

Original Article

Introduction to the supplement: a holistic approach to hypoplastic left heart syndrome and other evolving challenges in paediatric and congenital cardiac disease

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Abstract This Supplement to *Cardiology in the Young* represents the ninth annual supplement generated from the two meetings that compose “HeartWeek in Florida”. “HeartWeek in Florida”, the joint collaborative project sponsored by the Cardiac Center at the Children’s Hospital of Philadelphia, together with All Children’s Hospital of Saint Petersburg and the Congenital Heart Institute of Florida, averages over 1000 attendees every year and is now recognized as one of the major planks of continuing medical and nursing education for those working in the fields of diagnosis and treatment of cardiac disease in the fetus, neonate, infant, child, and adult. “HeartWeek in Florida” combines the International Symposium on Congenital Heart Disease, now organised by All Children’s Hospital and Johns Hopkins Medicine and entering its 12th year, with the Annual Postgraduate Course in Pediatric Cardiovascular Disease organised by Children’s Hospital of Philadelphia and entering its 16th year. The theme of this supplement generated from the 2011 HeartWeek in Florida is “A Holistic Approach to Hypoplastic Left Heart Syndrome and Other Evolving Challenges in Paediatric and Congenital Cardiac Disease”. We would like to acknowledge the tremendous contributions made to medicine by Martin Elliott and Gil Wernovsky; and therefore, we dedicate this HeartWeek 2011 Supplement to them.

Keywords: HeartWeek; Hypoplastic left heart syndrome; Multi-disciplinary; Norwood

THIS SUPPLEMENT TO *CARDIOLOGY IN THE YOUNG* represents the ninth annual supplement generated from the two meetings that compose “HeartWeek in Florida”.^{1–8} As I have emphasised in the previous supplements, Florida is the fourth largest state in the United States of America. The programme for care of children with congenital cardiac malformations at Children’s Hospital of Philadelphia is one of the largest, and most prestigious and comprehensive, in the world.

The Congenital Heart Institute of Florida, in turn, is the largest and most comprehensive programme providing services for patients with congenital cardiac disease in Florida. “HeartWeek in Florida”, the joint collaborative project sponsored by the Cardiac Center at the Children’s Hospital of Philadelphia, together with All Children’s Hospital of Saint Petersburg and the Congenital Heart Institute of Florida, averages over 1000 attendees every year and is now recognised as one of the major planks of continuing medical and nursing education for those working in the fields of diagnosis and treatment of cardiac disease in the fetus, neonate, infant, child, and adult.

All institutions involved with the organisation of the events of “HeartWeek in Florida” are very grateful to Bob Anderson, Ted Baker, and the team at *Cardiology in the Young*, for their support, and for the opportunity to publish this supplement, as well as the

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eight prior supplements. On a personal note, I would once again like to congratulate Bob for his ability to remain massively involved in the academic world of professionals caring for patients with congenitally malformed hearts, even after his official so-called "retirement". I would again like to thank Bob for his support, friendship, mentorship, professional guidance, and advice over the past 14 years. Bob has played a major role in the development of my career, and I am appreciative for all that he has done for me. He placed an amazingly high level of trust in me when I was very young, and I appreciate this support. Bob has also been a strong supporter and advocate of our programme at All Children's Hospital and The Congenital Heart Institute of Florida for quite some time. In February, 2012, Bob will be a featured speaker at our annual February meeting for the 11th consecutive year. Every morning for all 11 of these years, we begin our sessions with an anatomy lesson from Bob. On a daily basis, he sets the stage for the rest of the day, and raises the academic level of our meeting.

The Cardiac Center at the Children's Hospital of Philadelphia hosted their 15th Annual Postgraduate Course at the Hyatt Regency Scottsdale Resort and Spa at Gainey Ranch in Scottsdale, Arizona, from February 2 to 6, 2011. This annual meeting organised by The Cardiac Center at the Children's Hospital of Philadelphia, under the direction of Gil Wernovsky and Tina Mannices, is typically attended by over 750 professionals and exhibitors gathered from around the globe to hear late-breaking research, to discuss controversial topics, to review current practices, and to enjoy each others' company and insight.⁹ Physicians make up approximately half of the attendees and include representation from all disciplines involved in the care of children with cardiac disease, including cardiologists, intensivists, surgeons, anaesthesiologists, neonatologists, and maternal foetal specialists. The remaining attendees include advanced practice, operating room, catheterisation lab and bedside nurses, sonographers, physician assistants, respiratory therapists, perfusionists, and administrators. A highlight of the meeting organised by Children's Hospital of Philadelphia is the featured lectures in Cardiovascular Surgery, Pediatric Cardiology, Cardiovascular Nursing, Cardiac Anesthesia and Critical Care, and Cardiovascular Basic Sciences (Table 1). Over the last several years, this meeting has typically alternated annually between an east coast meeting, usually in Orlando, Florida, and a west coast meeting, usually in Scottsdale, Arizona. In February, 2011, the meeting organised by Children's Hospital of Philadelphia returned to Scottsdale, Arizona. The 15th Annual Update on Pediatric and Congenital Cardiovascular Disease: *A Holistic Approach – Bringing Interdisciplinary Evidence-based Practice to the Patient*,

Table 1. Previous and future featured lectures at the Annual Postgraduate Course in Pediatric Cardiovascular Disease organised by Children's Hospital of Philadelphia.

