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A paradigm shift in MI

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Imaging diagnostico in Sanità – Stato Attuale e prospettive

Pisa – 20 Dicembre 2016

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Biograph mCT Flow

FlowMotion, the end of stop and go

Biograph mCT Flow Offers Small Pixels for High Spatial Resolution

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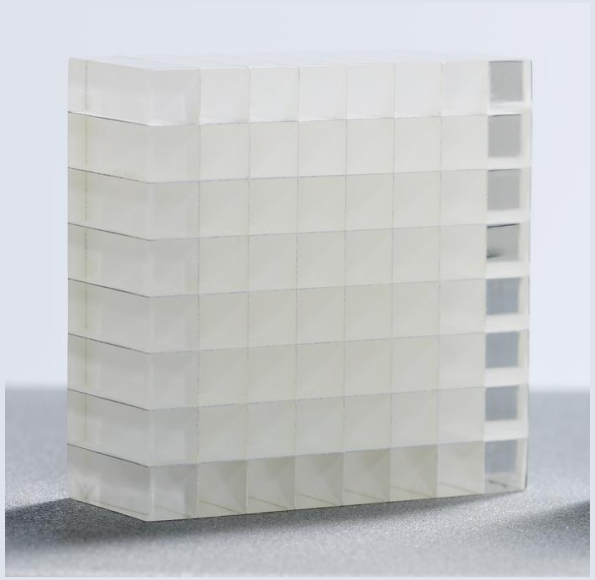
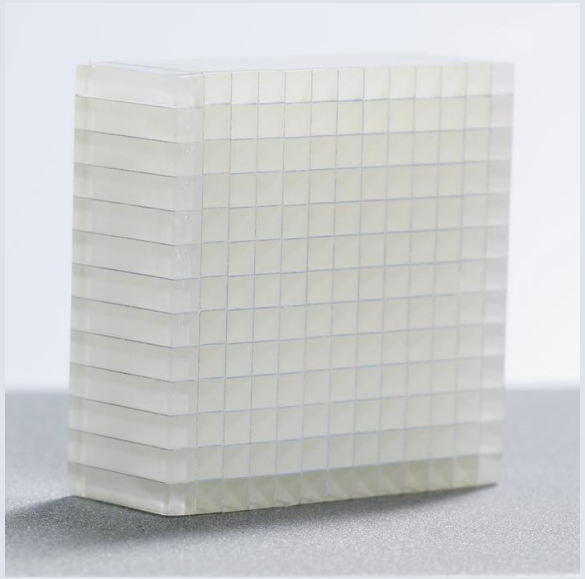
Conventional[1)]



- 6.3 mm crystals
- 4,608 to 11,520 pixels

Biograph mCT Flow

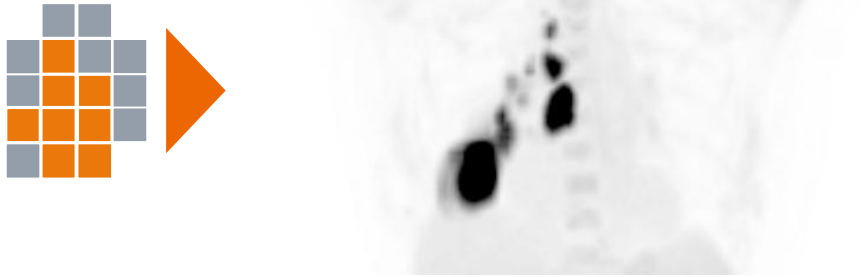


- 4 mm crystals – 36% finer pixel
- 24,336 pixels – 2x more pixels

Biograph mCT Flow is not commercially available in all countries. Due to regulatory reasons, its future availability cannot be guaranteed. Please contact your local Siemens organization for further details.
1) Compared to competitive literature available at time of publication. Data on file.

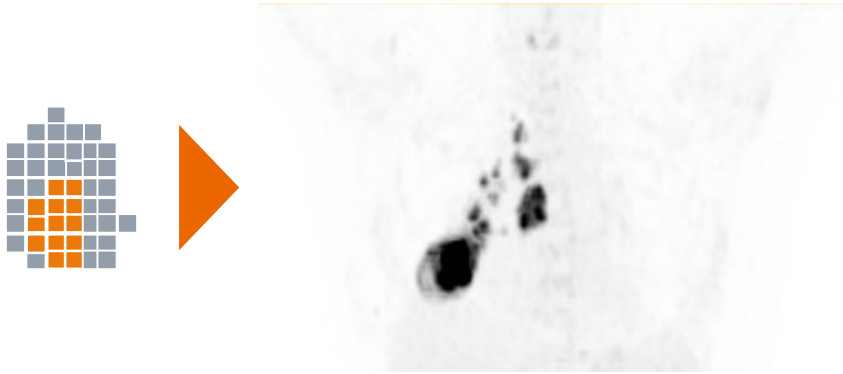
Exquisite Details with 400x400 Reconstruction Matrix

Conventional 256x256 Matrix



- 256x256 interpolated reconstruction
- 256x256 reconstruction may miss small lesions with low contrast due to partial volume effects

Siemens Hi-Rez Matrix

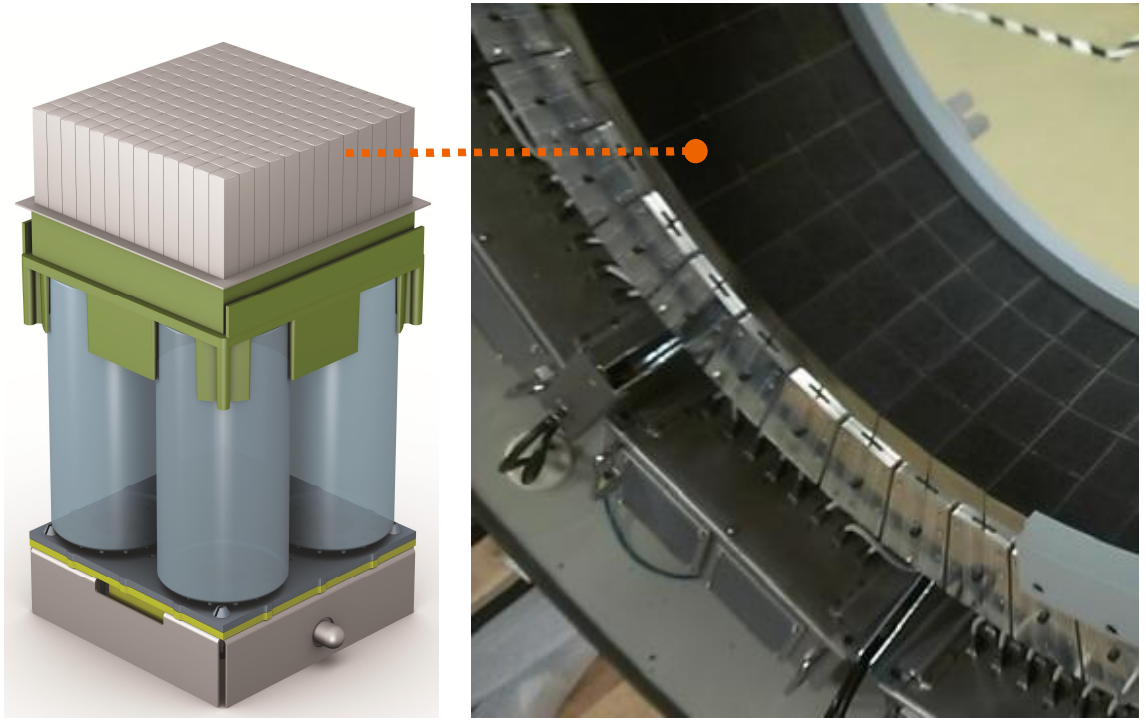


- 400x400 direct reconstruction matrix increases NEMA resolution by up to 25% over the 256x256 matrix
- Helps physicians to see small anatomic details

