

CURRICULUM VITAE

George Arthur Porter, Jr., M.D., Ph.D.

TITLE: Assistant Professor

WORK ADDRESS:

Department of Pediatrics
Division of Cardiology
Yale University School of Medicine
302 LCI or 430 FMP
333 Cedar St.
P. O. Box 208064
New Haven, CT 06520-8064
(203) 785-2022 (cardiology office)
(203) 737-5972 (fax)

CLINIC ADDRESS:

Yale New Haven Hospital Pediatric Specialty Clinic
2nd Floor
1 Park St.
New Haven, CT 06510

EDUCATION AND TRAINING:

1982-1986 Bachelor of Science (Biology) with Honors, University of Notre Dame, Notre Dame, IN
1986-1994 M.D, Ph.D. (Physiology), University of Maryland School of Medicine, Baltimore, MD
1994-1997 Pediatric Residency, Yale-New Haven Hospital, New Haven, CT
1997-2000 Pediatric Cardiology Fellowship, Yale-New Haven Hospital, New Haven, CT

HOSPITAL APPOINTMENT AND TITLES:

2000-2001 Instructor, Department of Pediatrics, Yale University School of Medicine, New Haven, CT
2001-2004 Associate Research Scientist, Department of Pediatrics, Yale University School of Medicine, New Haven, CT
2004-present Assistant Professor, Department of Pediatrics, Yale University School of Medicine, New Haven, CT

HONORS AND AWARDS:

1992 Extended Neuroscience Research Award, The American Academy of Neurology
1994 Dr. J. Edmund Bradley Award for Excellence in Pediatrics, University of Maryland School of Medicine.
1994 The American Federation for Clinical Research Medical Student Award from the University of Maryland.

- 1999 American Heart Association Travel Award to the 1999 Weinstein Cardiovascular Development Conference
2004 The Mae Gailani Junior Faculty Award for Uncompromising Dedication to Research and Patient Care, Yale Department of Pediatrics.

LICENSURE AND CERTIFICATION:

- 1994 Neonatal Advanced Life Support
1996 Pediatric Advanced Life Support
1997 Diplomat, National Board of Medical Examiners
1998 Certified by the American Board of Pediatrics in Pediatrics
2004 Recertified
1998 State of Connecticut, Medical License #037193
2000 Certified by the American Board of Pediatric, Sub-board: Cardiology

ORGANIZATIONS:

- 1996 National Board of Medical Examiners
1997 American Academy of Pediatrics—Fellow
2000 American Academy of Cardiology—Fellow
2002 American Society of Biochemistry and Molecular Biology
2003 Eastern Society of Pediatric Research
2003 International Society for Heart Research
2004 American Heart Association
2005 Society for Pediatric Research

EDITORIAL POSITIONS:

Manuscript Reviewer:

- 2003 Developmental Dynamics
2003 Histology and Histopathology
2006 Acta Pharmacologica Sinica
2007 Journal of Pediatric Endocrinology & Metabolism

Abstract Reviewer/Meeting Organizer:

- 2003 Weinstein Cardiovascular Development Conference, Boston, MA.
2004 Workshop: Advances in Small Animal Ultrasound Imaging, New Haven, CT.
2005 Eastern Society of Pediatric Research, Greenwich, CT.

Grant Reviewer:

- 2003, 2006-7 American Heart Association Northeast Affiliate, Committee NEA5A (Cellular/Molecular Genetics & Signaling, Cardiovascular Development)

Symposium Moderator

- 2005 Eastern Society of Pediatric Research, Greenwich, CT, Session: "Cardiac and Neonatal Outcomes Research"
2006 Society for Pediatric Research, San Francisco, CA, Session "Pulmonary and Cardiac Development: Transcriptional Control and Stem Cells"

2007 Society for Pediatric Research, Toronto, ON, Canada, Session “Pulmonary and Cardiac Development”

HOSPITAL COMMITTEES:

2001-2002 Committee for distribution of Faculty Enrichment Funds, Department of Pediatrics, Yale University School of Medicine.
2002-2003 Committee for Continuing Medical Education, Department of Pediatrics, Yale University School of Medicine.
2004 Chair, Mission Statement Committee, Department of Pediatrics, Yale University School of Medicine.
2004-present Medical Student Liaison, Pediatric Research Committee, Department of Pediatrics, Yale University School of Medicine.

