QP-Liver®

QP-Liver®
Optimizing liver
disease evaluation

Discover QP-Liver®

Chronic liver disease is a major healthcare burden, causing high morbidity and mortality rates and straining medical resources.

It accounts for 2 million deaths, representing approximately 4% of global casualties[1]. Non-alcoholic fatty liver disease (NAFLD), the most prevalent liver disorder globally, is characterized by fat accumulation in the liver (steatosis).

Patients with widespread liver disease and metabolic disorders often have abnormal liver iron deposits. While histopathological examination is considered the gold standard, it has limitations such as invasiveness, sampling errors, variability, and patient discomfort.

Our innovative approach eliminates the need for invasive procedures, providing valuable insights for informed decisions and improved patient care.

With QP-Liver®, **personalized liver disease management** is made possible through advanced technology, including early detection, precise monitoring, and personalized treatment plans.

QP-Liver® is a post-processing solution that performs fully automatic analyses of abdominal MRI examinations containing a multi-echo chemical shift (MECSE) sequence. Through this innovative approach, **we generate parametric maps of fat and iron, offering voxelwise resolution and a structured quantitative report that compares liver values with normative data.**

Our cutting-edge tool quantifies fat and iron concentration, enabling comprehensive steatosis and iron overload evaluation. By delivering accurate measurements and comparative analysis, as well as improving the quality of radiologist reports, **healthcare professionals can improve the decision-making process.**

Advanced tech for improved reporting and workflow

- Integration with clinical workflow and PACS, ensuring seamless operation and enhanced efficiency.

- Supports clinical workflow and improves decision making for Liver MRI exams.

- Automates MRI-based whole-liver segmentation, saving time and reducing manual labor.

- Rapid fat and iron quantification provides precise measurements to assess disease severity more accurately.

- Correlates quantification with digital pathology data[2], enabling comprehensive analysis.

- Reduces the need for invasive procedures, minimizing patient discomfort and associated risks.
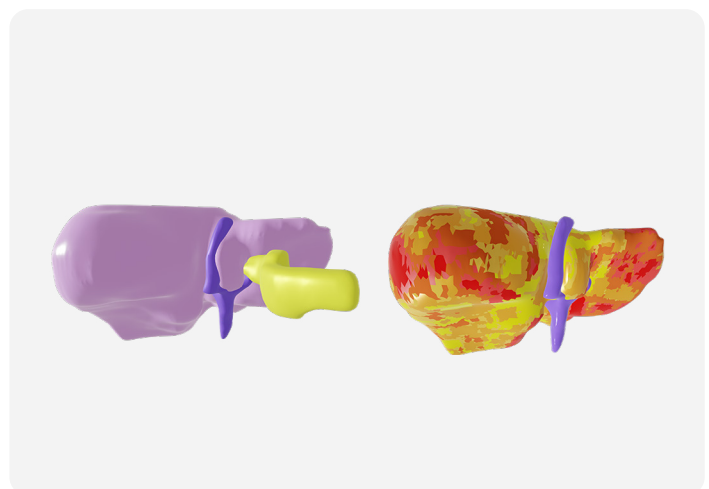

Figure. (Left) 3D liver, pancreas, and hepatic vein model segmented from a MECSE magnetic resonance imaging. (Right) Representation of fat concentration in liver tissue.

GDPR   HIPAA

QP-Liver®:
Optimizing liver disease evaluation

QP-Liver® | v0.1.0

Fat & Iron Quantification   Date: 05/07/2017

Abdominal perimeter: 125.31 cm
Liver volume: 1820.00 mL

	PDFF (%)	R2* (s⁻¹)	LIC (mg/g)
MEAN ± sd	**13.6** ±10.2	**51.7** ±20.3	**1.5** ±0.5
p25	6.27	40.52	1.16
MEDIAN	11.96	50.65	1.48
p75	18.88	61.05	1.81

1. AI-Segmentation[3]

Automate whole abdomen and liver segmentation with our state-of-the-art tool, saving valuable time for clinicians by eliminating the need for manual segmentation.

2. PDFF* and iron concentration[3-4]

Accurately quantify fat and iron in the liver, with the highest correlation to liver biopsy, while controlling all possible confounders[3].
*Proton Density Fat Fraction (PDFF)

3. Structured reporting

Empowered by AI, QP-Liver® generates a comprehensive quantitative report that includes the most suitable parameters for enhanced patient care in daily clinical practice.

REFERENCES:
1. Devarbhavi, H., et al. Global burden of liver disease: (2023 update). Journal of Hepatology.
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3. Jimenez-Pastor A., et al. Precise whole liver automatic segmentation and quantification of PDFF and R2* on MR images. (2021) Eur Radiol.
4. França M., et al. Accurate simultaneous quantification of liver steatosis and iron overload in diffuse liver diseases with MRI. (2017) Abdom Radiol (NY).

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