

GE Healthcare

# Vivid 7 Dimension Cardiovascular Ultrasound System





New dim

# ensions.

## Introducing multi-dimensional and 4D imaging.

The ability to incorporate multi-dimensional and 4D imaging into your clinical routine hardly seems routine.

But it is now.

The Vivid 7 Dimension, a premier cardiovascular ultrasound system from GE Healthcare, expands on the strength of a powerful imaging platform to offer new, innovative technology of dimensional proportions.

Now, in addition to raw data image quality and quantitative tools, the Vivid 7 Dimension gives clinicians the ability to obtain multiple imaging planes simultaneously – and acquire real-time 4D volumes – fully integrating new dimensions into echo and stress exams.

Real-time 4D volume acquisitions and online renderings allow you to actually see and gather more cardiac diagnostic information from a single heartbeat, enhancing your diagnostic confidence by helping to ensure “what you see, is what you get” before the patient leaves the lab.

And, new multi-plane acquisition technology that simultaneously acquires bi-plane and tri-plane images helps to increase echo lab productivity and clinical confidence. One transducer – with color, Tissue Velocity Imaging (TVI), PW and CW Doppler, multi-plane and 4D imaging capabilities – can be used to perform a complete exam, streamlining workflow and significantly reducing exam time.

### At the leading edge of healthcare

GE Healthcare is evolving. A pioneer in diagnostic imaging and information technologies, we are now at the forefront of molecular and genetic medicine as well. These capabilities will help shape a new age of healthcare in which disease is detected earlier, diagnosed more precisely, and treated less invasively.

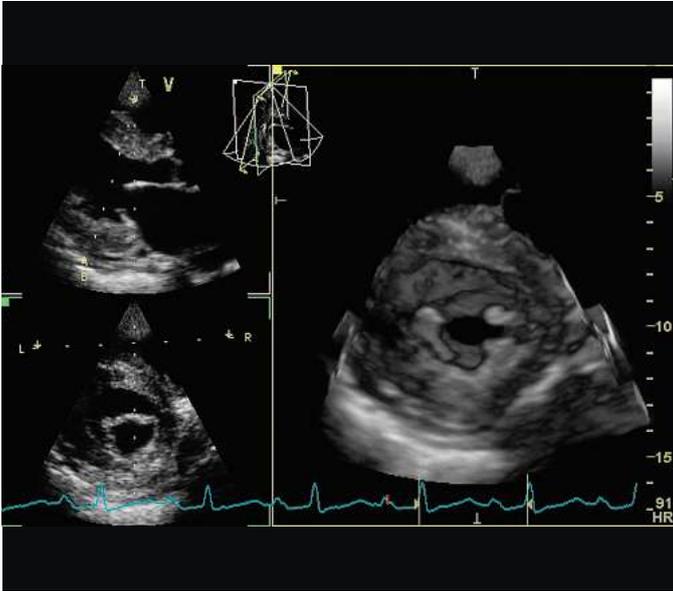
Ultrasound will be at the heart of this transformation. And so will you.

