




SnapShot Freeze 2

Clinical Evidence



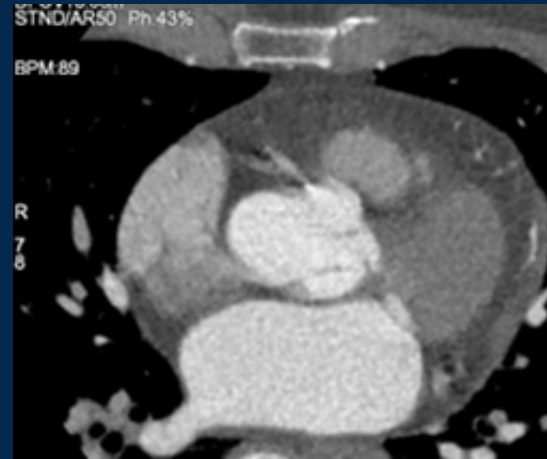


SnapShot Freeze 2

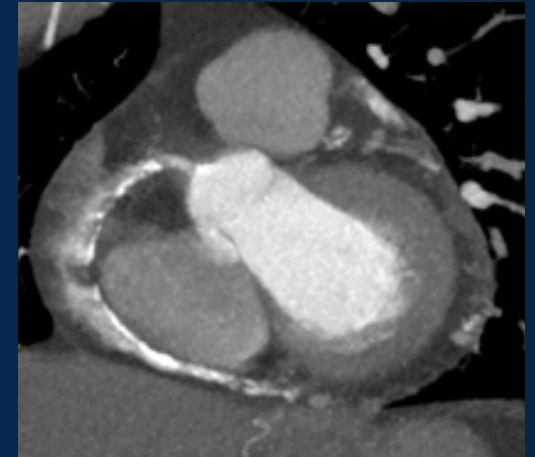
Clinical benefits: Coronary motion correction

HR = 89 BPM

Standard Reconstruction



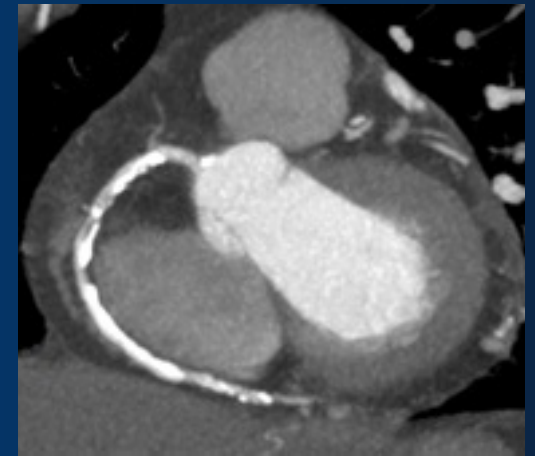
Standard Reconstruction



SnapShot Freeze 2



SnapShot Freeze 2





SnapShot Freeze 2

Clinical evidence: Benefits on coronary assessment in patients with high heart rate¹

Standard Reconstruction



81 consecutive patients
Mean HR during scan (BPM): **84 +/- 9 bpm [75 - 134]**
Mean effective dose (mSv): 1.0 ± 0.3 (0.4~2.1)

Interpretability¹

99.2%

vs 92.5% in standard reconstruction
(on per segment level)

IQ Improvement¹

+27%

Overall quality score:
3.56 vs 2.81
(from 1: non-diagnostic to 4: excellent)