RESEARCH EXPERIENCE:

Graduate School: Doctor of Philosophy for “The membrane skeleton of costameres” under the mentorship of Dr. Robert J. Bloch, Ph.D., Department of Physiology, University of Maryland School of Medicine, Baltimore, MD.

Postdoctoral Fellow: Studied adenosinergic control of embryonic cardiac function and development under the mentorship of Dr. Scott A. Rivkees, M.D., Department of Pediatrics, Yale University School of Medicine, New Haven, CT.

TEACHING:

Courses:

Mentor for Alejandro Bribriescio for 2 semesters of undergraduate research, course MCDB 475a and b.
Mentor for Alexandra Mazur for the undergraduate course MCDB 470b—senior tutorial.
Organizer and Lecturer, Cardiac Anatomy and Physiology, Pediatric Cardiology Fellowship, Yale University School of Medicine.
Preceptor for “Seminars in Pediatrics: Bench-to-Bedside” since 2004.

Yearly Lectures:

Pediatric Cardiology (various topics), Noon conference, Bridgeport Hospital, Department of Pediatrics, 1998-present, one lecture per year.
Pediatric Cardiology (various topics), outpatient resident conferences, Yale-New Haven Hospital, Department of Pediatrics, 1998-present, one or two lectures per year.
Congenital Heart Disease Workshop for First Year Medical Students, Yale University School of Medicine, 1999-present, one lecture per year.
“Cardiac Pharmacology” for first year Pediatric Nurse Practitioner Students, Yale University School of Nursing, 1999-present, one lecture per year.
“Pediatric Cardiology #1” for first year Pediatric Nurse Practitioner Students, Yale University School of Nursing, 2000-present, once per year.
“Pediatric Cardiology #2” for second year Pediatric Nurse Practitioner Students, Yale University School of Nursing, 2000-present, once per year.

Invited Lectures:

- Pediatric Grand Rounds, "Kawasaki Disease," Yale Department of Pediatrics, New Haven, CT, 2/02.
Pediatric Grand Rounds, "Kawasaki Disease," Bridgeport Hospital Department of Pediatrics, Bridgeport, CT, 4/02.
Pediatric Grand Rounds, "Kawasaki Disease," Yale Department of Rheumatology, New Haven, CT, 5/02.
Pediatric Grand Rounds, "Kawasaki Disease," Yale Department of Pediatrics, New Haven, CT, 2/06.
Rheumatology Grand Rounds, "Kawasaki Disease," Yale Department of Rheumatology, New Haven, CT, 5/06.
Cardiovascular Research Conference, "The anterior heart field, the cardiac outflow tract, and calcium," Brown University, Providence, RI, 9/06.
Cardiovascular Research Center, "A role for calcium channels in cardiac outflow tract development?" Temple University School of Medicine, Philadelphia, PA, 10/20/06.

Trainee Mentoring:

Basic Science:

<u>Name</u>	<u>Period</u>	<u>Status</u>
Alejandro Bribriescio	2003-2004	Undergraduate Student, Yale University (BioSTEP student)
Michael Rollinson	summer 2005	Undergraduate Student, American University
Rachel Willner Thompson	2003-2004	Yale Medical Student Thesis Advisor
Michelle Vines	summer 2005	Undergraduate Student, Spellman College (BioSTEP student)
Mukul Garg	2006	Masters Intern, Univ. of New Haven
Annie Bailey	summer 2006	Undergraduate Student, Howard University (BioSTEP student)
Nida Intarapanich	summer 2006	Undergraduate Student, Dartmouth College
Kristine Specht	summer 2006	Undergraduate Student, Yale University
Sundeep Bhat	2006-present	Medical Student, Yale University
Sujatha Pullagura	spring 2007	Masters Intern, Univ. of New Haven
Padmavathi Ashadha	spring 2007	Masters Intern, Univ. of New Haven
Hector Crespo	2007	Masters Intern, Univ. of New Haven
Benoit Bewley	summer 2007	Medical Student, Emory University

