

Vevo[®] MD

The World's **First** Ultra High Frequency
Ultrasound Imaging System

Designed for
Clinical Research

Up to 70 MHz



The wait is over

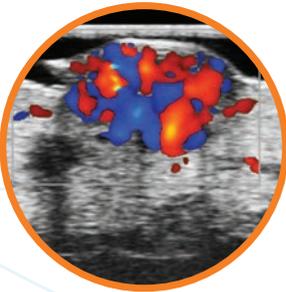
After years of developing ultrasound systems for research, FUJIFILM VisualSonics is pleased to introduce the world's first Ultra High-Frequency ultrasound system for clinical use.

Vevo MD allows healthcare professionals to:

Champion new medical breakthroughs by using **cutting edge technology**



Visualize tiny anatomy not visible with conventional ultrasound



Ultra high frequency means the highest resolution diagnostic ultrasound available today. This ground breaking development opens up new possibilities for medical imaging that have never been seen before. Whether imaging tiny infants in the neonatal ward,

detecting the tiniest of suspicious lesions or monitoring the subtle changes in blood flow in the major arteries of the body, the Vevo MD produces unparalleled image resolution. Resolution as fine as 30 μm . Yes, 30 μm . That is less than half the size of a grain of sand.

“Every healthcare professional should have the opportunity to experience the exquisite resolution of the Vevo MD, simply because Seeing More Matters.”



Experience a user-friendly customizable touchscreen interface, **to improve workflow and reduce examination times**



Utilize a **range of highly advanced transducers**, designed for the smallest of patients



Imagine the potential of such ground-breaking technology and its impact on the medical field to see what has never been seen before. When it comes to patient care and uncovering the smallest and most detailed information, the Vevo MD is the most

revolutionary ultrasound technology to come along in decades. FUJIFILM VisualSonics designed this latest system because we care, because we can, and simply because...**Seeing More Matters.**

Seeing More Matters.

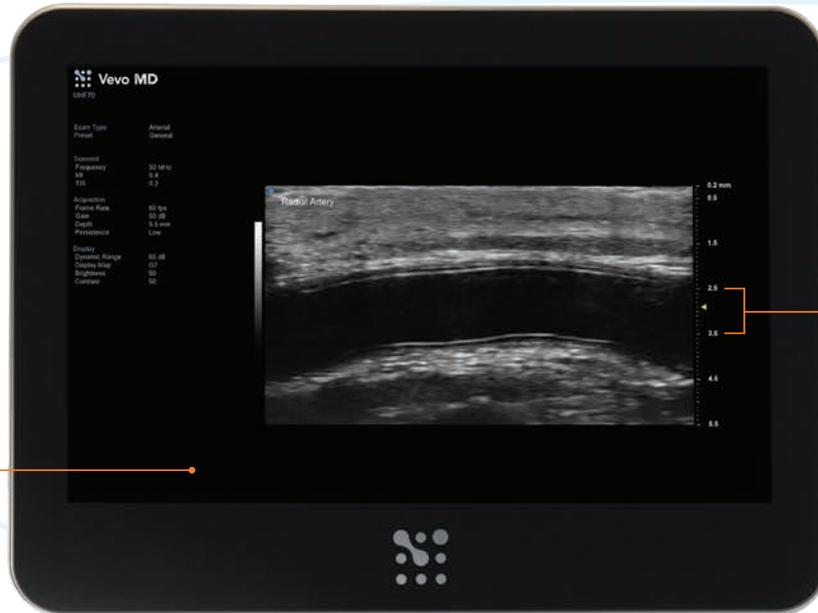
Discover the power of high resolution

Foldable 20" High Definition LCD Monitor with HDMI Output

Powered with Vevo[®] HD Technology for superior image quality

Imaging Modes:

