

GE Healthcare

# Accomplish more.

LOGIQ 9





# Demand more.

In the fast-paced environment of radiology today, you require the right tools to help you accomplish more. From routine 2D imaging and powerful Volume Ultrasound capabilities, to comprehensive information management, you demand more from your ultrasound system than ever before.

**As the world's #1 ultrasound company, GE delivers:**

**LOGIQ® 9**, GE's premium ultrasound system, enabling you to comfortably acquire and construct volumetric images in real time, then interrogate the images in any plane to explore the smallest details with stunning clarity. With a new adjustable flat monitor and floating keyboard, you'll instantly see SonoErgonomics™ is built right in.

**LOGIQworks™**, GE's powerful ultrasound IT solution, allows you to perform your processing and diagnosis from the comfort of a workstation. So advanced, you can virtually rescan a patient after they have left the exam room.

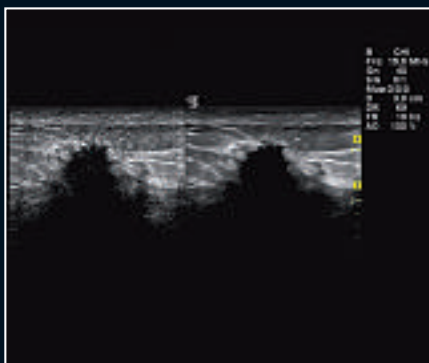
GE Healthcare's latest technology breakthroughs address the total ultrasound suite – from the inside out – bringing you enhancements in image quality, productivity, comfort and workflow. From new Volume Imaging Protocol (VIP) and integrated diagnostic workstations, to new ergonomic features and voice-activated operation – the latest breakthroughs are changing how ultrasound is performed in any department.



# See more.

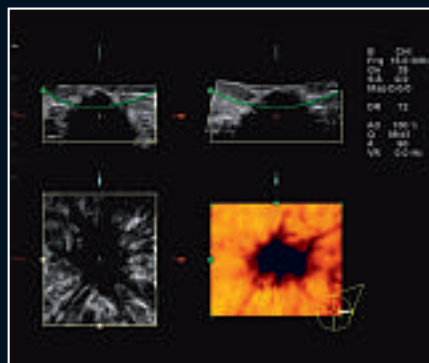


DualView



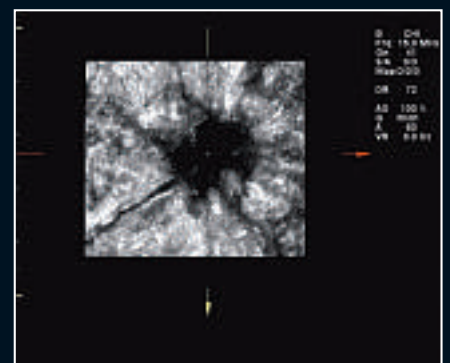
A

4D multiplanar view



B

Surface rendering



C

In LOGIQ 9, GE has developed advanced technology that gives you improved resolution and stunning image quality, leading to enhanced diagnostic capabilities that help you get more clinical information than ever before.

## Volume Ultrasound

With the LOGIQ 9, you can acquire and construct volumetric images real-time with 4D transducers. And, our leading edge 2D technology gives you the capability to reconstruct volumes from cine loops and manipulate data to view sagittal, transverse or coronal, as well as oblique planes – seeing anatomical relationships never before visualized.

Our latest volume enhancements deliver more:

- Volume Calculation (VOCAL) automatically calculates volumes based on trackball tracing (manual, semi automatic or fully automatic) of the region of interest for evaluating irregular structures.
- Inversion Mode makes it easier to visualize volumes compared to conventional ultrasound techniques by automatically providing surface renderings of hypoechoic structures, beneficial for the evaluation of contiguous multiple cysts or irregular fluid collection.
- Volume Contrast Imaging (VCI-Static) delivers unmatched B-Mode contrast resolution and speckle suppression in each of the three cut planes, helpful in evaluating solid organs and cystic structures.

