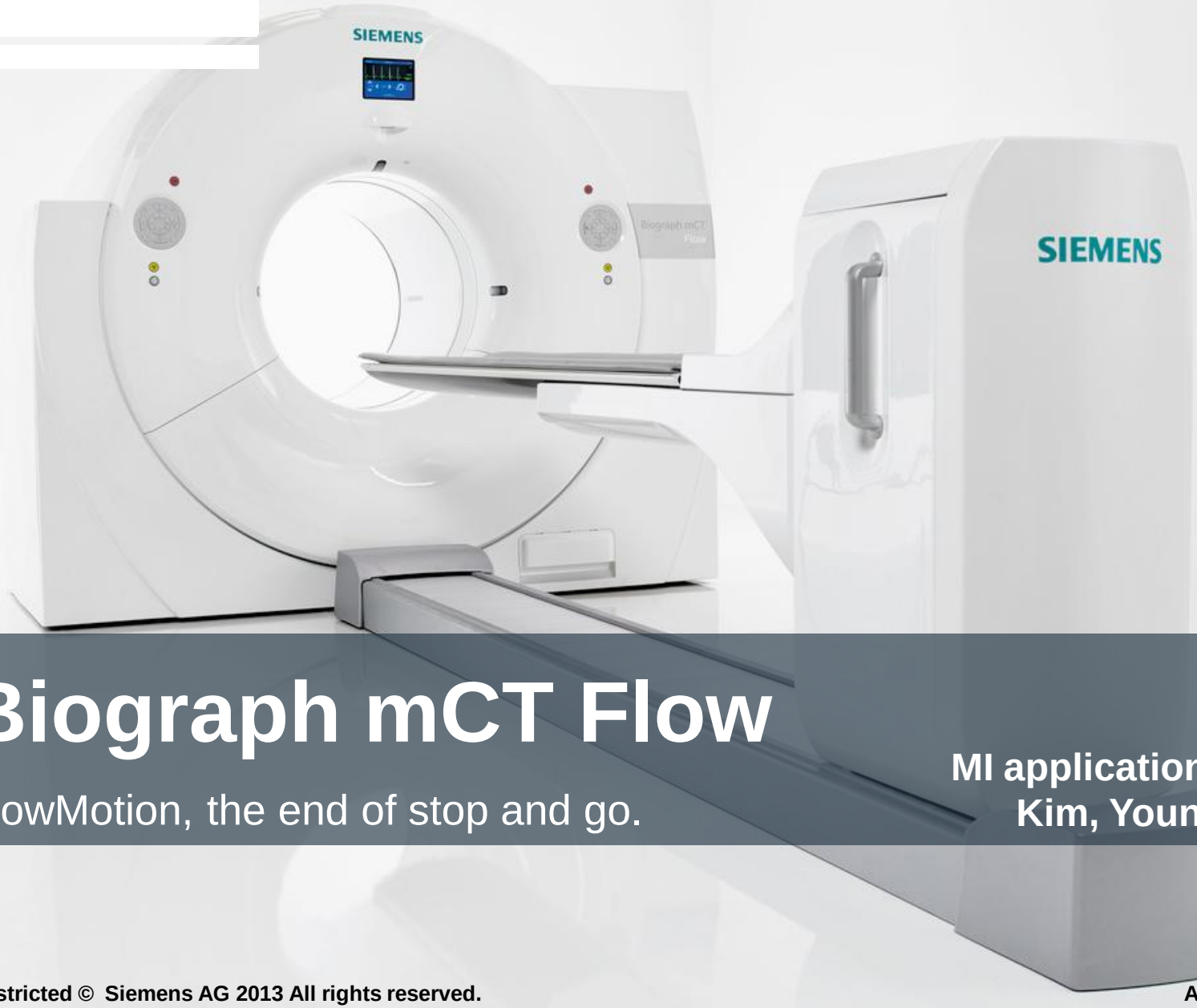


# Biograph mCT Flow

FlowMotion, the end of stop and go.

**MI application specialist**
**Kim, YoungHwan**

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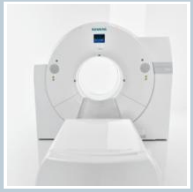
**Answers for life.**

# Siemens MI Product Overview

## Biograph Ê

mCT Flow Edge*

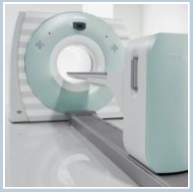
m C T F l o w Ê *



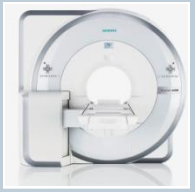
mCT*

mCT 20 Excel

TruePoint



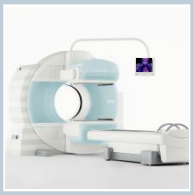
mMR®



## Symbia Ê

I n t e v o Ê *

Symbia T



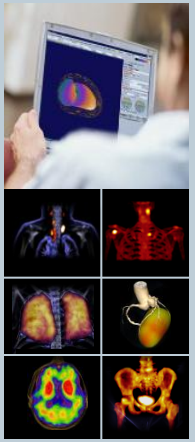
Intevo Excel**

Symbia S

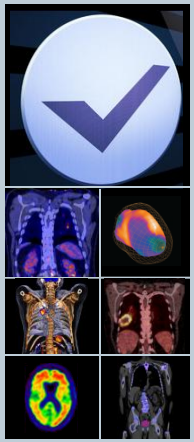
Symbia E

c.cam

Symbia.net



*syngo*®.via



## Biomarkers

E c l i p s e Ê
E x p l o r a O n e
PETNET Solutions

## Inveon Ê

*Preclinical Imaging Solutions*
PET, SPECT, CT
Multimodality
Inveon Research Workplace

## Customer Care

* Biograph mCT Flow and Biograph mCT FLow Edge are not commercially available in all countries. Due to regulatory reasons, their future availability cannot be guaranteed. Please contact your local Siemens organization for further details.

** Symbia Intevo, Intevo Excel, xSPECT, xSPECT Bone and xSPECT Quant are pending 510(k) clearance, and are not yet commercially available in the United States or in all countries worldwide. Due to regulatory reasons, their future availability cannot be guaranteed. Please contact your local Siemens organization for further details.

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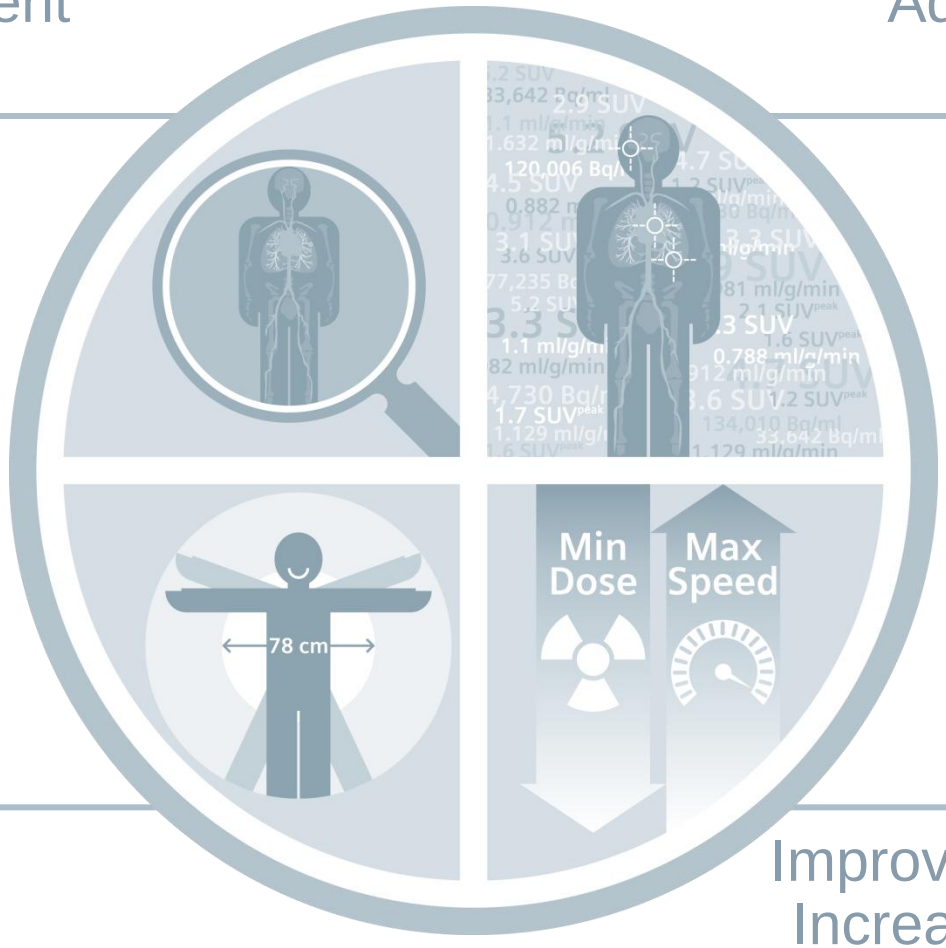
# Clinical Imaging Demand

Confident answers with lowest dose and highest return

Make a Confident Diagnosis

Adjust Treatment Earlier




Offer Patient-Focused Care

Improve Safety While Increasing Efficiency

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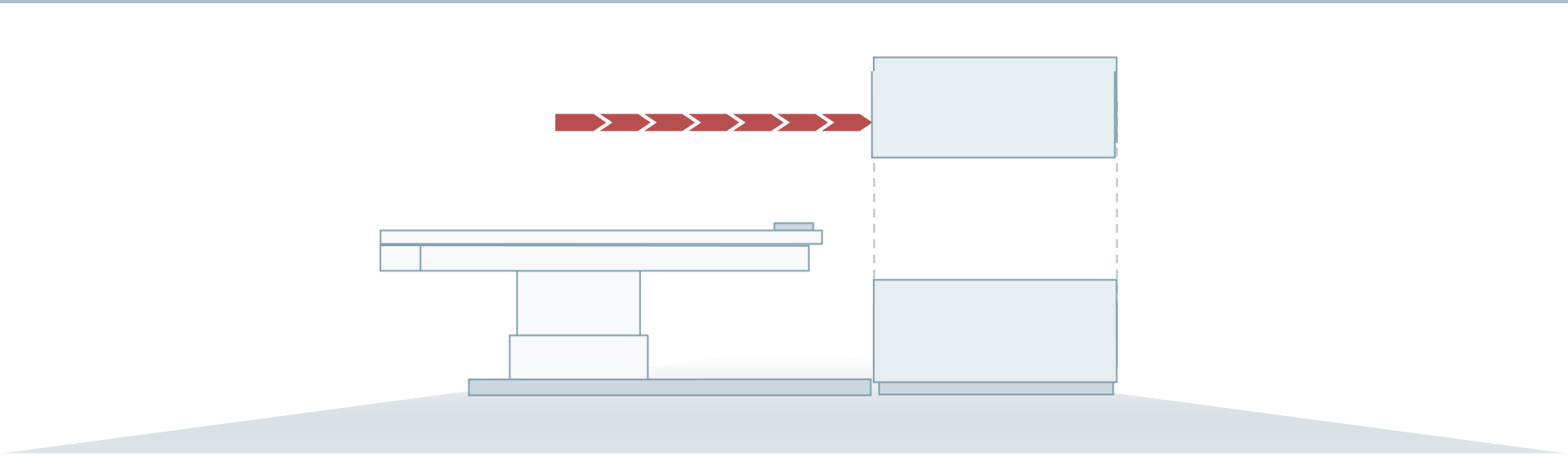
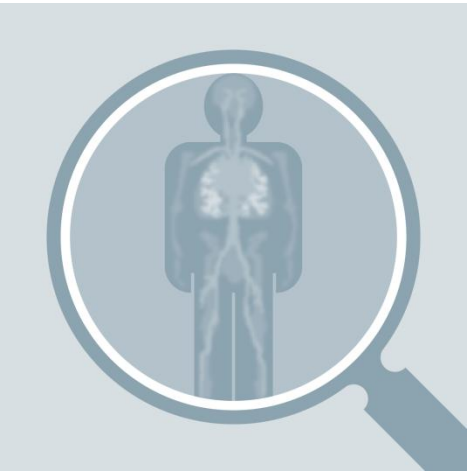
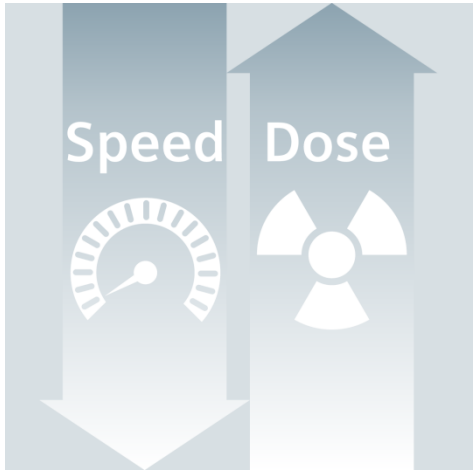
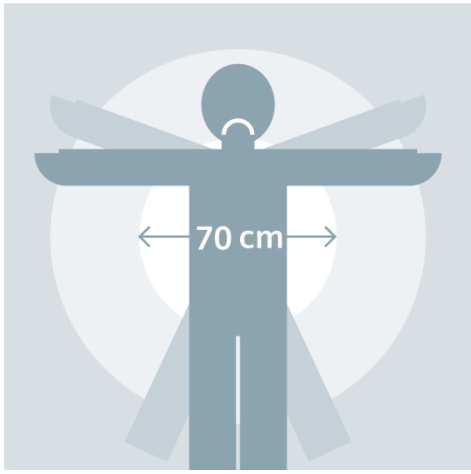
# Todayôs PET/CT Challenge

Stop-and-go can limit the critical aspects of PET imaging





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# Biograph mCT Flow

FlowMotion, the end of stop and go.

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# FlowMotion Dynamic Data Processing

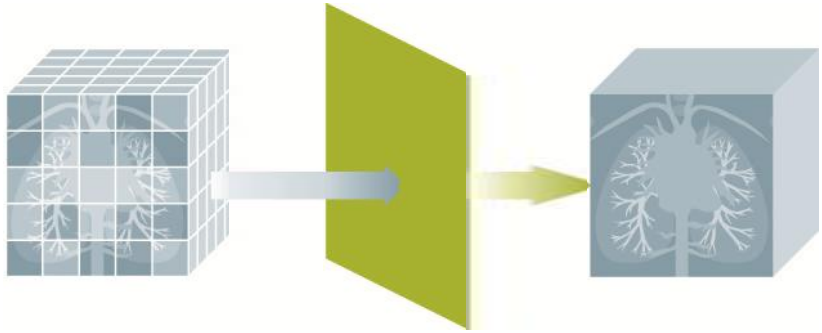
Line of response (LOR)-based normalization

## Conventional Correction

**Stop and Go Data Processing**

- Objects are static during acquisition
- Dead time and decay are corrected for each bed position

## FlowMotion Correction



**Dynamic Data Processing**

- Accounts for continuously moving object with changing decay, scatter and singles rates
- Employs a dynamic normalization coefficient for each continuously acquired line of response

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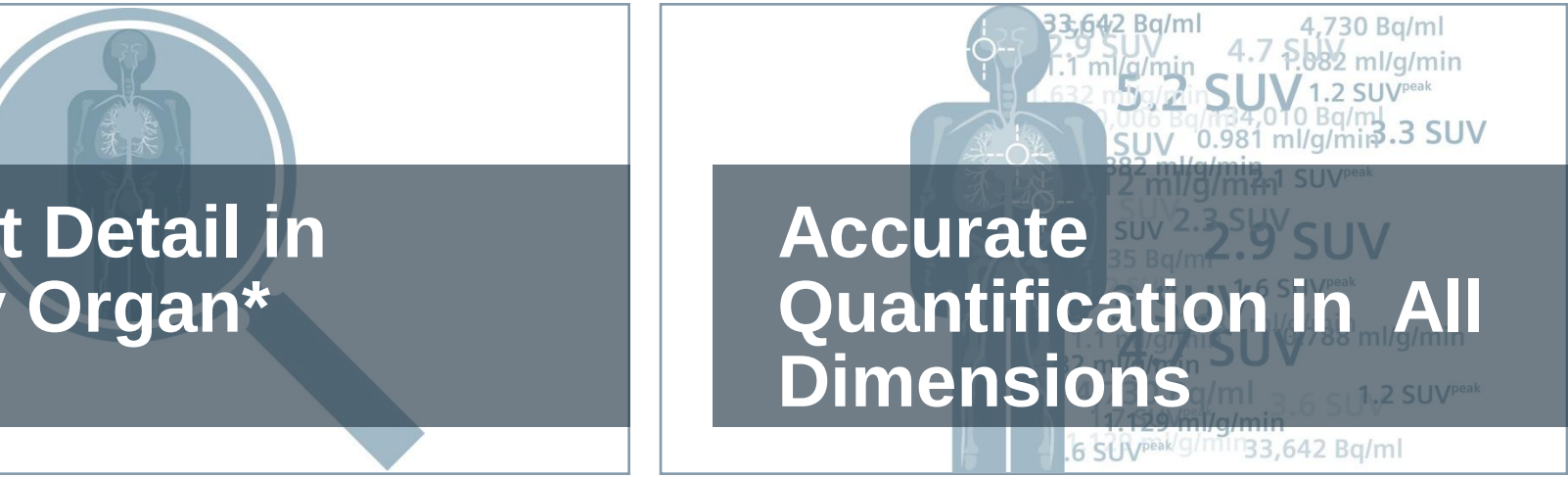
# Biograph mCT Flow

FlowMotion, the end of stop and go.