The annual "C. Walton Lillehei" memorial lecture in Cardiovascular Surgery	
2000	Thomas R. Karl
2001	Marc de Leval
2002	Aldo R. Castaneda
2003	Thomas L. Spray
2004	William G. Williams
2005	Edward L. Bove
2006	Martin Elliott
2007	Pedro J. del Nido
2008	Frank L. Hanley
2009	Scott M. Bradley
2010	J. William Gaynor
2011	Carl L. Backer
2012	James Tweddell
The annual "William J. Rashkind" memorial lecture in Pediatric Cardiology	
2002	Thomas P. Graham
2003	Welton M. Gersony
2004	Jane W. Newburger
2005	Norman H. Silverman
2006	Andrew Redington
2007	Philipp Bonhoeffer
2008	Robert Shaddy
2009	Lynn Mahony
2010	Robert Campbell
2011	Jeffrey A. Towbin
2012	Gil Wernovsky
The annual "Thomas Garrett Rauch" memorial lecture in Cardiovascular Nursing	
2000	Jane Barnsteiner
2001	Nancy Eckle
2002	Catherine K. Madigan
2003	Patricia A. Hickey
2004	Mary Fran Hazinski
2005	Elisabeth C. Smith
2006	Kathleen Mussatto
2007	Martha A.Q. Curley
2008	Cynda Hylton Rushton
2009	Philip Moons
2010	Afaf I. Meleis
2011	Kathleen Chavanu Gorman
2012	Jean Chatzky
The annual "John J. Downes" lecture in Cardiac Anesthesia and Critical Care	
2008	William J. Greeley
2009	Peter C. Laussen
2010	David L. Wessel
2011	Frank X. McGowan
2012	Allan Goldman
The annual featured lecture in the Cardiovascular Basic Sciences	
2011	Jonathan Epstein
2012	Barry Byrne

organised by Children's Hospital of Philadelphia, was held in Scottsdale, from February 2 to 6, 2011.

In February, 2012, the meeting organised by Children's Hospital of Philadelphia will return to Orlando, Florida. The 16th Annual Update on Pediatric and Congenital Cardiovascular Disease:

Developing a Lifelong Interdisciplinary Strategy for Your Patient with Congenital Heart Disease, organised by Children's Hospital of Philadelphia, will be held at the Loews Portofino Bay Hotel at Universal Orlando[®] in Orlando, Florida, from February 22 to 26, 2012. To view the entire programme and register for the meeting, please visit the following web site: www.chop.edu/cardiology2012. For detailed information, please e-mail Tina Mannices at: mannices@email.chop.edu.

In 2011, the component of the joint programme of HeartWeek organised by The Congenital Heart Institute of Florida, along with All Children's Hospital, and representing our own 11th annual International Symposium on Congenital Heart Disease, was held from Thursday, February 10, 2011 to Sunday, February 13, 2011, with its focus being on *Hypoplastic Left Heart Syndrome*. Our annual international symposium on Congenital Heart Disease with Echocardiographic, Anatomic, Surgical, and Pathologic Correlation is held every February, and is now entering its 12th year. The first 11 meetings were sponsored by All Children's Hospital (www.allkids.org), The Congenital Heart Institute of Florida (www.chif.us), and the University of South Florida. The 2012 meeting will be presented by All Children's Hospital and sponsored by Johns Hopkins Medicine. Our meetings in 2009, 2010, 2011, and 2012 were co-sponsored by The American Association for Thoracic Surgery (<http://www.aats.org/CME/Programs.html>). Our meeting in 2011 had as its focus *Hypoplastic Left Heart Syndrome*, with sessions aimed specifically at multi-disciplinary issues related to the following topics:

- anatomy of Hypoplastic Left Heart Syndrome,
- echocardiography of Hypoplastic Left Heart Syndrome,
- critical care of patients with Hypoplastic Left Heart Syndrome,
- Norwood stage 1,
- hybrid procedure,
- transplantation, and
- ethics.

New to our meeting held in 2011 were two exciting new symposia:

- Nursing symposium and
- Ethics symposium.

Finally, we continued several of our popular features:

- hands-on demonstrations,
- panel discussions,
- question and answer sessions, and
- pathologic heart specimens on exhibit.

The overall emphasis of the meeting is multi-disciplinary, with involvement of paediatric cardiac surgery, paediatric cardiology, paediatric cardiac critical care, paediatric cardiac anaesthesia, nursing, perfusion, and ultrasonography. Attendance at our meeting is typically between 250 and 300 participants.

- Our meeting held in 2007 had 269 attendees from 30 states and 14 countries. Attendees included 43% physicians, 41% nurses, perfusionists, and ultrasonographers, and 16% allied health-care professionals. The University of South Florida designated this educational activity for a maximum of 24.25 American Medical Association Physician's Recognition Award Category 1 Credits.
- Our meeting held in 2008 had 270 attendees from 32 states and 16 countries. Attendees included 52% physicians, 31% nurses, perfusionists, and ultrasonographers, and 17% allied health-care professionals. The University of South Florida College of Medicine designated this educational activity for a maximum of 30.25 American Medical Association Physician's Recognition Award Category 1 Credits.
- Our meeting held in 2009 had 270 attendees from 32 states and 16 countries. Attendees included 40% physicians, 49% nurses and physicians' assistants, and 11% perfusionists, ultrasonographers, and allied health-care professionals. The University of South Florida College of Medicine designated this educational activity for a maximum of 29.5 American Medical Association Physician's Recognition Award Category 1 Credits (Program number BD2009399/1170).
- Our meeting held in 2010 had 230 attendees from 29 states and 18 countries. Attendees were from the following categories: physicians (115), physicians' assistants (7), nurse practitioners (17), registered nurses (35), sonographers (16), perfusionists (4), and other (36). Attendees came from 18 countries and 29 states of the United States of America.
- Our meeting held in 2011 had 263 attendees including 116 physicians and 147 non-physicians. The highlight of the 2011 conference was the George R. Daicoff dinner presentation, which was presented by Edward L. Bove, MD titled: "Innovation and Regulation: Can They Both Exist in Today's Medical Environment?" (Dr Bove is the Helen and Marvin Kirsch Professor and Head of the Section of Cardiac Surgery, which includes Divisions of Pediatric and Adult Cardiac Surgery, at the University of Michigan C. S. Mott Children's Hospital. The Division of Pediatric Cardiac Surgery at the University of Michigan is one of the busiest congenital heart programmes in the United States

of America, performing over 900 procedures annually). Additional featured speakers included William I. Norwood, Leonard L. Bailey, Robert Anderson, Tom Spray, and Constantine Mavroudis.

