**About MRI and CT Scans**

**MRI (Magnetic Resonance Imaging)** scans use powerful magnets and radio waves linked to a computer to create cross-sectional images of the body, in this case images of the liver. For the MRI scan in this study, a commonly used contrast agent called gadolinium is given to better see certain liver tissues on the MR images. You will receive the contrast agent via a small IV line placed in a vein in your arm.

**CT (Computed Tomography)** scans use special X-ray equipment to take multiple images from different angles around the body. A computer then processes the information to produce images that show cross sections of the liver. For the CT scan in this study, a commonly used iodine-based contrast agent is given to better see certain liver tissue on the CT images. You will receive the iodine-based contrast agent via a small IV line placed in a vein in your arm.

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**About ACRIN**

This research study is run by the American College of Radiology Imaging Network (ACRIN), a national cancer research organization sponsored and funded by the National Cancer Institute (NCI). The goal of ACRIN is to increase the length and quality of life for cancer patients by conducting studies to evaluate medical imaging procedures.

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**Contact Information**

**Trial Principal Investigator**

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Dr. Christoph Wald, ACRIN 6690 Trial Principal Investigator, in front of coronal images of a contrast enhanced CT scan of the abdomen.

"Liver transplantation can save a patient’s life, especially after a liver cancer is diagnosed correctly and in time. More and more patients suffer from this disease but there is a shortage of available transplant organs in many parts of the United States. We have assembled a national team of expert doctors to carefully study which imaging method is the best and most accurate to diagnose liver cancer in an effort to make good future choices about who is best suited for liver transplantation. Please help us reach this goal by participating in this important trial!"

– Christoph Wald, MD, PhD
Trial Principal Investigator
Lahey Clinic Medical Center
Burlington, MA

Funded by the National Cancer Institute
**Purpose of the Study**

This study will determine and compare how accurate computed tomography (CT) and magnetic resonance imaging (MRI) are in diagnosing liver cancer. For people with liver cancer and other liver disease, the best way to treat their disease may be a liver transplant. The research doctors hope to learn whether images from a CT scan or from an MRI scan provide the best information about the presence and extent of liver cancer. To discover which is better, the study doctors believe they can figure out which is the best imaging method to gather important information about a patient’s liver (cancer) before making a liver transplant decision.

**UNOS Endorsement**

This trial is endorsed by the United Network for Organ Sharing (UNOS) a private, non-profit organization that manages the nation’s organ transplant system under contract with the federal government. The UNOS mission is to advance organ availability and transplantation by uniting and supporting their communities for the benefit of patients through education, technology and policy development. More information is available at www.unos.org.

**Who can join this study?**

You may be eligible for this study if you:

- Are 18 years or older
- Have liver cancer
- Meet the study guidelines with regard to the size and number of tumors
- Have been placed on the waitlist for a liver transplant or are eligible for a live donor liver transplant
- You cannot join this study if you:
  - Have cancer that has spread beyond the liver
  - Have been treated with certain drugs designed to reduce the tumor’s blood supply
  - Cannot undergo MRI or CT
  - Have sickle cell disease
  - Are pregnant

**What am I being asked to do in this study?**

During the study, you will undergo the imaging scans that are typically done at your transplant center which are called “standard-of-care” scans. This would be either a CT or an MRI scan with injection of a contrast agent (a material that highlights the area of interest). As part of this study, in addition to this standard-of-care imaging scan, you also will have the “other” type of imaging: for example, if CT scans are the standard-of-care at your liver transplant center, you will also undergo matching MRI scans when you participate in this study.

Patients who have liver cancer and who are listed for liver transplantation have to undergo imaging every 90 days to check whether their cancer can still be treated with a liver transplant. While you are in the study, you will have both CT and MRI scans at the beginning of your enrollment in the trial and then repeatedly every 90 days prior to your scheduled transplant. If you have transplant surgery within a few months of your enrollment, you may only have one set of CT and MRI scans. However, if your wait for a transplant is longer, you may have additional sets of imaging scans performed.

**How long will I be in this study?**

You will be enrolled in the study after being placed on the waiting list for a liver transplant or after you are scheduled to undergo a living donor adult liver transplant. You will remain in the study until the time of your transplant or until such time as you are removed from the transplant waiting list for other reasons and are no longer a transplant candidate. The time you are in the study may be from three months to more than two years.

**What are the possible benefits of taking part in this study?**

Taking part in this study is not expected to benefit you directly beyond providing your doctors with a particularly thorough look at your liver and its disease with two different types of imaging; however, the knowledge gained from this trial is expected to help doctors to better use imaging to determine who is in greatest need for a liver transplant. We hope the information learned from this study will benefit other people with liver cancer and other liver disease waiting for transplants in the future.

**Will it cost me anything to be in this study?**

Participation in this study does not cause you any additional cost. Funding from the National Cancer Institute will pay for any additional imaging scans that are being done as part of this study.

**UNOS is pleased to endorse this trial that is expected to provide important information to guide treatment decisions for patients with liver disease and to aid the most appropriate allocation of livers in the United States.”**

– Elizabeth Pomytret, MD, PhD
Study Co-Chair
Lahey Clinic Medical Center

**I would urge those who are diagnosed with HCC to consider participation in ACRIN 6690. It is only through the selfless participation of patients in clinical trials that progress is made in establishing new diagnostic standards.”**

– Pam McAllister
ACRIN Patient Advocate

**Frequently Asked Questions**

- Are 18 years or older
- Are pregnant
- Have sickle cell disease
- Cannot undergo MRI or CT
- Have cancer that has spread beyond the liver
- Have liver cancer
- Have been placed on the waitlist for a liver
- Have been treated with certain drugs
- Frequently Asked Questions