia Versus Fentanyl in Pediatric Patients Undergoing Bilateral Myringotomy and Tympanostomy Tube Placement: A Propensity Matched Cohort Study. Journal of clinical anesthesia 2015 Apr;Accepted for Publication.

Abstracts

1. **Austin TM**, Nannemann DL, Meiler J, Delpire E. Analysis of OSR1 kinase-peptide binding substrate interaction through computational protein docking software . FASEB J 2014 Apr;28(893.37).
2. Nguyen TT, Lam HV, **Austin TM**. Transfusion Algorithms Decrease Blood Transfusion in Children Undergoing Craniofacial Reconstruction. Anesth Analg 2014 May;2014(118):S-268.
3. Phillps ML, Lam HV, Nguyen TT, **Austin TM**. The Use of Ketorolac for Postoperative Analgesia in Children Undergoing Myringotomy and Placement of Equalization Tubes. Anesth Analg 2014 May;2014(118):S-256.
4. **Austin TM**, Delpire E. Computational Analysis of the PF2-like Domain of WNK4. Anesth Analg 2014 May;2014(118):S-199.
5. **Austin TM**, Deluca S, Meiler J, Delpire E. Computational modeling suggests a mechanism of inhibition of SPAK/OSR1 by a known RFxV pocket inhibitor. FASEB J 2015 Apr.

Non-Peer Reviewed Publications

Research Articles

1. **Austin T**. Walking Epidural Reduces Rate of Cesareans With No Loss of Pain Relief. Anesthesiology News 2013 Jul;38(7):2-2.

Presentations

Presentations at Scientific Meetings

1. Royappa AT; Austin TM. Southeastern Regional Meeting of the American Chemical Society. Atlanta, Georgia. 1998 Nov; Polyaniline Blends and Derivatized Polyanilines.
2. Austin TM; Royappa AT. Symposium on Undergraduate Research in Mathematical Sciences. Mobile, Alabama. 2000 Feb; Synthesis of Nonlinear Optical Material n-Decyl Ferrocenoate (n-Decyl Ferrocenecarboxylate).
3. Obremskey WT; Austin TM; Crosby CG. OTA Annual Meeting. Ottawa, Canada. 2005 Oct; Are Orthopaedic Implants Detectable by Airport Metal Detectors.
4. Austin TM; Delpire E. AUA Annual Meeting. Philadelphia, Pennsylvania. 2011 May; Inhibition of KCC2 in Mouse Spinal Cord Neurons Leads to Hypersensitivity to Thermal Stimulation.

5. Austin TM; Delpire E. ASA Annual Meeting. Chicago, Illinois. 2011 Oct; Inhibition of KCC2 in Mouse Spinal Cord Neurons Leads to Hypersensitivity to Thermal Stimulation.
6. Austin TM, Delpire E. ASA Annual Meeting. Washington, District of Columbia. 2012 Oct; Kinetics of Novel KCC2 Inhibitor D4.
7. Austin T, Helmer-Sobey J, Franklin A. SPA Spring Meeting. SPA; Las Vegas, Nevada. 2013 Mar 16; Epidurography During Placement of Thoracic Epidural catheters in Adolescents Undergoing Minimally-Invasive Pectus Excavatum Repair.
8. Austin T, Delpire D. AUA Annual Meeting. AUA; Miami, Florida. 2013 Apr; Computational Design of Low Free Energy Hexapeptides for SPAK/OSR1 Binding.
9. Nguyen TT, Lam HV, Austin TM. ASA Annual Meeting. ASA; San Fransisco, California. 2013 Oct; Transfusion Algorithms Decrease Blood Transfusion in Children Undergoing Craniofacial Reconstruction.
10. Austin TM, Delpire E. TN Physiological Society Annual Meeting. TN Physiological Society; Nashville, Tennessee. 2013 Nov; Computational Analysis of the CCT Domain of SPAK/OSR1.
11. Nguyen TT, Lam H, Austin TM. ASA Annual Meeting. ASA; New Orleans, Louisiana. 2014 Oct; Intraoperative Optimization to Decrease Postoperative PRBC Transfusion in Children Undergoing Craniofacial Reconstruction.
12. Austin TM, Delpire E. ASA Annual Meeting. ASA; New Orleans, Louisiana. 2014 Oct; In Silico Screening of Novel SPAK/OSR1 Inhibitors.
13. Patel V, Sathyamoorthy M, Fiadjoe J, Austin TM, Khalil S. SPA Annual Meeting. SPA; Phoenix, Arizona. 2015 Mar; Morbidity and Mortality in Patients with Difficult Tracheal Intubation: An Analysis of the PeDIR Registry.

