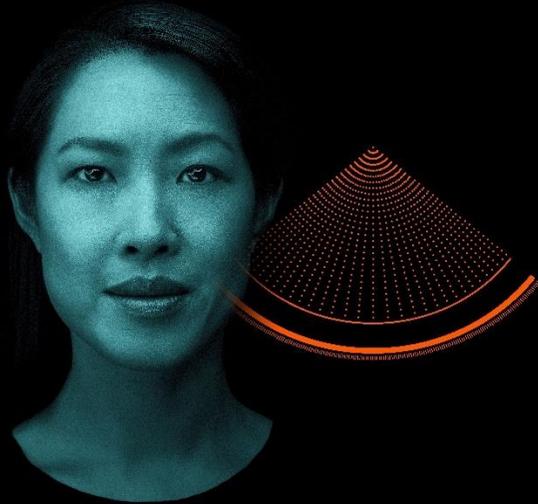
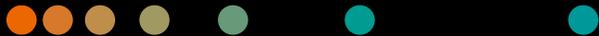


Thin slice photon-counting CT coronary angiography compared to conventional CT: Objective image quality and clinical radiation dose assessment

NAEOTOM Alpha Publication Summary



Photon-counting is NAEOTOM



Key findings of the case study



"A conical phantom made of polyethylene with multiple diameters (26/31/36 cm) representing different patient sizes and containing an iodine insert was scanned. A total of 143 patients were included: 47 were scanned on PCCT (120 kV) and the remaining on EID-CT."



"For large patients, PCCT's detectability was up to 31% higher than EID-CT. PCCT's iodine contrast was stable across patient sizes."



"EID-CT showed 7%–17% higher dose than PCCT. Higher doses are needed for small and medium-sized patients to obtain a similar image quality as in EID-CT."

Authors: van der Bie, J. et al., International Journal of Cardiovascular Imaging 2024

Institute: Erasmus University Medical Center Rotterdam, The Netherlands

<https://doi.org/10.1002/mp.16992>

PCCT: Photon-counting CT

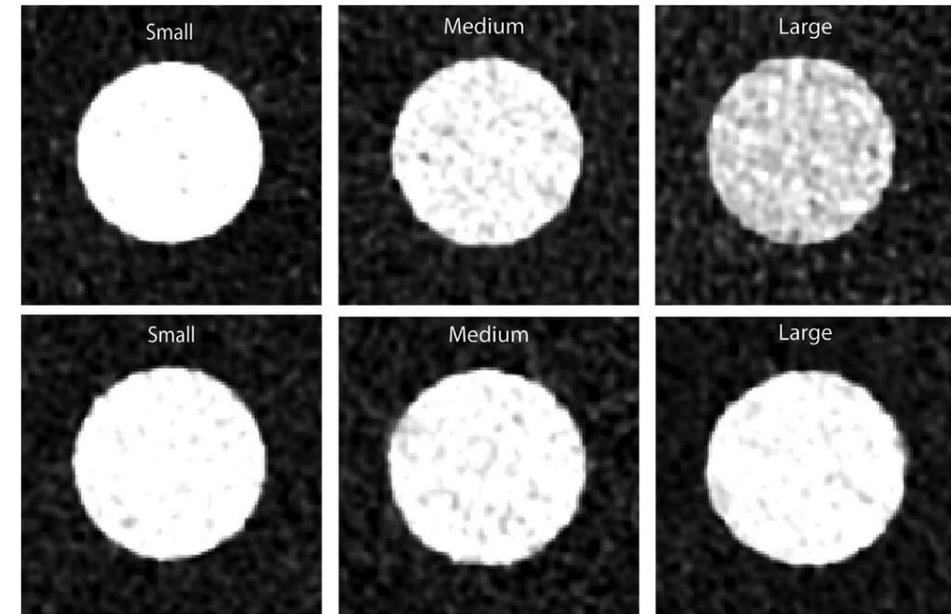
EID-CT : Energy-integrating detector CT

CCTA: Coronary CT angiography

NAEOTOM Alpha is not commercially available in all countries. Its future availability cannot be guaranteed.

The statements by Siemens Healthineers' customers described herein are based on results that were achieved in the customer's unique setting. Because there is no "typical" hospital and many variables exist (e.g., hospital size, samples mix, case mix, level of IT and/or automation adoption) there can be no guarantee that other customers will achieve the same results.

"At 120 kV, thin slice PCCT enables CCTA in phantom scans representing large patients without raising radiation dose or affecting vessel detectability. However, higher doses are needed for small and medium-sized patients to obtain a similar image quality as in EID-CT."



Conventional CT (top row) and PCCT at 55 keV (bottom row). Loss of contrast and increase in noise (28%) can be observed for conventional CT at increasing phantom size.