

Division of Cardiology

DIVISION PROFILE

Number of Faculty	21
Number of Joint Appointment Faculty	1
Number of Fellows	
Clinical Fellows	10
Number of Support Personnel	53
Annual Total Grant Support (direct)	\$3,169,636
Annual Total Industry Contracts (direct)	\$165,887
Number of Peer Reviewed Publications	58
Patient Encounters	
Outpatient	10,881
Inpatient	7,527

FACULTY LISTING

Robert Beekman, III, MD, Professor of Pediatrics, Director
D. Woodrow Benson, MD, PhD, Professor of Pediatrics, Director, Cardiovascular Genetics
William Border, MD, Assistant Professor
Randal Claytor, PhD, Adjunct Associate Professor
Linda Cripe, MD, Associate Professor
Stephen Daniels, MD, PhD, Professor of Pediatrics, Associate Chair, Department of Pediatrics; Director, Preventive Cardiology
Catherine Dent, MD, Assistant Professor
William Gottliebson, MD, Assistant Professor
Russel Hirsch, MD, Assistant Professor, Director, Cardiac Cath Lab
Holly Ippisch, MD, Instructor
Thomas Kimball, MD, Professor of Pediatrics, Director, Echocardiography
Shelley Kirk, PhD, Assistant Professor, Director, HealthWorks!
Timothy Knilans, MD, Associate Professor, Director, Electrophysiology
Larry Markham, MD, Assistant Professor
Richard Meyer, MD, Professor of Pediatrics
Erik Michelfelder, MD, Associate Professor, Director, Fetal Echocardiography
John Morrison, PhD, Research Professor
Steve Schwartz, MD, Associate Professor, Co-Director, Cardiac ICU
Robert Spicer, MD, Professor of Pediatrics, Medical Director, Cardiac Transplant Program; Director Fellowship Program
Elaine Urbina, MD, Associate Professor
Karen Uzark, RN, PhD, Associate Professor, Director, Cardiac Process Improvement and Clinical Effectiveness

FACULTY JOINT APPOINTMENT LISTING

Jeanne James, MD, Research Assistant Professor, Molecular Cardiovascular Biology

STAFF PHYSICIAN LISTING

Lisa Lee, MD

OVERVIEW



*Left to Right: (1st row) R. Meyer, H. Ippisch, R. Spicer,
(2nd row) E. Michelfelder, T. Knilans, J. James,
J. Morrison, W. Border, R. Hirsch, E. Urbina, R. Beekman*

The Division of Cardiology at Cincinnati Children's is committed to executing the classical missions of an academic center—patient care, generation of new knowledge and ideas, and teaching—in exemplary fashion. While still far from accomplishing this goal as robustly as we would like, the division has made tremendous progress over the last ten years, and is arguably the preeminent pediatric cardiology program in Ohio, and one of the top 8 or 10 in the nation. In particular, the division and Heart Program can point with satisfaction to the following:

- A well-organized clinical medical service which provides state-of-the-art and family centered care to patients from the city and the region. A matrix of strong and congenial working relationships (e.g., among cardiologists, cardiac surgeons, nurses, anesthesiologists, radiologists) is an important part of the Heart Center. All major sub-divisions of pediatric cardiology (echo, cath, electrophysiology, critical care, and preventative) are led by superb academic physicians.
- An excellent surgical service, which provides high-quality care for our patients.
- A cadre of exceptional junior academic physicians, whom are virtually certain to earn national prominence.
- A growing portfolio of clinical research. Four NIH grants support clinical research efforts in our division.
- A strong bench research component, both within our unit, and that closely aligned to the Heart Center (labs of Drs. Robbins and Molkentin).
- A fellowship training program which has become increasingly competitive in attracting very high quality house officers.
- A very strong financial base.
- Being situated in one of the largest, best-endowed, most energetic and forward-looking pediatric hospitals.

There are also many challenges for the division, some of the most important of which are:

- Although the fact that the CCHMC is the sole provider for the city and immediate surrounding area is a big advantage in terms of patient accrual, this catchment area is too small to support a large cardiac program. It is therefore necessary to attract patients from other areas (e.g., Dayton), which poses a growing challenge.
- Surgical support of our “base” program will likely be weakened by involvement elsewhere (e.g., Buffalo); this could prove to be a serious problem.
- There are a number of clinical programs which would doubtless add to our patient base and academic efforts (e.g., a heart failure program), but recruiting faculty for these new programs is difficult owing to a nationwide shortage.
- Solving, or at least ameliorating the problem of “transitional care” for adults with congenital heart disease, is a work in progress.
- Augmenting our translational research is no easier for us than any other academic pediatric cardiology group.
- Our quality of cardiology trainees has much improved and we hope to attract a more uniformly outstanding group of applicants.

