## 'Sonic flashlight' for ultrasonic vision

Nick Samos February 23, 2004 Biomed seminar ELE 282

The standard method of viewing an image to examine a film or screen rather than look directly into the patient but now with the newly developed sonic flashlight engineered at the University of Pittsburgh things might change. The device merges the visual outer surface of a patient's skin with a live ultrasound scan of what lies beneath which is precisely geometric. It creates a translucent ultrasound image floating in its actual 3-D location within the patient. George Stetten is the designer of this device which allows viewer to directly look at the internal anatomy.

The machine projects the ultrasound image on the viewer's side of the mirror in perfect alignment with the corresponding location within the patient's body. The result is an image within the natural field of view that can be used to guide invasive procedures, such as taking blood samples without missing the vein, or doing needle biopsies, amniocenteses, catheterizations, surgery, or numerous other procedures while looking directly at the patient instead of at a monitor. Stetten named the process "tomographic reflection".

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