Volume rendering

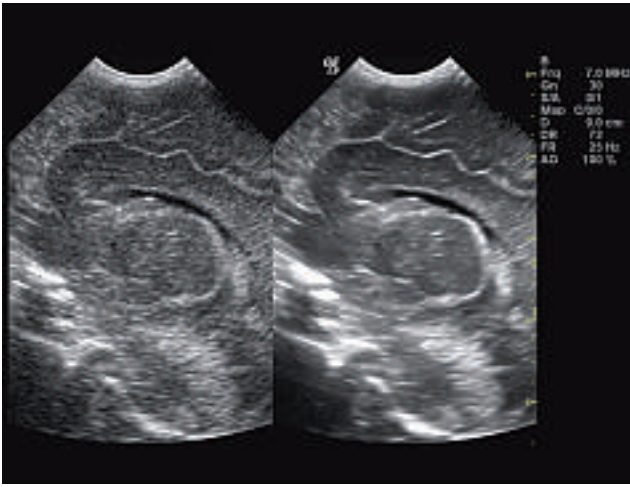


D

### The power of Volume Ultrasound

Utilizing GE's exclusive DualView mode (Figure A) allows the clinician to simultaneously display a 2D fundamental image of the breast on the left and compare with SRI-HD and CrossXBeam™ applied on the right side. The combination of the two technologies allows better delineation of the spiculations and margins of the mass.

The new 4D16L transducer displays the anatomy in a real time multiplanar mode. The coronal plane, not available with conventional imaging, is displayed on the bottom left of the image enabling better visualization of the ductal extension of this mass. The curved rendering capability allows the operator to display a surface render customized specific to the anatomy (Fig B). A Surface and Volume Rendering can also be created, allowing better characterization of the architecture of this mass (Figure C + D). A volume calculation of the mass can be performed using VOCAL.



## Speckle Reduction Imaging Fewer speckle, more definition

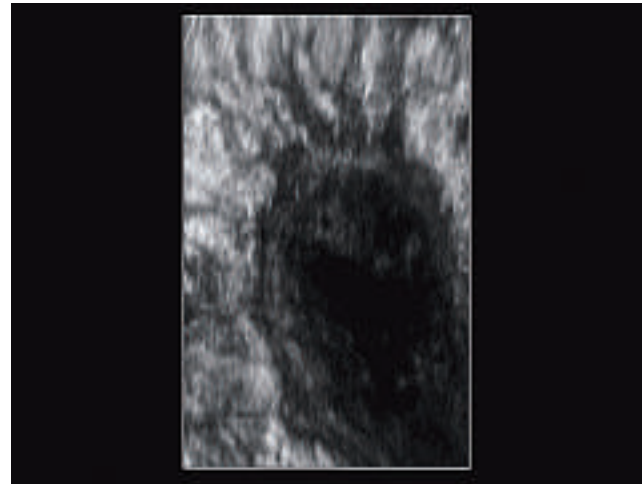
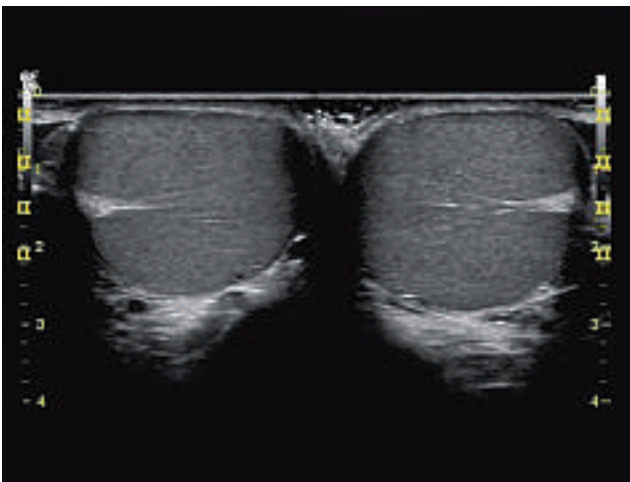
High Definition Speckle Reduction Imaging (SRI-HD) heightens your visibility through improved contrast resolution. SRI-HD is a new adaptive, real-time software algorithm that suppresses speckle artifact while maintaining true tissue architecture.

## CrossXBeam™ with Color Doppler, LOGIQView and Virtual Convex

A new Digital Compounding algorithm extends CrossXBeam™ advantages to Color Doppler examinations and Extended Field of View enabling you to get an unmatched image clarity and contrast resolution in any working modality.