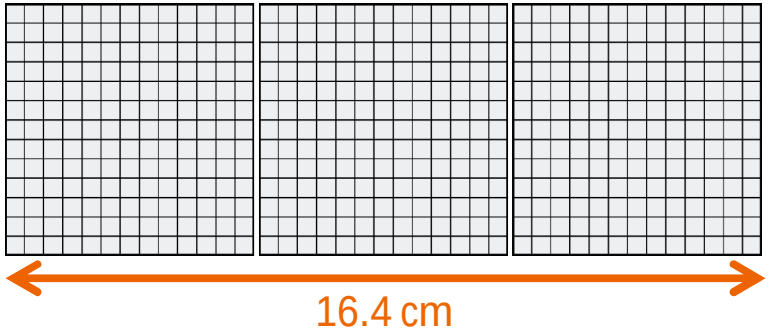
All claims based on internal measurements at time of publication. Data on file.
Data courtesy of University of Tennessee, Knoxville, TN, USA

OptisoHD Detection System – Field Upgradable Extended Field-of-View

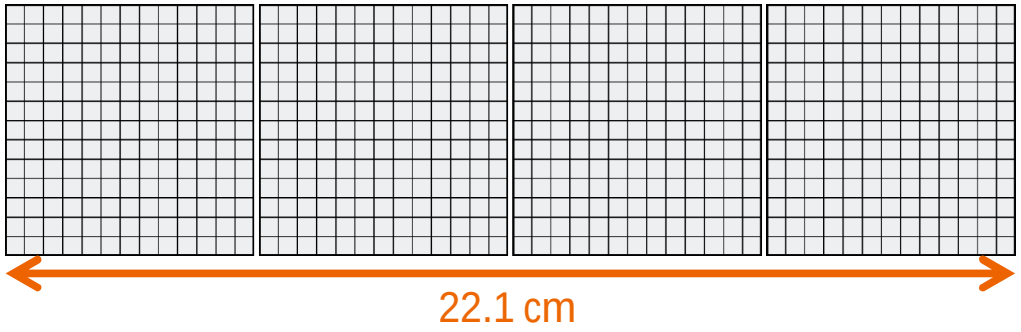
OptisoHD Detector



Standard axial field-of-view

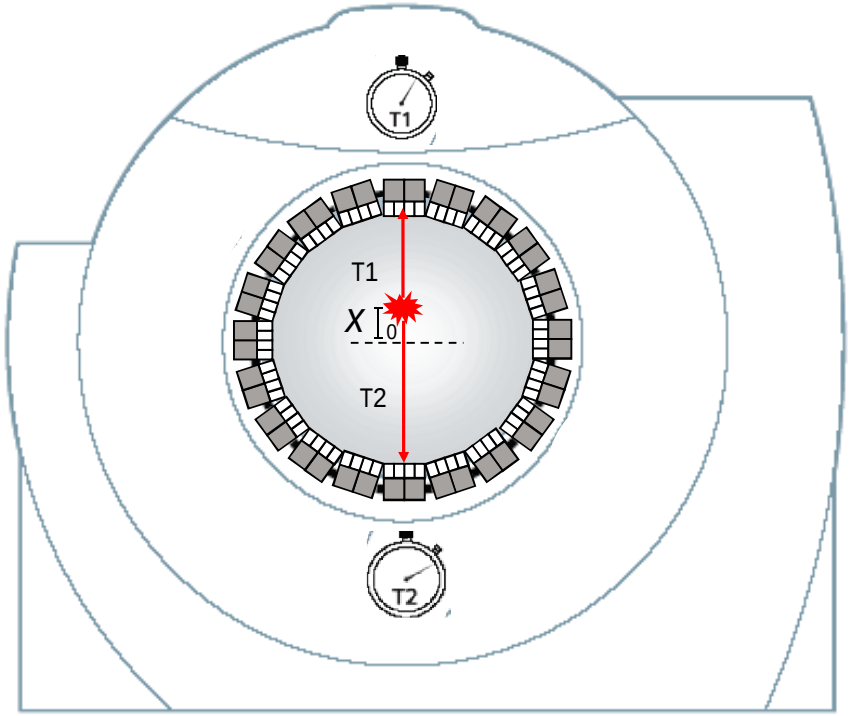


TrueV – Extended axial field-of-view

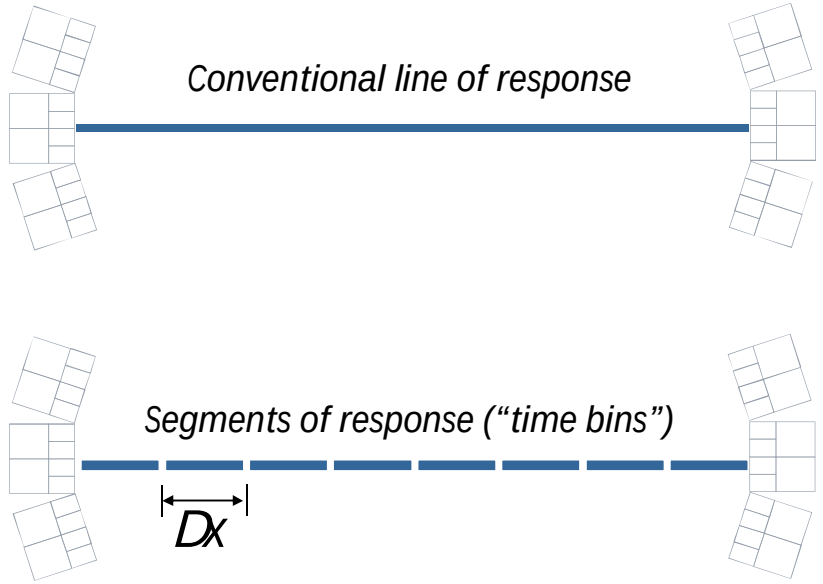


All claims based on internal measurements at time of publication. Data on file.

