Photon-counting CT

Overview of Selected Publications

SIEMENS Healthineers

Content

1. General / Overview

Update on Multienergy CT: Physics, Principles, and Applications.
Rajiah, P., Parakh, A., Kay, F., Baruah, D., Kambadakone, A. R., Leng, S. (2020).
Radiographics : A Review Publication of the Radiological Society of North America, Inc, 40(5), 1284–1308.
https://doi.org/10.1148/rg.2020200038

Basic principles and clinical potential of photon-counting detector CT.
Flohr, T., Ulzheimer, S., Petersilka, M., Schmidt, B. (2020).
Chinese Journal of Academic Radiology, 3(1), 19–34. https://doi.org/10.1007/s42058-020-00029-z

The Future of Computed Tomography: Personalized, Functional, and Precise.
Alkadhi, H., Euler, A. (2020).
Investigative Radiology, 55(9), 545–555. https://doi.org/10.1097/RLI.0000000000000668

Photon-counting detector CT: System design and clinical applications of an emerging technology.
Leng, S., Bruesewitz, M., Tao, S., Rajendran, K., Halaweish, A. F., Campeau, N. G., Fletcher, J. G., McCollough, C. H. (2019).
Radiographics, 39(3), 729–743. https://doi.org/10.1148/rg.2019180115

Photon-counting CT review.
Flohr, T., Petersilka, M., Henning, A., Ulzheimer, S., Ferda, J., Schmidt, B. (2020).
Physica Medica, 79, 126-136. https://doi.org/10.1016/j.ejmp.2020.10.030

Computed tomography with a full FOV photon-counting detector in a clinical setting, the first experience.
Ferda, J., Vendiš, T., Flohr, T., Schmidt, B., Henning, A., Ulzheimer, S., Pecen, L., Ferdová, E., Baxa, J., Mírka, H. (2021).
European Journal of Radiology, 137, 109614. https://doi.org/10.1016/j.ejrad.2021.109614

Full field-of-view, high-resolution, photon-counting detector CT: technical assessment and initial patient experience.
Rajendran, K., Petersilka, M. Henning, A., Shanblatt, E., Marsh, J. Jr., Thorne, J., Schmidt, B., Flohr, T., Fletcher, J., McCollough, C., Leng, S. (2021).
Physics in Medicine and Biology, 66(20), 205019. https://doi.org/10.1088/1361-6560/ac155e

Dose Efficiency of Quarter-Millimeter Photon-Counting Computed Tomography: First-in-Human Results.
Pourmorteza, A., Symons, R., Henning, A., Ulzheimer, S., Bluemke, D. A. (2018).
Investigative Radiology, 53(6), 365-372. https://doi.org/10.1097/rli.0000000000000463

NAEOTOM Alpha
First Clinical Photon-counting Detector CT System: Technical Evaluation.
Rajendran, K., Petersilka, M., Henning, A., Shanblatt, ER., Schmidt, B., Flohr, T. G., Ferrero, A., Baffour, F., Diehn, F. E., Yu, L., Rajiah, P., Fletcher, J. G., Leng, S., McCollough, C. H. (2022).
Radiology, 303(1), 130-138. https://doi.org/10.1148/radiol.212579

NAEOTOM Alpha
Standardization and Quantitative Imaging With Photon-Counting Detector CT.
Mc.Collough C. , Rajendran, K., Leng, S. (2023). 00(00).
Investigative Radiology. https://doi.org/10.1097/RLI.0000000000000948

NAEOTOM Alpha
Photon-Counting Detector CT : Early Clinical Experience Review.
Sartoretti, T. , Wildberger, J. Flohr, T. , Alkadhi, H. (2023)
British Journal of Radiology https://doi.org/10.1259/bjr.20220544

NAEOTOM Alpha
Photon-Counting Computed Tomography – Basic Principles , Potenzial Benefits, and Initial Clinical Experience.
Stein, T., Rau, A., Russe, M. F., Arnold, P., Faby, S., Ulzheimer, S., Weis, M., Froelich, M. F., Overhoff, D., Horger, M., Hagen, F., Bongers, M., Nikolaou, K., Schönberg, S. O., Bamberg, F., Weiß, J., & Stein, T. (2023).
RöFo https://doi.org/10.1055/a-2018-3396

