64 ECG gated MSCT OF CORONARY ARTERIES AND ASCENDING AORTA - technical approach

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64 ECG gated MSCT OF CORONARY ARTERIES AND ASCENDING AORTA

- CT coronarography
- CT of thoracic aorta with cardio protocol

Retrospective
Snap shot prospective
64 ECG gated MSCT OF CORONARY ARTERIES AND ASCENDING AORTA

- High speed scanning (rot.time 0.35)
- High spatial and temporal resolution
- Thin slices - 0.625 mm,
- Visualization in all planes (sagital, transversal, coronal)
- Acquisition in diastolic phase

What more we need?
- An injector
- ECG gating
- 3D postprocesing
64 ECG gated MSCT OF CORONARY ARTERIES AND ASCENDING AORTA

**Patient position**
- Reference point: SN
- IV in the right arm: canila: 20G / 18G (inj. rate = up to 5 ml/s)
- ECG far from the injector, screen to face the acquisition console
- 3 Leads: *on bone contact*

**Patient preparation:**
- patient history, *ECG / HR / TA / TT*
- instructions for breath hold
- Regular heart rate <70 bpm
- Medical premedication (if it is necessary)

« Breath in and hold your breath »

2-3s 5-7s Stable window

Reaction time

PitchA PitchB

time
**64 Cardiac MSCT** SS Segment 45 – 70 BPM 0.625mm

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<th>Parameter</th>
<th>Value</th>
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<td>End Loc.</td>
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Positioning the reference image on the Smart Prep
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Producing timing graph
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- Limitations:
  - Heart frequency above 65-70 bpm
  - Arrhythmia
  - Uncooperative patient
  - Severe calcifications
  - Obesity
Pga: adaptive prospective gating

- Frequency 50-70 bpm
- Cooperative patient
- 70-80% reduction dose
64 MSCT OF AORTA WITH CARDIO PROTOCOL

- Retrospective ECG gating
- Prospective ECG gating
- Continuing scanning for abdominal aorta with a single contrast application
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Conclusion

The success of CT is due to:

• 50% well-prepared patient
• 20% previous premedication
• 30% experienced, educated radiological technologist