

Evaluation of a wireless DR detector system in a busy radiology department



Prof. Thomas Vogl is director of the Department of Diagnostic and Interventional Radiology of the University Hospital of Frankfurt where the new Carestream DRX-1 system has been under evaluation for three months.

The new wireless cassette-sized DRX-1 detector from Carestream Health was launched to great acclaim by the radiology community at the end of last year.

At that time, the newly-launched system was still officially described as a “work in progress”. The DRX-1 is expected to be available in many parts of the world first half of 2009.

IHE decided to catch up with one of the first in-field evaluation test sites to see whether the potential of the new system was actually being realised in an every-day clinical environment.

We spoke to Prof. Thomas Vogl, M.D., Director of the Department of Diagnostic and Interventional Radiology in the University Hospital of Frankfurt, Germany.

Q: For how long have you been using the DRX-1 system?

A: We decided to evaluate the new system in two phases, first by carrying out a purely technical and scientific evaluation of the system; only when we had satisfactory results in this phase would we begin real use of the system in clinical cases.

The first, purely technical evaluation of the system started in October of last year. By the end of December we were satisfied that we could safely use the system for real-life cases.

We thus now have approximately one month’s experience in this second phase. With the high work-load in our department, this means that we already have quite a large “hands-on” experience.

Q: Your department already has an impressive list of radiology systems from various different vendors. Did your staff have any problems getting used to the new system or have a long “learning curve”?

A: Not at all. The staff had no particular problems getting used to the new system. Of course, in this respect it helps that the system itself is very user-friendly to operate. Our staff are now well-trained on the new system and are well adapted to it.

Q: How about the clinical quality of the results?

A: That’s an easy question to answer. The overall impression of the system is absolutely outstanding. Of course from a clinician’s point of view one of the most important aspects of any

system is the quality of the images it produces. In this respect, we have no problems — the image quality is very good.

In practice the data we collect from the DRX-1 are used in a comparison study with storage phosphor imaging.

Q: Apart from its ease of use and quality of the results, another feature that Carestream claim about the new wireless system is that it is easy to install and that no modifications are needed to existing X-ray systems. Users can continue to use the Bucky with CR or film-based cassettes if desired. Was this true in your case?

A: Yes. The new system was installed very rapidly, with no facility modification being needed. And while it’s true that we could go back to using film-based cassettes, we find the advantage of the wireless functionality of the DRX-1 to be so great that we keep it in constant use.

The Department of Diagnostic and Interventional Radiology, University Hospital Frankfurt.



Frankfurt’s University Hospital is one of the largest in Europe

Located in the centre of Germany, in the middle of the Rhine-Main area, the University Hospital of Frankfurt serves a population of one to two million people.

One of the largest in Europe, the hospital has 1500 beds and has also a large throughput of outpatients. The hospital covers all medical specialities.

As for the Department of Diagnostic and Interventional Radiology, it serves approximately 150 000 patients per year and offers all diagnostic and interventional procedures. Currently the staff in the radiology department numbers approximately 200 people, 30 of whom are clinical doctors or medical assistants.

The department is extremely well-equipped and has, among other modern instruments, one of the latest CAT-scan systems that uses dual source technology, a PET/CT system, a wide bore 1.5 Tesla MRI system, and an Ultra high magnetic field MRI system (3 Tesla).

The new DRX-1 system



The innovative system features the world’s first wireless cassette-sized DR detector, which simply slides into the table or wall-stand Bucky. Alternatively, it can be used for tabletop projections, just like a conventional cassette. After exposure, the 35 x 43 cm detector wirelessly transmits digital images to the system’s capture console for immediate viewing and manipulation. From the console, images can be quickly forwarded to a printer, PACS archive, or other network destinations. The detector’s light weight (3.9 kg) and wireless operation provide convenient handling—and unprecedented DR positioning flexibility.

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