

ACUSON Sequoia

Improving diagnostic accuracy in pediatric ultrasound

➤ siemens-healthineers.us/ultrasound/pediatrics





Unique challenges in pediatric ultrasound

Kids are not small adults. Pediatric patients present unique challenges and require high-resolution imaging at high frames. Kids also need dedicated imaging tools to manage imaging needs across various depths and patient sizes.



Ultrasound is often the first line of imaging for many indications due to the reduced radiation exposure, portability, temporal resolution, and the ability to provide a diagnosis without the need for additional imaging.



ACUSON Sequoia

A new standard in pediatric ultrasound

We designed the ACUSON Sequoia to combat the unique challenges of pediatric ultrasound. ACUSON Sequoia has dedicated pediatric transducers and measurement packages. It also scans faster and delivers more image quality than conventional ultrasound⁴. ACUSON Sequoia delivers the highest levels of diagnostic accuracy in the premature neonate to the adult-sized teenager.



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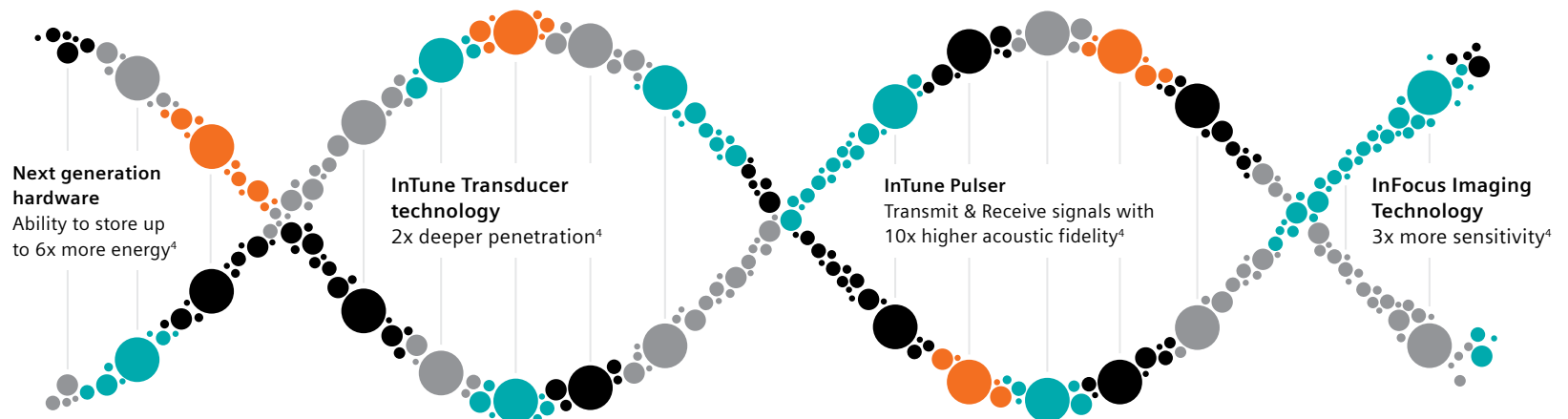
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Addressing unwarranted variability

Increased patient movement, heart rates and respiratory rates are common when imaging children and make the acquisition of high-quality b-mode, color and Doppler images a challenge.

Built from the ground up with a new imaging architecture to address these challenges, ACUSON Sequoia enables powerful automation in each major mode to reduce ultrasound variability with no user interaction.

The ACUSON Sequoia system's powerful architecture eliminates the need for conventional focal zones to create a fully focused image with faster frame rates than conventional systems for the occasional uncooperative little ones.⁴





Specialized transducers optimized for pediatrics

Pediatric imaging ranges from the premature neonate to the adult sized teenager. Therefore, the imaging of pediatric patients requires both small as well as conventional footprints with adjustable frequencies to adapt to various depths and patient needs.

The 11M3 single crystal micro-convex transducer delivers a small footprint with superb detail and temporal resolution to manage those tiny acoustic windows and isolette scanning often required in the neonatal exam.

ACUSON Sequoia transducers are optimized for pediatric imaging and specifically designed to produce optimal acoustics for each clinical use case to offer the best signal fidelity.



