

GE Healthcare

Discovery XR656 Plus

Advanced digital radiographic system powered by FlashPad





Step up to the world of freedom.

Discovery™ XR656 Plus lets you enjoy productivity and workflow benefits thanks to FlashPad™, a wireless detector that was designed—from the beginning—for advanced digital imaging. Our suite of advanced clinical capabilities helps you address complex clinical needs while differentiating your facility from others.



Advance your clinical capabilities

VolumeRAD™

- Provides multiple images of the anatomy in a single sweep at a low dose, including chest, abdomen, extremities and spine.
- Remove overlying structures, enabling a better visualization of the anatomy from front to back.
- Reconstruction of data displays a set of images parallel to the detector panel, enabling you to display coronal images of interest.

Dual Energy Subtraction

- Acquire multiple images within milliseconds at different energy levels.
- Process and view the image as a standard radiographic image, an image with bones “subtracted,” and an image of just the bones to highlight foreign objects or calcified structures.

Auto Image Paste

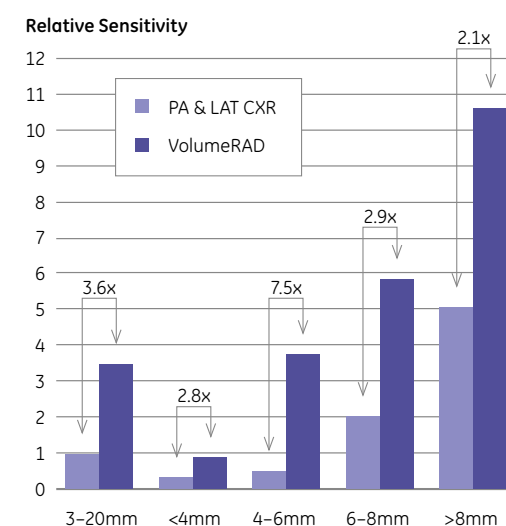
- Acquire multiple images in one fast, seamless, highly automated exam.
- Receive automatic stitching of the acquired images in a single composite image.
- Perform these exams at either the wallstand or the table.

Embrace the benefits of VolumeRad Tomosynthesis...

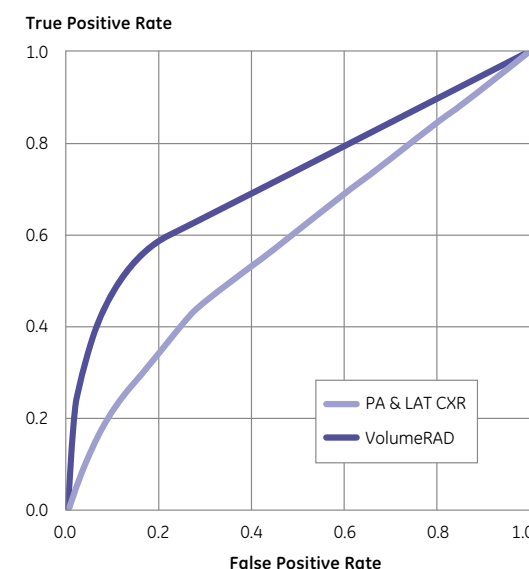
For radiologists

- Superior lung nodule detection sensitivity compared to conventional CXR.
- Improved identification of cases that require follow-up[†] (1.5 times more sensitive than two-view CXR without decreased specificity).
- Improved conformity with guidelines for patient follow-up and care.
- Improved sensitivity of detection of small lung nodules in the range of 3–20 mm in diameter; 3.6 times more sensitive than conventional two-view CXR, without decreased specificity.
- A minimal-dose, volumetric imaging technique with the simplicity and efficient workflow of conventional chest X-ray; superior to CXR for lung nodule detection.

Sensitivity for Pulmonary Nodule Detection Relative to CXR Sensitivity for 3–20 mm Nodules



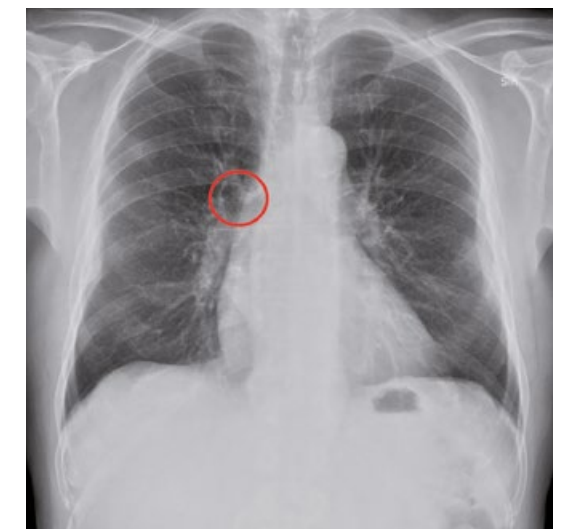
ROC Curves for Case Actionability, the Need for Further Imaging[†]



