About the Focused Ultrasound Foundation

The Focused Ultrasound Foundation is a medical technology research, education and advocacy organization dedicated to improving the lives of millions of people with serious medical disorders by accelerating the development and adoption of focused ultrasound. The Foundation is unique in that it supports a platform technology that utilizes multiple mechanisms of action to treat a wide variety of diseases.

Positioned at the nexus of the large, diverse group of stakeholders comprising the ultrasound community, the Foundation functions as an independent, trusted and unbiased third party, aligning organizations into a cohesive ecosystem with a single goal: to make focused ultrasound technology available to patients in the shortest time possible. The Foundation works to establish a patient centric culture, instill a sense of urgency in all stakeholders, and alleviate barriers to progress.

The Foundation catalyzes collaboration and partnerships, organizes and funds research, spearheads advocacy and patient support initiatives, and organizes meetings, symposia and workshops to create and disseminate knowledge and increase awareness of focused ultrasound. Early-stage research funded by the Foundation “de-risks” subsequent investment, thus encouraging other funding sources such as disease-specific foundations, the NIH, and the biomedical industry to become more involved.

The Foundation is on the leading edge of the venture philanthropy and social entrepreneurship movements and is a model of how private philanthropy can work in concert with academia, industry and government to bridge the gap between research and commercialization of a high-impact medical technology.

Established in 2006 as a tax exempt organization, the Foundation is based in Charlottesville Virginia and has global activities.

About Focused Ultrasound
Focused ultrasound is a revolutionary, noninvasive therapeutic technology with the potential to transform the treatment of many serious medical disorders including tumors of the brain, breast, prostate, liver and other organs, Parkinson’s disease, epilepsy, and stroke. With ongoing research, focused ultrasound could address unmet clinical needs and provide treatments which are superior to best current therapy, thereby improving the quality of life and longevity for millions of patients around the world.

This breakthrough technology uses ultrasonic energy guided by magnetic resonance or ultrasound imaging to treat tissue deep in the body without incisions or radiation. Multiple intersecting beams of ultrasound are directed and concentrated with on a target as small as a grain of rice, much like a magnifying glass can focus multiple beams of light on a single point.

A variety of profound biological effects result at the focal point where the beams converge; where individual beams pass unfocused through adjacent tissue on the way to their target, they exert no effect or damage. Integrated magnetic resonance and ultrasound imaging identifies and targets the tissue to be treated, guides and controls the treatment interactively, in real time, and provides immediate confirmation of the effectiveness of the therapy. Because focused ultrasound offers many mechanisms of action, treatment of a wide variety of conditions is possible.

Focused ultrasound has the potential to be the ultimate in noninvasive surgery, an alternative or complement for radiation therapy, the means to dissolve blood clots and restore circulation through blocked vessels, and a way to deliver drugs in extremely high concentration to a precise point in the body, thus avoiding systemic toxicity.

Focused ultrasound is performed in an outpatient setting without general anesthesia. There are no incisions or scars, minimal pain and discomfort, and more rapid recovery. The technology has the potential to result in fewer complications such as infection or blood clots, avoid the toxic side effects of drugs and radiation therapy, and deliver treatment that is safer and more effective, costs less, and produces an immediate and verifiable effect.

Focused ultrasound is approved in the US and EU and a number of other countries for treatment of uterine fibroids and approved in the EU and other countries for treatment of bone metastases and prostate cancer. In addition, extensive research is being conducted around the world on a number of clinical applications.
Charts by subjects

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The information in this report was provided by manufacturers and the focused ultrasound research community to the Focused Ultrasound Foundation. The FUS Foundation aims to provide the most accurate information; if you have more current or updated information please send it to: progress@fusfoundation.org.
Manufacturers by Region

North America
- FUS Instruments Inc.
- Histosonics, Inc.
- International Cardio Corporation, LLC
- Kona Medical
- Mirabilis Medica
- Profound Medical Inc.
- SonaCare Medical, LLC
- Verasonics

Europe
- Acublate
- EDAP TMS S.A.
- EyeTechCare
- Image Guided Therapy (IGT)
- InSightec LTD
- Medsonic LTD
- Philips Healthcare
- Slender Medical LTD
- Supersonic Imagine
- Theracion

Asia
- Alpinion Medical Systems
- Changjiangyuan Technology Development Co., LTD
- Chongqing Haifu (HIFU) Medical Technology Co., LTD
- Mianyang Sonic (SUONIKE) Electronic
- Shanghai A&S Co., LTD
- Shenzhen pro-HIFU Medical Tech. Co., LTD
- Shenzhen Wikkon
- SITU SUNTEC
All Research Sites by Region

175 Worldwide Total

67 North America
65 Europe
40 Asia
1 South America
2 Oceania

Any FUS research site conducting technical, pre-clinical, or clinical FUS research.
Research Sites by Region

