Focused Ultrasound
State of the Field
2016
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: engagement@fusfoundation.org.
Introduction

**Breakthrough Treatment**

Focused ultrasound is an early stage, non-invasive therapeutic technology with the potential to transform the treatment of many medical disorders by using ultrasonic energy to target tissue deep in the body without incisions or ionizing radiation. Focused ultrasound is the union of two innovative technologies:

- focused ultrasound—which provides the energy to treat tissue deep in the body precisely and noninvasively
- magnetic resonance or ultrasound imaging—which is used to identify and target the tissue to be treated, guide and control the treatment in real time, and confirm the effectiveness of the treatment.

The fundamental principle is analogous to using a magnifying glass to focus beams of sunlight on a single point to burn a hole in a leaf. With focused ultrasound, an acoustic lens is used to concentrate multiple intersecting beams of ultrasound on a target deep in the body with extreme precision.

Where each individual beam passes through the tissue, there is no effect. But, at the focal point, the convergence of the multiple beams of focused ultrasound energy results in many biological effects, creating the possibility of treating a variety of disorders.

Focused ultrasound treatments can be performed on an outpatient basis, require no incisions, and can result in minimal discomfort and few complications, allowing for rapid recovery.

**Field Expanding Through Research, Development, and Commercialization**

Even though focused ultrasound is currently in the early stages of development and adoption, it has the potential to transform the treatment of a variety of serious medical conditions, including neurological disorders, many cancers, cardiovascular disease and endocrine disorders.

All indicators point toward the evolution of this platform technology into a robust medical field, with the pace of research and development, publications, patient treatments and the number of device manufacturers all increasing rapidly in the past few years.

There are focused ultrasound systems currently approved in the U.S. to treat uterine fibroids, prostate tissue, and the pain from bone metastases. In addition, there are currently 19 applications of the technology approved for commercial use in other regions of the world. More uses are still undergoing research, with opportunities for patients to participate in clinical trials at leading medical research institutions. And even more potential uses of the technology are in the early stages of technical research.

**Advancing the Technology Through Venture Philanthropy**

The Focused Ultrasound Foundation was created to improve the lives of millions of people worldwide by accelerating the development and adoption of focused ultrasound therapies. The Foundation works to clear the path to global adoption by coordinating and funding research and educational activities, fostering collaboration and building awareness of the technology among patients and professionals. The Foundation is dedicated to ensuring that focused ultrasound finds its place as a mainstream therapy for a range of neurological disorders, cancer and other life-threatening conditions within years, not decades.

Since its establishment in 2006, the Foundation has become the largest non-governmental source of funding for focused ultrasound research.
Executive Summary

Patient Treatments on the Rise

Focused ultrasound saw many advances in 2015, most notably an increase in patient treatments by 30 percent over the previous year. More than 100,000 patients have been treated to date with focused ultrasound—upwards of 25,000 of them in 2015 alone. Most of the recent growth was driven by a 60 percent increase in uterine fibroid treatments around the world, particularly in China. Prostate cancer remains the leading use of the technology worldwide, expanding by a robust rate of 12 percent. As expected, emerging applications are expanding, including breast cancer (67%) and bone metastases (20%). The past year also included some important clinical research milestones, including the world’s first patient treated for depression and the first clinical non-invasive opening of the blood-brain barrier.

Expansion of Research and Treatment Sites

Focused ultrasound is now being studied or utilized to treat more than 50 medical conditions, including many cancers, neurological and cardiovascular conditions. This progress is being fueled by researchers and clinicians at luminary sites around the globe. The number of academic and clinical sites utilizing the technology continues to grow, with 274 research sites and 471 commercial treatment centers operating worldwide. In 2015, there was an increase of 26 clinical research sites (17% growth), 80 commercial sites (20% growth) and 19 technical research sites (25% growth).

Innovation Continues in New Companies

New companies continue to be created and expand the field of focused ultrasound. There are now 32 manufacturers involved in research and development of the technology—three companies joined the field last year. EpiSonica is a Taiwanese company that has created a supine MRI-guided focused ultrasound system for the treatment of uterine fibroids and other women’s health issues. NaviFUS is another company from Taiwan that is in the early stages of development of a drug delivery system for the brain. And Promedica Bioelectronics, based in Italy, is primarily a diagnostic imaging and oncologic therapy device supplier that has created a bench-top focused ultrasound system for in vitro preclinical research.

