



**Liver Oncology**

# Oncology

Oncology solutions  
made possible.



# Innovative Tools throughout a Patient's Cycle of Care

Liver cancer is the sixth<sup>1</sup> most common cancer globally and the fourth<sup>2</sup> most common cause of cancer death overall. In addition, the liver is a common site for secondary tumors that have metastasized from other organs. And with obesity and diabetes as contributing factors to liver disease, the rise of these epidemic conditions means that liver disease and cancers could also rise dramatically.

These factors mean that addressing liver cancer is complex and multifaceted. Canon Medical Systems' innovative technologies help tackle this complexity by putting expert tools in the hands of clinicians to help them improve visualization, streamline workflow, prioritize patient safety, and inform treatment plans throughout the entire cycle of care.

# Imaging

When it comes to accurate imaging, Canon Medical Systems' advanced tools are built for maximum simplicity.

## Computed Tomography: Maximum precision and efficiency

Canon Medical Systems' industry-leading CT technology is designed for precise oncology imaging with simplified workflow, high spatial resolution and automated dose reduction capabilities.

### Ultra-High Resolution

Aquilion Precision, the world's first Ultra-High Resolution\* CT, provides more than twice the resolution of today's standard CT systems. Aquilion Precision provides spatial resolution previously only seen in cath labs.

### SURE Subtraction Body

SURE Subtraction Body generates iodine mapping for visualization of iodine uptake in lesions to assess tumors, vascular lesions and lymph nodes with increased confidence.

### Liver Perfusion

Liver perfusion maps can help clinicians with diagnosis. Sixteen cm of dynamic volume coverage\*\* allows whole organ coverage in one rotation.

### AIDR 3D Enhanced

Many oncology patients are scanned repeatedly for surveillance, increasing their radiation exposure. AIDR 3D (Adaptive Iterative Dose Reduction 3D) Enhanced, a standard feature, achieves fast reconstruction with reduced exposure dose while still maintaining high-quality images.



**Aquilion Precision CT image of Chest, Abdomen and Pelvis**

*Courtesy Prof. Prokop RadboudUMC, Nijmegen, the Netherlands*

### Advanced Visualization: CT Liver Analysis

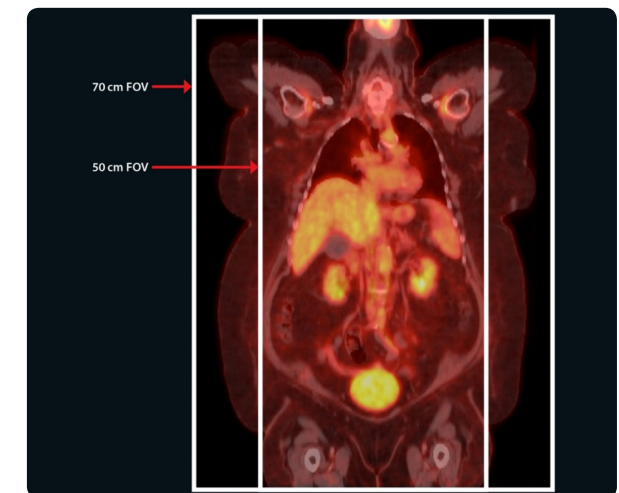
CT Liver Analysis by Vital Images provides advanced post-processing tools to support enhanced patient care:

- **Advanced tracking technology** enables visualization and tracking of a tumor's progress over time with RECIST and WHO measurements
- **Liver resection planning technology** calculates the volume of liver needed to be resected, enabling clinicians to plan liver resections safely.

## PET/CT: Industry's largest PET/CT bore and true FOV for improved accuracy and workflow

Celesteion<sup>PURE</sup>VISION Edition PET/CT redefines comfort, safety and precision for staging and monitoring liver cancer patients.