Table 2 highlights the featured topics and speakers from the meeting held in Saint Petersburg. The true summit of this meeting is the George Daicoff lecture, given by the featured speaker to honour the founder of our surgical programme in Saint Petersburg. Previous and future Daicoff lectures are presented below:

- (2003) – Leonard L. Bailey and his wife Nancy from Loma Linda University Medical Center, California;
- (2004) – Martin J. Elliott from The Great Ormond Street Hospital for Children, London, United Kingdom;
- (2005) – Marc deLeval from The Great Ormond Street Hospital for Children, London, United Kingdom;
- (2006) – Ross M. Ungerleider and his wife Jamie Dickey from Oregon Health Sciences University, Oregon;
- (2007) – Constantine Mavroudis and Carl Backer from Children's Memorial Hospital, Chicago;
- (2008) – Tom Spray from Children's Hospital of Philadelphia, Philadelphia;
- (2009) – Marshall Lewis Jacobs from Drexel University College of Medicine, Philadelphia, Pennsylvania;
- (2010) – Roberto Canessa from Montevideo, Uruguay;
- (2011) – Edward L. Bove from the University of Michigan, Ann Arbor, Michigan;
- (2012) – Richard A. Jonas from Children's National Medical Center, Washington, DC;
- (2013) – 6th World Congress of Paediatric Cardiology and Cardiac Surgery in Cape Town, South Africa, under the leadership of Christopher Hugo-Hamman (<http://www.pccs2013.co.za/>); and
- (2014) – John Brown from Indiana University School of Medicine, Indianapolis, Indiana.

In 2012, our 12th annual meeting will take place from February 18 to 21, presented by All Children's Hospital and Sponsored by Johns Hopkins Medicine. The focus will be "Truncus and Transpo". The George Daicoff lecture for 2012 will be given by Richard A. Jonas, MD, Chief of Cardiac Surgery, Co-Director of the Children's National Heart Institute, and Cohen Fungar Professor of Cardiac Surgery at Children's National Medical Center in Washington, DC. This presentation will be titled: "A view of Shanghai from Washington DC: 25 years of change". To view the entire programme for our

meeting and to register for the meeting, please visit the following web site: www.allkids.org/conferences. For detailed information, please e-mail Melodye Farrar at: Melodye.Farrar@allkids.org.

We have now reached the situation whereby the proceedings of the meetings held in 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, and 2011 have been published as supplements to *Cardiology in the Young*.¹⁻⁸ This supplement is therefore the 9th supplement to *Cardiology in the Young* that we have produced from the annual meeting held in Saint Petersburg; this supplement is also the 7th that we have produced jointly with Children's Hospital of Philadelphia (2004, 2006, 2007, 2008, 2009, 2010, and 2011^{2,4-8}):

1. 2003 Meeting: Controversies Relating To The Hypoplastic Left Heart Syndrome;
2. 2004 Meetings: Controversies of the Ventriculo-Arterial Junctions and Other Topics;
3. 2005 Meeting: Controversies and Challenges in the Management of the Functionally Univentricular Heart;
4. 2006 Meetings: Controversies and Challenges of the Atrioventricular Junctions and Other Challenges Facing Paediatric Cardiovascular Practitioners and their Patients;
5. 2007 Meetings: Controversies and Challenges Facing Paediatric Cardiovascular Practitioners and their Patients;
6. 2008 Meetings: Controversies and Challenges of Tetralogy Of Fallot and Other Challenges Facing Paediatric Cardiovascular Practitioners and Their Patients;
7. 2009 Meetings: Innovation Associated with the Treatment of Patients with Congenital and Pediatric Cardiac Disease;
8. 2010 Meetings: Rare and Challenging Congenital Cardiac Lesions: An Interdisciplinary Approach; and
9. 2011 Meetings: A Holistic Approach to Hypoplastic Left Heart Syndrome and Other Evolving Challenges in Paediatric and Congenital Cardiac Disease.

The part of the joint programme of HeartWeek organised by The Congenital Heart Institute of Florida and All Children's Hospital will continue to take place in Saint Petersburg, even in the years when the part designed by the Children's Hospital of Philadelphia will be held outside of Florida, as occurred in 2009 in the Bahamas, and in 2011, when the meeting organised by the team from the Children's Hospital of Philadelphia returned to Arizona. Even during these years when the meeting organised by Children's Hospital of Philadelphia is held outside of Florida, "HeartWeek" will continue to be a collaborative project as manifest by the collaborative publication of this supplement, as well

Table 2. Featured topics and speakers during the symposiums organised by the Congenital Heart Institute of Florida and All Children's Hospital.

2002	Second Annual Symposium
Focus	Abnormalities of the ventricular inlets and atrioventricular valves
Day 1	Echocardiography
Day 2	Tricuspid valve
Day 3	Mitral valve
Day 4	Common atrioventricular valve
Featured guest speaker	Bob Anderson, Great Ormond Street, London, United Kingdom
2003	Third Annual Symposium
Focus	HLHS
Day 1	Echocardiography
Day 2	Staged palliation and the Norwood operation
Day 3	Replacement therapy and cardiac transplantation
Day 4	Biventricular repair
Featured guest speakers	Leonard L. Bailey and his wife Nancy, Loma Linda University Medical Center, Loma Linda, California
2004	Fourth Annual Symposium
Focus	Controversies concerning the ventriculo-arterial junctions
Day 1	Echocardiography
Day 2	Pulmonary valve and reconstructions of the right ventricular outflow tract
Day 3	The aortic valve and the Ross procedure
Day 4	The arterial switch procedure
Featured guest speaker	Martin J. Elliott, Great Ormond Street, London, United Kingdom
2005	Fifth Annual Symposium
Focus	The functionally univentricular heart
Day 1	Echocardiography
Day 2	Shunts and bands
Day 3	Glenn and Fontan procedures
Day 4	Cardiac transplantation
Featured guest speaker	Marc deLeval, Great Ormond Street, London, United Kingdom
2006	Sixth Annual Symposium
Focus	Ventricular inlets and atrioventricular valves
Day 1	Echocardiography
Day 2	Tricuspid valve
Day 3	Mitral valve
Day 4	Common atrioventricular valve
Day 5	Discordant atrioventricular connections
Featured guest speakers	Ross M. Ungerleider and his wife Jamie Dickey Doernbecher Children's Hospital, Oregon Health Sciences University, Portland, Oregon
2007	Seventh Annual Symposium
Focus	HLHS
Day 1	Echocardiography
Day 2	Staged palliation and the Norwood operation
Day 3	Replacement therapy with cardiac transplantation, biventricular repair, and hybrid procedures
Day 4	Adults with congenital heart disease
Featured guest speakers	Constantine Mavroudis and Carl Backer, Children's Memorial Hospital, Chicago, Illinois
2008	Eighth Annual Symposium
Focus	TOF
Day 1	Echocardiography
Day 2	TOF with pulmonary stenosis
Day 3	Complex TOF
Day 4	Adults with congenital heart disease – late problems with TOF
Featured guest speaker	Pediatric Cardiac Critical Care Tom Spray, Children's Hospital of Philadelphia, Philadelphia, Pennsylvania
2009	Ninth Annual Symposium
Focus	Cardiac septal defects
Day 1	Critical care symposium
Day 2	Echocardiography
Day 3	Atrial septal defects
Day 4	Ventricular septal defects
Day 5	Atrioventricular septal defects