North America

Artann Laboratories
Boston University
Brigham and Women’s Hospital (BWH)
Can-AmHIFU
Children’s National Hospital
CHI St. Luke’s Health
City of Hope
Cleveland Clinic
Columbia University
Drexel University
Duke University
Fox Chase Cancer Center
Grand Strand Urology
Indiana University Health, University Hospital
Jewish General Hospital
Johns Hopkins University School of Medicine
Lawson Health Research Institute
London Health Sciences Centre (LHSC)
Mayo Clinic - Minnesota
Medical University of South Carolina (MUSC)
Memorial Sloan-Kettering Cancer Center
Metropolitan Urology
Montefiore Medical Center
National Institutes of Health (NIH)
New York University (NYU) Langone Medical Center
and School of Medicine
North Carolina State University
NYU - Weill Cornell Medical Center
Oregon Health and Science University
ProMedica Toledo Hospital
Southeast Urology Network
Stanford University School of Medicine
Sunnybrook Health Sciences Centre
Swedish Neurosciences Institute
The Hospital for Sick Children (SickKids)
The Methodist Hospital
Thunder Bay Regional Research Institute
Tulane University
UCLA
UCLA Ronald Reagan Medical Center
University Hospitals of Cleveland Case Medical Center
University MRI & Diagnostic Imaging Centers - South
University of California, Davis
University of California at San Diego
University of California San Diego (UCSD) Thornton Hospital
University of California San Francisco (UCSF)
University of Chicago
University of Cincinnati
University of Illinois at Urbana-Champaign (UIUC)
University of Kansas - KU Bioengineering Research Center
Mechanical Engineering
University of Maryland School of Medicine
University of Michigan (UMich)
University of Minnesota
University of Texas MD Anderson Cancer Center
University of Utah
University of Virginia (UVA) Health System
University of Washington
University of Wisconsin Carbone Cancer Center
Urologic Consultants of Southeastern Pennsylvania
Urology Associates
Urology Centers of Alabama
Urology of San Antonio
UT Southwestern
Vanderbilt University
Wake Forest University Baptist Medical Center
Walter Reed National Military Medical Center
William Beaumont Health Systems
Winthrop University Hospital

South America

Instituto do Cancer do Estado de Sao Paulo (ICESP)

Any FUS research site conducting technical, pre-clinical, or clinical FUS research.
Research Sites by Region

Europe

Amper Klinik
Azienda Ospedaliera San Paolo
Basingstoke and North Hampshire Hospital
Brustzentrum Marienhospital Bottrop
Careggi General Hospital
Center for Ultrasound Functional Neurosurgery
Centre Léon Bérard
Charité Universitätsmedizin Berlin
CHU de Bordeaux - Hôpital du Tondu
CHU de Bordeaux - Hôpital Saint-André
CHU de Lille - Hôpital Huriez
CHU de Toulouse - Hôpital Rangueil
CHU de Tours - Hôpital Bretonneau
Churchill Hospital
Cisanello Hospital of University of Pisa
Clinica oculistica Università - Ospedale oftalmico
Cyprus University of Technology
Eindhoven University of Technology
European Institute of Oncology
Fondazione ICRCS Ca’ Granda Ospedale Maggiore
Policlinico
Fraunhofer Institut IBMT
German Cancer Research Center (DKFZ)
Hôpital Cochin
Hôpital Pitié-Salpêtrière
Hôpitaux Universitaires de Genève (HUG)
Hospices Civils de Lyon
Hospital Clínico San Carlos
Hospital Universitario Marqués de Valdecilla (HUVM)
Inserm Lyon
Institute for Medical Science and Technology (IMST)
Institut Gustave Roussy
Institut Langevin (IFSC)
Institut Mutualiste Montsouris
Instituto Cartuja de Técnicas Avanzadas en Medicina
Kantonsspital Winterthur

Klinikum Fürth
Laboratorio di Tecnologie Oncologiche (LATO) HSR Giglio –
Fondazione Istituto San Raffaele G. Giglio di Cefalù
Medical Center of Central Bank of Russian Federation
N. N. Petrov Research Institute of Oncology
National Medical Surgery Center
Niguarda Hospital
Ospedale Generale Regionale “Francis Miulli”
Research Center for Obstetrics, Gynecology and
Perinatology of Russian Ministry of Health and
Social Development
Rostov Scientific Research Institute of Oncology
Scuola Superiore Sant’Anna
St. Guy’s and St Thomas Hospital
St. Mary’s Hospital
The Institute of Cancer Research (ICR)
The Intervention Centre, Oslo University Hospital
Rikshospitalet
Thomayer University Hospital
Università degli Studi di Parma
Universitätsklinikum Tübingen
University Children’s Hospital Zurich
University Hospital of Endocrinology
University Hospital of Grenoble
University Hospital Schleswig-Holstein
University Medical Center (UMC) Utrecht
University of Geneva
University of Heidelberg
University of Hull
University of L’Aquila
University of Munich
University of Rome - La Sapienza
Urologische Universitätsklinik Magdeburg
VTT Technical Research Centre of Finland

Any FUS research site conducting technical, pre-clinical, or clinical FUS research.
Research Sites by Region

Asia

307 Hospital of PLA
Apollo Specialty Hospital, Chennai
Breastopia Namba Hospital
Central Hospital of Shanghai Xuhui District
CHA Bundang Medical Center
Chaim Sheba Medical Center
Chaum Hospital
Children’s Hospital of Chongqing Medical University
Chongqing Medical University
First Affiliated Hospital of Medical College of Xi’an Jiaotong University
First Affiliated Hospital of Zunyi Medical College
First Maternal and Child Health Hospital of Shanghai
Fundan University Huashan Hospital
Fundan University Shanghai Cancer Center
Gsl medical college
HAFU Hospital
Indraprastha Apollo Hospital
Institute of Ultrasonic Engineering in Medicine and Clinical Centre for Tumour Therapy
Jaslok Hospital and Research Centre
Kochi University Hospital
Nanyang Technological University
National Medical Research Center
Peking Union Hospital, Chinese Academy of Medical Sciences
Peking University First Hospital
PLA 301 Hospital (General Hospital of the People’s Liberation Army)
Queen Mary Hospital of the University of Hong Kong
Rambam Medical Center
Samsung Medical Center
Seoul National University Hospital
Shinsuma General Hospital
SRL Diagnostics - Jankharia Imaging
Suining Central Hospital
Taipei Medical University Hospital
The First Affiliated Hospital of Chongqing Medical University
The Second Artillery General Hospital of Chinese PLA
The Third Xiangya Hospital of Central South University
Tokyo Women’s Medical Hospital
University of Malaya (UMMC)
YUICM Severance Hospital
YUMC Gangnam Severance Hospital