## Uncompromised penetration and resolution

Matrix array transducers with multiple rows of elements help you achieve uniform resolution throughout the field of view, which reduces volume averaging and improves overall image uniformity in both near and far fields. GE's matrix technology diminishes the compromises between penetration and resolution.

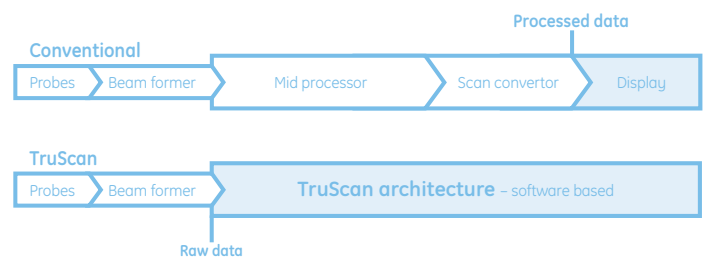


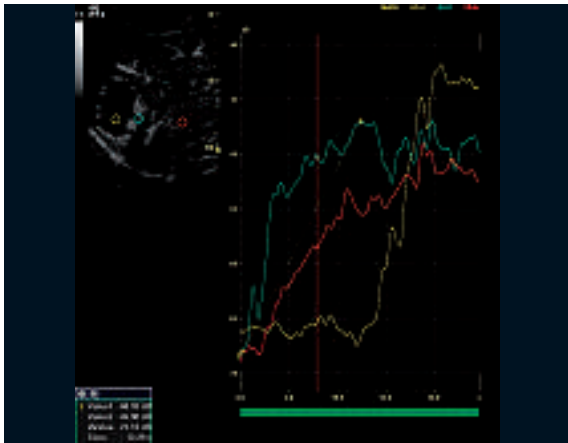
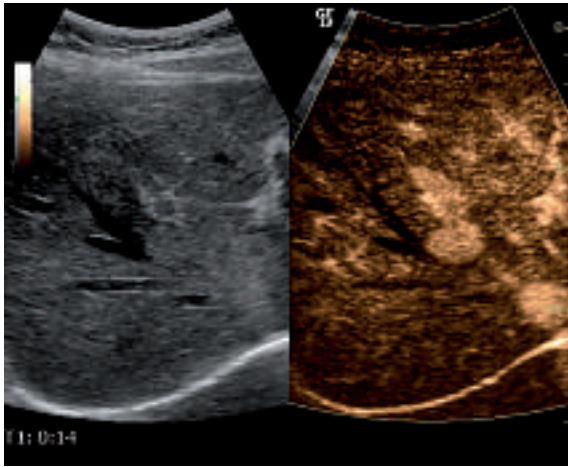
## The virtual rescan

GE's exclusive TruScan™ architecture makes the virtual rescan possible. TruScan allows raw image data to be stored early in the image chain for optimum flexibility during post processing and analysis. With access to raw image data, you are able to compensate for variations in image acquisition by virtually rescanning the patient after they have left the exam room.

With raw data, the virtual rescan allows you to:

- Optimize images acquired under difficult scanning conditions
- Apply varying levels of High Definition of Speckle Reduction Imaging settings
- Adjust time gain controls
- Modify B-Mode gain and dynamic range
- Achieve one-touch Tissue Automatic Optimization
- Change baseline shift, sweep speed and Doppler gain
- Take measurements; add or edit annotations
- Analyze and manipulate volume data
- Perform VOLUME Automatic CALCulation and Invert Mode from acquired Volume data set
- Construct 3D volume images from a cine loop
- Perform a Contrast Data Quantification on saved examinations (Time Intensity Curves creation; extraction of tables with correlated parameters; etc.)





## Contrast Enhanced Ultrasound

New TruAgent Detection mode using DualView – introduces a brand new era in Contrast Enhanced Ultrasound. Easy, quick and complete with all the diagnostic information you need, TruAgent Detection is a visualization technique based on low MI contrast agent detection that provides unmatched diagnostic capabilities.