## Finest Detail in Every Organ*

## Accurate Quantification in All Dimensions




## Minimum Dose and Maximum Speed

## Open Comfort for All Patients**

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* Based on volumetric resolution of 87 $mm^3$. Based on competitive literature available at time of publication. Data on file.

** Patients up to 227 kg (500 lb).

# Biograph mCT Flow

FlowMotion, the end of stop and go.

## Finest Detail in Every Organ*

## Accurate Quantification in All Dimensions

## Minimum Dose and Maximum Speed

## Open Comfort for All Patients**

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* Based on volumetric resolution of 87 mm³. Based on competitive literature available at time of publication. Data on file.

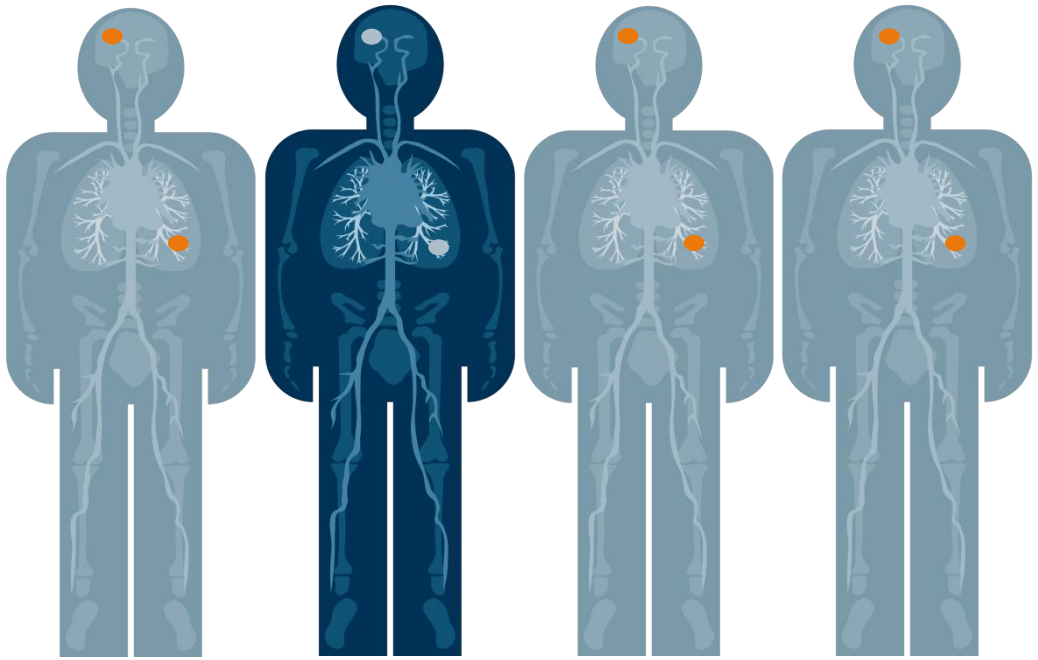
** Patients up to 227 kg (500 lb).

# With Today's Standard of Ca[illegible]
## Lesions May Go Undetected

**Although 1 in 4 cancers develop brain metastases,** the brain is not conventionally scanned**

# 40%

**Lung lesions may go undetected without respiratory gating***



* Garcia Vicente AM, et al. (18) F-FDG PET-CT respiratory gating in characterization of pulmonary lesions: approximation towards clinical indications. Ann Nucl Med. 2010 April 24 (3) 207-14

** Sloan-Kettering Cancer Center, About Metastatic Brain Tumors, Available at: www.mskcc.org/cancer-care/adult/brain-tumors-metastatic/about-metastatic-brai... Accessed on 5/26/2013

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# Needs: See Smallest Details, Delineated from the Background, for Every Organ, in Every Scan

Demand for **Increased Resolution**

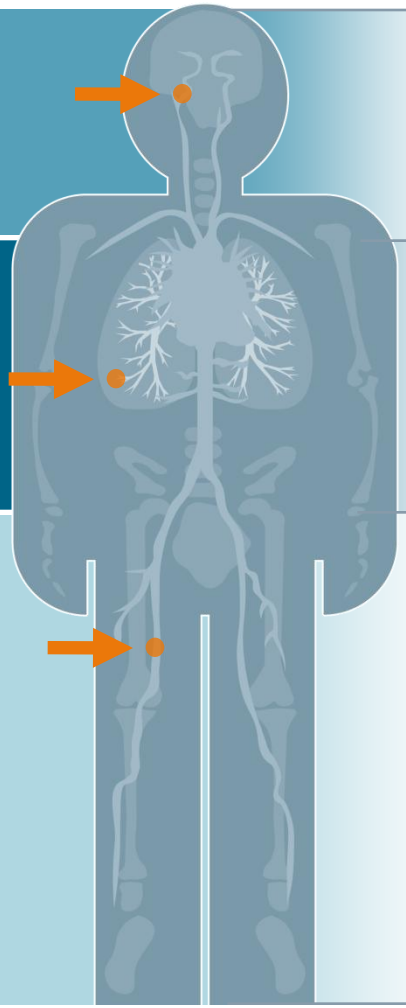
**Biograph mCT Flow innovation:**
OptisoHD | 400x400 | z-Sharp

Demand for **Reduced Motion**

**Biograph mCT Flow innovation:**
HDChest | Phase Gating | Phase Match

Demand for **Increased Contrast and fast Speed**

**Biograph mCT Flow innovation:**
ultraHD (TOF+PSF) | Dual Energy | FlowMotion



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# LSO crystals
## Address a broader range of indications

Everything starts with the smallest element, **the crystal**

- We are the only company to grow and individually select LSO crystals in house
- Compared to BGO crystals, ours scintillate faster and have a higher light output, **enabling better image quality and Time-of-Flight**[1]
- With LSO crystals you are able to use **all available PET/CT tracers for a broader range of indications**

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# LSO crystals

LSO properties match PET imaging needs better than BGO

## Scintillator crystal

| Property | Benefit | LSO | BGO |
|---|---|---|---|
| Density (g/cc) | Higher stopping power improves detection efficiency | **7.4** | 7.1 |
| Effective atomic number (Z) | Higher value improves scanner sensitivity | 65 | **73** |
| Decay time (nsec) | Shorter decay time improves system deadtime and randoms rejection, which reduces image noise and enables Time-of-Flight (ToF) | **40** | 300 |
| Relative light output (% of NaI) | Greater light output enables smaller crystals and finer spatial resolution | **75** | 15 |

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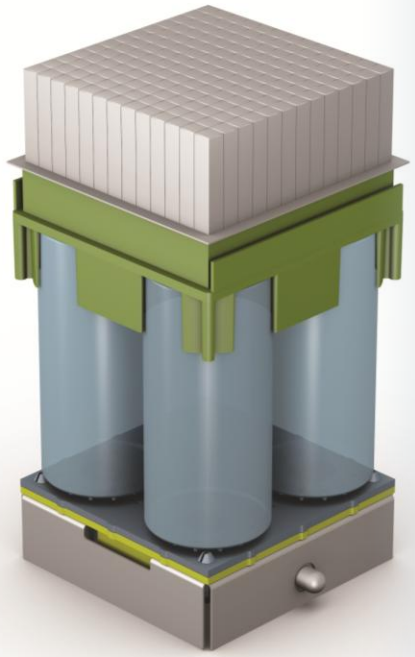
# OptisoHD Detection System

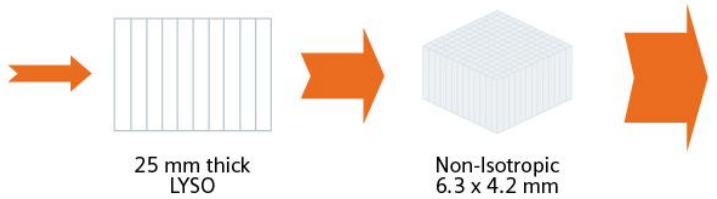
Industryôs finest volumetric resol



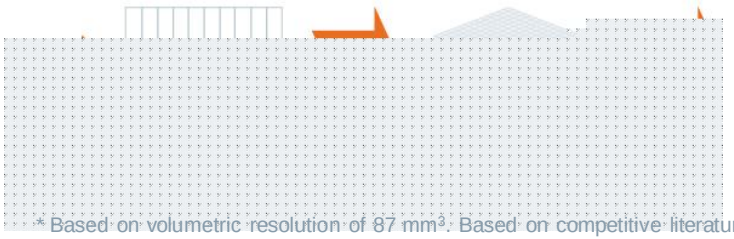
**OptisoHD**
**Detection System offers finest 87 mm³**

Biograph mCT Flow OptisoHD

Competitor 1




Competitor 2



* Based on volumetric resolution of 87 mm³. Based on competitive literature available at time of publication. Data on file.

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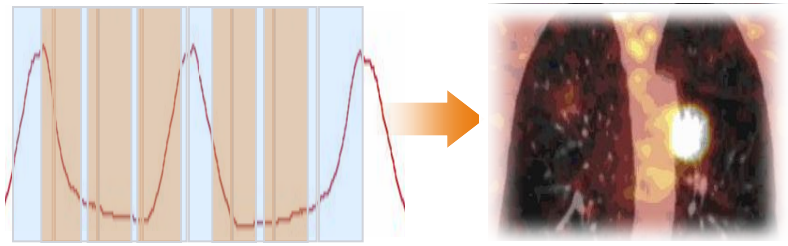
# One-Click Phase-Match Gating

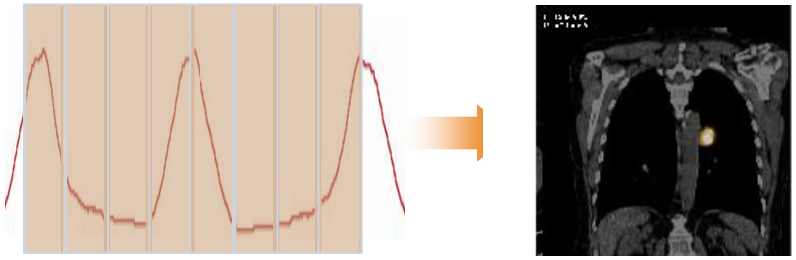
Phase matching for PET and CT respiratory or cardiac

## Conventional PET and CT-Matched Curve



- Unmatched PET and CT phases cause misregistration leading to quantification errors and image blurring
- Time-intensive manual workflow required to retrospectively match the two independent data sets

## One-Click Phase-Match Respiratory Curve



- Enables automatic accurate registration and quantification
- Improves reproducibility over manual phase registration
- Allows synchronized and fused visualization of PET and CT data

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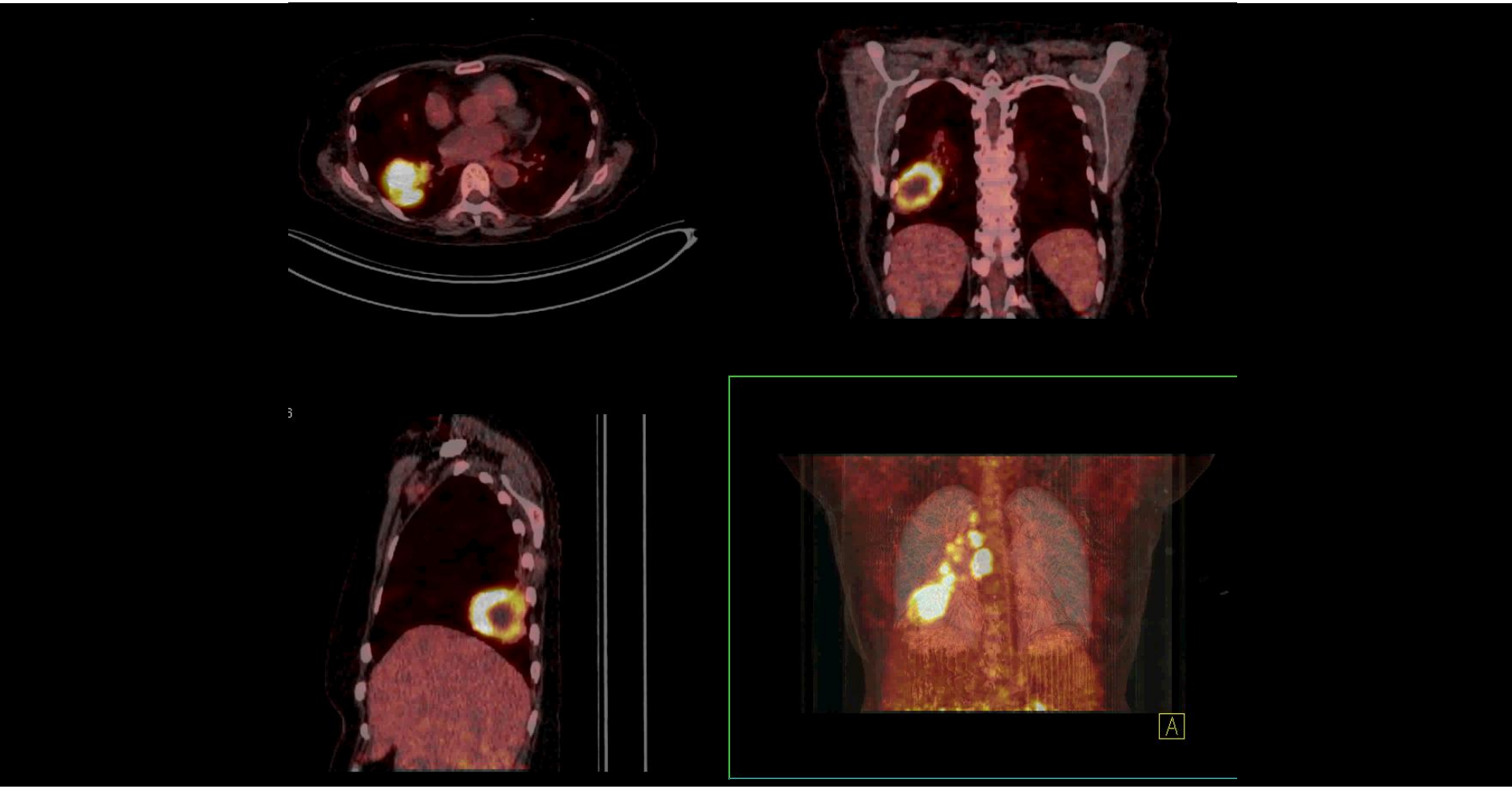
* Based on volumetric resolution of 87 $mm^3$. Based on competitive literature available at time of publication. Data on file.

