



Dynamic imaging, for a dynamic imaging environment

With the DR 800 imaging multi-tool, the West Suffolk NHS Foundation Trust has turned a dark fluoroscopy room at the West Suffolk Hospital into a productive space for dynamic imaging that eliminates waste and adds value to the patient's care and experience.

Case study: West Suffolk Hospital, United Kingdom
West Suffolk NHS Foundation Trust

AGFA 

Case Study

INTERVIEW WITH:

MR. NIGEL BEETON

IMAGING SERVICES MANAGER

The role of fluoroscopy procedures in imaging and patient care is changing, extending well beyond the traditional barium enema, says Nigel Beeton, Imaging Services Manager for West Suffolk NHS Foundation Trust. But when West Suffolk Hospital replaced its aging fluoroscopy unit with Agfa's DR 800 direct radiography (DR) X-ray room, it not only got fast, high-quality dynamic imaging, but also a replacement for its computed radiography (CR) full leg/full spine system.

The multi-tool, ergonomic DR room has enhanced patient and staff experience, sped up patient and imaging flow, and supported the hospital's lean methods for improving patient care. The changes have been "dynamic", indeed!

ERGONOMIC DESIGN THAT ENHANCES EFFICIENCY AND PATIENT EXPERIENCE

West Suffolk Hospital, in Bury St. Edmunds, England, is a busy general hospital serving a population of around 280,000 in the region of west Suffolk, as well as referrals from other regions. As part of its complete portfolio of imaging systems, the Imaging Department maintains two fluoroscopy rooms: one for interventional procedures (such as renal or coronary angioplasty), and the other for general fluoroscopy. In 2018, the two rooms were used to carry out a total of 4,507 fluoroscopy exams.

With the hospital's previous general fluoroscopy unit aging out, the Trust was looking for a replacement. Having 'gone direct digital' with Agfa in 2016, the Trust wanted to see what other solutions the vendor could provide to meet its needs.

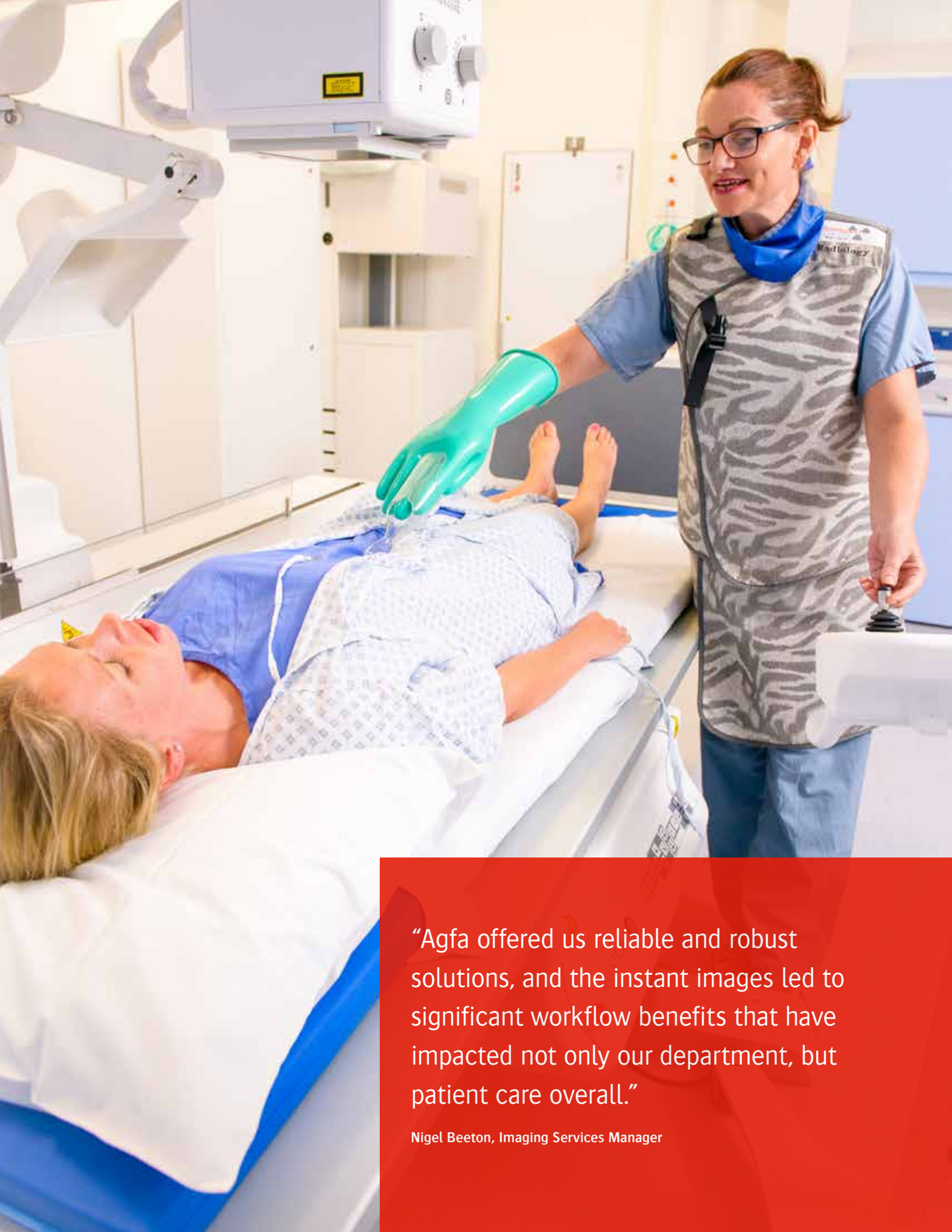
"We had very strict criteria regarding the room design," explains Mr. Beeton. "When fluoroscopy was all about barium enemas, the most important factor for the room was patient privacy. Now, it's more about ergonomics, and increasing efficiency by maximizing the use of space. The DR 800 meets this criterion perfectly."

