



Discovery MI Gen 2

Next generation. Even more in sight.

Built with breakthrough digital PET technology, the latest in diagnostic CT and advanced quantitative software, Discovery™ MI was created to both accelerate your research and enhance your clinical work. Now, with Discovery MI Gen 2, we plan on taking the promise of digital PET even further.

Discovery MI Gen 2 combines trusted Q.Clear quantitation and the proven clarity of MotionFree images with 30 centimeters of coverage, deep-learning based image reconstruction and a more efficient technologist experience.



Welcome to a new generation of digital PET/CT.



Smaller lesions

Up to a 41 percent increase in small lesion detectability¹



Highest sensitivity

Achieve a 125 percent increase in sensitivity²



TrueFidelity™

Deep-learning based image reconstruction with Revolution™ EVO Gen 3 CT

Digital detection, remastered

The LightBurst Digital Detector is a key component of what made Discovery MI the leading digital PET system. This innovative digital PET detector technology combines a small lutetium-based scintillator crystal array with a Silicon Photomultiplier (SiPM) block design for significant improvements in sensitivity, scan times, and required dose levels compared to similar ToF technology.

What does one more detector ring give you? A whole lot.

Discovery MI Gen 2 provides next-level digital detection with an axial FOV scalable up to 30 centimeters and the corresponding ability to reach even greater levels of sensitivity.



