In the Spotlight: Dr. Thomas Spray

Dr. Thomas Spray is the chief of the Division of Cardiothoracic Surgery at The Children's Hospital of Philadelphia and director of the hospital's Thoracic Organ Transplantation Program. He is also the Alice Langdon Warner Chair of Cardiac Surgery at The Children's Hospital of Philadelphia and Professor of Surgery at the University of Pennsylvania School of Medicine.

Dr. Spray received his medical degree and training in general and cardiothoracic surgery at Duke University School of Medicine during which time he had specialty training in cardiac pathology at the National Institutes of Health. On completion of his training at Duke he joined the staff of Washington University, St. Louis and the St. Louis Children's Hospital, and eventually became the Chief of Congenital Heart Surgery. He subsequently joined the staff at The Children's Hospital of Philadelphia in 1994.

Dr. Spray is an internationally recognized leader in the field of surgery for congenital heart disease with expertise in complex congenital heart repairs in neonates and infants. He also has had a significant experience in the application of the pulmonary autograft as replacement for the aortic valve (the Ross procedure) in the pediatric population. He has extensive experience in pediatric heart, lung and heart-lung transplantation, having begun the programs in those areas at Washington University and St. Louis Children’s Hospital before going to Philadelphia.

Dr. Spray has contributed widely to the literature in congenital cardiothoracic surgery with over 250 peer-reviewed publications and is the editor of two widely used textbooks in cardiac surgery. He has held numerous leadership positions in national and international professional associations including the Presidency of the American Association for Thoracic Surgery in 2008-2009.

Dr. Spray is a member of the Congenital Heart Surgeons’ Society (CHSS). He has made significant contributions in various cohorts. Most recently, Dr. Spray has helped the CHSS Data Center understand the anatomic complexities of the Anomalous Aortic Origin of a Coronary Artery (AAOCA) cohort. Dr. Spray has also helped with pilot testing and design of the forms in early stages and has helped us decipher the anatomy for his patients enrolled in the AAOCA study.

The CHSS Data Center would like to thank Dr. Spray on behalf of all researchers involved in the study for his contributions.

Work in Progress: Pulmonary Conduit

Dr. Brian McCrindle, Sally Cai and Dr. Jeff Poynter, the Kirklin/Ashburn Fellow, recently spent a weekend at the Cleveland Clinic visiting Dr. Eugene Blackstone and colleagues to learn advanced techniques of longitudinal analysis. The Data Center Team brought with them the Pulmonary Conduit dataset with a preliminary analysis.

The objective of the study is to determine whether intervening procedures (i.e., surgical procedures or catheter interventions which occurred after placement of the initial conduit but prior to its replacement or explant) influence freedom of the first pulmonary conduit from surgical replacement or explant. In addition, patient characteristics and details relating to the initial conduit placement will be included in the analysis. Variables relating to intervening procedures are more challenging to incorporate into the model because we must consider not only the presence of the intervening procedure, but also its timing.

Our preliminary analysis has identified several variables which influence freedom of the initial pulmonary conduit from surgical replacement or explant, including initial conduit size, allograft as initial conduit type, birth weight and several variables relating to intervening surgical and catheter procedures. A Kaplan-Meier plot of actuarial freedom of the first conduit from surgical replacement or explant is shown below, stratified by selection of allograft vs. non-allograft as the initial conduit type. Note the marked disparity between allograft and non-allograft conduit failure rates.

(Continued on Pg. 2)

Spring 2012 Work Weekend

Your CHSS Data Center held the Spring 2012 Work Weekend at The Hospital for Sick Children in Toronto, Canada from April 13 to 15. We had six guests attending in person and an equal number participating by teleconference and webinar. During a very productive weekend, we covered a number of different cohorts in the discussion including:

- Pulmonary Conduit data analysis
- PAIVS Functional Health Status Study
- Left Ventricular Outflow Tract Obstruction
- Anomalous Aortic Origin of a Coronary Artery

We also discussed the possible future research endeavors:

- Registry of Biobanks
- Possible AVA Functional Health Status Assessment
Pulmonary Conduit (Continued from Pg. 1)

Currently we are expanding the model by incorporating the remaining patient and procedural variables. A future addition to the model may include incorporation of serial echocardiographic measurements as time-varying covariates. This was also discussed at the Work Weekend on April 13-15.

Please contact Dr. Jeff Poynter, our current Kirklin-Ashburn Research Fellow at Jeffrey.poynter@sickkids.ca if you would like to be included in the study group for this project.

Unbalanced AVSD: An invitation to participate

Unbalanced Atrioventricular Septal Defect is our most recently launched cohort. We have already started enrolling patients in this newest CHSS prospective, inception cohort. Four CHSS institutions have already received approval specifically to participate in this multi-institutional cohort and several others are working to receive their ethics (IRB/REB) approval.

We would like to encourage all members to participate in this cohort. We have uploaded the template IRB application documents on the Data Center website for you to download and initiate your application: www.chssdc.org/studies. They include the study protocol, data collection forms and template consent forms. A template Data Sharing Agreement has also been uploaded on this page, which has been signed in the past by over 20 institutions. We hope you will consider enrolling your patients in this cohort. Please contact us at chss.dc@sickkids.ca for questions with the study participation or IRB/legal matters and we will be happy to assist you with your questions.

Review of Enrollment in CHSS Studies

As you would have notice from the annual meetings reports and from time to time in the newsletter, our enrollment has been persistently going higher and higher thanks to our member surgeons and their research team members. We would also like to thank our patients and their families for their participation and the data they have provided over the years.

You would notice from the graph below that the Anomalous Aortic Origin of a Coronary Artery (AAOCA) cohort, started in 2009, has formed a large part of enrollment in the past few quarters.

This is certainly great news. We have been able to gather the largest known prospective cohort of this anomaly, thanks to your efforts. However it also encourages us to aim for consenting and enrolling more patients in other cohorts, which form a proportionately larger group of patients with congenital heart diseases compared to AAOCA in real life. We would like to take this opportunity to encourage everyone to enroll more patients and improve the enrollment further in the year 2012!

We are currently enrolling in the following prospective observational cohorts:

1. Tricuspid Atresia
2. Pulmonary Conduit
3. Left Ventricular Outflow Tract Obstruction
4. Anomalous Aortic Origin of a Coronary Artery
5. Unbalanced Atrioventricular Septal Defect

We would like to encourage all members to participate in this cohort. We have uploaded the template IRB application documents on the Data Center website for you to download and initiate your application: www.chssdc.org/studies. They include the study protocol, data collection forms and template consent forms. A template Data Sharing Agreement has also been uploaded on this page, which has been signed in the past by over 20 institutions. We hope you will consider enrolling your patients in this cohort. Please contact us at chss.dc@sickkids.ca for questions with the study participation or IRB/legal matters and we will be happy to assist you with your questions.