- With a 90 cm CT bore—the largest in the industry—clinicians and staff can position more easily the very ill, the elderly and the 40 percent<sup>3</sup> of the adult U.S. population that is obese.
- A 70 cm True Field of View (FOV) allows clinicians to overcome the challenges of a small 50 cm FOV, delivering unique access to help improve image quality and treatment planning.\*\*



**Celesteion<sup>PURE</sup>VISION Edition PET/CT image of a large patient**

\*Only available on the Aquilion Precision

\*\*Available on Aquilion ONE / GENESIS Edition, Aquilion ONE / VISION Edition

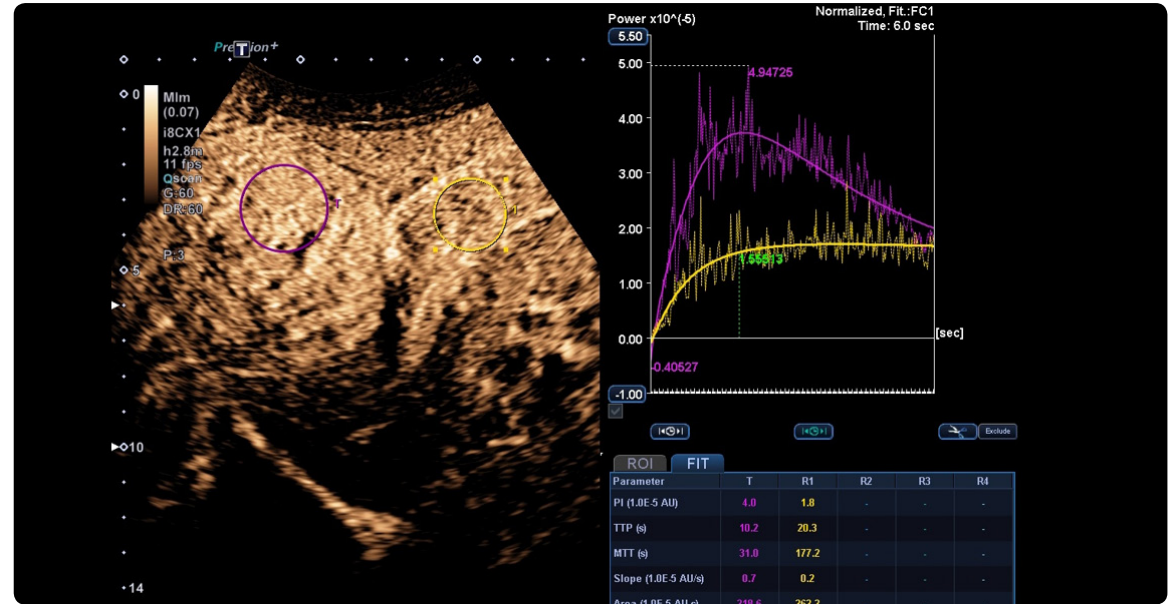
\*\*\*Only available on Celesteion<sup>PURE</sup>VISION Edition PET/CT

## Ultrasound: Accurate and Confident Liver Assessment

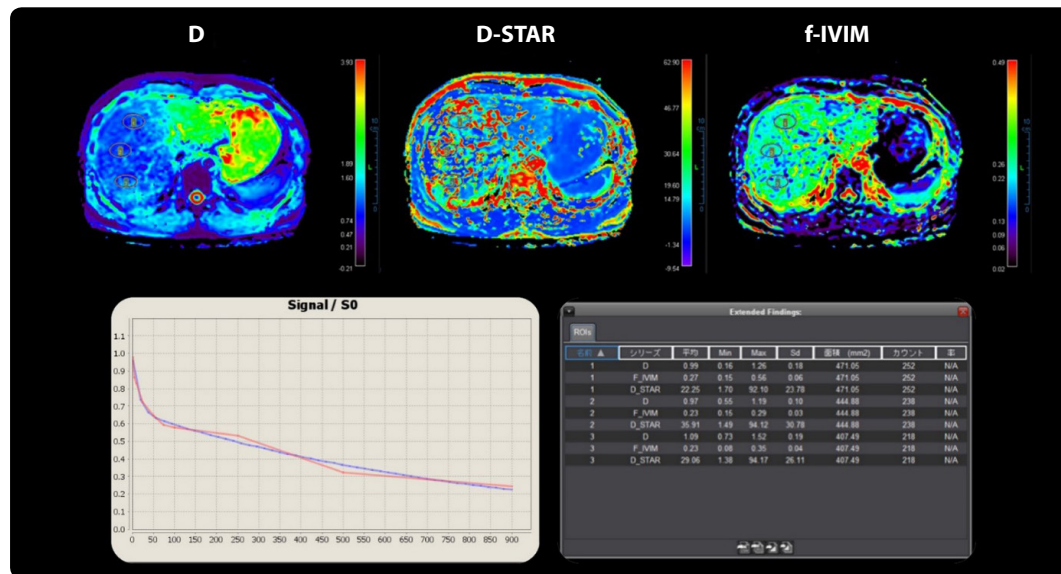
Non-invasive ultrasound imaging technology offers comprehensive, expert Liver Assessment tools addressing imaging needs in the assessment of chronic liver disease. The Liver Assessment tools include:

