Research

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Overall Mission Statement

To make accurate pathological / medical diagnosis with minute sample using minimally invasive biopsy procedure or with non-invasive techniques.
Projects

• **Funded Project (5 year grant, NIH R01)**
  – Detection of Metastases in Lymph Nodes Using Quantitative-Ultrasound

• **General Interests:**
  – Molecular Marker Studies with Cytology Samples
  – Live Cell Imaging and Drug Sensitivity Testing from Fine Needle Aspiration (FNA) Biopsy Samples
Detection of Metastases in Lymph Nodes Using Quantitative-Ultrasound
QUS Scanning Apparatus
3D Depiction of QUS characterized LN showing high probability of cancer in red; matching histology showing cancer foci.
Phase 1. Isolated Node Study

SBM IRB → Patient Consent → LN Dissection

QUS Imaging → Isolated node H&E sectioning and reporting
Phase 2. To use GE QUS machine to study surgically excised specimen with lymph nodes
Phase 3. To use GE QUS machine to detect metastasis in Patient’s Lymph Nodes
Cancer Marker Studies for Diagnosis and Treatment using small Cytology Samples by various Modern Technologies

- Next Generation Sequencing (NGS)
- Fluorescent In-Situ Hybridization (FISH)
- Immunohistochemical staining (IHC)
Live Cell Imaging and Drug Sensitivity Testing from FNA Biopsy Samples

http://www.essenbioscience.com/essen-products/incucyte/?gclid=CLKWg_nEyMoCFc4XHwodZOIK0Q