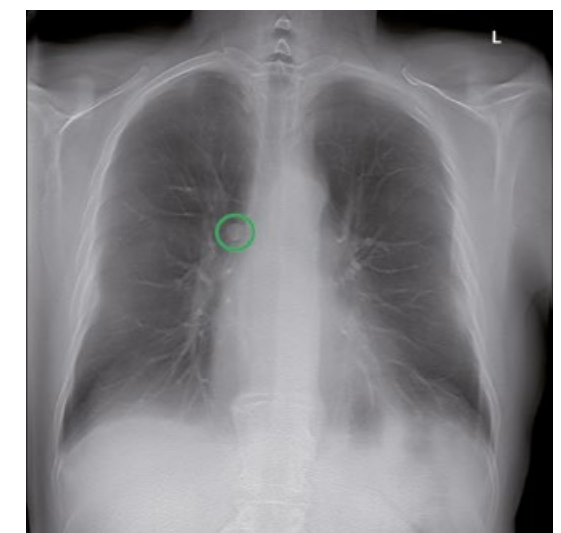
[†]Defined as recommendations for further advanced imaging, based upon the Fleischner Society guidelines for pulmonary nodule management.¹

For patients

- Patients benefit from improved sensitivity without decreased specificity:
 - Those presenting with a lung nodule are more likely to receive an accurate recommendation for appropriate follow-up
 - The increased sensitivity is not achieved at the expense of additional false positive findings.
- Small lung nodules are more likely to be detected with VolumeRAD compared to conventional chest radiography.
- Patients benefit from the low dose of VolumeRAD:
 - The average effective dose of a Thoracic VolumeRad sweep is less than 0.1 mSv.



Conventional PA Radiograph



VolumeRAD Slice Image

“

I think they're intuitive to read, so even people who haven't trained on them before can read them easily. The whole appearance of the image is intuitive. It **doesn't take much longer than a radiograph to interpret.**

Voice of the customer

“

The VolumeRAD workflow is quite easy. It doesn't take much longer than a radiograph to interpret, making it very straightforward.

Voice of the customer

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Disclaimer: No clinical evidence has been established supporting the following claims in patients with active lung or pleural disease that could obscure pulmonary nodules, including fibrosis, emphysema, compressed lung, scarring, severe lung disease, and in patients with objects in or around the lungs that could obscure pulmonary nodules. The effectiveness of the device may vary depending on nodule prevalence and type.

Patient stories say it best.

GE Healthcare's advanced applications⁺ open access to areas of uncertainties, helping you uncover information previously hidden within conventional 2D radiographic imaging. The following cases are examples of how GE's clinical tools can play a positive role—even in routine, everyday cases.



A 13-year-old patient arrived post-surgical with extreme hip pain. An AP hip radiograph was taken, but did not allow enough clinical information to determine the screw-placement status.

1 Had an implanted screw invaded the hip joint space?

VolumeRAD study ordered.
VolumeRAD allowed removal of overlying structures, helping to enable a confident diagnosis.

The definitive answer: no.
A single-slice interval from the VolumeRAD data revealed that the implanted screw had not invaded the joint space. The patient underwent secondary surgery and proper implant placement was confirmed.



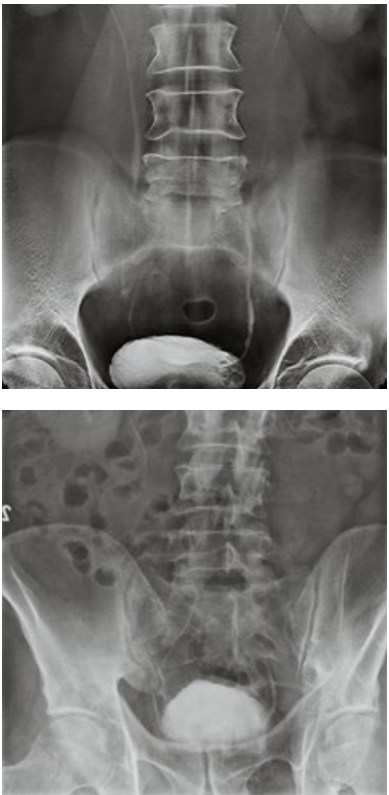
⁺ The images displayed in this brochure were obtained using GE's fixed digital detector. GE advanced applications are performed on the Discovery XR656 Plus with the FlashPad detector docked in either the table or wallstand.

A patient at a hospital in St. Louis, MO., presented with a historic chest x-ray showing an anomaly in the left upper lung lobe as a bone growth, rather than as a tissue lesion.

2 Is it bone growth or a tissue lesion?

Dual Energy Extraction applied.
Through a Dual Energy Subtraction chest exam, the bony anatomy was removed from the images, increasing the visibility of the tissue-based anatomy.