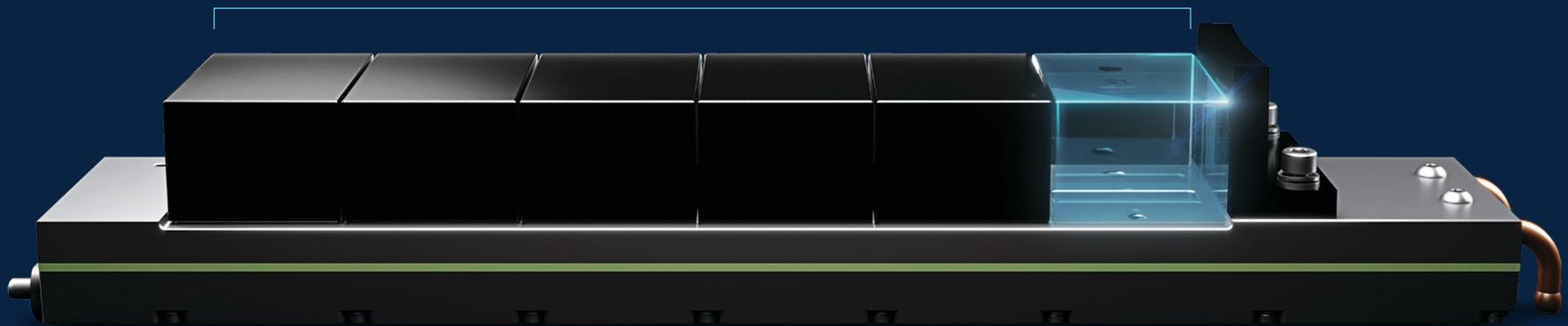
30 cm FOV

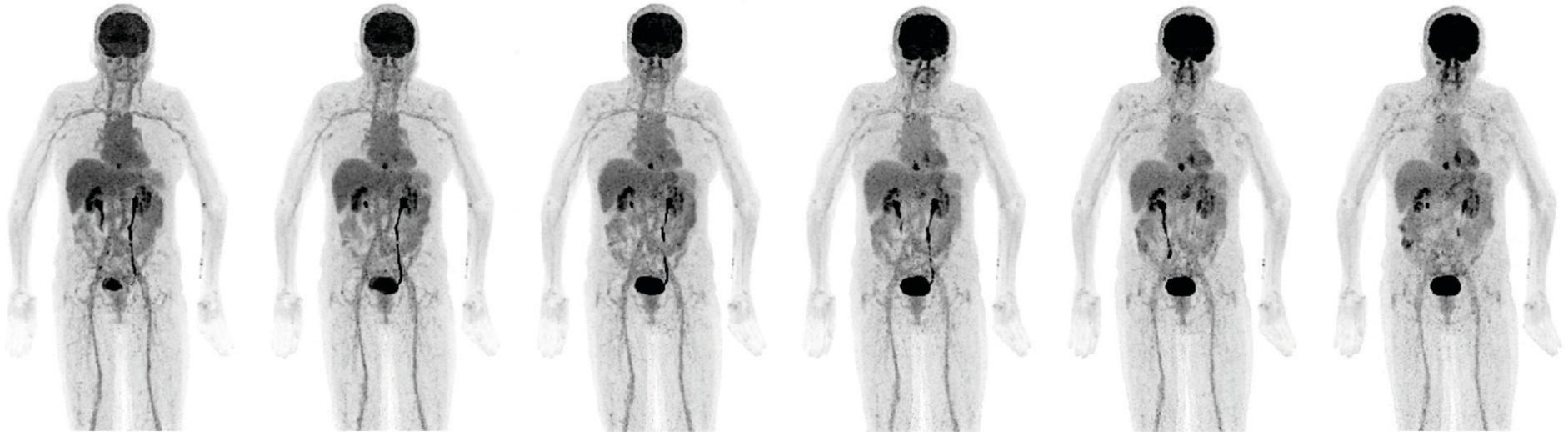
Focus on what is most important. High sensitivity per cm.

Discovery MI Gen 2 delivers a 50 percent increase in peak NECR as well as exceptional system sensitivity that reaches 30 cps/kBq. This translates to a system that provides a 33 percent improvement in scan times or dose amounts.³



30 cps/kBq





A whole new way to scan

WB Dynamic IQ Protocol

Static whole-body PET/CT imaging provides a simple snapshot of radiopharmaceutical concentration, but to truly understand how tissue is behaving, you have to account for time. With whole-body dynamic imaging, you can see the difference between tracer activity that's simply trapped in tissue versus highlighting actual malignancies. However, capturing this level of information takes time.

Discovery MI Gen 2 delivers the FOV and the sensitivity necessary to enhance whole-body dynamic acquisition. It allows you to capture as much detail as possible in fewer bed positions. With Discovery MI Gen 2 and WB Dynamic IQ Protocol⁴, you have a powerful new tool that provides you with the ability to better identify regions of metabolic activity and increased tracer uptake rate.⁵



Up to a 2x improvement in SNR when paired with Q.Clear



Complete 6 passes with 5 beds per pass in approximately 20 minutes

See precisely what you need to see

TrueFidelity

Revolution EVO Gen 3 brings the precision of diagnostic CT to digital PET.

For years, low dose was the benchmark for image quality. We helped set the standard for low-dose imaging with the industry's first iterative reconstruction technology capable of lowering dose. Over the years, the benchmark has changed. While dose is still important, radiologists are looking for an image texture reminiscent of the text-book quality images they studied in medical school. To that end, we've introduced TrueFidelity, our Deep Learning Image Reconstruction. Using artificial intelligence, it combines the low dose of iterative reconstruction with a "classic-looking" image texture.