Images courtesy of University of Michigan, Ann Arbor, MI, USA

# One-Click Phased-Matched Gating

Phase matching for PET and CT respiratory or cardiac



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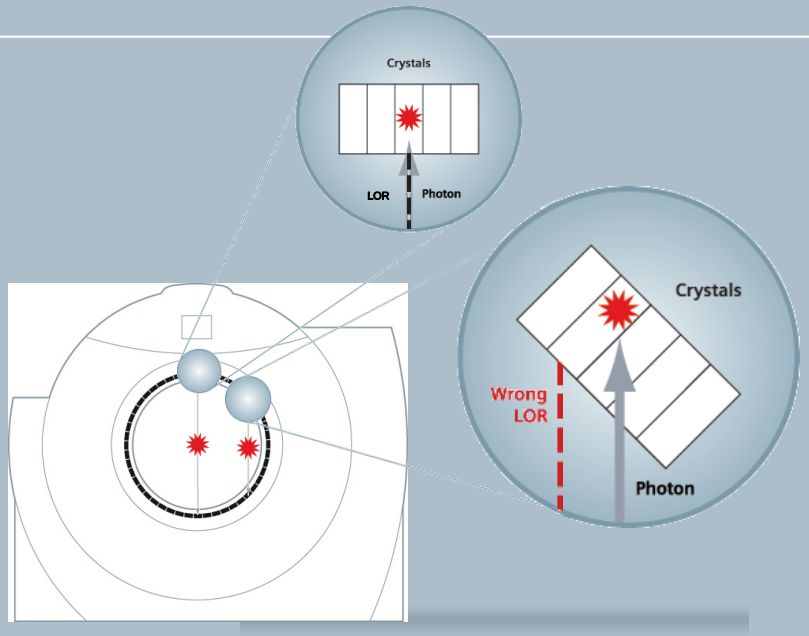
* Based on volumetric resolution of 87 $mm^3$. Based on competitive literature available at time of publication. Data on file.

Image courtesy of University of Tennessee, Knoxville, TN, USA

# Experience Full Resolution

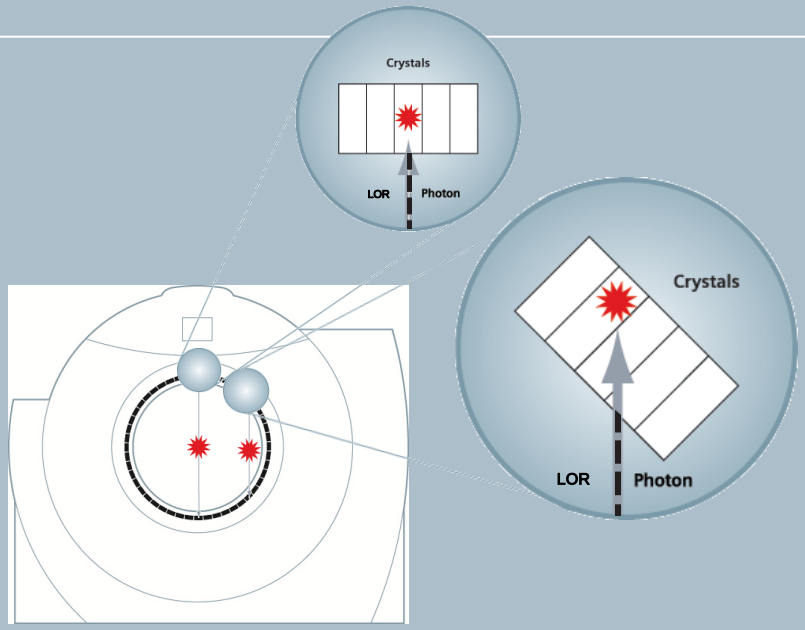
## HDÅPET technology

### Conventional PET




- An average point spread function (PSF) is used for calculations
- System draws the wrong line of response (LOR) due to depth of interaction

### HDÅPET




- A spatially variant PSF is used for calculations
- System corrects the LOR because of a better understanding of the PSF

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# Experience Full Resolution

HDÅPET more accurately locates the

## Conventional PET

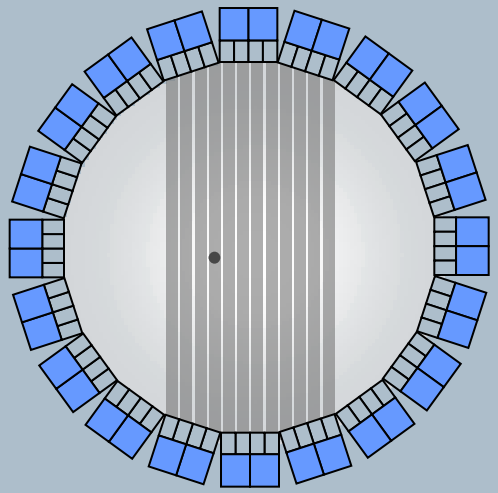
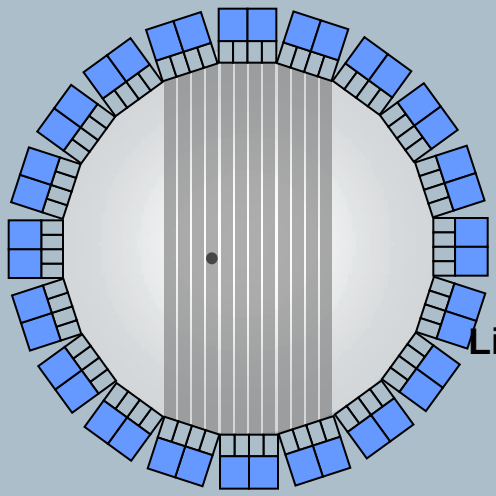


Image Space Lines of Response

- Conventional PET records the lines of response for each angle and plane of the object

## HDÅPET



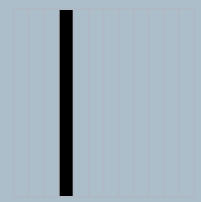


Image Space Lines of Response

- HDÅPET more accurate LOR using measured point spread functions in the reconstruction

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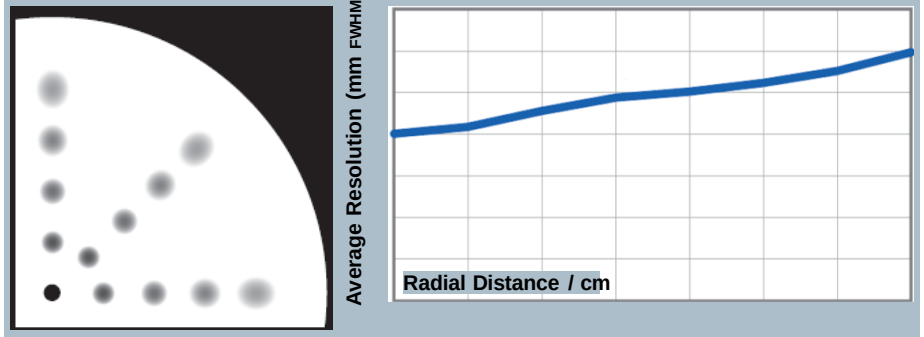
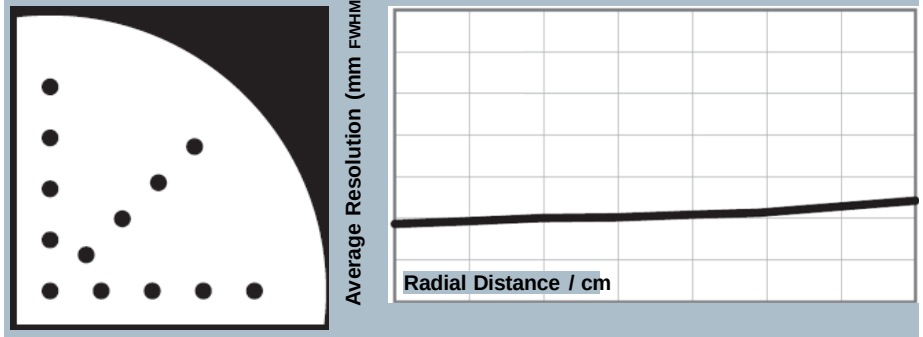
# Experience Full Resolution
H D Å P E T

## Conventional PET




- PET resolution is lost in the geometry of the detector
- Resolution decreases moving from center to periphery of FOV

## H D Å P E T




- H D Å P E T i mp r o v e s r e s o
- Uniform resolution throughout the FOV
- 2x improved signal to noise

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# Experience Full Resolution
HDÅPET

## Conventional PET

- The resolution degrades as you move from the center of the FOV

## HDÅPET

- Recovers the lost resolution moving away from the center, providing near uniform resolution across the FOV

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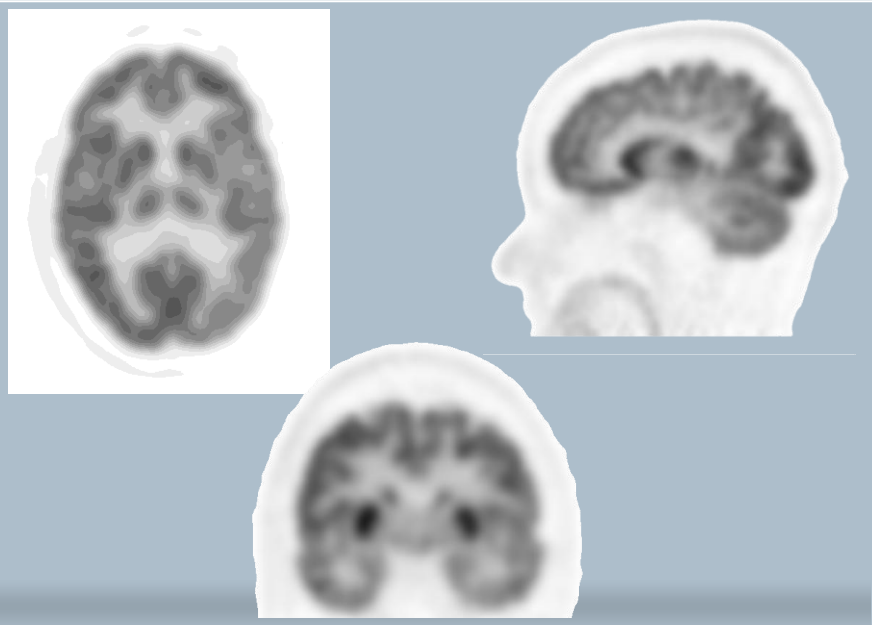
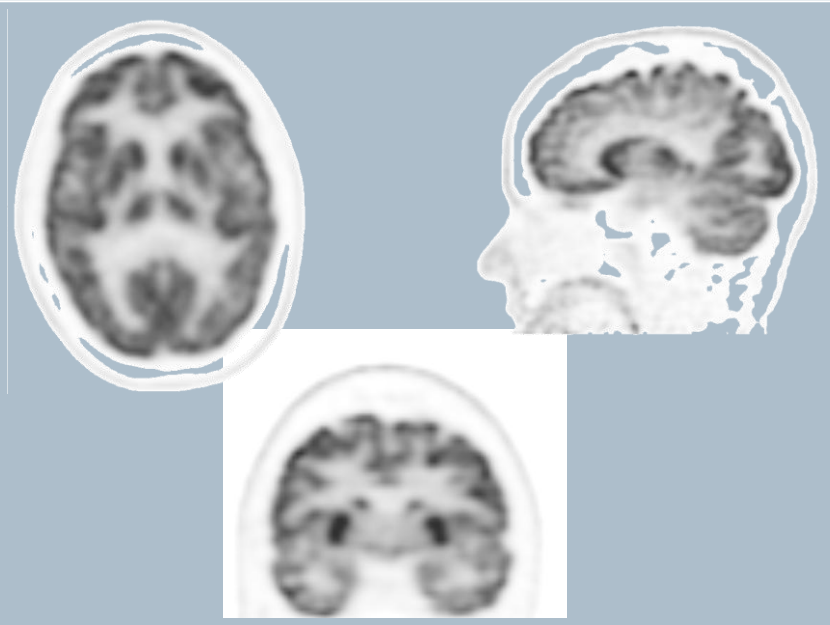
# Experience Full Resolution
HDÅPET

## Conventional PET



Á Conventional HI-REZ reconstruction demonstrates good spatial resolution and image contrast

## HDÅPET



Á HDÅPET demonstrates improved image quality with uniform resolution and image contrast enhancement

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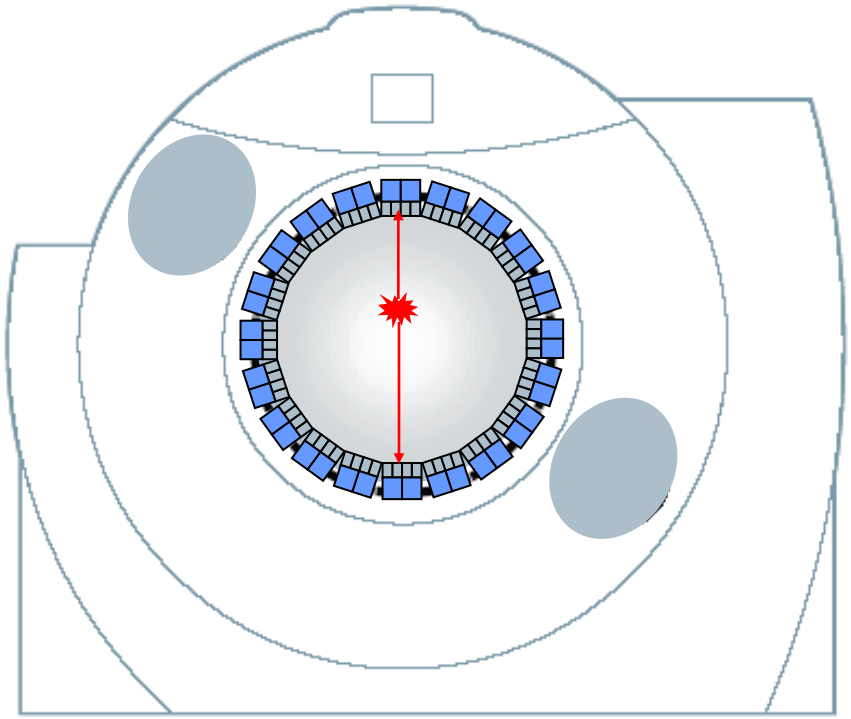
# Change the whole picture

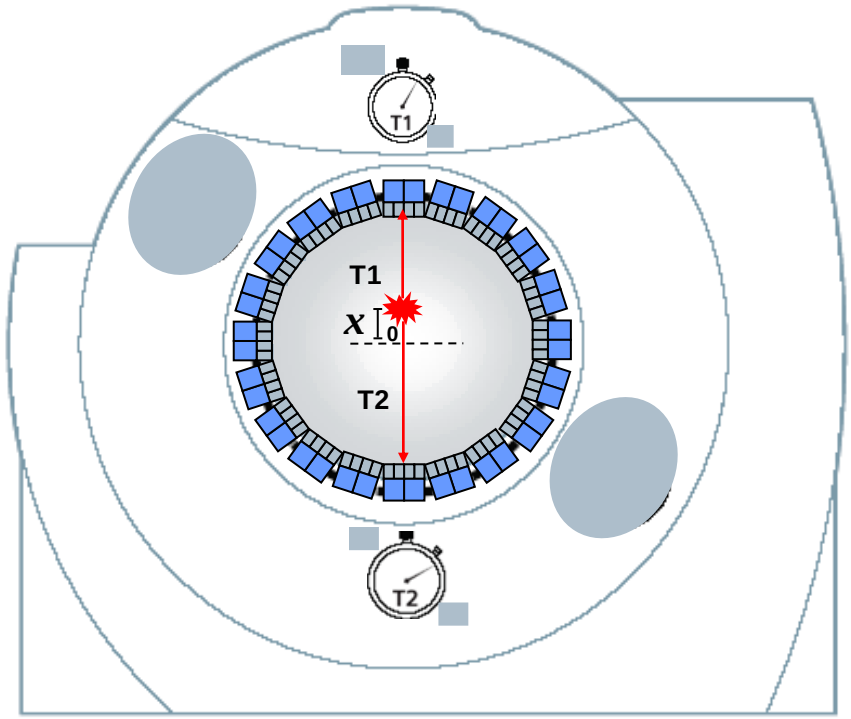
H D Å P E T

## Conventional



No timing information

## TOF




Timing information

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# Experience Full Resolution Time of Flight

