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What's your blood pressure?
What's your cholesterol?
What's your cT1?

Within the field of hepatology, recent innovations have transformed the diagnosis and monitoring of non-alcoholic fatty liver disease (NAFLD). LiverMultiScan®, cT1® (corrected T1), a novel, MRI-based and clinically relevant biomarker, allows for clear assessment of liver disease staging and prognosis through non-invasive imaging [1].

The power of LiverMultiScan cT1 for early detection

One in three American adults is living with NAFLD and up to 14% of middle-aged Americans have been diagnosed with the more aggressive form of the disease, non-alcoholic steatohepatitis (NASH) [2]. Though NAFLD is markedly receptive to lifestyle changes, the current low diagnosis rates lead to many people missing the opportunity to improve their liver health through timely intervention.

LiverMultiScan cT1 values are shown through colorful and intuitive scan images provided by non-invasive multiparametric MRI technology. The variation in cT1 values is depicted using an embedded green-red color scale, which corresponds with liver fibro-inflammatory activity [1]. This provides an opportunity for clinicians and their patients to engage in discussions around diagnosis and treatment by referencing clear information, rather than deciphering complex data [3]. Multiparametric MRI is likely to be an important asset for doctors aiming to provide personalized care to patients at various stages of NAFLD.

The bottom line is that early diagnosis is essential for effective disease management – and LiverMultiScan, cT1 provides this information.

Understanding cT1 values

When assessing patients for chronic liver disease, it is essential to go beyond the mere presence or absence of fat in their liver and understand the role that fat plays in the bigger picture. Fat deposits in the form of fatty acids are the lynchpin in this disease because they may activate an injury pattern that must be addressed to prevent early-stage patients from developing cirrhosis and other serious long-term complications. While various other modalities of diagnosis, such as biopsies and ultrasound, tell only a limited part of the story, the advanced cT1 biomarker is distinctly sensitive to fibro-inflammatory activity [4,5]. **In other words, just as blood pressure and cholesterol levels act as key indicators of heart conditions, cT1 value has shown to provide a picture of liver health.**

It has been shown that disease severity can be assessed using the following **cT1 value ranges** [4]:

cT1 in the 800 – 875ms range:

Patients should consider adopting various lifestyle interventions. Conversations and care pathways will focus on treating disordered metabolic processes before they ignite further inflammatory damage. cT1 has shown to be particularly responsive to lifestyle modifications such as healthy nutrition and exercise routines, and this numerical benchmark will allow patients to visualize the improvement in their liver health, thus encouraging adherence to lifestyle changes.

cT1 above 875ms:

If the scan result is above 875 milliseconds, the patient is likely to have high risk NASH (risk of progression of the disease). The patient should adopt lifestyle intervention and also pursue more intensive treatment options.

Clear prognostication and early treatment

For every 100 patients who have fatty liver disease, the majority will have isolated steatosis —that is, low risk of rapid progression, or perhaps no progression at all. With LiverMultiScan, clinicians can accurately prognosticate the early-stage group, monitor progress through time, and earmark advanced stages for more intensive care [6,7].

By making cT1 as common as blood pressure or cholesterol levels, we can help improve early diagnosis and treatment for the millions of adult Americans living with chronic liver disease. So, what is your cT1 score?

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