

# TENDYNE™

Transcatheter Mitral Valve Replacement



## CT SCREENING GUIDE

### FULL CYCLE GATED CONTRAST CT:

- Annular dimensions
- Valve simulation for multiphasic neoLVOT assessment

### CT PROTOCOL

- **For all Siemens, all Philips, GE HD/750, Aquilion Prime:**  
Retrospectively ECG-gated cardiac CT with NO ECG dose modulation – full tube current throughout entire cardiac cycle.
- **For GE Revolution and Aquilion one/vision 320/640:**  
One beat/slap acquisition of heart through entire cardiac cycle. NO ECG dose modulation – full tube current throughout entire cardiac cycle.  
Image reconstruction should be entire cardiac cycle at 5% – 10% intervals. Slice thickness <0.75-1mm. Recon interval < 1mm.

## IMAGING REQUIREMENTS FOR PRE-PROCEDURAL ANATOMIC ASSESSMENT

- Contrast enhanced, ECG-synchronized cardiac CT data covering entire cardiac cycle and entire heart, including left atrium and apex.
- Low-dose, non-contrast enhanced, non-ECG-synchronized CT data set of entire chest (from lung apex to costophrenic angles) to assist with procedural planning.

## LV DIAMETER MEASUREMENT

Measure Left Ventricular diameter in 3-chamber view from Septum to posterior wall in parallel to mitral annulus.

LVESD: >3 cm and LVEDD: <7cm.

### ACCEPTABLE RANGES

Using standard annual segmentation method:

anteroposterior (AP) dimension: 25 to 42 mm

Inter-commissural (IC) dimension: 35 to 48 mm

Entire perimeter (Figure 1): 100 to 145 mm

Figure 1: D-shaped Mitral Annulus Model<sup>1</sup>

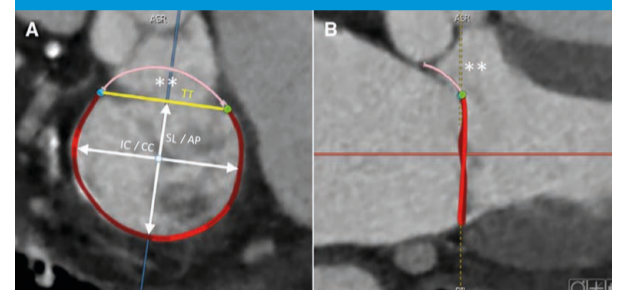
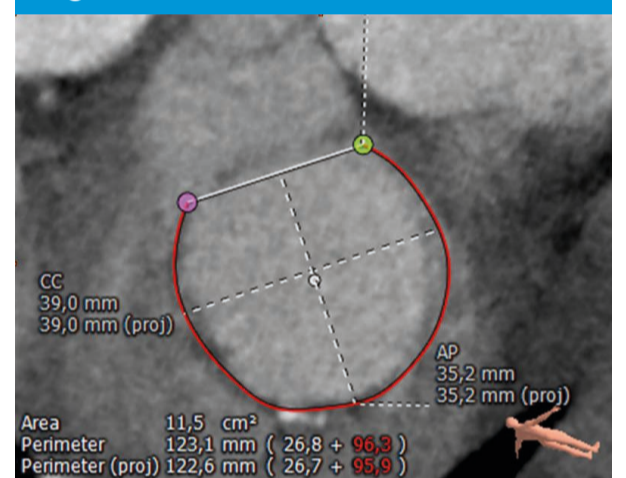


Figure 2: Mitral Annular Dimensions



Perimeter = Posterior Perimeter + trigone to trigone line

Figure 3: Left Ventricular Dimensions

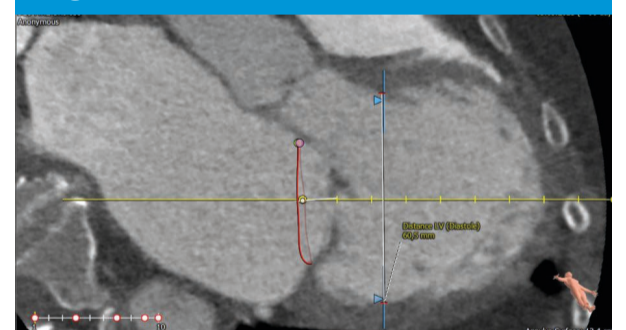
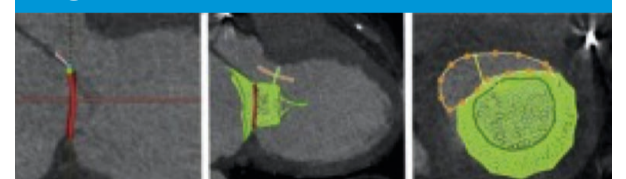


Figure 4: neoLVOT with device simulation<sup>2</sup>



1. Blanke P, et al. A simplified D-shaped model of the mitral annulus to facilitate CT-based sizing before transcatheter mitral valve implantation. J Cardiovasc Comput Tomogr. 2014 Nov-Dec; 8(6): 459-467.

2. Reid A, et al. J Am Coll Cardiol Img. 2021;14(4):854-66

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