

CTSNet Program Profile Questionnaire

PROGRAM DETAILS

1. Names of the:

- A. Program: [The Johns Hopkins Cardiothoracic Surgery Residency](#)
- B. Program Director: [Duke E. Cameron, M.D.](#)
- C. Chief of Cardiac Division: [Duke E. Cameron, M.D.](#)
- D. Chief of Thoracic Division: [Stephen C. Yang, M.D.](#)

2. Program contact information:

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3. Link to your program's website:

JHU Division of Cardiac Surgery: http://www.hopkinsmedicine.org/heart_vascular_institute/
JHU Division of Thoracic Surgery: <http://www.hopkinsmedicine.org/surgery/div/Thoracic.html>
JHU Department of Surgery: <http://www.hopkinsmedicine.org/surgery>

4. Number of residents accepted each year: [2](#)

5. Length of program: [3 years](#)

6. Does your program have separate cardiac and thoracic tracks? [No](#)

- A. [Cardiac Positions 2 years & 6 months](#)
- B. [Thoracic Positions 6 months](#)

7. Indicate approximate deadline for application and interview dates:

- A. Application Deadline: [February 15, 2013](#)
- B. Interview Dates: [tentatively set for March 29 & 30, 2013](#)

CURRICULUM

1. Details of Curriculum:

- A. Indicate the # of months on each rotation for each year (for each cardiac and thoracic track if applicable), and which hospital(s):

Cardiothoracic Surgery Track

Year 1 July 1 – June 30	Cardiac - Adult / Congenital (1 year) Johns Hopkins Hospital
Year 2 Jul 1 – December 30	General Thoracic (6 months) Johns Hopkins Hospital
Year 2 January 1 – March 31	Elective – Interventional Pulmonology (3 months) Johns Hopkins Hospital
Year 2 April 1 – June 30	Elective – Thoracic / Vascular (3months)Johns Hopkins Bayview Medical Center
Year 3 July 1 – June 30	Cardiac – Adult Congenital and Thoracic (1 year) Johns Hopkins Hospital

- B. Please describe any wet labs and simulation technology used in training and how frequently these are used: Cardiac, valve, and pulmonary wet labs (see detailed descriptions below).

Wet Labs / Simulation Technology

New Simulation Lab for first year residents only. This lab is part of a multi-center grant that provides surgical training in the residency program. The principle investigator for this program is Dr. John Conte. This lab provides training in cardiac surgical techniques using modern cardiac surgery simulation technology combined with a rigorous simulation based curriculum. Residents start with low fidelity models for example, they are trained using a static pressurized aorta. Residents will then advance to the Ramphal Cardiac Surgery Simulator (RCSS). The model uses a porcine heart that is prepared with an intraventricular balloon in each ventricle. The balloons are inflated by a computer controlled activator. The computer program is able to simulate the beating heart, various cardiac arrhythmias, hypo and hypertensive states, cardiac arrest, and even placement of an intra-aortic balloon pump. The model is perfused with a washable blood substitute. When placed in a replica of the pericardial well in a mannequin, the RCSS is capable of simulating most aspects of cardiac surgery including cardiopulmonary bypass, coronary artery bypass grafting both on and off bypass, aortic valve replacement, heart transplantation, and aortic root reconstruction. The computer protocols simulate adverse events such as accidental instillation of air into the pump circuit, aortic dissection, and sudden ventricular fibrillation after discontinuation of cardiopulmonary bypass.

