# LIVER CARE - A comprehensive suite of solutions

GE provides you with a comprehensive set of solutions to overcome your main challenges in Liver Care

Discovery™ IGS 7

When
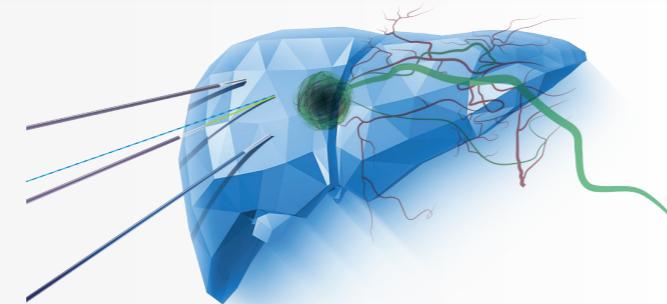
39% (1.9 Billion) of the world's adult population is overweight (BMI>25) or obese (BMI> 30)[1].

GE helps you

Get uninterrupted CBCT up to BMI 40[2a,b] and for almost all patients, even intubated and with arms down, with full organ coverage thanks to Discovery IGS 7.

Motion Freeze
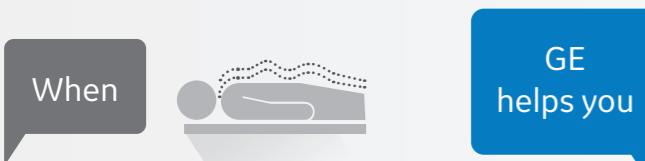
When

the images are degraded because of involuntary respiratory motion artifacts[4a].

GE helps you

WITHOUT   WITH

Potentially salvage up to 40%[3] of CBCT affected by involuntary respiratory motion artifacts with Motion Freeze.[4b]

Liver ASSIST
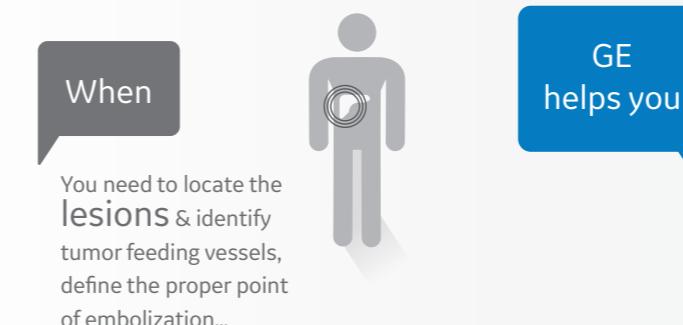
When

You need to locate the lesions & identify tumor feeding vessels, define the proper point of embolization...

GE helps you

Optimize procedure selection & preparation thanks to automatic liver anatomy segmentation & evaluation, and get up to 97% [5,] sensitivity in identifying tumor-feeding vessels and ~68% complete tumor response[6] with Liver ASSIST[7] for the planning, guiding, and assessment of your liver endovascular procedures".

INTERACT Active Tracker
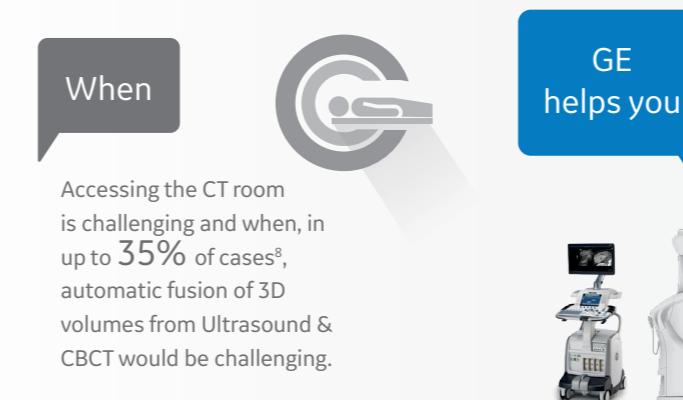
When

Accessing the CT room is challenging and when, in up to 35% of cases[8], automatic fusion of 3D volumes from Ultrasound & CBCT would be challenging.

