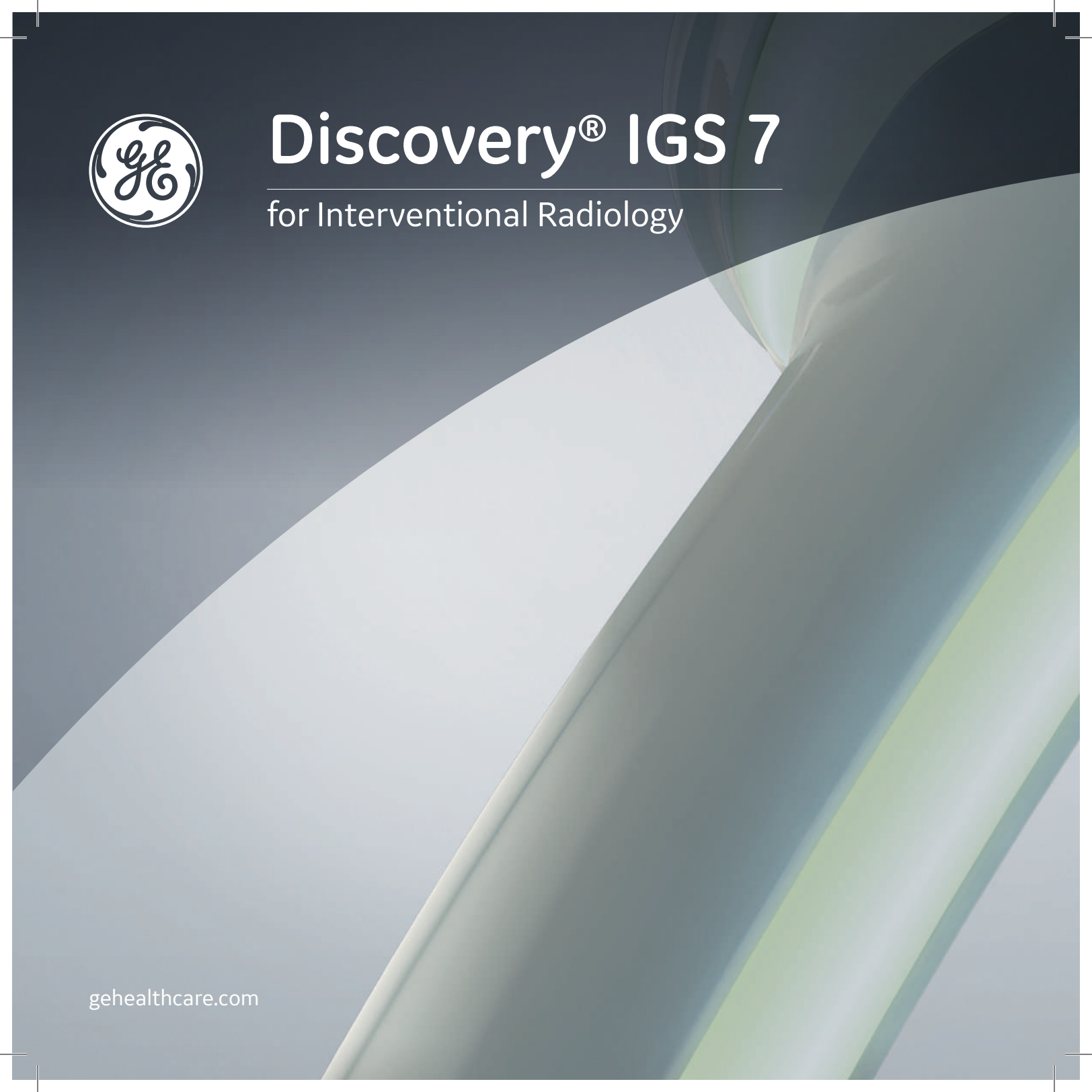
Discovery® IGS 7

for Interventional Radiology



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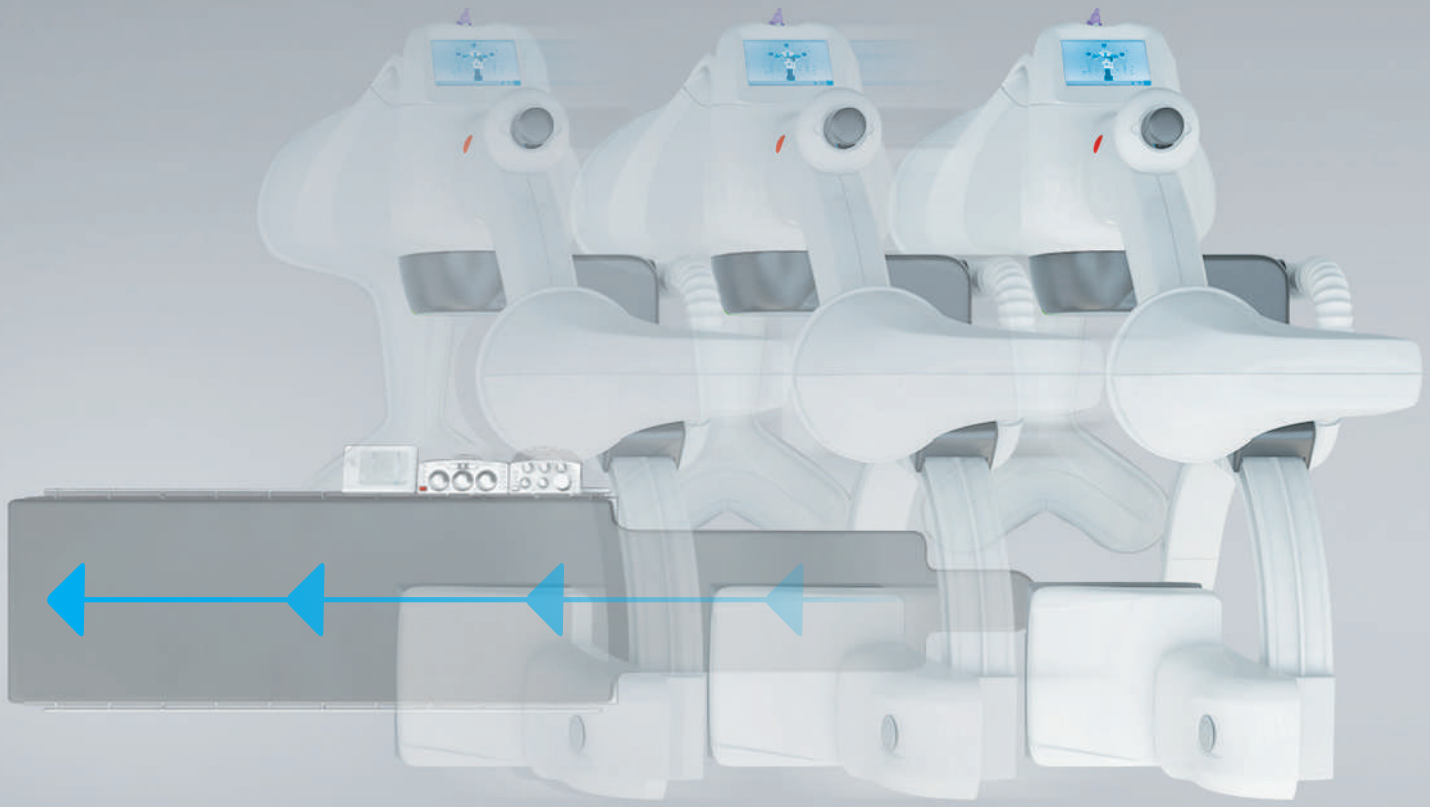
Discovery

Free yourself from the rails

Free yourself from the constraints of fixed ceiling-mounted systems' rails with the Discover IGS 7 mobile angiography system.

The untethered Discover IGS 7 offers amazing siting and room design flexibility. Practice with exceptional comfort and control with Discovery's rail-free design and flexible C-arm positioning. Plus, its ample detector covers large anatomies in both 2D and 3D.



Get full head to toe coverage without moving the patient

Discovery IGS 7 flexibility with extended lateral panning motion allows to cover head to toe without moving the patient during interventions.

