

Curriculum Vitae

NAME: Nischal K. Gautam, MBBS

PRESENT TITLE: Assistant Professor
Director of Pediatric Cardiovascular Anesthesiology

ADDRESS: McGovern Medical School at UTHealth (formerly The University of Medical School at Houston)
Department of Anesthesiology
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CITIZENSHIP: India

GRADUATE MEDICAL EDUCATION:

09/1993 – 04/1998 Bangalore Medical College
Karnataka, India
MBBS

07/1998 – 08/1999 Clinical Internship
Bangalore Medical College
Karnataka, India

07/2002 – 07/2003 Transitional Year
University of Arkansas Medical Sciences College of
Medicine, Little Rock, Arkansas

POSTGRADUATE EDUCATION:

05/2000 – 08/2001 Junior Residency
Anesthesiology and Critical Care
Maulana Azad Medical College
New Delhi, India

07/2003 – 07/2006 Anesthesiology Residency
University of Arkansas Medical Sciences College of
Medicine Little Rock, Arkansas

07/2006 –06/2007 Pediatric Anesthesiology and Pediatric Cardiothoracic
Anesthesiology Fellowship
Arkansas Children’s Hospital
University of Arkansas Medical Sciences College of
Medicine Little Rock, Arkansas

ACADEMIC APPOINTMENTS:

07/2007 – 06/2011 Assistant Professor
Section of Pediatric Cardiothoracic Anesthesiology
Division of Pediatric Anesthesiology and Pain Medicine
University of Arkansas Medical Sciences College of
Medicine Little Rock, Arkansas

07/2011 – Present Assistant Professor
Director, Pediatric Cardiovascular Anesthesia
McGovern Medical School at UTHealth (formerly The
University of Texas Medical School at Houston)
Department of Anesthesiology
6431 Fannin, MSB 5.020
Houston, Texas 77030

HOSPITAL APPOINTMENTS:

07/2007 – 06/2011 Pediatric Cardiothoracic Anesthesiologist
Arkansas Children’s Hospital
Little Rock, Arkansas

07/2011 – Present Pediatric Cardiac Anesthesiologist
Memorial Hermann Hospital
Houston, Texas

LICENSURE: Texas Medical License #N9372
Arkansas Medical License
Karnataka Medical Council License, India

CERTIFICATIONS: Pediatric Anesthesiology - Oct 19,2013
American Board of Anesthesiology - April 20, 2007
ECFMG- October 2001

PROFESSIONAL ORGANIZATIONS:

National

- American Society of Anesthesiologists
- 2008 - 2009 Adjunct member National Committee on Pediatric Anesthesia
- American Society of Anesthesiologist Political Action Committee
- Society of Pediatric Anesthesiology
- Congenital Cardiac Anesthesiologist Society

Regional

- Arkansas Society of Anesthesiologists
- Arkansas Medical Society
- Texas Society of Anesthesiology

HONORS AND AWARDS:

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| 1993 | Honors in Pharmacology During Medical School
Bangalore Medical College, Bangalore University
Karnataka, India |
| 1998 | First Class Honors – MBBS
Bangalore Medical College, Bangalore University
Karnataka, India |
| 06/2006 | Walter S. Guinee Award for Excellence in Pediatric
Anesthesia
University of Arkansas Medical Sciences
Little Rock, Arkansas |
| 06/2008 | Dean's Award for Teaching Excellence as New Faculty
Member
University of Arkansas Medical Sciences
Little Rock, Arkansas |
| 08/2012 | Faculty of the Month
Department of Anesthesiology
McGovern Medical School at UTHealth (formerly The
University of Texas Medical School at Houston)
Houston, Texas |

EDITORIAL POSITIONS:

SERVICE ON NATIONAL COMMITTEES:

2008-2009 Adjunct member - National Committee on Pediatric Anesthesia (American Society of Anesthesiologists)