Oceania

Future Medical Imaging Group (FMIC)
Royal Women’s Hospital Melbourne

Any FUS research site conducting technical, pre-clinical, or clinical FUS research.
Technical Research Sites by Region

- **North America**: 40 sites
- **Europe**: 20 sites
- **Asia**: 3 sites
- **Worldwide Total**: 63 sites
Technical Research Sites by Region and Areas

North America

- Artann Laboratories
- Boston University
- Brigham and Women’s Hospital (BWH)
- Children’s National Hospital
- CHI St. Luke’s Health
- City of Hope
- Columbia University
- Drexel University
- Duke University
- Johns Hopkins University School of Medicine
- Mayo Clinic – Minnesota
- Medical University of South Carolina (MUSC)
- North Carolina State University
- ProMedica Toledo Hospital
- Stanford University Medical Center
- Sunnybrook Health Sciences Centre
- Swedish Neurosciences Institute
- The Hospital for Sick Children (SickKids)
- The Methodist Hospital
- Thunder Bay Regional Research Institute
- Tulane University
- UCLA
- UCLA Ronald Reagan Medical Center
- University of California, Davis
- University of California at San Diego
- University of California San Francisco (UCSF)
- University of Chicago
- University of Cincinnati
- University of Illinois at Urbana-Champaign (UIUC)
- University of Maryland School of Medicine
- University of Michigan (UMich)
- University of Minnesota
- University of Texas MD Anderson Cancer Center
- University of Utah
- University of Virginia (UVA) Health System
- UT Southwestern
- Vanderbilt University
- Verasonics
- Wake Forest University Baptist Medical Center
Technical Research Sites by Region and Areas

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**Europe**

- CHU de Bordeaux – Hôpital Saint-André
- CHU de Tours - Hôpital Bretonneau
- Cyprus University of Technology
- Eindhoven University of Technology
- European Institute of Oncology
- Fraunhofer Institut IBMT
- Inserm Lyon
- Institut Langevin (ESPCI)
- N. N. Petrov Research Institute of Oncology
- Niguarda Hospital
- Scuola Superiore Sant’Anna
- St. Mary’s Hospital
- The Institute of Cancer Research (ICR)
- University Children’s Hospital Zurich
  - University Hospital Schleswig-Holstein
- University Medical Center (UMC) Utrecht
  - University of Heidelberg
  - University of Hull
  - University of Munich
  - VTT Technical Research Centre of Finland
Technical Research Sites by Region and Areas

Asia

- Breastopia Namba Hospital
- Kochi University Hospital
- Seoul National University Hospital

- Focused Ultrasound Monitoring
- Focused Ultrasound Physics
- Focused Ultrasound Transducer technology
- MR imaging for FUS guidance
- Ultrasound imaging for FUS guidance
Biological Effects Research Sites by Region

- North America: 41
- Europe: 19
- Asia: 6
- Worldwide Total: 67
Biological Effects Research Sites by Region

North America

- Artann Laboratories
- Boston University
- Brigham and Women’s Hospital (BWH)
- Children’s National Hospital
- City of Hope
- Columbia University
- Drexel University
- Duke University
- Fox Chase Cancer Center
- Indiana University School of Medicine
- Iowa State University
- Johns Hopkins University School of Medicine
- Medical University of South Carolina (MUSC)
- National Institutes of Health (NIH)
- North Carolina State University
- ProMedica Toledo Hospital
- Stanford University School of Medicine
- Sunnybrook Health Sciences Centre
- Swedish Neurosciences Institute
- The Hospital for Sick Children (SickKids)
- Thunder Bay Regional Research Institute
- Tulane University
- UCLA
- UCLA Ronald Reagan Medical Center
- University of California, Davis
- University of California at San Diego
- University of California San Diego (UCSD) Thornton Hospital
- University of California San Francisco (UCSF)
- University of Chicago
- University of Cincinnati
- University of Kansas - KU Bioengineering Research Center Mechanical Engineering
- University of Maryland School of Medicine
- University of Michigan (UMich)
- University of Minnesota
- University of Texas MD Anderson Cancer Center
- University of Utah
- University of Virginia (UVA) Health System
- University of Washington
- UT Southwestern
- Vanderbilt University
- Wake Forest University Baptist Medical Center
Biological Effects Research Sites by Region

Europe

- Amplification of cancer biomarkers
- Blood brain barrier opening
- Blood vessel occlusion
- Cavitation
- Clot lysis
- Drug activity enhancement
- Drug delivery
- Hemostasis
- Hyperthermia
- Immunomodulation
- Increased vascular permeability
- Neuromodulation
- Radiation sensitization
- Sonodynamic therapy
- Stem cell delivery
- Tissue destruction (Histotripsy)
- Tissue destruction (Thermal Ablation)
- Vasodilatation

