



GE Healthcare

Critical Care Suite

On-device Artificial Intelligence (AI)



AI powered X-ray solutions. Intelligence at the point of care

GE Healthcare's **Critical Care Suite** is the world's first, on-device AI solution that can help triage critical conditions, such as pneumothorax, alleviating the overwhelming demand that urgent X-rays are placing on radiology teams.



60% of exams are marked for urgent reading, further burdening clinical teams.

Turnaround time can be as long as eight hours, even when chest X-rays are marked as urgent for patients with potentially life-threatening conditions.¹ Busy technologists are rushing throughout hospitals with mobile X-ray systems, trying to keep up with the overwhelming demand, while there are often not enough radiologists to provide attention to the most immediate cases. Life-threatening conditions, such as pneumothorax, can develop if treatment is delayed.²



Designed to help in moments that matter most

Critical Care Suite, powered by Edison, turns what was once a conceptual idea into reality by:

- Detecting nearly all large pneumothoraxes (96% sensitivity)⁴
- Detecting 3 out of 4 small pneumothoraxes (75% sensitivity)
- Limiting false alerts (94% specificity)
- An Area Under Curve (AUC) of 0.96
- Positive Predictive Value of 35% to 70% for pneumothorax prevalence of 4% to 15%

Built to improve the standard of care you're delivering to patients

Critical Care Suite automatically analyzes images for the presence of pneumothorax without routing images to a server. Upon exam closure, the case is flagged by AI for review by a radiologist. Fifteen minutes after exam closure, the technologist is provided a contextual notification³. The sooner a critical condition is identified and alerted, the faster the communication between the radiologist and attending physician can take place—giving clinical teams the information they need, when they need it—to deliver high-quality care to patients and shorter turnaround times for prioritized cases.

Quality Care Suite



Intelligent Protocol Check

Conducts an automated quality check to detect errors on the acquisition system, such as improper protocol used.



Intelligent Auto Rotate

Saves technologists 3–4 user interface clicks on more than 80% of mobile chest X-ray exams, saving up to 70,000 “clicks” a year.⁵



Intelligent Field of View

Detects when a lung field is clipped in a frontal chest X-ray and allows technologists to determine if a repeat is required before sending the image to PACS.⁴

Critical Care Suite



Powered by Edison

GE Healthcare's intelligence offering, comprised of applications and smart devices are built using the Edison platform, enabling analysis of data from disparate sources and transforms that data into actionable insight.



Results sent to PACS

A secondary capture DICOM within PACS presents the AI results to the radiologist for review. Image flags help enable worklist prioritization and have the potential to expediate review of critical findings.



Designed for high accuracy

Trained on thousands of unique patient images—from 6 data sources, across 3 countries, from 11 different X-ray detector manufacturers, including CR/DR equipment and fixed/portable systems—using the strongest form of pixel level annotation.



Built upon the
Edison platform

References

- ¹ Rachh, Pratik, et al. "Reducing STAT Portable Chest Radiograph Turnaround Times: A Pilot Study." Current problems in diagnostic radiology (2017).
- ² Lorenz, Jonathan, and Matthew Blum. "Complications of percutaneous chest biopsy." Seminars in interventional radiology. Vol. 23. No. 2. Thieme Medical Publishers, 2006.
- ³ The tech notification is generated 15 mins after exam closure. It is contextual and does not provide any diagnostic information. The on-device, tech notification is not intended to inform any clinical decision, prioritization, or action.
- ⁴ 510(k) K183182
- ⁵ GE Healthcare Data on File

Imagination at work

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