The results achieved by these facilities may not be applicable to all institutions and individual results may vary. This case study is provided for informational purposes only and its content does not constitute a representation or guarantee from GE Healthcare.
SnapShot Freeze 2

Clinical benefits: Coronary motion correction

HR = 89 BPM
Clinical evidence: Benefits on coronary assessment in patients with high heart rate

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)

- Interpretability
  99.2%
  vs 92.5% in standard reconstruction (on per segment level)

- IQ Improvement
  +27%
  Overall quality score: 3.56 vs 2.81 (from 1: non-diagnostic to 4: excellent)

- Diagnostic accuracy
  96.8%
  vs 81.5% in standard reconstruction

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SnapShot Freeze 2

Further reducing coronary motion vs SnapShot Freeze 1

HR = 65 BPM
SnapShot Freeze 2

Further reducing coronary motion vs SnapShot Freeze 1

HR = 67 BPM
SnapShot Freeze 2

Further reducing coronary motion vs SnapShot Freeze 1

HR = 57 BPM
SnapShot Freeze 2

Clinical benefits: Valve motion correction
Clinical evidence: Benefits on pre-TAVR evaluation

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

IQ Improvement

18%

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


**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
Clinical benefits on a patient with Valve & Pacemaker
Clinical evidence: Benefits on patients with prosthetic valves

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

IQ Improvement

14-18% for respectively valvular & subvalvular region in prosthetic valves vs standard reconstruction

Abnormalities detection

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


** Image quality score from 1: poor to 4: excellent visualization
Clinical benefits on pediatric imaging

HR = 128 BPM • 8-month
Clinical evidence: Benefits on pediatric imaging

Interpretability rate¹
99.3%

Optimal quality¹
90.1%

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

Clinical evidence: Benefits on pediatric imaging

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 rates.

- Right coronary Interpretability rate: 97.6%
  - Vs 57.1% in Standard reconstruction
- Left coronary Interpretability rate: 100%
  - Vs 73.8% in Standard reconstruction

- 42 patients
- Median age 8.0 months (1.0-74.0)
- Heart rate 122.6 ±18.8 bpm

1. Sun, Jihang MD; Okerlund, Darin PhD; Cao, Yongli BA; Li, Haoyan BS; Zhu, Yaobin MD; Li, Jianying PhD; Peng, Yun MD. Further Improving Image Quality of Cardiovascular Computed Tomography Angiography for Children With High Heart Rates Using Second-Generation Motion Correction Algorithm. Journal of Computer Assisted Tomography: 9/10 2020 - Volume 44 - Issue 5 - p 790-795. doi: 10.1097/RCT.0000000000001035