Definitive diagnosis achieved.
A 12 mm nodule was discovered directly behind the area of concern, ruling out the rib-related bony growth. Digital radiography with Dual Energy Subtraction may have helped lead to a definitive diagnosis.



A patient presented with gross hematuria. To confirm the cause, hospital staff turned to VolumeRAD, choosing this tool over CT.

3 What was causing blood in the urine?

VolumeRAD study ordered.
Staff initially chose a 20 min radiograph, then considered different options.

Definitive diagnosis achieved.
The single 4 mm slice interval image revealed a lobulated mass in the left paramedian aspect of the bladder. The radiologist stated the following: The increased coronal spatial resolution of the digital rad image helped confirm diagnosis; and, the ureter entering the bladder was clearly visible.

A 49-year-old patient presented in the emergency department with chest pain, nausea and vomiting. Initial PA chest images were negative.

4 Was it a mass causing this patient's symptoms?

Dual Energy Extraction applied.
A Dual Energy Subtraction chest exam subtracted calcified structures from the PA image, and a mass was identified in the esophagus.

Definitive diagnosis achieved.
A congenital or acquired out-pouching of the esophageal wall was discovered and diagnosed as an esophageal diverticulum. Later, a CT exam confirmed the diverticulum.



A 6-year-old patient with multiple lytic lesions, Ollers disease, could not stand properly for a traditional upright image paste protocol. The pathology required an alternate imaging method: several images were acquired while patient was lying flat.

5 How do advanced applications work in unique situations?

Desired image created.
Using Auto Image Paste, multiple low dose images were obtained and pasted into a single image using the recumbent table paste mode.

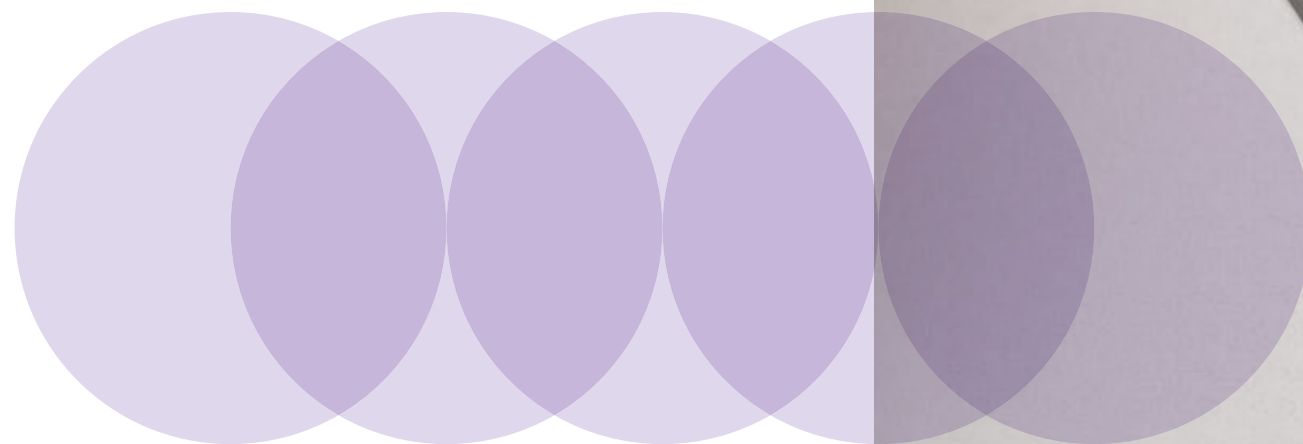
Improved productivity achieved.
The Auto Image Paste software on the hospital's radiographic system allowed non-upright pasting imaging. Total exam time: under 4 minutes. In this case, the hospital realized a 70 percent reduction in total time as compared to a previous study using a long cassette.

FlashPad Digital radiography delivers.

At the heart of the Discovery XR656 Plus is FlashPad™, GE's wireless, digital detector. FlashPad is unique in that it can be shared with other compatible GE digital radiographic products. Freedom to share makes your detector a sound investment today and into the future.

FlashPad uses Ultra-Wideband technology to help ensure an independent, secure and reliable connection while seamlessly coexisting with your hospital's networking infrastructure.

FlashPad is designed for digital use and built for reliability. Its two handles enable a secure grip.



Configure your workflow.

You can choose the configuration that best meets your clinical needs: a table, wallstand, or table and wallstand with either a single or dual detector offering. And, because FlashPad can be shared, a single detector can be all you need.

Keep your patients comfortable. Capture images efficiently.

Discovery XR656 Plus configurations give you options for managing challenging imaging situations, such as wheelchair-bound, physically limited, elderly and trauma patients. GE's FlashPad wireless detector frees your technologist to position quickly and easily to obtain complex views.