Boot Camp

The cardiac surgery boot camp is a program designed for the first year Cardio/Thoracic Residents. It takes place in the Cardiac Surgical Research Lab at The Johns Hopkins Hospital. It comprises several simulation stations each with an attending level surgeon present to teach and advise. It is designed to simulate cardiac surgical procedures in a low pressure environment with one on one tutorship and an opportunity to perform tasks repeatedly. The surgical based stations include a coronary artery bypass station and an aortic/arterial cannulation station. A porcine heart and a section of saphenous vein is used in the bypass station. The cannulation station also uses a porcine heart that has been pressurized to mimic the surgical setting. Both these stations use the same instrumentation and techniques that are used in the operating room. There is also a bronchoscopic station where a bronchoscope is inserted into a simulator with a thoracic surgeon in attendance for mentorship. In addition to this course being offered to the first year residents others associated with the cardiac surgery lab are welcomed. Recently the program has been offered to surrounding hospitals as well.

The Cardiac Surgery Skills Laboratory (CSSL)

The training laboratory was established in 2009 under the direction of the former Chief of Cardiac Surgery, Dr. William Baumgartner, for the purpose of skills training for incoming and current cardiothoracic residents. It is adjacent to the Cardiac Surgery Research Laboratory (CSSL). The CSSL incorporates state of the art surgical models by The Chamberlain Group, Inc., as well as porcine hearts and vein grafts for training on coronary artery anastomoses and aortic and venous cannulation. What is truly unique about the CSSL is the teacher himself, Dr. Baumgartner who dedicates time to training residents in the lab; giving trainees access to a master cardiac surgeon for instruction on basic and essential cardiac surgical techniques in a low-stress environment.

Skills taught with the Chamberlain models and porcine hearts include:

- Cardiac anatomy and anomalies
- Aortic and venous cannulation
- Coronary anastomosis
- Aortic valve replacement
- Mitral valve repair/replacement

Coronary Artery Bypass Graft Heart Model

Realistic, soft, four chambered, and highly detailed internal and exterior model with suturable native coronary sites for coronary artery bypass graft training.

Aortic Root Trainer

Detailed aortic root with valve plane and aortic sinuses reinforced for valve implantation training.

C. Please briefly describe the number and type of weekly conferences residents are expected to attend.

Name of Conference (teaching round, seminar, journal club, etc.)	Frequency	Mandatory / Elective	Individual(s)/Department Responsible for Organization of Sessions
Adult Diagnostic Cath Conference	Weekly	E	Division of Cardiology
Pediatric Cath Conference	Weekly	E	Pediatric Cardiology
Adult Mortality and Morbidity	Bi-weekly	M	Division of Cardiac Surgery
Journal Club	Monthly	M	Cardiac Surgery Residents
Cardiac Surgery Service Meeting	Monthly	M	Division of Cardiac Surgery
Surgery Grand Rounds	Weekly	E	Department of Surgery
Cardiac Surgery Laboratory Meeting	Weekly	E	Division of Cardiac Surgery
General Thoracic Core Curricular Lectures	Weekly	E	Thoracic Residents and Faculty
Cardiac Surgery Core Curricular Lectures	Weekly	M	Cardiac Surgery Residents
Resident Research Conference	Weekly	E	Department of Surgery
Heart Transplantation Conference	Weekly	E	Division of Cardiac Surgery/Cardiology
Lung Transplantation Conference	Weekly	E	Division of Cardiac Surgery/Pulmonary
Esophageal Swallowing Conference	Weekly	E	Radiology
Morbidity & Mortality Conference	Weekly	M	Department of Surgery
Thoracic Tumor Board	Weekly	M	Division of Medical Oncology
Esophageal	Weekly	E	Division of Medical Oncology

- D. Please indicate what provisions are made for attending national research meetings (i.e., # per year for which funding is provided, and if that is dependent on presenting an abstract): Residents may attend one meeting per year and any meetings that they are presenting a paper or poster. Funding is provided.
- E. Please describe opportunities for research (clinical, basic science):

Clinical Research:

Department of Surgery Research Facilities

1. The Cardiac Surgery Research Laboratory is located in The Johns Hopkins Hospital. The lab consists of two surgical suites, one for sterile, chronic procedures and another for acute studies. The labs are equipped to do cardio-pulmonary bypass procedures with continuous intensive care monitoring and data collection.
2. The Johns Hopkins Minimally Invasive Surgical Training Center (MISTC) is a state of the art training laboratory for today's surgeons to learn and perfect the minimally invasive techniques of tomorrow.

