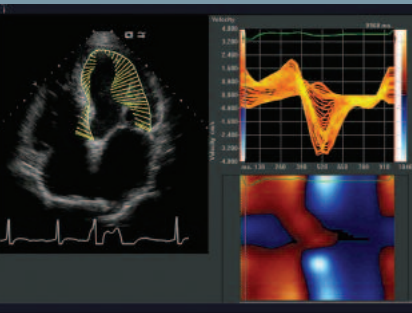


Intuitive Visualization and Assessment of Myocardial Motion



syngo® Velocity Vector Imaging™ (VVI) technology is a state-of-the-art technology that enables clinicians to examine the mechanical functions of the myocardium to determine possible myocardial dysfunctions such as dyssynchrony and fetal heart dysfunction. It uses individual vectors to display direction and relative velocity of frame-to-frame tissue movement, delivering motion measurement at any point in the cardiac cycle. This unique graphical presentation enables visualization, measurement and display of myocardial mechanics as never before.

Highlights

Advanced Motion Assessment

- Displays myocardial tissue motion, direction, rotation and relative velocity in the left ventricle, right ventricle, left and right atria and aortic root
- Utilizes high frame rates to deliver superior spatial and temporal resolution clarifying subtle wall motion abnormalities
- Displays trajectory mapping of the physical location of the traced region over the cardiac cycle
- Sophisticated 2D tracking algorithm provides accurate strain and strain rate calculations (longitudinal, circumferential, and radial) of myocardial mechanics
- Provides dynamic assessment of mechanical synchrony without the limitations of Doppler

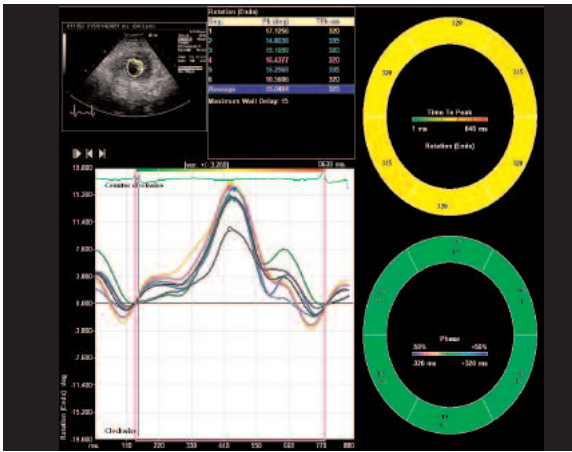
Intuitive Visualization

- Enables simple and intuitive visualization through use of moving vectors
- Provides graphical display of segmental and regional velocity information
- Aids identification of wall motion changes in serial studies of the same patient

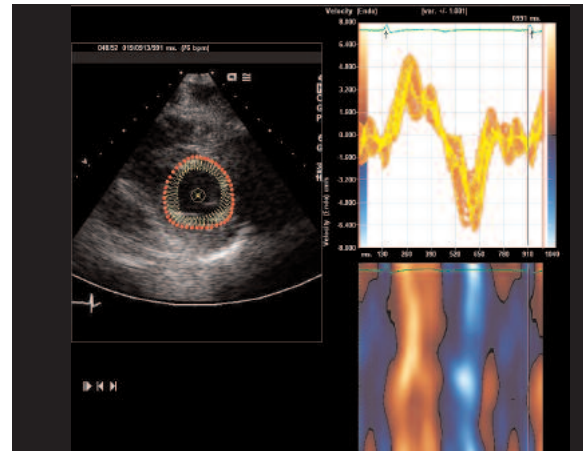
Convenient and Versatile Operation

- Facilitates study of all heart chambers across all clinical applications from any angle and any transducer position
- Displays accurate velocities for longitudinal, tangential and radial motion
- Works with all transducers including TEE, vascular and ACUSON AcuNav™ ultrasound catheters
- Available off the system on syngo® US Workplace 3.0
- Operates on DICOM clips from select Siemens and non-Siemens ultrasound systems

syngo Velocity Vector Imaging technology 2.0
Enabling new insights in cardiac function



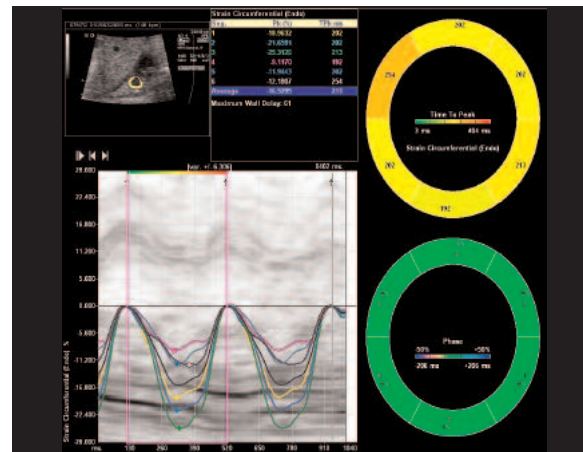
- Apical rotation compliments longitudinal assessment.



- Trajectory display maps the physical location of the traced region over the cardiac cycle.



- A heart failure patient with a bi-ventricular pacemaker and regional dyssynchrony.



- Circumferential strain analysis in a 30 week fetus.

Validation

1. Pirat B, Khoury DS, Hartley CJ, Tiller L, Rao L, Schulz DG, Nagueh SF, Zoghbi WA. A Novel Feature Tracking Echocardiographic Method for the Quantitation of Regional Myocardial Function: Validation in an Animal Model of Ischemia-Reperfusion. J Am Coll Cardiol 2008, in press
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3. Bahar Pirat, Marti L. McCulloch, William A. Zoghbi, Methodist DeBakey Heart Center Evaluation of Global and Regional Right Ventricular Systolic Function in Patients with Pulmonary Hypertension Using a Novel Speckle Tracking Method American Journal of Cardiology, 2006 (Volume 98, pp 699-704)
4. Maxime Cannesson, Masaki Tanabe, Matthew S. Suffoletto, David Schwartzman, John Gorcsan III Velocity Vector Imaging to Quantify Ventricular Dyssynchrony and Predict Response to Cardiac Resynchronization Therapy American Journal of Cardiology, 2006 10 01 (Volume 98, Issue 7, pp 949-953)

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