New Regulatory Approvals in US and Beyond

Eight companies have developed focused ultrasound systems that are now approved to treat at least 19 medical conditions. The U. S. Food and Drug Administration (FDA) approved SonaCare’s Sonablate and EDAP’s Ablatherm for the ablation of prostate tissue in the fourth quarter, opening up the world’s largest commercial market to the leading use of the technology. This approval has already doubled the number of commercial treatment centers in the U.S., and exponential growth is expected to continue in 2016. InSightec has filed with the FDA to obtain approval of their ExAblate Neuro system to treat essential tremor, which would become the first commercially approved neurological indication in the U.S.

The Korean Ministry of Food and Drug Safety approved the ExAblate Neuro for the treatment of movement, pain, and behavioral disorders including depression and obsessive-compulsive disorder. This marks the first regulatory approval of a focused ultrasound system for psychiatric disorders.
State of Research and Regulatory Approval by Indications

### Executive Summary

#### Steps to regulatory approval:

<table>
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<th>Cardiovascular</th>
<th>Musculoskeletal</th>
<th>Neurological</th>
<th>Oncological</th>
<th>Urological</th>
<th>Endocrine Disorders</th>
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<td>Bone metastases</td>
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<td>Spinal tumors</td>
<td>Alzheimer’s disease</td>
<td>Colon cancer</td>
<td>Bladder cancer</td>
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#### State of Research and Regulatory Approval by Development Stage

* The FDA approved two focused ultrasound systems in 2015 that could be used to treat these prostate diseases.

* The FDA approved two focused ultrasound systems in 2015 that could be used to treat these prostate diseases.

#### State of Research and Regulatory Approval by Indications

**Conceputal**
- Acute kidney injury
- AVM’s
- Bladder cancer
- Cancer pain
- Colon cancer
- Esophageal cancer

**Pre-clinical**
- AVM’s
- Alzheimer’s disease
- Atherosclerosis
- Atrial fibrillation
- Deep vein thrombosis
- Diabetes
- Disc degeneration
- Head & neck cancer
- Hydrocephalus
- HLHS
- Lung cancer
- Multiple sclerosis
- Muscle atrophy
- Obesity
- PCOS
- Peripheral Artery Disease
- Sacralithis

**Anecdotal**
- Septel perforation
- Spinal cord injury
- Spinal tumors
- Fetal surgery
- Osteoarthritis

**Clinical Trials**
- Back pain
- Bone metastases
- Breast cancer
- Breast fibroadenoma
- Depression
- Essential tremor
- Glaucoma
- Kidney tumors
- Liver tumors
- Neuropathic pain
- OCD
- Osteoid osteoma
- Pancreatic tumors
- Parkinson’s disease
- Soft tissue tumors
- Thyroid nodules
- Uterine adenomyosis
- Uterine fibroids

**Outside US Approvals**
- BPH
- Bone metastases
- Breast cancer
- Breast fibroadenoma
- Depression
- Essential tremor
- Glaucoma
- Kidney tumors
- Liver tumors
- Neuropathic pain
- OCD
- Osteoid osteoma
- Pancreatic tumors
- Parkinson’s disease
- Soft tissue tumors
- Thyroid nodules
- Uterine adenomyosis
- Uterine fibroids

**FDA Approvals**
- BPH
- Bone metastases
- Breast cancer
- Breast fibroadenoma
- Depression
- Essential tremor
- Glaucoma
- Kidney tumors
- Liver tumors
- Neuropathic pain
- OCD
- Osteoid osteoma
- Pancreatic tumors
- Parkinson’s disease
- Soft tissue tumors
- Thyroid nodules
- Uterine adenomyosis
- Uterine fibroids

**Reimbursement**
- Sparse
State of the Field

FUS Publications
Per year

- Source: Data from Medline as of February 2016.
- Publications for 2015 are still being indexed by Medline and are not included in this graph.

FUS Citations
Per year

- Source: Web of Science.

