Focused Ultrasound
John Grisham  *The Tumor, A Non-legal Thriller*

Table 1

**Effects at focal point**

- **Variety of effects, variety of disorders...**
- **Thermal ablation**
  - Precise heating and destruction of tissue
- **Focal drug delivery**
  - Delivery of very high concentrations of drugs precisely where they are needed
- **Blood-brain barrier opening**
  - Temporary access of drugs to the brain
- **Immunomodulation**
  - Stimulation of immune response allowing body to fight cancer
- **Neuromodulation**
  - Reversible stimulation or inhibition of cells in the brain and nervous system
- **Radiation sensitization**
  - Sensitizing tumors to effects of radiation allowing use of lower dose to kill cancer cells
- **Stem cell delivery**
  - Specific "homing" of stem cells to targeted tissue

Table 2

**Status of progress by disease**

**Cardiovascular**
- Hypertension
- Peripheral artery disease
- Atherosclerosis
- Atrial fibrillation
- Cardiac dysrhythmias
- Congestive heart failure
- Deep vein thrombosis

**Neurological**
- Essential tremor
- Depression
- Neuropathic pain
- Obsessive-compulsive disorder
- Parkinson's disease
- Amyotrophic lateral sclerosis
- Alzheimer's disease
- Epilepsy
- Hydrocephalus
- Multiple sclerosis
- Stroke
- Traumatic brain injury

**Musculoskeletal**
- Back pain, facetogenic
- Osteoid osteoma
- Back pain, sciatica
- Osteoarthritis
- Disk degeneration
- Spinal cord injury

**Oncological**
- Bone metastases
- Breast cancer
- Kidney cancer
- Liver cancer
- Pancreatic cancer
- Soft tissue cancer
- Bone cancer
- Brain cancer
- Head & neck cancer
- Melanoma
- Thyroid cancer
- Cervical cancer
- Bladder cancer
- Cancer pain
- Colorectal cancer
- Esophageal cancer
- Lung cancer
- Ovarian cancer

This list includes the most common diseases in the US population. For a complete list of diseases see www.fusfoundation.org.