

The changing face of anaesthesia



Standard operating procedures are now commonplace in many commercial and industrial environments, but do they have a place in patient care? With constant pressure on healthcare providers to improve the quality and efficiency of care while reducing costs, standardisation of patient management is a logical step towards more streamlined services. Anaesthesia is one area that is beginning to embrace this approach, combining regional nerve blocks with ultrasound guidance to improve both the quality and effectiveness of patient care while minimizing hospital stays. Dr. Martin Zoremba (PhD), Chief Registrar in the Anaesthesia Department at Kreisklinikum Siegen, describes the transformation of his department and the benefits that a standardised approach offers.

The benefits of standard operating procedures (SOPs) are widely recognised across a broad range of industries, but the healthcare sector has been slow to adopt this approach to improving efficiency, with the need for an individualised approach to each patient's care often cited as a reason to avoid standardisation. However, with healthcare budgets continuously being stretched, the need to ensure efficient and cost-effective patient care is ever growing. Ambulatory surgery is a good example of how healthcare practices are changing to deliver cost savings while improving patient care and satisfaction. Widely regarded as a more efficient way of carrying out many minor operations, this approach relies on using regional nerve blocks as an alternative to general anaesthesia. This helps to shorten recovery times – often allowing patients to return home the same day – and avoids the potential complications associated with general anaesthesia, as well as providing better post-operative pain control. Regional blocks also improve safety and simplify management for high risk patients, making the technique especially useful for time critical interventions in trauma patients.

Despite these advantages, many hospitals across Europe are yet to fully embrace regional anaesthesia. There are a variety of reasons for this, including a lack of funding for the point-of-care (POC) ultrasound systems necessary to quickly and effectively carry out regional blocks, a poor understanding of the workflow benefits, and a resistance to changing established practices, from both within and outside the anaesthesia department. Dr. Martin Zoremba is a leading proponent of this approach, having studied a PhD in regional anaesthesia and perioperative haemodynamics using ultrasound at the *University Hospital of Giessen and Marburg*. Since moving to *Kreisklinikum Siegen* in 2015, he has completely overhauled the way the department runs, introducing POC ultrasound for regional anaesthesia and standardised practices or 'recipes' for many of the departments protocols. Dr. Zoremba explained: "When I arrived in the department, there was very little regional anaesthesia being performed, and no use of POC ultrasound. Based on my experiences in Marburg, I knew the benefits that this approach could bring to both patient care and the department's workflow, and immediately began training the anaesthesia team here to perform ultrasound-guided regional blocks. We also created SOPs for many of our activities within the department, including how and when ultrasound should be used."

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Within a year, the department had switched to regional anaesthesia for a large proportion of procedures. This dramatic change in how the department operates initially met with some resistance, but the benefits quickly became clear. Dr. Zoremba continued: "SOPs make it very clear for everyone what the correct protocol is, simplify decision making and help to improve the flow of patients. This ensures a consistently high level of care and allows the department to run efficiently while still meeting the individual needs of each patient. Successfully converting to this type of approach requires both staff and management buy-in and, just as importantly, clear goals from the outset. For example, within our department, the economic argument for switching to ultrasound-guided regional anaesthesia and pain control was very clear. Every day a patient spends in hospital costs approximately €500 so, even if we only shorten each patient's stay by one day, that saves over €1 million for the 3-4,000 orthopaedic and trauma patients we treat each year. Equally importantly, the changes we have implemented have led to improved patient satisfaction and a much smoother flow of patients, so staff can clearly see the advantages."

Dr. Zoremba attributes this rapid turnaround to an intensive training programme and the ease of use of the department's [FUJIFILM SonoSite X-Porte](#) POC ultrasound systems. He continued: "We use a 'landmark' based anatomical approach, making it easy for even novice ultrasound users to quickly learn to locate the nerves and guide the needle to the injection site. We combine this with an in-plane technique using the X-Porte's excellent linear transducer, as this offers very good needle visualisation, even for inexperienced users. We can perform over 99 per cent of all blocks this way – even very deep blocks and sciatic blocks – which is both fast and efficient, and avoids the use of nerve stimulators, improving patient comfort. Each anaesthetist in the department has been trained in this way, and newly qualified junior doctors coming through

the department undertake a three-week 'boot camp' of one-to-one training in ultrasound-guided blocks with a senior registrar."

"Our FUJIFILM SonoSite X-Porte systems are ideal teaching tools, and represent one of the most complete devices on the market for anaesthesia. The touchscreen interface is also very good, making it easy to optimise images, and being very easy to clean. Just as importantly, the versatility of the X-Porte allows us to perform other types of ultrasound scan – particularly transthoracic echocardiography (TTE) for the haemodynamic management of trauma patients.

Pre- and perioperative TTE evaluation using the X-Porte can be easily implemented, allowing optimized, patient-specific risk management and treatment. This avoids overloading the patient with anaesthetic, shortening recovery times and hospital stays, which also helps to reduce pressure on post-operative intensive care resources. This is good for both the patient and the hospital."

"These examples show how changing even small elements of workflows can benefit the whole department, and many anaesthesia department heads will have had similar ideas. Unfortunately, resistance to changing long-established individual practices can be a significant challenge; many good ideas have never been implemented due to a lack of resources or support, either internal or external. To help address this, we have recently developed a new anaesthesia workshop – to our knowledge, the only one of its kind in Europe – which focuses not only on POC ultrasound skills, but also how to implement them. Combining theoretical and hands-on ultrasound training with sessions on change management, we hope this will enable more anaesthesia departments to benefit from the use of regional anaesthesia."

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Published on : Tue, 19 Sep 2017