Based on Coded Phase Inversion GE proprietary technologies to detect contrast non-linear harmonic signals, TruAgent Detection in DualView Mode provides a UNIQUE Real Time representation of the Contrast and Tissue contents simultaneously in a DUAL Display, to get “what you need, in the way you work”.

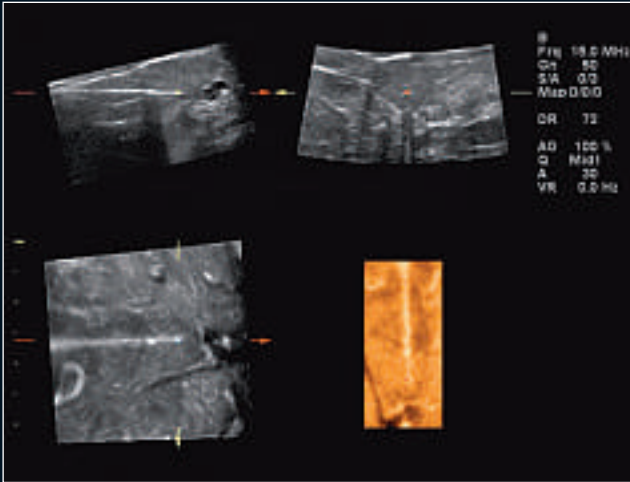
The Time Intensity Curve “extended package” completes the onboard contrast agent capabilities by enabling you to set and analyze up to 8 simultaneous Regions Of Interest with numerous post-processing possibilities thanks to the exclusive TruScan™ Contrast Raw Data. Curves, tables and correlated parameters provide even more details about the exam and further increase your diagnostic confidence.

Simple settings, easy operations and a full package of information...TruAgent Detection with “DualView”, a step forward for all clinical and research applications.