2D
M-Mode
Color Doppler
Power Doppler
Pulsed-Wave Doppler



1 mm

Visualize the first 3 cm in the highest resolution available

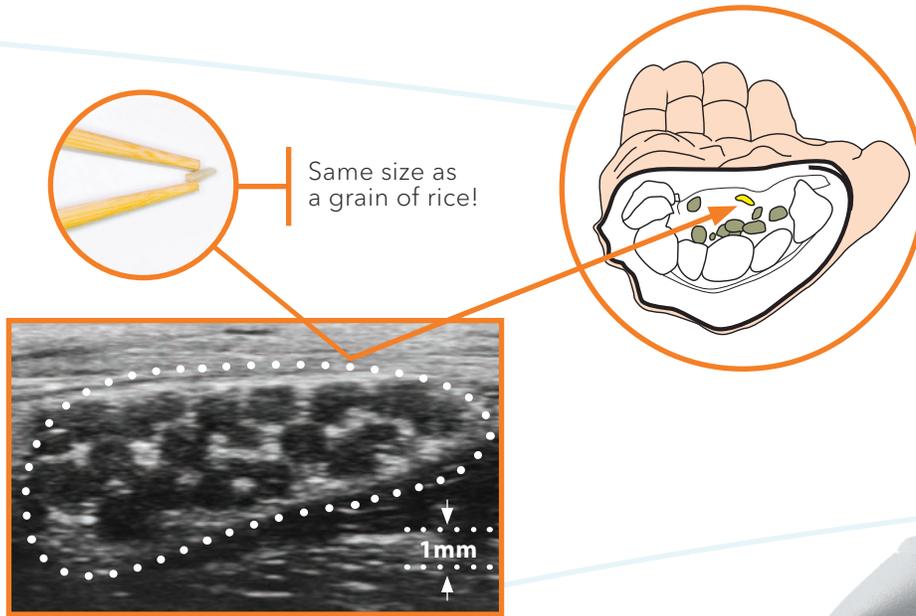


4 x USB 3.0 Ports
Ethernet Port
Wifi capable

Intuitive 10" Touch Screen Interface
Image Review and Management
Real-time Zoom

Ergonomically designed for ease-of-use
Easy to transport, lightweight and steerable

Now see more than ever before



Median Nerve UHF70



VEVO MD UHF TRANSDUCERS

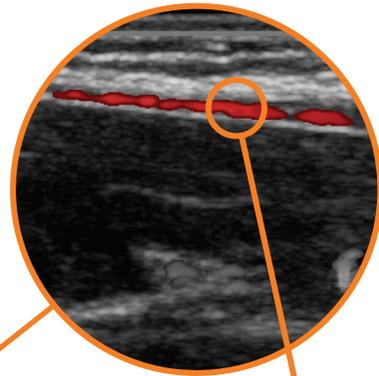
The UHF Series Transducers are designed specifically for use with the Vevo MD with ergonomics and ease-of-use in mind. These transducers come in a range of frequencies from 22-70 MHz.

Applications	Model	Bandwidth (MHz)	Performance	Design Specifications		
			Axial Resolution	Image Width (Max)	Image Depth (Max)	Focal Depth
Neonatal Cephalic Pediatrics	UHF70	29-71	30 μ m	9.7 mm	10.0 mm	5 mm
Peripheral Vascular MSK & Nerve	UHF48	20-46	50 μ m	15.4 mm	23.5 mm	9 mm
Small Parts Dermatology Ophthalmic	UHF22	10-22	110 μ m	32.0 mm	38.4 mm	18 mm

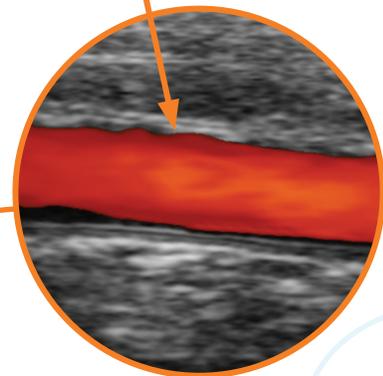
Please note: Values of resolution are specific to the physical characteristics of the transducers and represent best case values. Depending on exam type, integration of the UHF transducers with the Vevo MD system may use different transmit conditions to find a compromise between resolution and depth of field. In these cases the resolution values may be up to 50% higher than what is shown here.

Seeing more matters in Neonatology and Pediatrics

When it comes to ultrasound, not all systems are created equal. The Vevo MD stands apart from the rest, especially for the smallest of patients. Small patients require small transducers with great resolution.