2. Dose / IQ

Comparison of Low Dose Performance of Photon-Counting and Energy Integrating CT.
Rajagopal, J. R., Farhadi, F., Solomon, J., Sahbaee, P., Saboury, B., Pritchard, W. F., Jones, E. C.,Samei, E. (2021).
Academic Radiology, 28(12), 1754–1760. https://doi.org/10.1016/j.acra.2020.07.033

Iodine contrast-to-noise ratio improvement at unit dose and contrast media volume reduction in whole-body photon-counting CT.
Sawall, S., Klein, L., Amato, C., Wehrse, E., Dorn, S., Maier, J., Heinze, S., Schlemmer, H.-P., Ziener, C. H., Uhrig, M., Kachelrieß, M. (2020).
European Journal of Radiology, 126, 108909. https://doi.org/10.1016/j.ejrad.2020.108909

NAEOTOM Alpha
Low-dose CT of the abdomen: Initial experience on a novel photon-counting detector CT and comparison with energy-integrating detector CT.
Decker, J. A., Bette, S., Lubina, N., Rippel, K., Braun, F., Risch, F., Woźnicki, P., Wollny, C., Scheurig-Muenkler, C., Kroencke, T. J., Schwarz. F. (2022).
European Journal of Radiology, 148, 110181. https://doi.org/10.1016/j.ejrad.2022.110181

NAEOTOM Alpha
Quantum Iterative Reconstruction for Abdominal Photon-counting Detector CT Improves Image Quality.
Sartoretti, T., Landsmann, A., Nakhostin, D., Eberhard, M., Roeren, C., Mergen, V., Higashigaito, K., Raupach, R., Alkadhi, H., Euler, A. (2022).
Radiology, 303(2), 339-348. https://doi.org/10.1148/radiol.211931

NAEOTOM Alpha
Iterative metal artifact reduction on a clinical photon counting system –Technical possibilities and reconstruction selection for optimal results dependent on the metal scenario.
Anhaus, J., Schmidt, S., Killermann, P., Mahnken, A., Hofmann, C. (2022).
Journal of Physics in Medicine and Biology, 2(1), 0–31. https://doi.org/10.1088/1361-6560/ac71f0

NAEOTOM Alpha
Clinical Low Dose Photon Counting CT for the Detection of Urolithiasis: Evaluation of Image Quality and Radiation Dose.
Niehoff, J. H., Carmichae, A. F., Woeltjen, M. M., Boriesosdick, J., Lopez Schmidt, I., Michael, A. E., Große Hokamp, N., Piechota, H., Borggrefe Jan, J., & Kroeger, J. R. (2022).
Tomography, 8(4), 1666–1675. https://doi.org/10.3390/tomography8040138

3. Cardiovascular

NAEOTOM Alpha
Tube voltage-independent coronary calcium scoring on a first-generation dual-source photon-counting CT-a proof-of-principle phantom study.
Mergen, V., Higashigaito, K., Allmendinger, T., Manka, R., Euler, A., Alkadhi, H., Eberhard, M. (2021).
International Journal of Cardiovascular Imaging, 38(4), 905-912. https://doi.org/10.1007/s10554-021-02466-y

NAEOTOM Alpha
Coronary Calcium Scoring with First Generation Dual-Source Photon-Counting CT-First Evidence from Phantom and In-Vivo Scans.
Eberhard, M., Mergen, V., Higashigaito, K., Allmendinger, T., Manka, R., Flohr, T., Schmidt, B., Euler, A., Alkadhi, H. (2021).
Diagnostics, 11(9), 1708. https://doi.org/10.3390/diagnostics11091708