- Contrast Enhanced Ultrasound that can assist in the characterization of liver lesions and may be used with **CEUS LI-RADS** categorization
- **Shear Wave Elastography\*** for quantitative assessment of tissue stiffness, including **Shear Wave Dispersion\*** for the assessment of tissue viscosity parameters, leading to more confident diagnosis
- **Superb Microvascular Imaging\*** (SMI) that offers enhanced microvascular flow visualization to help clinicians with differential diagnosis

\*Availability depending on system



Contrast Enhanced Ultrasound Liver Imaging



IVIM diffusion-weighted imaging (DWI)

## MR: Intuitive, Fast and Accurate Tumor Assessment That Improves the Diagnostic Process and Productivity

High-quality magnets with high magnetic-field-homogeneity specification, combined with our unique MSOFT technology, provide clinicians with uniform fat saturation, enabling them to confidently view the desired anatomy and pathology.

### Tumor Assessment tools\*\*

Image post-processing software solutions feature both viewing and analysis capabilities providing quantitative and qualitative multiparametric maps to help clinicians in the evaluation of pathologies. Intravoxel Incoherent Motion (IVIM) analysis capabilities can assist in the quantification of the micro-diffusion parameters that could contribute to the signal acquired with diffusion MRI.

\*\*Designed and manufactured by Olea Medical

# Image-Guided Procedures

Image-guided procedures play a vital role in liver oncology. Canon Medical Systems offers a wide range of expert tools to help clinicians prioritize clinical precision and maximum efficiency.

## **Interventional Oncology: The Right Tools at the Right Time**

Prioritize safety and efficiency with advanced imaging for targeted procedures, whether complex or straightforward.

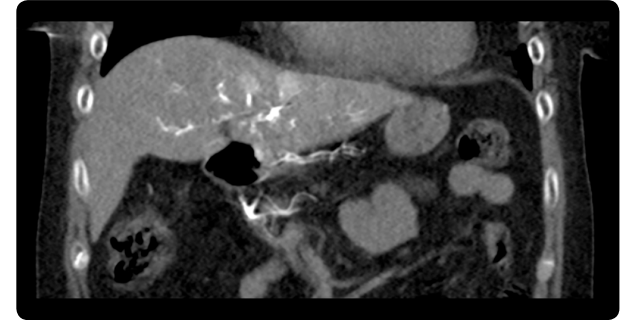
### **Infinix-i 4D CT**

Welcome to an Angio-CT system\* that seamlessly integrates the interventional lab and the CT scanner in the same room. CT imaging available on demand may help you to improve visualization and device manipulation, confirm the procedural goal, and offer anatomical and functional information.

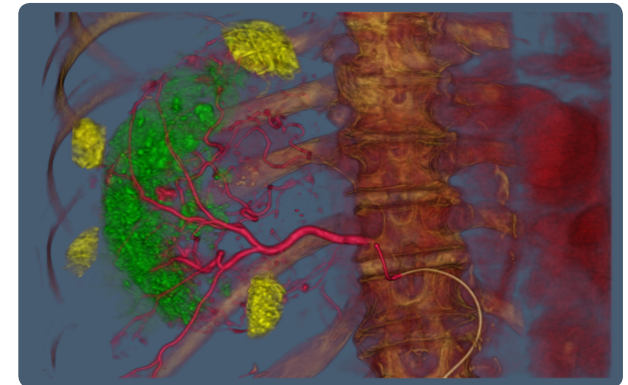
As a result, Infinix-i 4D CT may help clinicians expand their treatment capabilities, streamline workflow, increase efficiency<sup>4,5,6,7</sup>, reduce time-of and time-to procedure, reduce costs and eliminate patient transfers—all while delivering high-quality images with confidence.



