

Kristen Leigh Nelson, MD
The Johns Hopkins University School of Medicine
Curriculum Vitae

DEMOGRAPHIC INFORMATION

Current Appointments:

Assistant Professor of Anesthesiology and Critical Care Medicine,
Division of Pediatric Anesthesiology and Critical Care Medicine
The Johns Hopkins University School of Medicine, Baltimore, MD

Assistant Professor of Pediatrics
The Johns Hopkins University School of Medicine, Baltimore, MD

Medical Director, Hopkins Office for Pediatric Education (HOPE)
The Johns Hopkins University School of Medicine, Baltimore, MD

Personal Data:

The Johns Hopkins University School of Medicine
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EDUCATION AND TRAINING:

1988-1993	B.S.	University of New Orleans New Orleans, LA	Biological Sciences
1996-2000	M.D.	Louisiana State University School of Medicine New Orleans, LA	Medicine
2000-2001	Intern	Louisiana State University School of Medicine Children's Hospital and University Hospital New Orleans, LA	Pediatrics
2001-2003	Resident	Louisiana State University School of Medicine Children's Hospital and University Hospital New Orleans, LA	Pediatrics

2003-2004	Chief Resident	Louisiana State University School of Medicine Children's Hospital and University Hospital New Orleans, LA	Pediatrics
2004-2007	Fellow	The Johns Hopkins Hospital Baltimore, MD	Pediatric Critical Care

PROFESSIONAL EXPERIENCE:

EMPLOYMENT:

1990-1991	University of New Orleans Pancreatic Cancer Research Lab, Student Worker, New Orleans, LA
1992-1993	Children's Hospital, Medical Records Filer, New Orleans, LA
1993-2000	Children's Hospital, ICD-9/CPT Medical Coder, New Orleans, LA
1997-1998	Louisiana State University Medical Center Department of Anatomy, Gross Anatomy Tutor for medical students, New Orleans, LA
2001-2004	Children's Hospital, Resident Transport Physician, New Orleans, LA
2003-2004	Children's Hospital, Emergency Room Staff Physician, New Orleans, LA
2000-2003	Pediatric Residency, Louisiana State University, New Orleans, LA
2003-2004	Chief Resident, Pediatrics, Louisiana State University, New Orleans, LA
2004-2007	Fellow, Pediatric Critical Care, Johns Hopkins University School of Medicine, Baltimore, MD
2007-current	Assistant Professor, Department of Anesthesiology and Critical Care Medicine, Johns Hopkins School of Medicine, Baltimore, Maryland
2007-current	Co-Director, Hopkins Outreach for Pediatric Education (HOPE) Office

RESEARCH ACTIVITIES:

Improving Pediatric Resident and Nurse Resuscitation Skills and Patient Safety through the Use of Medical Simulation

The Role of Human Factors in Cardiopulmonary Arrest Management

Methods to Improve PICU Multidisciplinary Communication and Patient Safety

PUBLICATIONS:

PEER REVIEWED SCIENTIFIC ARTICLES/ REVIEWS:

1. Nelson KL, Ey J. "Irritability, leg pain, and more in a long month of a boy's short life." *Contemporary Pediatrics*. 2004 June; 21(6): 12-16.

2. **Nelson KL**, Ward K, Narang AJ. “ Posttraumatic Pseudotumor Cerebri in a 4-year-old female.” *Pediatric Emergency Care*. 2004 July; 20(7): 460-463.

3. **Nelson KL**, Shilkofski NA, Hunt EA. “The Use of a Cognitive Aid During Simulated Pediatric Cardiopulmonary Arrests: An Observation of 60 mock codes.” Presented at the 6th Annual International Meeting of the Society for Medical Simulation, January 2006. Abstract published in *The Journal of the Society for Simulation in Healthcare*. 1(2):96, Summer 2006 (Manuscript under review).