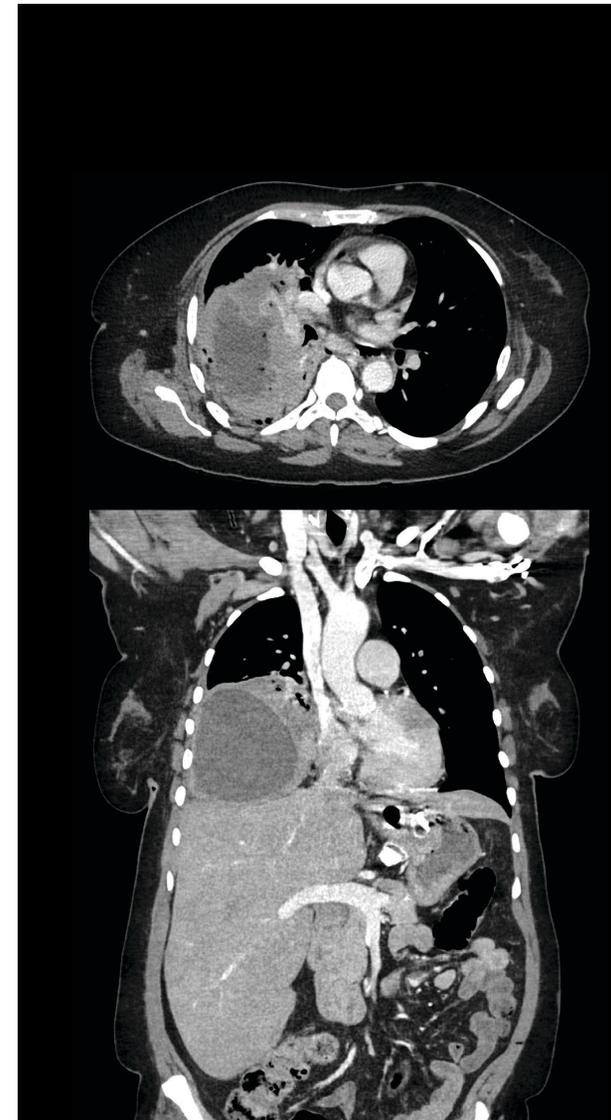
FBP



ASiR-V™ 50%



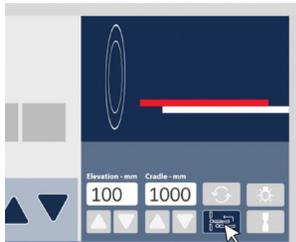
TrueFidelity



Plan on making an entrance by leaving the room

AutoIN

AutoIN gives your technologists the ability to landmark and position the patient table from the console in the control room. This improves the imaging workflow. By keeping technologists at the console, AutoIN helps reduce exposure to radiation as well as limits contact with contagious diseases.



Step one
Enter the required cradle and elevation value, then enable AutoIN



Step two
Position your patient with the push of a button



Step three
Landmark your patient's position from the console



Accurate data points to trusted treatment

Q.Clear (BSREM)

Since its introduction, Q.Clear has delivered fast and efficient quantitation readings for confident diagnosis and precise treatment response assessment.



Up to a 2x improvement in quantitative SUV (SUV_{mean})



Up to a 2x improvement in image quality (SNR)

Clear the way for clear images

MotionFree

MotionFree is the first-ever digital respiratory motion management solution that completely eliminates the need for a gating device.



Up to a 30 percent improvement in quantitation accuracy (SUV_{mean}) compared to non-processed (STATIC, no motion correction) data⁶



Up to a 67 percent improvement in lesion volume measurements⁷



Avoid adding up to 11 minutes to patient setup time compared to an external gating device⁸

Multiple small lesions on legs and throughout the neck

System Configuration

Discovery MI Gen 2 25 cm

Acquisition

4.5 minute acquisition (60 s / 90 s MF)