HIGHLIGHTS

Clinical Highlights

Cardiac surgical volume was 12% less in FY 06 than the previous year, although the decrease was mostly in closed (rather than open) heart cases. There was a similar decrease in the number of cardiac cath procedures, perhaps related to the fall in surgical volume. On the positive side, other indices of clinical activity (clinic visits, echos, etc.) were increased relative to the previous year. Despite the fall in surgical and cath volume, divisional professional and total Heart Center revenue were increased, as were the contribution and net margins.

The fetal echo program grew significantly (14%), and a tele-echo link with Cabell Huntington Hospital was initiated. Both programs should help secure our patient referral base. The number of cardiac MRIs performed continues to grow rapidly (which, by the way, is due to a very collegial and fruitful collaboration with the Radiology Department); further growth will be limited only by a lack of personnel to perform and interpret these studies.

The multidisciplinary neuromuscular program (devoted to patients with Duchenne’s muscular dystrophy) also grew substantially, and now attracts patients from across the nation and world. There appears to be terrific potential to continue to increase clinical activity related to this program, and also to augment our efforts in basic and applied research using philanthropically-derived support for this “matrix” program.

An evening clinic for adults with congenital heart disease was started and was a success, judging from the number of patients seen and the fact that the bottom line was positive. How much, and how rapidly, to expand this effort is a bit unclear, in part because the most suitable venue for inpatient care of these patients is undetermined at this point. Work continues to develop an overall strategy for transitional care for congenital heart disease in Cincinnati.

Construction of a “hybrid” cath lab was begun, and it will be opened early in FY 07. This lab, which is one of a handful in the world, will facilitate combined cardiac surgery and cardiac catheterization procedures, and will make novel treatments for a certain cardiac conditions possible.

There are other obvious opportunities to augment and enhance our clinical activities, especially expansion of our excellent electrophysiology service and initiation of a heart failure program, and we are in the process of identifying faculty whom might be attracted here for these efforts.

Our relationship with Buffalo Children's Hospital, primarily related to the efforts of Dr. Peter Manning, should help increase the number of cardiac surgical cases here, at least until they have a cardiac surgeon of their own. However, the time spent by Dr. Manning off "base" for this effort could have a negative impact on our surgical program. Should other off-base surgical efforts be required, this issue will become even more acute.

The division continues to participate in multiple efforts related to "family-centered care". For example, Dr. Tom Kimball was awarded the Family Advisory Council Award of Excellence in Family-Centered Care, acknowledging his efforts in this arena; Dr. Linda Cripe was also nominated for this award.

Research Highlights

The loss of Dr. Steve Daniels was significant for our research program, although this was somewhat ameliorated by the fact that one of Dr. Daniel's R01 grants was transitioned to Dr. Tom Kimball. Dr. Elaine Urbina will also doubtlessly help maintain CCHMC's tradition of preventative research.

CCHMC was added to the NIH's Pediatric Heart Network, a consortium to conduct prospective clinical trials, making CCHMC one of only 8 such centers in North America. This successful grant effort was headed up by Dr. Woody Benson, and involved many cardiology and cardiac surgery faculty. This should help augment our clinical research efforts, although it is unlikely that the Network will conduct much true "translational" research.

Multiple papers were published last year relating to clinical research, which involved several clinical areas (echocardiography, fetal echocardiography, preventative medicine, and cardiac intensive care).

Dr. Benson's group continues investigations related to their cardiovascular SCORE, and published papers both relating to the genetics of congenital heart disease and to the basic biology of valve development. Training grant (K08) support for Dr. Bing Hinton, a very promising young cardiologist/investigator, appears very likely.

Training program

Recruitment of fellows for academic year 2008 was very successful, as we recruited our top 3 fellows in the first five positions in the match. This is the first year that we will offer multiple 4th year advanced training positions, which should have several positive effects: 1. enhance the desirability of our program relative to future recruits, 2. increase our "footprint" in the field, and 3. facilitate recruitment of future faculty members.