- F. Please describe the call structure:

Chief residents alternate monthly call for implant and procurement of transplant cases. Emergency cases, night and weekend cases (non-transplant) are covered in 2 week blocks. The resident who is on-call for the two week block manages the daily morning meeting at 7:00am with faculty and nursing.

Each chief resident has 6 months of transplant implant, 6 months of transplant procurement and 6 months of nights and weekend call.

PGY1 and 2 residents rotate in-house call on an average of every fourth night. PGY1 residents carry the on-call pager during the day. In general, signing out the pager between post and on-call residents occurs at 6:00am each morning and 6:00pm each night. The time of pager transfer is dependent on what is occurring in the operating room such as potential transplants and ICU issues. This is particularly important on the nights the Thoracic fellow takes in-house call as they are often in the OR doing critical cases until early evening. The PGY1 resident carries the pager until the Thoracic resident is able to be immediately available to scrub out in an emergency. Weekend sign out times for the on-call pager is at 8:00am. Organ recovery call is taken the night after PGY 1 and 2 residents take their in-house call.

- G. Please indicate whether funds are provided for loupes? Textbooks? Phones?

Clinical Practice Allowance provided:

- Reimbursement for the first pair of loupes up to 2.5 power.
- Year 1, 2, and 3: Reimbursement of educational publications, textbooks, membership fees and travel for educational sessions/meetings of your choice. Any unused funds can be carried over to your chief resident year.
- American Board of Surgery Exam

Medical License

- A onetime reimbursement for an initial or renewal license.

H. Please describe your program's biggest strengths.

Our cardiothoracic surgery program currently offers a full complement of surgical interventions – from time-honored surgeries such as coronary artery bypass, valve replacement, and congenital heart procedures to modern therapies including minimally invasive cardiac surgery and percutaneous aortic valve implantation. We also offer comprehensive treatment for heart and lung failure, including surgical ventricular restoration procedures, cardiac and pulmonary transplantation, Extracorporeal Membrane Oxygenation (ECMO) and ventricular assist devices. Our program is an integral part of the Broccoli Center for Aortic Diseases at Johns Hopkins, one of only a few centers in the world that provides comprehensive management and surgical repair of aortic diseases, having particular expertise with patients suffering from Marfan syndrome and Loeys-Dietz syndrome.

In general thoracic surgery, we have the highest surgical volumes in the region, so your experience in thoracic malignancies including that of lung, esophageal, mediastinal and pleura will be unique. The techniques of Video Assisted Thoracoscopic Surgery (VATS), robotics, and lung volume reduction surgery are fully integrated into the training program.

Our large clinical volume, consisting of many complex procedures in all areas of pediatric, adult cardiac and thoracic procedures, assures patients that they are receiving the best care possible from some of the most experienced and expertly skilled surgeons in the world. These same surgeons are committed to studying and advancing the field. Importantly, we are committed to training future leaders of academic cardiothoracic surgery.

I. Please indicate what is unique about your program relative to other programs.

The Johns Hopkins Program is strong with a balanced and rigorous clinical experience without advanced fellows.

The Johns Hopkins program has a long and distinguished history of producing leaders in academic surgery.

1. Please describe “super” fellowship opportunities (e.g. transplant, endovascular, minimally invasive, congenital) available at your institution. **We do not have super fellowships.**

FUTURE CHANGES

1. Please indicate whether your program is planning on developing a Joint Thoracic/General Surgery (4+3) or Integrated Program (if your program already has one, please skip this section and complete the last portion of the questionnaire entitled “Additional questions for Joint Thoracic/General Surgery (4+3) and Integrated (i6) programs”)? **Both are under consideration at this time.**