**Infinix-i 4D CT**



**Infinix-i 4D CT intra-arterial CT liver image depicting tumors**



**Infinix-i Sky+ liver image with multiple tumors**

### **Angiography**

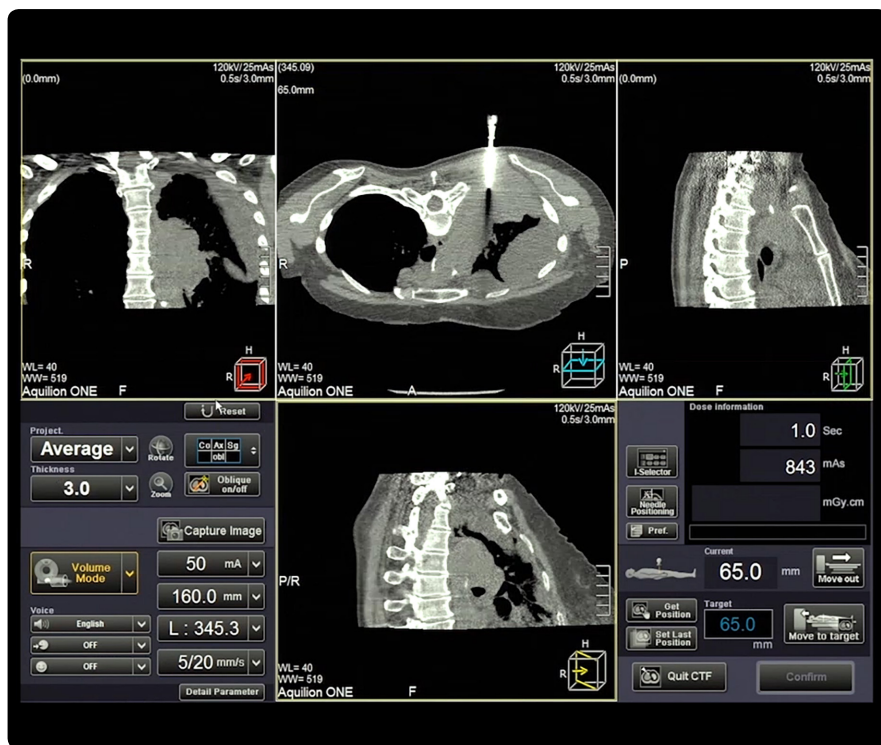
Canon Medical Systems' angiography systems are designed for maximum flexibility and high-quality imaging. Infinix-i Sky+ offers uncompromised access to patients and helps clinicians perform interventional liver procedures from either the left or right side of the patient. The acquired images can assist clinicians during efficient liver treatment guidance, enabling them to provide confident patient care.

