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Yes, DS!

Whole-body scans with reduced need for breathhold? At low doses? In less than 1.4 seconds?

Entire chest CT? Reduced need for breathhold?

High-quality imaging without breathhold is crucial in time-critical situations and for difficult cases, such as in trauma or when scanning very young or older patients who may not be able to hold their breath for longer periods of time.

Dual Source CT uses spiral scanning and the high-pitch mode to achieve an entire chest CT exam in just 0.6 seconds, reducing the need for breathhold and holding still. A study* concludes that a CT of the lung can be performed in the high-pitch mode at a low radiation dose even without suspended respiration providing diagnostic image quality. Read the study in our Yes, DS! web feature (www.siemens.com/yesds).

*Computed tomography of the lung in the high-pitch mode: is breath holding still required? Baumueller S et al. Invest Radiol. 2011 Apr; 46 (4):240-245.

Title of paper

Computed tomography of the lung in the high-pitch mode: is breath holding still required?

Baumueller S et al. Invest Radiol. 2011 Apr; 46 (4): 240-245.
PubMed Link: http://www.ncbi.nlm.nih.gov/pubmed/21217528

Summary of Study:

Entire thorax and lung CT with reduced need for breath-hold in 0.6 seconds

SOMATOM Definition Flash uses spiral scanning and high temporal resolution to achieve an entire thorax exam in just 0.6 seconds, reducing the need for breath-hold and holding still. In the paper cited below, the authors conclude that a CT of the lung can be performed in high-pitch mode (HPM) at a low radiation dose providing high diagnostic image quality.

More Information about this topic:

Enabling diagnostic quality in chest and whole body imaging – without breath-hold

High-quality diagnostic imaging with reduced need for breath-hold can be decisive in time-critical situations and for difficult cases, such as trauma or when scanning very young or older patients who may not be able to hold their breath for longer periods of time. Rapid scanning may potentially help reduce the need for sedation.

When the technology enables a diagnostic image to be captured during normal respiration, the need for additional anesthesiologists, sedation medication, and re-scans may potentially be reduced.

Dual Source CT achieves fast, high-quality imaging even without breathhold

Dual Source CT supports diagnostic confidence when scanning difficult patients and in time-critical situations at remarkably low doses. Chest imaging can therefore be performed with the potential to reduce potentially harmful sedation or in cases where patients cannot control their respiration. This provides advantages for competing imaging centers by potentially helping to save the costs of anesthetic services and extra scans.

The scan speeds achievable on our DSCT scanners* are unrivaled in the industry. Scans of the whole body are possible due to the 458 mm/s coverage on SOMATOM Definition Flash. An entire thorax can be imaged in just 0.6 seconds or even a whole thorax-abdomen-pelvis scan in 1.4 seconds with SOMATOM Definition Flash's high-pitch mode, thus greatly reducing motion artifacts. Moreover, chest CT in the high-pitch mode (HPM) enables the diagnostic visualization of lung parenchyma and vascular structures without suspended respiration or loss of image quality.

The acquisition speed of the scanner in high-pitch mode – is highly important to freeze patient motion, e.g. in lung exams or in patients who cannot hold their breath long enough. This is also important, in pediatric CT where it also can help reducing the need for potentially harmful sedation.

*SOMATOM Definition Flash: 458 mm/s and SOMATOM Force: 737 mm/s

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