Abstracts Presented at FUS Symposia
- FUSF ▪ EUFUS ▪ ISTU

Total Awards for All FUS NIH Research Grants
Dollars in millions

- Source: NIH
State of the Field

First in Human Treatments
Clinical trials or commercial treatments

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</table>

Treatments by Indication
Up to 2015

116,042 Treatments

- Prostate cancer: 55,045 (47%)
- Uterine fibroids: 36,011 (31%)
- Liver cancer: 16,000 (14%)
- Glaucoma: 2,900 (3%)
- Bone metastases: 1,516 (1%)
- Breast cancer: 869 (1%)
- BPH: 725 (1%)
- Others*: 2,976 (3%)

*Brain, Brain tumor, Bone non-metastases, Breast fibroadenoma, Kidney, MSK, Pancreatic cancer, Parathyroid, Rectal carcinoma, Renal denervation, Soft tissue tumors, Thyroid, Vascular

Manufacturer supplied data
The number of patient treatments reported is lower than the actual number of procedures because of incomplete reporting from manufacturers and treatment sites.
## FUS Approvals by Region and Manufacturer

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<td>US FDA</td>
<td>Canada Health Canada</td>
<td>CE Mark</td>
<td>Roszdrahvandzor</td>
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<td>Bone metastases</td>
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<td>Osteoid osteoma</td>
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<tr>
<td>Prostate diseases</td>
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<td>Soft tissue tumors</td>
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<tr>
<td>Thyroid nodules</td>
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<tr>
<td>Uterine adenomyosis</td>
<td>★★</td>
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<td></td>
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<tr>
<td>Uterine fibroids</td>
<td>★</td>
<td>★</td>
<td>★★</td>
<td>★★</td>
</tr>
</tbody>
</table>

**Manufacturers**

- ★ Alpinion Medical Systems, Seoul, Korea
- ★ Chongqing Haifu (HIFU) Medical Technology Co., LTD, Chongqing, China
- ★ EDAP TMS S.A., Vaulx-en-Velin, France
- ★ EyeTechCare, Rilieux-la-Pape, France
- ★ InSightec LTD, Tirat Carmel, Israel
- ★ Philips Healthcare, Eindhoven, The Netherlands
- ★ SonaCare Medical, LLC, Charlotte, North Carolina
- ★ Theracion, Malakoff, France
Manufacturer Criteria: Ultrasound technology must be 1) therapeutic 2) non-invasive 3) focused 4) image-guided
Manufacturers

Growth of FUS Manufacturers

- **US guidance**
- **MR guidance**
- **MR & US guidance**
- **Transducers**
- **Other**

Source: Manufacturer supplied data

**Number of Manufacturers**

- 35
- 28
- 21
- 14
- 7

- **US guidance**
  - 1979: EDAP FUS
  - 1995: Sumo Corporations
  - 1996: Shenzhen Wikkon
  - 1997: SonaCare
  - 1998: Mianyang Sonic
  - 2002: Verasonics
  - 2003: Shenzhen PRO-HIFU
  - 2004: Mirabilis
  - 2007: Alpinion
  - 2009: Histosonic International Cardio Corp.
  - 2010: Acublate

- **MR guidance**
  - 1999: Insightec
  - 2001: Image Guided Therapy
  - 2003: BrainSonic
  - 2005: Medsonic
  - 2008: Profound
  - 2015: EpiSonica

- **MR & US guidance**
  - 1999: Changjiangyuan Tech
  - 2001: Chongqing HAIFU
  - 2003: BrainSonic
  - 2005: Supersonic
  - 2009: FUS Instruments

- **Transducers**
  - 1986: Sonic Concepts
  - 1989: Imasonic

- **Other**
  - 2008: CarThera
  - 2015: Promedica Bioelectronics
Research Trends

Total Research Sites Growth
January 2014 to January 2016

Research Sites Growth by Region
January 2014 to January 2016

Total Research Sites by Region
January 2016

274 Sites
- North America
- Europe
- Asia
- Oceania
- South America

Research Sites Growth by Region
January 2014 to January 2016

- North America
- Europe
- Asia
- Oceania
- South America

Total Research Sites
- Total Research Sites
- Pre-clinical Sites
- Clinical Sites
Research Trends

Leading Indications by Number of Sites

Pre-clinical

1. 32 Uterine Fibroids
2. 30 Liver tumors
3. 28 Prostate cancer
4. 27 Bone metastases
   27 Brain tumors
   27 Beast cancer

Clinical

1. 91 Uterine Fibroids
2. 52 Prostate cancer
3. 43 Bone metastases
4. 29 Osteoid osteoma
5. 28 Liver tumors
   28 Soft tissue tumors