Time-of-Flight Improves the Accuracy of the Event Localization



- ToF systems measure the time between each coincidence photon to determine the event location along the LoR



Dx => directly proportional to the system’s time resolution

- ToF systems are able to record segments of response instead of LoR
- The time resolution defines the size of the segment of response (“time bin”)

ultraHD•PET Provides Two Times the Signal-to-Noise

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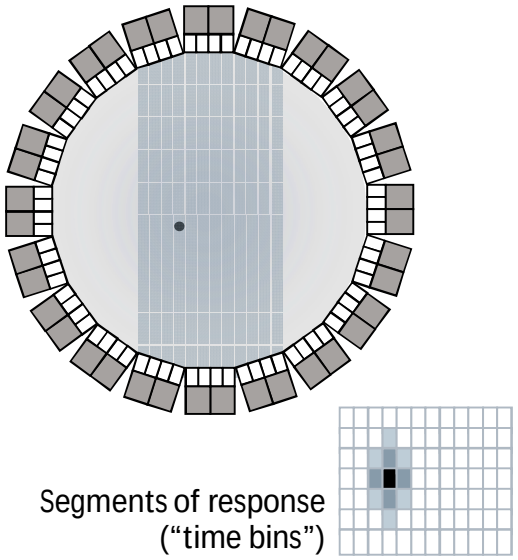
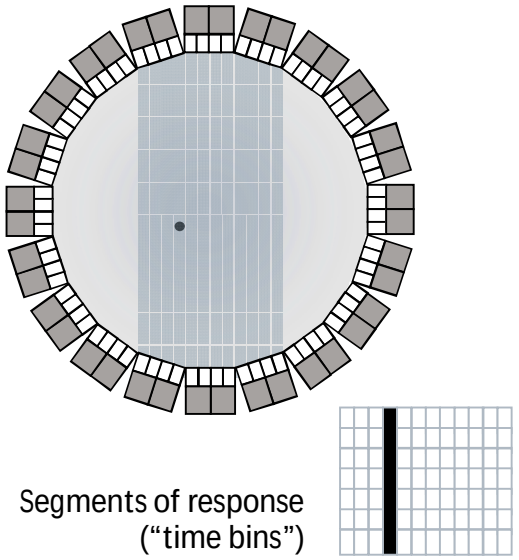
ToF



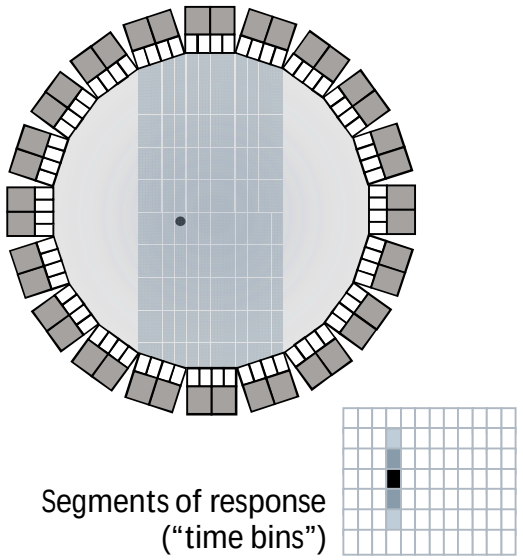
- Accurately locates the annihilation along the LoR

HD•PET



- More precisely accounts for the positioning of the LoR

ultraHD•PET



- ultraHD•PET reduces blurring of the signal from all axes

All claims based on internal measurements at time of publication. Data on file.

Time-of-Flight Enables Better Image Quality

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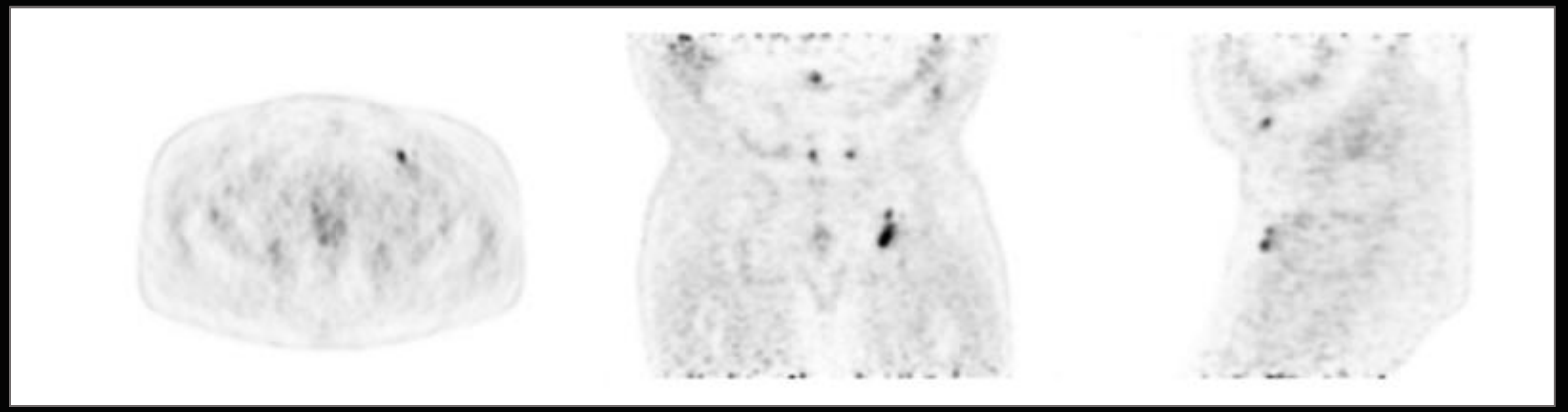
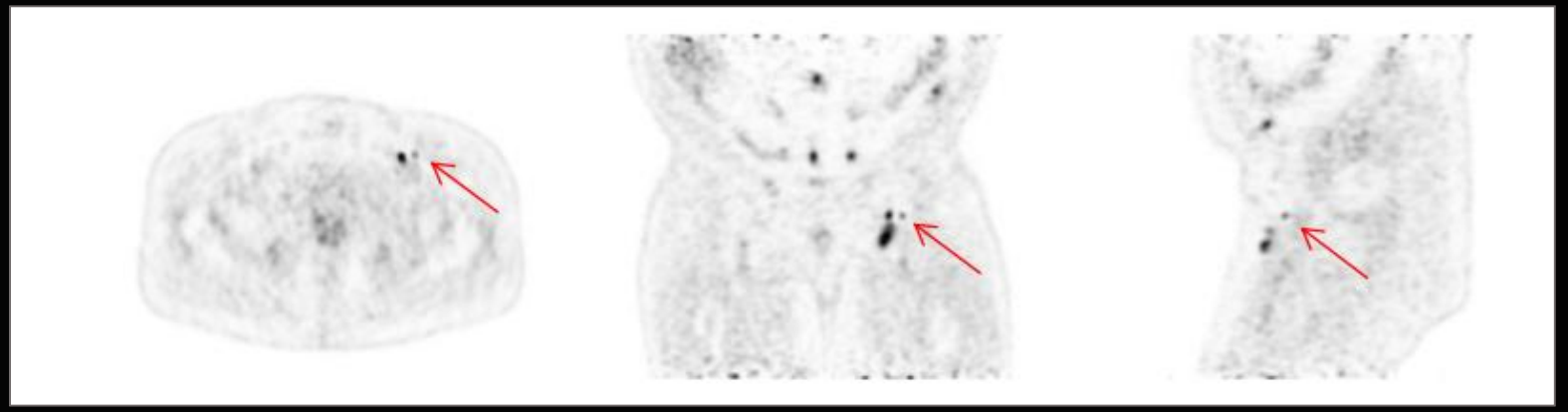
Improved pelvic nodule visualization with ToF

In the ToF images, one additional small uptake focus, not visible with the conventional non-ToF reconstruction, was clearly visible.



Non-ToF



ToF

Data courtesy of University of Tennessee, Knoxville, Tennessee, U.S.A.