The new room is lighter, airier and less claustrophobic, he explains: "It's more comfortable for the patient, and more convenient for staff. The ergonomic table-side control panel is easy to use. Plus, we were able to place the unit closer to the back wall, leaving more usable space within the room."



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Nigel Beeton, Imaging Services Manager



“Agfa offered us reliable and robust solutions, and the instant images led to significant workflow benefits that have impacted not only our department, but patient care overall.”

Nigel Beeton, Imaging Services Manager

VERSATILITY, SPEED AND QUALITY IN DYNAMIC AND STILL IMAGING

Offering very efficient and easy imaging, the DR 800 is supporting a faster exam flow for the department. “It has plenty of memory to acquire a lot of images, which is especially crucial for dynamic imaging,” describes Mr. Beeton. “It lets the user quickly access, store and process the images, and then get on to the next patient. And of course, the image quality is excellent.”

Mr. Beeton calls the DR 800 “a market-leading design”: “Dynamic images often have lower resolution, but the DR 800 provides amazing detail and resolution for moving and static images. It has the bandwidth to take data right off the detector and put it in front of the user in real time. It’s astonishing.”

While the DR 800 is the department’s “workhorse” for fluoroscopy, what really made the difference for the hospital was its ability to replace a second aging system: the old CR unit used for full leg/full spine imaging. “With a static unit for full leg/full spine, you can end up with distortion in the upper and lower ends. The DR 800 scans over the patient, so the X-ray beam is perpendicular to the receptor, eliminating the risk of distortion. When we were comparing systems, we saw that the DR 800 is state-of-the-art compared to what else is available, both in terms of software and hardware. Again, you have more memory and faster speed of acquisition, which is better for patient care and flow.”

AN “OPEN ACCESS” IMAGING DEPARTMENT: NO MORE APPOINTMENTS!

While Nigel Beeton notes that the DR 800 is excellent for general radiography, he explains that, for West Suffolk Hospital, it isn’t needed in this capacity. “Our two DR 600 X-ray rooms in the department (plus a third unit in the emergency department) are so efficient, we don’t actually use the DR 800 as a backup.”

The DR 600s were installed in 2016, taking the imaging department from CR to DR, and making some major changes for patients and staff alike. “We had used CR from 1996 to 2016, but it was time to change the equipment. Agfa offered us reliable and robust solutions, and the instant images led to significant workflow benefits that have impacted not only our department, but patient care overall.”

Nigel Beeton highlights that the imaging department has become an “open access facility” for patients: “This means patients no longer have to make appointments. The referring doctor simply gives them the request form, they show up at their own convenience, and we take care of them.