SERVICE ON THE MCGOVERN MEDICAL SCHOOL AT UT HEALTH COMMITTEES:

2012 – Present Member of Faculty Senate Committee

SERVICE ON DEPARTMENTAL COMMITTEES:

09/2008 – 06/2011 Scientific Research Committee
Department of Pediatric Anesthesiology
Arkansas Children's Hospital
University of Arkansas for Medical Sciences
Little Rock, Arkansas

2012 – Present Member - Quality Improvement Committee for Pediatric Anesthesia
Children's Memorial Hermann Hospital
Houston, Texas

2013- Present Resident Research Committee- Department of Anesthesiology, UT Health, Houston, TX

SERVICE TO THE COMMUNITY:

1. 09/2011 – Cardiac Anesthesiologist and Intensivist to Congenital Heart Mission Trip to Santa Cruz, Bolivia
2. 09/2012 –Cardiac Anesthesiologist and Intensivist to Congenital Heart Mission Trip to Santa Cruz, Bolivia

TEACHING RESPONSIBILITIES:

TEACHING (2005-2011, University of Arkansas Medical Sciences, Arkansas Children's Hospital, Little Rock, Arkansas):

1. Grand Rounds

- a. 02/2005 – Catheter Related Blood Stream Infections – at UAMS for Anesthesiology Department.
 - b. 0/2006 – Strong Ion Difference and Perioperative Acid Base- at ACH, UAMS for Anesthesiology Department.
 - c. 10/2007 – Strong Ion Difference versus Traditional ABG analysis –cardiac ICU setting- ACH – UAMS for Anesthesiology Department
 - d. 11/2009 – Extracorporeal Membrane Oxygenation- What, How, Why- an ACH experience – UAMS for Anesthesiology Department
2. Lectures Presented For Anesthesiology Residents And Fellows (Assistant Professor Clinical Educator Track, 2007-2011) As Assistant Professor at ACH- Clinical Educator Track
- a. 2007 – PA catheters and Invasive Hemodynamic Monitoring
 - b. 2007 – Right Ventricular Outflow Tract Obstruction
 - c. 2008 –ECMO, CPS
 - d. 2008 – Ventricular Assist Device
 - e. 2008 – Tetralogy of Fallot – Perioperative Care
 - f. 2008 – PBLD RVOT Obstruction and Tracheo Esophageal Fistula
 - g. 02/2009 – Hemostasis, Thrombosis and Anticoagulation
 - h. 05/2009 – Written Board review – Pediatric Cardiac Anesthesia, Congestive Heart Disease, Neonatal Physiology
 - i. 11/2009 – Heparin Induced Thrombocytopenia
 - j. 03/2010 – Congenital Heart Disease – Preoperative Evaluation – Ambulatory/ PACU for the Registered Nurses
3. Course Director/Instructor for Simulation
(Pediatric Understanding And Learning Through Simulation Education – PULSE Center At Arkansas Children’s Hospital, Little Rock, Arkansas, 2007-2011)
- a. 12/08 PALS Part 1, Intraop VTach and SVT for Pediatric Anesthesiology Fellows
 - b. 12/08 Simulation of Malignant Hyperthermia for CA2 Anesthesiology Residents
 - c. 1/09 Malignant Hyperthermia, Local Anes Toxicity, VF for Pediatric Anesthesiology Fellows
 - d. 2/09 Part 2 – SVT, PEA, Asystole for Pediatric Anesthesiology Fellows
 - e. 3/09 Cardiac anesthesia- Tetralogy of Fallot, Dilated Cardiomyopathy for Pediatric Anesthesiology Fellows and Pediatric Residents
 - f. 06/2010 – PALS and MH scenarios for OR nursing staff
 - g. 01/2011 – PALS for Anesthesiology Fellow
 - h. 04/2011 – Torsades, PALS for Anesthesiology Fellows

McGovern Medical School at UTHealth (formerly The University of Texas Medical School at Houston) (2011 – Present)