11M3 single crystal micro-convex transducer

An innovative solution for neonatal imaging

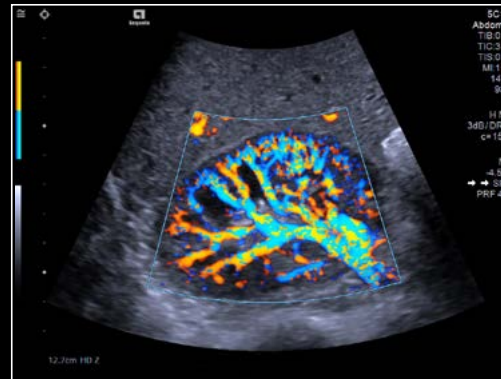


Download our flyer to learn more about the transducers available on the ACUSON Sequoia

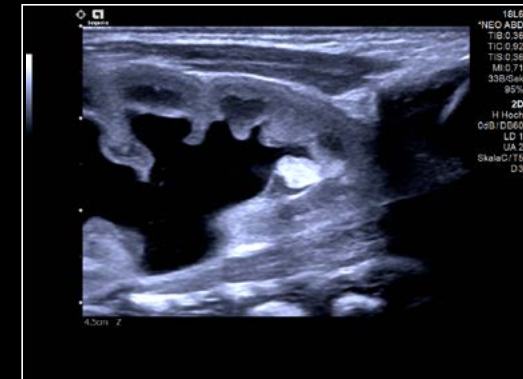




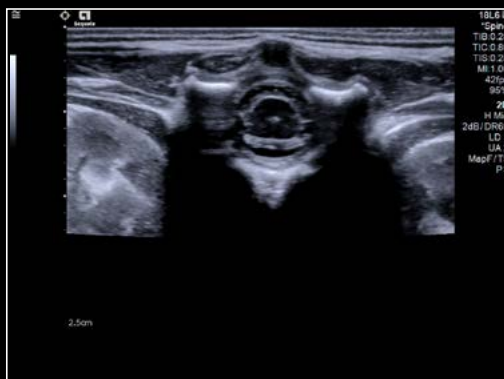
InFocus Imaging delivers image uniformity throughout the field of view with no user interaction as seen in this sagittal midline view of the neonatal brain using the 11M3 single crystal micro convex transducer.



Slow Flow uses smart filters and adaptive signal enhancement for imaging smaller, low-flow vessels further into tissue like this pediatric kidney with reduced flash artifact.



Versatile Linear Transducers optimized to perform a variety of pediatric clinical use cases as seen in this high resolution sagittal left kidney view using the 18L6 transducer.



Exquisite near field resolution demonstrated in this transverse view of the neonatal spine at the level of the kidneys using the 18L6 transducer.



AutoDoppler will automatically optimize relevant Doppler parameters immediately upon freeze for improved spectral analysis and workflow as seen in this transcranial Doppler view.



Trapezoid expands the field of view on linear transducers allowing increased versatility as seen using the 10L4 transducer in this pediatric abdomen demonstrating the liver, right adrenal gland and gallbladder.



Know More.

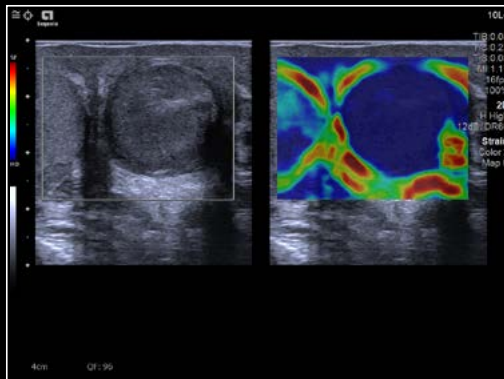
Personalize when it matters

Ultrasound's advantages in pediatric imaging include the lack of ionizing radiation and the reduced need for sedation as ultrasound is a real-time imaging modality. Advanced applications such as contrast enhanced ultrasound (CEUS) and elastography expand these advantages into additional use cases.

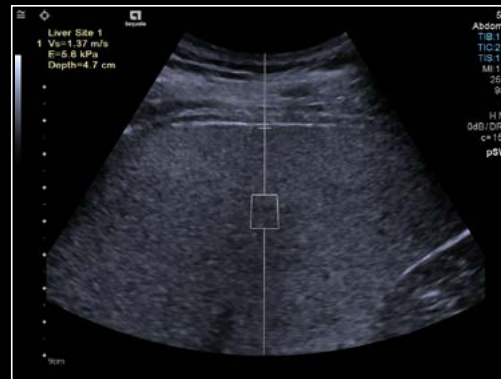
The ACUSON Sequoia was built from the ground up with dedicated hardware for exceptional performance in applications such as contrast enhanced ultrasound (CEUS) and elastography.

With its industry leading performance, the ACUSON Sequoia system enables healthcare professionals to access the clinical information needed for personalized precision medicine from quantification and characterization of tissue to interventional procedures.

