

Evidence Discussion (CD 4.6-4.8)

CT Heart

The ability of the cardiac CT technology to provide a tomographic view of the cardiovascular system has resulted in its ubiquitous adoption in the pre-procedure planning for almost all cardiac structural interventions. Specifically, cardiac CT circumvents the image window limitation of echocardiography, it allows high definition visualization of the posterior structures and facilitates pre-procedural planning for pulmonary vein isolation, coronary sinus pacer leads insertion and left atrial appendage occlusion device implantation, among other trans-catheter structural interventions.¹

The success of a Trans-catheter Aortic Valve Replacement (TAVR) procedure is contingent upon a meticulous pre-TAVR planning imaging study where cardiac CT allows accurate annulus sizing, coronary heights measurement, and calcification distribution evaluation, in addition to access site planning.² Post-operatively, clinically suspected complications such as thrombus formation, infective endocarditis or structural degeneration can be confirmed on a cardiac CT; a routine surveillance strategy, however, is not supported because of unclear or even potentially harmful outcome of treating incidental findings.³

In non-interventional settings, cardiac CT provides an alternative to cardiac MRI when structural information cannot be adequately obtained by an echocardiography. Most notably, the evaluation of a cardiac mass, extent of pericardial disease, complex congenital heart disease and cardiomyopathy, can be performed by a cardiac CT when cardiac MRI is not available or contraindicated.⁴

References:

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3. Dangas GD, et al. A Controlled Trial of Rivaroxaban after Transcatheter Aortic-Valve Replacement. N Engl J Med. 2020 Jan 9;382(2):120-129.
4. Han BK, et al. Computed Tomography Imaging in Patients with Congenital Heart Disease Part I: Rationale and Utility. An Expert Consensus Document of the Society of Cardiovascular Computed Tomography (SCCT): Endorsed by the Society of Pediatric Radiology (SPR) and the North

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