Emerging Research Indications by Growth in Number of Sites

Pre-clinical, % change over 1 year ending January 2016 (at least 10 sites)

1. 175% Uterine adenomyosis (11 sites)
2. 31% Soft tissue tumors (17 sites)
3. 29% Breast cancer (27 sites)
4. 20% Pancreatic cancer (18 sites)
5. 18% Kidney tumors (13 sites)

Clinical, % change over 1 year ending January 2016 (at least 10 sites)

1. 45% Essential tremor (16 sites)
2. 31% Uterine adenomyosis (21 sites)
3. 30% Pancreatic tumors (13 sites)
4. 7% Osteoid osteoma (29 sites)
5. 7% Uterine Fibroids (91 sites)
Research Sites

All Research Sites by Region

274 Worldwide Total

93 North America
100 Europe
76 Asia
1 South America
4 Oceania

Any FUS research site conducting technical, pre-clinical, or clinical FUS research.
North American and South America

**United States**
- 82 Research Sites

**States + Wash., DC + PR**
- 29 Research Sites

**North America**
- 93 Research Sites

**South America**
- 11 Research Sites
## Research Sites

### Canada

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<tr>
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<th>University/Institutes</th>
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<td>Lawson Health Research Institute, London Health Sciences Centre, Princess Margaret Hospital, Ryerson University, Sunnybrook Health Sciences Centre, The Hospital for Sick Children (SickKids), Thunder Bay Regional Research Institute, Toronto General Hospital, Toronto Western Hospital, University of Western Ontario</td>
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<td>Québec</td>
<td>Jewish General Hospital</td>
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### United States

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<td>California</td>
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## Research Sites

<table>
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<td><strong>New York</strong></td>
<td>City College of New York</td>
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<td><strong>Texas</strong></td>
<td>CH St. Luke’s Health</td>
</tr>
<tr>
<td></td>
<td>The Methodist Hospital</td>
</tr>
<tr>
<td></td>
<td>University of Houston</td>
</tr>
<tr>
<td></td>
<td>University of Texas at Austin</td>
</tr>
<tr>
<td></td>
<td>University of Texas MD Anderson Cancer Center</td>
</tr>
<tr>
<td></td>
<td>University of Texas Southwestern Medical Center</td>
</tr>
<tr>
<td></td>
<td>Urology of San Antonio</td>
</tr>
<tr>
<td><strong>Utah</strong></td>
<td>University of Utah</td>
</tr>
<tr>
<td><strong>Virginia</strong></td>
<td>University of Virginia Health System</td>
</tr>
<tr>
<td></td>
<td>Virginia Tech Carilion Research Institute</td>
</tr>
<tr>
<td><strong>Washington</strong></td>
<td>Swedish Neurosciences Institute</td>
</tr>
<tr>
<td></td>
<td>University of Washington</td>
</tr>
<tr>
<td><strong>Wisconsin</strong></td>
<td>University of Wisconsin Carbone Cancer Center</td>
</tr>
<tr>
<td><strong>South America</strong></td>
<td>Instituto do Cancer do Estado de Sao Paulo</td>
</tr>
</tbody>
</table>

Any FUS research site conducting technical, biological effects, pre-clinical, or clinical FUS research.
Research Sites

Europe

100 Sites

- Spain: 15
- Italy: 19
- Germany: 5
- Czech Republic: 1
- Austria: 1
- Finland: 2
- Norway: 4
- UK: 5
- Russia: 3
- The Netherlands: 3
- Belgium: 5
- Switzerland: 17
- France: 17
- Poland: 2
- Bulgaria: 1
- Cyprus: 2
- Israel: 1

