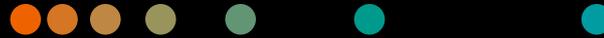


ACUSON Sequoia Ultrasound System

# Improving diagnostic accuracy in pediatric ultrasound

➤ [siemens-healthineers.com/ultrasound/new-era-ultrasound/acuson-sequoia/pediatrics](https://www.siemens-healthineers.com/ultrasound/new-era-ultrasound/acuson-sequoia/pediatrics)



# Unique challenges in pediatric ultrasound

Children need to be assessed in their own right and not as small adults. Pediatric patients present unique challenges in conventional radiology imaging and require dedicated imaging protocols to acquire quality images and prevent repeat examinations.

Ultrasound is often employed as the first line of imaging due to the reduced radiation exposure, portability, temporal resolution, and the ability to provide guidance without the need for additional imaging.

**10x**



Pediatric patients might be as much as ten times more radiosensitive than adults<sup>2</sup>



Transport of fragile newborns can be complex and hazardous

1–6 year olds have the **highest likelihood of requiring sedation** for diagnostic imaging<sup>1</sup>



Children need **specialized equipment** optimized for pediatrics

**1 in 3 children** are overweight or living with obesity.<sup>3</sup>

**47%**

of premature termination of MRI exam on children due to fear, anxiety and claustrophobia.<sup>4</sup>

# Clarifying confidence

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 higher image quality than conventional ultrasound systems.<sup>5</sup>





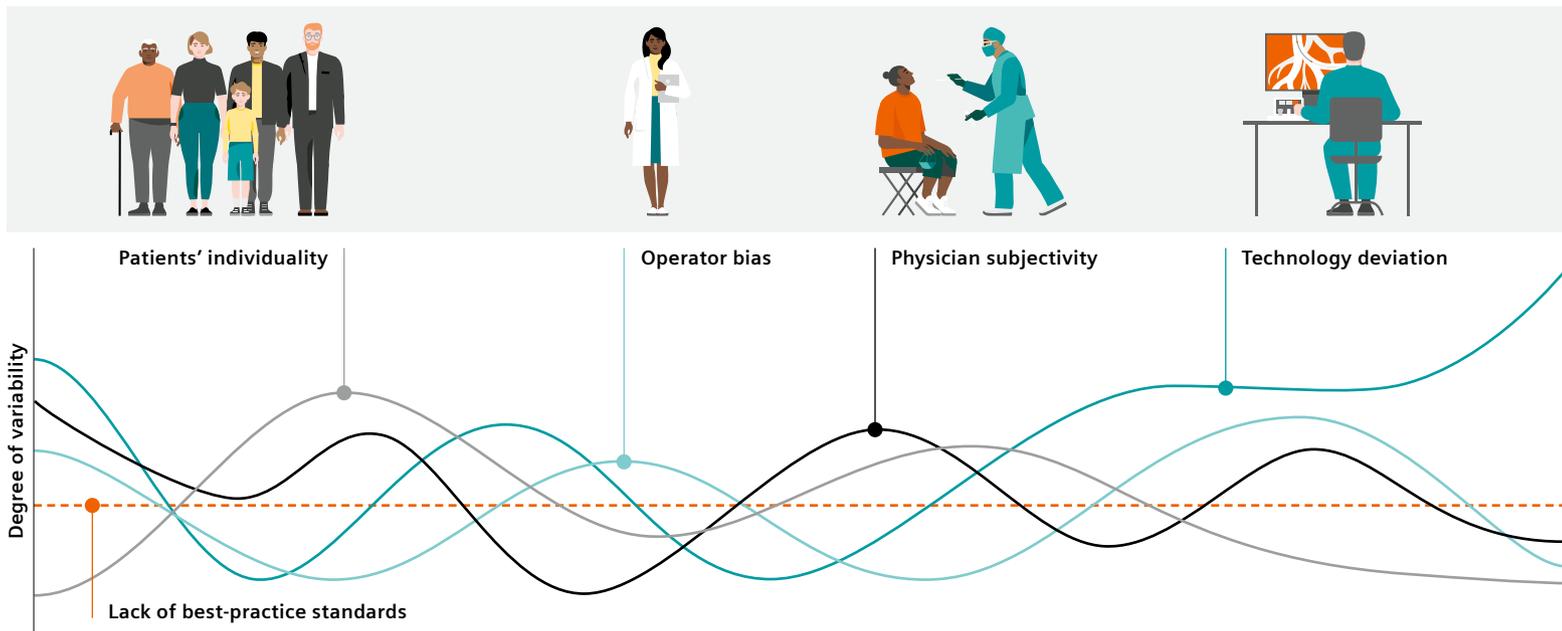
# Intelligent Imaging

InFocus Imaging and InTune Transducer Technology for all patients

Increased patient movement, heart rates and respiratory rates are common when imaging children and pose challenges in the acquisition of high quality B-mode, color and Doppler images.

