

BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2.
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Keith Christopher Kocis, M.D., M.S.		POSITION TITLE Professor	
eRA COMMONS USER NAME Keith_Kocis			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
State University of New York College at Cortland	BS	1983	Biology
SUNY Health Science Center at Syracuse	MD	1987	Medicine
The University of Michigan	MS	1993	Clinical Research
Children's National Medical Center, Wash, DC	Internship	1987	Pediatric Medicine
Children's National Medical Center, Wash, DC	Residency	1988-90	Pediatric Medicine
The University of Michigan Medical Center	Fellow	1990-93	Peds Cardiology
The Johns Hopkins Medical Institutions	Fellow	1994-96	Peds Crit Care Med
Harvard School of Public Health	Other	11/02	MD Leadership Develop
Kenan-Flagler Business School University of North Carolina	Other	2005,2007	Carolina Entrepreneurial Initiative(CEI)

A. Positions and Honors

Positions and Employment

- 1993-1994 Clinical Assistant Professor of Pediatrics, University of Michigan, Ann Arbor, MI
- 1996-2000 Assistant Professor of Pediatrics & Surgery, University of Southern California Los Angeles, CA
- 1996-1997 Divisions of Pediatric Critical Care Medicine, Pediatric Cardiology, and Cardiothoracic Surgery, Medical Director, Pediatric Cardiothoracic Intensive Care Unit, University of Southern California Los Angeles, CA
- 1998-2000 Divisions of Pediatric Critical Care Medicine, Pediatric Cardiology, and Cardiothoracic Surgery, Medical Director, Pediatric Cardiothoracic Intensive Care Unit, University of Southern California Los Angeles, CA
- 1998-2000 Associate Director, Pediatric Critical Care Medicine, University of Southern California Los Angeles, CA
- 2000-2005 Associate Professor of Pediatrics, University of North Carolina Chapel Hill, NC
- 2000-2006 Chief, Division of Pediatric Critical Care Medicine University of North Carolina Chapel Hill
- 2000-2002 Fellowship Director, Division of Pediatric Critical Care Medicine, University of North Carolina & 2003-2006
- 2008-
- 2000-2002 Medical Director, Pediatric Intensive Care Unit, University of North Carolina Chapel Hill, NC & 2005-2006
- 2005- Professor of Pediatrics, University of North Carolina, Chapel Hill, NC
- 2007- Adjunct Professor of Biomedical Engineering, University of North Carolina, Chapel Hill, NC
- 2009- Professor of Anesthesia, University of North Carolina, Chapel Hill, NC

HONORS

- 1981-1982 Francis S. Cheney Presidential Scholar
- 1982 Sigma Delta Phi Scholarship
- 1982 Alpha Sigma Scholarship
- 1982 Nellie Davidson Scholarship
- 1982 Page Scholarship
- 1983 Dr. Norman Reynolds Memorial Award

- 1983 Donovan C. Moffett Scholarship
 1983-1984 Research Fellow in Pathology, SUNY HSC at Syracuse
 1985 Charles F. Clark Scholarship, SUNY HSC at Syracuse
 1992 Outstanding Young Clinical Investigators Award Department of Pediatrics, University of Michigan
 2000 Visiting Research Professor, Department of Anesthesiology and Critical Care Medicine, Karolinska Institute, Stockholm, Sweden
 2007 Carolina Entrepreneurial Initiative UNC Kenan Flager School of Business "Coaches Award"

ADVISORY BOARDS:

Pediatric Advisory Committee. The Food and Drug Administration (FDA) (11/06-6/10)
 Spacelabs Healthcare (Issaquah, WA) (2006-)

BOARD CERTIFICATIONS:

Diplomat of the National Board of Medical Examiners (7/1/88)
 Diplomat of the American Board of Pediatrics (11/14/90)
 Diplomat of the American Board of Pediatrics -sub board of Pediatric Cardiology (8/10/94)
 Diplomat of the American Board of Pediatrics -sub board of Pediatric Critical Care Medicine (8/96)
 Program for Renewal of Certification in Pediatrics (1/98)
 Program for Renewal of Certification Pediatric Subspecialties in Pediatric Cardiology (8/00)
 Program for Renewal of Certification Pediatric Subspecialties in PCCM (7/02)

