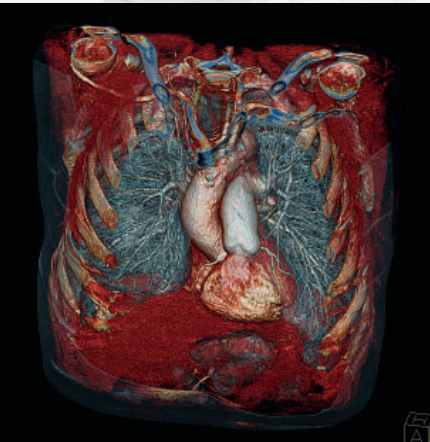




“To be able to scan an entire thorax in less than a second is a major benefit for patients.”

Harold Litt, MD, PhD
Philadelphia, PA, USA



Current Challenges:

- Patients who cannot hold their breath
- Triple rule-out requires long scan times and high radiation dose

Unique Flash Solutions:

- Split-second thorax doesn't require breath hold
- Triple rule-out becomes a split-second procedure at a dose below 5 mSv

Split-second thorax

SOMATOM Definition Flash

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Challenge:

Patients who cannot hold their breath

Intubated, traumatic patients, patients with severe emphysema or interstitial lung diseases, and pediatric patients.

- In US alone, 10.3 million CT scans are performed in ED (2004)*. Those critically ill patients are often intubated and cannot hold their breath for the length of a CT scan.
- Per year 7.4 million pediatric CT examinations are performed in the US, making up 11% of all CT exams and showing an average annual growth rate of 6%** . Many of those pediatric exams require time-consuming sedation because children commonly cannot hold their breath for the length of the CT scan.

Solution:

Split-second thorax – doesn't require breath hold

With split-second thorax scanning, you don't need to worry about motion artifacts anymore, which for instance obscure small pulmonary emboli in the lung.

A split-second thorax scan in an adult equals a whole body examination in a child. Pediatric imaging is now possible without breath hold control through e.g. sedation, that can require up to 80 min per procedure***. Besides, side effects like nausea, vomiting, hiccups, cough, and oxygen desaturations attributable to upper airway occlusion can be effectively avoided.

Challenge:

Triple rule-out requires long scan times, high radiation and contrast dose

Patients with acute chest pain being suspicious for Acute Coronary Syndrome, Pulmonary Embolism or Aortic Dissection.

- With 3.921.000 patients annually in the US, chest pain is one of the leading causes for a visit in the ED**. It is essential to quickly and reliably rule out the underlying cause since time is muscle in this situation.

Solution:

Triple rule-out becomes a split-second procedure at a dose below 5 mSv

In a single, sub-second gated scan it is now possible to simultaneously image the pulmonary and coronary arteries as well as the entire aorta. As an added benefit, this amazing speed freezes the heart, offering crystal clear imaging of the coronary arteries and the lung with a true temporal resolution of 75 ms, thus enabling sub-second triple rule-out with less than 5 mSv dose.

The benefits even extend into abdomen and pelvis. For instance in vascular examinations where motion artifacts by breathing no longer obscure the image quality, and contrast media amounts can be significantly reduced.

* National Hospital Ambulatory Medical Care Survey: 2004 Emergency Department Summary, CDC 2006

** IMV 2007 CT Market Summary Report

*** Pomeranz et al, Rectal Methohexital Sedation for CT Imaging of Stable Pediatric ED Patients, Pediatrics 2000

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