

# CENTER FOR ADVANCED ROBOTICS TRAINING

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.

## CART strives to provide surgeons with the following:

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- Goals  
of the  
Program**
- Mastery-based educational pathways to allow surgeons to become proficient in the utilization of complex robotic surgery
  - A step-by-step algorithmic approach to building both simple and complex robotic surgery service lines and programs
  - A continuous, long-term QA/QI for surgeons and programs that have completed our training curriculum
  - Quality metrics of complex robotic procedures to facilitate expeditious training
  - Mentorship and proctorship to safely and efficiently build a robotic surgery program

## Why UPMC?

- A world-renowned health care provider delivering leading patient care and clinical expertise in more than 20 hospitals, including international locations
- Ranked among the nation's best hospitals by U.S. News and World Report
- Maintains one of the largest centers for robotic surgery in the country, having performed more than 6,000 cases in a five-year period across various clinical specialties
- Contributes peer-reviewed research, training models, and internal development of quality metrics through experienced clinicians to optimize the application of robotic surgery

## Program Differentiators

### Experience

UPMC has spent years enhancing health care delivery with robotic surgery. Our surgeons remain active in perfecting the robotic surgery training model through ongoing research contributions that enhance quality metrics and ensure optimal clinical care.

### Doctors

Surgeons active within the UPMC Center for Advanced Robotics Training (CART) are experienced in using robotics in their respective specialties. Surgeons within our Surgical Oncology Department have led the application of robotic surgery, presently performing 60 percent of their surgeries with this advanced technique.

### Dedication

As participating surgeons work toward mastery of the robotic technique, CART remains committed to minimizing the learning curve with ongoing training and access to experts and educational resources. Our approach seeks to ensure that all enrollees in the program are equipped for the continued success of their own practice and robotic surgery programs.

## Program Plan

### Curriculum

- UPMC clinical experts provide a comprehensive training program, done virtually and on-site, encompassing the full scope of complex robotic surgery training.



- Training utilizes state-of-the-art virtual reality simulation; deliberate dry lab practice; and goal- and skill-focused wet labs to assist the surgeon in skill acquisition and assurance of competency.
- Access to training videos for review and instruction is given on an independent and collaborative basis.

### Advanced Training Development

- UPMC includes training and competency for all members of the surgical team.
- In addition to acquisition of the robotic technique, the program focuses on procedural and anatomical nuances encountered in both routine and complex surgical procedures while using the robotic platform.
- UPMC clinical experts perform virtual and on-site mentorship as part of an ongoing collaboration geared toward quality, safety, and efficiency.
- Retrospective analysis of early and ongoing surgical procedures is included in program development, and post-hoc analysis provides specific metrics for improvement in subsequent procedures.

### Pathway Implementation

- UPMC clinical experts provide a comprehensive, procedure-specific action plan for early implementation. The plan includes competency checklists, metrics tracking, and interval assessment of specific milestones towards proficiency.
- Training will additionally feature pre-procedure strategic planning, helping to optimize efficiency, maximize quality metrics, and reduce cost.

### Continuous Quality Assurance

- Ongoing quality assurance is a critical feature to ensure optimal, successful implementation of a robotic surgery program. UPMC clinical experts provide internal assessment of quality metrics at predefined milestones, and additionally identify and address barriers to proficiency through re-training, either virtually or in-person as deemed necessary by the surgeon and/or proctor.

### For more information, please contact:

Daniel Battista, MBA, Administrative Director  
UPMC Center for Advanced Robotics Training (CART)  
[UPMCRoboticTrainingCenter@upmc.edu](mailto:UPMCRoboticTrainingCenter@upmc.edu)  
+1-844-304-2278