The Discovery XR656 Plus also has additional features and options that align to your clinical environment to drive productivity and workflow. The in-room handheld remote control enables you to control major system functions and change setups for multiple exams without leaving the patient's side. The elevating table has a weight capacity of 705lbs (320 Kg) in all motion to accommodate larger patients.



Gain control over your workflow.

GE's advanced automation, advanced clinical tools, intuitive interfaces and seamless transitions between image receptors help remove the barriers that can inhibit workflow.



Overhead Tube Suspension

Touchscreen Display

Execute fast, easy setup and changes with the convenient user interface located at the overhead tube suspension.

Auto Positioning/Auto Tracking

Automatically drive the overhead tube suspension, wallstand and/or table to preset positions to help increase productivity and ease of use.

Auto-Field of View

Help enhance productivity by linking protocol views with image sizing. Users can now customize views by setting the collimation sizes for all exams. Automatically set the collimator blades for individual clinical view. Minimizing the final collimator adjustments prior to taking the exposure reduces set-up time.

Repeat/Reject Analysis (RRA) Software

Evaluate staff performance and quality assurance efforts by capturing exam performance.

Auto-Protocol Assist

Through the RIS interface, protocols are automatically selected and initiated, allowing the technologist to spend more time with the patient.

Auto-Processing and Image Distribution

Achieve anatomy-based customization of images to match your clinical preferences. After initial QC, automatically send images to the desired locations on your network.

Service you can count on !

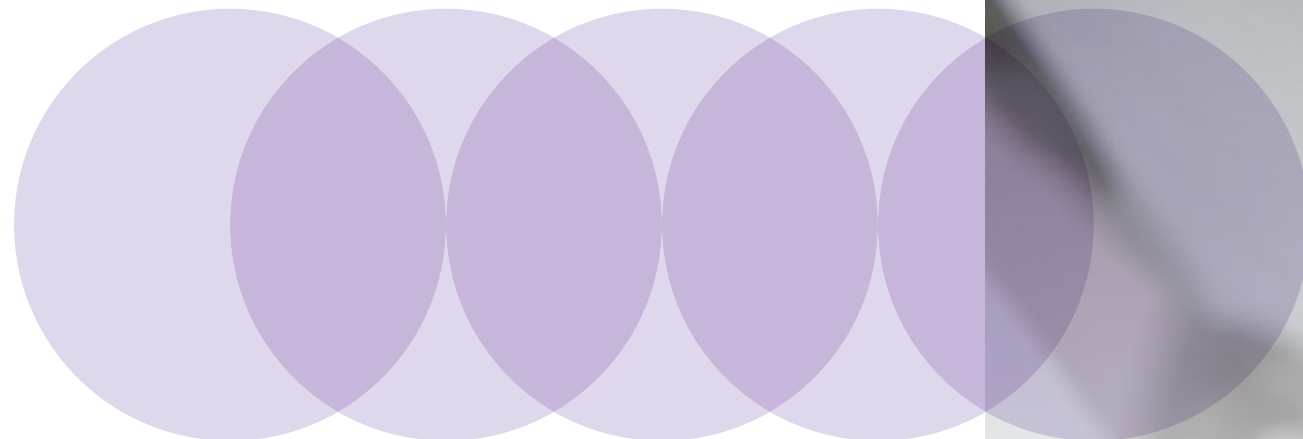
We realize that an investment in a digital detector is an important capital investment. With GE's Services portfolio, we'll keep you satisfied.



Our suite of maintenance service offerings is designed to help you get the most from your clinical assets in terms of uptime, clinical excellence and workflow efficiency, while meeting cost objectives without compromise.

As FlashPad detector can be shared between different GE X-ray systems. It comes with its own service contract, meaning that FlashPad is not tied neither to the system itself, nor to its service contract.

GE Services offer you flexible, cost-effective maintenance solutions. Our team responds to support calls quickly so that you can maintain high uptime. We want you to be confident that your clinical equipment will run smoothly, allowing staff to care for your patients in the best possible way, and remain productive.



Connected to GE Digital Service Expert.



Send an E-message to a technical expert any time (24/7) directly from the console.



24/7 Corrective and preventive maintenance.



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GE Healthcare provides transformational medical technologies and services to meet the demand for increased access, enhanced quality and more affordable healthcare around the world.

GE works on things that matter - great people and technologies taking on tough challenges. From medical imaging, software & IT, patient monitoring and diagnostics to drug discovery, biopharmaceutical manufacturing technologies and performance improvement solutions, GE Healthcare helps medical professionals deliver great healthcare to their patients.

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GE imagination at work

Data subject to change.

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¹ MacMahon, Heber, et al. "Guidelines for Management of Small Pulmonary Nodules Detected on CT Scans: A Statement from the Fleischner Society." *Radiology* 237.2(2005):395-400.

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