Using conventional ultrasound



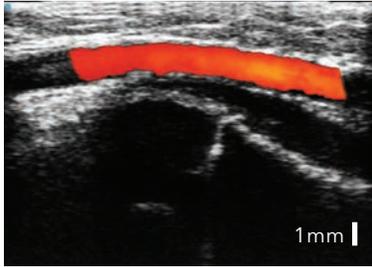
Using Vevo MD

The Vevo MD is designed to see the smallest of patients in the greatest detail and resolution possible. Imagine the challenges faced when imaging a high risk premature newborn infant; trying to visualize tiny vessels and structures in their body. For example, in a Neonatal Intensive Care Unit (NICU) a doctor may try to perform a line insertion into a critically ill premature newborn¹. This involves finding a blood vessel in a baby with a wrist that is the size of your pinky finger.

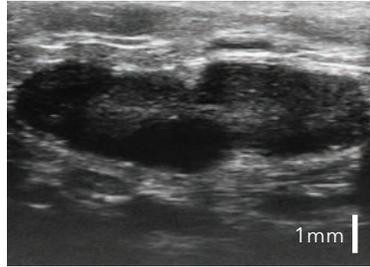
Only the Vevo MD can perform the proper visualization in this scenario within the critical time window that is required.

¹ Latham et al. High-frequency micro-ultrasound for vascular access in young children—a feasibility study by the High-frequency UltraSound in Kids study (HUSKY) group. Paediatric Anaesthesia. 2013,Jun; 23(6):529-35.

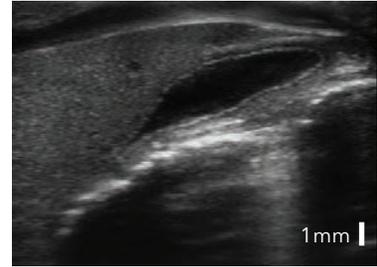




Radial Artery—8 months



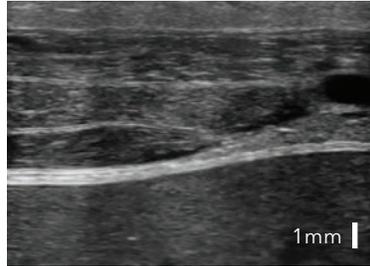
Lymph Node—8 months



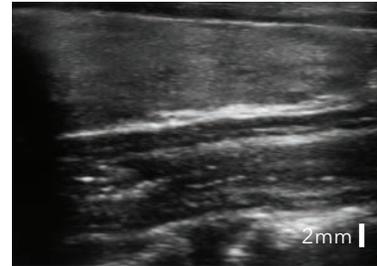
Gall Bladder—1 month



Spinal Cord—1 month



Abdominal Wall



Esophagus (Sagittal)—8 months

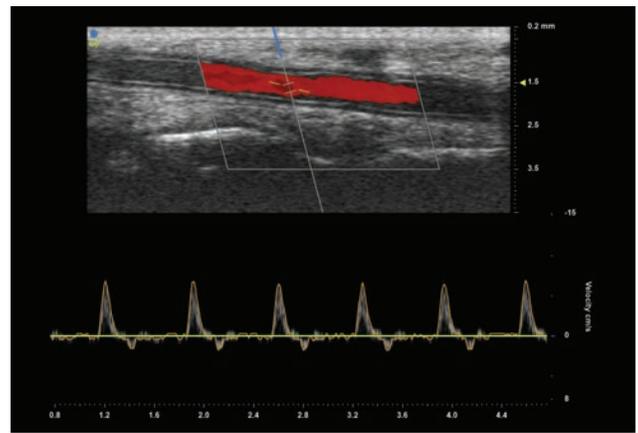


Vascular

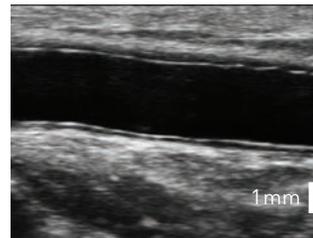
The Vevo MD was designed specifically with vascular applications in mind. The ultra high frequency resolution allows for visualization of the smallest vascular anatomy imaginable:



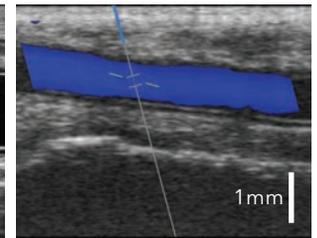
- Arteries and veins in pediatric and neonatal patients¹
- Sub-millimeter measurement of Intima-Media Thickness (IMT) for research and assessment of cardiovascular health^{2,3,4}
- Assessment of vein wall morphology for cannulation readiness in AV fistula patients⁵
- Assessment of peripheral vessels in diabetes and other circulatory conditions
- Visualization of flow patterns in atherosclerotic or abnormal vessels