Put yourself at the center of your procedures

With nothing in your way, you can image the anatomy of interest easily, position your monitors freely, and access your patients completely from the left or right side on the Discovery IGS 7.


Discovery

Liberating rail-free design

The Discover IGS 7's swiveling wheeled gantry moves freely on the floor, not on the ceiling, eliminating overhead rails. So, you can place your monitors exactly where you need them for comfortable viewing without straining.

Dedicated arm imaging positions

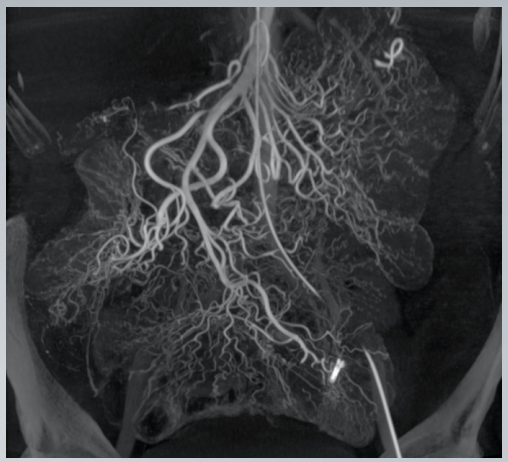
Perform procedures such as left arm fistulograms comfortably with the Discovery IGS 7's dedicated arm imaging positions.