Sharp Delineation of Brain Structures for Precise Assessment of Uptake Patterns

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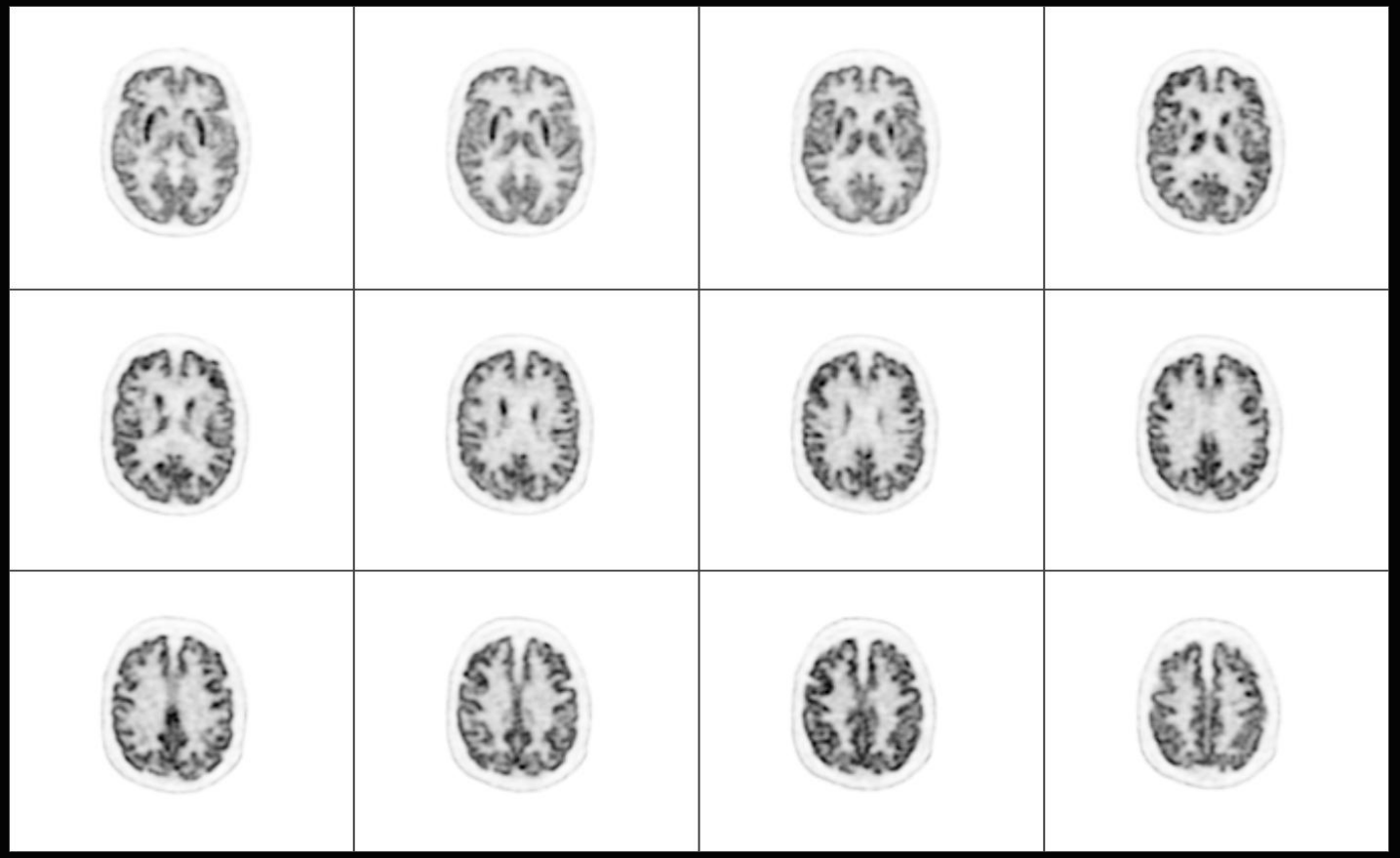
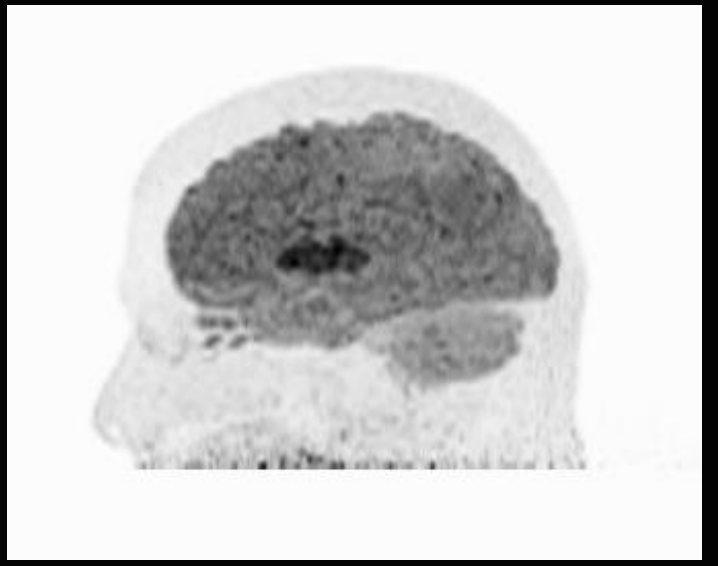
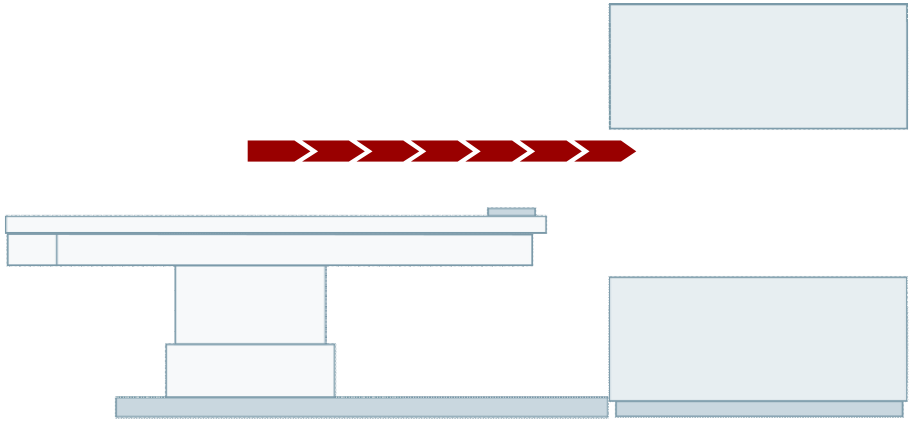
Sharp delineation of the gyrus and of the different uptake patterns even within the caudate nucleus

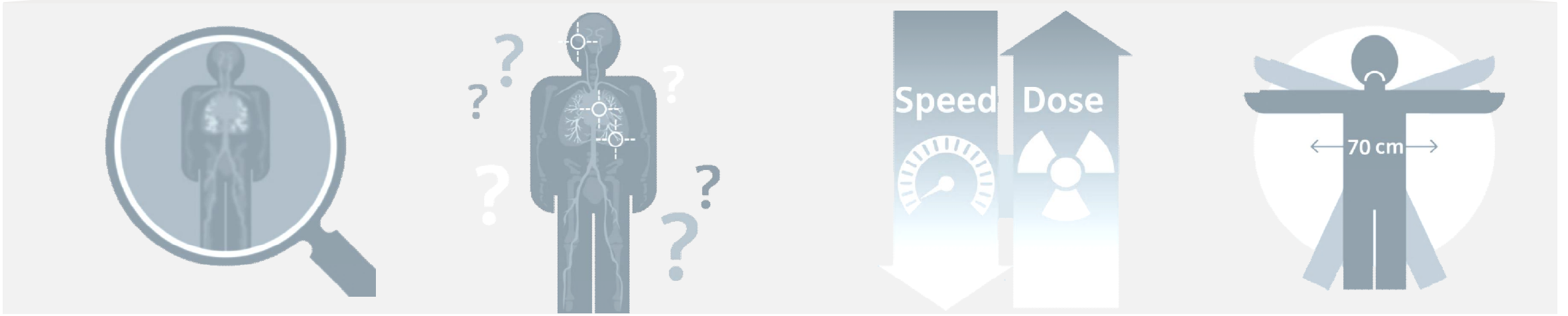




Data courtesy of the Princes Grace Hospital, Monaco
All claims based on internal measurements at time of publication. Data on file.