GE helps you

Expand your room utilization for more percutaneous procedures thanks to automated modality fusion using INTERACT Active Tracker[9].
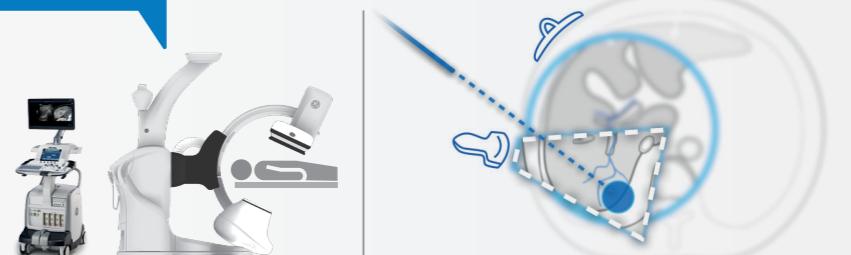
Needle ASSIST

When

You need to plan your needle procedure using a simple multi-modality fusion of pre-operative images, including CBCT, navigate needle in complex structures to reach the region of interest & assess ablation margins.

GE helps you

1   2   3D
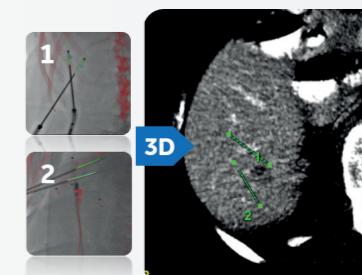
Get 3D space visualization at 98% less radiation dose[10] of a full CBCT at 2,5mm accuracy[11] with Needle ASSIST[12] for precise needle planning, guidance and assessment of percutaneous procedures in the liver.

1. https://www.niddk.nih.gov/health-information/health-statistics/overweight-obesity
2a. 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
2b. Valid for IGS 740 configuration
3. Based on the quantitative assessment of 6 recognized Interventional Radiologists specialized in the field of Interventional Oncology, using various intervention angiography systems from different vendors
4a. Motion Freeze is not intended for free breathing and does not prevent to ask the patient to hold his breath during 3D acquisition. The improvement related to Motion Freeze depends on the acquisition conditions, patient, type of motion, anatomical location and clinical practice.
4b. 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). Sold separately.
5. The above Liver ASSIST performances aspects reflect the results of three published journal articles conducted by using FlightPlan for Liver software (b) (c) or its prototypes (a) for the validation and they 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.
6. 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.
7. Liver ASSIST 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.
8. Based on quantitative assessment of 65 patients.

9. INTERACT Active Tracker is not available in all markets. INTERACT Active Tracker is an optional feature of 3DXR (part of GE interventional systems Innova IGS 5, Innova IGS 6 and Discovery IGS 7 or Discovery IGS 7OR). This feature supports only one 'Active Tracker' type: OmniTRAXTM Active Patient Tracker (sold separately). 3DXR is not available in all markets. Requires availability of a Logiq E9 XDclear 2.0 or Logiq S8 XDclear 2.0 or Logiq E10 (where commercially available) system into the GE angio suite.
10. Based on the dose of the procedure step needed for needle visualization using a CBCT acquisition vs. a Stereo 3D process. Full 3D anatomic information is provided with the CBCT acquisition, while the Stereo 3D process provides specific information for 3D needle visualization. In both cases, the needle visualization is next used to assess its location. The stated dose reduction does not reflect the entire interventional procedure, but rather to a specific step in the procedure.
    The dose for the CBCT acquisition is from typical exposure settings (Innova CT 40°/s, 30fps, IQ Standard, Normal, Nominal FOV). The dose from the Stereo 3D process is from three spatially separated, 2-seconds fluoroscopic acquisitions, with typical exposure settings (3.75 fps, IQ Standard, Normal, Max Dose Reduction, Nominal FOV). The dose data for all acquisitions are from the Air Kerma per IEC 60601-2-43 conditions, provided in the interventional X-Ray user manual.
    In clinical practice, the use of Stereo3D may reduce patient radiation dose depending on the clinical task, patient size, anatomical location and clinical practice.
11. The accuracy is determined by engineering analysis using rigid phantom data having a 3D voxel size with no dimension greater than 0.95 mm. This idealized accuracy of the Stereo 3D reconstruction is obtained with the 2 fluoroscopic images taken at optimal angulation and without table motion at any step of the reconstruction procedure. The accuracy is defined to be the 3D distance between the marker in the Stereo 3D image and the same marker in the original 3D dataset.
12. NEEDLE ASSIST solution includes TrackVision 2, stereo 3D and requires AW workstation with Volume Viewer, Volume Viewer Innova. These applications are sold separately. Not available in all markets