CHU de Tours - Hôpital Bretonneau
Churchill Hospital
Cyprus University of Technology
Eindhoven University of Technology
European Institute of Oncology
Imperial College London
Inserm Lyon
Institut Langevin (ISPC)
N. N. Petrov Research Institute of Oncology
Rostov Scientific Research Institute of Oncology
Scuola Superiore Sant'Anna
St. Mary’s Hospital
The Institute of Cancer Research (ICR)
University Children’s Hospital Zurich
University Hospital Schleswig-Holstein
University Medical Center (UMC) Utrecht
University of Heidelberg
University of Hull
University of Munich
Biological Effects Research Sits by Region and Areas

Asia

- Amplification of cancer biomarkers
- Blood brain barrier opening
- Blood vessel occlusion
- Cavitation
- Clot lysis
- Drug activity enhancement
- Drug delivery
- Hemostasis
- Hyperthermia
- Immunomodulation
- Increased vascular permeability
- Neuromodulation
- Radiation sensitization
- Sonodynamic therapy
- Stem cell delivery
- Tissue destruction (Histotripsy)
- Tissue destruction (Thermal Ablation)
- Vasodilatation

- Chaim Sheba Medical Center
- Kochi University Hospital
- Nanyang Technological University
- Samsung Medical Center
- University of Malaya (UMMC)
- Washokai Sadamoto Hospital
Pre-Clinical Research Sites

87 Worldwide Total

46 North America

26 Europe

15 Asia

2 Oceania

Any FUS research site conducting animal research.
Pre-clinical Research Sites by Region

46

North America

- Alzheimer’s disease
- Atherosclerosis
- Atrial fibrillation
- Back and neck pain
- Benign prostatic hypertrophy
- Bladder tumors
- Bone metastases
- Brain tumors
- Breast cancer
- Breast fibroadenoma
- Cancer pain
- Colon cancer
- Depression
- Diabetes
- Epilepsy
- Essential tremor
- Glaucoma
- Hydrocephalus
- Hypertension
- Kidney tumors
- Liver tumor
- Neuropathic pain
- Obsessive-compulsive disorder
- Osteoarthritis
- Osteoid osteoma
- Pancreatic cancer
- Parkinson’s disease
- Pediatric oncology
- Prostate cancer
- Prostate tumors
- Septal perforation
- Soft tissue tumors
- Spinal tumors
- Stroke
- Thyroid & Parathyroid tumors
- Trigeminal neuralgia
- Uterine adenomyosis
- Uterine fibroids

- Artann Laboratories
- Boston University
- Brigham and Women’s Hospital (BWH)
  - CHI St. Luke’s Health
  - City of Hope
- Columbia University
- Drexel University
- Duke University
- Fox Chase Cancer Center
- Indiana University Health, University Hospital
- Johns Hopkins University School of Medicine
- Lawson Health Research Institute
  - Mayo Clinic - Minnesota
  - Medical University of South Carolina (MUSC)
  - Memorial Sloan-Kettering Cancer Center
- National Institutes of Health (NIH)
- NYP - Weill Cornell Medical Center
- Stanford University School of Medicine
- Sunnybrook Health Sciences Centre
- Swedish Neurosciences Institute
  - The Hospital for Sick Children (SickKids)
  - The Methodist Hospital
  - Thunder Bay Regional Research Institute
- Tulane University
- UCLA
- UCLA Ronald Reagan Medical Center
- University MRI & Diagnostic Imaging Centers - South
- University of California, Davis
- University of California at San Diego
- University of California San Diego (UCSD) Thornton Hospital
- University of California San Francisco (UCSF)
- University of Chicago
- University of Cincinnati
- University of Illinois at Urbana-Champaign (UIUC)
- University of Kansas - KU Bioengineering Research Center Mechanical Engineering
- University of Maryland School of Medicine
- University of Michigan (UMich)
- University of Minnesota
- University of Texas MD Anderson Cancer Center
- University of Utah
- University of Virginia (UVA) Health System
- University of Washington
- Urology Centers of Alabama
- UT Southwestern
- Vanderbilt University
- Wake Forest University Baptist Medical Center
Pre-clinical Research Sites by Region

15

Asia

- Alzheimer’s disease
- Atherosclerosis
- Atrial fibrillation
- Back and neck pain
- Benign prostatic hypertrophy
- Bladder tumors
- Bone metastases
- Brain tumors
- Breast cancer
- Breast fibroadenoma
- Cancer pain
- Colon cancer
- Depression
- Diabetes
- Epilepsy
- Essential tremor
- Glaucoma
- Hydrocephalus
- Hypertension
- Kidney tumors
- Liver tumor
- Neuropathic pain
- Obsessive-compulsive disorder
- Osteoarthritis
- Osteoid osteoma
- Pancreatic cancer
- Parkinson’s disease
- Pediatric oncology
- Prostate cancer
- Prostate tumors
- Septal perforation
- Soft tissue tumors
- Spinal tumors
- Stroke
- Thyroid & Parathyroid tumors
- Trigeminal neuralgia
- Uterine adenomyosis
- Uterine fibroids

- Breastopia Namba Hospital
- Chaim Sheba Medical Center
- Chaum Hospital
- Fudan University Cancer Hospital
- Gsl Medical College
- HAIFU Hospital
- Indraprastha Apollo Hospital
- Jaslok Hospital and Research Centre
- Kochi University Hospital
- Nanyang Technological University
- Peking Union Hospital, Chinese Academy of Medical Sciences
- PLA 301 Hospital (General Hospital of the People’s Liberation Army)
- Samsung Medical Center
- Taipei Medical University Hospital
- University of Malaya (UMMC)

