



Early detection for life

Philips xLNA Enterprise lung nodule assessment software
Computer assisted detection (CAD) for digital chest X-ray images

PHILIPS

An early warning system

Finding lesions early is crucial to making a difference in the effectiveness of treatment. And computer assisted detection (CAD) can vastly improve the rate at which small lesions are identified, prompting you to evaluate pathology you might have missed.

The Philips xLNA Enterprise lung nodule assessment software supports you in visualizing, identifying, evaluating, and reporting pulmonary lesions and nodules in digital chest X-ray images. It may also help you improve your overall detection rate of small lung nodules and reduce inter-observer variations in nodule detection rates.

This system can help increase your ability to detect nodules as small as 5 mm, and is designed specifically for direct and computed radiography to help increase detection rates of actionable nodules to over 80%, compared with current detection rates of 35-65%.¹

Unlike conventional CAD software, this comprehensive package includes exclusive real-time interactive image-reading features, region of interest (ROI) analysis, easy reporting, and direct integration with PACS.

With thousands of chest X-rays performed every day, Philips xLNA has the potential to turn each one into an effective early warning system. It's a great opportunity to spot lung cancer early enough to potentially improve survival.



Lung cancer survival

Globally, lung cancer is the most common cancer as well as the leading cause of cancer deaths among both men and women.^{2,3} It claims almost as many lives as liver and colon cancer combined.³

Unfortunately, lung cancer survival rates haven't appreciably improved in decades.⁴ Most people with early lung cancer do not show any symptoms, so only a small number of these cancers are found at an early stage. If located and treated early, the lung cancer survival rate could increase from only 15% up to 47%.⁵

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Cancer type	Global deaths ³
Lung	1,300,000
Stomach	1,000,000
Liver	662,000
Colon	655,000
Breast	502,000

1. Jin Z, Ma D, Song W, Fan L, Wei G, Qian J. Improving radiological interpretation of chest digital radiograph images using a real-time interactive pulmonary nodule analysis system: a cross-center study. Updated with the latest experimental results presented at RSNA 2005, Chicago, IL, November, 2005.

2. World Health Organization. Global cancer rates could increase by 50% to 15 million by 2020. News release. April, 2003. Available at <http://www.who.int/mediacentre/news/releases/2003/pr27/en/>. Accessed March 22, 2007.

3. World Health Organization. Facts about cancer. Fact sheet no. 297. February, 2006. Available at <http://www.who.int/mediacentre/factsheets/fs297/en/index.html>. Accessed March 22, 2007.

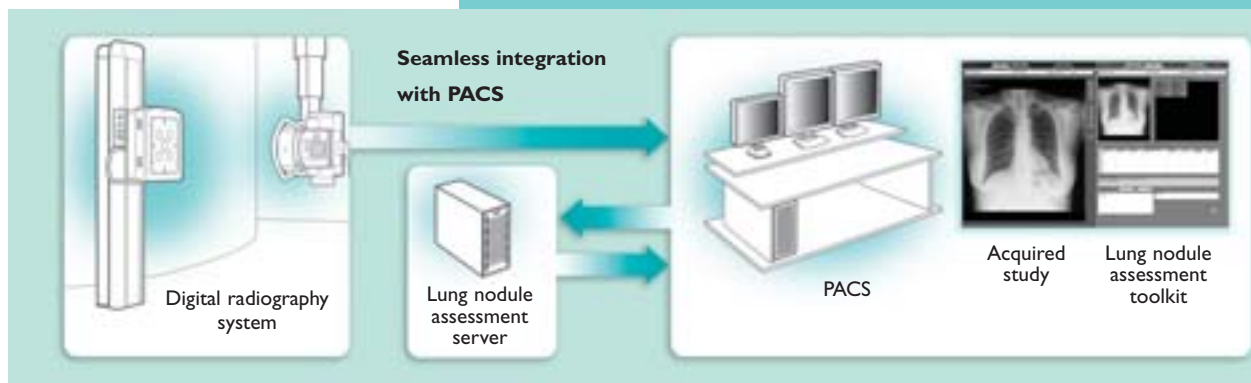
4. Cancer statistics 2006: a presentation from the American Cancer Society. American Cancer Society, 2006. www.cancer.org/downloads/STT/Cancer_Statistics_2006_Presentation.ppt