# Show me.

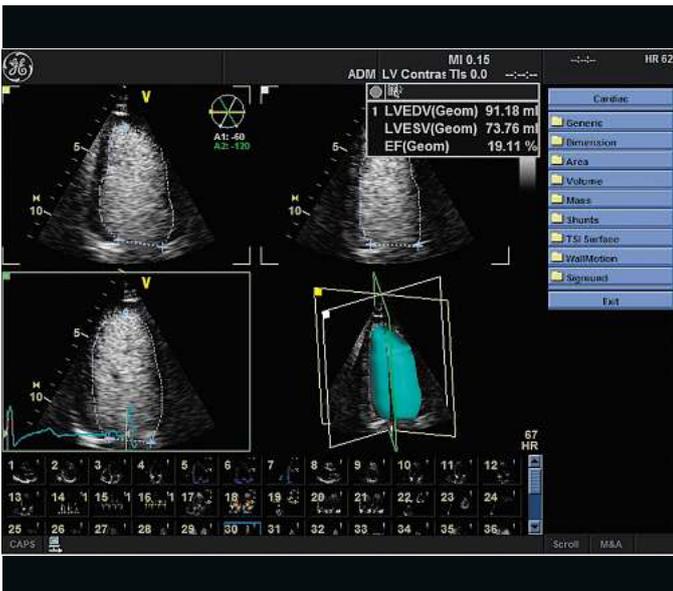
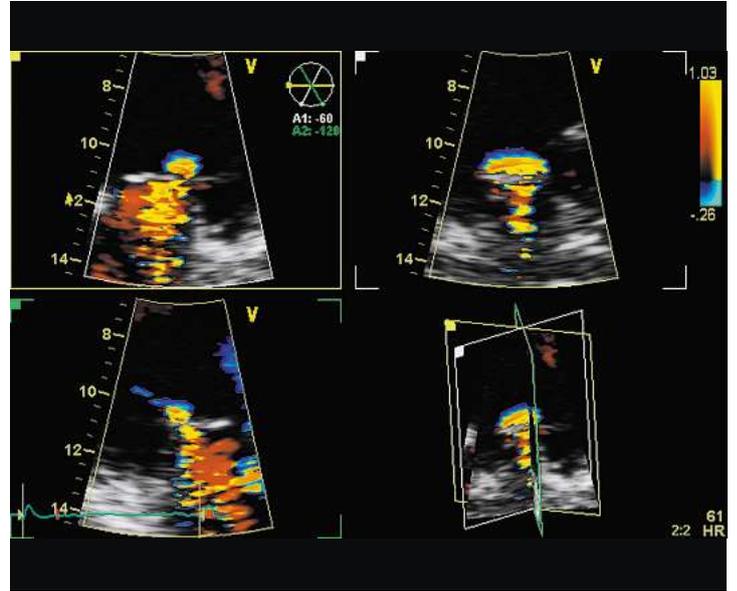
The Vivid 7 Dimension helps clinicians to accurately assess cardiac anatomy and LV function with raw data image quality, high frame rates, Coded Octave Harmonics optimized with contrast imaging, and advanced technology that have been setting the pace in echocardiography since the introduction of the very first Vivid system.

- Real-time full volume – constructs a complete 4D volume online during scanning, enabling you to see the information you are acquiring in real-time, for more complete and artifact-free depictions of the entire heart.
- Tri-plane imaging – a first in cardiac ultrasound – provides a real-time simultaneous display of three images from the same heartbeat, ensuring a more accurate real-time assessment and quantification capabilities in grayscale, color and high-frame rate Tissue Velocity Imaging (TVI).
- New Coded Phase Inversion for contrast imaging – provides excellent sensitivity, resolution and tissue suppression, enhancing a clinician's ability to measure ejection fraction in even the most difficult-to-image patients.
- Stress-free stress echo with bi-plane and tri-plane imaging – enables complete acquisition of all stress echo views from just two imaging windows.