Any FUS research site conducting animal research.
Preclinical Research Sites by Region

2

Oceania

- Future Medical Imaging Group (FMIG)
- Royal Women’s Hospital Melbourne

- Alzheimer’s disease
- Atherosclerosis
- Atrial fibrillation
- Back and neck pain
- Benign prostatic hypertrophy
- Bladder tumors
- Bone metastases
- Brain tumors
- Breast cancer
- Breast fibroadenoma
- Cancer pain
- Colon cancer
- Depression
- Diabetes
- Epilepsy
- Essential tremor
- Glaucoma
- Hydrocephalus
- Hypertension
- Kidney tumors
- Liver tumor
- Neuropathic pain
- Obsessive-compulsive disorder
- Osteoarthritis
- Osteoid osteoma
- Pancreatic cancer
- Parkinson’s disease
- Pediatric oncology
- Prostate cancer
- Prostate tumors
- Septal perforation
- Soft tissue tumors
- Spinal tumors
- Stroke
- Thyroid & Parathyroid tumors
- Trigeminal neuralgia
- Uterine adenomyosis
- Uterine fibroids

Any FUS research site conducting animal research.
Clinical Research Sites by Region

- **North America**: 51 sites
- **Europe**: 52 sites
- **Asia**: 39 sites
- **South America**: 1 site
- **Oceania**: 2 sites

144 Worldwide Total

Any FUS research site treating patients as part of a clinical study.
Clinical Research Sites by Region

North America

- Alzheimer’s disease
- Atherosclerosis
- Atrial fibrillation
- Back and neck pain
- Benign prostatic hypertrophy
- Bladder tumors
- Bone metastases
- Brain tumors
- Breast cancer
- Breast fibroadenoma
- Cancer pain
- Colon cancer
- Depression
- Diabetes
- Epilepsy
- Essential tremor
- Glaucoma
- Hydrocephalus
- Hypertension
- Kidney tumors
- Liver tumors
- Neuropathic pain
- Obsessive-compulsive disorder
- Osteoarthritis
- Osteoid osteoma
- Pancreatic cancer
- Parkinson’s disease
- Pediatric oncology
- Prostate cancer
- Prostate tumors
- Septal perforation
- Soft tissue tumors
- Spinal tumors
- Stroke
- Thyroid & Parathyroid tumors
- Trigeminal neuralgia
- Uterine adenomyosis
- Uterine fibroids

- Artann Laboratories
- Brigham and Women’s Hospital (BWH)
- Can-AmHIFU
- Children’s National Hospital
- CHI St. Luke’s Health
- City of Hope
- Cleveland Clinic
- Duke University
- Grand Strand Urology
- Indiana University Health, University Hospital
- Jewish General Hospital
- Johns Hopkins University School of Medicine
- London Health Sciences Centre (LHSC)
- Mayo Clinic - Minnesota
- Memorial Sloan-Kettering Cancer Center
- Metropolitan Urology
- Montefiore Medical Center
- National Institutes of Health (NIH)
- New York University (NYU) Langone Medical Center and School of Medicine
- NYP - Weill Cornell Medical Center
- Oregon Health and Science University
- ProMedica Toledo Hospital
- Southeast Urology Network
- Stanford University School of Medicine
- Sunnybrook Health Sciences Centre
- Swedish Neurosciences Institute
- The Methodist Hospital

- Thunder Bay Regional Research Institute
- Tulane University
- UCLA
- UCLA Ronald Reagan Medical Center
- University Hospitals of Cleveland Case Medical Center
- University MRI & Diagnostic Imaging Centers - South
- University of California San Diego (ucsd) Thornton Hospital
- University of California San Francisco (ucsf)
- University of Chicago
- University of Cincinnati
- University of Maryland School of Medicine
- University of Michigan (UMich)
- University of Texas MD Anderson Cancer Center
- University of Virginia (UVA) Health System
- University of Wisconsin Carbone Cancer Center
- Urologic Consultants of Southeastern Pennsylvania
- Urology Associates
- Urology Centers of Alabama Urology of San Antonio
- UT Southwestern
- Vanderbilt University
- Walter Reed National Military Medical Center
- William Beaumont Health Systems
- Winthrop University Hospital

Any FUS research site treating patients as part of a clinical study.
Clinical Research Sites by Region

South America

- Alzheimer’s disease
- Atherosclerosis
- Atrial fibrillation
- Back and neck pain
- Benign prostatic hypertrophy
- Bladder tumors
- Bone metastases
- Brain tumors
- Breast cancer
- Breast fibroadenoma
- Cancer pain
- Colon cancer
- Depression
- Diabetes
- Epilepsy
- Essential tremor
- Glaucoma
- Hydrocephalus
- Hypertension
- Kidney tumors
- Liver tumor
- Neuropathic pain
- Obsessive-compulsive disorder
- Osteoarthritis
- Osteoid osteoma
- Pancreatic cancer
- Parkinson’s disease
- Pediatric oncology
- Prostate cancer
- Prostate tumors
- Septal perforation
- Soft tissue tumors
- Spinal tumors
- Stroke
- Thyroid & Parathyroid tumors
- Trigeminal neuralgia
- Uterine adenomyosis
- Uterine fibroids

Any FUS research site treating patients as part of a clinical study.
Clinical Research Sites by Region

