



Mobile radiography realizes its full potential

Integrated, wireless workflows increase mobile radiography's contribution to patient care

Who/where

Radiology Department, Galway Clinic
Doughiska, Galway, Ireland

- Dr. Brian Lucey,
Consultant Radiologist
- Evelyn Smyth,
Radiology Manager
- Susan Doheny,
Senior Radiographer

Challenge

Ensuring X-ray imaging for difficult to move patients in the intensive care unit, emergency department, and post-operative recovery.

Providing back-up support for the general X-ray room.

Solution

Philips MobileDiagnost wDR mobile digital radiography, a compact, maneuverable unit with wireless portable detector that facilitates diagnosis of immobile and critical patients.

The portable solution enhances workflow and efficiency of patient exams through an intuitive user interface and rapid access to digital images.

The Radiology Department in the Galway Clinic in Ireland aims for excellence in their service quality. Early in 2011, this led them to go digital with their mobile radiography. The Philips MobileDiagnost wDR the clinic acquired integrates seamlessly – and wirelessly – into the hospital network and the clinical workflow, reducing the department's diagnostic turnaround times. Within the department, the image quality and the unit's flexibility allow them react quickly to variations in demand.

Galway Clinic is a 150 bed, private clinic, which opened in June 2004. The clinic sees its mission as providing state-of-the-art acute and secondary care services that reduce waiting lists and attract and retain the highest caliber of health care professionals, to improve and support health care in the West of Ireland. The Radiology Department, for example, was the first to introduce PET/CT to the region. It is this spirit of applying the latest technology for the benefit of patients that led them to the MobileDiagnost wDR.

"We chose the MobileDiagnost wDR because of its ease of use, its mobility, and its quickness in the workflow within the department," explains Ms. Evelyn Smyth, Radiology Manager. The MobileDiagnost wDR delivers everything the clinicians know from their Philips high-end digital DigitalDiagnost room, in a compact, maneuverable unit. This lets the radiographers perform exams with increased



Ms. Evelyn Smyth, Radiology Manager

efficiency, particularly in acute areas of the hospital. The cable-free detector provides for comfortable positioning, and the highly automated Eleva user interface allows rapid, examinations.

After the examination, the UNIQUE image processing software assures the radiographers can deliver great image quality, which the wireless integration rapidly uploads to PACS.

PHILIPS
sense and simplicity

Quick, comfortable, and

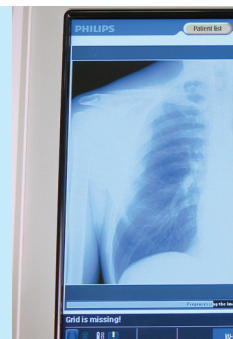
“The ease of use with the system is one of the greatest advantages,” says Ms. Susan Doheny, Senior Radiographer. For the radiographers, this starts with the outstanding maneuverability for getting around the hospital. Ms. Doheny notes that it is even possible for her and her colleagues to steer the machine with one hand.

At the bedside, the cable-free detector is quick to position – not least because it is smooth and flat, and comes with an integrated handle. With the wireless solution, there is no need for concern about cross-contamination from cables. Some of the mobile units the Galway Clinic looked at had detectors connected by wire to the unit. Apart from the extra efforts for cable management in the patient’s vicinity, which is often already cluttered, the team was uncertain whether they would run into hygiene issues if they had cables trailing across the floors in different rooms.

Once the detector is in place, it takes the radiographer one click in the user interface to access patient and examination data from the radiology information system. This sets up the machine appropriately and the X-ray can be taken straight away. A second click completes the exam, and sends the resulting image wirelessly to the PACS.

The UNIQUE image processing software automatically optimizes the image, but the radiographer is free to make adjustments at the patient's bedside, before transferring it. The multi-resolution image processing, combined with the digital detector technology, helps to provide excellent X-ray dose efficiency. “The dose saving is quite significant. It’s about a 50 percent saving compared with our conventional (previous) machine,” says Ms. Doheny. “Also we’ve got an instant dosimeter on the system.” The dose is recorded with the image for immediate reference any time.

The Eleva user interface is at the root of the ease with which the radiographers can use the MobileDiagnost wDR. This is consistent across Philips radiography and fluoroscopy systems, and was already familiar to the radiographers. Eleva automatically sets parameters according to the scheduled exam, view and patient type and therefore reduces the radiographer’s interactions. The contribution Eleva makes to ease of use is also reflected in the training time needed. “Training takes approximately 15 minutes,” says Ms. Smyth – rather than the hours typical for other equipment.



