



“The solution, the service and the relationship all have to be right.”

– THOMAS SCHWARZ, Head of Radiology

Digitization with a trusted partner

Main-Kinzig-Kliniken Gelnhausen continues digitization
process with DR 600 and DX-D 100+

Case Study, Main-Kinzig-Kliniken
Gelnhausen, Germany

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Interview

INTERVIEWEE:

THOMAS SCHWARZ, Head of Radiology



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When Thomas Schwarz was appointed head of radiology at the Main-Kinzig-Kliniken hospital in Gelnhausen, Germany in 1997, the department was still using traditional daylight development machines from Agfa HealthCare. The process of digitization began in 2005 with the introduction of IMPAX, the company’s picture archiving and communication system (PACS). At the same time the hospital acquired an imaging plate system, also from Agfa HealthCare.

“The new fully automatic DR 600 X-ray room went into operation in 2015,” says Schwarz. In early 2016, it was joined by the mobile DX-D 100+. The systems are operated with a total of three detectors, two permanently installed in the Bucky table and wall stand and one WLAN detector connected to the DX-D 100+.

“With this WLAN detector, we can also support an additional conventional workstation,” says the radiologist. He goes on to explain a good reason for detector sharing: “The detectors are very expensive and need to be utilized at maximum capacity to make the investment worthwhile. And of course, a high rate of utilization makes it easier for the hospital management to justify the installation.”

The department continues to use imaging plates with needle-based technology as a backup, for example for mammography. Why needle-based technology? “These imaging plates produce the same image presentation and offer an image quality which is comparable to the DR detectors,” explains Schwarz. The radiologist wanted to avoid images being represented differently. “I imagine the normal finding and this is defined on the basis of certain parameters. I visualize this superimposed on the X-ray image and compare the two,” he says, explaining the interpretation process. “Working with two different images is difficult – especially for clinical colleagues who also make primary diagnoses on night duty. With needle-based technology, we ultimately increase diagnostic certainty.”

PRODUCTION IN GERMANY A CONVINCING ARGUMENT

Although Agfa HealthCare is already a familiar name at Main-Kinzig-Kliniken Gelnhausen – and to Thomas Schwarz – other manufacturers and their systems were of course considered prior to the digitization process. “But none of them offered such good performance for the price, or the same technical innovations as Agfa HealthCare.” For example, the DR 600 offers a modern automatic positioning function and fully automatic tracking, i.e. vertical tracking on the table and wall stand and horizontal tracking on the table.

“We wanted to make the radiology assistant’s job as easy as possible,” Schwarz continues, “and this is exactly what the DR 600 does. The assistant selects the type of examination, the system moves into the appropriate position, then the assistant positions the patient and starts the imaging process. There is no need for cumbersome handling of the tubes, stand and table.”

SIMPLE AND EFFECTIVE: DR 600

For his day-to-day work, the radiologist needs intuitive system operation and smooth processes. “We need to perform examinations quickly and smoothly, especially in the case of accident victims and children.” This is provided, among other things, by the DR detectors, because they eliminate many of the steps that used to be necessary with imaging plates.

As a radiologist in an acute hospital, speed and flexibility are essential because the day’s activities cannot be planned ahead, with sometimes large patient flows to be managed. With the DR 600, this is no problem, as Schwarz can testify. The radiology assistant selects the examination and in most cases uses the pre-defined parameters. “Making settings manually interrupts the process. Today we can normally avoid long waiting times because we work very efficiently,” says the head of department.

His clinical colleagues are equally satisfied, in fact enthusiastic about the DR system, he adds. “For them, as for us, imaging plate technology already represented a significant improvement, which is now continued in the DR systems. We have achieved a successive improvement in image quality.”

The radiology assistants quickly recognized and experienced the benefits too. At Main-Kinzig-Kliniken Gelnhausen, they’ve come a long way. “It’s been a big jump from film developing to digital systems,” reflects the head of department. “Taken together with the PACS and electronic documentation, it was anything but a trivial step. The demands placed on radiology assistants have also noticeably increased. Imaging plates made the workflow easier and eliminated some of the stress, and with the DR systems, this positive effect has been

Another decisive factor was the fact that the DR 600 system from Agfa HealthCare is manufactured in Germany, specifically in Peissenberg, Bavaria. “In some cases we’ve had less good experiences with systems from other manufacturers. With German-made equipment, I can trust in an excellent standard of quality. And the stability with which the system runs confirms that,” notes Schwarz.