Clinical:

<u>Name</u>	<u>Period</u>	<u>Status</u>
Jessica Cárdenas-Navia	spring 2003	Undergraduate Student, Yale University
Florence Wu	summer 2003	Undergraduate Student, Yale University
Natalie Munoz	summer 2003	Undergraduate Student, Yale University
Terece Banks	spring 2004	Undergraduate Student, Yale University
Jason Van Batavia	fall 2004	Undergraduate Student, Yale University
Pansy Tsang	fall 2004	Undergraduate Student, Yale University

Alexandra Adler	2005-2006	Undergraduate Student, Yale University
Quynh Chu	2005-2006	Undergraduate Student, Yale University
Claire Knodell	2005-2006	Undergraduate Student, Yale University
Yasha Modi	2005-present	Yale Medical Student
Sundeeep Bhat	2006-present	Yale Medical Student
Betty Huo	summer 2006	SUNY Buffalo Medical Student
Kathryn Schleckser	2006-2007	Undergraduate Student, Yale University
Kelsey Johnson	2007	Undergraduate Student, Yale University

GRANT SUPPORT:

Past:

Pfizer Postdoctoral Fellowship

“Adenosinergic control of embryonic cardiac function and development”

07/01/1999-06/30/2002

Direct Costs (yearly; total): Year 1—\$40,000, years 2-3—\$65,000/yr; \$170,000

Percent Effort: 100 %

Principal Investigator

YCHRC Grant (P30, HD27757)

No title

12/01/2000-11/30/2003

Direct Costs (yearly; total): years 1, 2, 3—\$40,000, \$48,000, \$55,000; \$143,000

Percent Effort: 0 %

NIAID, R21 (1 R21 AI067762-01)

Jeffrey Kahn (PI)

“The role of a novel coronavirus In Kawasaki Disease”

07/01/2006-06/30/2008

Direct Costs (to Dr. Porter): none

Percent Effort: 5 %

Co-Investigator

Current:

Mentored Scientist Development Grant (K08 HL70765-01)

“Calcium-mediated modulation of cardiac development”

07/01/2002-06/30/2007

Direct Costs (yearly; total): \$122,500; \$612,500

Percent Effort: 80 %

Principal Investigator

Charles H. Hood Foundation Child Health Research Grant

“Calcium channels regulate the formation of the cardiac outflow tract from the anterior heart field”

07/01/06-6/30/08

Direct Costs (yearly; total): \$75,000; \$150,000

Percent Effort: 10%

Principal Investigator

American Heart Association, Grant-in-Aid (0555860T)

Jeffrey Kahn (PI)
“The role of the New Haven coronavirus, a novel human pathogen, in Kawasaki Disease”
07/01/2005-06/30/2008
Direct Costs (to Dr. Porter, yearly; total): \$6,545; \$19,365
Percent Effort: 5 %
Collaborating Investigator

Bristol-Myers Squibb Medical Imaging

George Porter (PI)
“Trial Cardiolite 301”
01/25/2006-06/30/2016 (Enrollment and follow-up)
Direct Costs (per patient; incidental): \$6,149; \$6,050
Percent Effort: 0 %
Principal Site Investigator

Bristol-Myers Squibb Medical Imaging

George Porter (PI)
“Trial Cardiolite 302”
2/28/2006-9/14/2006
Direct Costs (per patient; incidental): \$2,350; \$6,050
Percent Effort: 0 %
Principal Site Investigator

NIH, 1 S10 RR023602-01

Lawrence Young (PI)
“Visual Vevo770 Imaging system”
4/01/2007-3/31/2008
Direct Costs: \$0.00
Percent effort: 0 %
Co-investigator

Pending:

NIH, 1 R21 HL091428-01

George Porter (PI)
“Calcium channels control cardiac development from the anterior heart field”
12/01/07-11/30/09
Direct Costs: \$275,000
Percent effort: 50%
Principal Investigator

March of Dimes, Research Grant

Letter of Intent accepted, grant to be submitted September, 2007
“Integrated control of anterior heart field calcium signaling and function”
Principal Investigator