4. Eppich WJ, Zonfrillo MR, **Nelson KL**, Hunt EA. “Residents’ Mental Model of Bag-Mask Ventilation.” Presented at the American Academy of Pediatrics Convention, Atlanta, Georgia, October 2006 (Manuscript submitted)

5. Schwartz JM, **Nelson KL**, Fackler J, Berkowitz ID, Pronovost PJ, Hunt EA. “Improving Team Communication in the PICU: Use of Goal Directed Care.” Abstract published in *Critical Care Medicine*. 34(12) Abstract supplement: A125, December 2006. Presented at the Society of Critical Care Medicine meeting, February 2007. (Manuscript under review)

6. **Nelson KL**, Mills W, Umbel S, Crosson J, Shaffner DH, Hunt EA. “Lightning, Sudden Cardiac Death, Simulation and an Automated External Defibrillator: The Perfect Storm.” *Resuscitation* 2007 Sep;74(3):567-71. Epub 2007 Apr 25.

7. Hunt EA, Shilkofski NA, Stavroudis T, **Nelson KL**. “Simulation: Translation to Improved Team Performance.” *Anesthesiology Clinics*. 2007 Jun;25:301-319.

8. Shilkofski NA, **Nelson KL**, Vera K, Hunt EA. “Recognition and Treatment of Unstable Supraventricular Tachycardia by Pediatric Residents in a Simulation Scenario.” (In press)

BOOK CHAPTERS:

Chapter 13: Organ Donation. *Roger’s Textbook of Pediatric Intensive Care*. Berkowitz, I, **Nelson, KL**. Editor: Nichols DG. WoltersKluwer Health. 4th edition. In press.

PUBLISHED ABTRACTS:

1. **Nelson KL**, Butterbaugh G, Tilton AH, Nadell J. “Neurodevelopmental Recovery in Pediatric Traumatic Brain Injury: A Preliminary Study.” *Journal of Child Neurology*, 1998 May;13(5): 233.

2. **Nelson KL**, Deputy S. “Spontaneous Spinal Epidural Hematoma (SSEH) Mimicking Transverse Myelitis.” Abstract Published in *Journal of Investigative Medicine*. 2002 January; 50(S1): 107A.

3. **Nelson KL**, Ward K, Narang AJ. “MRI in the Diagnosis of Post-Traumatic Dural Venous Sinus Thrombosis.” Abstract Published in *Journal of Investigative Medicine*. 2003 February; 51(S1): S264.