Table 2. *Continued*

Featured guest speaker	Marshall Lewis Jacobs, Drexel University College of Medicine, Philadelphia, Pennsylvania
2010	Tenth Annual Symposium
Focus	Rare and challenging lesions
Day 1	Echocardiography
Day 2	Pulmonary atresia – intact ventricular septum with coronary fistulas or sinusoids present, and HLHS with coronary artery fistulas or sinusoids present
Day 3	Anomalous pulmonary origin of coronary artery, and anomalous aortic origin of coronary artery
Day 4	Aortopulmonary window, Aortico–left ventricular tunnel, and congenital cardiac disease associated with tracheal stenosis
Featured guest speaker	Roberto Canessa, Montevideo, Uruguay
2011	Eleventh Annual Symposium
Focus	HLHS
Day 1	TEE Symposium: HLHS
Day 2	The hybrid approach
Day 3	The Norwood operation
Day 4	The role of cardiac transplantation and ethics of caring for patients with HLHS
Featured guest speaker	Edward L. Bove, The University Of Michigan, Ann Arbor, Michigan
2012	Twelfth Annual Symposium
Focus	“Truncus and Transpo”
Day 1	TEE Symposium: truncus and transposition
Day 2	Common arterial trunk (truncus arteriosus)
Day 3	Transposition of the great arteries
Day 4	Adults with truncus and transposition and ethics of caring for patients with truncus and transposition
Featured guest speaker	Richard A. Jonas, Children’s National Medical Center, Washington, DC

HLHS = hypoplastic left heart syndrome; TEE = echocardiography and transesophageal; TOF = tetralogy of Fallot

the various shared members of our international faculties. As has been stated on the web site for the programme coordinated by the Children’s Hospital of Philadelphia, “Providing optimal care for neonates, children and young adults with heart disease requires a multi-disciplinary team approach, including physicians (from cardiology, cardiac surgery, cardiothoracic anaesthesia, neonatal and paediatric critical care medicine, and multiple consulting services), nurses, perfusionists, respiratory therapists, social workers and many others. All of these various practitioners must be experts in their own area, but should also be knowledgeable in what the other members of the team provide to the overall care of the patient”. This statement presents the rationale not only for the annual part of the meeting emanating from the Children’s Hospital of Philadelphia, but also for “HeartWeek in Florida”. Both meetings are proud to emphasise collaboration that spans traditional geographic, subspeciality, temporal, and professional boundaries.

In recent years, we have dedicated this “HeartWeek Supplement” to leaders in the field of caring for patients with paediatric and congenital cardiac disease:

- The supplement from the 2007 HeartWeek was dedicated to Professor Robert Anderson.
- The supplement from the 2008 HeartWeek was dedicated to Hiromi Kurosawa of The Heart Institute of Japan and Tokyo Women’s Medical

University, Tokyo, Japan, and Norman Silverman of Stanford University and Lucile Packard Children’s Hospital, Palo Alto, California, United States of America.

- The supplement from the 2009 HeartWeek was dedicated to Marshall Lewis Jacobs and Charles S. Kleinman.
- The supplement from the 2010 HeartWeek was dedicated to Constantine Mavroudis and Gerald Marx.

Tribute to Martin Elliott and Gil Wernovsky

The theme of this supplement generated from the 2011 HeartWeek in Florida is “A Holistic Approach to Hypoplastic Left Heart Syndrome and Other Evolving Challenges in Paediatric and Congenital Cardiac Disease”. We would like to dedicate this supplement to two physicians who exemplify the “Holistic Approach” and who are both the global leaders in the field of caring for patients with paediatric and congenital cardiac disease: Martin Elliott and Gil Wernovsky. Both Martin and Gil have both been on the faculty of both of the meetings associated with HeartWeek since their inception over a decade ago. Indeed, Martin and Gil have a lot in common. I try to model many components of my life, both professionally and personally, after

Martin and Gil. They are among my closest friends in the world. Both Martin and Gil are world leaders among health-care professionals. They are widely viewed as great public speakers, perhaps the best in our professional domain. They excel in all domains of their lives, professionally, socially, culturally, and personally. Both Martin and Gil are devoted husbands and fathers who place exceedingly high value on their families.

In the final manuscript of the HeartWeek 2010 Supplement,¹⁰ Robert Campbell, Chief of Pediatric Cardiology at Children's Healthcare of Atlanta, Sibley Heart Center, Emory University School of Medicine in Atlanta, Georgia, presented the 9th Annual William J. Rashkind Memorial lecture in Paediatric Cardiology entitled: "The Reimbursement Tsunami: Preserving the Passion". In this manuscript, Robert Campbell describes the "quintuple threat" professional as the health-care professional, with excellence in the five domains:

- clinical care,
- teaching,
- research,
- business leadership, and
- alignment.

Martin Elliott and Gil Wernovsky are truly both "quintuple threat" professionals, with sustained excellence in all five of these areas. It is our honour to dedicate this supplement to our dear friends Martin Elliott and Gil Wernovsky.

Tribute to Martin Elliott

Professor Martin Elliott is truly one of the leading paediatric cardiac surgeons in the world. His career has exemplified excellence in multiple domains. Martin completed the final portion of his formal training between 1984 and October 1985 as a Senior Registrar in Cardiothoracic Surgery at The Hospital for Sick Children, Great Ormond Street, London. Martin has been a Consultant Cardiothoracic Surgeon at The Great Ormond Street Hospital for Children National Health Service Trust since November, 1985. After serving as the Chief of Cardiothoracic Surgery and Transplantation at The Great Ormond Street Hospital for Children National Health Service Trust, he is now Co-Medical Director of The Great Ormond Street Hospital for Children National Health Service Trust.