\*Only available on the Infinix-i 4D CT

## CT Fluoroscopy: Guided by Safety and Accuracy

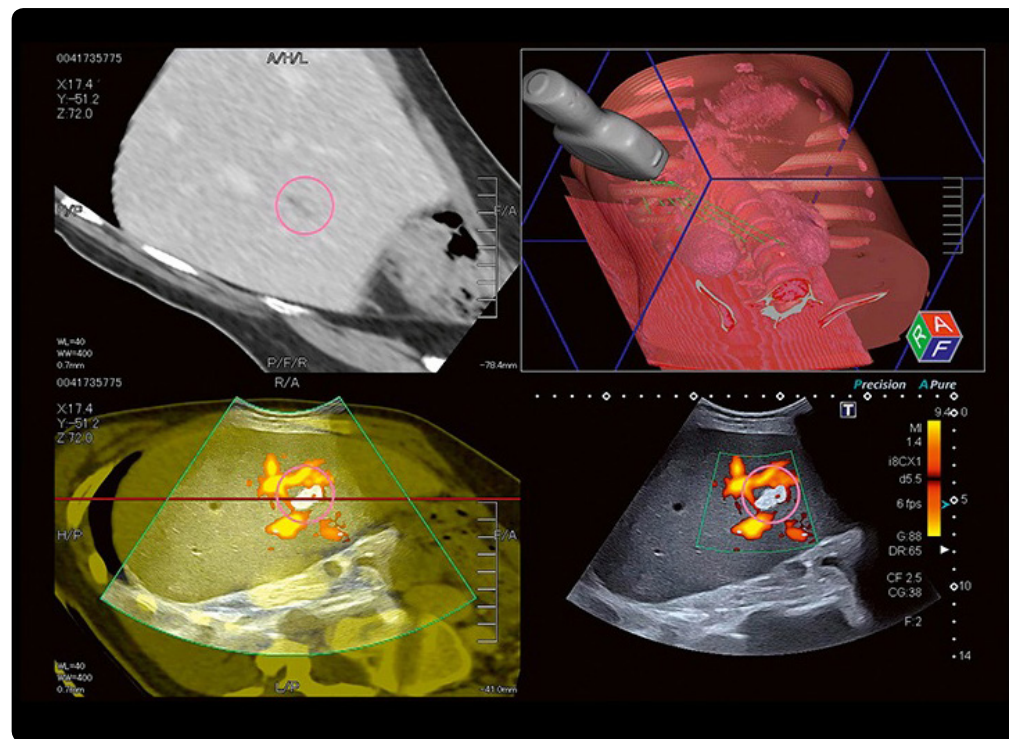
### 3D Volumetric CT Fluoro\*

3D Volumetric Fluoroscopy enables the performance of efficient CT-guided interventional procedures. With the ability to visualize the lesion and needle path in multiple imaging planes, and follow the needle placement along oblique orientations, Canon Medical's advanced CT Fluoroscopy systems allow clinicians to perform difficult procedures with confidence.



3D Volumetric CT Fluoro

\*Available on Aquilion ONE / GENESIS Edition, Aquilion ONE / VISION Edition, and Aquilion Prime SP



Ultrasound Smart Fusion of CT and Ultrasound images

## Ultrasound: Enhance Confidence with Multi-Modality Fusion

Canon Medical Systems' ultrasound systems enhance confidence during interventional procedures by fusing multiple imaging modes, including CT or MRI.

### Smart Navigation

Smart Navigation technology is designed to help improve confidence during ultrasound-guided interventional procedures and can be used in tandem with multimodality fusion. It displays virtual biopsy lines corresponding with the needle positions on the fused live image to facilitate navigation.

### Smart Fusion

Smart Fusion synchronizes ultrasound with CT or MR images to help locate lesions and improve confidence during ultrasound-guided biopsies. The registration of multimodality images can be completed automatically with the Auto-Registration feature.

# Liver Oncology: Sophisticated Systems to Meet Your Clinical Needs—Now and in the Future

Canon Medical Systems USA offers clinicians a wide range of options for imaging and image-guided procedures to help them address the complexity of liver cancer management:

## **Computed Tomography**

Aquilion ONE / GENESIS Edition  
Aquilion Precision  
Aquilion Prime SP  
Aquilion Lightning  
Aquilion LB

## **PET/CT**

Celesteion / PUREViSION Edition

## **Ultrasound**

Aplio i-series

## **MR**

Vantage Galan 3T  
Vantage Titan 1.5T

## **Interventional Oncology**

Infinix-i Sky +  
Infinix-i 4D CT

## **Advanced Visualization**

Vital Images  
Olea Medical



1. <https://www.wcrf.org/int/cancer-facts-figures/worldwide-data>
2. GBD 2015 Mortality and causes of death collaborators. Global, regional, and national life expectancy, all-cause mortality, and cause-specific mortality for 249 causes of death, 1980-2015: a systematic analysis for the global burden of disease study 2015. *Lancet* 2016;388 (10053):1459-1544. doi:10.1016/S0140-6736(16) 31012-1.
3. <https://www.cdc.gov/obesity/data/adult.html>
4. Toyoda H, et al. Impact of a unified CT angiography system on outcome of patients with hepatocellular carcinoma. *American Journal of Roentgenology* 2009;192:766-774.
5. Gogna A, Angio CT for miscellaneous cases: complex RFA, drainages, IR 2013. *Angio CT Studies Update*.
6. Hiong TK, Angio CT for SIRT, IR 2013. *Angio CT Studies Update*.
7. Tanaka T, Arai Y, Inaba Y, Inoue M, Nishiofuku H, Anai H, et al. Current role of hybrid CT/angiography system compared with C-arm cone beam CT for interventional oncology. *Br J Radiol* 2014;87:20140126.

The Infinix-i Sky+ is the INFX-8000C with 930A C-arm

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2441 Michelle Drive, Tustin CA 92780 | 800.421.1968

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