### Europe

- Amper Klinik
- Azienda Ospedaliera San Paolo
- Basingstoke and North Hampshire Hospital
- Brustzentrum Marienhospital Bottrop
- Careggi General Hospital
- Center for Ultrasound Functional Neurosurgery
- Centre Léon Bérard
- Charité Universitätsmedizin Berlin
- CHU de Bordeaux - Hôpital du Tondu
- CHU de Bordeaux - Hôpital Saint-André
- CHU de Lille - Hôpital Huriez
- CHU de Toulouse - Hôpital Rangueil
- CHU de Tours - Hôpital Bretonneau
- Churchill Hospital
- Cisanello Hospital of University of Pisa
- Clinica oculistica Università - Ospedale oftalmico
- European Institute of Oncology
- EyeTechCare
- Fondazione IRCCS Ca’ Granda Ospedale Maggiore Policlinico
- Hôpital Pitie-Salpêtrière
- Hospices Civils de Lyon
- Hospital Clinico San Carlos
- Inserm Lyon
- Institut Gustave Roussy
- Institut Mutualiste Montsouris
- Instituto Cartuja de Técnicas Avanzadas en Medicina
- Kantonspital Winterthur
- Klinikum Fürth

### Laboratory of Technology Oncological (LATO) HSR Giglio — Fondazione Istituto San Raffaele G. Giglio di Cefalù
- Medical Center of Central Bank of Russian Federation
- N. N. Petrov Research Institute of Oncology
- National Medical Surgery Center
- Niguarda Hospital
- Ospedale Generale Regionale “Francis Miliulli”
- Research Center for Obstetrics, Gynecology and Perinatology of Russian Ministry of Health and Social Development
- Rostov Scientific Research Institute of Oncology
- St. Guy’s and St Thomas Hospital
- St. Mary’s Hospital
- The Institute of Cancer Research (ICR)
- The Intervention Centre, Oslo University Hospital Rikshosipalet
- Thomayer University Hospital
- Università degli Studi di Parma
- Universitätshospital Tübingen
- University Children’s Hospital Zurich
- University Hospital of Endocrinology
- University Hospital Schleswig-Holstein
- University Medical Center (UMC) Utrecht
- University of Heidelberg
- University of Hull
- University of L’Aquila
- University of Munich
- University of Rome - La Sapienza
- Urologische Universitätsklinik Magdeburg

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*Any FUS research site treating patients as part of a clinical study.*
Clinical Research Sites by Region

39

Asia

- Alzheimer's disease
- Atherosclerosis
- Atrial fibrillation
- Back and neck pain
- Benign prostatic hypertrophy
- Bladder tumors
- Bone metastases
- Brain tumors
- Breast cancer
- Breast fibroadenoma
- Cancer pain
- Colon cancer
- Depression
- Diabetes
- Epilepsy
- Essential tremor
- Glaucoma
- Hydrocephalus
- Hypertension
- Kidney tumors
- Liver tumor
- Neuropathic pain
- Obsessive-compulsive disorder
- Osteoarthritis
- Osteoid osteoma
- Pancreatic cancer
- Parkinson's disease
- Pediatric oncology
- Prostate cancer
- Prostate tumors
- Septal perforation
- Soft tissue tumors
- Spinal tumors
- Stroke
- Thyroid & Parathyroid tumors
- Trigeminal neuralgia
- Uterine adenomyosis
- Uterine fibroids

- 307 Hospital of PLA
- Apollo Specialty Hospital, Chennai
- Breastopia Namba Hospital
- Central Hospital of Shanghai Xuhui District
- CHA Bundang Medical Center
- Chaim Sheba Medical Center
- Chaum Hospital
- Children's Hospital of Chongqing Medical University
- Chongqing Medical University
- First Affiliated Hospital of Medical College of Xi’an Jiaotong University
- First Affiliated Hospital of Zunyi Medical University
- First Maternal and Child Health Hospital of Shanghai
- Fundan University Huashan Hospital
- Fundan University Shanghai Cancer Center
- Gs1 medical college
- HAIFU Hospital
- Indraprastha Apollo Hospital
- Institute of Ultrasonic Engineering in Medicine and Clinical Centre for Tumour Therapy
- Jaslok Hospital and Research Centre
- Kochi University Hospital
- Nanyang Technological University
- National Medical Research Center
- Peking Union Hospital, Chinese Academy of Medical Sciences
- Peking University First Hospital
- PLA 301 Hospital (General Hospital of the People's Liberation Army)
- Queen Mary Hospital of the University of Hong Kong
- Rambam Medical Center
- Samsung Medical Center
- Shinsumu General Hospital
- SRL Diagnostics - Jankharia Imaging
- Suining Central Hospital
- Taipei Medical University Hospital
- The First Affiliated Hospital of Chongqing Medical University
- The Second Artillery General Hospital of Chinese PLA
- The Third Xiangya Hospital of Central South University
- Tokyo Women's Medical Hospital
- University of Malaya (UMMC)
- YUCM Severance Hospital
- YUMC Gangnam Severance Hospital
Clinical Research Sites by Region

Oceania

Any FUS research site treating patients as part of a clinical study.
### FUS Approvals by Region