SnapShot Freeze 2



Diagnostic accuracy¹

96.8%

vs 81.5% in standard reconstruction

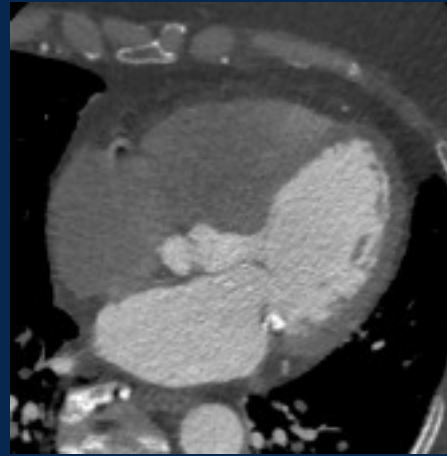


SnapShot Freeze 2

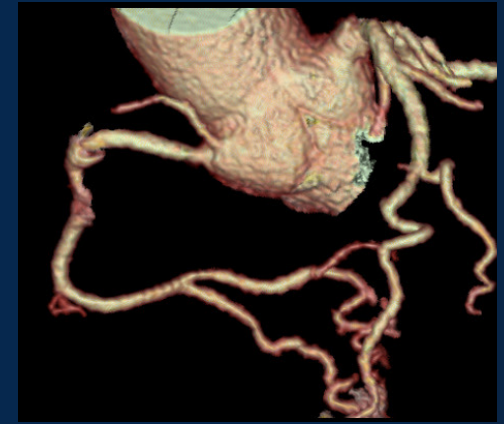
Further reducing coronary motion vs SnapShot Freeze 1

HR = 65 BPM

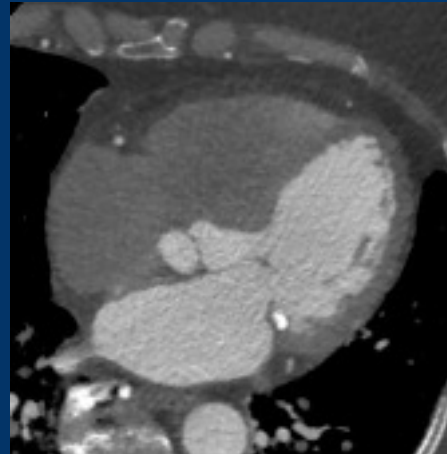
SnapShot Freeze 1



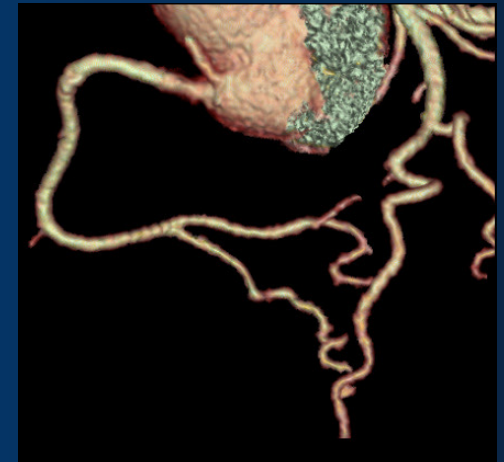
SnapShot Freeze 1



SnapShot Freeze 2



SnapShot Freeze 2



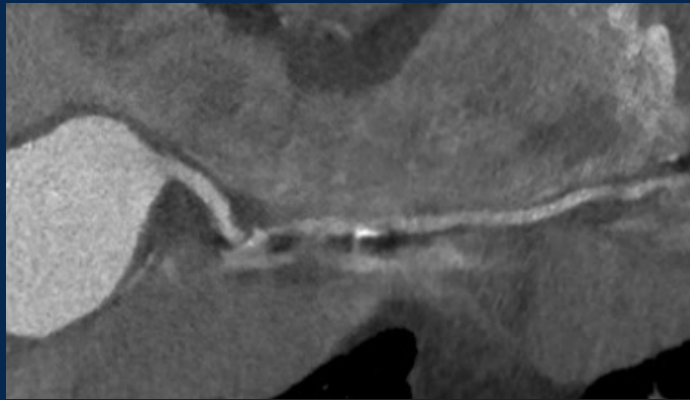
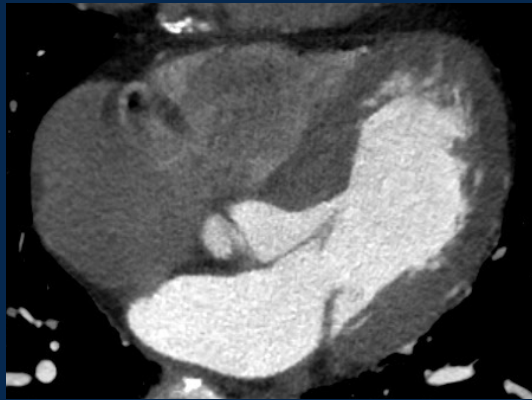