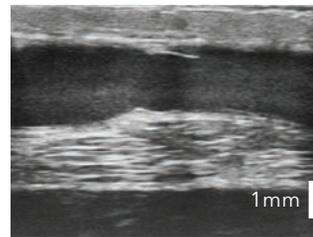
Distal Artery Pulsed Wave Flow



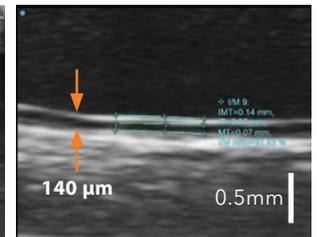
Radial Artery



Venous Blood Flow



Vein with Valve (Hand)

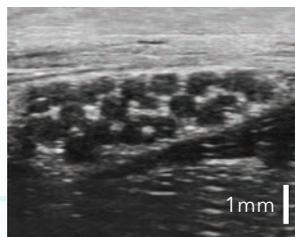


Radial Artery Intima Media Thickness (IMT)

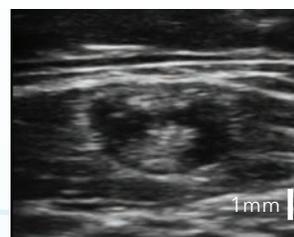
Small parts

Small anatomy requires high resolution to be properly visualized. The Vevo MD can be used to image:

- Nerves⁶
- Hand transplants⁷
- Thyroid and glands
- Lymph nodes
- Male reproductive organs



Median Nerve



Submental Lymph Node



Thyroid (Adult Female)

¹ Latham et al. High-frequency micro-ultrasound for vascular access in young children—a feasibility study by the High-frequency UltraSound in Kids study (HUSKY) group. Paediatric Anaesthesia. 2013 Jun; 23(6):529-35.

² Sarkola et al. Transcutaneous very-high resolution ultrasound for the quantification of carotid arterial intima-media thickness in children—Feasibility

and comparison with conventional high resolution vascular ultrasound imaging. Atherosclerosis. 2012 Sep;224(1):102-7.

³ Eklund et al. Radial artery intima-media thickness predicts major cardiovascular events in patients with suspected coronary artery disease. European Heart Journal—Cardiovascular Imaging. 2014 Jan;15(7):769-75.

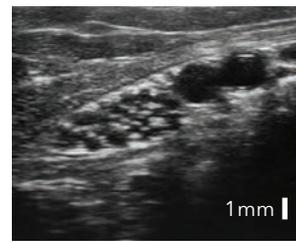
MSK



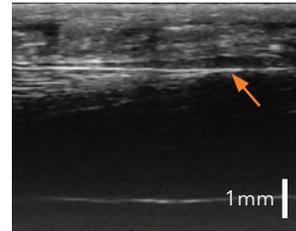
Musculoskeletal (MSK) imaging involves study of the many superficial targets in the hands, wrists, feet, knees, hips, arms and shoulder regions. Many of these areas are within the

first 3 cm of the skin surface and are ideal targets for ultra high frequency ultrasound. The Vevo MD can provide unparalleled image resolution in the following MSK applications:

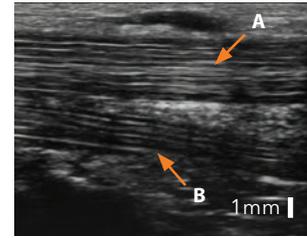
- Detection and monitoring of Inflammatory Arthritis through better definition of synovium and cartilage of the finger and wrist joints
- Differentiation of normal vs. inflamed tendons (Tenosynovitis)