## Conventional

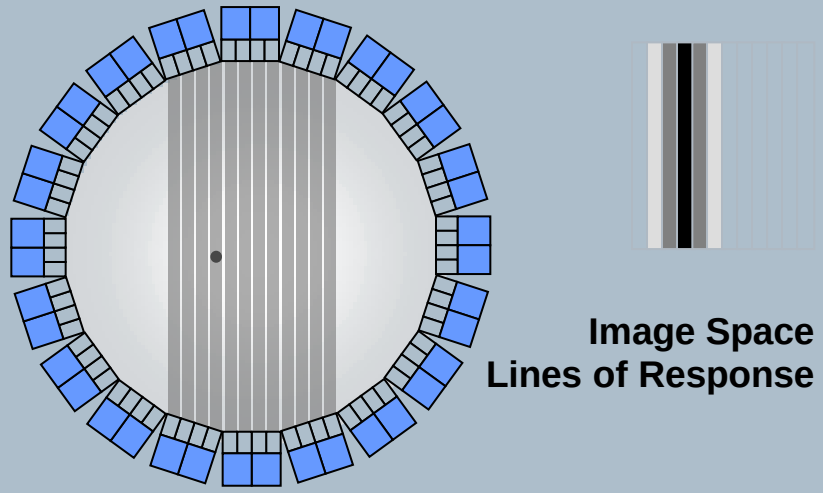
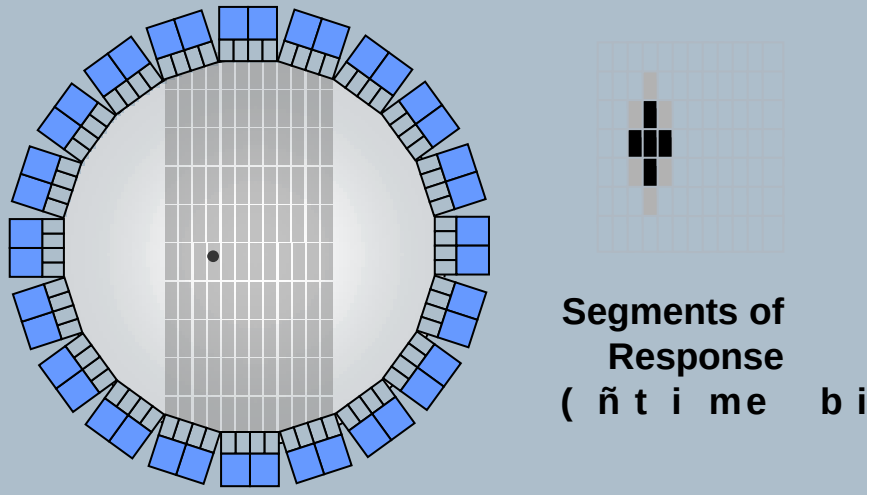


Image Space
Lines of Response

- Records lines of response for each angle and plane of object
- Actual annihilation point not measured

## TOF



Segments of
Response
( ñ t i me b i

- Accurately locates annihilation along the line of response

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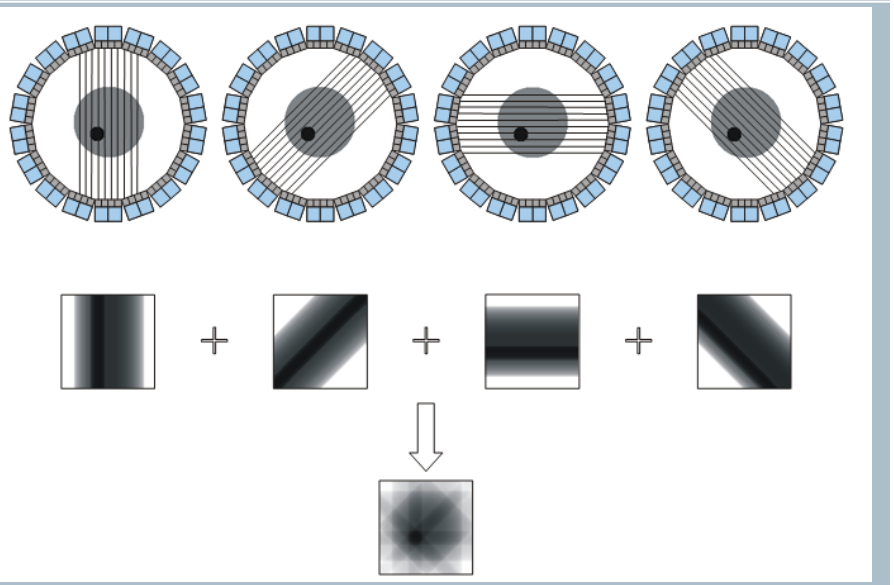
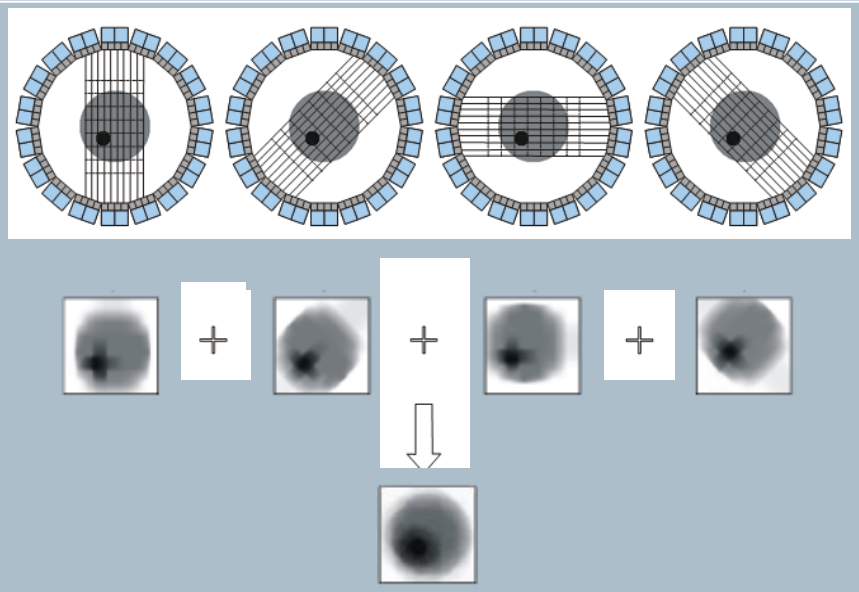
# Experience Full Resolution Time of Flight

## Conventional



- LOR projections are summed together
- The resulting image is a rough approximation of the real image with noticeable blurring

## TOF



- Projections are organized in time bins along each LOR
- The result is better estimation of the actual image with much less blurring (noise)

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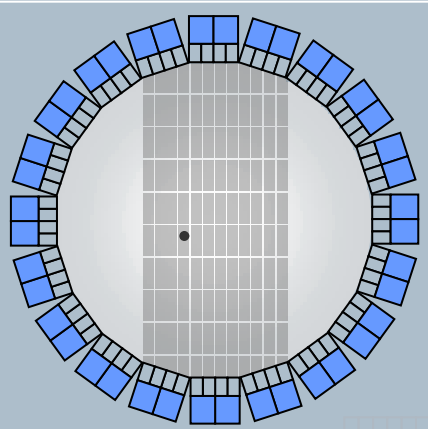
# UltraHDÅPET
## HDÅPET + Time of Flight

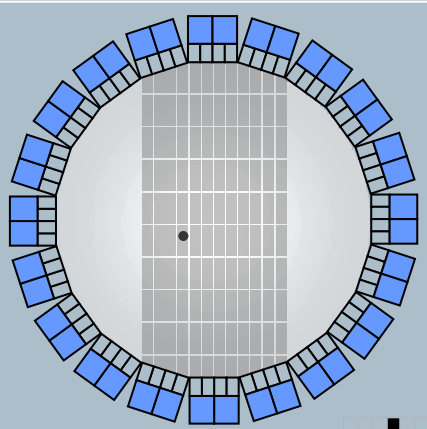
### TOF



Segments of response
( ñtime binsò)

- Accurately locates the annihilation along the line of response

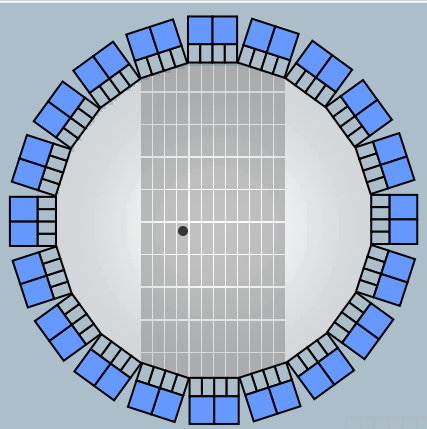
### HD



Segments of response
( ñtime binsò)

- Accurately locates the annihilation along the line of response

### ultraHDÅPET



Segments of response
( ñtime binsò)

- ultraHDÅPET reduces blurring of the signal from all axis

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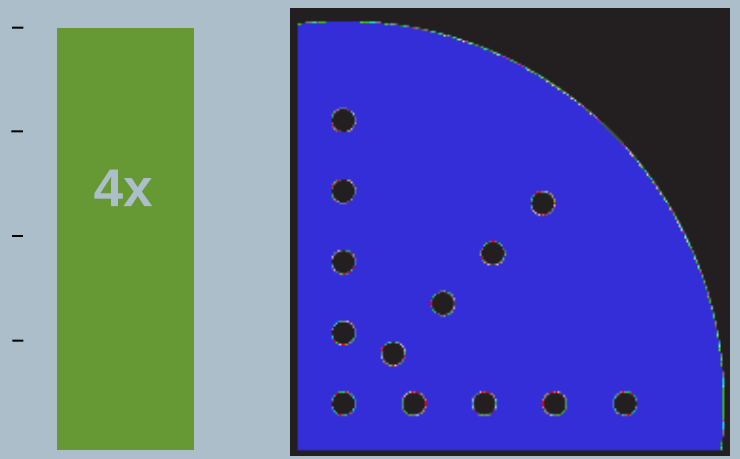
# UltraHDÅPET
## HDÅPET + Time of Flight

### Conventional PET

- PET resolution is lost in the geometry of the detector
- Resolution decreases moving from center to periphery of FOV
- Conventional 1x signal to noise

### ultraHDÅPET




- ultraHDÅPET improves the resolution
- Uniform resolution throughout the FOV
- 4x improved signal to noise

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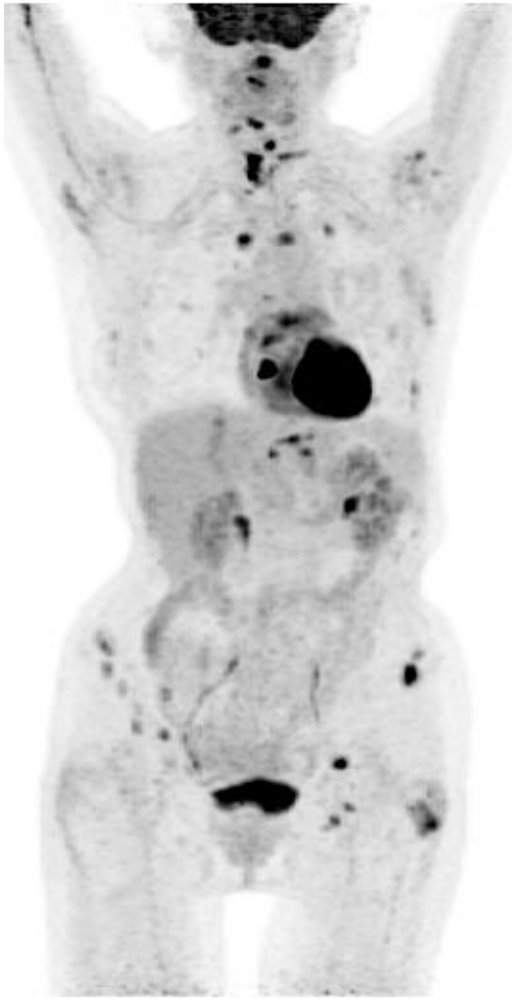
# Biograph mCT Flow
Finest detail in every organ*



## Breast Cancer

10.2 mCi FDG

106 lbs/ 48 kg female

Bed speed 1.5 mm / s

91 cm total scan range

10 min total acquisition time

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* Based on volumetric resolution of 87 mm3. Based on competitive literature available at time of publication. Data on file.

Image courtesy of University of Tennessee, Knoxville, TN. Patient UT0018.

# Biograph mCT Flow
Clarity in a single scan

## Conventional

## HD Å Chest and 400x400

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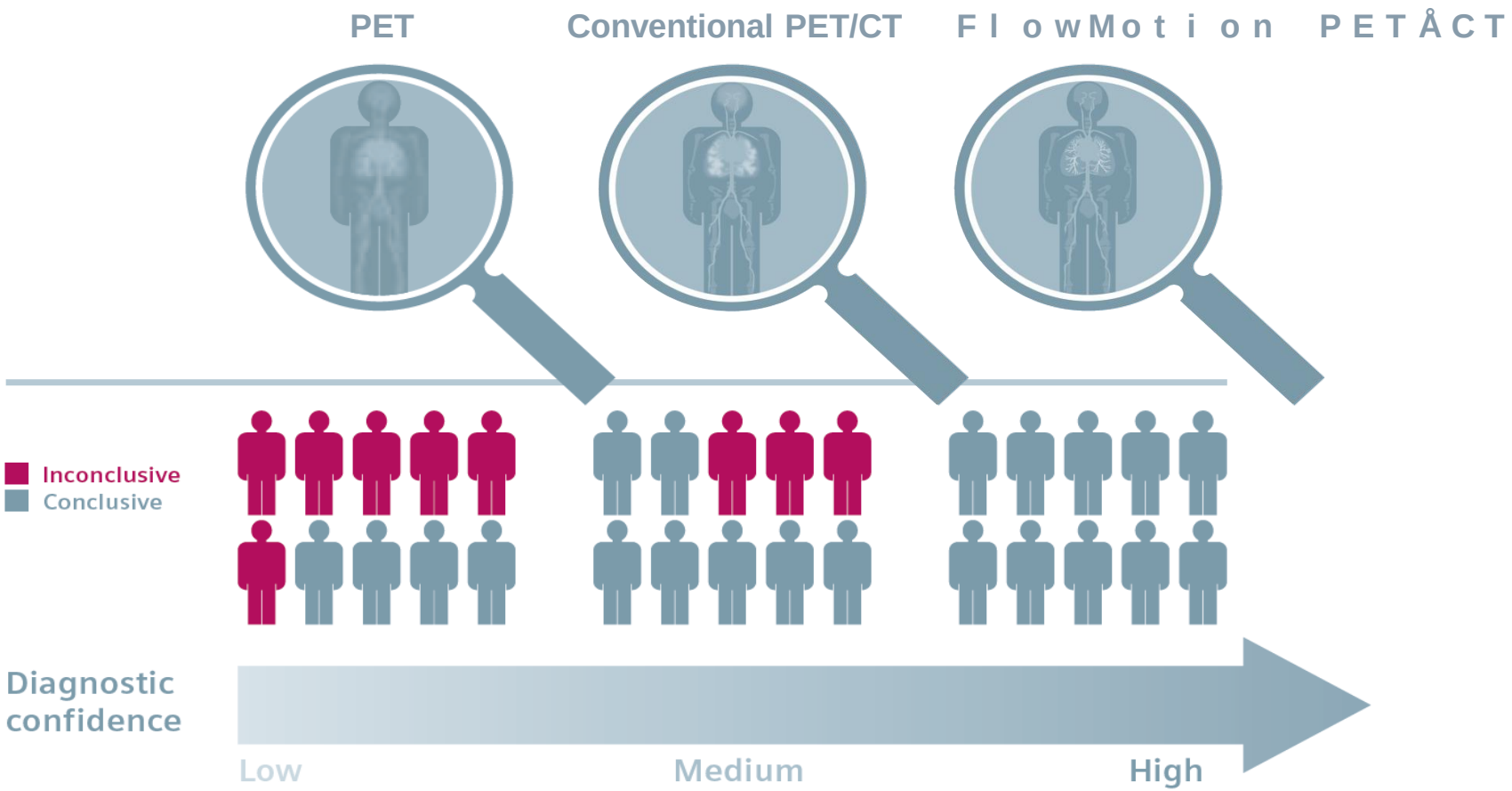
Image courtesy of University of Tennessee, Knoxville, TN, USA

# Finest Detail in Every Organ*
# Can Improve Diagnostic Confidence

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* Based on volumetric resolution of 87 mm³. Based on competitive literature available at time of publication. Data on file.