SnapShot Freeze 2

Further reducing coronary motion vs SnapShot Freeze 1

HR = 67 BPM

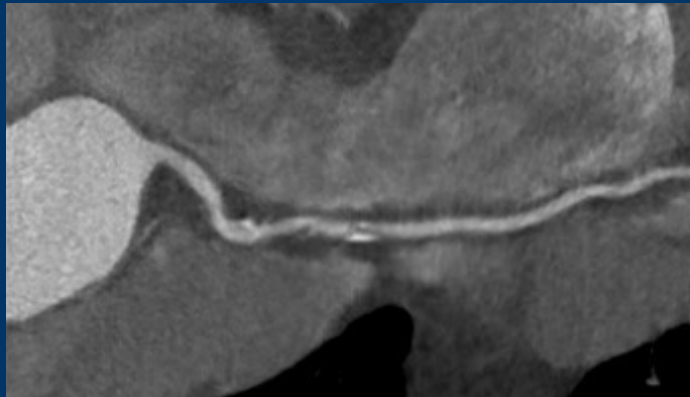
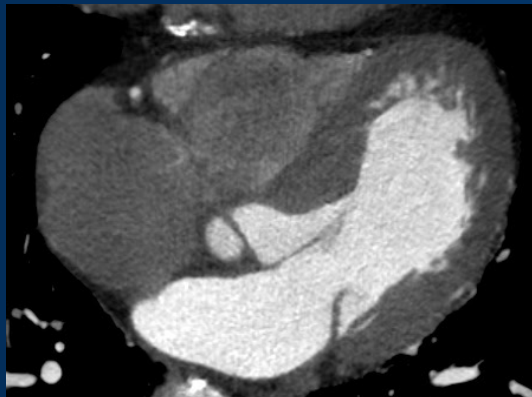
SnapShot Freeze 1



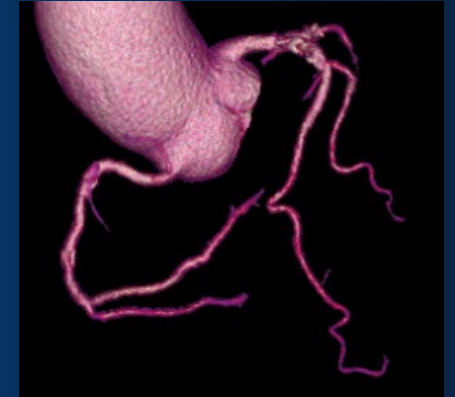
SnapShot Freeze 1



SnapShot Freeze 2



SnapShot Freeze 2



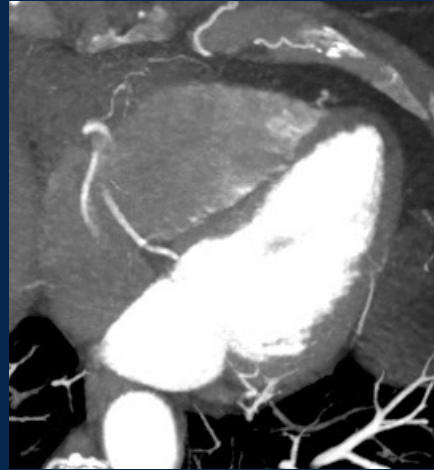
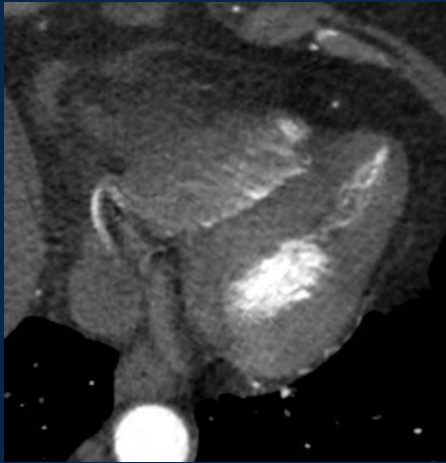


