

ULTRASOUND GUIDANCE MAKES REGIONAL ANAESTHESIA A WALK IN THE PARK

Park-Klinik Manhagen is a privately run hospital in north east Hamburg that provides specialist ophthalmology, orthopaedic and trauma surgery to around 24,000 patients each year. Chief anaesthetist Dr. Ulf Großmann described how ultrasound technology has proved an essential aid to successful regional anaesthesia, explaining the benefits of ultrasound-guided techniques for clinicians and patients.

Park-Klinik Manhagen is a modern 212-bed hospital that offers specialist ophthalmology, orthopaedic and trauma surgery services to patients from Germany and abroad. While the majority of operations are scheduled surgery – for example for hip and knee joint replacement, spinal surgery and scoliosis – the hospital also runs a casualty clinic for minor injuries, such as broken arms and legs. Regional anaesthesia, originally performed using nerve stimulators, is now commonplace, and ultrasound-guided techniques are considered essential. Dr. Großmann explained: “My predecessor at Park-Klinik did a great deal to establish the use of regional anaesthesia performed using nerve stimulators, and so when I joined the clinic in 2008, there were already several specialists with a lot of experience in the technique. However, the trend across Europe was increasingly towards the use of ultrasound needle guidance. We needed to keep up to date, and so I suggested that this was something we should implement.”

In 2010, the clinic invested in a SonoSite S-Nerve™ instrument for regional anaesthesia. Dr. Großmann continued: “I attended a basic training course after we purchased the S-Nerve, plus some further DEGUM ultrasound training. For the first year, I was the main user of the system, and then I began to train other doctors and some nurses. Initially, because they could perform procedures so quickly using nerve stimulation, they did not think that ultrasound would be beneficial. However, it soon became obvious that ultrasound-guided blocks were more convenient, and the difference between the techniques became clearer as more people began to use it. In the recovery room,

it was evident which patients had received ultrasound-guided blocks for pain relief and which hadn't; the blocks that didn't work were always the ones that were performed without ultrasound. It took about a year for everyone to become familiar with the technique but, since 2012, we've been using ultrasound-guided regional anaesthesia widely. We perform around 5,000 peripheral nervous blocks – sometimes a combination on one patient – a year, and practically all of them are now done using ultrasound. Hardly any other clinic in Germany can match that figure, and so a lot of people visit the department to observe and assist with ultrasound-guided peripheral blocks, gaining the experience of performing as many as 40 to 50 blocks in one week.”

The introduction of the point-of-care ultrasound system was so successful that the department has since acquired two more S-Nerves and a SonoSite M-Turbo®. The surgical unit has 10 operating theatres, split into three sections, each one now with its own stand-based S-Nerve. However, there were still occasions when more ultrasound systems were needed, and so the clinic purchased an M-Turbo, equipped with linear, sector and abdominal transducers. The portability of the system allows it to be used anywhere, and it gives the team additional diagnostic capability – for example transthoracic echocardiography, or the investigation of potential phrenic nerve paralysis or collapsed lungs – enabling an immediate diagnosis to be made at the bedside, and avoiding the need to transfer the patient to the X-ray department. It is also used to insert central venous catheters, and for problematic venous punctures.

REGIONAL ANAESTHESIA



Dr. Ulf Großmann
Chief anaesthetist,
Park-Klinik Manhagen, Hamburg

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Dr. Großmann added: "When you have different operators, with varied ultrasound backgrounds, ease of use is very important. We also need extremely good image quality for our nerve blocks. When we bought our first S-Nerve system in 2010, no other instrument offered the same combination of straightforward operation and high quality imaging. Robustness was another key consideration, along with the five-year guarantee and, in the time we have been using SonoSite systems, we have had no issues with breakdowns or defective transducers. We're very satisfied."

"Ultrasound is now an integral part of our continued training, and every new member of staff attends a DEGUM course. We routinely use ultrasound guidance to administer regional anaesthesia for surgical patients, with additional peripheral nerve blocks, rather than conventional pain therapy, for post-operative pain management. In the eight years I have been at Park-Klinik, in the region of 20,000 ultrasound-guided nerve blocks have been performed, without a single adverse effect. It's simply quicker and safer for the patient".



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