Martin has made sentinel academic contributions in multiple domains including paediatric and neonatal cardiac surgery, modified ultrafiltration, paediatric tracheal surgery, nomenclature and databases for paediatric and congenital cardiac disease (Fig 1), outcomes analysis and quality improvement, and team building in the cardiac intensive



Figure 1.

This photograph was taken in April 2006 at a famous meeting place in London. Martin Elliott is shown with Rodney Franklin and Leslie Hamilton as they discuss nomenclature, databases, and the relationship between registries and prospective randomized trials with respect to patients with paediatric and congenital cardiac disease.

care unit with the development of hand-off protocols. Martin has been an invited lecturer and visiting professor throughout the world, has published over 200 books, chapters, and articles in peer-reviewed journals. Early in his career, Martin played a leadership role in the development of modified ultrafiltration, a technology and methodology now used in multiple cardiac surgery operating theatres throughout the world. Martin is currently one of the very few surgeons in the world to lead a team dedicated to paediatric tracheal reconstruction, and he is widely viewed as a world leader in this subspecialty.

Along with Allan Goldman, Martin was inspired by watching Formula One Grand Prix racing. Martin and Allen noticed the similarities between teams dealing with pit stops and teams dealing with the transfer of patients from cardiac surgery to the intensive care unit. Allen and Martin worked with Ferrari and McLaren and revolutionised the strategy for hand-off in the intensive care unit.

Martin has also devoted substantial time and energy to the training of paediatric cardiac surgeons (Fig 2). Multiple paediatric cardiac surgeons throughout the world (including me) are thankful to Martin for his mentorship, thoughtfulness, and kind and gentle leadership.

It is truly impressive to consider Martin's ability to morph his career from paediatric cardiac surgeon to paediatric cardiac surgeon and tracheal surgeon to Chief of Cardiothoracic Surgery and Transplantation to Co-Medical Director of The Great Ormond Street Hospital for Children National Health Service Trust. These transitions clearly require awesome skillsets in a variety of categories. I am honestly quite impressed.



Figure 2. Martin Elliott has a long history of training and mentoring paediatric cardiac surgeons. This photo of Martin, shown with his trainees Jeff Jacobs, Victor Morell, and Christian Pizarro, was taken in April, 2006 in London during the retirement celebration of Marc de Leval.



Figure 4. Martin Elliott, Marshall Jacobs, Gordon Cohen, Petter S. Hagemo, Egil Seem, and various other dignitaries aboard the vessel "Off Call", after the completion of the day's meetings at the Third Annual International Symposium on Congenital Heart Disease in Saint Petersburg, Florida. Photo taken on Monday, February 17, 2003.



Figure 3. Martin Elliott at a Tampa Bay Lightning Hockey Game.

On a personal note, I must admit that my professional career has been enhanced tremendously secondary to the outstanding mentorship that I have received from Martin Elliott. My friendship with Martin and our professional association have been a true highlight of my career and life. Our interactions expand far beyond medicine and surgery and into multiple other domains (Figs 1, 2, 3, and 4). My wife, family, and I all live a very good life right now, and we know that in many ways Martin Elliott is to thank for our happiness.

Tribute to Gil Wernovsky

Professor Gil Wernovsky is truly one of the leading paediatric cardiologists and paediatric cardiac

intensivists in the world. His career has exemplified excellence in multiple domains. Gil is currently the Associate Chief of the Division of Pediatric Cardiology and the Senior Cardiac Intensivist of the Cardiac Intensive Care Unit at The Cardiac Center at The Children's Hospital of Philadelphia. He is also the Medical Director of the Neurocardiac Care Program and the Director of Program Development for The Cardiac Center at The Children's Hospital of Philadelphia. Gil is a Professor of Pediatrics at The University of Pennsylvania School of Medicine. He is the former Medical Director of the Cardiac Intensive Care Unit at The Children's Hospital of Philadelphia.

Gil's clinical interests are primarily in inpatient care (Figs 5 and 6), particularly of newborns and infants with critical congenital cardiac disease. He has been an invited lecturer and visiting professor throughout the world, has published over 200 books, chapters, and articles in peer-reviewed journals.

Gil received his medical training at the Pennsylvania State University, and his Paediatric training at the New York Hospital. He completed additional training in paediatric cardiology and critical care medicine at Boston Children's Hospital, and was on the faculty at Harvard Medical School. Gil has been on the faculty at the University of Pennsylvania School of Medicine and a member of the pediatric cardiology division at The Children's Hospital of Philadelphia since 1995.

For the past 25 years, Gil has been especially interested in the long-term functional outcomes following surgery for critical cardiac disease, particularly transposition of the great arteries, and forms of functionally univentricular heart such as



Figure 5.

In 2010, our team from The Congenital Heart Institute of Florida was honoured to have Gil Wernovsky join us on our annual paediatric cardiac mission to Jamaica. Eighteen children underwent cardiac surgery from February 23, 2010 to March 5, 2010, at the Bustamante Hospital for Children, Kingston, Jamaica.



Figure 6.

This photo shows what it is all about!

