



Mobile digital X-ray makes a dramatic difference

Philips MobileDiagnost wDR excels at quality and speed

Who/Where

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Mobile Infirmery
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Challenge

Provide an efficient alternative to portable CR X-ray that impacts patient care and institutional workflow

Solution

The hospital saves time and money and increase diagnostic confidence with Philips MobileDiagnost wDR

Two renowned institutions discover that mobile digital radiography can have a significant impact on patient care

The digital revolution has come to portable X-ray. By putting the premium DigitalDiagnost system on wheels and adding a wireless detector, the Philips MobileDiagnost wDR X-ray system has become a game-changer.

On the way to becoming an all digital facility, Mobile Infirmery of Mobile, Alabama, put five MobileDiagnost wDR to work.

Replacing a cumbersome CR system, the benefits were immediate. “We were looking for improved efficiencies in workflow, while reducing the variables associated with the CR process,” says Anthony Mosley, Director of Imaging. “And I’m certain we are seeing both since employing our Philips Mobile Diagnost.”

For Jim Prohaska, Director of Emergency Services at Mountain Vista Medical Center in Mesa, Arizona, speed is part of a carefully orchestrated stroke protocol.

“The great thing for us,” he says, “is that I can make a treatment decision in 22 minutes. I literally have the best door to needle time of any stroke program in

the state of Arizona. For this to happen all of the pieces must come together in a very short time, including a chest X-ray with the MobileDiagnost, which we do quickly to discount any pulmonary or cardiac issues.”

Saving valuable time

Timesaving advantages of the MobileDiagnost wDR are particularly obvious for critical and acute care areas where a swift response is essential. Jana Wallace, ER X-ray technologist at Mobile Infirmery has experienced the benefits. “If we have a patient that is being intubated,” she explains, “the Emergency Room physicians can see the X-ray image quickly to determine if the ET tube needs to be repositioned.”

Prohaska manages his Provisional Level III Trauma Center with a similar commitment to time. “Our trauma surgeons want to have their hands on the patient within 30 minutes,” he says. “In those 30 minutes a lot must happen, including a CT scan and an X-ray. The MobileDiagnost clearly enables this. Per patient, we are probably saving anywhere from 20 to 30 minutes from X-ray to OR.”

PHILIPS



Jim Prohaska
 Director of
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Hayward Jones
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“When you’ve got a patient that’s crashing,” he continues, “you want to know what’s going on inside that chest or that belly – immediately. By saving time, we’re actually intervening on an acute event much sooner.” With speed, must come quality. Prohaska’s team relies on clear image detail. “There is so much more definition than there ever was in film,” he states. “With the MobileDiagnost we have a better ability to diagnose using this more accurate picture. Plus the ability to see it right away is just huge.”

What a difference DR makes

At Mobile Infirmary, the five MobileDiagnost wDR units are divided across the medical center for optimal use.

- One in the Emergency Room
- Two in Surgery
- Two for General Imaging across the hospital

Infirmary technologists assigned to general portable duty may not work in a stressful ER or OR environment, but have their hands full. And CR imaging created many expensive obstacles. As Mosley explains, “My team has to cover five floors and acres of space. It was not feasible for two technologists to transport the X-ray system and the number of CR cassettes required for all these exams. We had to use three staff members, with one solely

as a ‘runner’ to transport cassettes, process films and try to keep the remaining technologists stocked with cassettes. It was a terribly inefficient use of staff skills.”

Theresa Coaker, X-ray Technologist and Diagnostic Team Leader (day shift), describes the challenge, “We would load up a wheelchair full of cassettes for our morning portable rounds. After exposure we’d have to bring them all down to the department to develop each one, annotate them and send them off to PACS for the radiologist to review. Then we’d erase the cassettes, load up the wheelchair and start all over again.”

Coaker is ecstatic the MobileDiagnost wDR has changed all of that. “Now we go up with just the MobileDiagnost unit, take the X-ray, and if the physician is at the bedside he can view the image right then and there. We do the annotation, send it off to PACS via WiFi, and move on to the next patient.”