5. American Cancer Society. Lung Cancer (Non-Small Cell). Accessed February 17, 2006. <http://www.cancer.org/downloads/CRI/6976.00.pdf>

A first-class second look

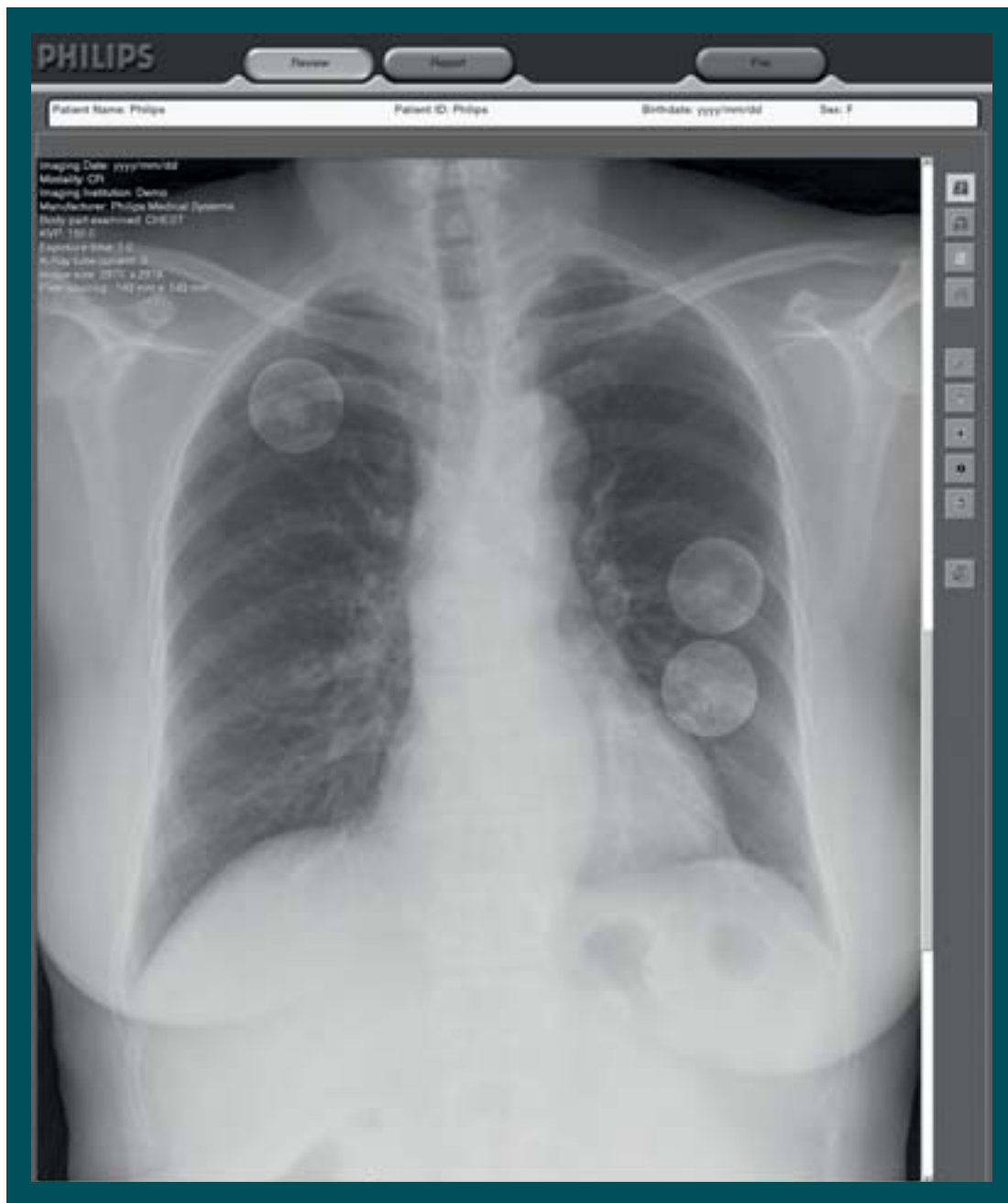
It's like having a second pair of eyes on every chest exam. Tools that interact with you in real time mean that Philips xLNA is more than a detection aid. It's also a quantification and diagnostic aid. In fact, it's a real-time interactive diagnostic analysis system that allows you the clinical utility of reporting only physician-confirmed nodules.

