The Christ Hospital Structural CT Training Program

Synopsis: The training program offers a holistic approach to multimodality structural imaging centered on CT analysis. The program will provide both imagers and implanters with an in-depth analysis of preprocedural CTs, along with the opportunity to attend the live cases and participate in post procedural debriefing. Trainees are also welcome to observe TEE guided procedures such as mitral and tricuspid edge to edge repair and ICE based procedures such as PFO closures. During their in-person training, various cutting-edge technologies are discussed and used.

Target Audience: The CT training program is open for:

- Practicing structural interventionists who would like to enhance their CT procedural planning and become independent of the industry workflow.
- Non-invasive cardiologists who would like to support their structural program through CT planning. CT formal training is recommended but not necessary for enrollment in the course.
- Interventional fellows who are planning to pursue a career in structural interventions and would like to have a strong imaging base in order to focus on technical skills during their structural year.
- International physicians are also welcome.

Duration:

The program duration is 4 weeks over 12 months. Trainees can do the 4 weeks at once or split it as needed. A minimum of 2 weeks (do not have to be consecutive) is required during the first contact.
Program cost- $5,000/week.

Goals: At the end of the course, the trainee is expected to:
- Perform an independent preprocedural CT analysis using 3Mensio software for planning various structural interventions including TAVR, TMVR, TTVR, Watchman, VIV TAVR, VIV TMVR.
- Discuss optimal TAVR valve selection based on the anatomical challenges, valve sizing, coronary risk assessment, leaflet modification considerations.

- Assess the suitability of patients for TMVR based on annular dimensions and in situ prosthesis, with an emphasis on assessment of neo LVOT obstruction risk as well as potential means for mitigation.
- Determine anatomical suitability and procedural planning for TTVR
- Determine suitability of left atrial appendage for transcatheter closure as well as size selection. Assessment of patency of the appendage with CT follow up.

Software: CT analysis with 3mensio. Echo and TEE review with Merge. Trainee will be provided with an access to 3mensio and Merge.

Teaching Program:

The theoretical program is set up as 2 levels. The first level will cover the basics of the processing software and acquisition protocols. The teaching will focus on TAVR and watchman case planning and follow up. The second level will focus on more advanced procedures, notably valve in TAVR valve planning, TMVR and TTVR cases. Teaching is performed through live processing of the cases planned during the week in addition to a large library of CT cases available to the trainee on campus. Trainees are also welcome to attend the valve clinic with our team.

1. ***Level 1: Week 1-2: TAVR - Watchman***

- Acquisition protocol and principle of processing.
- TAVR prosthesis types and characteristics.
- CT TAVR processing in native aortic valve
- Bicuspid aortic valve
- Valve in surgical valve
- Watchman case planning.
- Watchman follow-up CT.

2. ***Level 2: Week 3 - 4: TMVR TTVR VIV.*** Level 2 can be split into 2 separate weeks if needed to focus on a certain technology.

- TMVR Valve in ring
- TMVR Valve in surgical valve
- TMVR Valve in native valve - MAC
- TTVR valve in ring
- TTVR valve in native anatomy - Evoque
- Valve in Valve TAVR.

Live cases:

Live cases typically occur 4 - 5 days each week. Cases include commercially available devices as well as cutting edge technology in transcatheter interventions. Trainees are encouraged to attend TEE based cases, notably edge to edge repair of mitral and tricuspid valves in order to refine their knowledge of TEE guidance of transcatheter interventions. Concepts routinely covered include 3D MPR with TEE and ICE.

Structural Meeting

Trainees will have the opportunity to attend remotely the Thursday structural meeting in the month leading to their in-person training to get accustomed to the program workflow. This meeting is a weekly multidisciplinary meeting attended by implanters, imagers, and cardiothoracic surgeons. During the meeting, approximately 18 - 22 patients are presented. Various imaging studies are reviewed notably echos, TEE, CT valves, and MRI. Valve selection and procedural planning are discussed and finalized during the meeting. Trainees are encouraged to present the CT portion of the meeting during their in-person training. All the CTs will be reviewed the day prior and discussed with them.

Application and contact:

For inquiries and application, please contact our program coordinator

Name: Darlene Rock MBA, BSN, RN, Director Research Education and Training
Email: Darlene.rock@thechristhospital.com
Phone: 513-585-1766