1. Oral Board Preparation And Problem Based Learning Sessions To Anesthesiology Resident Physicians & Fellows:
 - a. 08/2011 – Thoracotomy and One lung ventilation
 - b. 09/2011 – Traumatic Brain Injury
 - c. 02/2012 – Obstructive Sleep Apnea in Pediatrics
 - d. 03/2012 – Sickle Cell Anemia
 - e. 05/2012 – Cardiopulmonary Bypass: Review part 1
 - f. 06/2012 – Thoracic
 - g. 07/2012 – Cardiopulmonary Bypass: Review part 2
 - h. 07/2012 – Cardiopulmonary Bypass: Review part 3
 - i. 08/2012 – Pacemakers
 - j. 09/2012 – Mediastinal Mass
 - k. 11/2012 – Myasthenia Gravis
 - l. 12/2012 – Thoracic surgery and sickle cell disease
 - m. 01/2013 – Tonsillectomy and congenital heart disease
 - n. 05/2013 -- Pyloric Stenosis and the difficult pediatric airway
 - o. 06/2013 – Foreign Body Esophagus, EGD in a child with congenital heart disease
 - p. 07/2013 – Tracheo-esophageal Fistula and congenital heart disease
 - q. 08/2013 – Chronic Obstructive Lung disease perioperative care
 - r. 10/2013 – Malignant Hyperthermia
 - s. 11/2013 – OPD, thoracotomy
 - t. 01/2014 – Pediatric Cardiopulmonary bypass
 - u. 02/2014 – Reactive Airway Disease in Pediatrics

2. Senior Seminars For Anesthesiology Resident Physicians
 - a. 01/2012 – Overview Congenital Heart Disease
 - b. 06/2012 – Tetralogy of Fallot and Anesthesia
 - c. 05/2013 – Neonatal Anesthesia

3. Lectures for Residents/Medical Students
 - a. 05/2012 – Residents – Tetralogy of Fallot
 - b. 07/2012 – Pediatric Residents – Congenital Heart Disease Overview
 - c. 08/2012 – Pediatric Residents – Tetralogy of Fallot
 - d. 08/2012 – T Mode Residents – Cardiovascular physiology
 - e. 09/2012 – Pediatric Residents – Anesthesia for organ transplant
 - f. 09/2013 – Pediatric Anesthesia Residents- Anesthesia for Congenital Heart Disease

Current Clinical and Service Responsibilities:

As a pediatric cardiac anesthesiologist, on call every other day, my primary clinical duties are to facilitate perioperative care of children with congenital heart disease undergoing diagnostic, interventional and complex open heart operations. As the Director of the

pediatric cardiac anesthesia service I am consulted frequently to assist in managing care of children with congenital heart disease undergoing non-cardiac surgeries. Amidst the clinical care, I believe in active didactics not only as a tool to teach a generation of resident physicians but also to learn from their collective wisdom and be able to answer the variety of questions probed by the learners.

CURRENT GRANTS:

Non-Sponsored

1. Principal Investigator: Impact of Isoproterenol Infusion on Bispectral Index Values in Pediatric Patients Undergoing Electrophysiological Studies Under General Anesthesia. (IRB # HSC-MS-12-0597 Issued 10/18/2012)
2. Mentor and Co-Investigator: Perioperative Use of Dexmedetomidine and Incidence of Postoperative Tachyarrhythmias in Patients Undergoing Congenital Heart Defect Repairs. (Principal Investigator, Dr Yulia Turiy, IRB # HSC-MS-13-0168, 05/02/2013)
3. Co-Investigator: Ultrasound confirmation of endotracheal tube location using a saline filled cuff. (Principal Investigator, Dr Atim Uya, IRB HSC-MS-13-0324, 09/19/2013)
4. Principal Investigator: Functional Fibrinogen in Pediatric Patients undergoing cardiopulmonary bypass. (IRB HSC-MS-13-0647, Approved 11/06/2013)