SnapShot Freeze 2

Further reducing coronary motion vs SnapShot Freeze 1

HR = 57 BPM

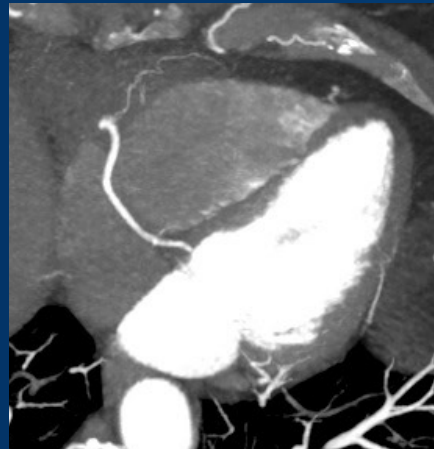
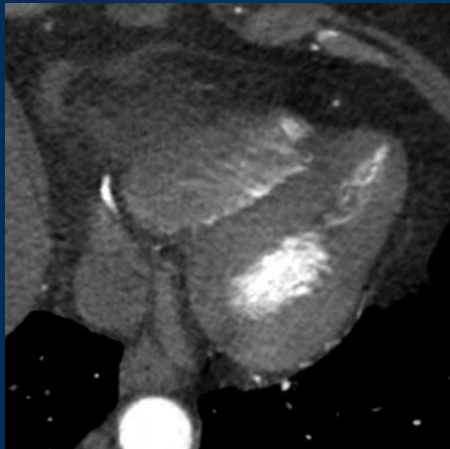
SnapShot Freeze 1