140 MBq / 3.81 mCi FDG

60-minute uptake

Q.Clear Beta 450

Low Dose CT (LDCT) 120 kv AutoMA max 50

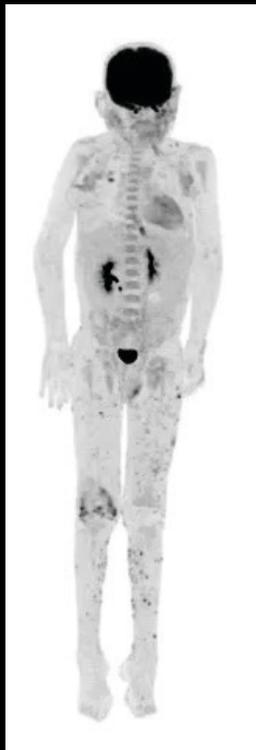
TrueFidelity Med Filter

History

BMI: 15.7

131 cm, 27 kg

85.91 mg/dl Glucose



Q.Clear + Q.Static



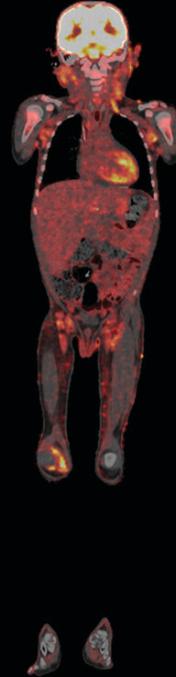
LDCT



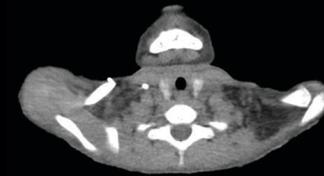
TrueFidelity Med Filter



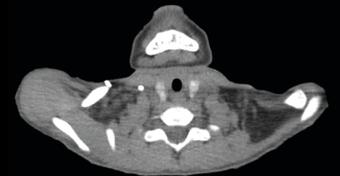
Q.Clear + LDCT



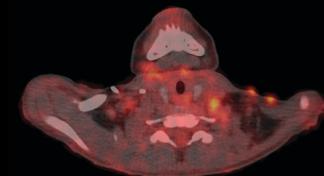
Q.Clear + TrueFidelity



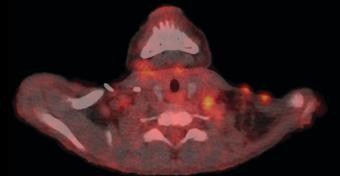
LDCT



TrueFidelity Med Filter



Q.Clear + LDCT



Q.Clear + TrueFidelity

Right ear lesion
measures on CT 3.5 mm,
tumor on hip eating
through bone

System Configuration

Discovery MI Gen 2 25 cm

Acquisition

5.5 minute acquisition (60 s / 90 s MF)

282.6 MBq / 7.64 mCi FDG

70-minute uptake

Q.Clear Beta 450

Low Dose CT (LDCT) 120 kv

AutoMA max 55

History

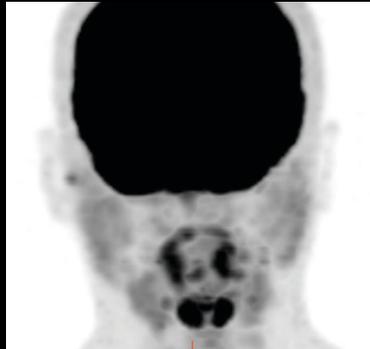
BMI: 21.2

179 cm, 68 kg (5'10")

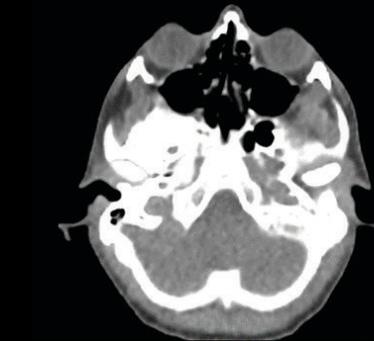
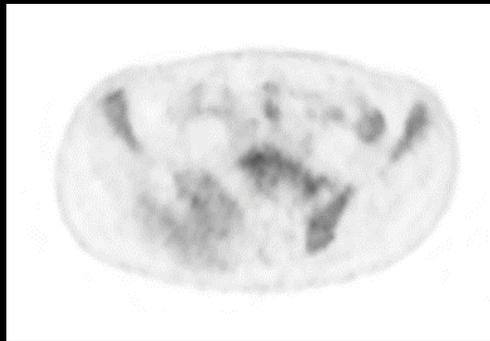
92.9 mg/dl Glucose



