



Making the difference where it really matters

Philips XperCT Enhanced for challenging cases

During interventional therapy a good three-dimensional pathology visualization is often critical for precise treatment planning, image guidance and monitoring. XperCT has clinically proven over the past years its equivalence to conventional CT in many interventional procedures¹⁻³. Yet Cone-Beam CT can be challenging when used for large and bariatric patients. Its image quality remains vulnerable to patient movements and artifacts caused by metal implants, clips or contrast filled catheters. Philips is introducing its next generation XperCT, to overcome these difficulties during neuro, oncology and endovascular interventions. It helps clinicians to assess treatment results within the Interventional Suite and thereby often decrease the need for a separate post-interventional control CT exam.

Key advantages

- Superb image quality and fewer breathing and motion artifacts through very fast imaging protocols
- Reduced metal artifacts from clips, coils & contrast-filled catheters
- Superb image quality for large and bariatric patients without requiring additional radiation dose

PHILIPS

Superb image quality through fast imaging protocols

In the interventional suite CBCT image quality is essential for planning, guiding, monitoring and controlling the outcome of interventional procedures. However, when treating critical patients, its image quality can be compromised through motion and breathing artifacts. This is particularly true when performing abdominal examinations on fragile patients who often have difficulties to hold their breath.

Superb image quality, fewer breathing and motion artifacts through very fast imaging protocols

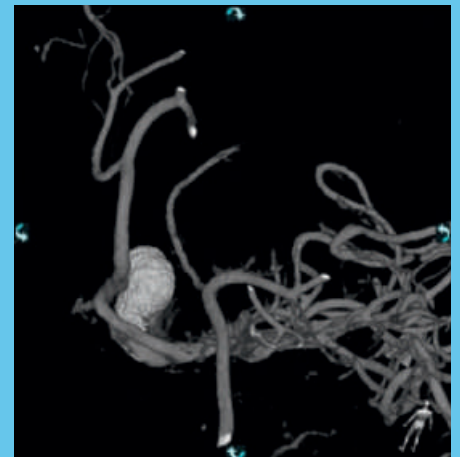
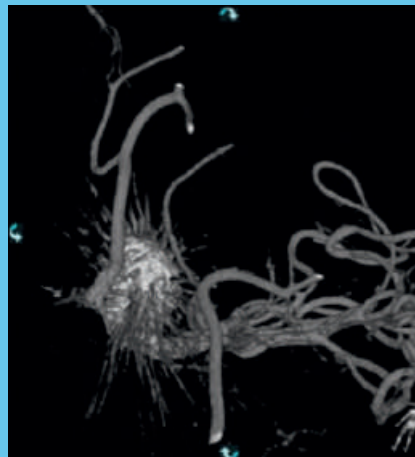
Our industry leading XperCT performs thorax and abdominal scans in just 4 and 5 seconds. Thanks to the new acquisition protocols, which deliver very fast cone beam CT scans we can now target to increase image quality with less motion artifacts while allowing for patient comfort.

Reduced metal artifacts from clips, coils & contrast-filled catheters

Visualization around metal objects often poses challenges, making it difficult to assess anatomy in the vicinity of metal implants, coils, or stainless steel stents. For these cases XperCT provides a unique Metal Artifact Reduction filter, which significantly reduces the scattering artifacts in Cone-Beam CT.



XperCT reconstruction of the liver with portal vein



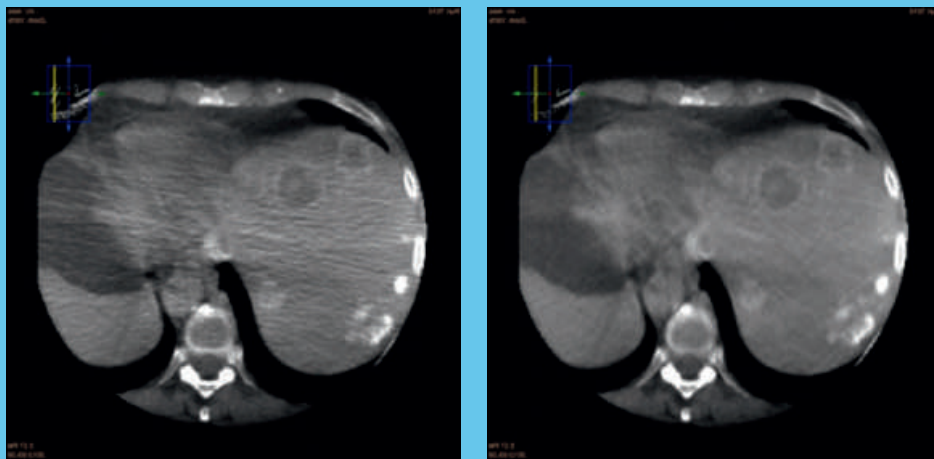
XperCT in cerebral aneurysm before and after applying metal artifact reduction (MAR) to minimize coils artifacts

through very fast

Superb Image Quality for large and bariatric patients without requiring additional radiation dose

XperCT has been designed to enhance the treatment of challenging cases, such as obese patients. Our unique BMI Noise Reduction filter has the potential to enhance image quality for large and bariatric patients without requiring additional radiation dose.