SnapShot Freeze 1



SnapShot Freeze 2



SnapShot Freeze 2

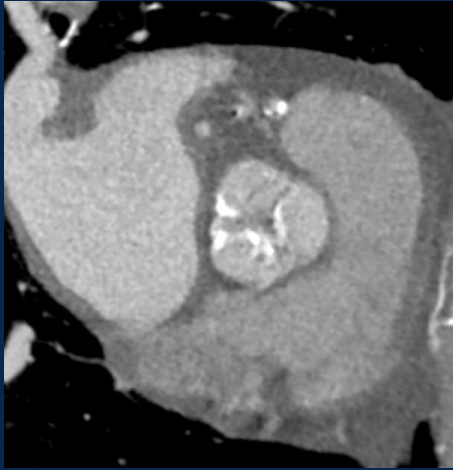




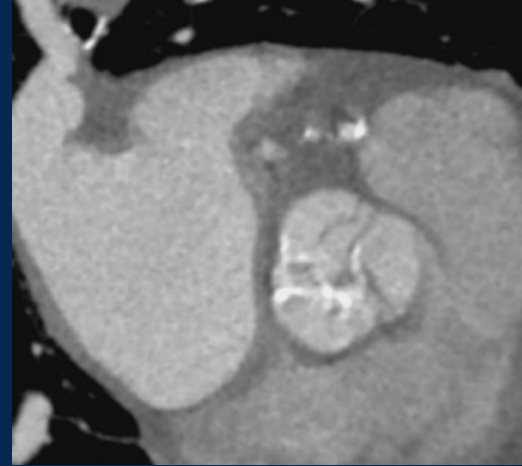
SnapShot Freeze 2

Clinical benefits: Valve motion correction

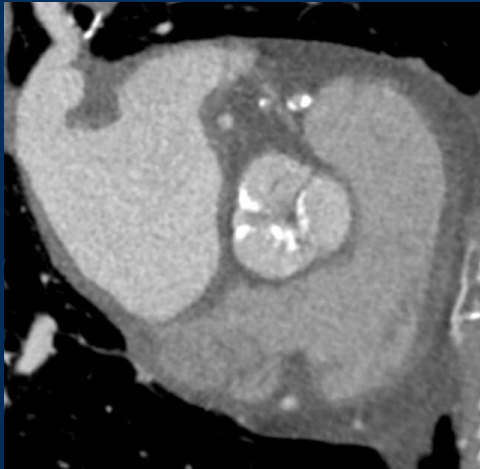
Standard Reconstruction



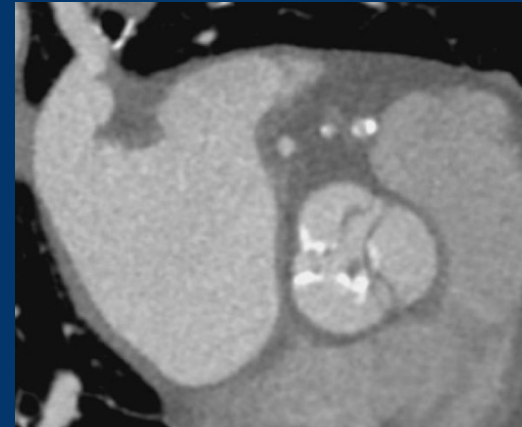
Standard Reconstruction



SnapShot Freeze 2



SnapShot Freeze 2

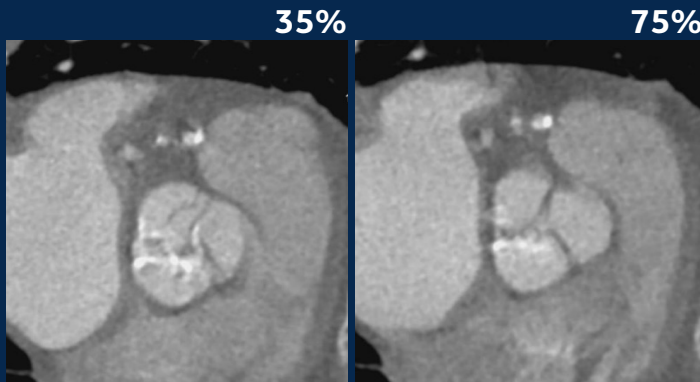




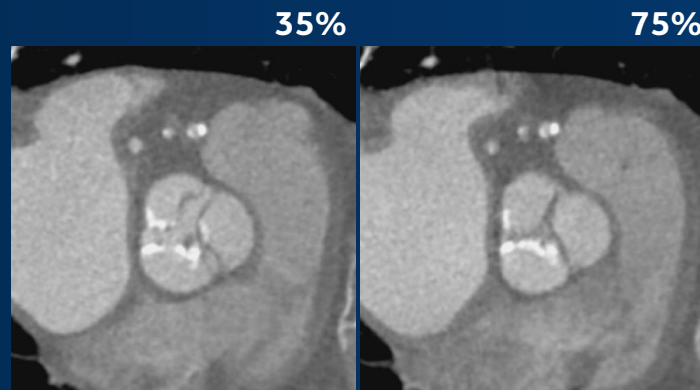
SnapShot Freeze 2

Clinical evidence: Benefits on pre-TAVR evaluation¹

Standard Reconstruction



SnapShot Freeze 2



IQ Improvement¹

18%

Aortic annulus image quality** in systolic phase vs standard reconstruction (at 35% of the R-R: 3.9 vs 3.3)

A new MC algorithm resulted in significant improvements of image quality in systolic data sets for measurement of aortic annular dimensions in pre-TAVR patients¹

1. Soon et al. The Effect of a Whole Heart Motion-Correction Algorithm on CT Image Quality and Measurement Reproducibility in Pre-TAVR Aortic Annulus Evaluation, *Journal of Cardiovascular Computed Tomography* (2016), doi: 10.1016/j.jcct.2016.08.001.