2-clicks to get a result

Convenience and efficiency boost economic value

As the department's manager, Ms. Smyth values the convenience and time efficiency of the MobileDiagnost wDR beyond the training effort. "The time saving within the intensive care is enormous, due to the fact that the patient's management can be dealt with there and then," she says. Typical clinical questions in the ICU include checking the placement of NG tubes or surgical drains. Other clinical questions – common throughout the hospital, including in the Emergency Room or on the various wards – include diagnosing complications such as pneumothorax, or potentially treatable conditions, such as acute pulmonary edema or large pleural effusions. The mobile machine is also involved pre- and intra-operatively. This lets the surgeons check the success of interventions in close to real-time. "Using the MobileDiagnost wDR there is really fast," says Ms. Smyth, "because the surgeons can come out and review images before they go to the PACS."



Dr. Brian Lucey, Consultant Radiologist

Wherever the MobileDiagnost wDR is in the hospital, it allows clinicians to turn examinations around in a shorter time. "We book patients in straight away, take the X-ray straight away, put images on the network straight away," says Ms. Smyth. This frees up radiographers either to get back to the department quickly, or to provide extra services on location.

Making a difference to patient care

Ms. Doheny identifies further time savings. "Having the ability to send images wirelessly greatly improves efficiency," she says. This wireless connection means an image can be on the PACS within 10 seconds. It is available almost immediately for review, no matter where a doctor is in the hospital. And for

the radiologists, this access decreases the report turnaround time. This benefits the patients, because a fast report – or an immediate consultation between the radiologist and other physicians – means the referring doctor can make possible treatment decisions quickly. "Any potential complications which may have resulted from, for example, central venous access catheter placement, can be identified immediately, and therapy instituted," says Dr. Brian Lucey, Consultant Radiologist.

Ms. Doheny adds an example from an emergency in the cath lab: Thanks to MobileDiagnost wDR, the radiographer was able to take a chest X-ray straight away, to discover the patient had a pneumothorax. The doctors then put in a chest drain, and she could take another X-ray to see the



difference. Previously, each of these images would have meant trips to and from the department carrying cassettes and waiting for processing. With their digital mobile solution, no time is wasted in getting the diagnosis. "So in that respect, patient care is greatly enhanced," she says. And adds to that "Five minutes can make a big difference to patient management, especially in an emergency situation where the patient becomes unstable so quickly".



"Five minutes can make a big difference to patient management especially in an emergency situation"

Ms. Susan Doheny, Senior Radiographer

Image quality enhances return on investment

When it comes to reporting, “clearly, image quality, to a radiologist, is paramount,” says Dr. Lucey. This means primarily being able to answer the diagnostic question that a referring doctor has asked. This is a task the MobileDiagnost wDR manages with top marks. The team noticed an improvement in the quality of mobile images, compared with their existing CR system and what they would have expected from any mobile radiography unit: “Mobile radiograph quality is now comparable to that performed in the conventional (digital) radiographic rooms,” says Dr. Lucey.



"Mobile radiograph quality is now comparable to that performed in the conventional (digital) radiographic rooms"

Because of this excellent image quality, Ms. Smyth points out that the department now also uses their mobile unit to help out when there is pressure on the general X-ray room. By wheeling the MobileDiagnost wDR into an empty room, it can work as a second general room. Because it sends the results wirelessly to the PACS, radiographers and radiologists even get the same level of service and access. “What excited me most about this

machine,” says Ms. Smyth, “was its use as a general X-ray machine. Its qualities are similar to using an actual X-ray room. It’s seamless and it’s a really handy backup unit.”

A solution for the future

In fact, Galway clinic is now considering another MobileDiagnost wDR to cover all their mobile radiography needs at a satellite clinic. As the uncertain patient throughput would make a general X-ray room a financial risk, the flexibility of the mobile system makes it an ideal way to meet this need: “Instead of setting up a general room, we decided we might go with the mobile unit because of the quality it gives as a general X-ray room. This allows us then not to have a stationary X-ray room,” says Ms. Smyth.

"Philips is enabling us to improve patient care here in the Galway Clinic"

Whether it is at other sites, or in the Galway Clinic, the Radiology Department sees providing referring doctors with the diagnostic assistance they need – wherever they need it – as their contribution to patient care. This means taking full advantage of what the best technologies have to offer. “The MobileDiagnost wDR is one of these really special things that you just feel part of the future, moving forward with the technology”, says Ms. Doheny. As a further element of aiming for excellence in the services they provide, Ms. Smyth is glad to say that “Philips is enabling us to improve patient care here in the Galway Clinic.”

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Printed in The Netherlands.
4522 962 79921 * NOV 2011