Medically Challenging Cases

1. Austin TM; Botta E; Sripada R. ASA Annual Meeting. New Orleans, Louisiana. 2009 Oct; Brachial Plexus Injury or Postoperative Cerebral Emboli? Diagnostic Dilemma Following Transposition of Aberrant Left Subclavian Artery to Left Carotid Artery.
2. Austin TM; Weavind L. ASA Annual Meeting. New Orleans, Louisiana. 2009 Oct; The Mystery of the Elevated Lactate: Hepatic Vein Thrombosis.
3. Austin TM; Algren J. ASA Annual Meeting. San Diego, California. 2010 Oct; Anesthetic Management of a Newborn with a Vein of Galen Malformation, High-Output Heart Failure, and Pulmonary Hypertension.
4. Austin TM; Franklin A. ASA Annual Meeting. Chicago, Illinois. 2011 Oct; The Use of a Continuous Brachial Plexus Catheter to Facilitate Inpatient Rehabilitation in a Pediatric Patient with Upper Extremity CRPS.
5. Austin TM; Franklin A. SPA Annual Spring Meeting. Tampa, Florida. 2012 Feb; The Use of a Continuous Peripheral Nerve Catheter and Elastomeric Infusion Pump to Successfully Facilitate Outpatient Rehabilitation in a Seven-Year Old Child with Refractory Upper Extremity Complex Regional Pain Syndrome.
6. Helmer J, Nguyen T, Lam H, Austin T. SPA Spring Meeting. SPA; Ft Lauderdale, Florida. 2014 Mar; Pediatric Anesthetic Management of the Surgical Resection of Recurrent Pheochromocytoma.
7. Dare S, Nguyen TT, Lam H, Austin TM. ASA Annual Meeting. ASA; New Orleans, Louisiana. 2014 Oct; Inadvertent Passage of Endotracheal Tube through Tracheal Esophageal Fistula during Positioning.
8. Dare S, Lam H, Nguyen TT, Austin TM. ASA Annual Meeting. ASA; New Orleans, Louisiana. 2014 Oct; Anesthesia for a Pediatric Patient with Cardiofaciocutaneous Syndrome.
9. Walls S, Nguyen TT, Lam H, Austin TM. ASA Annual Meeting. ASA; New Orleans, Louisiana. 2014 Oct; Anesthetic Considerations for a Child with Anti-NMDA Encephalitis Presenting for a Right Oopherectomy.

Other

1. Crosby CG; Austin TM; Obremskey WT. Vanderbilt University Medical Center Annual Research Forum. Vanderbilt; Nashville, Tennessee. 2005 Mar; Detection of Orthopaedic Implants by Airport Metal Detectors.
2. Austin TM; Delpire E. B.H. Robbins Seminar Series. Vanderbilt; Nashville, Tennessee. 2010 Nov; Kinase Regulation of Cation-Chloride Cotransporters NKCC1 and KCC2 in Primary Afferent Neurons.
3. Austin TM; Delpire E. Vanderbilt Anesthesiology Research Retreat. Vanderbilt; Nashville, Tennessee. 2011 Apr; Inhibition of KCC2 in Mouse Spinal Cord Neurons Leads to Hypersensitivity to Thermal Stimulation.
4. Austin TM; Franklin A. SPA Annual Spring Meeting. Tampa, Florida. 2012 Feb; Successful Inpatient Rehabilitation in a Pediatric Patient with Refractory Upper Extremity CRPS.
5. Austin TM; Delpire E. Vanderbilt Anesthesiology Research Retreat. Vanderbilt; Nashville, Tennessee. 2012 May; Time Course and Potency of the Novel KCC2 Inhibitor D4.

6. Austin TM. Works in Progress. Vanderbilt Anesthesiology Research Division; Nashville, Tennessee. 2013 Jun; Epidurography During Placement of Thoracic Epidural Catheters in Adolescents Undergoing Minimally-Invasive Pectus Excavatum Repair.
7. Phillips M, Austin T. Summer Research Training Program - Student Seminars. Vanderbilt Anesthesiology Department; Nashville, Tennessee. 2013 Aug 1; Postoperative Analgesia in Children Undergoing Myringotomy and Placement of Equalization Tubes in Ambulatory Surgery.
8. Seelochan A, Austin T. Anesthesiology Summer Internship Program - Student Seminar. Vanderbilt Anesthesiology Department; Nashville, Tennessee. 2014 Jul 25; Static or Dynamic: Re-Evaluating Methods of Attaining of Cuff Pressure Measurements in Pediatric Patients.
9. Austin TM. Works in Progress. Vanderbilt Anesthesiology Research Division; Nashville, Tennessee. 2015 Feb; Inhibition of the CCT domain of SPAK/OSR1.
10. Austin TM, Delpire E. Vanderbilt Anesthesiology Research Retreat. Vanderbilt Department of Anesthesiology; Nashville, Tennessee. 2015 May; Mechanism of Inhibition of SPAK/OSR1.

Invited Presentation - Local

1. Austin TM; Delpire E. Physician Scientist Second Look Weekend. Vanderbilt GME; Nashville, Tennessee. 2012 Feb; Time Course and Potency of the Novel KCC2 Inhibitor D4.
2. Austin TM. REACH Meeting. Nashville, Tennessee. 2012 Dec; Kinase Regulation of Cation-Chloride Cotransporters NKCC1 and KCC2 in Primary Afferent Neurons.
3. Austin TM, Delpire E. Vanderbilt Anesthesiology Research Retreat. Vanderbilt Department of Anesthesiology; Nashville, Tennessee. 2014 May; In Silico Screening of Novel SPAK/OSR1 Inhibitors.