PAST GRANTS:

Non-Sponsored

Arkansas Children's Hospital, University of Arkansas Medical Sciences, Little Rock, Arkansas

1. QI Project – Principal Investigator – Collected Catheter Related Blood Stream Infection “QI” Data from the University of Arkansas Medical Science and Allied 4 Hospitals (Presented Grand Rounds, recommending and Implemented Need for Maximal Barrier Precautions During Central Venous Catheter Placement). February 2005.
2. QI Project – Principal Investigator – Effects of Post CPB-Modified Ultrafiltration on Acid Base Balance Using the Physiocochemical Approach (SID, Strong Ion Difference) vs. Traditional Anion Gap Approach. June 2007

3. Co-Investigator – Effects of Magnesium Administration following Pediatric Cardiac Surgery with Cardiopulmonary Bypass: An Observational Study (Principal Investigator: E. Abraham 12/23/08)
4. Co-Investigator – The Use of Intraoperative Transesophageal Ultrasonography for the Measurement of Renal Blood Flow-A Comparative Study with Transabdominal Ultrasound Measurements (Principal Investigator: L.M. Zabala 07/07/2008)
5. Co-Investigator – Early Laparoscopic Gastrostomy in Infants after Stage I Modified Norwood Palliation (Principal Investigator: M. White 12/29/08)
6. Principal Investigator – Protamine reversal after cardiopulmonary bypass in infants and small children – A Retrospective Case Series (04/26/2010)

Sponsored

1. Co Investigator – Sponsor: Endopharmaceuticals. An Open-Label Safety and Tolerability Study of Immediate-Release and Extended-Release Oxymorphone in Opioid – Tolerant Pediatric Subjects with Chronic Pain. (IRB#107958 Sep 2008-Dec 2010. Principal Investigator M.L. Schmitz)
2. Co-Investigator – Sponsor: Purdue Pharma LP. A Multicenter, Inpatient, Open-Label, Within Subject Dose Titration Study to Characterize the Pharmacokinetics/Pharmacodynamics, Safety and Efficacy of Hydromorphone HCl Oral Solution in Subjects Ranging From 28 Days to 16 Years of Age, Inclusive, Who Require Opioid Analgesics for Post-Operative Pain. (IRB# 82864 April 2007 – April 2010; Principal Investigator M.L. Schmitz)

PUBLICATIONS:

Abstracts

1. Shah, S.R., Apuya, J.S., Ullah, S., Sangari, T., and **Gautam, N.**: Isolated ventricular septal defect after blunt chest trauma. Society of Pediatric Anesthesia 2007
2. Zabala, L.M., Sangari, T.S., **Gautam, N.**, Garcia, X., and Schmitz, M.L.: First things first: long segment congenital tracheal stenosis and congenital heart disease in a newborn with Down's syndrome – A multidisciplinary approach. American Society of Anesthesiologists 2007
3. Schmitz, M.L., Chang, M.M., Killebrew, P.M., Jo, C.H., Austin, M.A., Tucker, J.L., **Gautam, N.K.**, Fiser, W.P., and Jaquiss, R.D.B.: Thromboelastography in pediatric cardiac surgery patients is significantly influenced by age, aspirin, oxygen saturation as measured by pulse oximetry, and preoperative hematocrit. Society for Pediatric Anesthesia and American Academy of Pediatrics, 2008
4. ***Gautam, N.K.**, Zabala, L., Schmitz, M.L., Ullah, S., and Sangari, T.: Perioperative coagulation management of a postpartum patient with severe Ebstein's anomaly and Factor S deficiency. Society for Pediatric Anesthesia and American Academy of Pediatrics, 2008
5. ***Gautam, N.K.**, Schmitz, M.L., Mckamie, W., and Johnson, C.E.: Oxygenation failure on initiation of cardiopulmonary bypass - easy methods to check for low-pressure system gas leaks. Society for Pediatric Anesthesia, 2009
6. ***Gautam, N.K.**, Zabala, L., Ullah, S., and Schmitz, M.: Advancing to Fontan physiology in a child with sickle cell disease. Society of Pediatric Anesthesia, 2011
7. Schmitz, M., McCarthy, R., Pierce, C., Killebrew, P., St. Amour, E., Poteet-Schwartz, K., **Gautam, N.K.**, White, M., Fletcher, T., and Harrison, D.: Monitoring for microemboli during scoliosis surgery in children and adolescents. Society of Pediatric Anesthesia, 2011
8. Zabala, L.M., Craychee, J., Schmitz, M.L., Ullah, S., **Gautam, N.K.**, Harrison, D., and Prodhan, P.: Doppler measurements of renal arterial blood flow velocities and indices in children. Society of Pediatric Anesthesia, 2011
9. ***Gautam, N.K.**, Zabala, L.M., Prodhan, P., Belcher, R., Mckamie, W., Harrison, D., Killebrew, P., and Schmitz, M.L.: Protamine reversal after CPB in infants and small children and impact on thromboelastography. Society of Pediatric Anesthesia, 2011