Focused Ultrasound Foundation
## Research Sites

### By Region

#### 100 Europe

<table>
<thead>
<tr>
<th>Country</th>
<th>Research Sites</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Austria</strong></td>
<td>Medical University of Vienna</td>
</tr>
<tr>
<td><strong>Belgium</strong></td>
<td>Institut Jules Bordet</td>
</tr>
<tr>
<td><strong>Bulgaria</strong></td>
<td>University Hospital of Endocrinology</td>
</tr>
<tr>
<td><strong>Cyprus</strong></td>
<td>Cyprus University of Technology</td>
</tr>
<tr>
<td><strong>Czech Republic</strong></td>
<td>Mestska Nomocnice Ostrava, Na Homolce Hospital, St. Anne's Hospital, Thomayer University Hospital, University Hospital – Brno</td>
</tr>
<tr>
<td><strong>Finland</strong></td>
<td>VIT Technical Research Centre of Finland</td>
</tr>
<tr>
<td><strong>France</strong></td>
<td>Centre Léon Bérard, CHU de Bordeaux - Hôpital du Tondu, CHU de Bordeaux - Hôpital Saint-André, CHU de Lille - Hôpital Huriez, CHU de Tours - Hôpital Bretonneau, Hôpital Cochin, Hospital A. Michallon, Hôpital Pitié-Salpêtrière, Hospices Civils de Lyon, Inserm Lyon, Institut Gustave Roussy, Institut Langevin - ESPCI, Institut Mutualiste Montsouris, University of Franche-Comté, University of Nice Sophia Antipolis, University of Strasbourg</td>
</tr>
<tr>
<td><strong>Germany</strong></td>
<td>Amper Klinik, Brustzentrum Marienhospital Bottrop, Charité Universitätsmedizin Berlin, Clemenshospital GmbH, Fraunhofer Institut iamt, German Cancer Research Center Heidelberg, German Heart Centre - Munich, Klinikum Fürth, Sana CardioMed Nord, SRI Waldklinikum Gera, Universitäres Herzzentrum Hamburg GmbH, Universitätsklinikum Erlangen, University Hospital Bonn, University Hospital of Cologne, University Hospital of Leipzig, University Hospital Schleswig-Holstein, University of Heidelberg, University of Munich, Urologische Universitätsklinik Magdeburg</td>
</tr>
<tr>
<td><strong>Israel</strong></td>
<td>Chaim Sheba Medical Center, Rambam Medical Center, Technion–Israel Institute of Technology</td>
</tr>
<tr>
<td><strong>Italy</strong></td>
<td>Azienda Ospedaliera San Paolo, Careggi General Hospital, Cisanello Hospital of University of Pisa, Clinica oculistica Università–Ospedale oftalmico, European Institute of Oncology, Istituto Ortopedico Rizzoli, Laboratorio di Tecnologie Oncologiche “Giglio–Fondazione Istituto San Raffaele G. Giglio di Cefalù, Niguarda Hospital, Ospedale Generale Regionale “Francis Miulli”, Scuola Superiore Sant’Anna, Università degli Studi di Parma, University of L’Aquila, University of Perugia, University of Rome–La Sapienza, University of Turin</td>
</tr>
<tr>
<td><strong>The Netherlands</strong></td>
<td>Eindhoven University of Technology, Radboud University Nijmegen Medical Centre, University Medical Center Utrecht</td>
</tr>
<tr>
<td><strong>Norway</strong></td>
<td>Norwegian University of Science and Technology, The Intervention Centre, Oslo University Hospital Rikshospitalet</td>
</tr>
<tr>
<td><strong>Poland</strong></td>
<td>Institute of Fundamental Technological Research-Polish Academy of Sciences, Szpital Pro-Familia</td>
</tr>
<tr>
<td><strong>Russia</strong></td>
<td>Medical Center of Central Bank of Russian Federation, N. N. Petrov Research Institute of Oncology, National Medical Surgery Center, Research Center for Obstetrics, Gynecology and Perinatology of Russian Ministry of Health and Social Development, Rostov Scientific Research Institute of Oncology</td>
</tr>
<tr>
<td><strong>Spain</strong></td>
<td>CINAC HM Puerta del Sur, Hospital Clínico San Carlos, Hospital Universitari Mutua Terrassa, Instituto Cartuja de Técnicas Avanzadas en Medicina</td>
</tr>
<tr>
<td><strong>Switzerland</strong></td>
<td>FUS-Center, University of Zurich, Children’s Hospital, Geneva University Hospital, Kantonsspital Aarau, Kantonsspital Winterthur, University of Geneva</td>
</tr>
<tr>
<td><strong>United Kingdom</strong></td>
<td>Basingstoke and North Hampshire Hospital, Birmingham Heartlands Hospital, Churchill Hospital, Imperial College London, Institute for Medical Science and Technology, Southampton University Hospital, St. Bartholomew’s Hospital, St. Mary’s Hospital, The Institute of Cancer Research, University College London, University Hospital of Wales, University of Dundee, University of Glasgow, University of Hull, University of Oxford</td>
</tr>
</tbody>
</table>