The ACUSON Sequoia's powerful architecture and specialized transducers are optimized for pediatric scanning. Diagnostic confidence is improved with deeper and clearer images using BioAcoustic imaging. InFocus Imaging technology eliminates the need for manual focal zones to create a fully focused image with faster frame rates than conventional ultrasound when scanning the occasional uncooperative little ones.<sup>6</sup>

Ultrasound's potential has been hampered and plagued by unwarranted variability



## Specialized transducers optimized for pediatrics

Pediatric imaging ranges from premature neonates to a adult-sized teenagers. Imaging of pediatric patients requires both small and conventional footprints with adjustable frequencies to adapt to various depths and patient needs.

ACUSON Sequoia transducers and measurement packages are optimized to address the challenges of pediatric imaging and engineered to produce optimal acoustics for each clinical use case to deliver superior signal fidelity.



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



### 9C2 single crystal transducer

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15% smaller lens<sup>5</sup> surface improves intercostal scanning in children; equipped with Auto Point Shear Wave Elastography (Auto pSWE) and Ultrasound Derived Fat Fraction (UDFF).



### 11M3 single crystal micro-convex transducer

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has a small footprint and superb imaging to manage the tiny acoustic windows and incubator scanning of neonates.







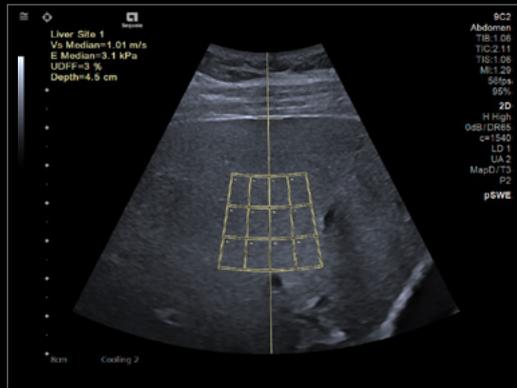
# Expanded Insights

Designed to enhance your expertise

**Ultrasound's advantage in pediatric imaging includes the absence of ionizing radiation, which eliminates the need for sedation as ultrasound is a real-time imaging modality. Advanced applications expand these advantages to new use cases.**

ACUSON Sequoia's exceptional performance in contrast-enhanced ultrasound (CEUS) and exclusive innovations such as Auto Point Shear Wave Elastography (Auto pSWE) and Ultrasound Derived Fat Fraction (UDFF) improve diagnostic accuracy through quantification and characterization of tissue. Delivering industry-leading performance enables healthcare professionals access the clinical information needed for personalized precision medicine.





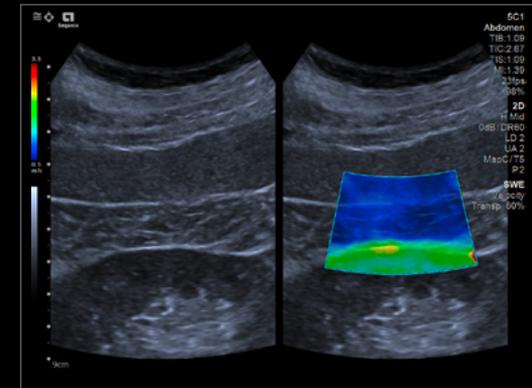
### Auto Point Shear Wave Elastography (Auto pSWE)

reduces liver elastography exam time and operator variability by delivering up to 15 valude pSWE measurements in less than 5 seconds.



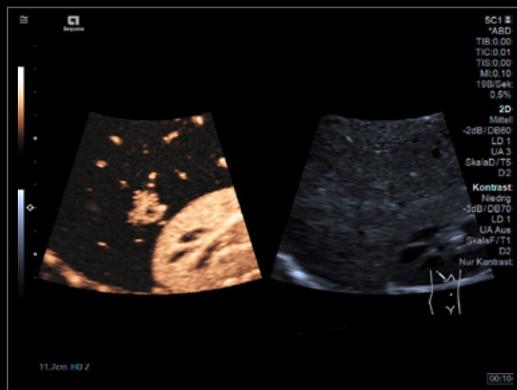
### Ultrasound Derived Fat Fraction (UDFF)

is an easy, reproducible and quantitative ultrasound index with respect to the percentage of liver fat quantification for a clear cut off value to classify hepatic steatosis as an index value greater than 5%.