NAEOTOM Alpha
High-Pitch Photon-Counting Detector Computed Tomography Angiography of the Aorta: Intraindividual Comparison to Energy-Integrating Detector Computed Tomography at Equal Radiation Dose.
Euler, A., Higashigaito, K., Mergen, V., Sartoretti, T., Zanini, B., Schmidt, B., Flohr, T. G., Ulzheimer, S., Eberhard, M., Alkadhi, H. (2021).
Investigative Radiology, 57(2), 115-121. https://doi.org/10.1097/RLI.0000000000000816

NAEOTOM Alpha
Photon-Counting Detector CT-Based Vascular Calcium Removal Algorithm: Assessment Using a Cardiac Motion Phantom.
Allmendinger, T., Nowak, T., Flohr, T., Klotz, E., Hagebauer, J., Alkadhi, H., Schmidt, B. (2022).
Investigative Radiology, 57(6), 399-405. https://doi.org/10.1097/RLI.0000000000000853

NAEOTOM Alpha
Extracellular volume quantification with cardiac late enhancement scanning using dual-source photon-counting detector CT.
Mergen, V., Sartoretti, T., Klotz, E., Schmidt, B., Jungblut, L., Higashigaito, K., Manka, R., Euler, A., Kasel, A., Eberhard, M., Alkadhi, H. (2021).
Investigative Radiology, 57(6), 406-411. https://doi.org/10.1097/RLI.0000000000000851

NAEOTOM Alpha
Epicardial Adipose Tissue Attenuation and Fat Attenuation Index: Phantom Study and In-Vivo Measurements With Photon-Counting CT.
Mergen, V., Ried, E., Allmendinger, T., Sartoretti, T., Higashigaito, K., Manka, R., Euler, A., Alkadhi, H., Eberhard, M. (2022).
American Journal of Roentgenology, 218(5), 822-829. https://doi.org/10.2214/AJR.21.26930

NAEOTOM Alpha
Dose Reduction in Coronary Artery Calcium Scoring Using Mono-Energetic Images from Reduced Tube Voltage Dual-Source Photon-Counting CT Data: A Dynamic Phantom Study.
van der Werf, N. R., van Gent, M., Booij, R., Bos, D., van der Lugt, A., Budde, R. P. J., Greuter, M. J. W., van Straten, M. (2021).
Diagnostics, 11(12), 2192. https://doi.org/10.3390/diagnostics11122192

NAEOTOM Alpha

Coronary calcium scores on dual-source photon-counting computed tomography: an adapted Agatston methodology aimed at radiation dose reduction.
van der Werf, N. R., Greuter, M. J. W., Booij, R., van der Lugt, A., Budde, R. P. J., van Straten, M. (2022).
European Radiology. https://doi.org/10.1007/s00330-022-08642-5

NAEOTOM Alpha

Coronary CTA-based Calcium Scoring: In-Vitro and In-Vivo Validation of a Novel Virtual Non-Iodine Reconstruction Algorithm on a Clinical, First Generation Photon Counting-Detector System.
Emrich, T., Aquino, G., Schoepf, U. J., Braun, F. M., Woznicki, P., Decker, J. A., O´Doherty, J., Brandt, V., Allmendinger, T., Nowak, T., Schmidt, B., Flohr, T., Kroencke, T. J., Scheurig-Muenkler, C., Varga-Szemes, A., Schwarz, F. (2022).
Investigative Radiology, 00(00), 1–8. https://doi.org/10.1097/RLI.0000000000000868

NAEOTOM Alpha

Improved assessment of coronaryartery luminal stenosis with heavycalcifications using high-resolutionphoton-counting detector CT.
Koons, E., VanMeter, P., Rajendran, K., Yu, L., McCollough, C. H., Leng, S. (2022).
Physics of Medical Imaging, SPIE Event. https://doi.org/10.1117/12.2613019

NAEOTOM Alpha

Comparison Study of Myocardial Radiomics Feature Properties on Energy-Integrating and Photon-Counting Detector CT.
Ayx, I., Tharmaseelan, H., Hertel, A., Nörenberg, D., Overhoff, D., Rotkopf, L. T., Riffel, P., Schoenberg, S. O., Froelich, M. F. (2022).
Diagnostics, 12(5), 1294. https:// doi.org/10.3390/diagnostics12051294