TRAINING

Allison Divanovic, MD	PL-IV	Cincinnati Children's Hospital
Haleigh Heydarian, MD	PL-IV	Columbus Children's Hospital
Michael-Alice Moga, MD	PL-IV	Massachusetts General Hospital
Priya Sekar, MD	PL-IV	Children's Hospital Oakland
Richard Czosek, MD	PL-V	Cincinnati Children's Hospital
Amy Shah, MD	PL-V	Cincinnati Children's Hospital
Todd Gudausky, MD	PL-VI	Indiana University
Kan Hor, MD	PL-VI	Children's Hospital of Wisconsin
Edward Kim, MD	PL-VI	University of Illinois at Chicago
Robert Hinton, MD	PL-VII	Memorial Health University Med. Ctr.

GRANTS, CONTRACTS AND INDUSTRY AGREEMENTS

Grant and Contract AwardsAnnual Direct/Project Period Direct

Benson, W			
Genetic Mechanisms of Cardiac Disease in the Young			
National Institutes of Health			
K24 HL 069712	06/01/06 - 05/31/11		\$160,762/\$808,223
SCCOR in Pediatric Heart Development and Disease			
National Institutes of Health			
P50 HL 074728	02/15/04 – 01/31/09		\$1,869,279/\$9,620,187
Benson, W	\$450,033	Project 1	
Yutzey, K	\$229,433	Project 3	
Robbins, J	\$350,723	Project 4	
Benson, W	\$94,874	Core A	
Kimball, T	\$219,342	Core B	
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Border, W			
Early Ventricular Filling in Fontan Patients During Exercise			
American Society of Echocardiology			
	07/01/05 - 06/30/06		\$25,000
Pediatric Heart Disease Clinical Research Network: ISV and SVR Trial			
National Institutes of Health (New England Research Institute subcontract)			
U01 HL 068270	01/01/05 – 12/31/08		\$31,705
Pediatric Heart Disease Clinical Research Network			
National Institutes of Health (New England Research Institute subcontract)			
U01 HL 068270	09/01/05 – 08/31/06		\$56,156/\$99,110
Border, W	\$42,786	Project 1	
Dent, C	\$13,370	Project 2	
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Cripe, L			
Center for Career Development for Women in Academic Pediatrics			
Charlotte R. Schmidlapp Fund			
	07/01/05 – 06/30/07		\$50,000/\$100,000
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Daniels, S			
University of Cincinnati Clinical Research Curriculum Award			
National Institutes of Health (University of Cincinnati subcontract)			
K30 RR 022273	08/19/05 – 07/31/06		\$72,266
Childhood Precursors for Adulthood Metabolic Syndrome			
National Institutes of Health (Wright State University subcontract)			
R01 DK 071485	09/30/04 – 02/28/06		\$11,304/\$93,830
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Ippisch, H			
Molecular Epidemiology in Children's Environmental Health			
National Institutes of Health (University of Cincinnati subcontract)			
T32 ES 010957	07/01/03 – 6/30/06		\$51,036/\$152,880
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Kimball, T			
CV Disease in Adolescents with Type 2 Diabetes			
National Institutes of Health			
R01 HL 076269	06/01/05 – 05/31/09		\$461,651/\$1,920,386
Longitudinal Cardiac Outcomes and Body Composition			
National Institutes of Health (Wright State University subcontract)			
R01 HL 072838	01/16/04 – 12/31/07		\$56,253/\$354,840

Kirk, S		
Role of Carbohydrate Modification in Weight Management		
Thrasher Research Fund		
	10/01/04 – 09/30/07	\$131,674/\$330,124
Urbina, E		
Mechanisms of Vascular Dysfunction in Obesity and the Metabolic Syndrome		
National Institutes of Health		
K23 HL 080447	06/01/06– 05/31/11	\$118,550/\$613,894
Intra-Cranial Carotid Calcification, Calcification, CV Risk Factors & Vascular Function in Children and Adolescents		
American Heart Association		
	07/01/05 – 06/30/07	\$55,000/\$110,000
Viswanathan, S		
Role of TBX2 and TBX3 in the Development and Specification of Sinoatrial Node		
American Heart Association		
	07/01/05 – 06/30/07	\$19,000/\$38,000
	Current Year Direct	\$3,169,636
Industry Contracts		
Daniels, S		
ID Biomedical		
		\$91,877
Hirsch, R		
INO Therapeutics		
		\$7,276
Morrison, J		
GlaxoSmithKline		
		\$53,592
Urbina, E		
AtCore Med		
		\$6,926
Sankyo Pharma		
		\$3,752
Schering-Plough		
		\$2,464
	Current Year Direct Receipts	\$165,887
	TOTAL	\$3,335,523