**Image quality score from 1= very poor to 5= excellent

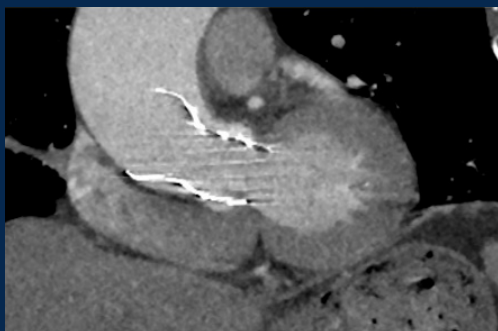


SnapShot Freeze 2

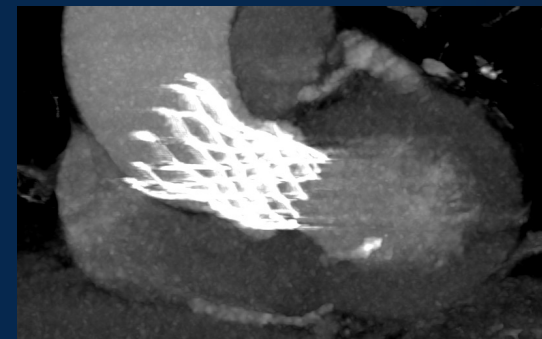
Clinical benefits on a patient with prosthetic valve

HR = 88 BPM • Phase : 30% R-R

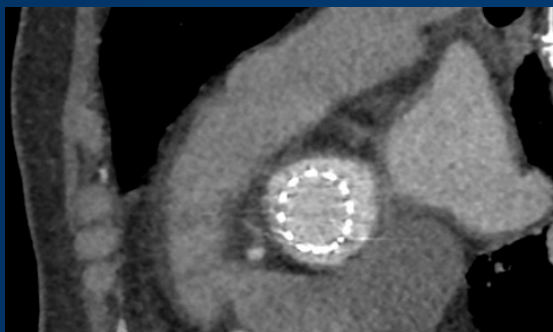
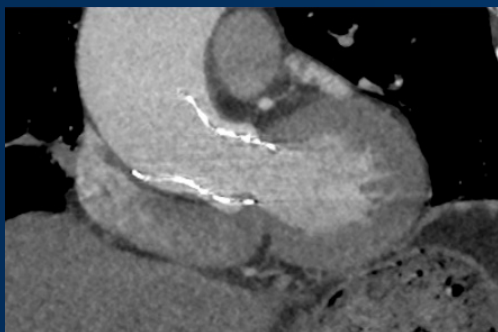
Standard Reconstruction