NAEOTOM Alpha

Ultra-High-Resolution Coronary CT Angiography With Photon-Counting Detector CT.
Mergen, V., Sartoretti, T., Baer-Beck, M., Schmidt, B., Petersilka, M., Wildberger, J. E., Euler, A., Eberhard, M., Alkadhi, H. (2022).
Investigative Radiology, Publish Ahead of Print (00), 8–12. https://doi.org/10.1097/rli.0000000000000897

NAEOTOM Alpha

First in-human quantitative plaque characterization with ultra-high resolution coronary photon-counting CT angiography.
Mergen, V., Eberhard, M., Manka, R. , Euler A., Alkadhi H. (2022).
Frontiers in Cardiovascular Medicine, 9. https://doi.org/10.3389/fcvm.2022.981012

NAEOTOM Alpha

Coronary Artery Calcium Evaluation Using New Generation Photon-counting Computed Tomography Yields Lower Radiation Dose Compared With Standard Computed Tomography.
Schwartz, F. R., Daubert, M. A., Molvin, L., Ramirez-Giraldo, J. C., Samei, E., Marin, D., Tailor, T. D. (2022).
Journal of Thoracic Imaging, 00(00). https://doi.org/10.1097/RTI.0000000000000685

NAEOTOM Alpha

Plaque composition on ultra-high-resolution coronary computed tomography angiography with optical coherence tomography correlation.
Emrich, T., Hell, M. (2022).
European Heart Journal. https://doi.org/10.1093/eurheartj/ehac560

NAEOTOM Alpha

High Temporal Resolution Dual-Source Photon-Counting CT for Coronary Artery Disease: Initial Multicenter Clincal Experience.
Soschynski, M., Hagen, F., Baumann, S., Hagar, M. T., Weiss, J., Krauss, T., Schlett, C. L., von zur Mühlen, C., Bamberg, F., Nikolaou, K., Greulich, S., Froelich, M. F., Riffel, P., Overhoff, D., Papavassiliu, T., Schoenberg, S. O., Faby, S., Ulzheimer, S.,, Ayx, I., Krumm, P. (2022).
Journal of Clinical Medicine 11(20). https://doi.org/10.3390/jcm11206003

NAEOTOM Alpha

Reduced Iodinated Contrast Media Administration in Coronary CT Angiography on a Clinical Photon-Counting Detector CT System.
Emrich, T., O'Doherty, J., Schoepf, U. J., Suranyi, P., Aquino, G., Kloechnker, R., Halfmann, M. C., Allmendinger, T., Schmidt, B., Flohr, T., Varga-Szemes, A. (2022).
Investigative Radiology 58(2). https://doi.org/10.1097/RLI.0000000000000911

NAEOTOM Alpha

Current role of coronary calcium in younger population and future prospects with photon counting technology.
Cademartiri, F., & Maurovich-Horvat, P. (2022).
European Heart Journal. Cardiovascular Imaging, 24(1), 25–26. https://doi.org/10.1093/ehjci/jeac214

NAEOTOM Alpha

High-pitch, high temporal resolution, multi-energy cardiac imaging on a dual-source photon-counting-detector CT.
Ahmed, Z., Campeau, D., Gong, H., Rajendran, K., Rajiah, P., McCollough, C., & Leng, S. (2022).
Medical Physics. https://doi.org/10.1002/mp.16124

NAEOTOM Alpha

Stent imaging on a clinical dual-source photon-counting detector CT system—impact of luminal attenuation and sharp kernels on lumen visibility.
Decker, J. A., O'Doherty, J., Schoepf, U. J., Todoran, T. M., Aquino, G. J., Brandt, V., Baruah, D., Fink, N., Zsarnoczay, E., Flohr, T., Schmidt, B., Allmendinger, T., Risch, F., Varga-Szemes, A., & Emrich, T. (2022).
European Radiology. https://doi.org/10.1007/s00330-022-09283-4