Today's PET/CT Challenge – Stop-and-Go Can Limit Critical Aspects of PET Imaging





Biograph mCT Flow™ is the world's first PET/CT system to eliminate the demand for stop-and-go imaging. With Biograph mCT Flow and FlowMotion™, planning and scanning is based on a single continuous motion of the patient table.

Biograph mCT Flow is not commercially available in all countries. Due to regulatory reasons, its future availability cannot be guaranteed. Please contact your local Siemens organization for further details.
All claims based on internal measurements at time of publication. Data on file.

Biograph mCT Flow
Siemens Engineered a Completely New Platform

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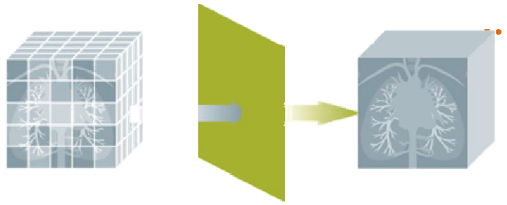
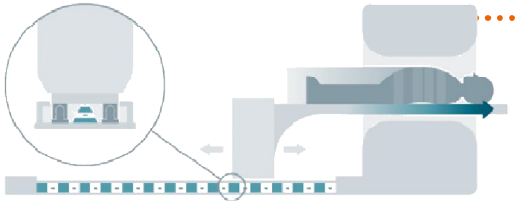
Dynamic Data Processing*



Magnetically Driven for Precision



Biograph mCT Flow is not commercially available in all countries. Due to regulatory reasons, its future availability cannot be guaranteed. Please contact your local Siemens organization for further details
*Refers to ACS which is standard with Biograph mCT Flow (not shown)
All claims based on internal measurements at time of publication. Data on file.

FlowMotion SMART* Patient Handling System (PHS) – Magnetically Driven for Precision

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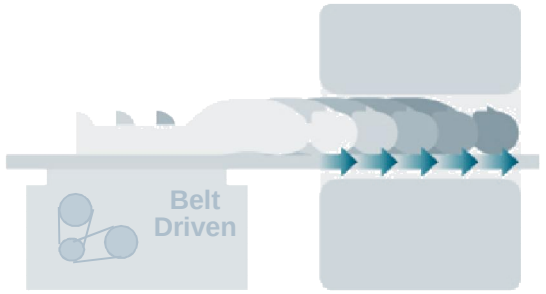
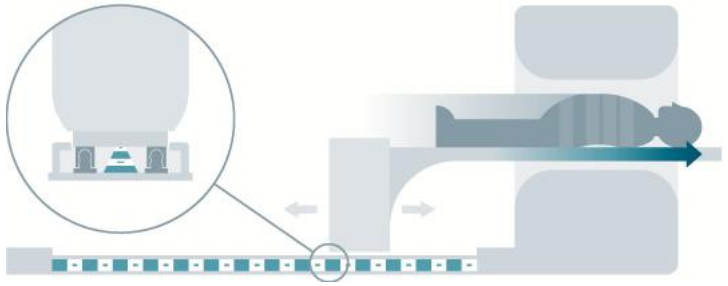
Conventional patient table



- Belt-driven mechanisms may have limited accuracy at slower speeds
- Differential deflection is inherent
- Causes motion artifacts if used during continuous acquisition

FlowMotion SMART PHS



- Precise acquisition speeds ranging from 0.1 mm/sec to 20 mm/sec
- Sub-millimeter positioning accuracy
- Zero differential deflection
- Non-contact horizontal magnetic drive with no backlash

* SMART: Siemens Molecular and Anatomical Registration Technologies
All claims based on internal measurements at time of publication. Data on file.

Biograph mCT Flow
FlowMotion, the End of Stop and Go.

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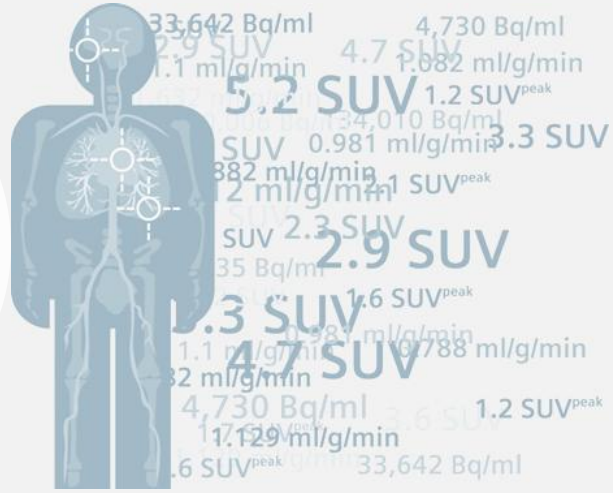
Finest image detail[1] – in every organ

Accurate, reproducible Quantification – in all dimensions



Minimum dose, maximum speed[2] – without limitations

Open comfort for all patients[3] – advancing satisfaction

Biograph mCT Flow is not commercially available in all countries. Due to regulatory reasons, its future availability cannot be guaranteed. Please contact your local Siemens organization for further details.
1) Based on volumetric resolution available in competitive literature for systems greater than 70 cm bore size. Data on file.; 2) Based on internal measurements available at time of publication;
3) Patients up to 227 kg (500 lbs).
"Siemens Healthineers" is considered a brand name. Its use is not intended to represent the legal entity to which this product is registered. Please contact your local Siemens organization for further details.