Hayward Jones X-ray Technologist and Diagnostic Team Leader (2nd and 3rd shift), agrees the ability for the physician to stay informed has vastly improved. “In the past we’d have to find the doctor,” says Jones, “or the doctor would have to come down to the department later on to view the image. Now they’re often waiting by the bedside because they know we can put the image up within seconds.”

It’s all about access

Paula Avelar, Lead X-ray Technologist at Mountain Vista loves the way the system moves. “It drives very nicely,” she says. “I can use one hand to make a 90-degree or 180-degree turn without any problem. When I have to be somewhere quickly, I can be.”

The mobile unit assists on so many fronts. It gives a whole new meaning to the term ‘access.’ The MobileDiagnost wDR and its wireless detector help provide a rapid, effective response by allowing:

- Access to all hospital and anatomical areas
- Access to excellent efficiency and workflow
- Access to quick, high-quality images

The compact wheelbase and small turning radius allows the unit to move swiftly through crowded, tight spaces. A telescoping tube arm reaches wide over beds. For Jana Wallace, who occasionally has to work alone, it’s quite manageable. “Positioning the MobileDiagnost bedside is easy,” she says. “If I’m in a small room with lots of other people around and I’m lining up my light field to the detector, I can just push the fine positioning buttons on the tube head and the whole system will go back, forward, or left and right. I don’t have to leave my spot and walk around to where the drive handle is.”



“We can get a good quality image to the radiologist or the ER physician in half the time we could with CR.”

Jana Wallace

ER X-ray Technologist

Mobile Infirmary

“We like the MobileDiagnost because it is completely wireless,” says Coaker. “There is no detector tethering involved. We don’t have any lines interfering, which is especially good with a patient who is already full of lines and tubes. There is no fear of getting tangled.”

Once the technologist has acquired the image, it can be reviewed on the 17” Eleva touchscreen just a few seconds after exposure. The data is received wirelessly and processed by the UNIQUE multi-resolution software. With the full screen mode available in just one click, the image can be quickly verified.

“We do a lot of P.I.C.C. lines,” says Coaker. “It helps to be able to see if that line is exactly where it needs to be. Windowing and leveling the image to better see the tip of the line is a great feature to confirm placement.” Once done, Coaker sends the image from the mobile unit to the hospital network wirelessly.

To provide a more convenient and efficient workflow, the Eleva interface automates worklist management. Updating is a seamless proposition with the wireless system. As Avelar notes, “If we’re in the ICU and we get a new order, we just refresh the worklist and it’s there. We don’t have to go back to the department at all.”

Image quality and low dose

When Mosley ordered his five (5) units for the Infirmary they were each outfitted with a high performance 40kW X-ray generator for increased power. “In 2008, the CDC reported Alabama ranked second in the country for obesity at 31.4 percent,” states Mosley. “We needed an X-ray power plant that could deliver quality images for our bariatric patients. The MobileDiagnost does that.”

“Being a bariatric center of excellence, we have many larger patients here at the hospital,” adds Coaker.

“Previously, when performing a KUB X-ray (radiograph of the abdomen) we wouldn’t get much detail. Now with the power of the Philips machine, there is much more detailed contrast and the diagnostic image quality is improved.”



“Working in the ICU I can save a good 45 minutes across the entire unit (30 beds).”

Paula Avelar

Lead X-ray Technologist

Mountain Vista Medical Center

All of this is accomplished at a low radiation dose to the patient. The MobileDiagnost wDR conforms to DoseWise, Philips comprehensive approach to X-ray dose management. Pre-programmed automatic exposure parameter settings (APR) for different patient types and radiography views not only speeds up the procedure, but also helps optimize dose levels and image quality.

“The exposure factors for the MobileDiagnost are a lot lower than what we were using with CR,” explains Coaker.

Avelar is using the optional Dose Area Product (DAP) meter to measure X-ray dose at the collimator. She says, “It’s important to see that we are within the required dose limits. Now that we have the dose measurement on the unit I can easily see what dose the patient is receiving.”