PROFESSIONAL MEMBERSHIPS

Phi Kappa Phi Honor Society (1983)
 Beta Beta Beta Biological Honor Society (1986)
 Upsilon Epsilon Chapter- President (1986-87)
 Fellow of the American Academy of Pediatrics (1991) Sections on Cardiology; Critical Care; Epidemiology
 Fellow of the American College of Cardiology (1994)
 North Carolina Pediatric Society (2001)
 Society for Pediatric Research (2005)
 Fellow of the American College of Critical Care Medicine (2005)

PATENTS (PENDING)

INTERNATIONAL PATENT: PCT/US2007/012736

Methods, systems, and computer program products for evaluating a patient in a pediatric intensive care unit.
 Co-inventor

B. Selected peer-reviewed publications (in chronological order).

1. **Kocis KC**, Meliones JN, Dekeon MK, Callow LL, Lupinetti FM, Bove, EL. High frequency jet ventilation for respiratory failure following congenital heart surgery. *Circulation* 1992;86(5 Suppl):II127-132
2. Mendelsohn AM, Lloyd TR, Crowley DC, Sandhu SK, **Kocis KC**, Beekman RH. Late follow-up of balloon angioplasty in children with a native coarctation of the aorta. *Am J Cardiol* 1994; 74(7):696-700
3. **Kocis KC**, Snider AR, Lupinetti FM, Bove EL. Doppler forward flow profiles of St. Jude Medical prosthetic valves in pediatric patients. *Am J Cardiol* 1994;74(1):77-79.
4. **Kocis KC**, Snider AR, Vermilion RP, Beekman RH. Two dimensional and Doppler ultrasonographic evaluation of femoral arteries in infants following cardiac catheterization using a sheathed or non sheathed arterial catheter. *Am J Cardiol.* 1995;75(8):642-645
5. **Kocis KC**, Callow LB, Vermilion RP, Kulik TJ, Ludomirsky A, Bove EL. Complications of femoral artery cannulation for perioperative monitoring in children. *J Thorac Cardiovasc Surg* 1996;112(5):1399-1400