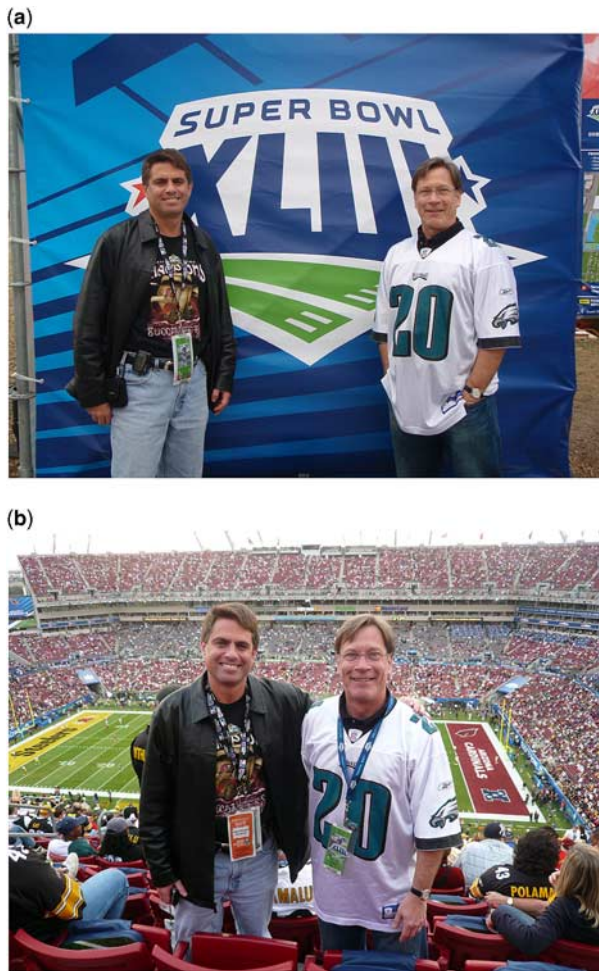
hypoplastic left heart syndrome. From 1986 to 1987, he was a study physician in the Second Natural History Study-2 sponsored by the National Institutes of Health of the United States of America. Between 1987 and 1992, he conducted the pilot

study and was one of the study physicians for the “Boston Circulatory Arrest Trial”, one of the largest randomised clinical trials in congenital cardiac disease. While in Boston, he cared for and published extensively about a group of nearly 600 patients following the arterial switch operation for transposition of the great arteries, and was the principal investigator of a cross-sectional study of the survivors of the first 500 Fontan operations performed at Boston Children’s Hospital. Since his appointment in Philadelphia, he was the co-editor of the first textbook dedicated exclusively to the care and outcomes of children with hypoplastic left heart syndrome, as well as a textbook on paediatric cardiac failure. He served as the chair of the steering committee and principal investigator of the PRIMACORP – Prophylactic Intravenous use of Milrinone After Cardiac Operation in Pediatrics – trial: a multi-centre trials aimed at the prevention of low cardiac output after cardiac surgery, one of the largest multi-centre trials in the field of cardiac intensive care. He is currently a member of the Neurocardiac Research Group at The Children’s Hospital of Philadelphia, which is prospectively evaluating a large cohort of children with all forms of complex congenital cardiac disease.

Gil was a founding member of the Organizing Committee of the Pediatric Cardiac Intensive Care Society and is currently a member of its Board of Directors. He was also member of the Steering Committee of the World Congress of Pediatric Cardiology and Cardiac Surgery. In the American College of Cardiology, he was an elected member of the Congenital Heart Disease and Pediatric Cardiology Committee. In the Council on Cardiovascular Disease in the Young of the American Heart Association, he was chair of the Communications Committee from 1999 to 2001, and an elected member of the executive committee from 1996 to 2001.

HeartWeek would not be possible without the leadership, vision, kindness, generosity, and friendship of Gil Wernovsky. Gil is the Founder and Director of the annual February meeting organised by Children’s Hospital of Philadelphia that is now entering its 16th year: The Children’s Hospital of Philadelphia’s Annual Update on Pediatric and Congenital Cardiovascular Disease. This meeting organised by Gil is the leading multi-speciality meeting in the world for health-care professionals caring for patients with paediatric and congenital cardiac disease. It has been our honour to partner with Gil and his team to create HeartWeek and the HeartWeek supplements (Fig 7a and 7b), and we are massively thankful for the opportunity.

Gil excels in multiple domains outside of his professional life. He is a very talented musician and



Figures 7a and 7b.
Gil Wernovsky at the Super Bowl on February 1, 2009.

is the founder and leader of the Blue Baby Sound Collective. We have also had the pleasure of having Gil play with our local band in Saint Petersburg, *WOOSAH!!!*, on multiple occasions (Fig 8). Gil's leadership in the domain of music has truly increased the happiness of hundreds of people including me and my partners!

In 2010, our team from The Congenital Heart Institute of Florida was honoured to have Gil join us on our annual paediatric cardiac mission to Jamaica (Figs 5 and 6). We were able to experience first-hand what a great physician Gil is.

On a personal note, I consider Gil a dear friend and valued colleague (Figs 5, 6, 7a, 7b, and 8). I have learnt quite a lot from Gil in multiple domains, and I am a better person in multiple domains because of Gil!

This HeartWeek 2011 supplement

We are pleased and honoured to dedicate this supplement to Martin Elliott and Gil Wernovsky.

As stated above, the theme of this supplement generated from the 2010 HeartWeek in Florida is "A Holistic Approach to Hypoplastic Left Heart Syndrome and Other Evolving Challenges in Paediatric and Congenital Cardiac Disease". Both Martin Elliott and Gil Wernovsky are huge advocates of a holistic approach to patients with paediatric and congenital cardiac disease. Throughout their careers, they have promoted collaboration that spans traditional geographic, subspecialty, and temporal, professional boundaries. This concept is the very essence of HeartWeek in Florida! It is our honour to dedicate this supplement to these two special doctors.

All manuscripts in this supplement undergo formal peer review. All manuscripts in *Cardiology in the Young*, and all manuscripts in all supplements to *Cardiology in the Young*, including this supplement, are listed in MEDLINE[®], which is the premier bibliographic database of the National Library of Medicine of the United States of America covering the fields of medicine, nursing, dentistry, veterinary medicine, the health-care system, and the preclinical sciences. All manuscripts in *Cardiology in the Young*, and all manuscripts in all supplements to *Cardiology in the Young*, including this supplement, are assigned a Digital Object Identifier, which is a unique and persistent digital identification code for any object of intellectual property. The references to these articles and their Digital Object Identifier can be found in PubMed, which comprises more than 20 million citations for biomedical literature from MEDLINE, life science journals, and online books. Citations in PubMed may include links to full-text content from PubMed Central and publisher web sites.