NAEOTOM Alpha

Assessment of epicardial adipose tissue on virtual non-contrast images derived from photon-counting detector coronary CTA datasets.
Risch, F., Schwarz, F., Braun, F., Bette, S., Becker, J., Scheurig-Muenkler, C., Kroencke, T. J., & Decker, J. A. (2022).
European Radiology. https://doi.org/10.1007/s00330-022-09257-6

NAEOTOM Alpha

Influence of local aortic calcification on periaortic adipose tissue radiomics texture features—a primary analysis on PCCT.
Tharmaseelan, H., Froelich, M. F., Nörenberg, D., Overhoff, D., Rotkopf, L. T., Riffel, P., Schoenberg, S. O., & Ayx, I. (2022).
International Journal of Cardiovascular Imaging, 38(11), 2459–2467. https://doi.org/10.1007/s10554-022-02656-2

NAEOTOM Alpha

Photon- counting detector coronary CT angiography : impact of virtual monoenergetic imaging and iterative reconstruction on image quality.
Sartoretti, T., McDermott, M. , Mergen, V., Euler, A., Schmidt, B., Jost, G., Wildberger, J.E., Alkadhi, A. (2022)
British Institute of Radiology. April 2022. https://doi.org/10.1259/bjr.20220466

NAEOTOM Alpha

Intra-individual comparison of coronary calcium scoring between photon counting detector- and energy integrating detector-CT : Effects on risk reclassification.
Wolf, E. V, Halfmann, M. C., Schoepf, U. J., Zsarnoczay, E., Fink, N., Iii, J. P. G., Aquino, G. J., Willemink, M. J., Doherty, J. O., Hell, M. M., Suranyi, P., & Kabakus, I. M. (2023). January, 1–8.
Frontiers in Cardiovascular Medicine. https://doi.org/10.3389/fcvm.2022.1053398

NAEOTOM Alpha

CT Angiography of the aorta using photon-counting detector CT with reduced contrast media volume.
Higashigaito, K., Mergen, V., Eberhard, M., & Jungblut, E. L. (2023).
Cardiothoracic Imaging https://doi.org/10.1148/ryct.220140

NAEOTOM Alpha

Myocardial characterization with extracellular volume mapping with a first-generation photon-counting detector CT with MRI reference.
Aquino, G. J., O'Doherty, J., Schoepf, U. J., Ellison, B., Byrne, J., Fink, N., Zsarnoczay, E., Wolf, E. V., Allmendinger, T., Schmidt, B., Flohr, T., Baruah, D., Suranyi, P., Varga-Szemes, A., & Emrich, T. (2023).
RSNA radiology Cardiac Imaging https://pubs.rsna.org/doi/10.1148/radiol.222030

NAEOTOM Alpha

New Horizons in Vascular Imaging With Photon-Counting Detector CT.
Wildberger, J. E., & Alkadhi, H. (2023).
Investigative Radiology, 00(00), 1–6. https://doi.org/10.1097/RLI.0000000000000957

NAEOTOM Alpha

Influence of heart rate and heart rate variability on the feasibility of ultra-fast, high-pitch coronary photon-counting computed tomography angiography.
Rotkopf, L. T., Froelich, M. F., Riffel, P., Ziener, C. H., Reid, C., Schlemmer, H. P., Schoenberg, S. O., & Ayx, I. (2023).
International Journal of Cardiovascular Imaging, 0123456789. https://doi.org/10.1007/s10554-023-02808-y

NAEOTOM Alpha

Photon-Counting Computed Tomography (PCCT): Technical Background and Cardio-Vascular Applications.
Meloni, A., Frijia, F., Panetta, D., Degiorgi, G., De Gori, C., Maffei, E., Clemente, A., Positano, V., & Cademartiri, F. (2023).
Diagnostics, 13(4). https://doi.org/10.3390/diagnostics13040645

NAEOTOM Alpha

Radiation dose optimization for photon - counting CT coronary artery calcium scoring for different patient sizes : a dynamic phantom study.
Dobrolinska, M. M., Werf, N. R. Van Der, Bie, J. Van Der, Groen, J. De, & Dijkshoorn, M. (2023).
European Radiology, 0123456789. https://doi.org/10.1007/s00330-023-09434-1