4. **Nelson KL**, Despinasse B, Aviles D. "Asymptomatic Presentation of HIV Nephropathy in Children." Abstract published in *Journal of Investigative Medicine*. 2003 February; 51(S1): S272.
5. **Nelson KL**, Shilkofski NA, Hunt EA. "The Use of a Cognitive Aid During Simulated Pediatric Cardiopulmonary Arrests: An Observation of 60 mock codes." Presented at the 6th Annual International Meeting of the Society for Medical Simulation, January 2006 Abstract published in the *Journal of the Society for Simulation in Healthcare*. 1(2):96, Summer 2006. (In press)
6. Hunt EA, **Nelson KL**, Shilkofski NA, Haggerty JA. "Performance of Crucial Resuscitation Maneuvers during Simulated Pediatric Cardiopulmonary Arrests: The Effect of an Educational Intervention." Presented at the 6th International Meeting of the Society for Medical Simulation, January 2006. Abstract published in the *Journal of the Society for Simulation in Healthcare*. 1(2):139, Summer 2006. (Manuscript in progress)
7. Shilkofski NA, **Nelson KL**, Vera K, Hunt EA. "Recognition and Treatment of Unstable Supraventricular Tachycardia by Pediatric Residents in a Simulation Scenario." Presented at the International Meeting on Medical Simulation, January 2006. Abstract published in the *Journal of the Society for Simulation in Healthcare*. 1(2):112, Summer 2006. (In press)
8. Hunt, EA, **Nelson KL**, Shilkofski NA. "Introduction of Simulation into a Pediatric Training Curriculum". Hunt EA, Nelson KL, Shilkofski NA. Presented at the meeting for the *Society in Europe for Simulation Applied to Medicine – SESAM*. Porto, Portugal. July 2006.
9. Eppich WJ, Zonfrillo MR, **Nelson KL**, Hunt EA. "Residents' Mental Model of Bag-Mask Ventilation." Presented at the American Academy of Pediatrics Convention, Atlanta, Georgia, October 2006. (Manuscript submitted)
10. **Nelson KL**, Shilkofski NA, Saliski M, Vera K, Haggerty J, Hunt EA. "Cognitive Aids Do Not Prompt Initiation of Cardiopulmonary Resuscitation in Simulated Cardiopulmonary Resuscitation." Presented at the 7th Annual Meeting of the Society for Simulation in Healthcare, January 2007. (Manuscript in preparation)
11. Hales, R, Nishisaki A, Jarrah R, Biagas K, Cheifetz I, Corriveau C, Garber N, Hunt E, McCloskey J, Morrison W, **Nelson K**, Niles D, Smith S, Thomas S, Tuttle S, Helfaer M, Nadkarni V. "Multi-institutional high fidelity simulation and task training "Boot Camp" orientation program: a report from a pediatric critical care simulation consortium." Presented at the 7th Annual Meeting of the Society for Simulation in Healthcare, January 2007. (Manuscript under review)
12. Schwartz JM, **Nelson KL**, Fackler J, Berkowitz ID, Pronovost PJ, Hunt EA. "Improving Team Communication in the PICU: Use of Goal Directed Care." Abstract published in *Critical Care Medicine*. 34(12) Abstract supplement: A125, December 2006. Presented at the Society of Critical Care Medicine meeting, February 2007. (Manuscript under review)
13. Hunt EA, Shilkofski NA, Vera K, Haggerty J, **Nelson KL**. "Delays to Performance of Resuscitation Maneuvers in Simulated Pediatric Cardiopulmonary Arrest- An Objective Evaluation." Abstract published in *Critical Care Medicine*. 34(12) Abstract supplement: A14, December 2006. Presented at the Society of Critical Care Medicine meeting, February 2007. (Manuscript in progress)

14. **Nelson KL**, Yaster M, Corridore M, Kost-Byerly S, Greenberg RS, Hunt EA, Monitto CL. "Patient/Nurse Controlled Analgesia or Patient Controlled Analgesia by Proxy: An Interim Analysis of a National Survey." Presented at the Society for Pediatric Anesthesia meeting, March 2007. (Manuscript in progress)
15. **Nelson KL**, Yaster M, Corridore M, Kost-Byerly S, Greenberg RS, Hunt EA, Monitto CL. "Pediatric Pain Management 2006: An Interim Analysis of a National Survey." Presented at the Society for Pediatric Anesthesia meeting, March 2007. (Manuscript in progress)
16. **Nelson KL**, Heitmiller E, Yaster M, Hunt EA, Schwartz JM, Shaffner DH. "A Survey of Cardiopulmonary Resuscitation Experience and Knowledge of Pediatric Anesthesiologists." Oral presentation at the American Society of Anesthesiologists, October 2007. (Manuscript in progress)

GRANTS:

Association of Pediatric Program Directors (APPD) Grant

Co-Principal Investigators (PI): Nicole Shilkofski, MD, Kristen Nelson, MD and Elizabeth A. Hunt, MD, MPH

Design for a Pediatric Resident Curriculum and Evaluation Tool in Pediatric Resuscitation

Role: Co-PI

Grant period: 1 year (July 2005-June 2006)

NIH Loan Repayment Grant

Randomized controlled study to establish the patterns of errors associated with cognitive aid use during pediatric resident mock codes. This study uses high-fidelity simulation to observe pediatric residents in individual "mock codes" in order to measure time elapsed between onset of pulseless ventricular tachycardia to successful defibrillation, and other important resuscitation maneuvers and looks for associations between cognitive aid use, various baseline characteristics and performance.