A wide-bore C-arm

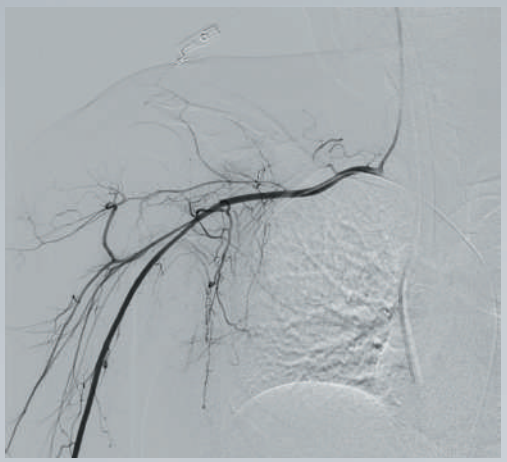
The combination of the Discovery IGS 7 wide bore with the large 41 x 41 cm detector enables to image patient in 3D at any point of the anatomy without collision even for large patients with BMI up to 40.[1]

See large anatomies in one view

Cover large anatomies such as the liver or both legs simultaneously, with fewer runs than smaller detectors, for efficient use of contrast and dose.



Appreciate the high quality of contrast uptake to see fine details comfortably with a 41 x 41cm (16.1 in.) field of view.



Capture large anatomies in a single image with the large 41 x 41cm (16.1 in.) detector and the ability to perform off-center acquisitions.

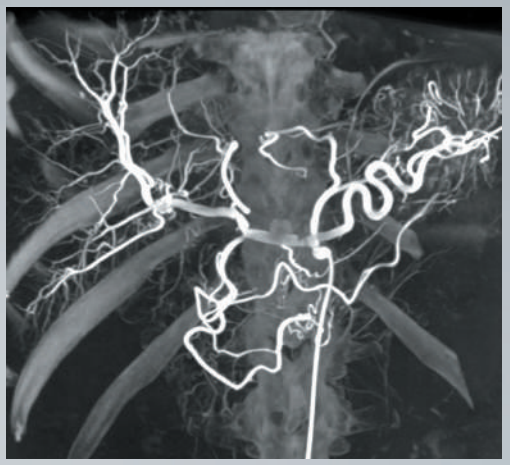
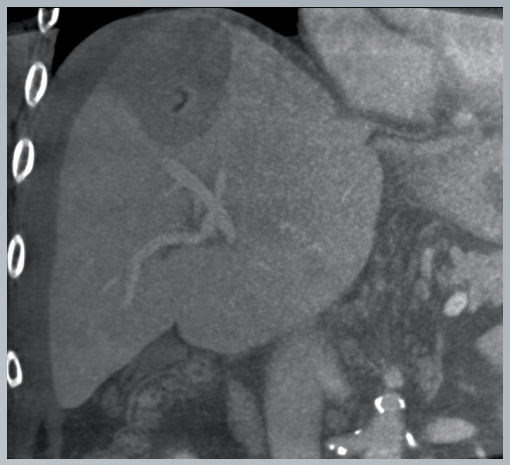


Image the entire liver in a single 3D acquisition with the Discovery IGS 7.



Identify right after your procedure the ablated area with high quality CT-like imaging.


Discovery

An exceptionally large detector

With its broad 41 x 41 cm (16.1 in) digital detector, the Discovery IGS 7 system boasts one of the largest fields of view for interventional imaging. Moreover, the GE-proprietary digital detector delivers one of the industry's highest levels of DQE, the accepted measure of X-ray detector dose efficiency.

Extended coverage in 2D

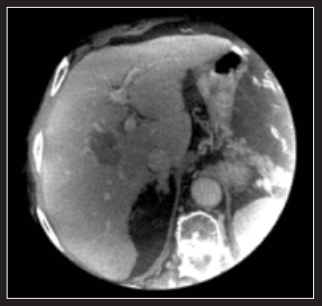
With InnovaBreeze™ [2], take full advantage of the Discovery IGS 7's very large field-of-view and follow the contrast bolus in both legs in real time using variable panning speed control.

Large organs in 3D

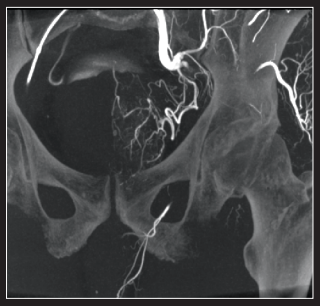
Combine the wide-bore C-arm and the 41 x 41 cm (16.1 in) digital detector, and see large organs like the liver in 3D. Then use Liver ASSIST V.I.[3] to help you identify tumor-feeding vessels in a few clicks and be selective during your liver embolization.

3DCT HD:
A high definition Cone Beam-CT

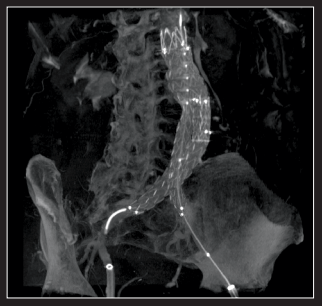
The high value of the minimally invasive therapy suite is intra-operative CBCT, which provides accurate 3D anatomy of the patient on table, at low radiation dose.
With the largest 41 cm square detector, you can obtain a large 3D FOV in an easy set up.
For IR and IO procedures, 3DCT HD[4] provides important information for diagnosis, surgical planning, interventional procedures and treatment follow-up of endovascular and percutaneous procedures.