Funded Collaborative Efforts

Daniels, S		
Understanding Social Status Impact on Adolescent Health		
National Institutes of Health		
PI: Dolan, L	07/01/02 – 01/31/07	1%
Mechanism Mediating Cardiac and Vascular Disease in Children with OSA		
National Institutes of Health		
PI: Amin, R	04/01/03 – 03/31/08	5%
Childhood Absence Epilepsy: RX PK-PD – Pharmacogenetics		
National Institutes of Health		
PI: Glauser, T	09/30/04 – 08/31/06	10%

Dent, C		
A Novel Biomarker for Early Ischemic Renal Injury American Heart Association – Ohio Affiliate PI: Devarajan, P	07/01/04 – 06/30/06	5%
NGAL: A Novel Early Biomarker of Acute Renal Injury National Institutes of Health PI: Devarajan, P	09/30/04 – 08/31/06	10%
Kimball, T		
Mechanisms Mediating Cardiac and Vascular Disease in Children with OSA National Institutes of Health PI: Amin, R	04/01/03 – 03/31/08	5%
Urbina, E		
Childhood Diabetes: Prevalence, Incidence and Characteristics Centers for Disease Control PI: Dolan, L	09/30/00 – 09/29/05	5%

PUBLICATIONS

- Graham TP, Jr., Beekman RH, 3rd. ACCF/AHA/AAP recommendations for training in pediatric cardiology. Training guidelines for pediatric cardiology fellowship programs. *J Am Coll Cardiol* 2005;46(7):1380-1.
- Klitzner TS, Beekman RH, 3rd, Galioto FM, Jones TK, Manning PB, Morrow WR, Newberger J, Moore JWM, Cripe LH. Cardiovascular health supervision for individuals affected by Duchenne or Becker muscular dystrophy. *Pediatrics* 2005;116(6):1569-73.
- Muller L, Dillon T, Beekman RH, 3rd. Myocardial ischemia: atypical presentation of an atrial septal defect in childhood. *J Interv Cardiol* 2005;18(5):397-9.
- Ballester LY, Benson DW, Wong B, Law IH, Mathews KD, Vanoye CG, George AL, Jr. Trafficking-competent and trafficking-defective KCNJ2 mutations in Andersen syndrome. *Hum Mutat* 2006;27(4):388.
- Benson DW, Jr., Baldwin HS, Mahoney LT, McQuinn TC. ACCF/AHA/AAP recommendations for training in pediatric cardiology. Task force 7: training guidelines for research in pediatric cardiology. *J Am Coll Cardiol* 2005;46(7):1401-3.
- Harris BS, Spruill L, Edmonson AM, Rackley MS, Benson DW, O'Brien TX, Gourdie RG. Differentiation of cardiac Purkinje fibers requires precise spatiotemporal regulation of Nkx2-5 expression. *Dev Dyn* 2006;235(1):38-49.
- Hinton RB, Jr., Deutsch GH, Pearl JM, Hobart HH, Morris CA, Benson DW. Bilateral semilunar valve disease in a child with partial deletion of the Williams-Beuren syndrome region is associated with elastin haploinsufficiency. *J Heart Valve Dis* 2006;15(3):352-5.
- Hinton RB, Jr., Lincoln J, Deutsch GH, Osinska H, Manning PB, Benson DW, Yutzey KE. Extracellular matrix remodeling and organization in developing and diseased aortic valves. *Circ Res* 2006;98(11):1431-8.
- Hinton RB, Yutzey KE, Benson DW. Congenital heart disease: genetic causes and developmental insights. *Prog Pediatr Cardiol* 2005;20(2):101-110
- Appel LJ, Brands MW, Daniels SR, Karanja N, Elmer PJ, Sacks FM. Dietary approaches to prevent and treat hypertension: a scientific statement from the American Heart Association. *Hypertension* 2006;47(2):296-308.
- Biro FM, Huang B, Crawford PB, Lucky AW, Striegel-Moore R, Barton BA, Daniels S. Pubertal correlates in black and white girls. *J Pediatr* 2006;148(2):234-40.
- Burdette HL, Whitaker RC, Hall WC, Daniels SR. Breastfeeding, introduction of complementary foods, and adiposity at 5 y of age. *Am J Clin Nutr* 2006;83(3):550-8.

