

SPREADING THE WORD ABOUT POINT-OF-CARE ULTRASOUND

Point-of-care (POC) ultrasound is commonly used in anaesthesia departments, but has many potential applications in a range of clinical areas. The Evangelisches Krankenhaus in Unna, Germany, has adopted an original approach to expanding its POC ultrasound capabilities, training 72 doctors from different departments across the hospital to take full advantage of the technique. Dr. Wolf Armbruster, Head of Anaesthesia, Intensive Medicine and Pain Therapy at Unna, explained.



Dr. Wolf Armbruster

Head of Anaesthesia, Intensive Medicine and Pain Therapy, Evangelisches Krankenhaus Unna, Germany

The Evangelisches Krankenhaus Unna is a 320-bed hospital with general, vascular, orthopaedic and trauma surgery units, as well as internal medicine and a large neurology department. The hospital has routinely used POC ultrasound in anaesthesiology for some years but, until recently, it was not generally used elsewhere in the hospital. Two years ago, the hospital embarked on a project to train doctors in every department to use the technique, encouraging the adoption of POC ultrasound across all areas of clinical practice. Dr. Armbruster explained: "I have been using ultrasound in my anaesthesia practice for many years and am actively involved in running training courses, encouraging others from all over the country to use the technique. A couple of years ago, I realised that although our anaesthetists regularly use POC ultrasound, it was not common practice for the entire hospital. We decided to run in-house training for all our doctors, whatever their department, allowing them to develop their ultrasound skills and the confidence to practice the technique."

The hospital-wide programme saw 72 doctors undergo training in emergency ultrasound



– including vascular access, respiratory distress diagnostics, FAST and focused echocardiography – discovering its benefits and how to capture specific, reproducible images. Dr. Armbruster continued: "FAST is one of the main applications of POC ultrasound in emergency medicine. Knowing that the trainees came from varied backgrounds and had different understanding of which anatomical landmarks to study, we wrote a short textbook about the use of sonography in emergency situations. This ensured that every participant knew the theory behind FAST and how it can help rapid diagnosis and implementation of appropriate treatment. Another important application covered during the course is ultrasound needle guidance, which is now quite commonly used in emergency medicine for line placement."

In addition to implementing the training programme, the hospital decided to standardise its POC ultrasound systems, making it easier for doctors to use the technique across all departments. "Our aim was to introduce a hospital-wide system that enabled ultrasound to be brought to any ward where it was required, avoiding the need to transfer the patient to the radiology department. We already use FUJIFILM SonoSite systems in anaesthesiology and have found them to be reliable and intuitive, and so we chose the company's X-Porte® and M-Turbo® systems for the other departments. They are ready to use in seconds rather than minutes – which is crucial for any portable equipment – and patient images can be transferred to our radiology information system and viewed from any PC in the hospital, which is very important. In addition,

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the systems are very robust and have a five-year warranty, which are key considerations for any equipment moved between departments.”

“Our doctors have really embraced the idea of bringing ultrasound to the patient, and are using it more and more. It takes a little time to get used to a new way of working but, as soon as one person in a department begins to use POC ultrasound, others follow. It is also easier to have systems from only one manufacturer, as there are fewer operating systems to learn. Having consistency across departments is especially important for doctors on surgical rotations; if each department has a different ultrasound system it is harder for them when they move to a new area. However, if each specialty has the same equipment, it is quite straightforward; the doctors are familiar with

the systems and know how to operate them, and so they have the confidence to use ultrasound.”

“We are now building on this success, and are about to launch a continuous education programme. Once a week, we plan to run a short course for a small group of doctors, giving them the opportunity to refresh their theoretical knowledge and practical ultrasound skills. In addition, we run a lot of training courses for anaesthesiology and emergency ultrasound, which are open to doctors from other hospitals. The courses have proved popular not only in Germany, but also with German-speaking clinicians from countries such as Austria, Switzerland, Poland and the Netherlands, helping to further establish our hospital’s reputation as a large educational centre for ultrasound,” Dr. Armbruster concluded.



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