# Finest Detail in Every Organ
## Key benefits

- 5-year survival for NSCLC can double with early detection, benefiting up to 85% of lung cancer patients.* Integration of motion management may improve lesion detection.
- Improved accuracy can change treatment in 40% of HN cases.* Hi-Rez improves resolution and may improve detection.

- Single scan protocol with motion management reduces scan time per patient up to 25%**
- Improved visualization may enable shorter interpretation time and reduce over-reads

- Finest image detail*** may improve detection, limiting exposure to costly malpractice
- Improved diagnostic accuracy may reduce costly rescans and additional follow-up examinations (e.g., CT)

*** Based on volumetric resolution of 87 mm³. Based on competitive literature available at time of publication. Data on file.

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* Fangfang Chao and Hong Zhang, "PET/CT in Small Cell Lung Cancer," Journal of Biomedicine and Biotechnology, Article ID 783739, 8 pages, 2012. doi:10.1155/2012/783739.

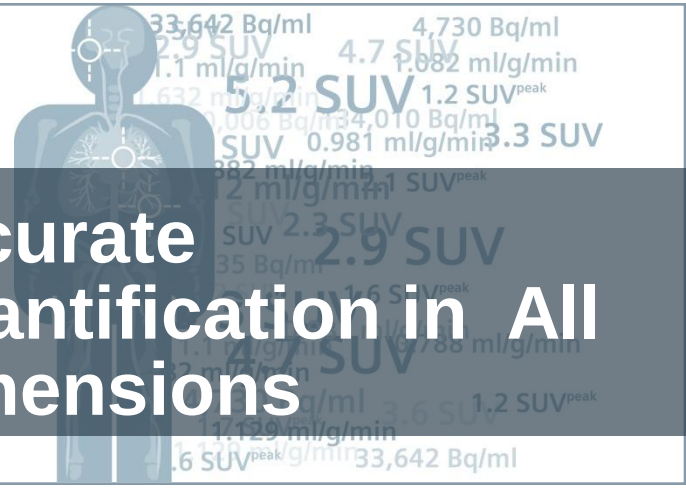
** Yamamoto Y, et al. "Head and Neck Cancer: Detection Phantom and Initial Clinical Studies."

# Biograph mCT Flow

FlowMotion, the end of stop and go.

## Finest Detail in Every Organ*

## Accurate Quantification in All Dimensions




## Minimum Dose and Maximum Speed

## Open Comfort for All Patients**

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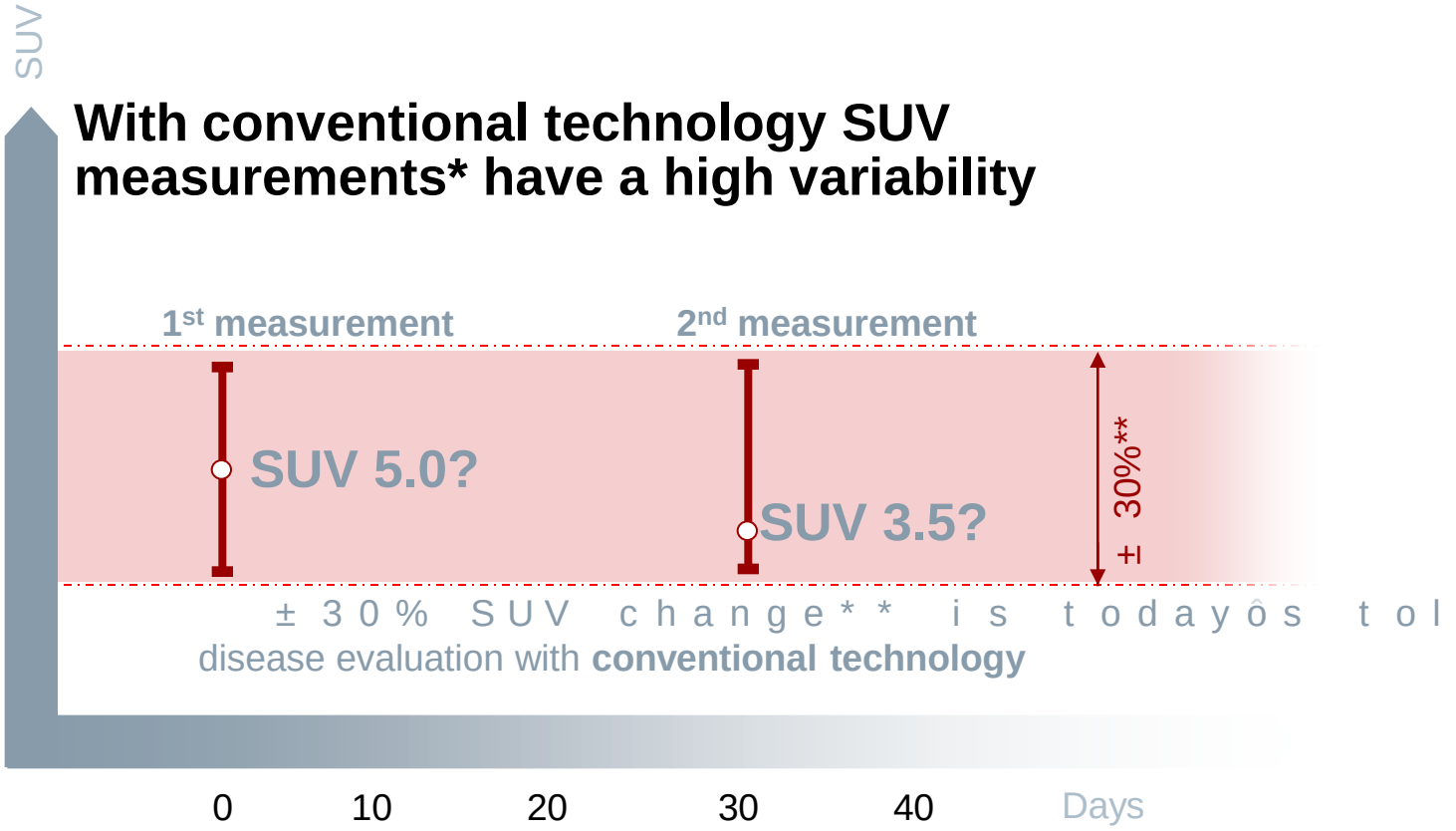
* Based on volumetric resolution of 87 $mm^3$. Based on competitive literature available at time of publication. Data on file.

** Patients up to 227 kg (500 lb).

# The Challenge with Stop-and-Go

Limited reliability of SUV value for follow-up assessment

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* Measurements are representative of FDG in solid tumors

** 122 S J Nucl Med Å Vol. 50 Å No. 5 (Suppl) Å

# Biograph mCT Flow
Accurate quantification in all dimensions

Quality Control

Conventional

Quality Control | Registration | Noise Uniformity

Biograph mCT Flow

Quality Control | Registration | Noise Uniformity

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# Quanti ÅQC

## Daily system calibration and normalization

**Conventi**

- Conventional scanners drift after each day
- Line source quality control only
- SUVs become more inaccurate over time

- **Biograph mCT Flow can be automatically calibrated and normalized each night with a phantom to prevent drift**
- **Ensures daily accuracy and reproducibility of SUVs**

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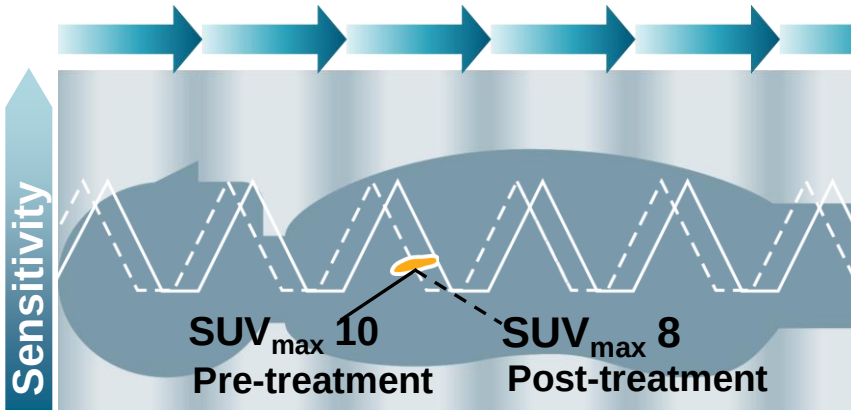
# Accurate Quantification in All Dimensions

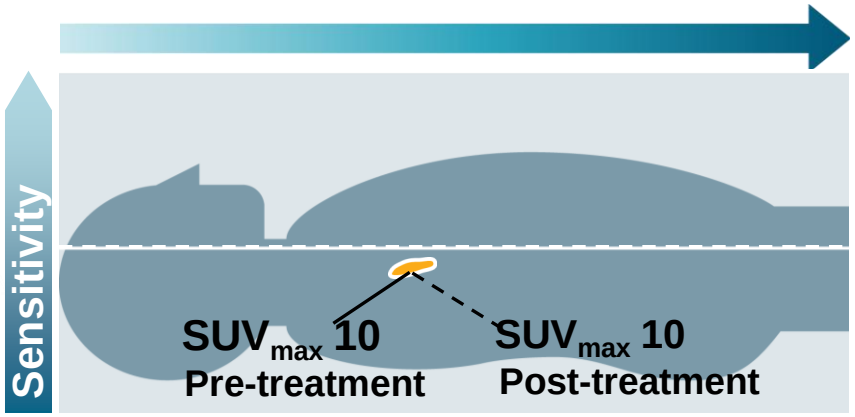
FlowMotion whole-body uniformity

## Conventional Stop and Go




- PET detector geometry exhibits sensitivity variation from the center to the edge of the axial field of view
- Insufficient overlap creates varying axial noise profile resulting in non-uniform quantitative measurements*

## FlowMotion




- Improved axial noise uniformity for accurate quantification from edge to edge making bed overlap irrelevant
- Improved reproducibility may impact follow-up and therapy monitoring
- Improved quantification may provide increased confidence in interpretation

* Lodge, et al. Noise considerations for PET quantification using maximum and peak standardized uptake value. JNM 2012; 53(7) 1041-1047.

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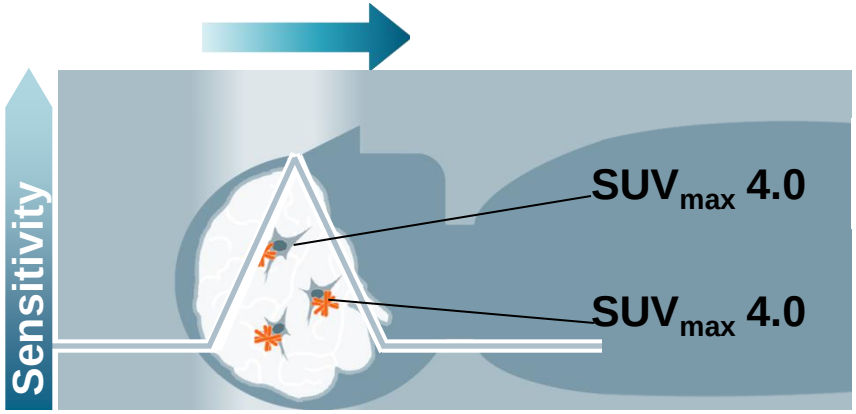
# Accurate Quantification in All Dimensions

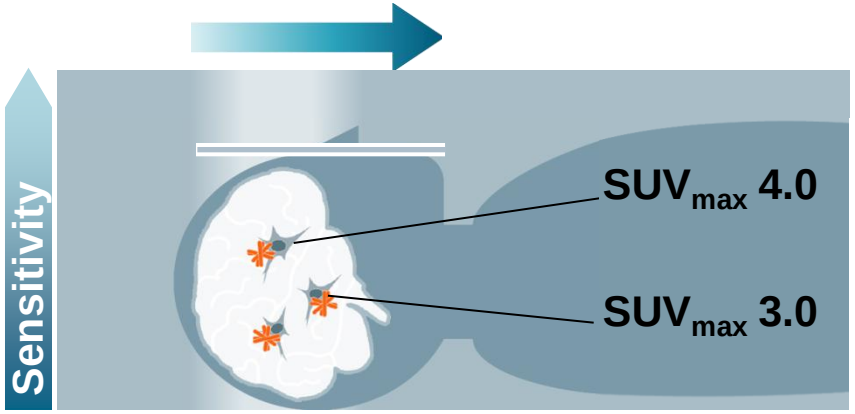
FlowMotion single-bed uniformity

## Conventional Single Bed




- Single bed scans have noisy edge planes resulting in $SUV_{max}$ variability for structures near the edge
- Decrease in accuracy may lead to less confidence in interpretation

## FlowMotion




- Noise uniformity provides quantitative accuracy as well at the end the planes, e.g., for Amyloid brain scans
- Accurate quantification may lead to increased confidence in interpretation of structures in the end planes

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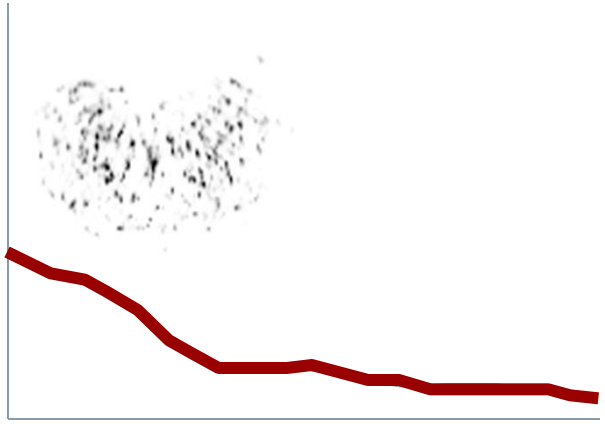
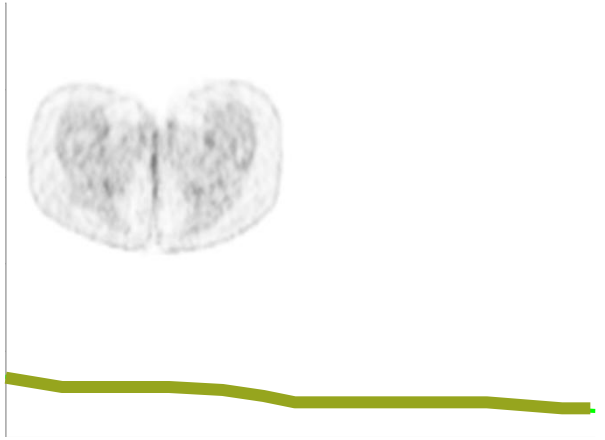
# FlowMotion
Improves noise uniformity and accuracy

## Conventional PET/CT $SUV_{max}$




- Bed-based imaging relies on sufficient overlap to maintain good noise uniformity
- Increased noise reduces accuracy of $SUV_{max}$ where bed overlap is not sufficient and at end planes

## FlowMotion $SUV_{max}$




- FlowMotion improves noise uniformity from end to end
- Bed overlap is no longer relevant
- Increased axial noise uniformity expands accuracy from edge to edge

Images courtesy of University of Tennessee, Knoxville, TN, USA.