Stop-and-Go Can Limit the Critical Aspects of PET Imaging

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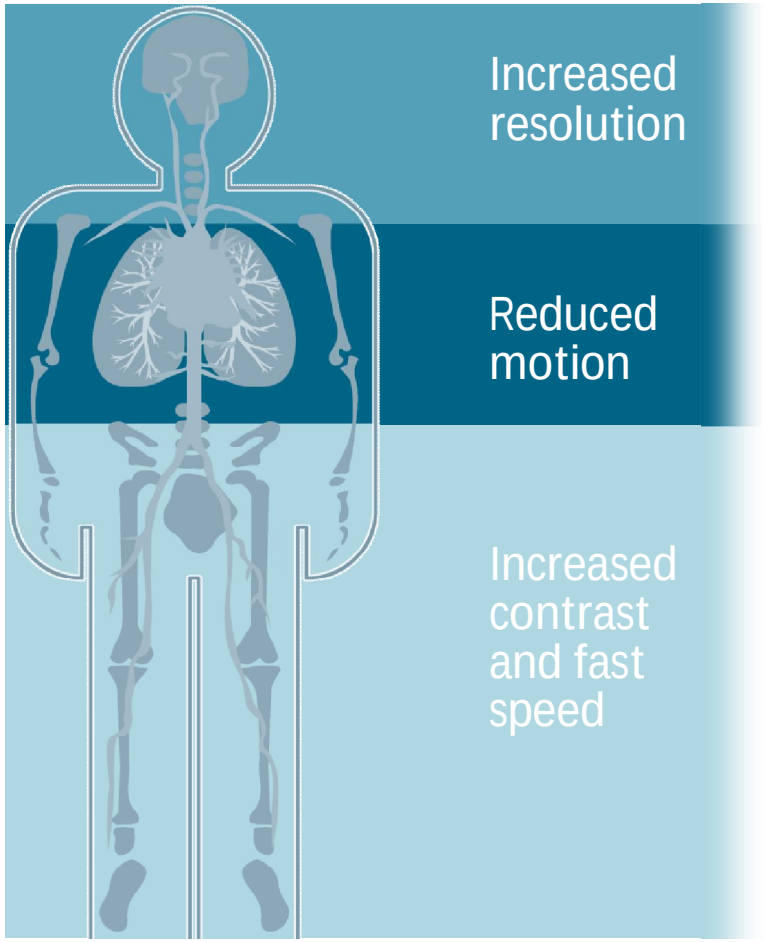
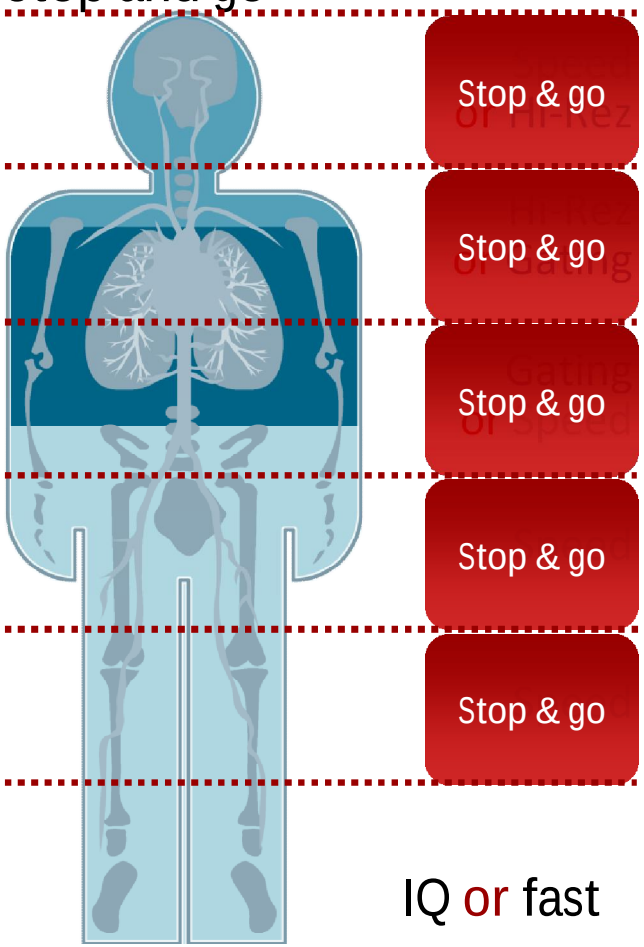
Clinical demand