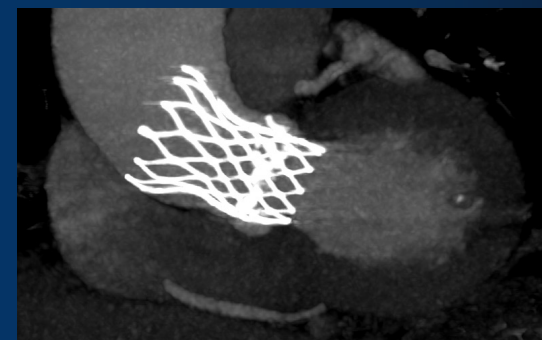
Standard Reconstruction



SnapShot Freeze 2



SnapShot Freeze 2



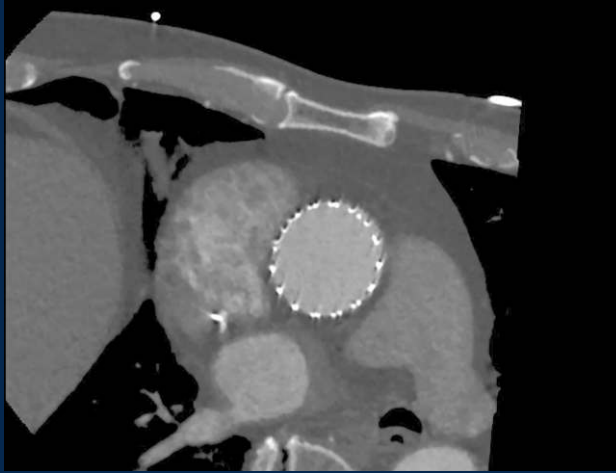


SnapShot Freeze 2

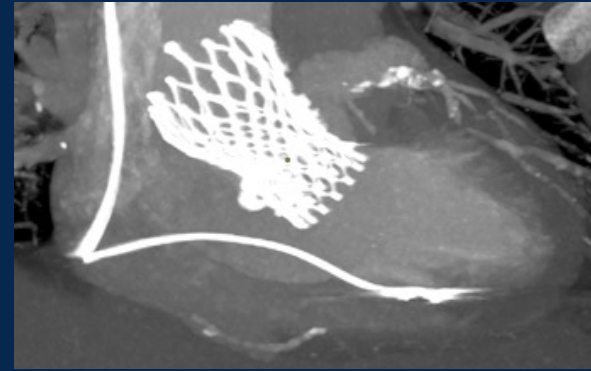
Clinical benefits on a patient with Valve & Pacemaker

HR = 84 BPM

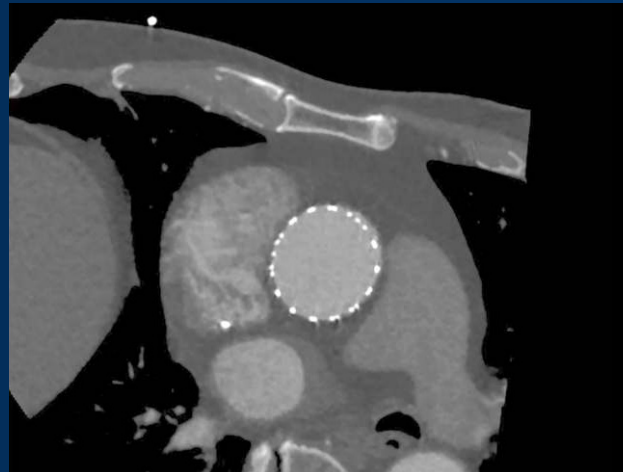
Standard Reconstruction



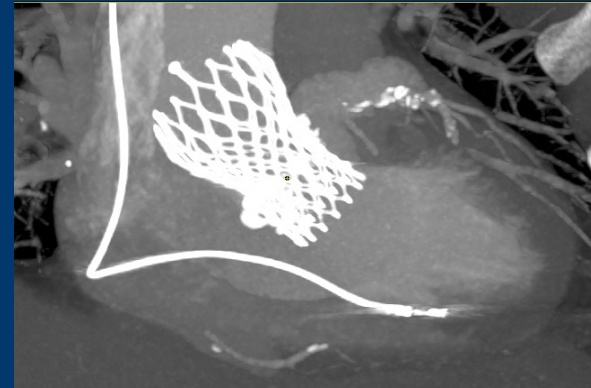
Standard Reconstruction



SnapShot Freeze 2



SnapShot Freeze 2





SnapShot Freeze 2

Clinical evidence: Benefits on patients with prosthetic valves¹

Standard Reconstruction



IQ Improvement¹

14-18%

for respectively valvular & subvalvular region in prosthetic valves** vs standard reconstruction

Abnormalities detection¹

20/20

Of mechanical valves dysfunction were identified vs 14/20 with standard reconstruction

SnapShot Freeze 2



Application of New Generation SSF can improve CT image quality and diagnostic accuracy in patients with mechanical valves compared to standard images¹

1. Suh et al. A whole-heart motion-correction algorithm: Effects on CT image quality and diagnostic accuracy of mechanical valve prosthesis abnormalities, *Journal of Cardiovascular Computed Tomography* (2017), doi: 10.1016/j.jcct.2017.09.011.

