UNIVERSITY OF MINNESOTA
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Augmented reality transjugular intrahepatic portosystemic shunt (AR-TIPS) set and other interventional devices

An augmented reality (AR) system to assist clinicians in performing medical procedures inside the body where 3D anatomical information is important

IP Status: PCT Pending **Application #:** PCT/US 2021/070787

Applications

- Transjugular intrahepatic portosystemic shunt (TIPS)
- Percutaneous endovascular targeting
- Percutaneous biopsy tracking of a flexible needle

Technology Overview

Researchers at the University of Minnesota have developed an AR system to guide clinical procedures in real-time. This novel technology enables visualization of a medical tool within the interior of a patient's body and with respect to the exterior anatomy. The system includes an AR headset with a camera, image target and electromagnetic field generators and position sensors. A controlling software integrates the information from the camera and sensors and it is capable of generating visual overlays for the AR headset. This technology was originally developed to assist with transjugular intrahepatic portosystemic shunt (TIPS) procedures, but it can be adapted to various other applications requiring visualization of the position of the distal end of a device. This technology can greatly enhance the success rate of image-guided clinical procedures.

Phase of Development

TRL: 2-4
Early-stage prototype to assist with he transjugular intrahepatic portosystemic shunt procedure is under development

Desired Partnerships

This technology is now available for:

- License
- Sponsored research
- Co-development

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Researchers

- Enio T. Perez Filho Fellow at the Medical Device Center
- Braden Eliason Fellow at the Medical Device Center
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- Aaron Koenigsberg Fellow at the Medical Device Center

Technology ID

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