10. ***Gautam, N.K.**, Rafique, M. and Numan, M.: Impact of isoproterenol on BIS values in children undergoing EP studies under general anesthesia. Society of Pediatric Anesthesia, 2013

Refereed Articles

1. Maheshwari, K., and **Gautam, N.** Current concepts in intraoperative somatosensory evoked potential monitoring. Contemporary Neurosurgery 29(21):1-8, 2007
2. **Gautam, N.K.**, Schmitz, M.L., Zabala, L.M., White, M.W., Mckamie, W.A., Lutz, A., and Johnson, C.E.: Anesthetic vaporizer mount malfunction resulting in oxygenation failure after initiating cardiopulmonary bypass: specific recommendations for the pre-bypass checklist. Journal of Extracorporeal Technology. 41:183-186, 2009.
3. Byrnes, J.W., Williams, B., Prodhan, P., Erdem, E., James, C., Williamson, R., **Gautam, N.**, Imamura, M., Jaquiss, R., and Bhutta, A.: Successful intra-arterial thrombolytic therapy for a right middle cerebral artery stroke in a 2-year-old supported by a ventricular assist device. Transpl. Int. 25(3):e31-3, 2012
4. Zabala, L., Ullah, S., Pierce, C.D., **Gautam, N.K.**, Schmitz, M.L., Sachdeva, R., Craychee, J.A., Harrison, D., Killebrew, P., Bornemeier, R.A., and Prodhan, P.: transesophageal doppler measurement of renal arterial blood flow velocities and indices in children. Anesth. Analg. 114(6):1277-84, 2012
5. **Gautam, N.**, Schmitz, M.L., Harrison, D., Zabala, L.M., Killebrew, P., Belcher, R.H., Prodhan, P., McKamie, W. and Norvell, D.C. Impact of protamine dose on activated clotting time and thromboelastography in infants and small children undergoing cardiopulmonary bypass. Paediatr. Anaesth. 23:233-241, 2013

Manuals

1. Schmitz, M.L., Ullah, S., Watkins, W.B., Zabala, L.M., White, M.W., and **Gautam, N.K.**: Manual: Pediatric Cardiothoracic Anesthesiology: Guide to Almost Anything "Cardiac". Physician Manual for Arkansas Children's Hospital, December 2008

Book Chapters

Accepted for Publication: (2013)

1. N. Gautam and M Rafique: Anesthesia for the neonate with congenital heart disease. In Perinatal Cardiology. Minneapolis: CardioText ISBN 978-1-935395-93-5
2. N Gautam: 10 year old with Hemorrhage in the PACU following Tonsillectomy. In Morgan Mikhail Clinical Anesthesiology/ Clinical Anesthesiology Case Studies (5th Ed). McGraw-Hill Medical.