13. Burdette HL, Whitaker RC, Hall WC, Daniels SR. Maternal infant-feeding style and children's adiposity at 5 years of age. *Arch Pediatr Adolesc Med* 2006;160(5):513-20.
14. Couch SC, Daniels SR. Diet and blood pressure in children. *Curr Opin Pediatr* 2005;17(5):642-7.
15. Daniels SR. The consequences of childhood overweight and obesity. *Future Child* 2006;16(1):47-67.
16. Franko DL, Striegel-Moore RH, Bean J, Barton BA, Biro F, Kraemer HC, Schreiber GB, Crawford PB, Daniels SR. Self-reported symptoms of depression in late adolescence to early adulthood: a comparison of African-American and Caucasian females. *J Adolesc Health* 2005;37(6):526-9.
17. Franko DL, Striegel-Moore RH, Bean J, Tamer R, Kraemer HC, Dohm FA, Crawford PB, Schreiber G, Daniels SR. Psychosocial and health consequences of adolescent depression in Black and White young adult women. *Health Psychol* 2005;24(6):586-93.
18. Franko DL, Striegel-Moore RH, Thompson D, Schreiber GB, Daniels SR. Does adolescent depression predict obesity in black and white young adult women? *Psychol Med* 2005;35(10):1505-13.
19. Franko DL, Thompson D, Russell R, Schreiber GB, Crawford PB, Daniels SR, Striegel-Moore RH. Correlates of persistent thinness in black and white young women. *Obes Res* 2005;13(11):2006-13.
20. Gidding SS, Dennison BA, Birch LL, Daniels SR, Gilman MW, Lichtenstein AH, Rattay KT, Steinberger J, Stettler N, Van Horn L. Dietary recommendations for children and adolescents: a guide for practitioners: consensus statement from the American Heart Association. *Circulation* 2005;112(13):2061-75.
21. Grundy SM, Cleeman JI, Daniels SR, Donato KA, Eckel RH, Franklin BA, Gordon DJ, Krauss RM, Savage PJ, Smith Jr SC, Spertus JA, Costa F. Diagnosis and management of the metabolic syndrome. An American Heart Association/National Heart, Lung, and Blood Institute Scientific Statement. Executive summary. *Cardiol Rev* 2005;13(6):322-7.
22. Gutin B, Yin Z, Humphries MC, Bassali R, Le NA, Daniels S, Barbeau P. Relations of body fatness and cardiovascular fitness to lipid profile in black and white adolescents. *Pediatr Res* 2005;58(1):78-82.
23. Inge TH, Zeller MH, Lawson ML, Daniels SR. A critical appraisal of evidence supporting a bariatric surgical approach to weight management for adolescents. *J Pediatr* 2005;147(1):10-9.
24. Kalra M, Inge T, Garcia V, Daniels S, Lawson L, Curti R, Cohen A, Amin R. Obstructive sleep apnea in extremely overweight adolescents undergoing bariatric surgery. *Obes Res* 2005;13(7):1175-9.
25. Kimm SY, Glynn NW, McMahon RP, Voorhees CC, Striegel-Moore RH, Daniels SR. Self-perceived barriers to activity participation among sedentary adolescent girls. *Med Sci Sports Exerc* 2006;38(3):534-40.
26. Kimm SY, Glynn NW, Obarzanek E, Aston CE, Daniels SR. Racial differences in correlates of misreporting of energy intake in adolescent females. *Obesity (Silver Spring)* 2006;14(1):156-64.
27. Kimm SY, Glynn NW, Obarzanek E, Kriska AM, Daniels SR, Barton BA, Liu K. Relation between the changes in physical activity and body-mass index during adolescence: a multicentre longitudinal study. *Lancet* 2005;366(9482):301-7.
28. Paridon SM, Alpert BS, Boas SR, Cabrera ME, Caldarera LL, Daniels SR, Kimball TR, Knilans TK, Nixon PA, Rhodes J, Yetman AT. Clinical stress testing in the pediatric age group: a statement from the American Heart Association Council on Cardiovascular Disease in the Young, Committee on Atherosclerosis, Hypertension, and Obesity in Youth. *Circulation* 2006;113(15):1905-20.
29. Ross JS, Gross CP, Desai MM, Hong Y, Grant AO, Daniels SR, Hachinski VC, Gibbons RJ, Gardner TJ, Krumholz HM. Effect of blinded peer review on abstract acceptance. *Jama* 2006;295(14):1675-80.
30. Saelens BE, Couch SC, Wosje KS, Stark LJ, Daniels SR. Relations among milk and non-milk beverage consumption, calcium, and relative weight in high-weight status children. *J Clin Psychol Med Set* 2006;13(2):117-125.
31. Striegel-Moore RH, Franko DL, Thompson D, Barton B, Schreiber GB, Daniels SR. An empirical study of the typology of bulimia nervosa and its spectrum variants. *Psychol Med* 2005;35(11):1563-72.
32. Striegel-Moore RH, Franko DL, Thompson D, Barton B, Schreiber GB, Daniels SR. Caffeine intake in eating disorders. *Int J Eat Disord* 2006;39(2):162-5.