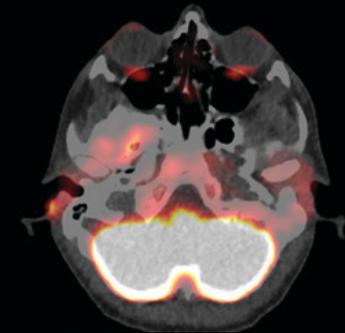
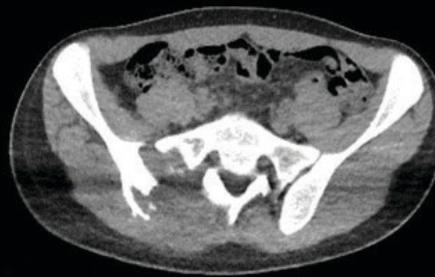
Q.Clear + Q.Static



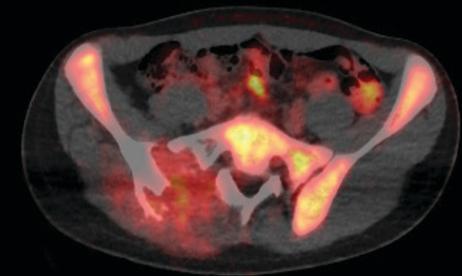
Q.Clear + Q.Static



LDCT



Q. Clear + Q. Static Fused to LDCT



FDG avid lymph nodes in left axilla (COVID-19 vaccination)

System Configuration

Discovery MI Gen 2 30 cm

Acquisition

136 MBq (2.2 MBq/kg) FDG

Uptake time 76 minutes

2 min/bed

DLP 311 mGy-cm

History

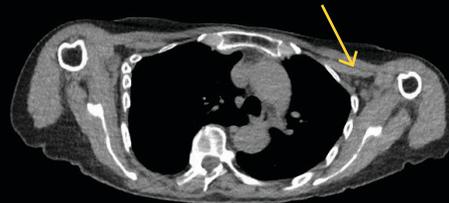
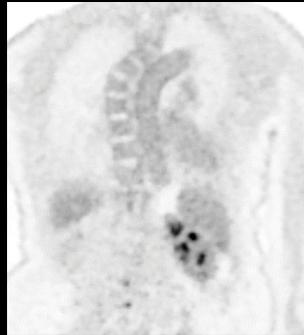
BMI: 21

Malignant melanoma (C43)

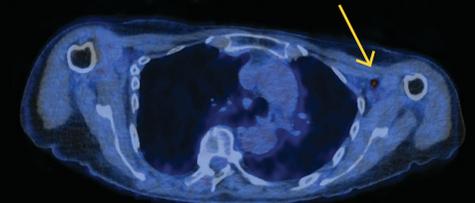
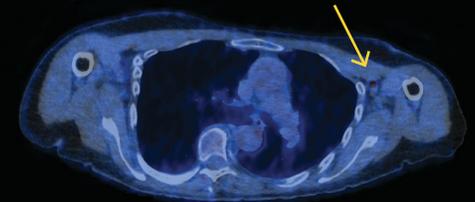
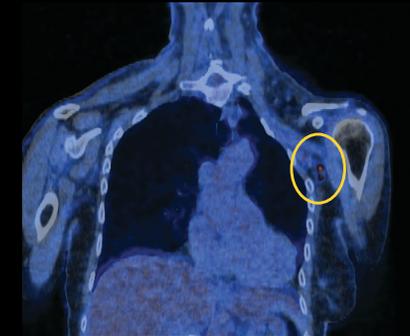
Cancer progress – metastasis staging