Liver



Pelvis

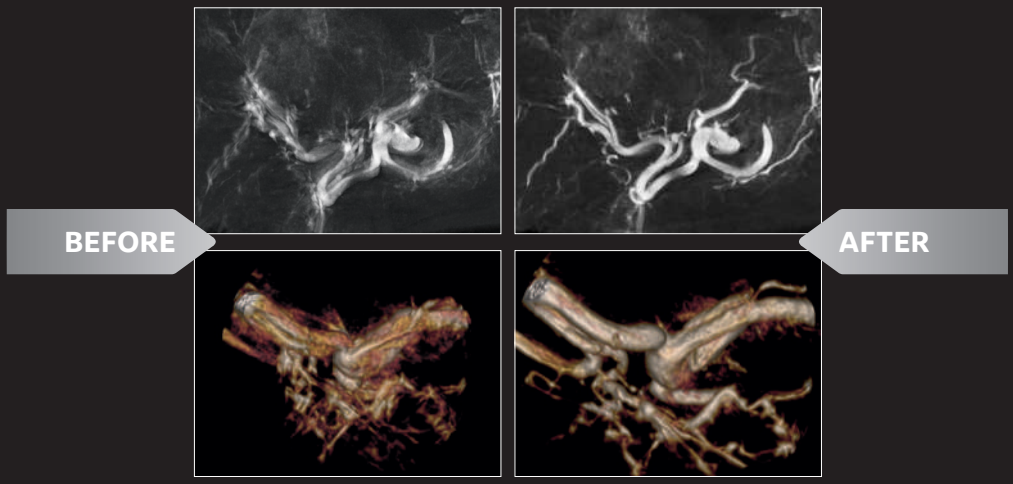


Aorta

Lung

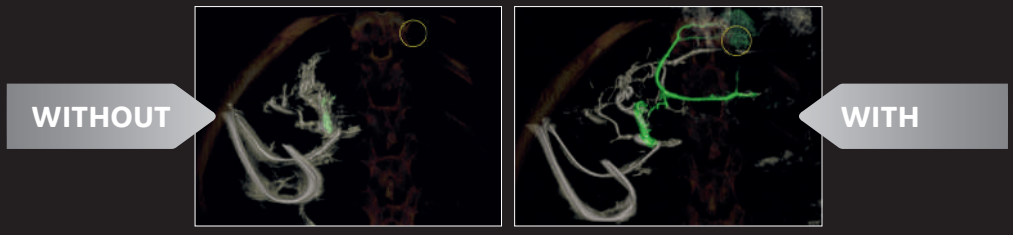
When breathing gets in your way, clear it up with Motion Freeze

Access the full potential of CBCT with Motion Freeze[5], the first solution[6] commercialized that helps compensate artifacts caused by involuntary respiratory motion during the CBCT acquisition.
Motion Freeze can help salvage CBCT acquisitions by refining and increasing small contrasted structures in CBCT images that would have otherwise been discarded due to involuntary respiratory motion artifacts. Motion Freeze helps to recover small details visibility, may enable reduction of repetitive acquisitions, and facilitates access to advanced solutions.[7]