Tarsal Tunnel



Digital A1 Pulley



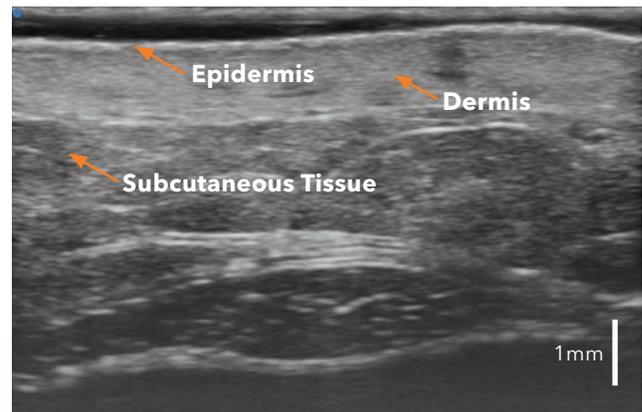
Flexor Carpi Radialis (A) Flexor Pollicis Longus Tendon (B)

- The "Anatomical Snuffbox"
- Carpal and Tarsal Tunnel Syndrome
- Assessment of Tendons and Pulleys
- Assessment of Pediatric Hip Dysplasia

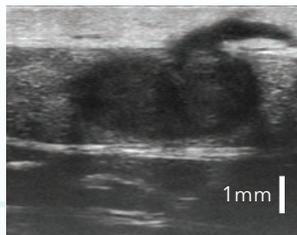
Dermatology

Imaging the skin layer is often difficult with conventional ultrasound. The Vevo MD is the world's first system designed specifically for imaging superficial anatomy and is ideally suited to image the following dermatological applications:

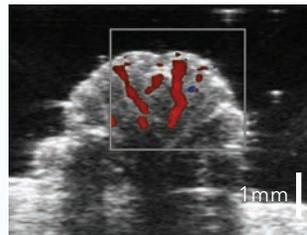
- Skin layers
- Hair follicles (hair loss)
- Melanoma
- Foreign Body Identification
- Lipomas
- Lumps and Bumps



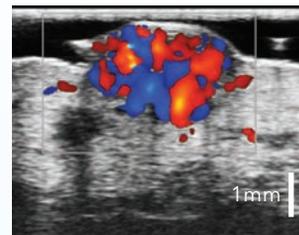
Skin and Surrounding Layers



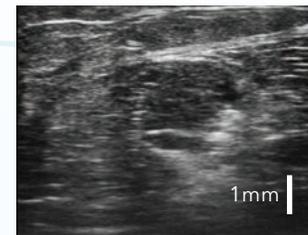
Superficial Lesion



Exophytic Mole



Hemangioma with Blood Flow

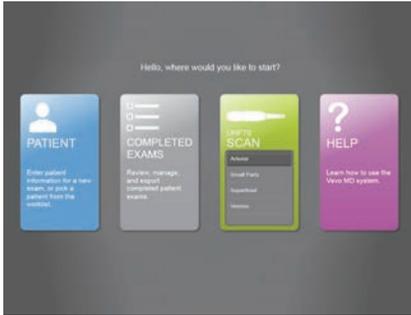


Superficial Lipoma

4 Dangardt et al. Obese children show increased intimal wall thickness and decreased pulse wave velocity. *Clin Physiol Funct Imaging*. 2008 Sep;28(5):287-93.
 5 Jaber et al. Arteriovenous fistulas for hemodialysis: Application of high-frequency US to assess vein wall morphology for cannulation readiness. *Radiology*. 2011 Nov;261(2):616-24.

6 Stokvis et al. High-resolution ultrasonography of the cutaneous nerve branches in the hand and wrist. *J Hand Surg Eur Vol*. 2009 Dec;34(6):766-71.
 7 Kaufman et al. Graft Vasculopathy in Clinical Hand Transplantation. *Am J Transplant*. 2012 Apr; 12(4):1004-16.

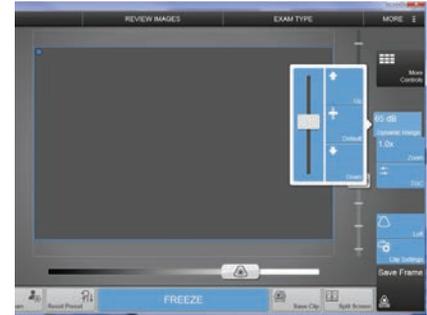
Customized workflow— at your fingertips



Intuitive start-up screen to get you imaging quickly



The most important functions are intuitive to use and accessible on your screen at all times