33. Striegel-Moore RH, Thompson D, Affenito SG, Franko DL, Obarzanek E, Barton BA, Schreiber GB, Daniels SR, Schmidt M, Crawford PB. Correlates of beverage intake in adolescent girls: the National Heart, Lung, and Blood Institute Growth and Health Study. *J Pediatr* 2006;148(2):183-7.
34. Striegel-Moore RH, Thompson DR, Affenito SG, Franko DL, Barton BA, Schreiber GB, Daniels SR, Schmidt M, Crawford PB. Fruit and vegetable intake: Few adolescent girls meet national guidelines. *Prev Med* 2006;42(3):223-8.
35. Weitzman M, Cook S, Auinger P, Florin TA, Daniels S, Nguyen M, Winickoff JP. Tobacco smoke exposure is associated with the metabolic syndrome in adolescents. *Circulation* 2005;112(6):862-9.
36. Woo JG, Dolan LM, Daniels SR, Goodman E, Martin LJ. Adolescent sex differences in adiponectin are conditional on pubertal development and adiposity. *Obes Res* 2005;13(12):2095-101.
37. Woo JG, Dolan LM, Deka R, Kaushal RD, Shen Y, Pal P, Daniels SR, Martin LJ. Interactions between noncontiguous haplotypes in the adiponectin gene ACDC are associated with plasma adiponectin. *Diabetes* 2006;55(2):523-9.
38. Xanthakos S, Miles L, Bucuvalas J, Daniels S, Garcia V, Inge T. Histologic spectrum of nonalcoholic fatty liver disease in morbidly obese adolescents. *Clin Gastroenterol Hepatol* 2006;4(2):226-32.
39. Zeller MH, Roehrig HR, Modi AC, Daniels SR, Inge TH. Health-related quality of life and depressive symptoms in adolescents with extreme obesity presenting for bariatric surgery. *Pediatrics* 2006;117(4):1155-61.
40. Dent CL, Spaeth JP, Jones BV, Schwartz SM, Glauser TA, Hallinan B, Pearl JM, Khoury PR, Kurth CD. Brain MRI abnormalities following the Norwood procedure using regional cerebral perfusion. *J Thorac Cardiovasc Surg* 2005;130:1523-1530.
41. Dent CL, Spaeth JP, Jones BV, Schwartz SM, Glauser TA, Hallinan B, Pearl JM, Khoury PR, Kurth CD. Brain magnetic resonance imaging abnormalities after the Norwood procedure using regional cerebral perfusion. *J Thorac Cardiovasc Surg* 2006;131(1):190-7.
42. Allen HD, Bricker JT, Freed MD, Hurwitz RA, McQuinn TC, Schieken RM, Strong WB, Zahka KG, Sanders SP, Colan SD, Cordes TM, Donofrio MT, Ensing GJ, Geva T, Kimball TR, Sahn DJ, Silverman NH, Sklansky MS, Weinberg PM, Beekman RH, 3rd, Hellenbrand WE, Lloyd TR, Lock JE, Mullins CE, Rome JJ, Teitel DF, Vetter VL, Silka MJ, Van Hare GF, Walsh EP, Kulik T, Giglia TM, Kocis KC, Mahoney LT, Schwartz SM, Wernovsky G, Wessel DL, Murphy DJ, Jr., Foster E, Benson DW, Jr., Baldwin HS, Mahoney LT, McQuinn TC. ACC/AHA/AAP recommendations for training in pediatric cardiology. *Pediatrics* 2005;116(6):1574-96.
43. Mitsnefes MM, Kimball TR, Kartal J, Witt SA, Glascock BJ, Khoury PR, Daniels SR. Cardiac and vascular adaptation in pediatric patients with chronic kidney disease: role of calcium-phosphorus metabolism. *J Am Soc Nephrol* 2005;16(9):2796-803.
44. Sanders SP, Colan SD, Cordes TM, Donofrio MT, Ensing GJ, Geva T, Kimball TR, Sahn DJ, Silverman NH, Sklansky MS, Weinberg PM. ACCF/AHA/AAP recommendations for training in pediatric cardiology. Task force 2: pediatric training guidelines for noninvasive cardiac imaging endorsed by the American Society of Echocardiography and the Society of Pediatric Echocardiography. *J Am Coll Cardiol* 2005;46(7):1384-8.
45. Sanna B, Brandt EB, Kaiser RA, Pfluger P, Witt SA, Kimball TR, van Rooij E, De Windt LJ, Rothenberg ME, Tschop MH, Benoit SC, Molkentin JD. Modulatory calcineurin-interacting proteins 1 and 2 function as calcineurin facilitators in vivo. *Proc Natl Acad Sci U S A* 2006;103(19):7327-32.
46. Xu J, Kimball TR, Lorenz JN, Brown DA, Bauskin AR, Klevitsky R, Hewett TE, Breit SN, Molkentin JD. GDF15/MIC-1 functions as a protective and antihypertrophic factor released from the myocardium in association with SMAD protein activation. *Circ Res* 2006;98(3):342-50.
47. Lawson ML, Kirk S, Mitchell T, Chen MK, Loux TJ, Daniels SR, Harmon CM, Clements RH, Garcia VF, Inge TH. One-year outcomes of Roux-en-Y gastric bypass for morbidly obese adolescents: a multicenter study from the Pediatric Bariatric Study Group. *J Pediatr Surg* 2006;41(1):137-43; discussion 137-43.
48. Markham LW, Spicer RL, Cripe LH. The heart in muscular dystrophy. *Pediatr Ann* 2005;34(7):531-5.