Simply confirm, then send



Combined viewing and reporting

- Digital radiography system sends acquired study directly to PACS server
- CAD server automatically queries and retrieves chest images from PACS
- Interactive assessment toolkit launches automatically at PACS workstation
- No PACS code-level integration or software installation required
- System uses only physician-confirmed findings to generate lung nodule assessment report (in DICOM format)



...deserves another

Quantify measurements instantly

- Segment and evaluate lesions and nodules in automated or manual mode
- Automatically compute quantitative measurements from segmentation results
- Add additional diagnostic assessment comments



Assemble clinical reports automatically

- Start with physician-confirmed diagnostic information (in DICOM format)
- Simply input notes and digital signature
- Automatically secure report with time stamp
- Easily store report in DICOM format; ready for PACS archiving



One good look...

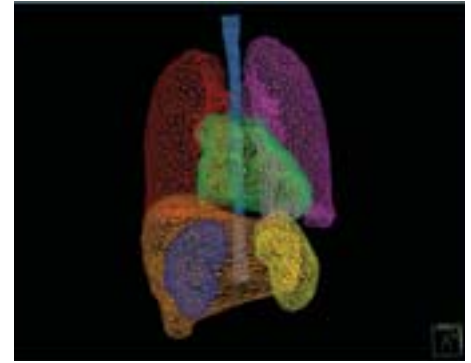
Identify nodules more easily

- Choose from nodule-specific contrast-enhanced or nodule-enhanced views
- Quickly mark and select lesions
- Export in DICOM format

Trusted by the best

We put sense and simplicity to work providing a complete portfolio of integrated imaging, simulation, and treatment-planning solutions. Our work with research partners in pre-eminent institutions throughout the world helps us develop technology that leads to greater workflow efficiency and better care for oncology patients.





Philips Lung Nodule CAD is a computer-aided detection system for CT that can help locate nodules as small as 4 mm with high sensitivity.

The system determines regions of interest based on features associated with solid pulmonary nodules, which could represent early-stage lung cancer:

The device is intended for use as an aid to physician image evaluation and may also reduce the possibility of observational oversight.

Philips is working to reduce the time oncologists spend manually drawing contours around organs and other anatomical structures. With model-based segmentation software, users can simply drag and drop anatomical templates onto patient image data, allowing the software to automatically adapt shapes to fit individual patient organs.



Imaging

The Philips range of imaging tools allows you to look at a tumor from all dimensions: physical, temporal, biological, and chemical. Industry-leading digital X-ray, volumetric CT, MR, and ultrasound, along with stand-alone and hybrid nuclear medicine systems, help you pinpoint disease location with more accuracy, a must for high-precision therapy.

Simulation and treatment planning

Advanced tools simplify simulation workflow and improve productivity with absolute patient marking, biplanar virtual fluoroscopy, and digital composite imaging. AcQSim CT simulation is completely integrated into Pinnacle treatment planning, allowing virtual simulation and radiation oncology planning to share a common database, giving users one powerful oncology workstation capable of running a range of simulation and planning tools.

Keep connected

More data, of course, creates a need for data management solutions capable of providing information for diagnostic interpretation, storing larger volumes of patient information, and allowing remote collaboration with colleagues. Philips iSite PACS is the leading enterprise-wide medical image and information management system, delivering on-demand diagnostic-quality images over existing hospital networks, advanced reading stations, and “always online” long-term storage.

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