The UPMC Center for Advanced Robotics Training (CART) provides surgical teams with technical and contextual resources to initiate and optimize complex robotic surgery programs. The center provides participating surgeons and support staff with expertise through individualized pathways to proficiency, and remains engaged in maintaining trainees’ skills through continuous quality assessment. This personalized approach supports reduced learning curves and high-quality, cost-efficient outcomes.
Training Program Overview

The Center for Advanced Robotics Training (CART) program in cardiac surgery offers a customizable, in-depth introduction to performing various cardiac procedures with the surgical robot. Training aims to provide surgeons with the capabilities needed to optimize use of their robotics equipment by developing and refining skills through live observation, virtual simulation, and wet labs. Over the course of the program, participants refine basic robotic skills including port placement and docking, and apply them during various robotic cardiac surgery procedures, including mitral valve repair and thymectomy.

Sample Agenda

Day 1

5:00 – 7:00 PM  Simulation Lab Session #1

7:30 – 8:30 PM  Dinner

Video Analysis of Select Robotic Procedures and Review of the Nurse's Role in Surgery

8:30 – 9:00 PM  Q & A Session

9:00 PM  Adjourn

Day 2

7:00 – 11:15 AM  Case Observation: Mitral Valve Repair

or  Case Observation: Robotic MIDCAB

11:20 AM – 12:00 PM  Lunch and Post-Case Review

12:00 – 2:30 PM  Simulation Lab Session #2: Surgeon and Patientside Assistant

2:30 – 5:30 PM  Case Observation: Mitral Valve Repair

or  Case Observation: Robotic MIDCAB

or  Robotic Cardiac Lab #1: Skill Drill Session with Thoracic Model

6:00 PM  Adjourn

Day 3

8:00 – 8:30 AM  Robotic and Non-Robotic Instrument and Accessory Review

8:30 – 9:45 AM  Robotic Cardiac Lab #2: Bilateral IMA Mobilization (RIMA then LIMA)

9:45 – 10:00 AM  Reposition Specimen

10:00 – 11:30 AM  Robotic Cardiac Lab #3: Mitral Valve Repair

11:45 AM – 12:15 PM  Lunch

12:30 – 3:00 PM  Simulation Lab Session #3: Surgeon and Patientside Assistant

3:00 – 3:15 PM  Break

3:15 – 5:15 PM  Robotic Cardiac Lab #4: Mitral Valve Repair

5:15 – 5:45 PM  Final Comments and Team Analysis

6:00 PM  Adjourn

Experience

UPMC surgeons in the Division of Cardiac Surgery have extensive experience performing complex heart and vascular operations. The division is a recognized center of excellence for heart surgery, and has pioneered the use of robotics as a minimally invasive technique in mitral valve repair.

Our surgeons are leaders in the application of robotics to cardiac surgery and are active contributors to the research in this field. Surgeons in the CART cardiac surgery program have developed a curriculum backed by years of experience. Program curriculum seeks to address the procedural characteristics that are distinct to performing robotic cardiac surgery to optimize its application in this field.

For more information, please contact:
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