NIH, New Innovator Award

George Porter (PI)
“Integration of extracellular signaling in cardiac precursor cells”
09/28/2007-09/27/2012
Direct Costs: \$1,500,000
Percent effort: 40%
Principal Investigator

Children’s Heart Foundation, Research Grant

George Porter (PI)
“Extracellular signals control calcium homeostasis and myocyte differentiation in the developing heart”
1/1/2008-12/31/2009
Direct Costs: \$178,905
Percent Effort: 0%
Principal Investigator

PEER-REVIEWED PUBLICATIONS:

1. Murphy CK, Porter GA, Klebba PE. Heat modifiability of the Escherichia coli iron-regulated membrane proteins. In: Membrane Proteins, Proceedings of the Membrane Protein Symposium. Goheen SC ed. Bio-Rad Laboratories. 149-160,1987.
2. Porter GA, Dmytrenko GM, Winkelmann JC, Bloch RJ. Dystrophin colocalizes with β -spectrin in distinct subsarcolemmal domains in mammalian skeletal muscle. *J. Cell Biol.* 117:997-1005, 1992.
3. Porter GA, Scher MG, Resneck WG, Porter NC, Fowler VM, Bloch RJ. Two populations of β -spectrin in rat skeletal muscle. *Cell Motil Cytoskeleton.* 37:7-19, 1997.
4. Porter GA, Vincent MH, Penix LA. A 4 year old girl with right elbow erythema, warmth, and induration. *Curr Opin Pediatr*, 9:31-34. 1997.
5. Porter GA, Rivkees SA. The ontogeny of humoral heart rate regulation in the embryonic mouse. *Amer J.Physiol.* 281:R401-407, 2001.
6. Rivkees SA, Zhao Z, Porter GA, Turner C. Influences of adenosine in the fetus and newborn. *Mol Genetics Metabol.*, 74:160-171, 2001.
7. Moltedo JM, Snyder CS, Porter GA, State MW. Sinus node dysfunction associated with lithium therapy in a pediatric patient. *Tex Heart Inst. J.* 29: 200-202, 2002.
8. Porter GA, Makuck RF, Rivkees SA. Reduction in intracellular calcium levels inhibit myoblast differentiation. *J Biol Chem.*, 277: 28942-28947, 2002.
9. Rentschler S, Zander J, Meyers K, France D, Levine R, Porter G, Rivkees SA, Morley G, Fishman, GI. Neuregulin-1 promotes formation of the murine cardiac conduction system. *Proc Natl Acad Sci U S A.* 99: 10464-10469, 2002.
10. Porter GA, Makuck RF, Rivkees SA. Intracellular calcium plays an essential role in cardiac development. *Dev. Dyn.* 227: 280-290, 2003.
11. Moltedo JM, Kopf G, Mello D, Porter GA. Right coronary artery arising from the left ventricular outflow trace. A rare congenital anomalies of the coronary arteries. *Pediatr Cardiol. Pediatr Cardiol.* 24: 598-600, 2003.

12. Lakhani SA, Masud A, Kuida K, Porter GA, Booth CJ, Mehal WZ, Inayat I, Flavell RA. Caspases 3 and 7: Key Mediators of Mitochondrial Events of Apoptosis. *Science*. 311: 847-851, 2006.
13. Porter, GA, Sharma, A. Calcium signaling regulates the development of the cardiac outflow tract from the anterior heart field. *Dev. Dynam.* In revision.