The patient wins

MobileDiagnost wDR brings digital X-ray technology to the patient bedside so clinicians can conduct fast exams and reach fast conclusions. At both Mountain Vista Medical Center and Mobile Infirmary, this immediacy has had a positive, tangible effect.

“There was a patient with a stab wound to the belly that was called in as a superficial wound,” explained Jim Prohaska, Mountain Vista. “We did a KUB X-ray because we were curious. We found the belly was full of blood and he went directly into the OR.

Seeing that image truly saved his life. We wouldn’t have necessarily caught it that early, because a belly can bleed for a long time before symptoms show.”

Hayward Jones, Mobile Infirmary, states, “My tech partner and I shot an abdominal KUB X-ray on a patient to check if the feeding tube was in the stomach. We couldn’t see it in the image we shot, so we moved up to the chest area and re-exposed. We found the tube coiled up in the patient’s esophagus.

We immediately called the nurse. She took one look, pulled the tube back, and re-advanced it to the correct position. We shot one more X-ray to confirm this. The patient, who had been coughing from the moment we walked in, found instant relief.”

Strong economic value

Compared to cassette or film, digital radiography saves time and money. According to Mosley, “If you look at the supplemental expenditures for CR it involves replacement of plates and cassettes, maintenance on the CR reader, and added labor from your staff. It all adds up.”

Put that digital radiography capability at the bedside and you support a whole new level of effectiveness.

- Technologists can work more efficiently
- Radiologists can read images quickly
- Physicians can make a confident diagnosis
- Patients can receive prompt, informed treatment

Cost savings are not limited to the health care institution. Patients may benefit as well. “We bill in 15-minute increments for critical care,” says Prohaska, “whether from a physician or ER standpoint. So, if you think about the cost to the patient, saving 20 to 30 minutes is a lot of money.”

The MobileDiagnost wDR features the same Eleva interface used across the Philips X-ray portfolio. Intuitive and easy to learn, Eleva can positively impact staff training time and provide smooth access to the hospital network. Paula Avelar likes this integration. “The MobileDiagnost interface is similar to that in our fluoro room,” she says. “It’s easy to move from one to the other.”

Mosley sums up the financial perspective, “With the MobileDiagnost, you make the commitment up front and soon reap the benefits of that decision.”

Efficient use of wireless detector

The wireless portable detector can also be shared with a DigitalDiagnost, Philips premium DR room or EasyDiagnost Eleva DRF room, allowing for efficient use of a single detector.

With a fixed expenditure, detector-room combinations can be customized to an even greater degree. After assigning the wireless portable detector to the respective systems, it can be moved back and forth according to daily needs. The process is simple, click "Attach" on the user interface and the detector will be paired with the chosen system, ready for use.



"This is truly one of the most exciting revolutions in technology that has changed patient care at the bedside."

Anthony Mosley, Director of Imaging, Mobile Infirmary

Success all around

The staffs at both Mobile Infirmary and Mountain Vista Medical Center express delight at the versatility of the MobileDiagnost wDR. "Every one of our physicians at Mobile Infirmary love this machine – from the attendings, to the surgeons, to the ER physicians," says Mosley. "We believe that our commitment to this type of advanced technology is going to help set us apart from the other hospitals in the community."

"We've caught more than one issue with its fast chest X-ray," adds Prohaska.

"We've been able to pick up on some secondary diagnoses that we wouldn't have been able to do until much later into the process. So from a differential diagnosis standpoint we've been very successful."

The MobileDiagnost wDR has certainly made a significant impression on technologist Jones. He says, "Any type of image I'm sent to do, I can acquire and display within seconds. The system really amazes me. I'm still amazed today, even after working with it for almost a year."

Service Agreement – supplemental coverage for wireless portable detector

- Covers technical failures
- Covers failures from accidental drops, including during warranty period when purchased at point-of-sale
- No cap in number of replacements
- No additional cash outlay for replacements due to accidental drop
- Philips includes biomed training in offer

Please visit www.philips.com/MobileDiagnostwDR



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