CBCT reconstruction affected by involuntary respiratory motions artifacts

CBCT reconstruction with Motion Freeze

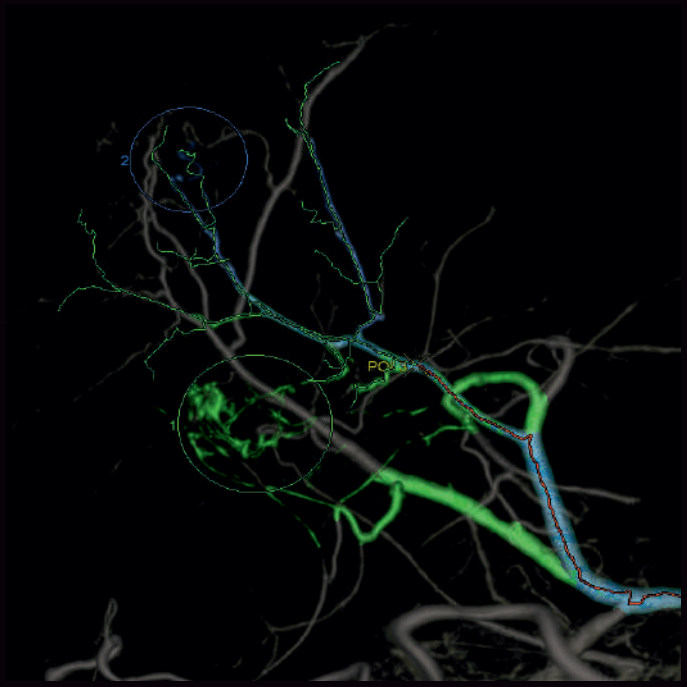


Liver ASSIST V.I. without Motion Freeze

Liver ASSIST V.I. with Motion Freeze

Liver ASSIST V.I. brings the power of dynamic simulation to your embolization

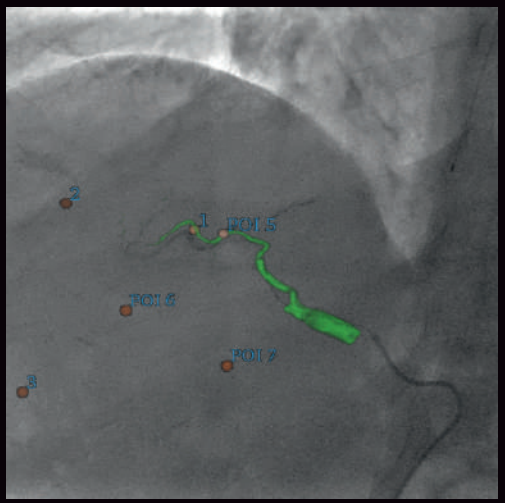
To deliver therapeutic material to tumors during trans-arterial chemoembolization therapy, it is essential to identify the liver vessels accurately. But the liver's complex vasculature can make precise identification of tumor-feeding vessels in 2D and 3D images a challenge, often requiring significant time, radiation, and contrast media.

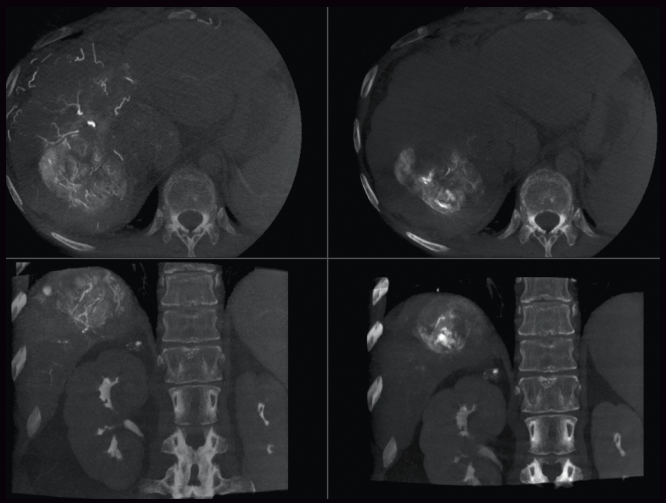


Plan

Liver ASSIST V.I. provides an improved sensitivity of tumor feeding vessels identification vs the use of either DSA or CBCT alone to reach up to 97%[8abc] and helps reach a high selectivity during liver embolization procedure.

Liver ASSIST V.I. simulates injection trajectories to help determine the injection points in real-time, thus aiding injection strategy decision making.





Guide

Once ready, you can proceed with a single-click fusion imaging between the live fluoroscopic image and the vessels highlighted for 3D fusion guidance[9] to guide catheters across tortuous vessels and bifurcations, helping you perform the embolization with confidence.

This facilitates catheter selection in complex vascular anatomies for a higher selectivity in liver embolization procedures.

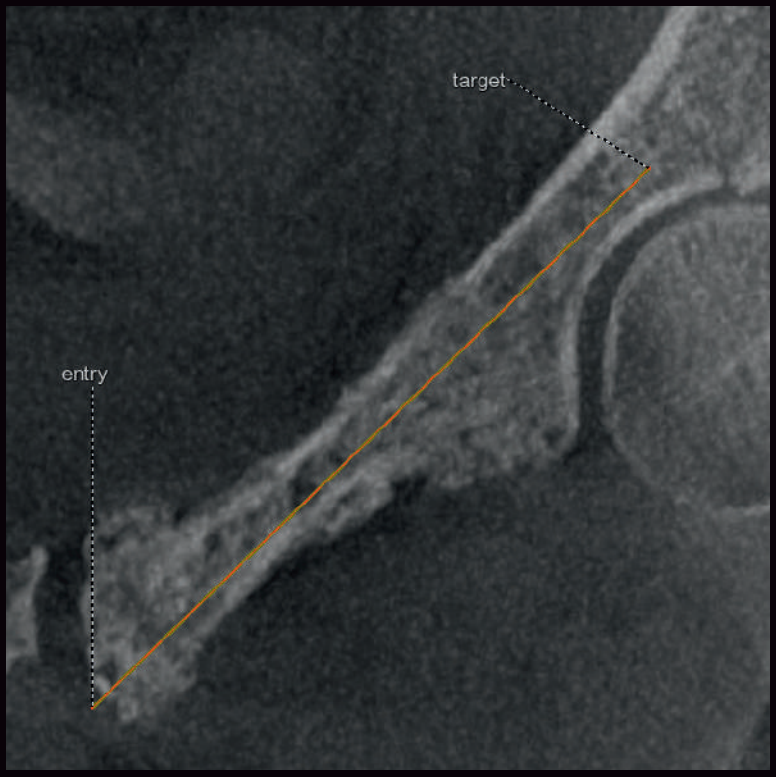
Assess

Perform procedure assessment by comparing pre and post 3DCT HD on Volume Viewer.