It is gratifying for me, as a representative of the Congenital Heart Institute of Florida and All Children's Hospital, to confirm our ongoing commitment to continue "HeartWeek in Florida", combining the International Symposium on Congenital Heart Disease now organised by All Children's Hospital and Johns Hopkins Medicine and entering its 12th year, with the Annual Postgraduate Course in Pediatric Cardiovascular Disease organised by Children's Hospital of Philadelphia and entering its 16th year. I thank Gil Wernovsky, Director of the meeting organised by Children's Hospital of Philadelphia, as well as Tina Mannices, Manager of Continuing Medical Education at the Children's Hospital of Philadelphia, and also Tom Spray and Bill Gaynor, for their support.

The supplement that you are now about to read, therefore, focuses on "A Holistic Approach to Hypoplastic Left Heart Syndrome and Other Evolving Challenges in Paediatric and Congenital Cardiac Disease". It has been prepared to give a



Figure 8.

Gil Wernovsky and members of the Blue Baby Sound Collective (BBSC) performing with the members of WOOSAH!!! at “The Local 662” (<http://www.facebook.com/TheLocal662>) in Saint Petersburg, Florida on Thursday night February 10, 2011. Musicians in this photo, from left to right: Joe Dearani (tenor sax and paediatric cardiac surgeon), Gil Wernovsky (keyboards and paediatric cardiologist), Tom Karl (alto sax and paediatric cardiac surgeon), Jeff Boris (bass guitar and paediatric cardiologist), Dave Shepard (trombone, trumpet, flute, guitar, bass, vocals, keyboards, professional musician and musical Sensei [先生]), Paul Chai (guitar and paediatric cardiac surgeon), Jeff Jacobs (drums and paediatric cardiac surgeon), Ali Messina (vocals and paediatric infectious disease), and Jim Quintessenza (guitar, vocals, and paediatric cardiac surgeon). Photo taken on Thursday night February 10, 2011 by Cbeul Lee, MD, PhD, Department of Thoracic and Cardiovascular Surgery, Cardiovascular Center, Sejong General Hospital, Bucheon, Republic of Korea; E-mail: tscheul@hanmail.net

flavour of the presentations given during the two meetings that composed HeartWeek in Florida, in Saint Petersburg and Scottsdale, in February, 2011.

The theme of the supplement is *Hypoplastic Left Heart Syndrome*. After this Introduction, the supplement is divided into three Parts:

- A Holistic Approach to Hypoplastic Left Heart Syndrome,
- Ethical Considerations Associated with Caring for Patients with Hypoplastic Left Heart Syndrome, and
- Featured Topics.

The first part of this supplement includes a series of articles that focus on a multi-disciplinary approach to patients with hypoplastic left heart syndrome. Multiple disciplines will be considered including:

- cardiac morphology,
- population-based analysis and molecular biology,

- echocardiography,
- interventional cardiology,
- hybrid approaches,
- cardiac surgery,
- critical care,
- primary care,
- longitudinal follow-up,
- adults with hypoplastic left heart syndrome,
- mechanical circulatory support,
- cardiac transplantation,
- nursing, and
- research.

The second part of this supplement includes three manuscripts discussing ethical issues related to patients with hypoplastic left heart syndrome.

- informed consent and bioethical equipoise,
- foetal cardiac intervention, and

- changing attitudes to the management of hypoplastic left heart syndrome: a European perspective.

The third part of this supplement includes three manuscripts related to three featured topics that influence many patients with congenital cardiac disease including those with hypoplastic left heart syndrome:

- joint programmes in paediatric cardiothoracic surgery,
- developing evidence-based guidelines for children, and
- Fontan conversion.

The final article in the supplement is the publication of the 12th Annual C. Walton Lillehei Memorial lecture in Cardiovascular Surgery: "Fontan Conversion: The Chicago Experience", by Carl Lewis Backer, MD, Chief of Cardiac Surgery at Children's Memorial Hospital in Chicago, Illinois, United States of America.

Over the years, HeartWeek in Florida has provided many opportunities for the excellent scientific exchange of ideas, and the development of awesome friendships. I would again like to thank Bob Anderson for all of his help, support, trust, and patience during the preparation of this supplement. I would also like to thank my good friend and Associate Editor of this supplement: William M. DeCampi, MD, Chief of Pediatric Cardiac Surgery at Arnold Palmer Hospital for Children in Orlando, Florida. Bill has devoted substantial time and effort to the production of this supplement, and without his significant contribution we would not have been able to produce this supplement. I would also like to thank my good friends who compose the remaining Editorial Board of this supplement: David S. Cooper, Gul Dadlani, Allan D. Everett, David J. Goldberg, Gil Wernovsky, and Robert H. Anderson. Each of the members of the Editorial Board of this supplement has made important and valued contributions.

The years 2011–2013 mark a time of substantial transition in several domains for HeartWeek and the HeartWeek supplement:

- David Cooper has accepted the position as Associate Director of the Cardiovascular Intensive Care Unit and Director of the Cardiac Extracorporeal Membrane Oxygenation Program at Cincinnati Children's Hospital Medical Center, and Assistant Professor of Pediatrics at the University of Cincinnati College of Medicine. Before moving to Cincinnati, Dave was the Medical Director of the Cardiac Intensive Care Unit and Extracorporeal Life Support Program at All Children's Hospital in Saint Petersburg, Florida, and Clinical Assistant

Professor of Pediatrics at The University of South Florida. Dave was a leader in several areas in our program besides the cardiac intensive care unit and the extracorporeal life support program. He was a leader in our annual February meeting, the creation of this supplement, our annual paediatric cardiac mission to Jamaica, and our research initiatives as an Auxiliary Site in the Pediatric Heart Network. We are very pleased that Dave will continue to collaborate with us on these initiatives, and we wish him the best of luck in Cincinnati.

