



Elastographic Imaging of Soft Tissue *in Vivo*

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The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing a simple and effective way of monitoring the RF ablation of soft tissue inside the body.

Overview

Elastography is a new ultrasound imaging technique that detects and images the local stiffness properties of tissues during compression. Three-dimensional (3-D) elastography provides a way to visualize cancerous tumors, track changes in tumor size over the course of therapy and monitor the treated margins of a tumor during radio frequency (RF) ablation.

In RF ablation, large differences in stiffness between the ablated tumor and surrounding normal tissues allow elastographic imaging of the ablated region's size, volume and position. Accurate computing of these parameters may determine the success or failure of the RF ablation procedure.

Despite its promise, 3-D elastography has rarely been used to image tissues and organs inside the body due to their tendency to slip laterally when compressed from the outside.

The Invention

UW-Madison researchers have now discovered that by using an RF ablation probe to internally compress tissue, they can generate 3-D elastographic images of the liver *in vivo*. Thus, this technique provides a simple and effective way of monitoring the RF ablation of soft tissue inside the body, without the lateral slippage caused by external compression. Elastography may be performed either during RF ablation or after the procedure is complete.

Applications

- Monitoring tumor margins during RF ablation

Key Benefits

- Allows *in vivo* imaging of tumors and other structures embedded in soft tissues such as the liver
- Applies precise and controlled compression to the tissue or organ of interest with minimal lateral slippage
- Unlike conventional ultrasound imaging, provides accurate images of tumor margins during RF ablation
- By alleviating the need for external compression during elastography, should increase patient comfort during procedures
- Aids decisions on treatment modalities, probe placement and the number of treatments required

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Additional Information

For More Information About the Inventors

- [Tomy Varghese](#)

Tech Fields

- [Medical Imaging : Ultrasound](#)
- [Radiation Therapy : Ablation](#)

For current licensing status, please contact Jeanine Burmania at jeanine@warf.org or 608-960-9846

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