TOSHIBA MEDICAL

Case Study

PURE ViSION Optics transforms routine CT imaging

"With PURE ViSION Optics we experience a dramatic reduction in radiation dose in combination with much better image quality."

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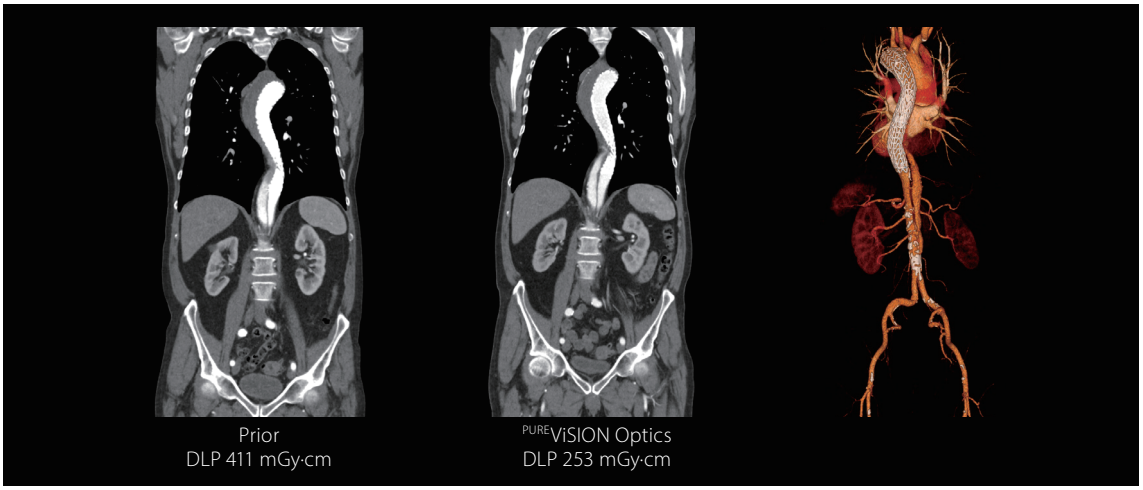
Patient History

A 77-year-old man presented to the radiology department for a follow up scan after an aorta stent placement for a type B dissection. A CTA examination of the aorta was requested to rule out complications after surgery.

Results

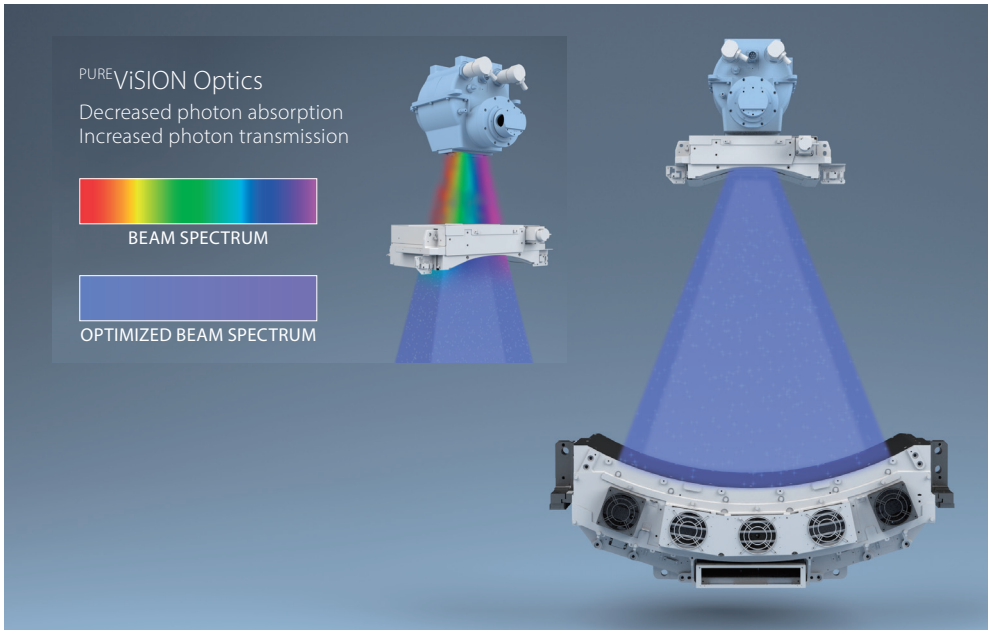


The type B dissection is seen in the follow up scan performed 2 years after treatment. Contrast is visualized within the false lumen of the thoracic aorta without expansion of the lumen, indicating the dissection is stable. The scan performed with PURE ViSION Optics is clearer, has fewer artifacts and reduced radiation dose.

Technology

Patient specific beam shaping filters provide an optimized X-ray spectrum and more homogenous distribution, improving low contrast detectability, less streak artifacts and lower overall dose requirements.

PURE ViSION Detector – High-precision manufacturing produces a scintillator with 40% greater light output.



Conclusion

PURE ViSION Optics solution provides significantly improved imaging efficiency from photon generation to detection. An optimized beam spectrum combined with a more efficient detector result in a better balance between image quality and dose.

Acquisition

Scan Mode:	Ultra Helical
Collimation:	0.5 mm x 80
Exposure:	100 kV SURE Exposure™
Rotation Time:	0.275 second
Dose Reduction:	AIDR*1 3D Enhanced

Prior

CTDI:	5.5 mGy
DLP:	402.3 mGy·cm
Effective Dose:	5.83 mSv

PURE ViSION Optics

CTDI:	3.5 mGy
DLP:	249.2 mGy·cm
Effective Dose:	3.61 mSv

k-factor:	0.0145*2

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

TOSHIBA MEDICAL SYSTEMS CORPORATION

http://www.toshibamedicalsystems.com

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