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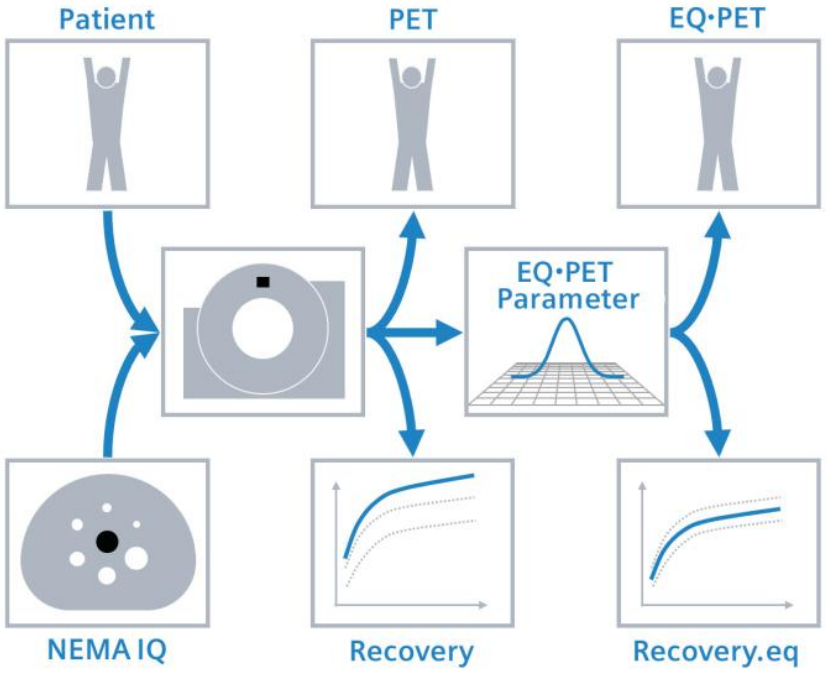
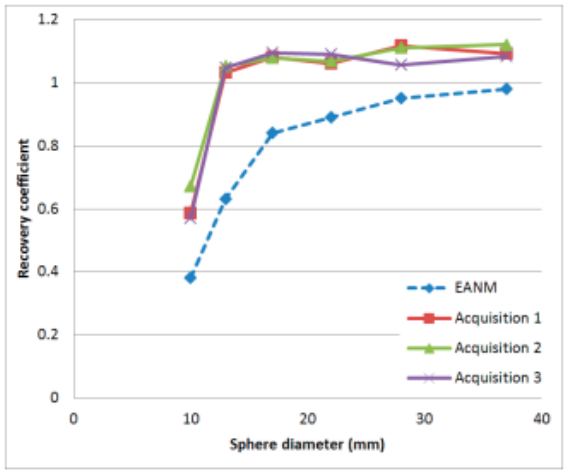
# EQ.PET
## Improving accuracy of SUV comparison

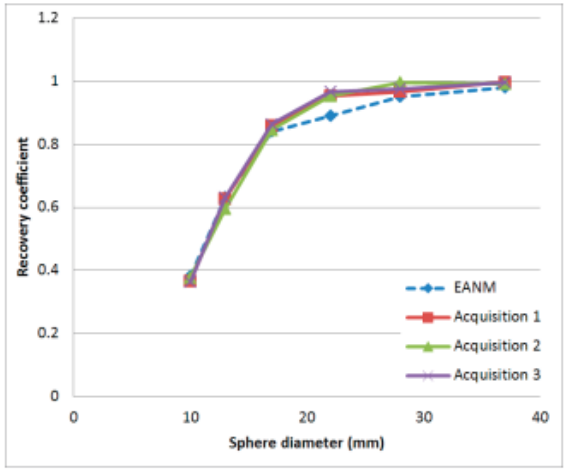


| | | | | EQ Parameter = 0 mm | | EQ Parameter = 6.5 mm | |
|---|---|---|---|---|---|---|---|
| Sphere diameter | EANM target recovery | True AC (kBq.ml-1) | EANM target AC (kBq.ml-1) | Measured AC (kBq.ml-1) | % diff. vs. EANM AC | Measured AC (kBq.ml-1) | % diff. vs. EANM AC |
| 10 mm | 0.38 | 18.70 | 7.11 | 10.73 | 50.9 % | 6.43 | -9.6 % |
| 13 mm | 0.63 | 18.70 | 11.78 | 19.50 | 65.6 % | 11.76 | -0.2 % |
| 17 mm | 0.84 | 18.70 | 15.71 | 23.13 | 47.2 % | 16.73 | 6.5 % |
| 22 mm | 0.89 | 18.70 | 16.64 | 23.89 | 43.6 % | 18.01 | 8.2 % |
| 28 mm | 0.95 | 18.70 | 17.77 | 22.04 | 24.0 % | 17.65 | -0.7 % |
| 37 mm | 0.98 | 18.70 | 18.33 | 22.86 | 24.7 % | 18.59 | 1.4 % |
| Mean absolute % difference vs. EANM target: | | | | 42.7 % | | 4.4 % | |

A Conventional Recovery Coefficients




B Recovery Coefficients with EQ•PET Harmonization




Images courtesy of University of Tennessee, Knoxville, TN, USA.

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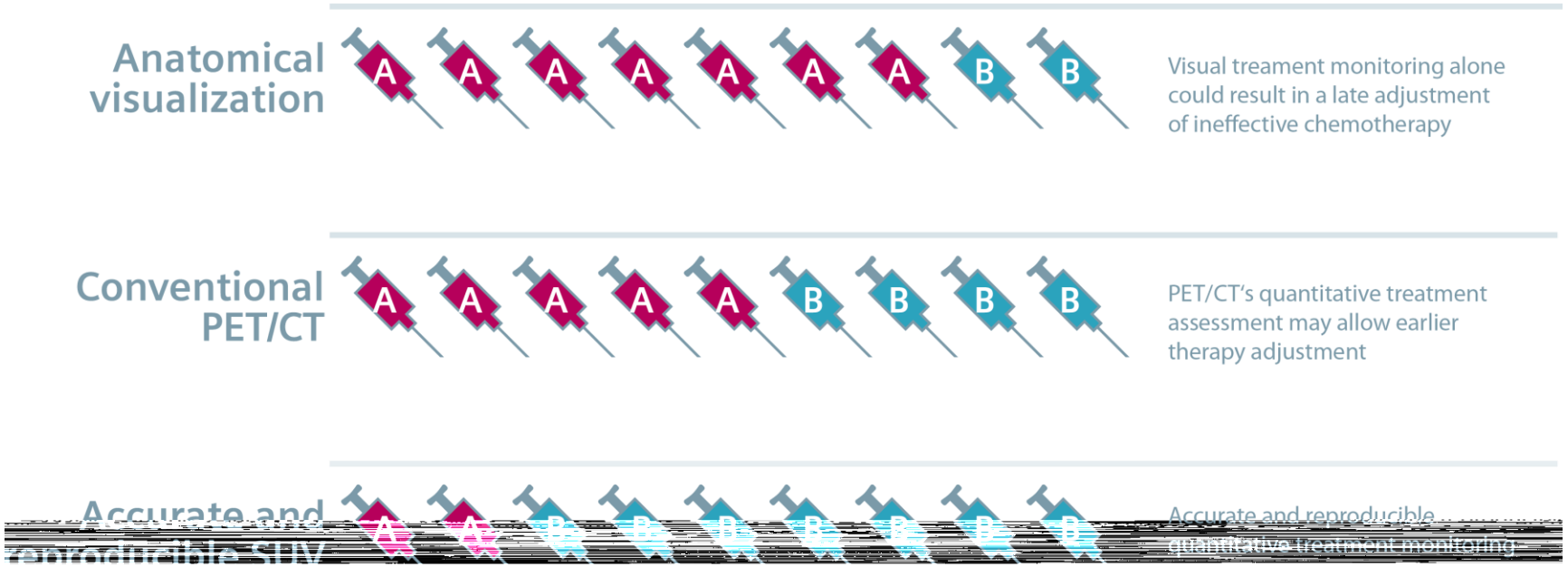
# Accuracy Enables Early Adjustment of Therapy

Saves patients from unnecessary cost and side effects

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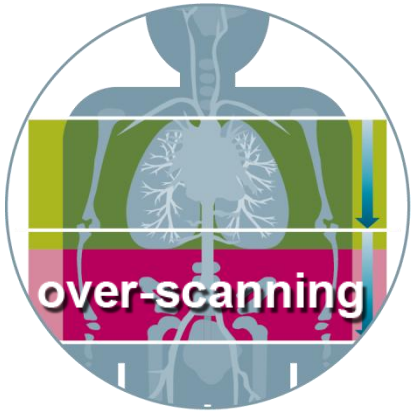
High Price of Cancer Drugs Is Harming Patients. Medscape Medical News Web site. http://www.medscape.com/viewarticle/803415. Accessed May 10, 2013.

# FlowMotion
Eliminating over-scan while improving efficiency

## Conventional PET/CT




Stop-and-go over-scanning

- Sequential bed dimensions often force PET and CT to expose an area beyond what is needed

## FlowMotion

Precise scan range

- Precise planning ensures only the targeted tissue is irradiated, eliminating over-scanning

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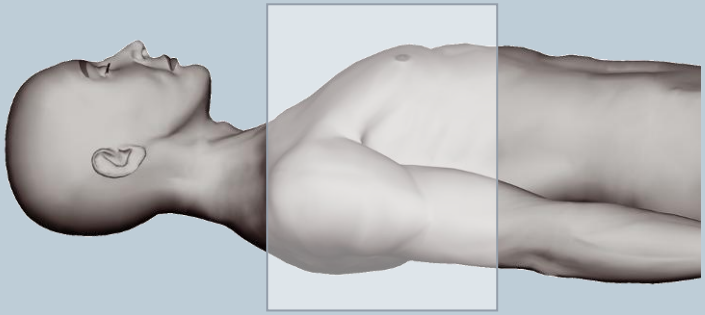
# CARE Dose4D and CARE kV

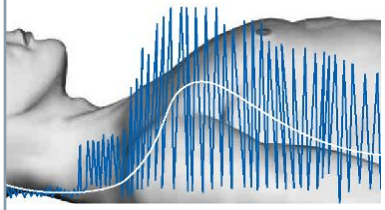
Real-time dose modulation and automated kV setting



Dose relevant scan parameters

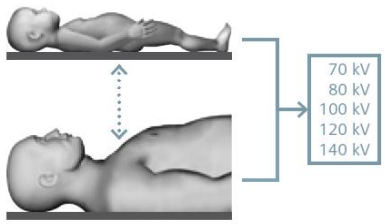
- Effective mAs and kV
- Patient's body habitus
- Pitch and scan time are dose-neutral

## CARE Dose4D



- mA modulation introduced in the mid 90s
- Real-time modulation is key for full dose-saving

## CARE kV




- Automated kV selection based on habitus and exam
- Automated calculation of other parameters

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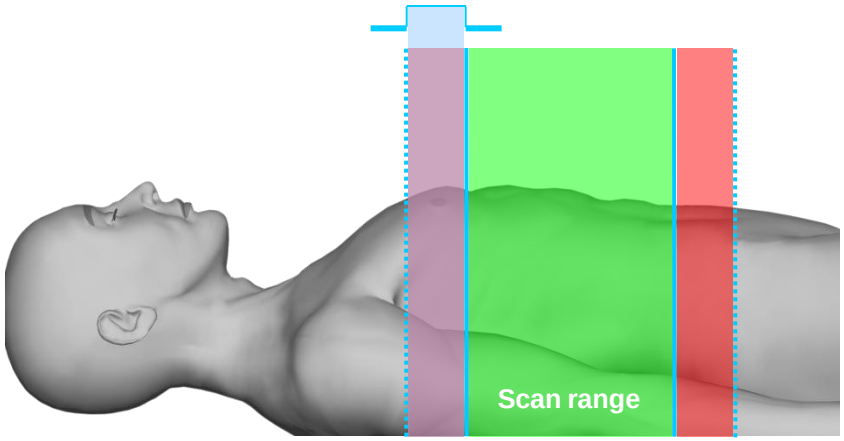
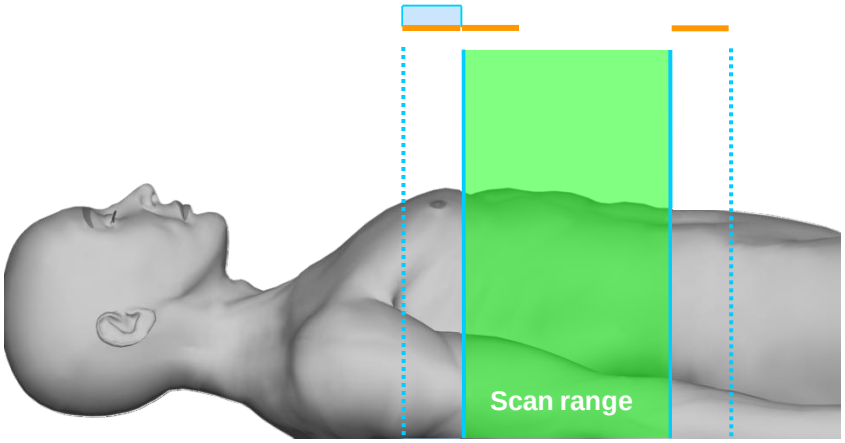
# Adaptive dose shield
Eliminating unneeded CT dose

## Conventional Spiral Scan without Dose Shield




## Biograph mCT Flow with Adaptive Dose Shield

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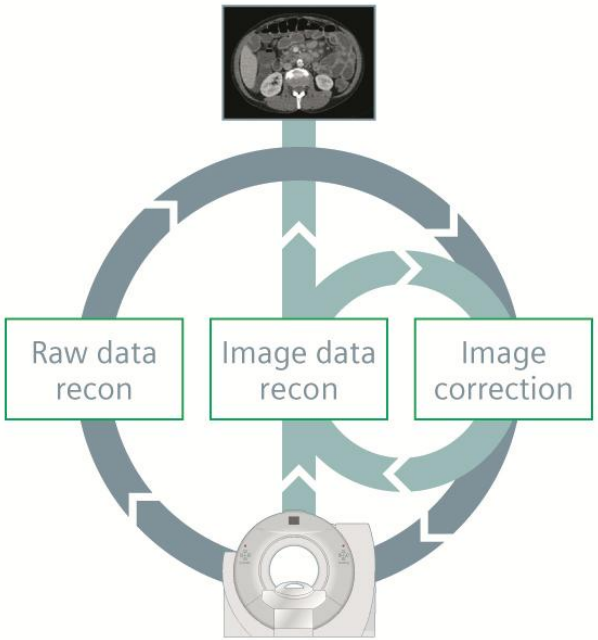
# Sinogram Affirmed Iterative Reconstruction

SAFIRE: First raw-data-based iterative reconstruction

Up to

**60%***




More powerful dose and artifact reduction than image-based methods

- Ready for clinical routine with fast image reconstruction performance of up to 20 ips
- SAFIRE allows up to 60% dose reduction in a wide protocol range
- Enables 72% of all protocols below 2.4 mSv
- Provides excellent image quality

* In clinical practice the use of SAFIRE may reduce CT patient dose depending on the clinical task, patient size, anatomical location, and clinical practice. A consultation with a radiologist and a physicist should be made to determine the appropriate dose to obtain diagnostic image quality for the particular clinical task.