<table>
<thead>
<tr>
<th>Medical Condition</th>
<th>United States</th>
<th>Canada</th>
<th>Europe</th>
<th>Asia</th>
<th>Latin America</th>
<th>Middle East</th>
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</thead>
<tbody>
<tr>
<td>Adenomyosis</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Bone</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Breast Cancer</td>
<td></td>
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<td>✓</td>
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</tr>
<tr>
<td>Breast Fibroadenoma</td>
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<tr>
<td>Essential Tremor</td>
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<tr>
<td>Facet Rhizotomy</td>
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<tr>
<td>Hyperparathyroidism</td>
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</tr>
<tr>
<td>Kidney Cancer</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liver</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neuropathic Pain</td>
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<td>✓</td>
<td></td>
<td></td>
<td>✓</td>
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<tr>
<td>Osteoid Osteoma</td>
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<td>✓</td>
<td></td>
<td>✓</td>
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</tr>
<tr>
<td>Pancreatic Cancer</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Parkinson’s Tremor</td>
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<tr>
<td>Prostate Cancer</td>
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<td>✓</td>
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<td>✓</td>
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<tr>
<td>Thyroid Nodules</td>
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<tr>
<td>Uterine Fibroids</td>
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<td>✓</td>
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</tbody>
</table>
Commercial Treatment Sites by Indications and Regions

<table>
<thead>
<tr>
<th>Region</th>
<th>Indications</th>
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<tbody>
<tr>
<td>North America</td>
<td>7 Bone Metastases 7</td>
</tr>
<tr>
<td>Europe</td>
<td>9 Bone Metastases 9</td>
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<tr>
<td>Asia</td>
<td>2 Bone Metastases 2</td>
</tr>
<tr>
<td>South America</td>
<td>4 Prostate Cancer 4</td>
</tr>
<tr>
<td>Africa</td>
<td>1 Prostate Cancer 1</td>
</tr>
<tr>
<td>Oceania</td>
<td>2 Uterine Fibroids 2</td>
</tr>
</tbody>
</table>

*Any site with a focused ultrasound system and regulatory approval from the respective country and charging for procedures.*
Commercial Treatment Sites by Country

**North America**
- Bahamas
- Bermuda
- Canada
- Costa Rica
- Cuba
- Dominican Republic
- Mexico
- United States

**Europe**
- Austria
- Belgium
- Bulgaria
- Denmark
- France
- Germany
- Italy
- Monaco
- The Netherlands
- Norway
- Poland
- Romania
- Russia
- Spain
- Switzerland
- Ukraine
- United Kingdom

**Asia**
- China
- India
- Israel
- Japan
- Kazakhstan
- Kingdom of Saudi Arabia
- Lebanon
- Malaysia
- Pakistan
- Philippines
- Republic of Korea
- Singapore
- Syria
- Taiwan
- United Arab Emirates
- Vietnam

**South America**
- Bolivia
- Brazil
- Ecuador

**Africa**
- South Africa

**Oceania**
- Australia

*Any site with a focused ultrasound system and regulatory approval from the respective country and charging for procedures.*
### Commercial Treatment Sites by Region

<table>
<thead>
<tr>
<th>Region</th>
<th>Number of Sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td>30</td>
</tr>
<tr>
<td>Europe</td>
<td>211</td>
</tr>
<tr>
<td>Asia</td>
<td>146</td>
</tr>
<tr>
<td>South America</td>
<td>5</td>
</tr>
<tr>
<td>Africa</td>
<td>1</td>
</tr>
<tr>
<td>Oceania</td>
<td>2</td>
</tr>
</tbody>
</table>

**Worldwide Total**: 395

*Any site with a focused ultrasound system and regulatory approval from the respective country and charging for procedures.*
Commercial Treatment Sites by Region

North America

- Brigham and Women’s Hospital (bwh)
- Can-Am HFU
- Center for Advanced Medicine
- City of Hope
- Cleveland Clinic Canada
- Clinica Union Medica
- Doctors Hospital
- Don Mills Surgical Unit
- Duke Health Center at Southpoint
- Focused Ultrasound Northwest
- Fox Chase Cancer Center
- Galenia Hospital
- Hospital CIMA San Jose
- Hospital Medical Surgical Research Center (CIMEQ)
- Imagen Por Resonancia
- King Edward VII Memorial Hospital
- Les Cours Medical Centre
- Mayo Clinic – Minnesota
- Medica Sur Tlalpan
- Memorial Sloan-Kettering Cancer Center

South America

- Centro de urología avanzada de la Clínica Incor
- Hospital AC Camargo de São Paulo
- Hospital Carlos Andrade Marín
- Hospital Policía Nacional Guayaqui
- Instituto do Cancer do Estado de Sao Paulo (ICESP)

Any site with a focused ultrasound system and regulatory approval from the respective country and charging for procedures.
Any site with a focused ultrasound system and regulatory approval from the respective country and charging for procedures.
Commercial Treatment Sites by Region

1. Africa
   - Christiaan Barnard Memorial Hospital INTAMED

2. Oceania
   - Future Medical Imaging Group (FMIC)
   - The Royal Women’s Hospital Melbourne

Any site with a focused ultrasound system and regulatory approval from the respective country and charging for procedures.
Commercial Treatment Sites by Region