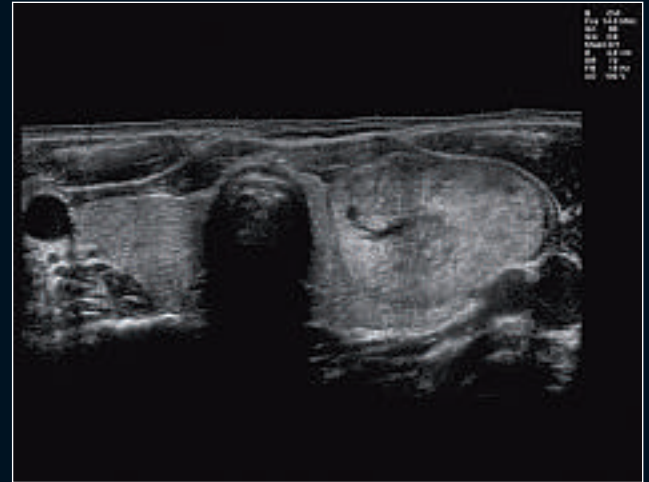


# Visualize more.

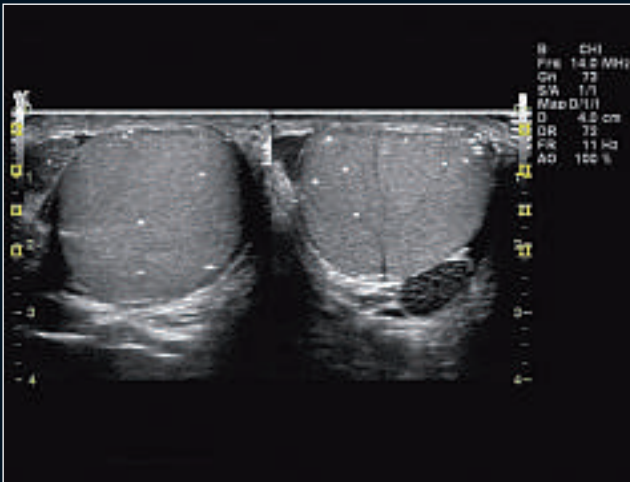
## Small parts



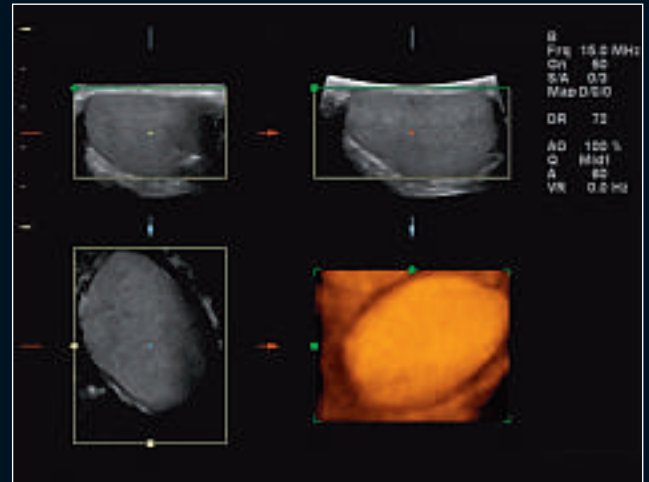
RealTime 4D multiplanar view of the biopsy needle localization



Thyroid mass using SRI-HD, LOGIQview and matrix technology

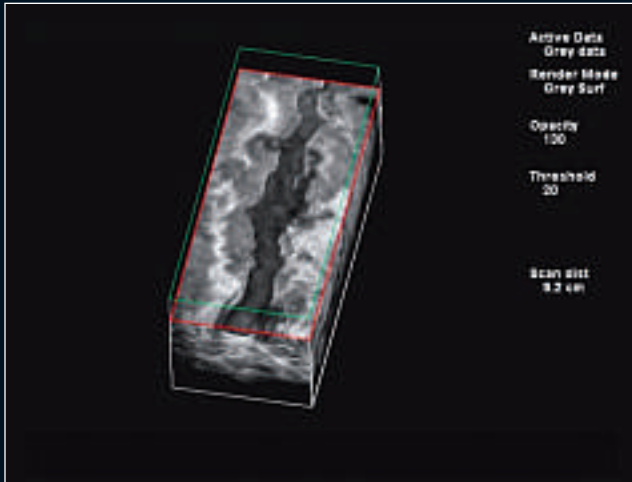


DualView of scrotal microcalculi using Coded Harmonics, CrossXBeam™, SRI-HD and matrix technology