** Image quality score from 1: poor to 4: excellent visualization



SnapShot Freeze 2

Clinical benefits on pediatric imaging

HR = 128 BPM • 8-month

Standard Reconstruction



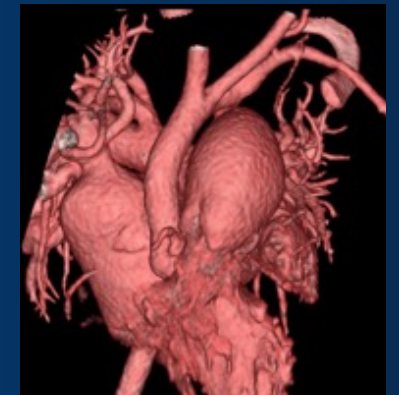
Standard Reconstruction



SnapShot Freeze 2



SnapShot Freeze 2

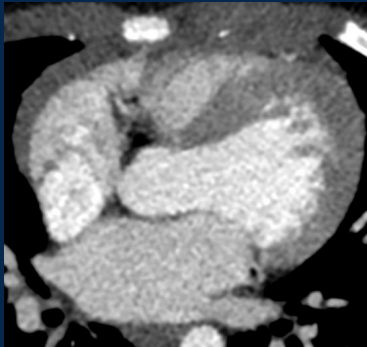




SnapShot Freeze 2

Clinical evidence: Benefits on pediatric imaging¹

Standard Reconstruction



Interpretability
rate¹

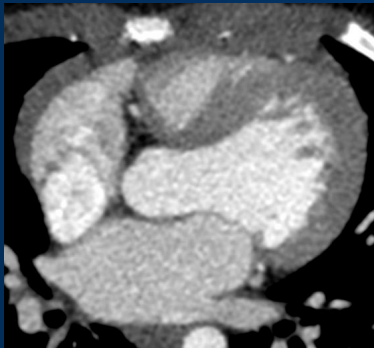
99.3%

Optimal
quality¹

90.1%

higher proportion of
structures with optimal IQ
vs. multi-phasic
(81.1%, $P < 0.001$)

SnapShot Freeze 2



The second MCA generation offered similar interpretability in a single retrospectively processed cardiac phase and could be adopted to reduce children exposure to radiation¹

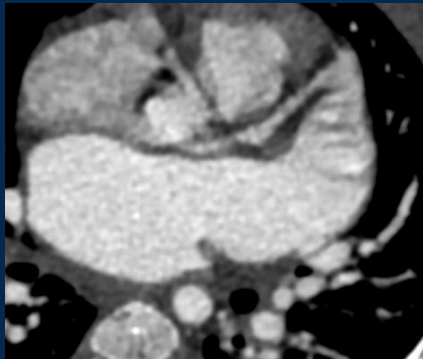
- 47 patients
- mean age 5.5 ± 4.7 years
- heart rate 95 ± 27 bpm



SnapShot Freeze 2

Clinical evidence: Benefits on pediatric imaging¹

Standard Reconstruction



Right coronary
Interpretability
rate¹

97.6%

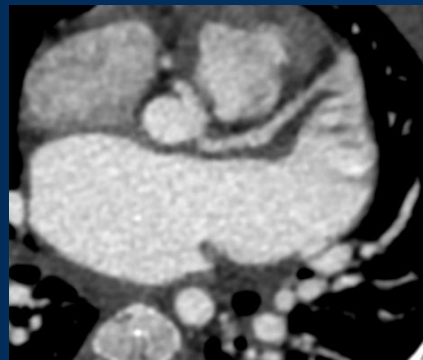
Vs 57.1% in Standard
reconstruction

Left coronary
Interpretability
rate¹

100%

Vs 73.8% in Standard
reconstruction

SnapShot Freeze 2



A second-generation, whole-heart motion correction algorithm further significantly improves cardiac image quality beyond the coronaries in CCTA for pediatric patients with high heart rates¹

- 42 patients
- median age 8.0 months (1.0-74.0)
- heart rate 122.6 ±18.8 bpm