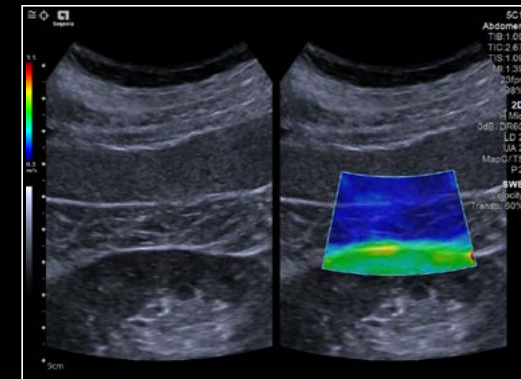




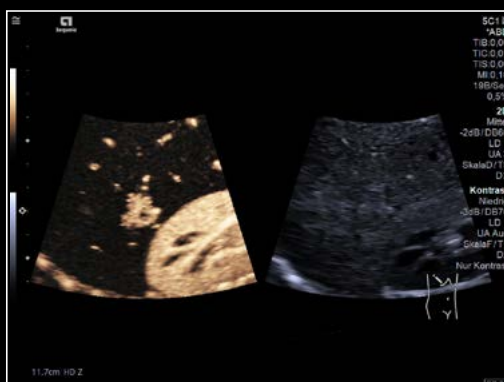
Virtual Touch Strain Elastography provides a simple and qualitative measure of lesion stiffness relative to the surrounding tissue in color and gray scale maps as demonstrated in this image of testicular torsion.



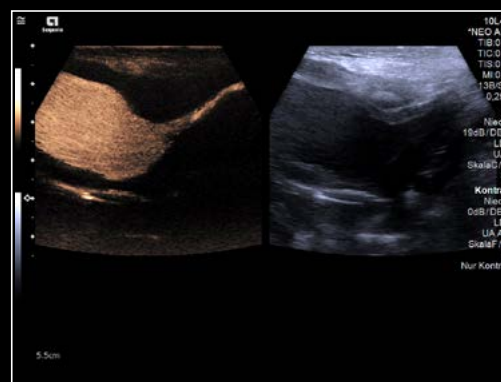
Virtual Touch pSWE raises the benchmark for shear wave accuracy when compared to conventional ultrasound⁴ providing tissue stiffness quantification with increased confidence in the liver.



Virtual Touch 2D SWE displays qualitative and quantitative color maps to measure shear wave speed with precision and repeatability, like this example of the renal interface.



CEUS – Liver Imaging with the ACUSON Sequoia has twice the bubble longevity than previous systems for improved diagnostic confidence⁵ when evaluating focal liver lesions.



CEUS – Voiding Urosonography with the ACUSON Sequoia has twice the sensitivity than previous systems for improved diagnostic confidence⁵ in voiding urosonography exams.



Fusion imaging combines imaging modalities like this example of CT and ultrasound fusion for improved diagnostic confidence in the most complex procedures.



Do More.

An optimized user experience

The ACUSON Sequoia's user interface design reduces complexity and allows new users to simply walk up and use the system.

Designed by the user, for the user

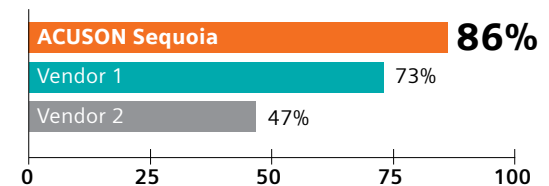
The variability inherent in the ultrasound scanning process can pose a challenge for users. In an effort to eliminate variability, Siemens Healthineers hosted 170 workshops with 365 ultrasound users worldwide to create an ultrasound system designed by users, for users.

3rd party validation of best in class usability

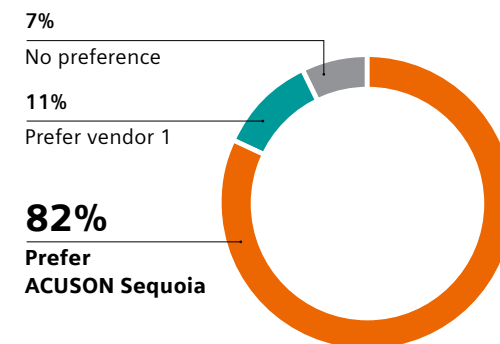
The ACUSON Sequoia earned a system usability score (SUS) of 86% and a preference score of 82%, according to a usability study conducted by Macadamian Technologies⁶.