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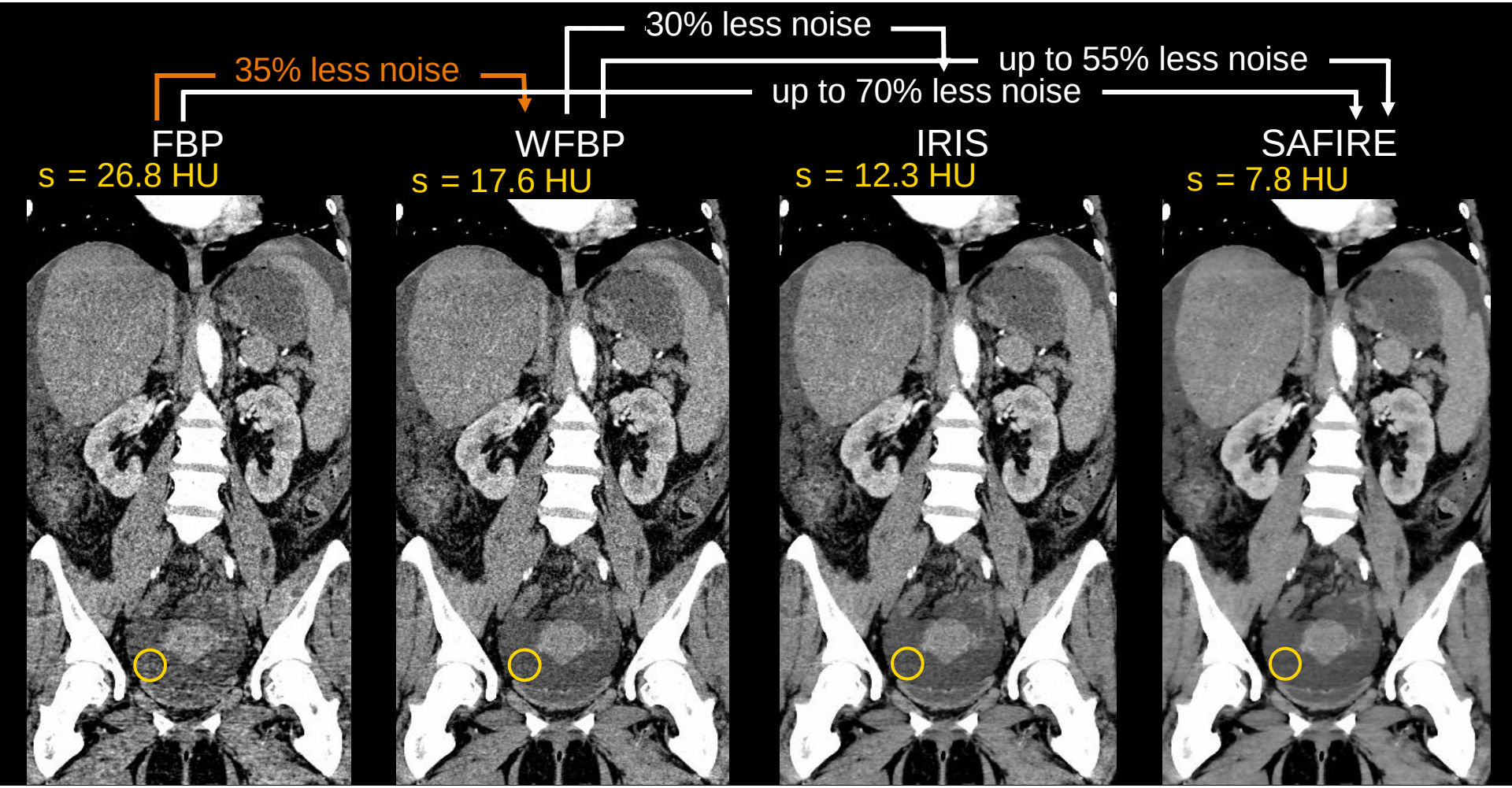
** Dose reduction potential was determined by lowering dose by 60% and reconstructing with SAFIRE. Noise, CT numbers, homogenity, low-contrast resolution and high contrast resolution were assessed in a Gammex 438 phantom. Low dose data reconstructed with SAFIRE showed the same image quality compared to full dose data based on this test. Data on file.

# Methods of Iterative Reconstruction

## SAFIRE dose reduction potential

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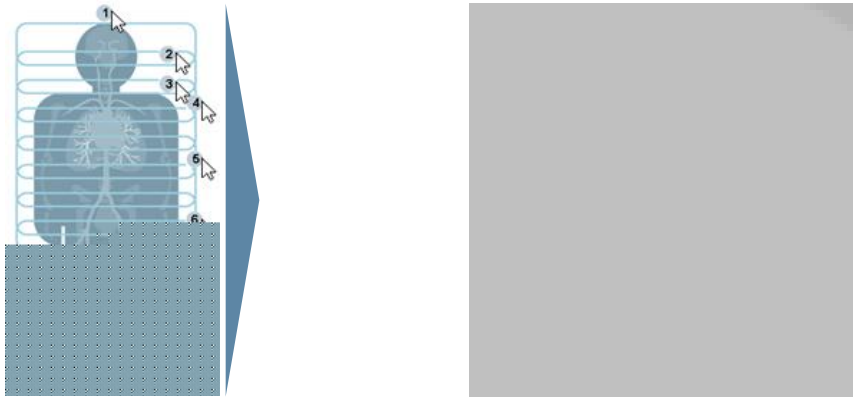
* In clinical practice the use of SAFIRE may reduce CT patient dose depending on the clinical task, patient size, anatomical location, and clinical practice. A consultation with a radiologist and a physicist schould be made to determine the appropriate dose to obtain diagnostic image quality for the particular clinical task.

# FlowMotion

CT-like planning with FlowMotion enables fast set-up

## Conventional PET/CT



Complex bed position planning

## FlowMotion

One-click FAST planning

- Setting up individual parameters for each bed position is a tedious and prolonged process that lowers operator efficiency

- Eliminates complexity of configuring and adjusting individual bed positions through a simple, one-click setup
- Up to 60% less time-consuming user interactions for protocol set-up

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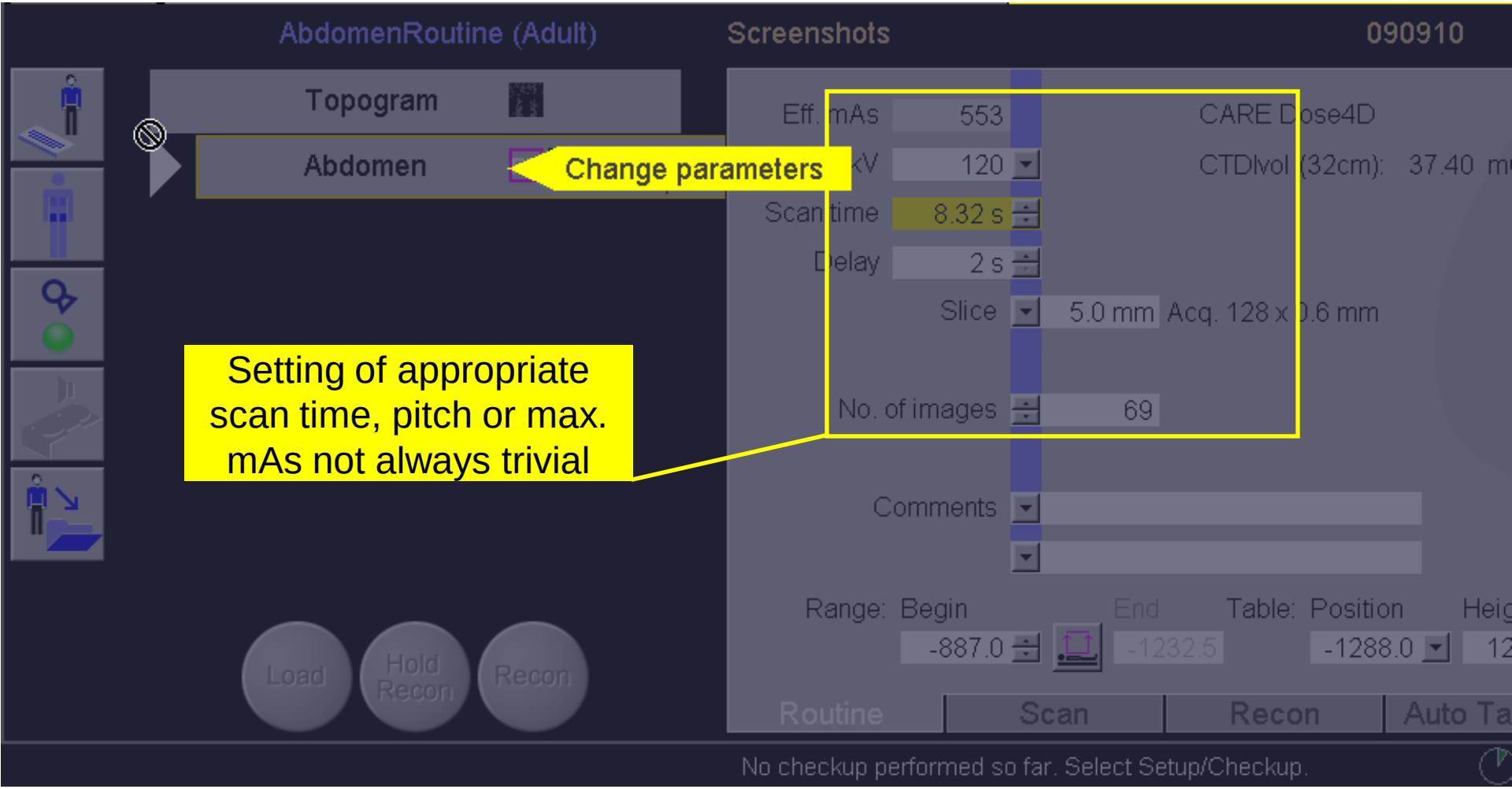
# FAST CT Scan Assistant and FAST Adjust

Direct scan parameter adjustment at the push of a button

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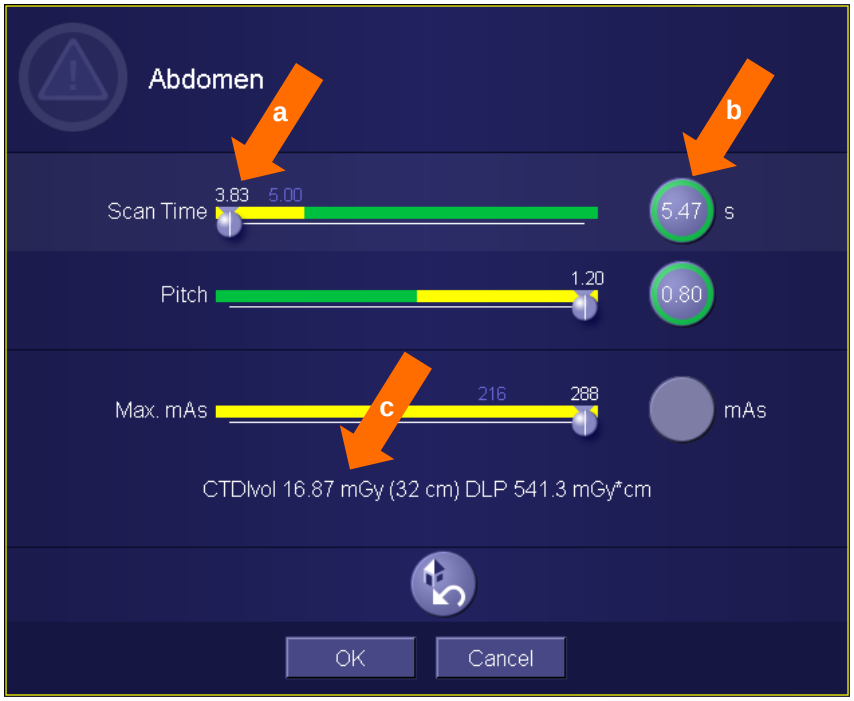
# FAST CT Scan Assistant and FAST Adjust

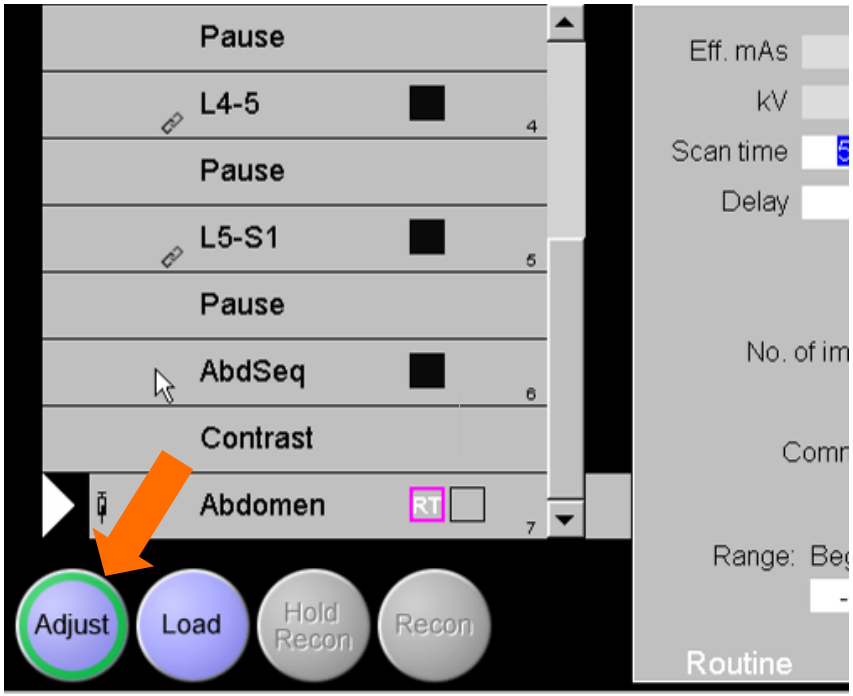
Direct scan parameter adjustment at the push of a button

## FAST Scan Assistant




- Precise value indication (a)
- Direct parameter setting (b)
- Instant preview of applied dose (c)

## FAST Adjust




- Direct adjustment of all parameters with a single click

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# Biograph mCT Flow

½ the dose and 2x the speed

- Biograph mCT Flow* is the only PET/CT that enables half the dose while scanning patients twice as fast
- With routine 5-minute whole-body PET examinations*, 15-minute patient slots can be scheduled instead of the conventional 45-minute slot, virtually doubling or even tripling throughout
- And as the average age of the world's population increases at an unprecedented rate,** 5-minute scanning provides the necessary speed to image elderly patients

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* Only with TrueV and ultraHD. Based on competitive literature at time of publishing. Data on file.

** National Institutes of Health. Unprecedented global aging examined in new Census Bureau report commissioned by the National Institute on Aging. http://www.nia.nih.gov/newsroom/2009/07/unprecedented-global-aging-examined-new-censusbureau-report-commissioned-national. Accessed May 23, 2013.Finkelstein

# Minimum Dose and Maximum Speed
## Key benefits

- Zero overscan and lowest dose reduces radiation risk enabling more utilization of PETÅCT for treatment
- Improve lesion delineation by eliminating respiratory motion with 10 mm/sec breath-hold lung scan
- 2x scan speed enabled by TrueV reduces motion to improve accuracy

- Achieve ALARA dose reproducibly for every patient with 60 percent less time-consuming user interactions
- 5-minute whole-body PET scan enabled by Tru

- Offer lowest dose to attract more patients and enable up to 50 percent radioisotope cost reduction
- Double revenue potential with 2x faster scan time
- Easy planning and faster scan speeds reduce user error and patient motion related re-scan cost

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# Biograph mCT Flow

FlowMotion, the end of stop and go.

## Finest Detail in Every Organ*

## Accurate Quantification in All Dimensions

## Minimum Dose and Maximum Speed

## Open Comfort for All Patients**

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* Based on volumetric resolution of 87 $mm^3$. Based on competitive literature available at time of publication. Data on file.