6. **Kocis KC**, Midgley FA, Ruckman RN. Aortic arch complex anomalies: A twenty year experience with symptoms, diagnosis, associated cardiac defects, and surgical repair. *Pediatr Card* 1997;18(2):127-132.
7. **Kocis KC**, Radell PJ, Sternberger WI, Benson JE, Nichols DG, Traystman, R. Ultrasound evaluation of piglet diaphragm function before and after fatigue. *J Appl Physiol*. 1997;83(5):1654-1659.
8. **Kocis KC**. Chest pain in pediatrics. *Pediatr Clin North Am*. 1999;46(2):189-203.
9. **Kocis KC**, Meliones JN. Cardiopulmonary interactions: Physiology and clinical correlates. *Prog Pediatr Cardiol*, 2000;11:203-210.
10. Meliones JN, **Kocis KC**, Bengur AR, Snider AR. Diastolic function in neonates after the arterial switch operation: Effects of positive pressure ventilation and inspiratory time. *Intensive Care Med* 2000 Jul;26(7):950-5
11. Arnold JH, Anas NG, Luckett P, Cheifetz IM, Reyes G, Newth CJ, **Kocis KC**, Heidemann SM, Hanson JH, Brogan TV, Bohn DJ. High-frequency oscillatory ventilation in pediatric respiratory failure: a multicenter experience. *Crit Care Med* 2000;28(12):3913-9
12. **Kocis KC**. Pediatric Cardiac ECMO: Supporting life or prolonging death? *Crit Care Med*. 2000;28(2):594-595.
13. **Kocis KC**, Dekeon, MK, Rosen HR, Bandy, KP, Crowley, DC, Bove, EL, Kulik, TJ. Pressure regulated volume control versus volume control ventilation in infants after surgery for congenital heart disease. *Pediatr Cardiol* 2001;22(3) 233-7.
14. Gitterman DP, Greenwood RS, **Kocis KC**, Mayes R, McKethan AN. Did a Rising Tide Lift All Boats? The NIH Budget and the Pediatric Research Portfolio. *Health Affairs* 2004;23(5):113-24.
15. Kulik T, Giglia TM, **Kocis KC**, Mahoney LT, Schwartz SM, Wernovsky G, Wessel DL. ACCF/AHA/AAP Recommendations for Training in Pediatric Cardiology. Task Force 5: Requirements for Pediatric Cardiac Critical Care *Pediatr* 2005 116(12):1589-92.
16. Kulik T, Giglia TM, **Kocis KC**, Mahoney LT, Schwartz SM, Wernovsky G, Wessel DL. ACCF/AHA/AAP Recommendations for Training in Pediatric Cardiology. Task Force 5: Requirements for Pediatric Cardiac Critical Care *J Am Col Cardiol* 2005, 46(7):1396-9.
17. Mabe TG, Honeycutt T, Cairns BA, **Kocis KC**, Short KA. High-frequency percussive ventilation in a pediatric patient with hydrocarbon aspiration. *Pediatr Crit Care Med*. 2007 Jul;8(4):383-5.
18. Honeycutt TC, El Khashab M, Wardrop RM 3rd, McNeal-Trice K, Honeycutt AL, Christy CG, Mistry K, Harris BD, Meliones JN, **Kocis KC**. Probiotic administration and the incidence of nosocomial infection in pediatric intensive care: A randomized placebo-controlled trial. *Pediatr Crit Care Med* 2007 8(5):
19. Olsen B, **Kocis KC**. Measuring Cardiac Output in Critically Ill Infants and Children: Are we still "Talking the Talk" or can we now "Walk the Walk"? *Pediatr Crit Care Med* 2007
20. Piehl, Mark D. MD, MPH; Manning, James E. MD; McCurdy, Shane L. BS; Rhue, Tim S. MA; **Kocis, Keith C. MD, MS**, FCCM; Cairns, Charles B. MD; Cairns, Bruce A. MD. Pulse contour cardiac output analysis in a piglet model of severe hemorrhagic shock. *Crit Care Med*. 2008; 36(4):1189-95.

C. Research Support.

Ongoing Research Support

(U54) Senator Paul D. Wellstone Muscular Dystrophy Cooperative Research Centers: (07/08-) Safety and Feasibility of Transvenous Limb Perfusion with Normal Saline in Human Muscular Dystrophy
 Goals: first human trial at evaluating safety of a novel technique for mechanically inserting naked DNA plasmids into children with muscular dystrophy.
 Role: Other

Completed Research Support

North Carolina General Assembly Research Competitiveness Grant: 12/07-12/08

REALTROMINS: Real time risk of mortality and instability in critically ill and hospitalized children.

Goals: develop 3 novel medical devices that continuously assess risk of mortality in critically ill children, premature infants, and hospitalized children.

Role: PI

R41 Kocis, Daniel J. Jr, PhD (PI) 07/05-06/06

"Real Time Risk of Mortality in Critically ill Children"

NIH STTR

Goals: Case control study to develop a real time risk of mortality in critically ill children using advanced statistical and neural network techniques

Role: Co-PI, Academic Affiliate

K23 Kocis, Keith C, MD, MS (PI) 9/1/00 – 8/31/06

"Ultrasound Evaluation of Diaphragm Function in Children"

NICHD

Goals: Develop a novel noninvasive measure of diaphragm function using digital ultrasonography, advanced engineering and image analyses

Role: PI

Pediatric Orphan Drug trials: 5/05-10/08

"Safety and efficacy of Lorazepam in Critically Ill Children"

Goals: per title

Role: Co- investigator