NAEOTOM Alpha

Ultra-high resolution photon-counting coronary CT angiography improves coronary stenosis quantification over a wide range of heart rates – A dynamic phantom study.
Zsarnoczay, E., Fink, N., Schoepf, U. J., O'Doherty, J., Allmendinger, T., Hagenauer, J., Wolf, E. V., Griffith, J. P., Maurovich-Horvat, P., Varga-Szemes, A., & Emrich, T. (2023).
European Journal of Radiology, 161, 110746. https://doi.org/10.1016/j.ejrad.2023.110746

NAEOTOM Alpha

Characterizing the Heart and the Myocardium With Photon-Counting CT.
Zsarnóczay, E., Varga-Szemes, A., Emrich, T., Szilveszter, B., van der Werf, N. R., Mastrodicasa, D., Maurovich-Horvat, P., & Willemink, M. J. (2023).
Investigative Radiology, 00(00). https://doi.org/10.1097/RLI.0000000000000956

NAEOTOM Alpha

High-Pitch Multienergy Coronary CT Angiography in Dual-Source Photon-Counting Detector CT Scanner at Low Iodinated Contrast Dose.
Rajiah, P. S., Dunning, C. A. S., Rajendran, K., Tandon, Y. K., Ahmed, Z., Larson, N. B., Collins, J. D., Thorne, J., Williamson, E., Fletcher, J. G., & Mccollough, C. (2023). 00(00).
Investigative Radiology https://doi.org/10.1097/RLI.0000000000000961

NAEOTOM Alpha

Photon Counting Detector CT-Based Virtual Noniodine Reconstruction Algorithm for In Vitro and In Vivo Coronary Artery Calcium Scoring: Impact of Virtual Monoenergetic and Quantum Iterative Reconstructions.
Fink, N., Zsarnoczay, E., Schoepf, U. J., Griffith, J. P., Wolf, E. V, O'Doherty, J., Suranyi, P., Baruah, D., Kabakus, I. M., Ricke, J., Varga-Szemes, A., & Emrich, T. (2023).
Investigative Radiology, 00(00), 1–8. https://doi.org/10.1097/RLI.0000000000000959

NAEOTOM Alpha

First in-vivo coronary stent imaging with clinical ultra high resolution photon-counting CT
Geering, L. , Sartoretti, T. , Mergen,V. ,Cundari, G. ,Rusek, S. , Civaia, F., Rossi, P., Templin, C., Manka, R. Eberhard M., Alkadhi, H.
Journal of Cardiovascular Computed Tomography, 5(1), 1–2. https://doi.org/10.1016/j.jcct.2023.02.009

4. Abdominal Imaging

NAEOTOM Alpha

Exploiting the Potential of Photon-Counting CT in Abdominal Imaging.
Schwartz, F. R., Samei, E., & Marin, D. (2023). Special Issue. 00(00), 1–11.
Investigative Radiology. https://doi.org/10.1097/RLI.0000000000000949

NAEOTOM Alpha

Comparison of Image Quality and Dose Exposure of Contrast-Enhanced Abdominal CT acquired on a 1st Generation Clinical Dual-Source Photon-Counting Detector CT in Obese Patients vs. a 2nd Generation Dual-Source Dual Energy Integrating Detector CT.
Hagen, F., Hofmann, J., Wrazidlo, R., Gutjahr, R., Schmidt, B., Faby, S., Nikolaou, K., Horger, M. (2022).
European Journal of Radiology, 151, 110325. https://doi.org/10.1016/j.ejrad.2022.110325

NAEOTOM Alpha

Potential of Unenhanced Ultra-Low-Dose Abdominal Photon-Counting CT with Tin Filtration : A Cadaveric Study.
Huflage, H., Grunz, J., Patzer, T. S., Pannenbecker, P., Feldle, P., Sauer, S. T., Petritsch, B., Ergün, S., Bley, T. A., & Kunz, A. S. (2023).
Diagnostics 13.603 https://doi.org/10.3390/diagnostics13040603