** Patients up to 227 kg (500 lb).

# Challenges to Improve Patient Experience

Patient focused care is a need clinically and economically

## 12% Global Obesity*

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

## Radiation Therapy (RT) Planning Increasing**

- 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***

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

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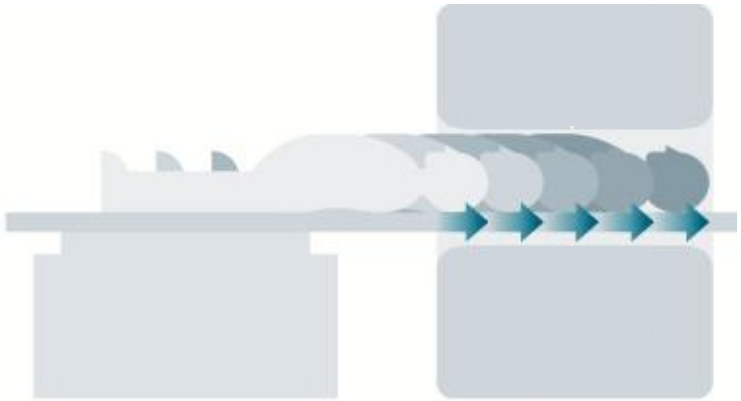
*USA Today. Medicare payments tied to patient surveys: http://www.usatoday.com/story/money/business/2012/12/24/hospitals-satisfaction-surveys-medicare/1788833/. Accessed May 23, 2013

** https://www.astro.org/News-and-Media/Media- Resources/FAQs/Fast- Facts-About-Radiation-Therapy/Index.aspx

*** World Health Organization. New WHO statistics report | http://www.who.int/pmnch/media/news/2012/20120516_who_statistics/en. Accessed May 23, 2013.

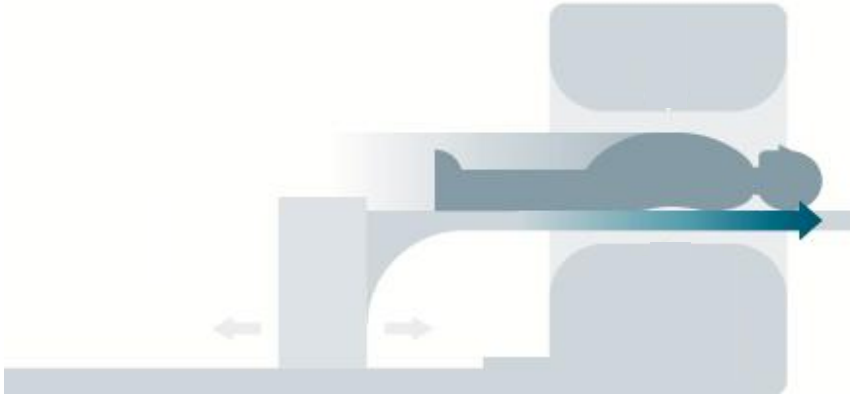
# Biograph mCT Flow
Open comfort for all patients*

## Conventional Stop-and-go



- Patient awareness that scan is progressing is compromised and may cause motion and anxiety, resulting in reduced satisfaction

## Biograph mCT Flow



- Allows for better accessibility
- Provides patients a sense of progression eliminating surprise.
- Sense of scan progression may reduce patient motion

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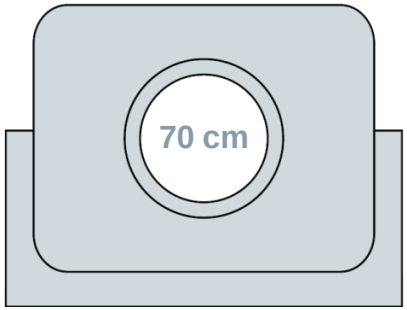
* Patients up to 227 kg (500 lb).

# Biograph mCT Flow

Large bore opens access for all patients and procedures*

## Conventional Small Bore




- 70 cm bore may not accommodate stereotactic and positioning devices
- Reduces access for patient monitoring, limiting the ability to image stressed and sedated patients
- Limits ability to image claustrophobic and bariatric patient populations

## Biograph mCT Flow Large Bore

- Accommodates positioning devices for RT and research applications
- Easy access for setup and monitoring of patients including sedated patients
- Short open bore enables imaging of claustrophobic and bariatric patients

* Patients up to 227 kg (500 lb).

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# Open 78 cm Bore

Designed to meet the needs of virtually all patients*

## Competitor A*

- 70 cm bore
- 227 kg/500 lb table
- 53.2 kW generator

## Competitor B*

- 70 cm bore
- 195 kg/430 lb table
- 60 kW generator

## Biograph mCT Flow

- 78 cm bore
- 227 kg/500 lb table
- 100 kW generator

* Based on volumetric resolution of 87 $mm^3$. Based on competitive literature available at time of publication. Data on file.
** Patients up to 227 kg (500 lb).

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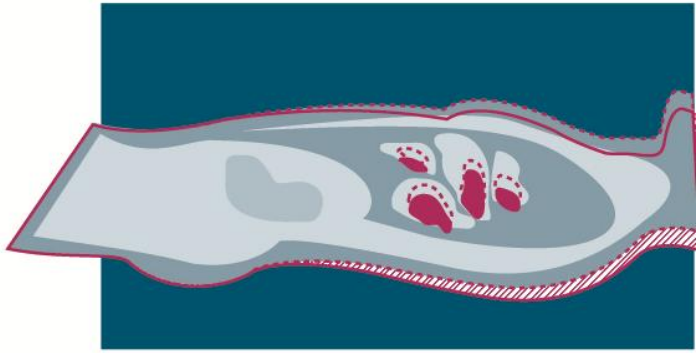
# Biograph mCT Flow

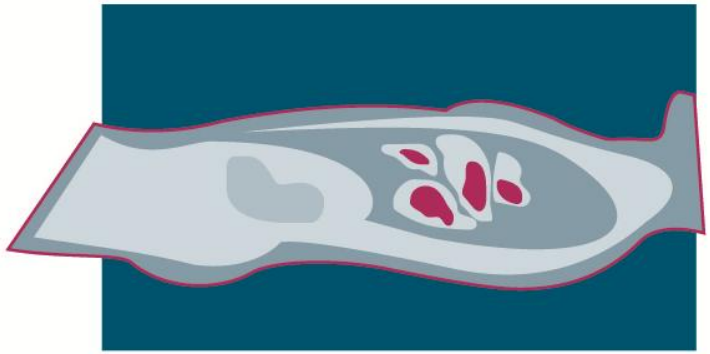
FlowMotion can improve compliance and satisfaction

## Conventional Stop-and-go



- Sense of no progress may make the scan seem longer leading to patient dissatisfaction
- Patients may zone out while a bed is acquired and may result in motion when the bed moves to the next position

## Biograph mCT Flow



- Continuous motion provides patients the ability to relax more easily for an improved patient experience
- With FlowMotion, patients have a sense of scan progression eliminating surprise resulting from stop and go movement and improving patient compliance

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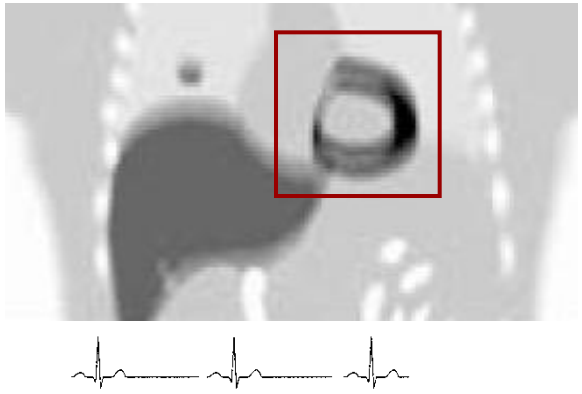
# HDÅCardiac for Dual Gating

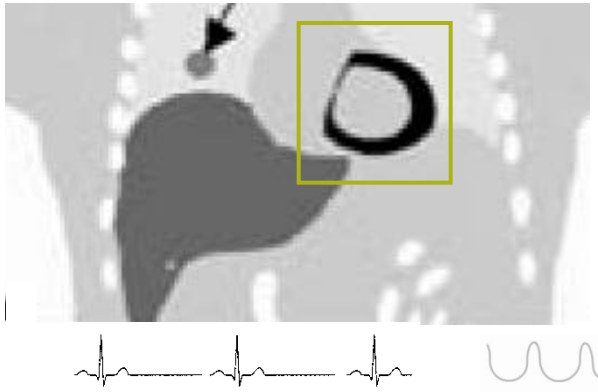
## Introducing triggerless respiratory frozen heart imaging

### Conventional



- Conventional cardiac gating does not correct for respiratory motion of the heart which may cause image blurring
- Image blurring may lead to less pronounced defect definition and reduced diagnostic confidence

### HDÅCardiac



- Reduces image blur from both cardiac and breathing motion with a single ECG trigger for gating
- Less blur may improve visualization of myocardial tracer distribution, wall thickness, and defect definition
- Better defect definition may increase diagnostic confidence

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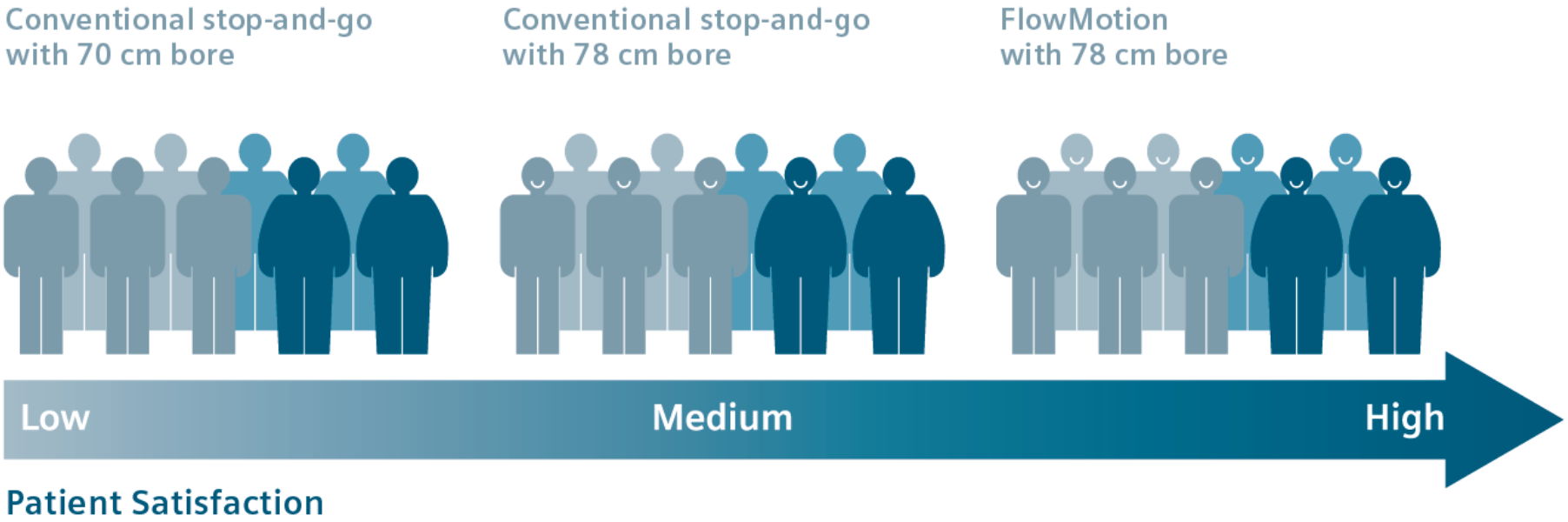
# FlowMotion and Large Bore Improves Patient Experience

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# Open Comfort for All Patients*

## Key benefits

- Patientôs continuous sense of s
  patient motion artifacts caused by unexpected bed movement
- Improve diagnostic confidence with patient convenient exam that combines PET/CT and high-end CT

- 78 cm bore for faster patient setup and RT positioning
- Single trigger dual gating reduces setup time by 50%
- One-stop-shop PET/CT and premium CT examination eliminates second patient scheduling, wait time and scan

- Improving patient satisfaction can lead to more referrals and up to 2% higher reimbursement**
- Increase bariatric imaging up to 12%*** with large bore
- Reduce operating cost by uniting stand-alone PET/CT and CT services into a single integrated offering

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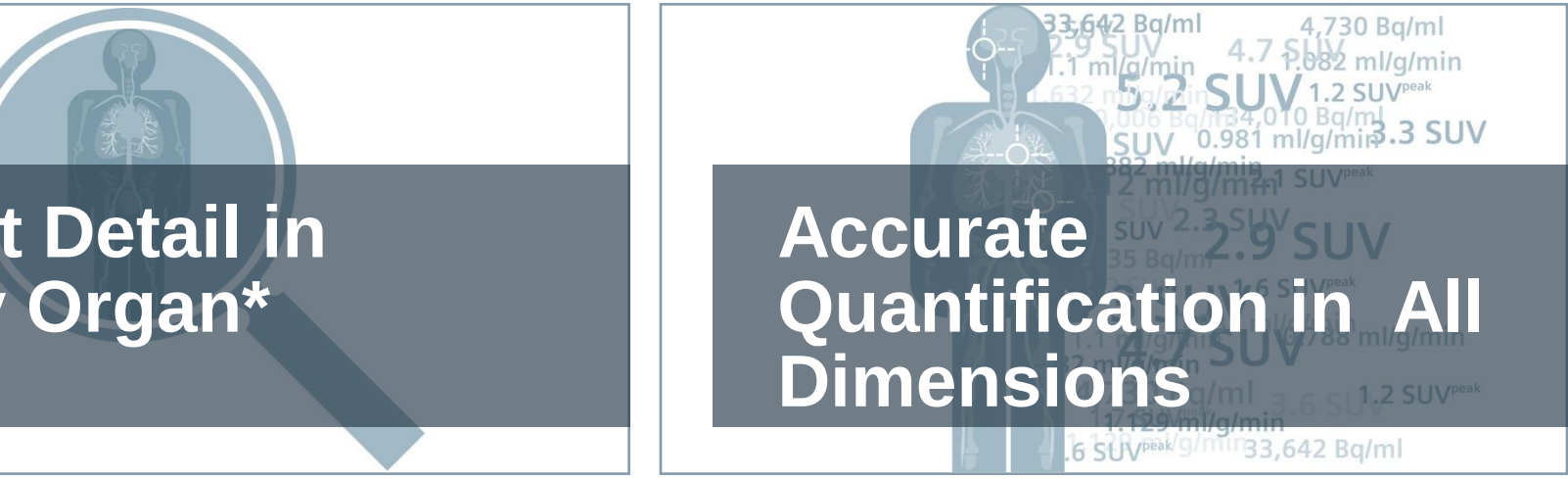
* Patients up to 227 kg (500 lb).
** USA Today. Medicare payments tied to patient surveys. http://www.usatoday.com/story/money/business/2012/12/24/hospitals-satisfaction-surveys-medicare/1788833/. Accessed May 23, 2013.
*** World Health Organization. New WHO statistics report i
http://www.who.int/pmnch/media/news/2012/20120516_who_statistics/en. Accessed May 23, 2013.

# Biograph mCT Flow

FlowMotion, the end of stop and go.

## Finest Detail in Every Organ*

## Accurate Quantification in All Dimensions




## Minimum Dose and Maximum Speed

## Open Comfort for All Patients**

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* Based on volumetric resolution of 87 $mm^3$. Based on competitive literature available at time of publication. Data on file.

** Patients up to 227 kg (500 lb).

# Biograph mCT Flow Offers Scalability and Flexibility

With FlowMotion standard on all system configurations*

mCT Flow 20

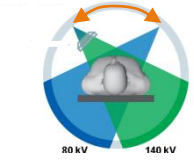
mCT Flow 40

mCT Flow 64

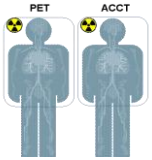
mCT Flow Edge*

Options

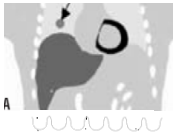
Single Source DE



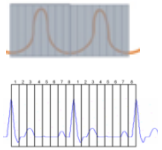

PET-Guided CT



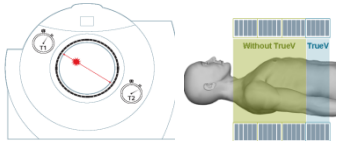

HD Cardiac



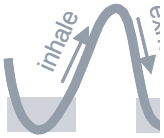
Phase Matched



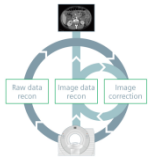
ultra HD FTrueV




HD Chest




SAFIRE*



FAST Planning

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* A version of SAFIRE is part of the standard system configuration on Biograph mCT Flow Edge systems

# Thank you!

Answers for life.