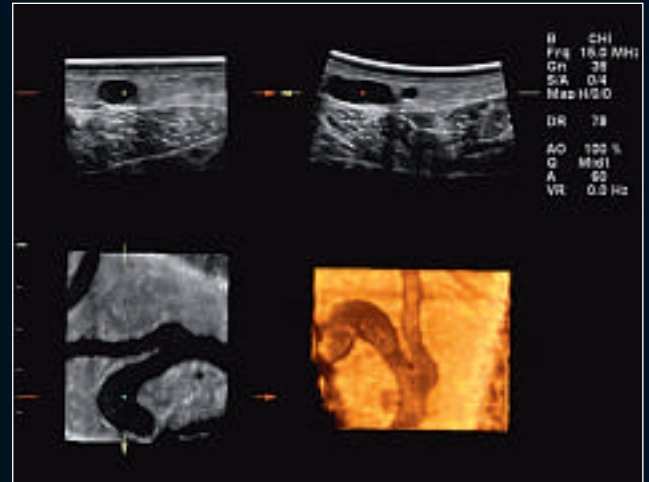


Multiplanar view of normal testicle

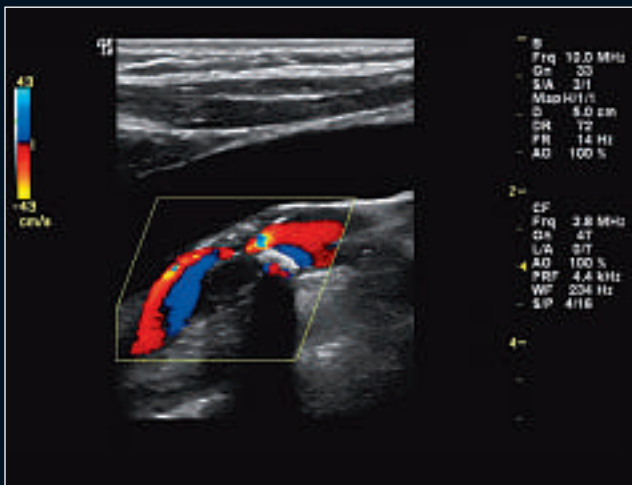
# Vascular



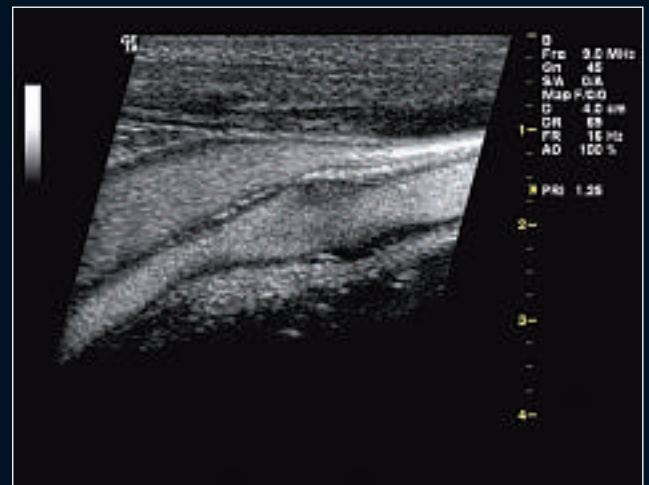
3D cube view of greater saphenous vein in the coronal plane



Multiplanar view of varicose leg vein using Coded Harmonics

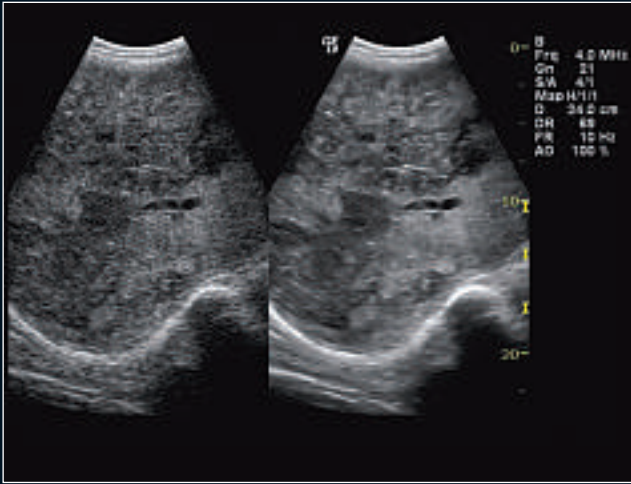


Internal carotid stenosis using color Doppler and SRI-HD

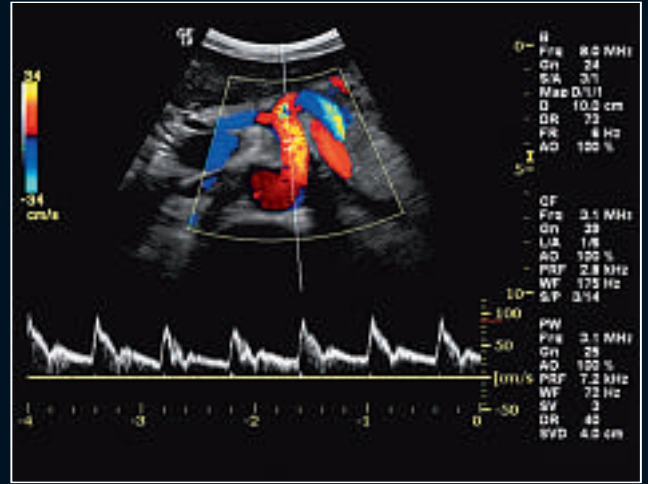


Carotid using B-Flow

# Abdominal



DualView of liver metastases using CrossXBeam™ and SRI-HD

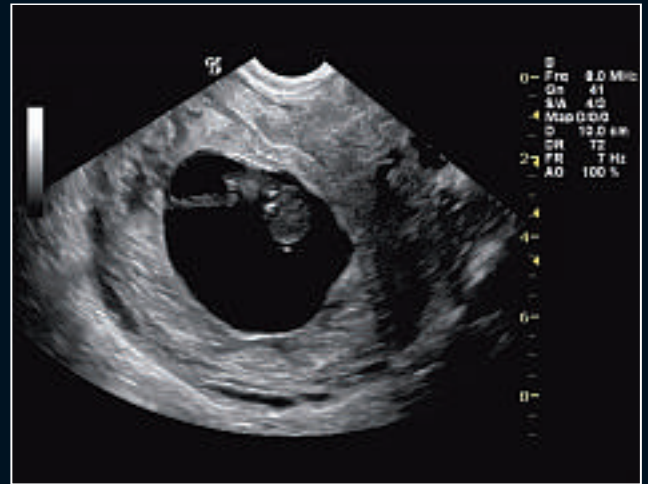


Celiac trunk using color and pulsed Doppler, CrossXBeam™, SRI-HD and matrix technology