Liver ASSIST V.I. has demonstrated ~68% complete tumor response rate (vs. 36% with DSA alone).[10]

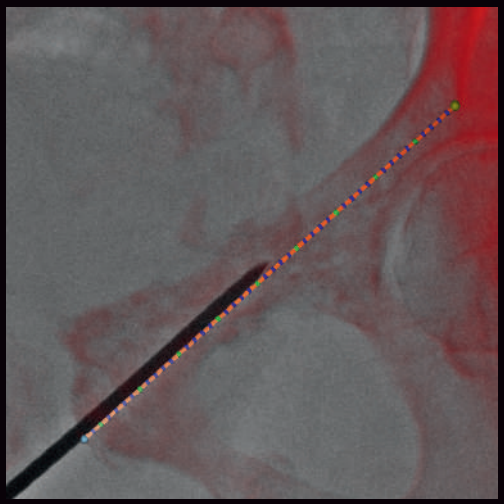
Plan, guide and assess needle procedures with confidence

Performing needle procedures in the interventional suite frees up your CT system and provides exceptional access to the patient. However, under fluoroscopic guidance, it may be challenging and time-consuming to find the right entry point and advance the needle while avoiding critical structures.



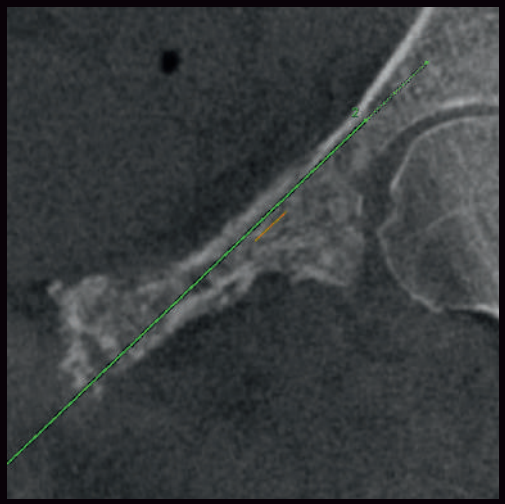
Plan

With Needle ASSIST,[11] plan the procedure using outstanding 3D information and determine the optimal skin entry points and needle paths directly on oblique CBCT cross-sections.



Guide

With Needle ASSIST, thanks to 3D fusion guidance all at table side, you can guide your needle along the virtual trajectory that will follow C-arm angulations and table movements. A dedicated bone rendering lets you visualize mis-registrations in both translation and rotation, so you can correct for even small patient motion from tableside.

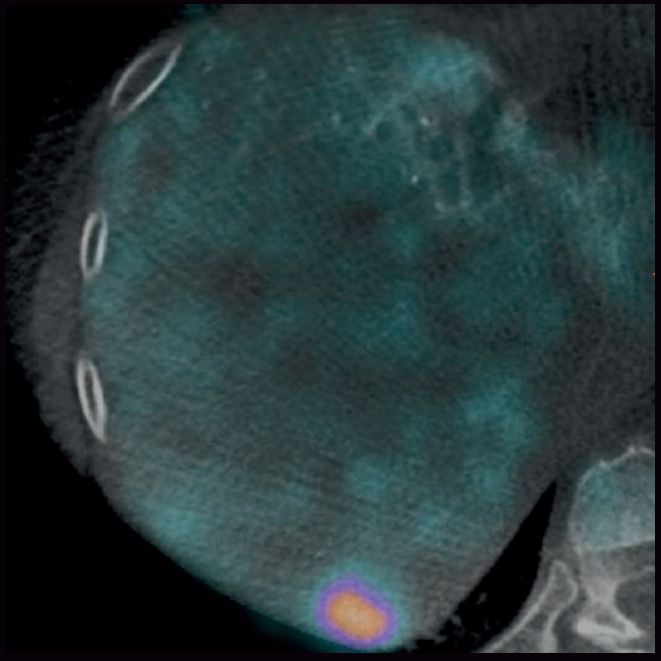


Assess

All at table side, reconstruct a needle in 3D with 2 fluoroscopic images with accuracy and to review the location of the reconstructed needle on the 3D anatomy.