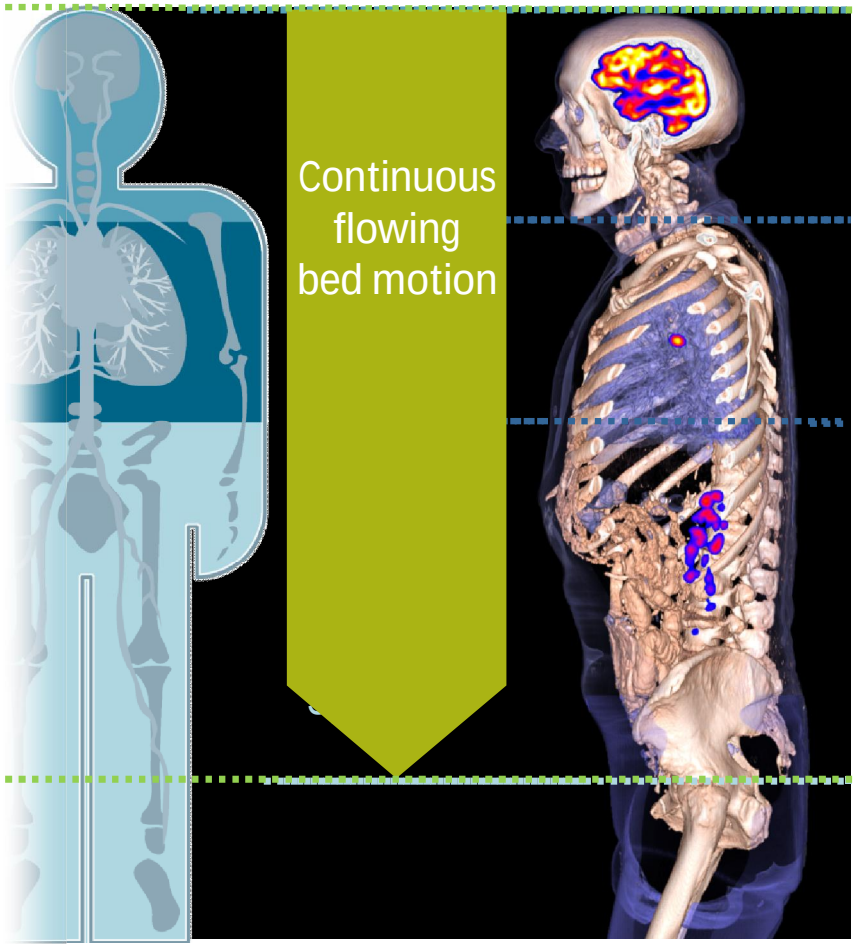


Stop and go



IQ or fast

FlowMotion clinical result



All claims based on internal measurements at time of publication. Data on file

FlowMotion Enables Individualized Protocols and Improved Workflow

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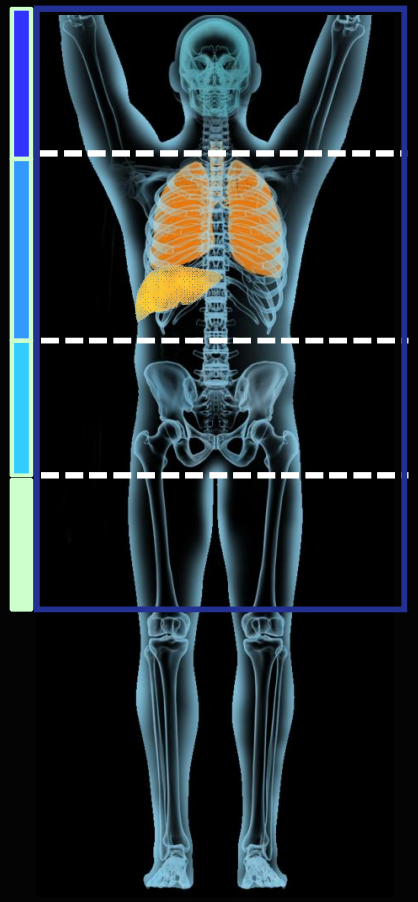
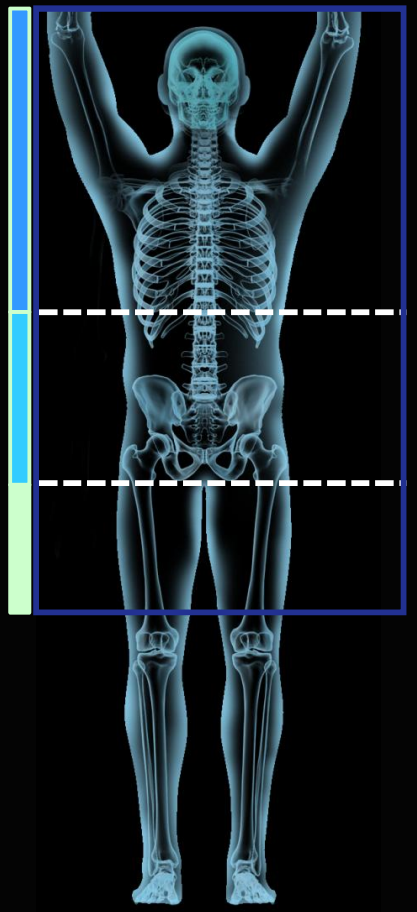
H&N

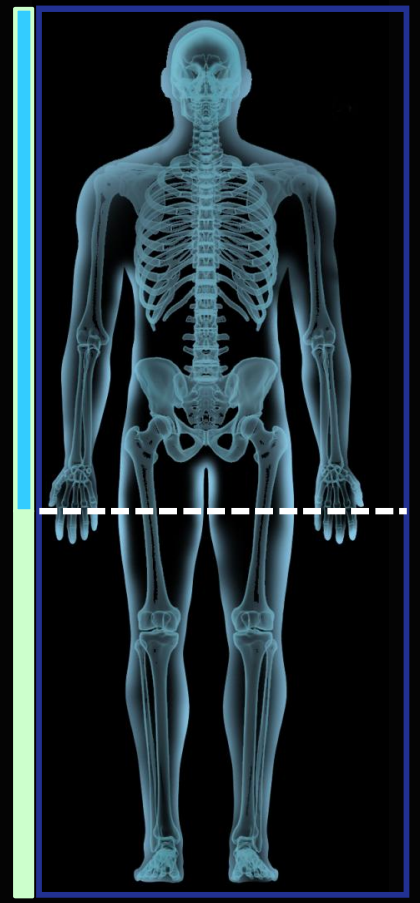
Lung / liver



Colorectal / prostate



Lymphoma / melanoma



All claims based on internal measurements at time of publication. Data on file

Improved PET Accuracy Supports a Confident Diagnosis

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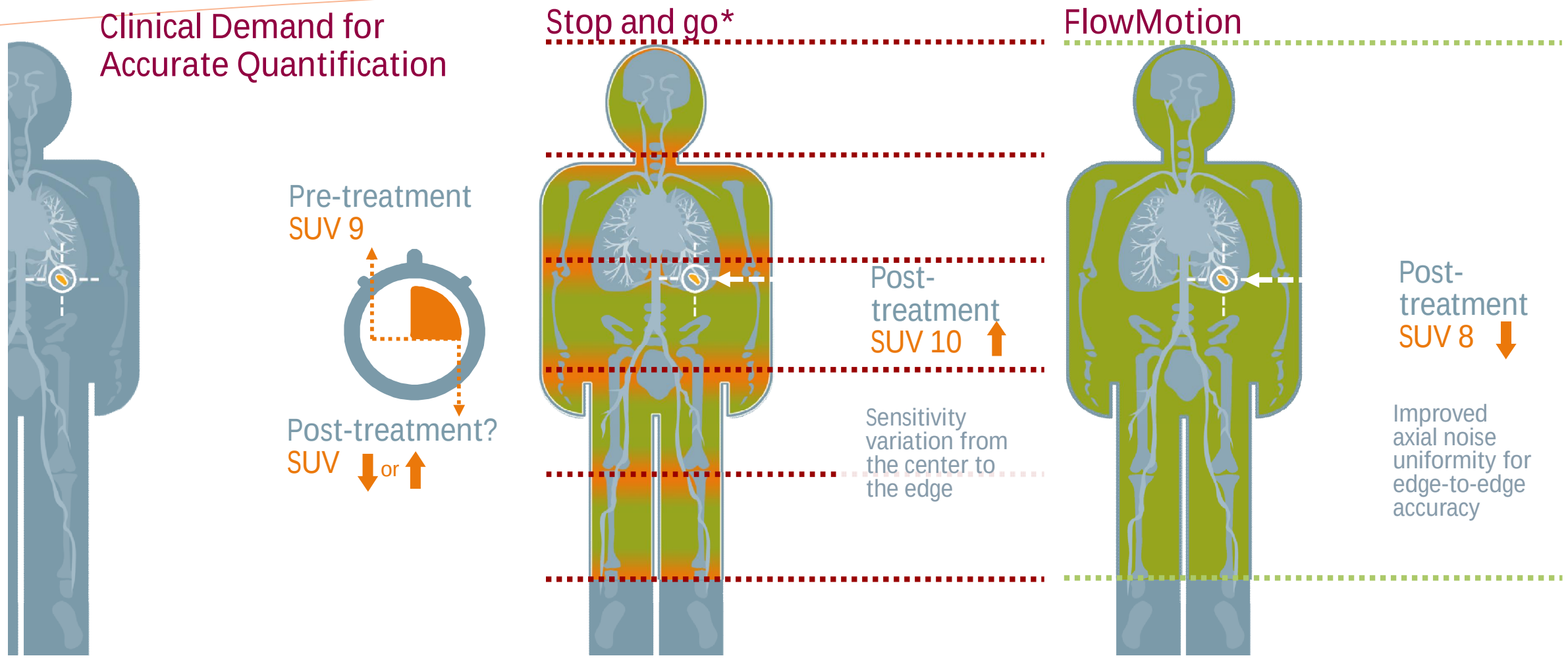

For illustrative purposes only

1) Insufficient overlap creates varying axial noise resulting in non-uniform quantitative measurements: Lodge, et al. Noise considerations for PET quantification using maximum and peak standardized uptake value. JNM 2012; 53(7) 1041-1047.