Professional Communications

Poster Presentations at Scientific Meetings

1. Society of Pediatric Anesthesiologists Meeting, 2007, San Francisco, California. Shah, S.R., Apuya, J.S., Ullah, S., Sangari, T., and **Gautam, N.**: Isolated ventricular septal defect after blunt chest trauma.
2. American Society of Anesthesiologists Annual Meeting, 2007
Zabala, L.M., Sangari, T.S., **Gautam, N.**, Garcia, X., and Schmitz, M.L.: First things first: long segment congenital tracheal stenosis and congenital heart disease in a newborn with Down's syndrome – A multidisciplinary approach.
3. Society for Pediatric Anesthesia and the American Academy of Pediatrics Annual Spring Meeting, April 2008, Section on Anesthesiology, San Diego, California
 - a. Schmitz ML, Chang MM, Killebrew PM, Jo C-H, Austin MA, Tucker JL, **Gautam NK**, Fiser WP, Jaquiss RDB. Thromboelastography in pediatric cardiac surgery patients is significantly influenced by age, aspirin, oxygen saturation as measured by pulse oximetry, and preoperative hematocrit.
 - b. **Gautam NK**, L Zabala, ML Schmitz, S Ullah, T Sangari. Perioperative coagulation management of a postpartum patient with severe Ebstein's anomaly and Factor S deficiency.
4. Society for Pediatric Anesthesia, Annual Spring Meeting, March 2009
Gautam, N.K., Schmitz, M.L., Mckamie, W., and Johnson, C.E.: Oxygenation failure on initiation of cardiopulmonary bypass - easy methods to check for low-pressure system gas leaks.
5. Society of Pediatric Anesthesia, Annual Spring Meeting, Tampa, Florida, March 2011

- a. **Gautam, N.K.**, Zabala, L., Ullah, S., and Schmitz, M.: Advancing to Fontan physiology in a child with sickle cell disease.
 - b. Schmitz, M., McCarthy, R., Pierce, C., Killebrew, P., St. Amour, E., Poteet-Schwartz, K., **Gautam, N.K.**, White, M., Fletcher, T., and Harrison, D.: Monitoring for microemboli during scoliosis surgery in children and adolescents.
 - c. Zabala, L.M., Craychee, J., Schmitz, M.L., Ullah, S., **Gautam, N.K.**, Harrison, D., and Prodhan, P.: Doppler measurements of renal arterial blood flow velocities and indices in children.
 - d. **Gautam, N.K.**, Zabala, L.M., Prodhan, P., Belcher, R., Mckamie, W., Harrison, D., Killebrew, P., and Schmitz, M.L.: Protamine reversal after CPB in infants and small children and impact on thromboelastography.
6. Society of Pediatric Anesthesia Meeting, Las Vegas, Nevada, 2013
Gautam, N.K., Rafique, M. and Numan, M.: Impact of isoproterenol on BIS values in children undergoing EP studies under general anesthesia.

Invited Lectures at Other Academic Facilities:

1. 05/2010 Extracorporeal Membrane Oxygenation for an Anesthesiologist. Anesthesiology Department, McGovern Medical School at UTHealth (formerly The University of Texas Medical School at Houston), Houston, Texas
2. 03/2012 Consultant Examiner For Anesthesia Oral Board Review Course; Michael Ho, M.D., Board Prep Course, Houston, Texas
3. 08/2012 Consultant Examiner For Anesthesia Oral Board Review Course Michael Ho, M.D., Board Prep Course, Houston, Texas
4. 02/2013 Thromboelastography as Point of Care
The Heart Center at Children's Medical Center
The University of Texas Southwest Medical School, Dallas, Texas
5. 09/2013 Intraoperative Management of the Difficult Pediatric Airway
2013 Texas Society of Anesthesiologists Annual Meeting, Lost Pines, Texas