BMI Noise Reduction filter reduces streaking artifacts in the reconstructions of these patients when an abdominal XperCT scans is performed. The filter can be applied to the initial scan to improve the image quality without exposing the patient to additional X-ray.



Abdominal XperCT of a large patient without (left) and with (right) BMI Noise Reduction

Clinical Applications Areas

Interventional Oncology:

The combination of 3D soft tissue imaging with vasculature supports clinicians to identify the location of a tumor and its feeders. The fast 5 second scan reduces the impact of breathing or motion artifacts in abdominal procedures and provides excellent image quality while requiring a very short breath hold for critical patients.

Neuroradiology:

XperCT supports the visualization of opaque intracranial devices, such as the struts or kink in a stent, while at the same time visualizing brain hemorrhages. It also provides superb image quality when imaging areas where a coil or stent is present.

Endovascular radiology interventions:

The enhanced image quality of XperCT improves the visualization of pathologies, such as endoleaks, and assists in the treatment of large patients.

For all clinical areas our XperCT "real-time" reconstruction enables you to evaluate soft tissue, intracranial devices, endoleaks and bony structures faster than ever before.

Reference

1)"The detection accuracy of XperCT for HCC lesions non-visible with standard 2D angiography is 96.7%"

Miyayama et al., CVIR 2009

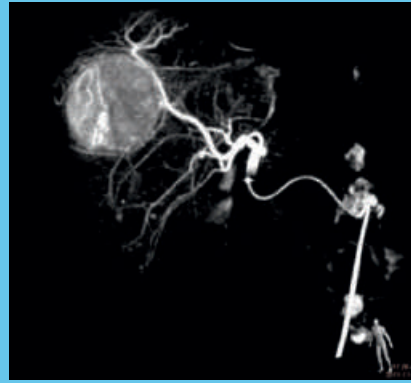
2)"The diagnostic accuracy of XperCT is equivalent to that of biphasic CT in the diagnosis of HCC. TACE can be performed with greater confidence using XperCT."

Higashihara et al., Eur Radiol 2011

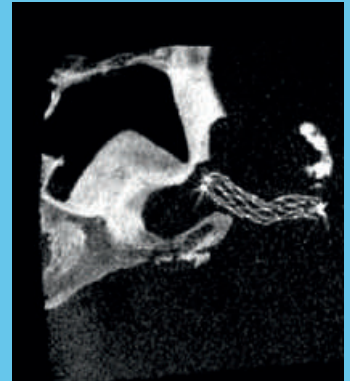
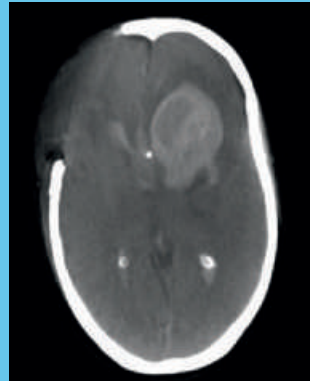
3)"Dual Phase XperCT can be used immediately after TACE ... to predict HCC tumor response at 1-month MR imaging follow-up."

Laffroy et al., Radiology,

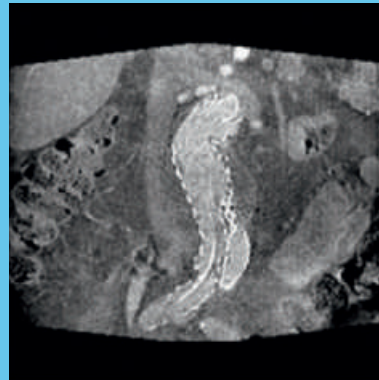
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Contrast enhanced XperCT to visualize feeding vessels and tumor.



Cerebral XperCT visualization of brain hemorrhage and intracranial stent



Abdominal XperCT post aortic endograft placement to verify potential endoleak presence

Please visit www.philips.com/interventionalradiology



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