

Made For life



At The Radiology Clinic in Queensland, the focus is on providing patients with the highest quality care and precise diagnoses, particularly when it comes to MSK and nerve conditions.

The clinic's use of the Aplio ultrasound system has made a noticeable difference in the way MSK and nerve conditions are diagnosed and treated. The system's ability to capture high-definition images with great depth and detail allows clinicians to view intricate details of the muscles, tendons, and nerves, enabling more accurate diagnoses and better-targeted treatments.

⁶⁶ The clarity and depth we can achieve with the Aplio system has transformed our approach to MSK and nerve imaging. Once challenging nerve assessments are now much more reliable and insightful. **JJ**

lan Stewart, chief sonographer, reflects on the benefits of the site's six Aplio i800 ultrasound systems.



lan Stewart, Chief Sonographer at The Radiology Clinic in Queensland, has over 30 years of experience in medical imaging. After qualifying as a radiographer in 1984, he worked across regional Queensland before settling on the Sunshine Coast. Inspired by his wife's career, lan pursued a post-graduate diploma in medical ultrasound in 1993. He has since specialised in MSK ultrasound, becoming a leader in imaging complex nerve structures.

Meeting increasing demands

Nerve ultrasound provides a non-invasive method to assess nerve structure and pathology. Its real-time imaging capabilities enable dynamic evaluations of nerve function, offering precise guidance for interventions like nerve blocks. This combination of non-invasiveness and real-time imaging enhances both clinical decision-making and treatment planning. "In our practice, the need for increased nerve imaging has been driven by requests for image-guided pain management interventions, such as cortisone injections and RFA treatments. As a result, there has been a notable rise in referrals for nerve ultrasound," says lan. We're able to see nerves in areas like the hands and feet with a level of detail that wasn't possible just a few years ago.



Imaging peripheral nerves, particularly in areas like the hands and feet, can be challenging due to their small size, complex anatomical surroundings, and the need for high-resolution imaging to distinguish nerve structures from adjacent tissues. With its high-resolution imaging, the Aplio i-series allows clear visualisation of small peripheral nerves, even in deeper or anatomically complex regions.

"We're able to see nerves in areas like the hands and feet with a level of detail that wasn't possible just a few years ago," says lan. "For the growing number of patients with nerve pain and injuries, we can now offer them more accurate diagnoses and more effective treatments."

The ability to quickly and confidently identify and track small nerves is crucial in nerve imaging. Canon's iBeam+ beamformer and iDMS matrix technology deliver an ultra-thin ultrasound beam, ensuring superior imaging with high-frame rates, enhanced penetration, and exceptional detail resolution.

Greater confidence for safer, more effective treatment

"The penetration at high frequency is a gamechanger," lan emphasises. "We can now see deep, small nerves with clarity, and that makes a huge difference, especially as the population grows and the physical size of patients increases."

The high-frequency 22Mhz Hockey Stick used at The Radiology Clinic offers excellent depth and detail, allowing clinicians to visualise deep, small structures with clarity. This enhanced imaging supports nerve block injections and other procedures, providing greater confidence in targeting affected areas with precision. As a result, the treatment process becomes safer and more



Faster scanning without compromising image quality

"One of the key benefits of the Aplio system is its ability to be finely tuned to meet the specific needs of the user. The presets are great, but the ability to fine-tune and optimise for each patient makes the Aplio i800 stand out," says lan. Efficiency and streamlined workflow are crucial in nerve imaging, as they ensure accurate and timely effective, helping to minimise complications and improve patient outcomes.

With clearer images, clinicians are better equipped to identify issues like nerve compression, inflammation, or abnormalities that may require intervention.

"With the spatial and temporal resolution of the Aplio i800, we can target specific nerves more precisely when performing ultrasound-guided injections, reducing the risk of complications and improving the efficacy of treatments. This not only enhances patient safety but also contributes to faster recovery times and better overall treatment outcomes", says lan.

lan recalls an example of how the site's advanced imaging capabilities influenced patient diagnosis and treatment. A patient referred for chronic anterior ankle pain was diagnosed with a thickened superficial peroneal nerve. This was visible due to the systems high-resolution imaging capabilities. After an ultrasound-guided injection, the patient's symptoms resolved completely.

"Seeing that superficial peroneal nerve so clearly was key to resolving that patient's pain after years of suffering," Ian reflects. "Without the Aplio's depth and detail, I don't think we would have caught the nerve involvement so accurately."

assessments while minimising the potential for errors. The Aplio's customisability enhances workflow by allowing clinicians to quickly adjust settings and adapt to each patient's unique anatomy, ultimately improving diagnostic confidence and patient outcomes.

The systems' performance at the clinic is complemented by the support provided by Canon. "I am a fan of the machines, but what stands out for me is the people. The local Canon applications specialists and engineers are highly qualified and experienced and make us feel like we have our own personal team to call upon," Ian says.

The Aplio i800 goes far beyond superior image quality; it's about improving workflow and efficiency in a busy clinical environment. The system's user-friendly interface and intuitive controls allow for quick adjustments, helping sonographers perform scans faster without compromising image quality.

In clinical settings where time is often of the essence, the ability to quickly adjust settings and optimise images is a crucial advantage. The advanced imaging technologies embedded in the Aplio i800 also contribute to enhanced efficiency,



Figure 1 Longitudinal view of the median nerve at the wrist using the matrix i24LX8 transducer.

making it easier for clinicians to capture the detailed images required for nerve imaging, reducing the time needed to diagnose conditions and plan treatments.

lan mentions that ultrasound-guided procedures are already changing the landscape of patient care.

"The Aplio i800 is helping clinicians perform these procedures with greater accuracy, and as the technology evolves, it will likely become an even more integral part of routine pain management in radiology clinics," lan concludes.



Figure 2 Median nerve at the distal wrist showing fascicular detail appreciated with the i22LH8 Hockey Stick, scanning at a frequency of 22Mhz.



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