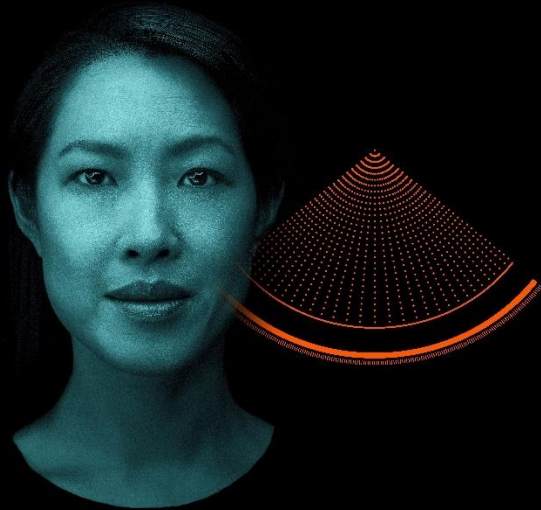
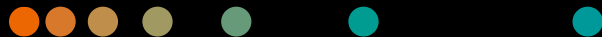


# Carotid artery assessment in dual-source photon-counting CT: impact of low-energy virtual monoenergetic imaging on image quality, vascular contrast and diagnostic assessability

NAEOTOM Alpha  
Publication Summary



Photon-counting is NAEOTOM



## Key findings of the case study



“Mean attenuation, **CNR and SNR** values were **highest** in **40 keV VMI** reconstructions (HU,  $1362.32 \pm 457.81$ ; CNR,  $33.19 \pm 12.86$ ; SNR,  $34.37 \pm 12.89$ ) followed by 55 keV VMI reconstructions (HU,  $736.94 \pm 150.09$ ; CNR,  $24.49 \pm 7.11$ ; SNR,  $26.25 \pm 7.34$ .”



“The qualitative analysis showed the highest rating scores for **55 keV VMI** reconstructions followed by 40 keV and 70 keV VMI series.”



“The ever-available spectral dataset might improve vascular visualization in all studies, even those performed with non-vascular protocols, thereby leading to a **reduction in contrast medium amount.**”

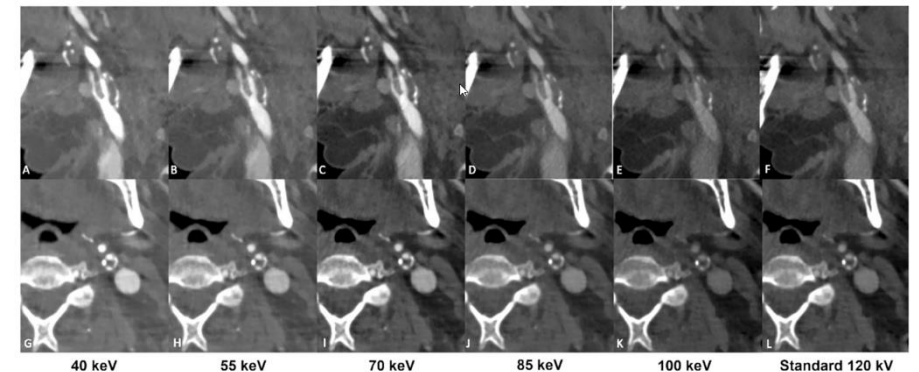
**Authors:** Booz. C. et al. Radiol med 2024

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<https://doi.org/10.1007/s11547-024-01889-6>

VMI: Virtual monoenergetic image      PCCT: Photon-counting CT  
CTA: CT angiography

*“**Low-keV VMI** reconstructions at a level of 40–55 keV significantly **improve image quality**, vascular contrast, and the diagnostic **assessability** of the carotid artery compared with standard CT series in photon-counting CTA.”*



PCCT angiography reconstructions in the Parasagittal (upper row), and axial plane (lower row)

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.