Average system usability score



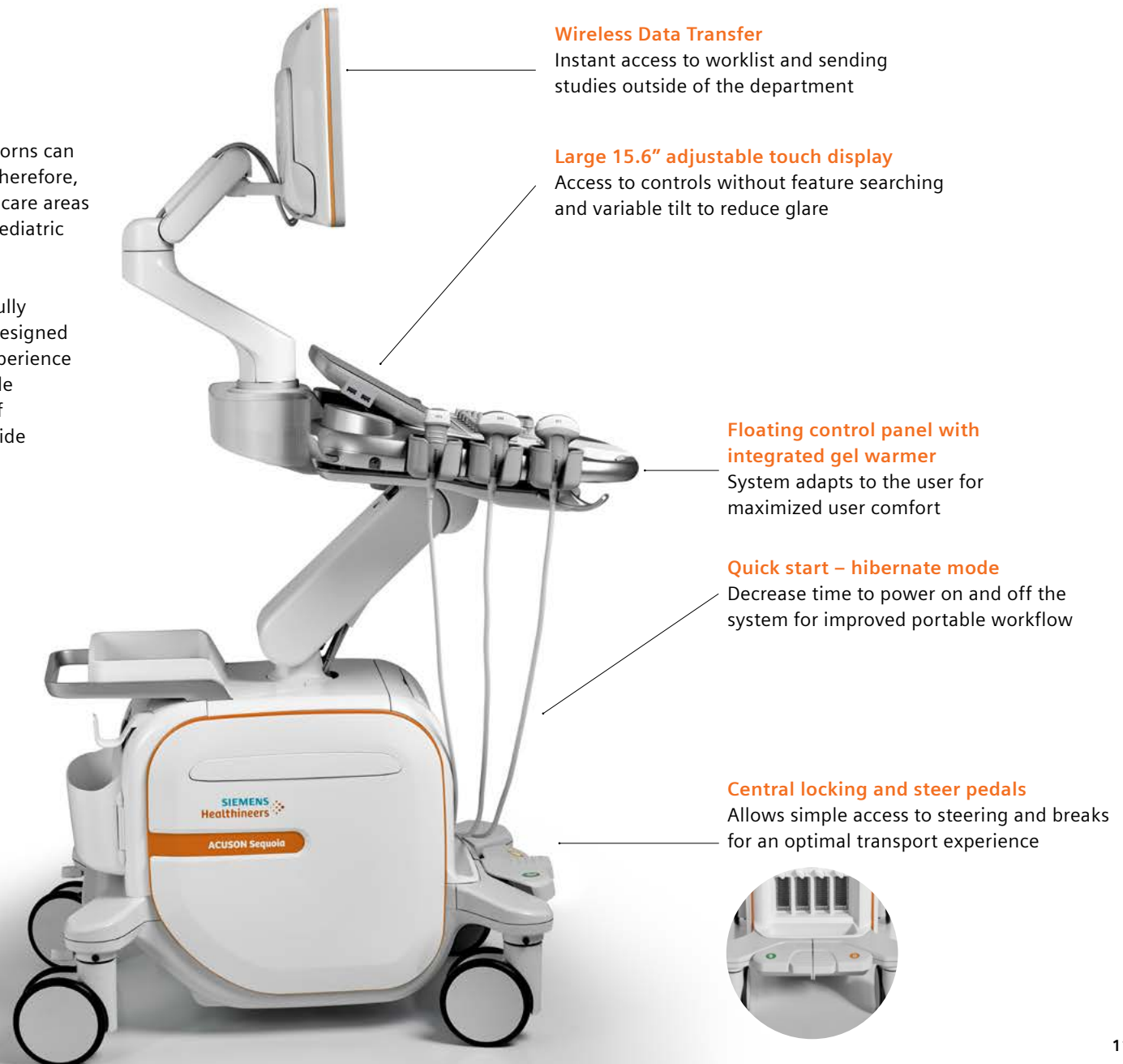
User preference





The transport of fragile newborns can be complex and hazardous. Therefore, bedside ultrasound in critical care areas is normal practice for many pediatric experts.

ACUSON Sequoia is a powerfully portable ultrasound system designed to improve the ergonomic experience anywhere in the hospital while delivering the highest level of ultrasound imaging and bedside efficiency.



At Siemens Healthineers, our purpose is to enable healthcare providers to increase value by empowering them on their journey toward expanding precision medicine, transforming care delivery, and improving patient experience, all enabled by digitalizing healthcare.

An estimated 5 million patients globally benefit every day from our innovative technologies and services in the areas of diagnostic and therapeutic imaging, laboratory diagnostics, and molecular medicine, as well as digital health and enterprise services.

We're a leading medical technology company with over 120 years of experience and 18,500 patents globally. With about 50,000 dedicated colleagues in over 70 countries, we'll continue to innovate and shape the future of healthcare.

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2. Strauss KJ, Kaste SC. ALARA in pediatric interventional and fluoroscopic imaging: striving to keep radiation doses as low as possible during fluoroscopy of pediatric patients—a white paper executive summary. *J Am Coll Radiol*. 2006 Sep;3(9):686-8. doi: 10.1016/j.jacr.2006.04.008. PMID: 17412149.
3. <https://www.cdc.gov/obesity/data/childhood.html>
4. Compared to ACUSON S3000 ultrasound system
5. Compared to ACUSON Sequoia 512 ultrasound system
6. *Ultrasound Machine Comparative Study by Macadamian Technologies*

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