Pan Asia

307 Hospital of PLA
Affiliated Hospital of Armed Police’s Medical College
Affiliated Hospital Of Chuanbei Medical College
Affiliated Hospital of Qinghai Medical College
Affiliated Hospital Of Xinxiang Medical College
Affiliated Hospital of Yokohama University
Aizu Chuo Hospital
Al Zahra Hospital
Baoji Maternal and Child Health Hospital
Baoan Hospital
Beijing Cancer Hospital
Beijing Hospital
Bharat Scans Private Limited
Breastopia Namba Hospital
Cardinal Tien
CHA Bundang Medical Center
Chaim Sheba Medical Center
Chang Gung Memorial Hospital (Chiaiy)
Chang Gung Memorial Hospital (Kaohsiung)
Chang Gung Memorial Hospital (Keelung)
Chang Gung Memorial Hospital (Linkou)
Chang Gung Memorial Hospital (Taipei)
Changhua Christian Hospital
Changmin Hospital
Chengdu Maternal and Child Health Center Hospital
Chengdu Shuangnan Hospital
Children’s Hospital of Chongqing Medical University
China Medical University Beigang Hospital
Chongqing Three Gorges Central Hospital
City Hospital of Bincheng District in Binzhou City
Clinical E.T.
Clumax Diagnostics
Concept Medicare (India) Pvt. Ltd.
Dalian Friendship Hospital
Dar al Shifa Hospital
Daxian People’s Hospital
Dengfeng People’s Hospital
Ekaterinburg Regional Hospital N1/URAL Medical University
University Central Ural Region
Fifth People’s Hospital of Nanchong City
First Affiliated Hospital, Zhengzhou University
First Affiliated Hospital of Guangxi Medical University
First Affiliated Hospital of Kunming Medical University
First Affiliated Hospital of Zunyi Medical College
First Maternal and Child Health Hospital of Shanghai Fortis Hospital
Fudan University Cancer Hospital
Fujian Provincial Hospital
Fukuoka Tokushukai Hospital
Fukuoka Tokushukai Medical Center
Fuling Center Hospital of Chongqing
Gazprom medical centre, OMSKWest Siberia Region
Guangzhou First Municipal People’s Hospital
Guantao People’s Hospital of Hebei
Haiti Hospital
Hafiu Hospital of Tangshan Transportation Group Co. Ltd.
Hankou Municipal Hospital
Hokuto Hospital
Hon-Kong Sanatorium & hospital
Hôpital Sacré Coeur
Huainan Eastern Hospital
Huabei Oil Field general hospital group
Huaxiang Center Hospital
Hubei Maternal and Child Health Hospital
Incheon Christian Hospital
Incheon St. Mary’s Hospital of the Catholic University
Institute of Ultrasound Engineering in Medicine
and Clinical Centre for Tumour Therapy
Isikai hospital
Itabashi Chuo Medical Center, Tokyo
Japan Affiliated Hospital of Chiba University
Jaslok Hospital and Research Centre
Jiangmen Wuji Traditional Chinese Medicine Hospital
Jiangsu Armed Police Corps Hospital
Jiangsu Cancer Hospital
Jilin Center Hospital
Jiugang Hospital
Jiujiang Maternal and Child Health Hospital
Jixi People’s Hospital
Kaixian People’s Hospital
KaoShiung Veterans General Hospital
Khanty-Mansiysk Regional hospital North Siberia
King Fahad Medical City
King Khalid University Hospital
KSWomen and Childrens’ Hospital
Kochi University Hospital
Lianyungang Orient Hospital
Liaoning Fushan Cancer Hospital
Luoyang Center Hospital
Maternat and Child Health Hospital of Yubei District
Nanshi Hospital
National Kidney and Transplant Institute
National Medical Research Center
No. 91 Central Hospital of the Liberation Army
Nong Ken Hospital
Obstetric Hospital of Changchun
Peking Union Hospital, Chinese Academy of Medical Sciences
Peking Union Medical Center
People’s Hospital of Hunan Province
People’s Hospital of Nanchuan District
People’s Hospital of Xingtai
PLA 301 Hospital (General Hospital of the People’s Liberation Army)
Primus Super Specialty Hospital
Queen Mary Hospital of the University of Hong Kong
Ramayya Pramila Urology Hospital
Rambam Medical Center
Russian Railways (i20) Hospital Central Siberia
Samsung Medical Center
Sapporo Toko hospital
Shaanxi Maternal and Child Health Hospital
Shandong Cancer Hospital
Shandong Guangpra Traditional Chinese Medicine Hospital
Shandong Qianfoshan Hospital
Shansi Traditional Chinese Medicine Hospital
Shenzhen Maternal and Child Health Center Hospital
Shinsuma General Hospital
Sichuan University
Sind Institute of Urology and Transplantation
Singapore General Hospital
SRL Diagnostics – Jankaria Imaging
St. Peter’s Hospital
Suning Central Hospital
Suning Hospital of Traditional Chinese Medicine
Sun Yat-Sen University Cancer Center
Sunrise Hospital
Taipei Medical University Hospital
The 452nd PLA Hospital
The Daping Oil Field General Hospital Group
The First Affiliated Hospital of Chongqing Medical University
The First Affiliated Hospital of Wannan Medical College
The First People’s Hospital of Shijiazhuang
The Fourth People’s Hospital of Shenzhen
The Second Affiliated Hospital of Hebei Medical University
The Second Artillery General Hospital of Chinese PLA
The Sixth People’s Hospital of Neijiang
The Tenth People’s Hospital of Shanghai
The Third Xiangya Hospital of Central South University
Tung’s TaiChung MetroHarbor Hospital
University of Malaya (UM)
Women’s Center India
Xiaoshan Birth Control Station
Xijing Hospital of The Fourth Military Medical University
Yamanashi University Medical Hospital
Yantian Tianquan Hospital
Yongchuan Maternal and Child Health Hospital
Yorsei University College of Medicine
YUM Gangnam Severance Hospital
Zibo Municipal Maternal & Children Health Hospital

Any site with a focused ultrasound system and regulatory approval from the respective country and charging for procedures.
The information in this report was provided by manufacturers and the focused ultrasound research community to the Focused Ultrasound Foundation. The FUS Foundation aims to provide the most accurate information; if you have more current or updated information please send it to: progress@fusfoundation.org.