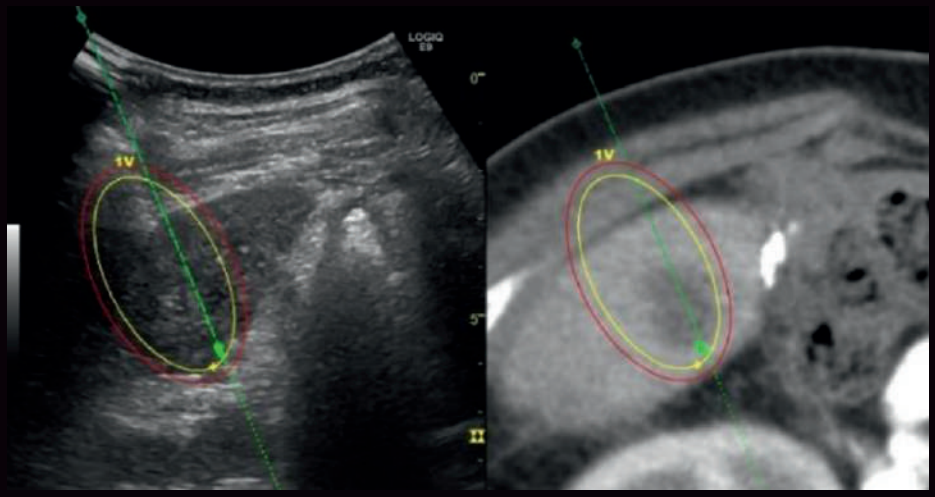
Benefit from automatic fusion of Ultrasound and CBCT for effective ablation procedures in the Angio Suite with INTERACT Active Tracker.

GE Healthcare proposes 2 approaches for your percutaneous procedures: either by using angio room alone with Needle ASSIST or by using ultrasound in the angio room with INTERACT Active Tracker,[12] a tracker-based registration technology which enables automatic Ultrasound and 3D pre-op fusion in one single point of care, using echograph in the Angio suite.



Plan with Automatic fusion

Use Multi-Modality fusion to localize lesion on CBCT. INTERACT Active Tracker enables automatic Ultrasound and 3D pre-op fusion.[13]

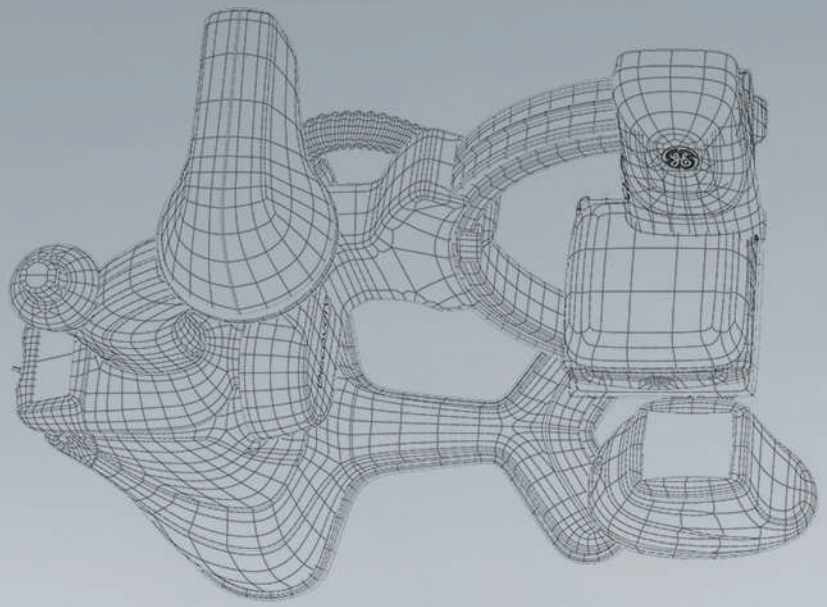


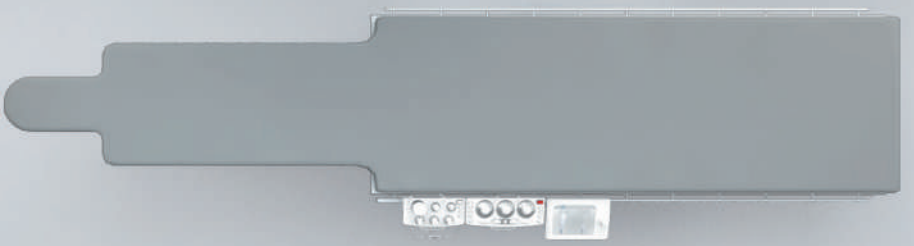
Guide with Radiation Free modality

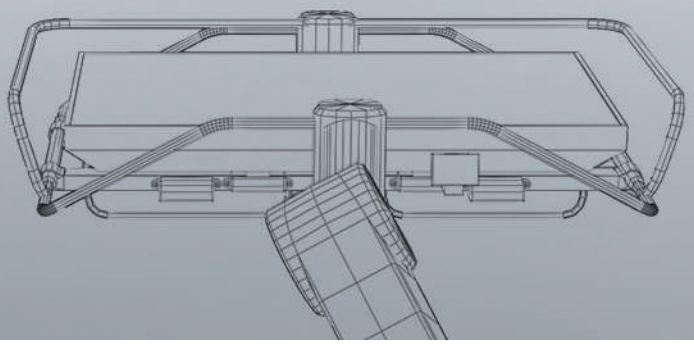
Leverage radiation-free modality using the echograph and free-up CT scan time.[14] Reserve CT scan time for diagnostic and angio suite for interventions.

Benefit from 3D modalities all in a single point of care.

Get exceptional access to patient while optimizing the efficiency and use of the available resources and staffing.