Q.Clear + Q.Static



TrueFidelity



TrueFidelity Fused PET/CT

Head and neck cancer

System Configuration

Discovery MI Gen 2 25 cm

Acquisition

7 minute acquisition

384.78 MBq / 10.4 mCi FDG

60 minute uptake

Q.Clear Beta 650

Low Dose CT (LDCT) 120 kv 110 mA

History

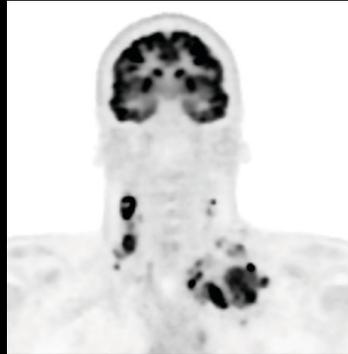
BMI: 28

183 cm, 94 kg (6')

Head and neck cancer



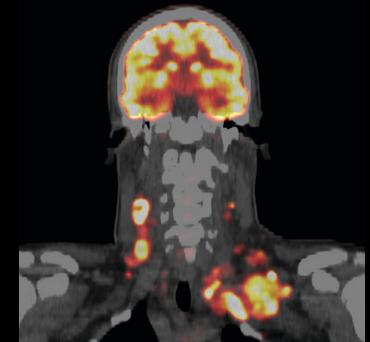
Q.Clear + Q.Static



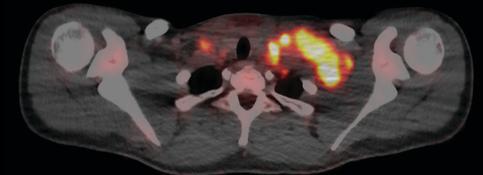
Q.Clear + Q.Static



LDCT



Q.Clear + Q. Static Fused to LDCT



Right cervical measuring 6 mm

System Configuration

Discovery MI Gen 2 25 cm

Acquisition

6 minute acquisition (60 s / 90 s MF)

299 MBq / 8.1 mCi FDG

58 minute uptake

Q.Clear Beta 450

Low Dose CT (LDCT) 120 kv AutoMA 79 max

History

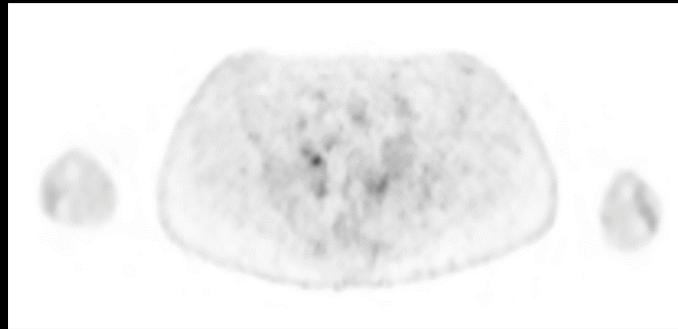
BMI: 22.3

172 cm, 66 kg (5'6")