Increased Image Quality with Reduced Noise at the Edges

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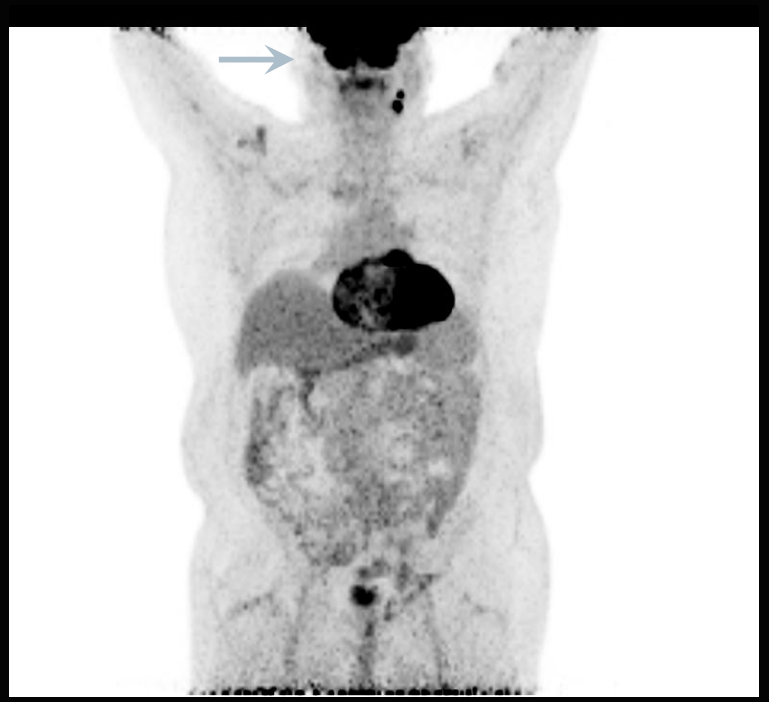
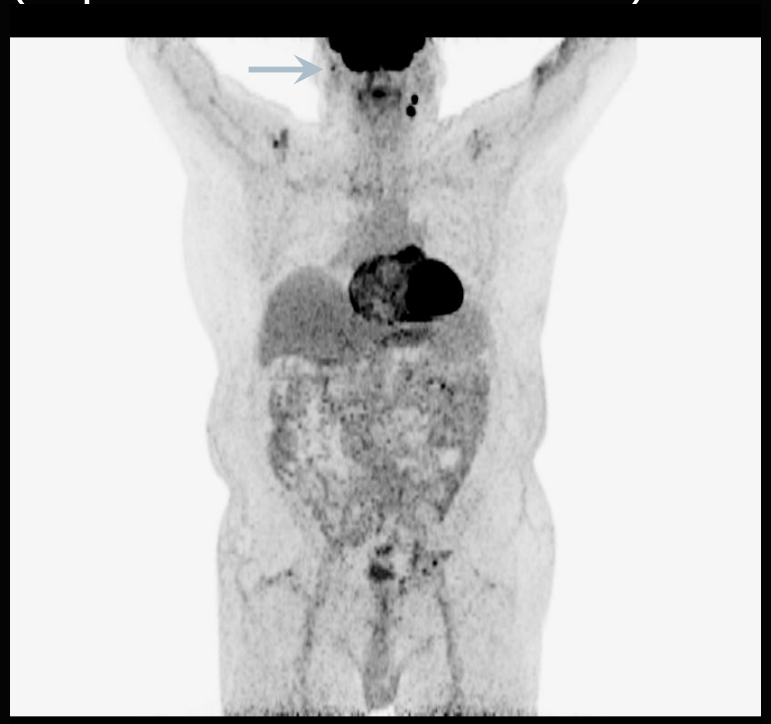
Stop-and-go[1)]
(Poor lesion delineation)

FlowMotion[1)]
(Improved lesion delineation)

Edge Noise

Edge Noise





Noise-Free

Noise-Free

Result: improved delineation of focal uptake in the mastoid in a patient with a neck node metastases by using FlowMotion.

1) Dual acquisitions with Stop and Go and FlowMotion
Data courtesy of University of Tennessee, Knoxville, Tennessee, USA
All claims based on internal measurements at time of publication. Data on file.

Immediate, Organ-Based Setting Of Scan and Recon Ranges

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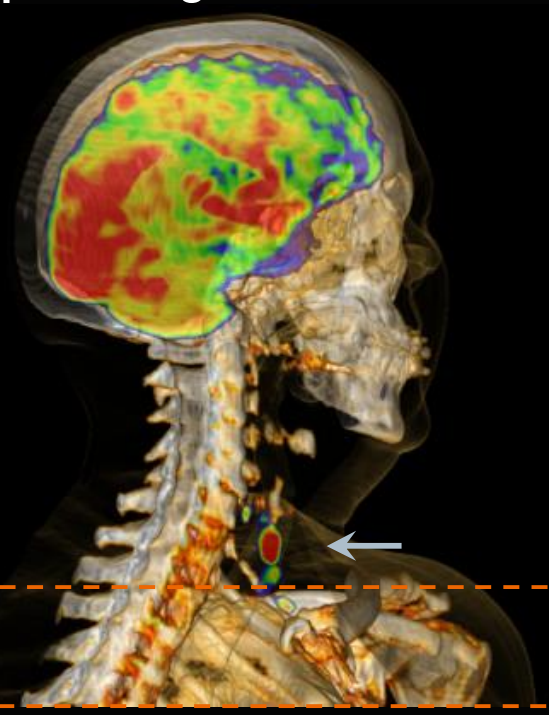
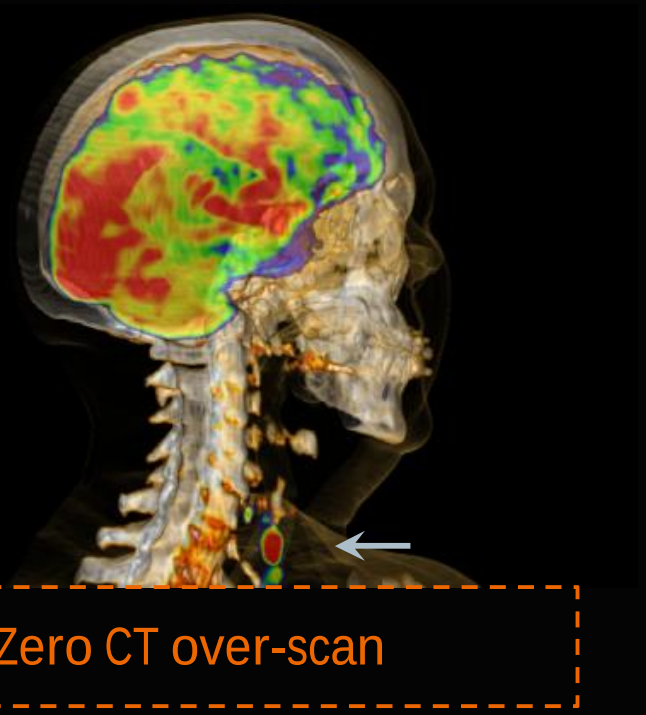
Stop and go[1]

2 beds
34.7 cm



FlowMotion



Organ-specific
25.7 cm

Zero CT over-scan

FlowMotion precisely defines the scan range, thereby eliminating additional CT dose.

Data courtesy of University of Michigan, Ann Arbor, Michigan, USA
All claims based on internal measurements at time of publication. Data on file.

Challenges to Improve Patient Experience - Patient – Focused Care is a Need Clinically and Economically

13% Global obesity[1)]

- Obesity is tied to increases in diabetes, CAD and stroke
- Scanners must accommodate a larger patient population

Radiation therapy (RT) planning increasing[2)]

- 2 out of 3 cancer patients will receive RT during their lifetimes
- RT positioning devices and the patient must comfortably fit the bore

Satisfaction linked to reimbursement[3)]

- Up to 2% of US reimbursement is now linked to the patient experience
- Enhance scan comfort to improve satisfaction

1) World Health Organization Fact sheet N°311, June 2016
2) http://www.rtanswers.org/statistics/aboutradiationtherapy/ Accessed Sep 11, 2016;
3) USA Today. Medicare payments tied to patient surveys: http://www.usatoday.com/story/money/business/2012/12/24/hospitals-satisfaction-surveys-medicare/1788833/. Accessed Sep 11, 2016

Grazie per l'attenzione!

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