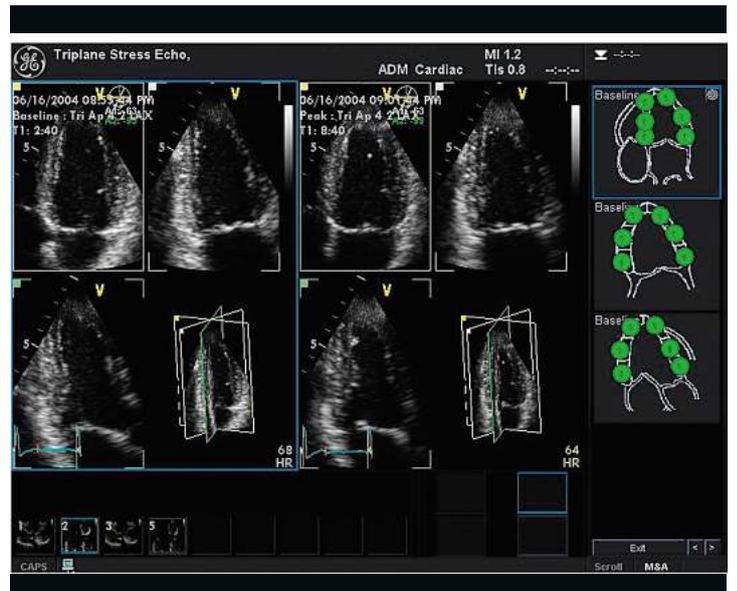
Real-time full volume



Tri-plane PISA from the same heart cycle



Online contrast imaging EF measurement

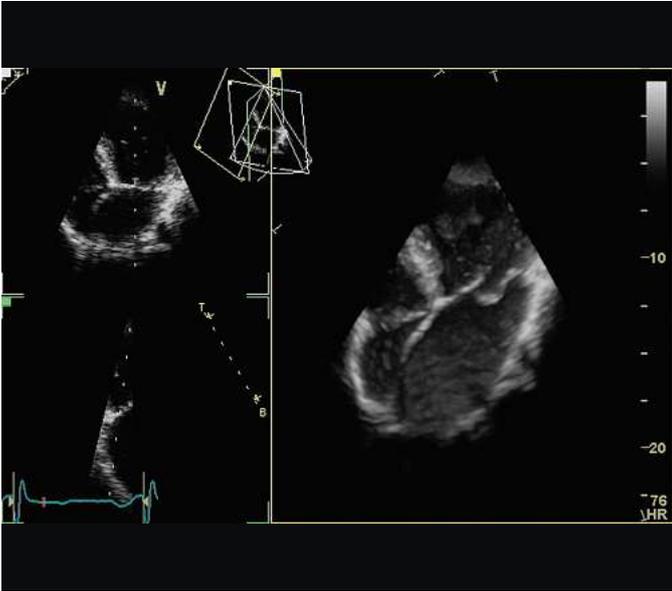


Tri-plane images automatically shuffled into user-defined stress protocol

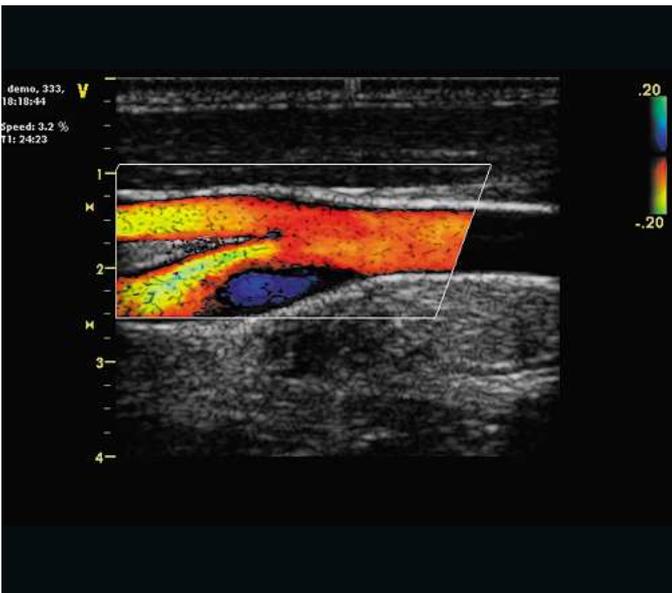
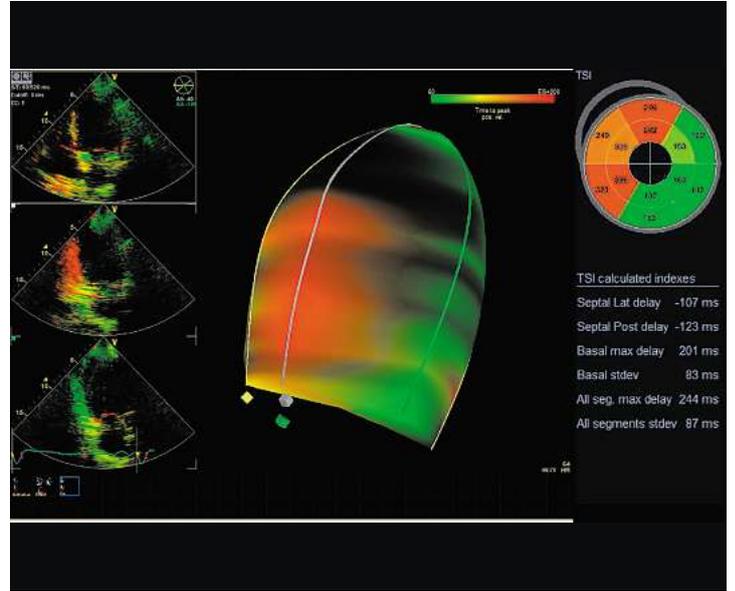
At the core of the Vivid family of cardiovascular ultrasound systems is GE's legendary TruScan imaging platform.