85.91 mg/dl Glucose



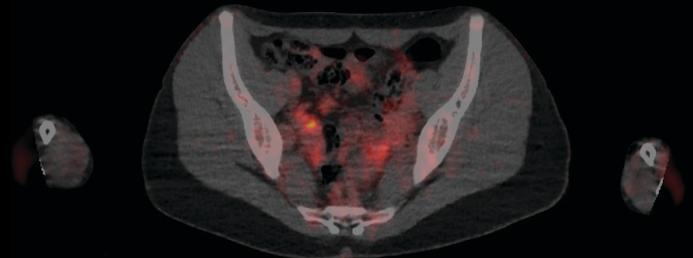
Q.Clear + Q.Static



Q.Clear + Q.Static



LDCT



Q.Clear + Q. Static Fused to LDCT

Right lung, right groin and tumor behind right knee

System Configuration

Discovery MI Gen 2 25 cm

Acquisition

4 minute acquisition

282.6 MBq / 7.64 mCi FDG

70 minute uptake

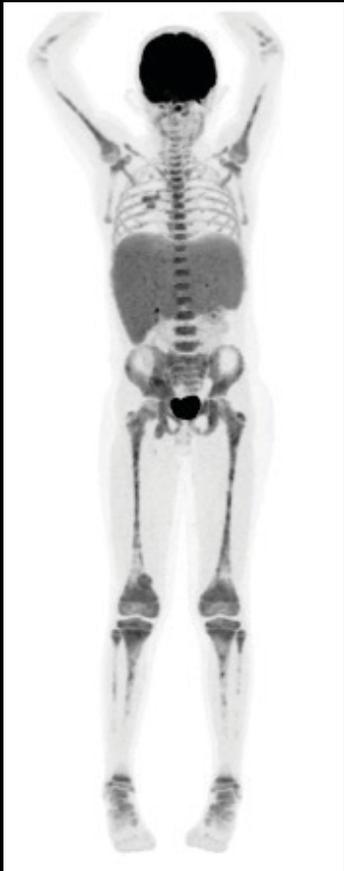
Q.Clear Beta 650

120 kv AutoMA 200 max

History

BMI: 19.1

141 cm, 38 kg (4'6")



