

# Hematoma visualized with SEMAR

*“Through SEMAR, Toshiba Medical offers us very effective metal artefact suppression, which enables the implant, as well as the surrounding tissue to be better visualized. Pathology in the direct vicinity of metallic implants can now be observed, which was previously impossible.”*

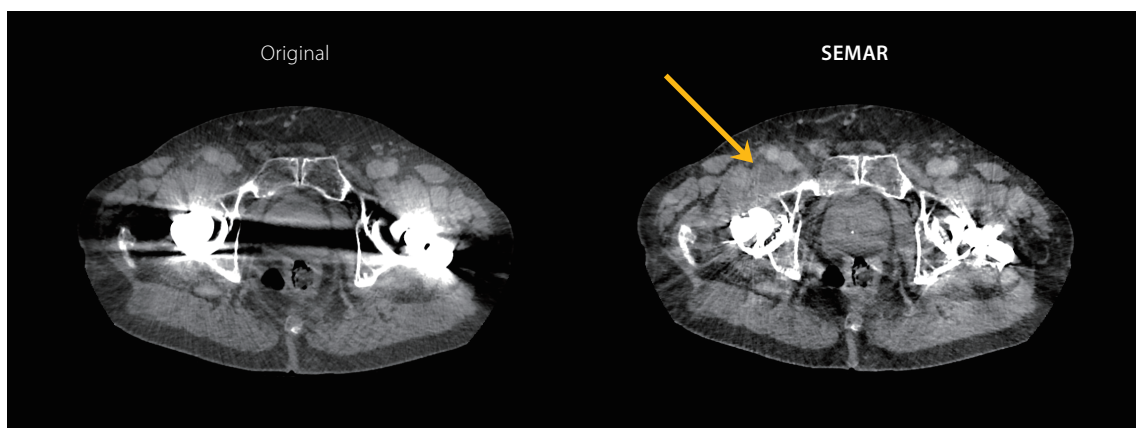


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## Patient History

A 73-year-old man presented with ongoing pain in the right groin following a hip replacement 3 months ago. The patient was referred for CT after other imaging tests, including conventional X-ray and ultrasound, could not determine the cause of the pain.

## Results

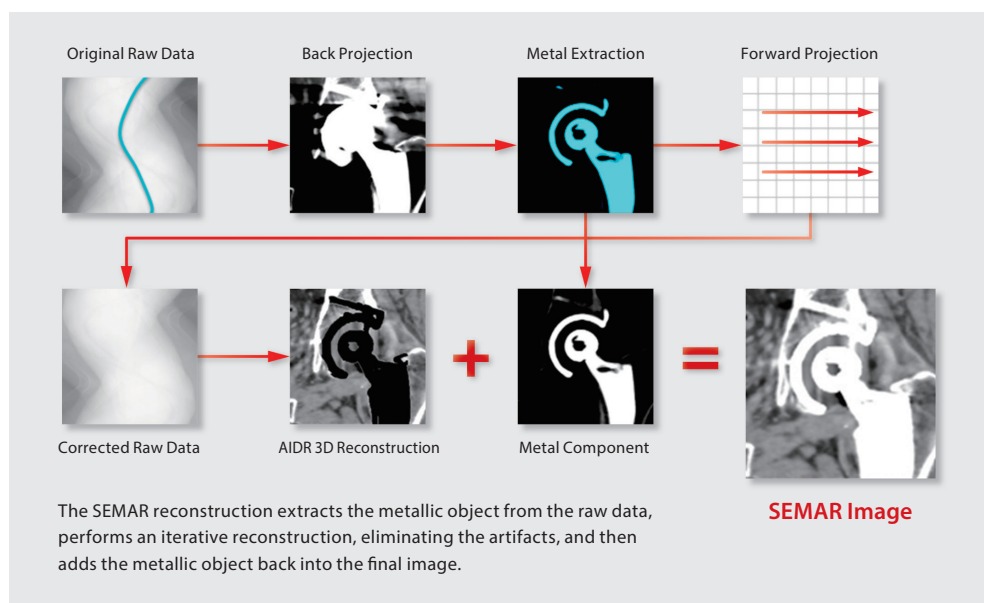


A post operative hematoma collection was seen in the right groin (arrow) confirmed with the SEMAR reconstruction images. Other nearby structures such as the prostate are better visualized on the SEMAR™ reconstruction.

## Technology

Toshiba Medical's innovative Single Energy Metal Artifact Reduction algorithm (SEMAR) utilizes a sophisticated reconstruction technique to remove artifacts caused by metal and improves visualization of the implant, supporting bone, and adjacent soft tissues for clearer and more confident diagnosis. As metallic implants should no longer be a barrier to routine diagnosis, SEMAR is included as a standard feature on all Aquilion CT scanners.

### SEMAR algorithm



## Conclusion

SEMAR reconstruction is able to reduce metal artifacts to reveal pathology not visible with conventional CT reconstruction.

## Acquisition

Scanner Model: Aquilion Lightning™

Scan Mode: Helical  
Collimation: 0.5 mm x 80  
Exposure: 120 kV, <sup>SURE</sup>Exposure™  
Rotation time: 0.5 second  
Dose Reduction: AIDR<sup>\*1</sup> 3D Enhanced  
CTDI: 11.4 mGy  
DLP: 534.1 mGy-cm  
Effective Dose: 8.01 mSv  
k-factor: 0.015<sup>\*2</sup>

<sup>\*1</sup> Adaptive Iterative Dose Reduction  
<sup>\*2</sup> American Association of Physicists in  
Medicine (AAPM) Report 96, 2008.

## TOSHIBA MEDICAL SYSTEMS CORPORATION

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*Made For life*