With TruScan, the ultrasound data is digitally acquired and stored in a raw state to preserve the integrity of the data. The resulting pristine images can then be viewed, measured, optimized and analyzed from the system or workstation at any time, without losing any of the original image quality.

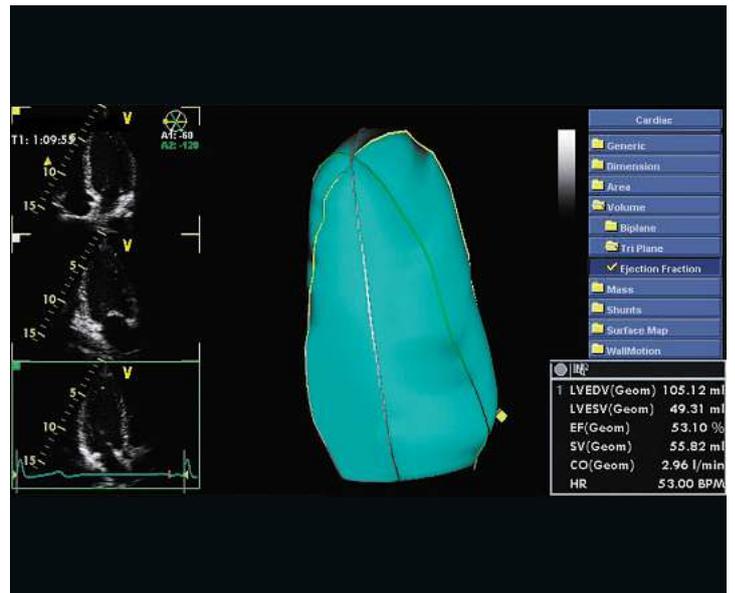
4D imaging in real time



4D TSI of an asynchronous LV



Blood Flow Imaging (BFI) of the carotid artery



Online EF measurement from tri-plane imaging

# Be confident.

The Vivid 7 Dimension gives clinicians a better way to convey their findings to other cardiologists, referring physicians, EP physicians and patients. Now, cardiac anatomy, synchronicity and viability can be clearly communicated in imaging formats that are more familiar for your clinical partners, thus easier to understand.

- Real-time 4D imaging – provides more cardiac information to help clinicians better communicate the heart's structure and function.
- 4D Tissue Synchronization Imaging (TSI) – propels Tissue Velocity Imaging (TVI) to the next level by taking three simultaneous planes – from a single heartbeat at high frame rates – to create a flexible, dynamic 4D model with quantitative measurements to better communicate cardiac dyssynchrony.

- Bull's-eye report formats and TSI surface mapping – communicate cardiac dyssynchrony in a visual display that should be more familiar to EP physicians.
- Blood Flow Imaging (BFI) – new vascular imaging mode gives clinicians a better understanding and delineation of directional blood flow in vessels.
- Seamless measurement integration – allows you to efficiently calculate ejection fraction and volumes from tri-plane images gathered from the same heartbeat.





# A quick study.

## Multi-plane acquisitions speed your exam.

Intrinsic to multi-dimensional imaging is GE's innovative transducer technology that allows clinicians to use one probe to acquire multiple planes of images simultaneously from the same heartbeat. So, you get clinical information – in the least amount of time – for the majority of your patients.

One transducer, with Anatomical M-Mode, color flow, Tissue Velocity Imaging (TVI), PW and CW Doppler, provides all the imaging modes needed for a complete study. The result: Significantly reduced exam times for both standard and stress echo exams.



# Work flows.



## **Streamlining echo lab workflow with connectivity.**

The easy-to use Vivid 7 Dimension significantly increases clinical productivity with time-saving features and a software-based imaging platform that fully integrates the ultrasound data throughout the entire imaging chain – from acquisition and reconstruction to analysis and reporting – for faster, more complete echo exams.

- Full integration – eliminates the need to perform two separate exams, i.e., first a standard 2D exam and then a separate live 3D exam, before analysis on a separate workstation. The single multi-dimensional and 4D study can be analyzed on the system or the EchoPAC Dimension workstation, dramatically streamlining both acquisition and analysis of all echo exams.
- Online 4D renderings performed in real-time during scanning – streamline exams and save time.
- DICOM connectivity with embedded raw data storage – permits post-exam quantitative analyses on the Vivid 7 Dimension system or the EchoPAC Dimension workstation; whichever best fits your echo lab workflow.

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imagination at work