Q.Clear + Q.Static



Q.Clear + Q.Static



LDCT



Q.Clear + Q.Static Fused

Post-radiotherapy progress of breast cancer small lesion

System Configuration

Discovery MI Gen 2 30 cm

Acquisition

99 MBq (1.8 MBq/kg) FDG

65 minute uptake time

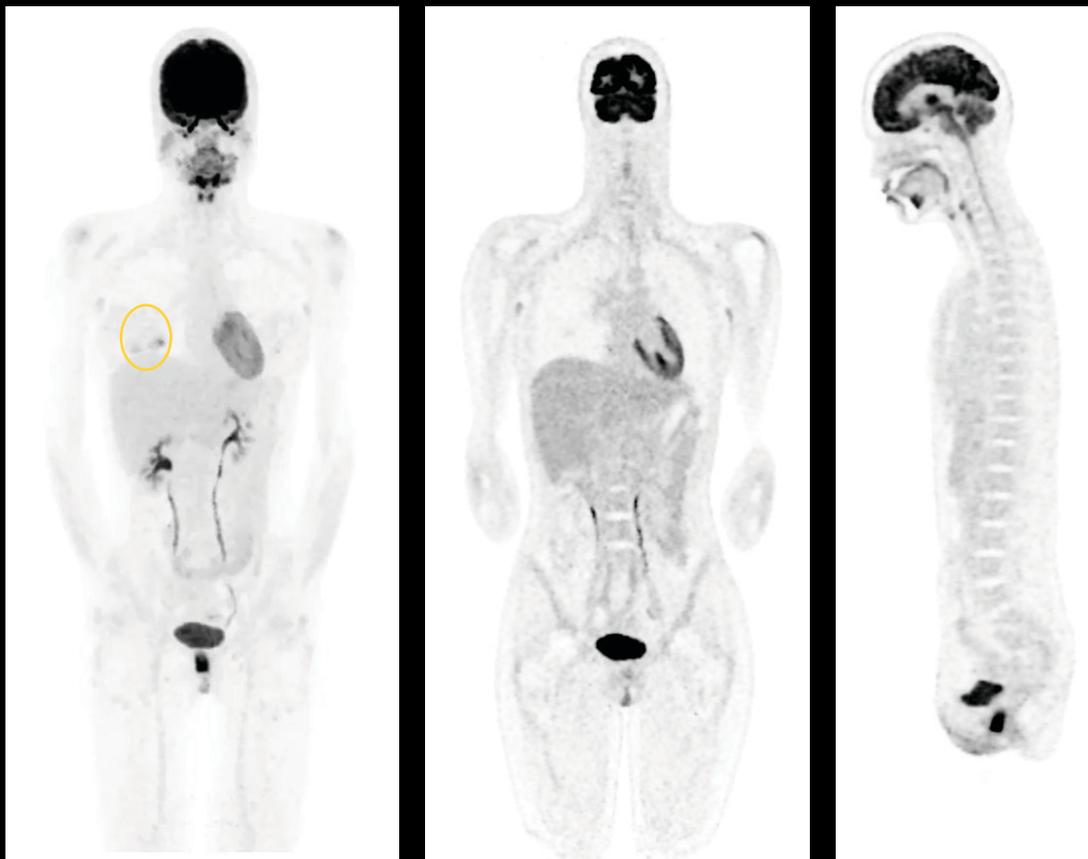
2 min/bed

DLP 449 mGy-cm

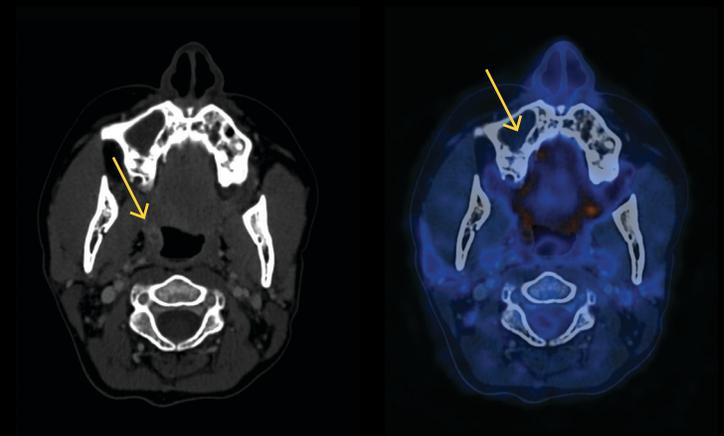
History

BMI: 18

Post radiotherapy – cancer progress



Q.Clear + Q.Static



TrueFidelity

TrueFidelity Fused PET/CT

A new generation of digital PET

Discovery MI Gen 2 is designed for a new generation of digital PET imaging. Our goal is to expand your clinical perspective with up to 30 centimeters of coverage, system sensitivity of up to 30 cps/kBq, trusted Q.Clear quantitation, and the proven clarity of MotionFree images. By combining next generation digital PET technology with an efficient technologist experience and the potential for deep-learning based CT image reconstruction, the promise of the digital PET experience is stronger than ever.





Building a world that works

About GE Healthcare:

GE Healthcare is the \$18 billion healthcare business of GE (NYSE: GE). As a leading global medical technology and digital solutions innovator, GE Healthcare enables clinicians to make faster, more informed decisions through intelligent devices, data analytics, applications and services, supported by its Edison intelligence platform. With over 100 years of healthcare industry experience and around 50,000 employees globally, the company operates at the center of an ecosystem working toward precision health, digitizing healthcare, helping drive productivity and improve outcomes for patients, providers, health systems and researchers around the world.

Follow us on Facebook, LinkedIn, Twitter, and Insights for the latest news, or visit our website www.gehealthcare.com for more information.

¹ Compared to Discovery MI 25 cm with matched scan time/injected dose. As demonstrated in phantom testing.

² Sensitivity (cps/kBq) as compared to Discovery MI 20 cm.

³ With Discovery MI Gen 2 30 cm configuration compared to 25 cm configuration. 33% reduction in scan time or injected dose, as shown in phantom testing.

⁴ Whole-body Dynamic IQ Protocol enhances acquisitions currently limited to single FOV dynamic acquisition or manual prescription of multiple whole-body static scans.

⁵ Processing software is needed for diagnostic purposes.

⁶ As demonstrated in phantom testing using a typical and fast respiratory model and OSEM reconstruction. Quantitative accuracy improvements are based on SUV_{mean} .

⁷ Compared to non-processed (STATIC, no motion correction) data. As demonstrated in phantom testing using a typical and fast respiratory model, 18 mm GE-68 spheres and OSEM reconstruction.

⁸ Based on clinical practice at University Hospital Zurich, using 5-Ring PET/CT with MotionFree and RPM. These results are for illustrative purposes only and represent specific customer experiences; actual results could vary depending on clinical practice and circumstances.