Clinical challenge
Assessing blood flow and vessel wall structure provides critical data in a variety of clinical care areas, including pediatrics, vascular, small parts, obstetrics and abdominal. Clinicians need high frame rates and excellent spatial resolution to assess the hemodynamic flow of the vessels without the interference of surrounding tissue to clarify precise vascular architecture.

GE solution
The LOGIQ™ E10 system with B-Flow™ imaging enables clinicians with direct, real-time visualization of blood flow echoes using a non-Doppler technique. Designed to help facilitate accurate diagnoses, information from this advanced tool is presented in gray scale imaging with different gray intensities representing the speed and dynamics of the blood reflectors.

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Confident diagnosis

From examining larger blood vessels such as the carotid artery to visualizing small vessels in the liver, kidney or spleen, B-Flow helps enhance clinicians’ confidence in assessing flow hemodynamics in a wide range of studies:

- Vascular stenosis
- Carotid plaque for vulnerability study (e.g. ulceration)
- Interaction of blood flow with anatomical structures inside the vessel such as venous valve cusps and thrombi
- Grafts for monitoring (e.g. dialysis graft or pseudoaneurysms)
- Kidney perfusion (e.g. after transplants)
- Vascular complications after transfemoral catheterization (e.g. AV fistula, dissections, hematomas)
- Liver and spleen vasculature
- Neonatal head vessels
- Fetal cardiac septal defects (e.g. PFO, VSD, ASD)

Comprehensive tools

B-Flow imaging is based on GE’s patented Digitally Encoded Ultrasound technique that boosts weak blood signals and suppresses strong tissue signals. Advantages of direct hemodynamic visualization include:

- Detection of the true vessel diameter, improving visualization of the vessel wall without color overwrite
- No Doppler angle dependency enhances the ease of vessel detection
- Higher frame rate and spatial resolution than Color Flow
- Visualization across the entire field of view to provide more information
- B-Flow Capture with Reconstruction provides a three-dimensional view of blood vessels in which artifacts are automatically suppressed and weak vessel signals enhanced

Concise workflow

B-Flow is easy to use, enhancing productivity and efficiency:

- Selectable settings for tissue background information
- PW Doppler including measurements
- Motion Correction adjusts for patient motion to help improve vessel border detection
- Capture mode enhances the visualization of vessel structures
- Capture reconstruction provides information on small blood vessels, useful in characterizing tumors or vascular abnormalities
- Easy 3D B-Flow imaging
- Compatible with Volume Navigation
- Contrast examinations may be performed with B-Flow to enhance spatial resolution of image organ and tumor vascularity

The cSound™ Architecture enables the LOGIQ E10 to provide you with confident diagnosis, comprehensive tools and concise workflow. This is an ultrasound system for today and a platform for tomorrow.