For Schwarz, the strengths of the DR 600 lie in the image quality and stability. The radiologist sees himself as a service provider to the hospital with high self-imposed quality standards. “We don’t just want adequate image quality, we want excellence,” he says. Dose reduction is important, he notes, but it’s not the primary consideration. “The image quality is essential to the diagnostic value. I can only reduce the dose to a point where I don’t have any information loss in the X-ray picture. In the DR 600 system we can combine all of this.”

advanced another step.” For Schwarz, one important factor in the smooth introduction of the DR 600 and DX-D 100+ was the user interface. The fact that it is the same as the interface on the computed radiography system makes it easier to get to grips with.

We can also work more quickly because there is no need to walk to the reader and back again. Image acquisition takes place automatically and the X-ray image – optimized with the image processing software MUSICA – is available for evaluation after about six seconds. As a result, with the same team size of 15 radiology assistants, he is able to care for twice as many patients as was the case ten years ago – without additional stress.

Agfa HealthCare continually impresses radiologists with new product features and technologies. The most recent example is virtual suppression of scattered radiation with the MUSICA3 Chest+ Software. “We put it through intensive testing,” says Schwarz, “and our initial assessments are very promising. I expect that we will soon be able to roll out Chest+ in regular operation.”

Main-Kinzig-Kliniken Gelnhausen:

- Digital radiography with DR 600 and DX-D 100+
- Fast, smooth processes
- High image quality with potentially lower radiation dose

MOBILE AND FLEXIBLE: DX-D 100+

In addition to the DR 600, Main-Kinzig-Kliniken Gelnhausen has introduced the mobile X-ray system DX-D 100+. This is mainly used in the intensive care units – one for internal surgery and one neonatal. Every now and again, the system is also required in the stroke unit and in intermediate care.

In these demanding environments, ease of handling and ease of mobility without physical strain are important factors. “The assistants need to maneuver the system in narrow corridors and rooms,” says Schwarz, explaining the challenges involved. “Although the DX-D 100+ looks on the bulky side, it’s very maneuverable.”

The intensive care units also previously used imaging plates. For Schwarz, the advantage of the DR system is again the quick

availability of the images – which is even more important in the ICU: “For example, we can check catheter positions immediately, see whether the catheter is lying correctly or whether a pneumothorax has been punctured. In the event of any doubt, you need to react straight away – and now we can. Before, the assistant first had to take the plate to radiology and read it there. This cost a huge amount of time and meant that the workflow was more than just sub-optimal – especially when several control examinations had to be carried out one after another.” The benefits are obvious: the hospital saves staff resources, the ICU clinician can perform diagnoses more quickly, and the patient receives faster care.

“After all, the most seriously ill patients should get the best X-rays,” says Schwarz, “and now we can guarantee that.”

TOGETHER INTO THE FUTURE

The head of radiology sees the future as digital – with Agfa HealthCare at his side. “Over the years we’ve developed a very close and successful collaboration, thanks in no small part to the sales and service teams,” Schwarz says.

He also stresses the constructive dialogue and prompt response to questions. “The company should certainly cultivate and maintain this culture, because it sets it apart from other providers. The solution, the service and the relationship all have to be right. It’s because all these things are effective that the relationship between the hospital and Agfa HealthCare works so well.” ■

Main-Kinzig-Kliniken Gelnhausen



Main-Kinzig-Kliniken unites the hospitals in Gelnhausen and Schlüchtern, which operated independently until 1997. Providing basic and general care, the hospitals have a total of 777 beds. Gelnhausen is the larger hospital with 456 beds. Each year, the hospitals treat 31 200 inpatients and 113 000 outpatients.



The radiology department at Main-Kinzig-Kliniken Gelnhausen performs some 80 000 X-ray examinations per year with seven physicians and 15 radiology assistants.



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