49. Markham LW, Spicer RL, Khoury PR, Wong BL, Mathews KD, Cripe LH. Steroid therapy and cardiac function in duchenne muscular dystrophy. *Pediatr Cardiol* 2005;26(6):768-71.
50. Hinton R, Michelfelder E. Significance of reverse orientation of the ductus arteriosus in neonates with pulmonary outflow tract obstruction for early intervention. *Am J Cardiol* 2006;97(5):716-9.
51. Michelfelder E, Gomez C, Border W, Gottliebson W, Franklin C. Predictive value of fetal pulmonary venous flow patterns in identifying the need for atrial septoplasty in the newborn with hypoplastic left ventricle. *Circulation* 2005;112(19):2974-9.
52. Michelfelder EC. Doppler echocardiographic characterization of the Fetus in distress. *Prog Pediatr Cardiol* 2006;22(1):31-39.
53. Biro FM, Khoury P, Morrison JA. Influence of obesity on timing of puberty. *Int J Androl* 2006;29(1):272-7; discussion 286-90.
54. Glueck CJ, Morrison JA, Friedman LA, Goldenberg N, Stroop DM, Wang P. Obesity, free testosterone, and cardiovascular risk factors in adolescents with polycystic ovary syndrome and regularly cycling adolescents. *Metabolism* 2006;55(4):508-14.
55. Morrison JA, Friedman LA, Harlan WR, Harlan LC, Barton BA, Schreiber GB, Klein DJ. Development of the metabolic syndrome in black and white adolescent girls: a longitudinal assessment. *Pediatrics* 2005;116(5):1178-82.
56. Eghtesady P, Nelson D, Schwartz SM, Wheeler D, Pearl JM, Cripe LH, Manning PB. Heparin-induced thrombocytopenia complicating support by the Berlin Heart. *Asaio J* 2005;51(6):820-5.
57. 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 Coll Cardiol* 2005;46(7):1396-9.
58. Urbina EM. Experiences in Central America and the Pediatric Cardiology Program in Nicaragua: or why we need to teach fishing. *Congenit Cardiol Today* 2005;3(10):9-10.