Any FUS research site conducting technical, biological effects, pre-clinical, or clinical FUS research.
Research Sites

Asia and Oceania

76 Sites in Asia

- 1 Kazakhstan
- 4 India
- 34 China

4 Sites in Oceania

- 14 Japan
- 13 Korea
- 8 Taiwan
- 1 Singapore
- 1 Malaysia
- 4 Australia
<table>
<thead>
<tr>
<th>Region</th>
<th>Research Sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia</td>
<td>China 307 Hospital of PLA, Central Hospital of Shanghai Xuhui District, Children's Hospital of Chongqing Medical University, Chinese University of Hong Kong, Chongqing Medical University, First Affiliated Hospital of Medical College of Xian Jiaotong University, First Affiliated Hospital of Nanjing Medical University, First Affiliated Hospital of Zunyi Medical College, First Maternal and Child Health Hospital of Shanghai, Fudan University Huashan Hospital, Fudan University Shanghai Cancer Center, HAPU Hospital, Henan University Huaile Hospital, Institute of Ultrasonic Engineering in Medicine and Clinical Centre for Tumour Therapy, 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, Shanghai Jiaotong University, Shanxi Medical University, Suining General Hospital, The First Affiliated Hospital of Chongqing Medical University, The First People's Hospital of Shijiazhuang, The Second Affiliated Hospital of Zhejiang University, The Second Artillery General Hospital of Chinese PLA, The Third Xiangya Hospital of Central South University, The University of Hong Kong, Third Military Medical University, Tianjin Medical University, Wenzhou Medical University, Wuhan University, Xi'an Jiaotong University, Hokuto Hospital, Kochi University Hospital, National Center of Neurology and Psychiatry, Shinshu General Hospital, Takano-bashi Central Hospital, Teikyo University, Tohoku University, Tokai University, Tokyo Medical University, Tokyo University of Pharmacy and Life Sciences, Tokyo Women's Medical Hospital, Washokai Sadamoto Hospital, Kazakhstani National Medical Research Center, Korean Asan Medical Center, CHA Bundang Medical Center, Chaum Hospital, Chonnam National University, Ewha Womans University Medical Center, Jeju National University, Korea Institute of Science and Technology, Samsung Medical Center, The Catholic University of Korea, Seoul National University Hospital, Sogang University, The Catholic University of Korea, Yonsei Gangnam Severance Hospital, Yonsei Severance Hospital, Malaysian University of Malaya, Singapore Nanyang Technological University, Taiwanese Chang Gung University, I-Shou University, National Chiao Tung University, National Health Research Institutes, National Taiwan University, National Tsing Hua University, National Yang Hua University, Taipei Medical niversity Hospital.</td>
</tr>
<tr>
<td>Oceania</td>
<td>Australia Future Medical Imaging Group, Royal Women’s Hospital Melbourne, University of Queensland, New Zealand Mercy Angiography.</td>
</tr>
</tbody>
</table>
Pre-Clinical

Research Sites

101 Worldwide Total

52 North America

30 Europe

16 Asia

3 Oceania

Any FUS research site conducting animal research.
## Sites by Region

### North America

#### Canada
- ▼ Lawton Health Research Institute
- + Sunnybrook Health Sciences Centre
- + The Hospital for Sick Children (SickKids)
- + Thunder Bay Regional Research Institute

#### United States
- ◆ Artann Laboratories
- + Boston University
- + Brigham and Women’s Hospital
- + BURL Concepts Inc.
- + CHI St. Luke’s Health
- + Children’s National Hospital
- + Cincinnati Children’s Hospital Medical Center
- ▼ City of Hope
- + Columbia University

### Cardiovascular
- + Atherosclerosis
- + Atrial fibrillation
- + Deep vein thrombosis
- + Hypertension
- + Peripheral arterial disease
- + Septal perforation

### Endocrine Disorders
- ▲ Diabetes*
- ▲ Obesity
- ▲ Thyroid and parathyroid tumors
- ▲ Thyroid nodule

### Miscellaneous
- ✚ Glaucoma

### Musculoskeletal
- ● Back and neck pain
- ● Bone cancer
- ● Muscular dystrophy
- ● Osteoarthritis
- ● Osteoid osteoma
- ● Spinal cord injury
- ● Spinal tumors