“Wait times for imaging are no more than 30 minutes, and then the patient is in and out of the imaging rooms.

With DR, the time required to make a chest X-ray dropped from 2 minutes to 30 seconds. In a department that carries out around 220,000 images each year, this increased productivity makes a huge difference.

Our imaging department has seen clear and significant time benefits.”



AGFA’S CONTRIBUTION:

Agfa worked closely with the West Suffolk NHS Foundation Trust to ensure that the solution would meet the requirements of the West Suffolk Hospital, including in terms of room design. Agfa was pro-active during the installation in finding ways to ensure the most efficient use of the room, while helping to create a light, open, airy space.



AGFA SOLUTIONS

DR 800

- Digital imaging multi-tool for radiography and dynamic imaging applications
- Ergonomic in-room, table-side and remote-control systems
- High-frequency fluoroscopy generators (50, 65 or 80 kW)
- MUSICA workstation with dynamic image processing
- Advanced Cesium Iodide (CsI) detectors offering high-speed, high-resolution imaging and potential for a lower dose
- EasyStitch technology, for seamless automatic full leg/full spine stitching directly on the table without extra in-room equipment
- LiveVision Technology allowing accurate dose-free remote positioning

DR 600

- High-productivity and high-throughput ceiling-suspended digital X-ray room
- Full automation, auto-positioning and auto-tracking
- ZeroForce Technology, offering smooth operation with almost zero effort for manual movements
- Significant potential for dose reduction, with the Cesium Iodide detector¹
- Excellent image quality with MUSICA image processing software

LEAN METHODOLOGY FOR CONTINUOUS IMPROVEMENT

All of Agfa's DR rooms include the MUSICA workstation, which handles image processing and the acquisition workflow, and is also helping the Department to achieve its "lean methods" goals. More and more NHS Trusts are adopting lean methodology, which the NHS defines as "the continuous improvement of the flow of value via the elimination of waste by the people who do the work, in their workplace, under the caring guidance of a teacher".

"The MUSICA image processing software enables us to get the right image the first time, helping avoid duplicate images or retakes. The multi-scale technology provides a lot of breadth in the image. The parts that might otherwise be too light or too dark can now be used for diagnostic purposes," comments Nigel Beeton.

"Furthermore, the MUSICA interface is already familiar to our staff, thanks to the DR 600s. So our staff are at home in the environment, and can work well, without wasting time thinking about which system is which, etc."

The LiveVision technology that comes with the DR 800 also supports lean methods, he comments. "LiveVision is a very useful tool that gives an accurate idea of what will be imaged before you actually make the image. That means you don't have to use the X-ray itself for positioning: a process that increases patient radiation dose while contributing absolutely nothing to the patient's wellbeing."

In the end, the DR 800 has ticked all the boxes for the Trust. As Mr. Beeton concludes, "Not only does it provide us with high-quality fluoroscopy and full leg/full spine, but it has transformed the room into a light, airy and, above all, more efficient space. This improves our health and safety performance, which is part of our risk assessment. The DR 800 has been a very welcome addition to our imaging department."

¹ Testing with board-certified radiologists has determined that Cesium Bromide (CR) and Cesium Iodide (DR) detectors, when used with MUSICA image processing, can provide dose reductions between 50 to 60%, compared to traditional Barium Fluoro Bromide CR systems. Contact Agfa for more details.



DID YOU KNOW:

- The West Suffolk NHS Foundation Trust is one of a handful of acute general hospitals in England to hold the highest possible rating by the Care Quality Commission— 'outstanding'.
- The Trust is one of 17 hospitals named a 'Global Digital Exemplar' by the NHS. These are internationally recognized NHS care providers that deliver exceptional care, efficiently, through the world-class use of digital technology and information flows.
- The imaging department of the West Suffolk Hospital, which carries out about 220,000 imaging exams each year, is fitted with an Agfa DR 800, 2 Agfa DR 600 X-ray rooms, 2 CTs, 2 MRIs and 3 mobile X-ray units. There is another DR 600 in the emergency department and several more mobile X-ray units throughout the hospital.



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Nigel Beeton, Imaging Services Manager

For more information on Agfa, please visit our website on www.agfa.com ■

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