NAEOTOM Alpha

Liver Fat Quantification in Photon Counting CT in head to head comparison with clinical MRI; first experience.
Schwartz, F. R., Ashton, J., Wildman-tobriner, B., Ramirez-giraldo, J. C., Samei, E., Bashir, M. R., & Marin, D. (2023).
European Journal of Radiology, 110734. https://doi.org/10.1016/j.ejrad.2023.110734

NAEOTOM Alpha

Impact of CT Photon-Counting Virtual Monoenergetic Imaging on Visualization of Abdominal Arterial Vessels.
Dillinger, D., Overhoff, D., Booz, C., Kaatsch, H. L., Piechotka, J., Hagen, A., Froelich, M. F., Vogl, T. J., & Waldeck, S. (2023).
Diagnostics, 13(5). https://doi.org/10.3390/diagnostics13050938

5. Pulmonology

High-Resolution Chest Computed Tomography Imaging of the Lungs: Impact of 1024 Matrix Reconstruction and Photon-Counting Detector Computed Tomography.
Bartlett, D. J., Koo, C. W., Bartholmai, B. J., Rajendran, K., Weaver, J. M., Halaweish, A. F., Leng, S., McCollough, C. H., Fletcher, J. G. (2019).
Investigative Radiology, 54(3), 129–137. https://doi.org/10.1097/RLI.0000000000000524

NAEOTOM Alpha
First Performance Evaluation of an Artificial Intelligence-Based Computer-Aided Detection System for Pulmonary Nodule Evaluation in Dual-Source Photon-Counting Detector CT at Different Low-Dose Levels.
Jungblut, L., Blüthgen, C., Polacin, M., Messerli, M., Schmidt, B., Euler, A., Alkadhi, H., Frauenfelder, T., Martini, K. (2021).
Investigative Radiology, 57(2), 108-114. https://doi.org/10.1097/rli.0000000000000814

NAEOTOM Alpha
Impact of Contrast Enhancement and Virtual Monoenergetic Image Energy Levels on Emphysema Quantification: Experience With Photon-Counting Detector Computed Tomography.
Jungblut, L., Kronenberg, D., Mergen, V., Higashigaito, K., Schmidt, B., Euler, A., Alkadhi, H., Frauenfelder, T., Martini, K. (2022).
Investigative Radiology, 57(6), 359-365. https://doi.org/10.1097/RLI.0000000000000848

NAEOTOM Alpha
Performance of Virtual non-contrast images generated on clinical Photon-Counting Detector CT for emphysema quantification : Proof of Concept Performance of Virtual non-contrast images generated on clinical Photon-Counting Detector CT for emphysema quantification : Proof of Concept Performance of PCD-CT derived VNC images for emphysema quantification.
Jungblut, L., Sartoretti, T., Kronenberg, D., Mergen, V., Euler, A., Schmidt, B., Alkadhi, H., Frauenfelder, T., Martini, K. (2022).
British Journal of Radiology. https://doi.org/10.1259/bjr.20211367

NAEOTOM Alpha
Low-Dose High-Resolution Photon-Counting CT of the Lung: Radiation Dose and Image Quality in the Clinical Routine.
Woeltjen, M. M., Niehoff, J. H., Michael, A. E., Horstmeier, S., Moenninghoff, C., Borggrefe, J., Kroeger, J. R. (2022).
Diagnostics, 12(6), 1441. https://doi.org/10.3390/diagnostics12061441

NAEOTOM Alpha
Dose Reduction and Image Quality in Photon-counting Detector High-resolution Computed Tomography of the Chest: Routine Clinical Data.
Graafen, D., Emrich, T., Halfmann, M. C., Mildenberger, P., Düber, C., Yang, Y., Othman, A. E., O' Doherty, J., Müller, L., Kloeckner, R. (2022).
Journal of Thoracic Imaging, 00(00), 1–8. https://doi.org/10.1097/RTI.0000000000000661

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Potential of Photon-Counting Detector CT for Radiation Dose Reduction for the Assessment of Interstitial Lung Disease in Patients With Systemic Sclerosis.
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