Controls contain smart defaults to help optimize your image quickly



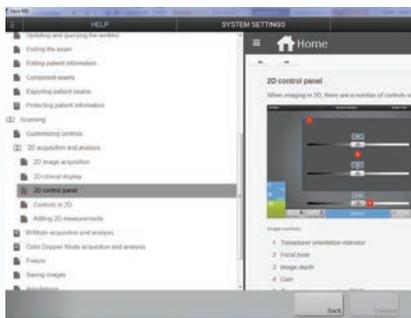
Screen layouts can be customized and saved to fit your personal workflow so you only see the controls that are the most important to you



Measurements and annotations are quick and easy to use and can be made on current or saved images



Images are presented in a straightforward scrollable thumbnail view to enable management and review



Context sensitive help shows you exactly what you need to know, when you need to know it



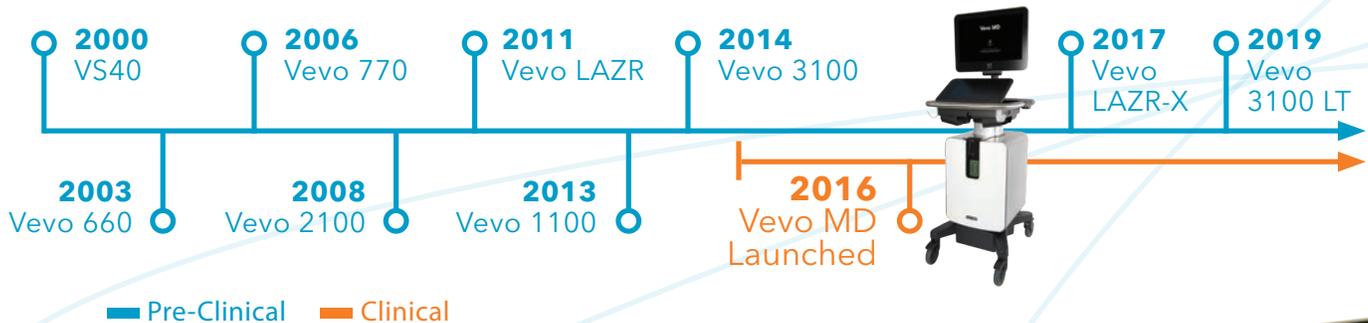
Summary

"Through bold innovation, we empower those dedicated to the advancement of human health."

Timeline of technology innovation

At FUJIFILM VisualSonics, we continuously develop and deliver increasingly advanced technologies designed specifically with the researcher in mind. We are motivated to provide researchers and clinicians the right tools so that you may one day be able to bring to humanity the next medical

breakthrough. Our sole purpose is to empower you to take your discoveries out of the lab and ultimately to the patients that need them the most. With the launch of Vevo MD and together with you, we are bringing discoveries to patients.



Vevo Support

The Vevo MD Ultra High-Frequency Imaging System is accompanied by an integrated approach to service and support.

Applications Support and Training Customized to Your Needs

- Customer On-site Training
- Workshops
- User Manuals

Online Resources

- Live Webinars
- Imaging Guides and Videos
- Grant Support Program

Technical Support

- On-site Support
- Online Support

For additional resources, support or service requests, visit our website:

visualsonics.com



Seeing More Matters

“The Vevo MD is a unique machine allowing imaging of very small, superficial structures previously invisible to conventional ultrasound. As a Pediatric Anesthesiologist it has been extremely useful for peripheral and central vascular access. It is also finding a niche in regional anesthesia, by allowing us to place peripheral nerve blocks in infants that would previously not have been attempted. With the Vevo MD we are able to safely and precisely perform transversus abdominis plane and ilioinguinal blocks in infants.

I believe that this era of ultra high frequency ultrasound imaging is just beginning and I think there are many more clinical applications as yet undiscovered.”

*- Dr Daniel Low, Assistant Professor, Dept. of Anesthesiology and Pain,
Seattle Children's Hospital, USA*

FUJIFILM
Value from Innovation

VISUALSONICS

visualsonics.com

VisualSonics, Vevo, MicroMarker, RMV, EKV, MicroScan, Insight Through In Vivo Imaging are trademarks and registered trademarks of FUJIFILM SonoSite, Inc. in various jurisdictions. All other trademarks are the property of their respective owners.

FUJIFILM is a trademark and registered trademark of FUJIFILM Corporation in various jurisdictions.

© 2019 VisualSonics Inc. All rights reserved.

MKT03036 (Rev 1.3)