# Obstetrics

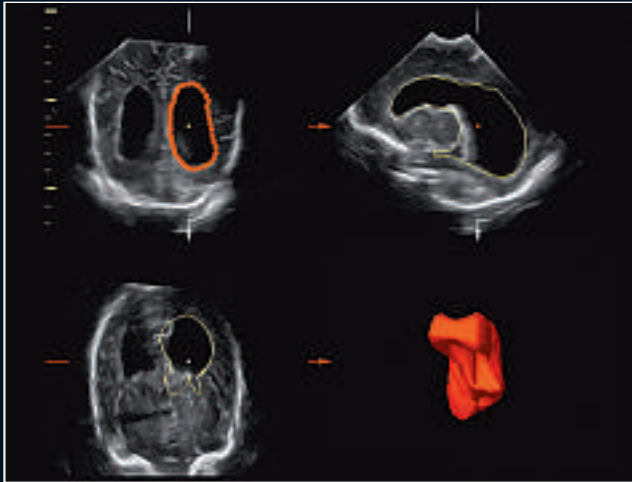


Volume rendering of first trimester fetus

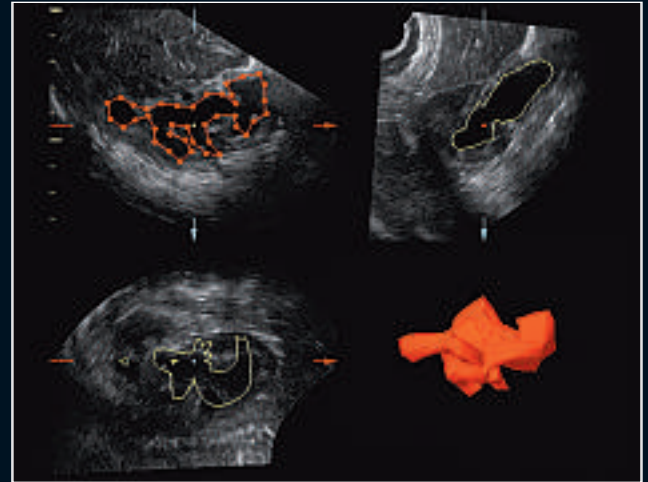


First trimester fetus using SRI-HD

## Pediatrics

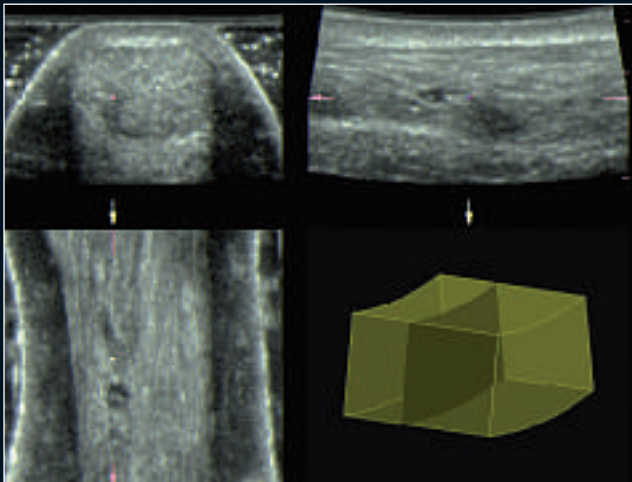


Multiplanar view of neonatal hydrocephalus using VOCAL

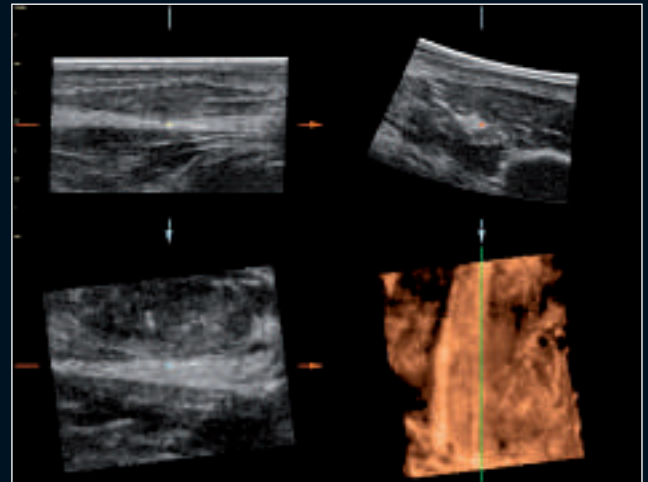


Multiplanar view of pediatric hydronephrosis using VOCAL

## Musculoskeletal



Multiplanar representation view of an Achilles Tendonitis with 4D16L and SRI-HD



Multiplanar representation view of the Thumb's Long Flexor Tendon with 4D16L and SRI-HD

# Be more comfortable.

And that's just the beginning. The LOGIQ 9 breakthrough introduces innovative ergonomic features designed with the sonographer in mind – we call it SonoErgonomics™ – and it brings you more comfort, exponentially.

- A Position your screen to the most comfortable viewing location for each study with the adjustable 17" flat-panel monitor. It even folds flat for clear visibility during transport. Infinite positioning flexibility affords you an exceptional scanning experience with less neck strain.
- B Keep everything within arm's reach with a floating keyboard console that elevates, rotates and extends for ultimate flexibility in positioning, helping to reduce reaching and hyperextension.
- C Get one-touch efficiency from redundant keystrokes with color touch screen and programmable keys. It's easy on your eyes and fingertips.
- D Voice-activated operation is now possible with the latest in wireless speech recognition technology. Voicescan, accurately recognizes more than 150 voice commands for a variety of system functions, including trackball movements. Enjoy the ultimate in freedom – perform multiple tasks simultaneously.
- E Easily transport your LOGIQ 9 system with four swivel wheels, two that automatically lock.
- F Move a significant amount of scan time to the comfort of your workstation. With LOGIQworks, VIP and virtual rescans, you can now sit, versus stand and reduce the amount of time reaching.