- Since its inception over a decade ago, The All Children's Hospital Annual International Symposium on Congenital Heart Disease has received accreditation for continuing medical education from The University of South Florida. Beginning with our Meeting in 2012, The All Children's Hospital Annual International Symposium on Congenital Heart Disease will receive accreditation for continuing medical education from our new partners at Johns Hopkins Medicine. We are very excited about this partnership and are very pleased that our 2012 Meeting will include four faculty members from Johns Hopkins Medicine: two surgeons – Duke E. Cameron, MD and Luca A. Vricella, MD – and two cardiologists – Joel S. Brenner, MD and Allen D. Everett, MD. The future collaboration involving the partnership of All Children's Hospital and Johns Hopkins Medicine is filled with awesome potential in multiple domains.
- In 2013, the two HeartWeek Meetings will not be held in the United States. Gil Wernovsky and I, and the leaders of HeartWeek, including our respective Program Committees, have decided to cancel the North American HeartWeek Meetings to support the 6th World Congress of Paediatric Cardiology and Cardiac Surgery that will be held in Cape Town, South Africa in 2013, under the leadership of Christopher Hugo-Hamman (<http://www.pccs2013.co.za/>). Gil and I are hopeful that ALL of the usual attendees of HeartWeek will attend the "Olympics of our profession": The 6th World Congress of Paediatric Cardiology and Cardiac Surgery. The 6th World Congress of Paediatric Cardiology and Cardiac Surgery takes place in Cape Town, South Africa, between 17 and 22 February, 2013. The Paediatric Cardiac Society of South Africa is the host and organiser of this prestigious Congress, which takes place at the Cape Town International Convention Centre.

I would especially like to thank Nicki Marshall of *Cardiology in the Young* for her incredible editorial support during the creation of this supplement.

I would also like to thank Ted Baker, the Editor in Chief of *Cardiology in the Young*, and Sarah Maddox and Daniel Edwards of Cambridge University Press for their support. Without their help, this project would not have been possible.

I am especially grateful to Michael Epstein, Vice President of All Children's Hospital, for facilitating the publication of this supplement. I would also like to thank several additional members of our team at All Children's Hospital, namely Gary Carnes, President and Chief Executive Officer of All Children's Hospital, Arnie Stenberg, Bill Horton, Cindy Rose, Pat Clark, Melodye Farrar, Suzanne Anderson, Kas Sheehan, Jean Wilhelm, and all our cardiac nurses. I would also like to thank the Co-Chairs of our Saint Petersburg meeting, namely Emile Bacha, MD, David S. Cooper, MD, MPH, Gul H. Dadlani, MD, James C. Huhta, MD, Richard M. Martinez, MD, James A. Quinteszenza, MD, and James S. Tweddell.

Jim Huhta initiated this meeting, and I am grateful that he gave me the opportunity to collaborate with him on this initiative, and multiple other initiatives. Jim and I have now collaborated on this meeting for 12 years. The meeting would not have been possible without the leadership and vision of Jim. Finally, I would like to thank my current partners, Jim Quinteszenza and Paul Chai, and my former partners, Victor Morell and Harald Lindberg, for their constant support and guidance, and my wife Stacy, and children Jessica and Joshua, for their understanding and patience. It continues to be an ongoing fact, as I have emphasised in previous introductions to supplements, that all of the family members of the authors of the reviews included in this supplement are owed a debt of gratitude, because writing manuscripts markedly decreases the time available with them.

Acknowledgement

We would like to acknowledge the tremendous contributions made to medicine by Martin Elliott and Gil Wernovsky; and therefore, we dedicate this HeartWeek 2011 Supplement to them.

References

1. Jacobs JP, Anderson RH (eds.). Supplement to *Cardiology in the Young*: controversies relating to the hypoplastic left heart syndrome. *Cardiol Young* 2004; 14 (Suppl 1): 1–130.
2. Jacobs JP, Wernovsky G, Gaynor JW, Anderson RH (eds.). Supplement to *Cardiology in the Young*: controversies of the ventriculo–arterial junctions and other topics. *Cardiol Young* 2005; 15 (Suppl 1): 1–198.
3. Jacobs JP, Wernovsky G, Gaynor JW, Anderson RH (eds.). Supplement to *Cardiology in the Young*: controversies and challenges in the management of the functionally univentricular heart. *Cardiol Young* 2006; 16 (Suppl 1): 1–104.
4. Jacobs JP, Wernovsky G, Gaynor JW, Anderson RH (eds.). Supplement to *Cardiology in the Young*: controversies and challenges of the atrioventricular junctions and other challenges facing paediatric cardiovascular practitioners and their patients. *Cardiol Young* 2006; 16 (Suppl 3): 1–156.
5. Anderson RH, Jacobs JP, Wernovsky G (eds.). Supplement to *Cardiology in the Young*: Annual Heart Week in Florida supplement number 5 – controversies and challenges facing paediatric cardiovascular practitioners and their patients. *Cardiol Young* 2007; 17 (Suppl 2): 1–174.
6. Jacobs JP, Wernovsky G, Cooper DS, Gaynor JW, Anderson RH (eds.). Supplement to *Cardiology in the Young*: Annual Heart Week in Florida supplement number 6 – controversies and challenges of tetralogy of Fallot and other challenges facing paediatric cardiovascular practitioners and their patients. *Cardiol Young* 2008; 18 (Suppl S3): 1–83.
7. Jacobs JP, Cooper DS, Wernovsky G, Goldberg D, Anderson RH (eds.). Supplement to *Cardiology in the Young*: Annual Heart Week in Florida supplement number 7 – innovation associated with the treatment of patients with congenital and pediatric cardiac disease. *Cardiol Young* 2009; 19 (Suppl S2): 1–162.
8. Jacobs JP, Cooper DS, Goldberg D, Wernovsky G, DeCampli WM, Anderson RH (eds.). Supplement to *Cardiology in the Young*: Annual Heart Week in Florida supplement number 8 – rare and challenging congenital cardiac lesions: an interdisciplinary approach. *Cardiol Young* 2010; 20 (Suppl S3): 1–204.
9. Wernovsky G. Foreword: *Cardiology 2007* – 10th annual update on pediatric cardiovascular disease. *Cardiol Young* 2007; 17 (E-Suppl 1): 1–9.
10. Campbell R. 9th Annual William J. Rashkind Memorial Lecture in Paediatric Cardiology: “The Reimbursement Tsunami: Preserving the Passion”. In: Jacobs JP, Cooper DS, Goldberg D, Wernovsky G, DeCampli WM, Anderson RH (eds.). 2010 Supplement to *Cardiology in the Young*: Annual Heart Week in Florida Supplement Number 8 – Highlights of Heart Week in Florida 2010 – Rare and Challenging Congenital Cardiac Lesions: An Interdisciplinary Approach. *Cardiology in the Young*, 2010 Dec, Vol. 20 (Suppl S3), pp 154–159.