Design your room with amazing flexibility

By eliminating the rails of ceiling-mounted system, the Discovery IGS 7 frees up your ceiling entirely for more flexibility in designing your room.

No reinforced ceiling structure needed

With the mobile Discovery IGS 7 system, there's no need for long and complex infrastructure improvements to reinforce your room's ceiling structure.

Drawing the ideal room

With no rails on the ceiling obstructing the positioning of ceiling-mounted ancillaries, the Discovery IGS 7 gives you flexibility to draw the location of your monitors, lights and radshields where you need them to be. And with two customizable parking positions, the Discovery IGS 7 adapts to suit your room size and shape.

Siting in precious space

Whether you're building a new room, repurposing an existing room, or re-configuring a small room, the Discovery IGS 7 lets you use precious space efficiently. Fit the Discovery IGS 7 in rooms as small as just 35 square meters (377 square feet) for a wider choice of siting options in situations where space is at a premium.

About GE Healthcare

GE Healthcare provides transformational medical technologies and services to meet the demand for increased access, enhanced quality and more affordable healthcare around the world. GE (NYSE: GE) works on things that matter - great people and technologies taking on tough challenges. From medical imaging, software & IT, patient monitoring and diagnostics to drug discovery, biopharmaceutical manufacturing technologies and performance improvement solutions, GE Healthcare helps medical professionals deliver great healthcare to their patients.

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1. Tested on a patient model based on published anthropometric data : C. Bordier, R. Klausz and L. Desponds, Patient Dose Map Indications on Interventional X-Ray Systems and Validation with Gafchromic XR-RV3 Film, Radiation Protection Dosimetry (2014), pp. 1–13, doi:10.1093/rpd/ncu181
2. Option that requires an AW workstation.
3. Liver ASSIST V.I. solution includes Hepatic VCAR and FlightPlan For Liver that can be used independently. It also requires an AW workstation with Volume Viewer and Volume Viewer Innova. These applications are sold separately. May not be available for sales in all markets.
4. 3DCT HD is an option sold separately. Includes 3DXR. Requires AW workstation and Volume Viewer.
5. Motion Freeze is a feature of 3DXR (part of GE vascular systems Innova IGS 5, Innova IGS 6, Discovery IGS 7 and Discovery IGS 7 OR). 3DXR may not be available in all markets. Refer to your sales representative.
6. Based on competitive research, among major players in interventional imaging.
7. The improvement related to Motion Freeze depends on the acquisition conditions, table position, patient, type of motion, anatomical location and clinical practice, it has been assessed visually on a physical phantom. Motion Freeze is not intended for free breathing and does not prevent to ask the patient to hold his breath.
8. The above Liver ASSIST V.I. performance aspects reflect the results of three published journal articles that used a previous version of FlightPlan for Liver software (b,c) or its prototype (a). The results of these published studies do not necessarily represent individual performance of FlightPlan for Liver
   a) Computed Analysis of Three-Dimensional Cone-Beam Computed Tomography Angiography for Determination of Tumor-Feeding Vessels During Chemoembolization of Liver Tumor: A Pilot Study – Deschamps et al. Cardiovasc Intervent Radiol. 2010.
   b) Tracking Navigation Imaging of Transcatheter Arterial Chemoembolization for Hepatocellular Carcinoma Using Three-Dimensional Cone-Beam CT Angiography – Minami et al. Liver Cancer. 2014.
   c) Clinical utility and limitations of tumor-feeder detection software for liver cancer embolization. Iwazawa et al. European Journal of Radiology. 2013.
9. To guide, Liver ASSIST V.I. solution, requires Vessel ASSIST solution which includes Vision 2, VesselIQ Xpress, Autobone Xpress. Liver ASSIST V.I. and Vessel ASSIST are sold separately
10. Liver ASSIST V.I, through a previous version of FlightPlan for Liver, has demonstrated ~68% complete tumor response rate (vs. 36% with DSA alone). Hepatic Arterial Embolization Using Cone Beam CT with Tumor Feeding Vessel Detection Software: Impact on Hepatocellular Carcinoma Response. Cornelis et al. Cardiovasc. Intervent. Radiol. 2017.
11. Needle ASSIST solution includes TrackVision 2, stereo 3D and requires AW workstation with Volume Viewer, Volume Viewer Innova. These applications are sold separately.
12. INTERACT Active Tracker is an optional feature of 3DXR (part of GE interventional X-ray systems Innova IGS 5, Innova IGS 6 and Discovery IGS 7 or Discovery IGS 7OR). This feature supports only one 'Active Tracker' type: OmniTRAX™ Active Patient Tracker (sold separately by CIVCO). Requires availability of a LOGIQ E9 XDclear 2.0 or LOGIQ S8 XDclear 2.0 or LOGIQ E10 system into the GE angio suite.
13. Requires Integrated registration which requires an AW workstation with volume Viewer and Volume Viewer Innova. These applications are sold separately.
14. Results may vary depending on the institution, the patient characteristics, and the experience of the operator.