Role: PI

Grant period: 2 years (July 2006 – June 2008)

EDUCATIONAL ACTIVITIES:

TEACHING:

Medical student Problem based learning group, Instructor- 2003-2004

Pediatric Advanced Life Support Course, Instructor- 2005-current

Facilitator/Course Instructor, Pediatric Critical Care Boot Camp to teach critical skills through the use of simulation-2006-current

Mock code/Cardiopulmonary resuscitation instruction to First and Fourth year medical students-2006-current

Annual mock code resuscitation training for pediatric residents-2004-current

Facilitator/Course Instructor-Simulation-based Pediatric Airway Skills Workshop, CHEST conference, 2007

Simulation-based training of anesthesia residents (CA-1)-2007

Annual competency skills assessment for pediatric ICU nurses-2007-current
Simulation-based orientation resuscitation skills training for pediatric ICU nurses-2007-current
Simulation-based post-op cardiac skills training for pediatric ICU nurses-2008

CLINICAL ACTIVITIES:

Pediatric Intensive Care Unit Attending

LICENSES:

2000-2004 Physician and Surgeon License, Louisiana
2006-present Physician and Surgeon License, Maryland
2006-current Drug Enforcement Administration License
2006-current Maryland Controlled Dangerous Substances License

BOARDS:

Diplomate of the American Board of Pediatrics, 2003-2010, No. 079039

INSTITUTIONAL ADMINISTRATIVE APPOINTMENTS:

2005-present Member, Pediatric Cardiopulmonary Resuscitation Advisory Committee, Johns Hopkins Hospital
2007-present Director, Hopkins Office for Pediatric Education

PROFESSIONAL SOCIETIES:

1999-present Member, Alpha Omega Alpha Medical Honor Society
2001-2004 Resident Section Representative, American Academy of Pediatrics
2001-present Member, American Academy of Pediatrics
2003-2004 Member, Greater New Orleans Pediatric Society
2004-present Member, Society of Critical Care Medicine
2005-present Member, Society for Simulation in Healthcare
2005-present Member, Pediatric Cardiopulmonary Resuscitation Advisory Committee, Johns Hopkins Hospital
2006-present Professional Member, American Heart Association
2008-current Chair, Pediatric Special Interest Group, Society for Simulation in Healthcare

RECOGNITION:

HONORS AND AWARDS:

1998 Maggie Duncan Scholarship Award of Southern Pediatric Neurology Society

Kristen Nelson, MD

1999	Alpha Omega Alpha Medical Honor Society
1999	Lettie Pate Whitehead Scholarship
2000	American Medical Women's Association Janet M. Glasgow Memorial Achievement Citation
2000-2001	Best Intern of the Year, Aesculapian Society
2002-2003	Best Resident of the Year, Aesculapian Society
2002-2003	Penny Scurto Outstanding Pediatric Resident Award
2002-2003	Outstanding Teaching Resident of the Year
2002-2003	Best PICU Resident (chosen by staff, nurses and respiratory therapists)
2002	SAFMR/SSCI Outstanding Trainee Award
2003	SAFMR/SSCI Outstanding Trainee Award
2006	Third Place, Best Abstract, Patient Safety, "The Use of a Cognitive Aid During Simulated Pediatric Cardiopulmonary Arrests: An Observation of 60 mock codes." 6th Annual International Meeting on Medical Simulation
2007	First Place, Best Trainee Abstract Award Winner, "Cognitive Aids Do Not Prompt Initiation of Simulated Cardiopulmonary Resuscitation." 7 th Annual International Meeting on Simulation in Healthcare

INVITED REVIEWS:

1. **Nelson, KL**. Invited Pediatric Literature Reviews. *Pediatric Infections Forum*. 2004 June; 6(1): 10-14.
2. Hunt EA, **Nelson KL**, Shilkofski NA. "Simulation in Medicine: Addressing patient safety and improving the interface between health care providers and medical technology." *Biomedical Instrumentation and Technology*. 2006 September-October; 40(5); 399-404. (Invited article)