ABSTRACTS:

1. Porter GA, Krikorian JG, Winkelmann JC, Morrow JS, Bloch RJ. Multiple isoforms of β -spectrin in adult and neonatal rat skeletal muscle. *J. Cell Biol.* 111:428a, 1990.
2. Pumplun DW, Strong JC, Krikorian JG, Porter GA, Winkelmann JC. Localization of 58K Protein and β -Spectrin by Immunogold Labeling of Acetylcholine Receptor Clusters. *J. Cell Biol.* 111:165a, 1990.
3. Porter GA, Dmytrenko GM, Winkelmann JC, Bloch RJ. Dystrophin colocalizes with β -spectrin in distinct subsarcolemmal domains in mammalian skeletal muscle. *Amer. Soc. Cell Biol.* Special poster session, S18, 1991.
4. Porter GA, Scher MG, Bloch RJ. The 58K dystrophin-binding protein is in costameres and associates with spectrin. *Mol. Biol. Cell.* 4:56a, 1993.
5. Porter GA, Rivkees SA. Humoral regulation of embryonic cardiac function. 1999 Weinstein Cardiovascular Development Conference, Tuscon, AZ.
6. Porter GA, Rivkees SA. Inhibition of cardiac cell division in the developing embryo by A1 adenosine receptor activation. 2000. Society for Pediatric Research, Boston, MA.
7. Porter GA, Rivkees SA. Cardiac expression of Nkx2.5 is influenced by levels of cAMP. 2000 Weinstein Cardiovascular Development Conference, St. Louis, MO.
8. Porter GA, Rivkees SA. Calcium and cAMP influences on cardiac development. 2001 Weinstein Cardiovascular Development Conference, Dallas, TX.
9. Porter GA, Rivkees SA. Alterations in calcium signaling modulate cardiac morphogenesis. 2002 Weinstein Cardiovascular Development Conference, Salt Lake City, UT.
10. Porter GA, Makuck RF, Rivkees SA. Intracellular calcium plays an essential role in cardiac development. Eastern Society for Pediatric Research, Greenwich, CT. *J. Invest. Med.* 51:S432, 2003.
11. Porter GA, Makuck RF, Rivkees SA. Intracellular calcium plays an essential role in cardiac development. 2003. Society for Pediatric Research, Seattle, WA.
12. Porter GA, Makuck RF. Intracellular calcium plays an essential role in cardiac development. 2003 Weinstein Cardiovascular Development Conference, Boston MA.
13. Porter GA, Makuck RF. Intracellular calcium plays an essential role in cardiac development. 2003. XXV Annual Meeting of the International Society for Heart Research, Mystic, CT.
14. Porter GA, Makuck RF. Calcium regulation during early cardiac development. 2004. Eastern Society for Pediatric Research, Greenwich, CT.
15. Porter GA, Makuck RF. Calcium regulation during early cardiac development. 2004. Society for Pediatric Research, San Francisco, CA.
16. Porter, GA. Intracellular Calcium Signals in the Anterior Heart Field Affect Development of the Cardiac Outflow Tract. 2005. Eastern Society for Pediatric Research, Greenwich, CT.
17. Porter, GA and Sharma, A. Intracellular calcium signals in the anterior heart field affect development of the cardiac outflow tract. 2005. Weinstein Cardiovascular Development Conference, Tuscon, AZ.

18. Porter, GA and Ghatpande, S. The cardiac potential and differentiation of cardiac myocytes from the anterior heart field depends on relative levels of growth factors. 2005. Weinstein Cardiovascular Development Conference, Tuscon, AZ.
19. Porter, GA, Tobita, K, and Keller, B. Ethanol alters early cardiac function and development. 2005. Weinstein Cardiovascular Development Conference, Tuscon, AZ.
20. Porter, GA, Sharma, AK. Anterior heart field function is regulated by intracellular calcium signals. 2006. Eastern Society for Pediatric Research, Greenwich, CT.
21. Porter, GA, Sharma, AK. Anterior heart field function is regulated by intracellular calcium signals. 2006. Society for Pediatric Research, San Francisco, CA.
22. Porter, GA, Sharma, AK. Deletion of the cardiac L-type calcium channel (CaV1.2) leads to embryonic death. 2007. Eastern Society for Pediatric Research, Philadelphia, PA.
23. Porter, GA, Sharma, AK. Deletion of the cardiac L-type calcium channel (CaV1.2) leads to embryonic death. 2007. Society for Pediatric Research, Toronto, ON, Canada.
24. Porter, GA, Sharma, AK. Deletion of the cardiac L-type calcium channel (CaV1.2) leads to embryonic death. 2007. Weinstein Cardiovascular Development Conference, Indianapolis, IN