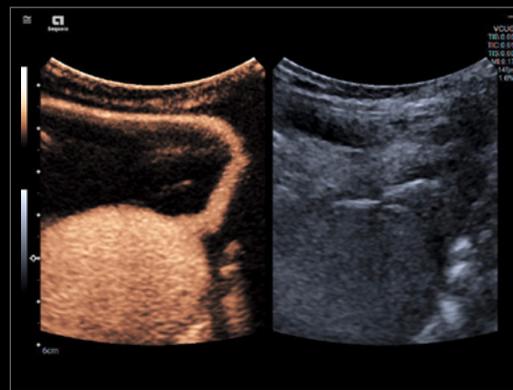
### Virtual Touch 2D SWE

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



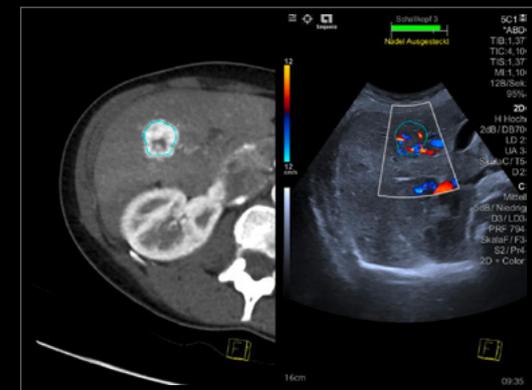
### CEUS - Liver Imaging

has twice the bubble longevity than previous systems for improved diagnostic confidence<sup>6</sup> when evaluating focal liver lesions.



### CEUS - Voiding Urosonography

with the ACUSON Sequoia has twice the sensitivity than previous systems for improved diagnostic confidence<sup>5</sup> 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.



# User-Driven Design

Power your performance

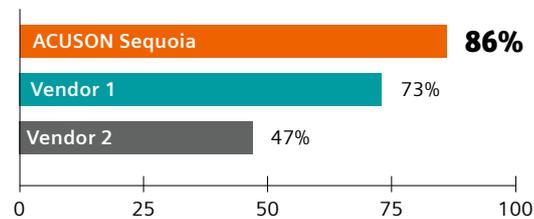
ACUSON Sequoia's user interface was designed to reduce complexity and enable users at all levels of experience and proficiency to easily operate.

**Designed by the user, for the user**  
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.

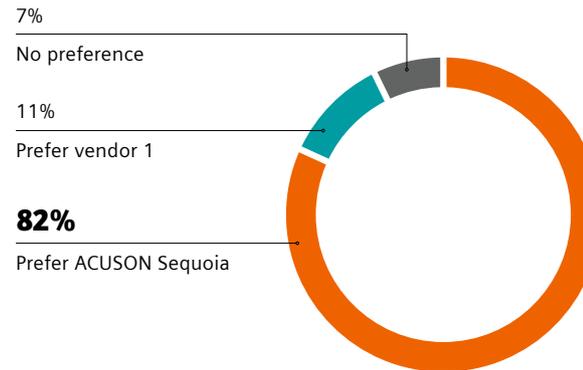
### 3rd party validation of best in class usability

The ACUSON Sequoia earned a system usability score (SUS) of 86% and a preference score of 82% in a usability study conducted by Macadamian Technologies<sup>7</sup>.

Average system usability score



User preference



See how the ACUSON Sequoia stacked up against similar systems

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

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

**Floating control panel with integrated gel warmer**

System adapts to the user for maximized comfort

**Wireless data transfer**

Instant access to worklist and transferring studies outside of the department

**Virtual workstation**

Access remote applications such as PACS, EMR, work-list directly from the ultrasound system

**15.6" adjustable touch display**

Access to controls without feature searching and variable tilt to reduce glare

**Quick start – hibernate mode**

Decreased time to power on and off for improved portable workflow

**Central locking and steer pedals**

Quick and easy access to steering and breaks for optimal transport



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<sup>1</sup> *MRI Utilization and the Associated Use of Sedation and Anesthesia in a Pediatric ACO* Joshua C. Uffman, MD, MBAa,b , Dmitry Tumin, PhDa,c , Vidya Raman, MDa,b , Arlyne Thung, MDa,b , Brent Adler, MDd,e , Joseph D. Tobias, MD

<sup>2</sup> *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*

<sup>3</sup> <https://onlinelibrary.wiley.com/doi/pdf/10.1002/mrm.22438>

<sup>4</sup> <https://www.obesityevidencehub.org.au/collections/trends/children-global-context>

<sup>5</sup> *Compared to 9C3 transducer*

<sup>6</sup> *Compared to ACUSON Sequoia 512 ultrasound system*

<sup>7</sup> *Ultrasound Machine Comparative Study by Macadamian Technologies*

*Data on file.*

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