- G Gel warmers make the patient exam more comfortable.



E



F



G



# Get more.

With GE, you get more than a great ultrasound system, superb image quality and innovative tools and features – you get a full productivity solution.

GET More in productivity means a full package of integrated functions to perform better and quicker your exams. One Touch *Automatic Optimisation* of the Image and Doppler, *Auto TGC*, *Virtual Convex* representation to increase your field of View and get more information at the same time; *LOGIQView* and *CrossXBeam™* to increase the quality of your Panoramic Imaging; *3D Free Hand* integrated capabilities to easily perform volume reconstructions...and a powerful and flexible image management suite to easily handle the images and data you collected.

In addition, by combining the expertise of the world's leading provider of healthcare IT and ultrasound systems, GE's unique combination of LOGIQ 9 and LOGIQworks offers a revolutionary workflow solution for today's ultrasound practice.

GE's Volume Imaging Protocol (VIP) takes productivity to the next level. VIP is a method of scanning on the LOGIQ 9, which uses volume data sweeps to image an entire organ in a matter of seconds – much like is done in CT or MR. Data transfers via DICOM to LOGIQworks, enabling a 3D virtual rescan of the raw data/volume dataset in any plane. Having more data with volume sweeps helps increase diagnostic confidence.



# Accomplish more.

For more than a century, GE Healthcare has been inventing medical technologies. In ultrasound, our continuous stream of breakthroughs have redefined the standards for image quality, accelerated the development of new applications and increased clinical efficiency for users worldwide.

Find out how LOGIQ 9 and LOGIQworks can help you accomplish more in your radiology department, contact your GE Healthcare representative, or visit us on the web at [www.gehealthcare.com/ultrasound](http://www.gehealthcare.com/ultrasound).

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GE imagination at work