### Neurological
- ● Alzheimer’s disease
- ● Brain tumors
- ● Cancer pain
- ● Depression
- ● Epilepsy
- ● Essential tremor
- ● Hydrocephalus
- ● Neuropathic pain
- ● Parkinson’s disease
- ● Stroke
- ● Traumatic brain injury
- ● Trigeminal neuralgia

### Oncological
- ‧ Bone metastases
- ‧ Colon cancer
- ‧ Esophageal cancer
- ‧ Head & Neck Cancer
- ‧ Liver tumors
- ‧ Lung cancer*
- ‧ Pancreatic tumors
- ‧ Pediatric oncology
- ‧ Soft tissue tumors

### Urological
- ♦ Benign prostatic hyperplasia
- ♦ Bladder tumors
- ♦ Kidney stones
- ♦ Kidney tumors
- ♦ Prostate cancer
- ♦ Ureteroceles

### Women’s Health
- ✦ Breast cancer
- ✦ Breast fibroadenoma
- ✦ Uterine adenomyosis
- ✦ Uterine fibroids

* Not in this region

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Any FUS research site conducting animal research.
Pre-Clinical

Any FUS research site conducting animal research.

Cardiovascular
+ Atherosclerosis
+ Atrial fibrillation
+ Deep vein thrombosis
+ Hypertension
+ Peripheral arterial disease
+ Septal perforation

Endocrine Disorders
▲ Diabetes
▲ Obesity
▲ Thyroid and parathyroid tumors
▲ Thyroid nodules

Miscellaneous
★ Glaucoma

Musculoskeletal
★ Back and neck pain
★ Bone cancer
★ Muscular dystrophy
★ Osteoarthritis
★ Osteoid osteoma
★ Spinal cord injury
★ Spinal tumors

Neurological
★ Alzheimer’s disease
★ Brain tumors
★ Cancer pain
★ Depression
★ Epilepsy
★ Essential tremor
★ Hydrocephalus
★ Neuropathic pain
★ Parkinson’s disease
★ Stroke
★ Traumatic brain injury
★ Trigeminal neuralgia

Oncological
★ Bone metastases
★ Colon cancer
★ Esophageal cancer
★ Head & Neck Cancer
★ Liver tumors
★ Lung cancer
★ Pancreatic tumors
★ Pediatric oncology
★ Soft tissue tumors

Urological
★ Benign prostatic hyperplasia
★ Bladder tumors
★ Kidney stones
★ Kidney tumors
★ Prostate cancer
★ Ureteroceles

Women’s Health
★ Breast cancer
★ Breast fibroadenoma
★ Uterine adenomyosis
★ Uterine fibroids
* Not in this region

Any FUS research site conducting animal research.

University MRI & Diagnostic Imaging Centers - South
- University of California Davis
- University of California Los Angeles
- University of California San Francisco
- University of Chicago
- University of Cincinnati
- University of Illinois at Urbana-Champaign
- University of Kansas - KU Bioengineering Research Center Mechanical Engineering
- University of Maryland School of Medicine
- University of Michigan
- University of Minnesota
- University of Texas at Austin
- University of Texas MD Anderson Cancer Center
- University of Texas Southwestern Medical Center

University of Utah
- University of Virginia
- University of Washington
- Vanderbilt University
- Wake Forest University Baptist Medical Center
- Weill Cornell Medical Center
- Worcester Polytechnic Institute

University of Pennsylvania
- Perelman School of Medicine
- University of Pennsylvania Health System

University of Southern California
- Keck School of Medicine

University of Wisconsin
- University of Wisconsin School of Medicine & Public Health
- University of Wisconsin Medical Foundation
## Pre-clinical Research Sites by Region

### Europe

- **Cyprus**
  - Cyprus University of Technology

- **France**
  - Centre Léon Bérard
  - CHU de Bordeaux - Hôpital Saint-André
  - Hôpital A. Michallon
  - Hôpital Cochin
  - Hospices Civils de Lyon
  - Inserm Lyon
  - Institut Langevin—EXPCI

- **Germany**
  - German Cancer Research Center
  - Klinikum Fürth
  - SRH Waldklinikum Gera
  - University Hospital Schleswig-Holstein
  - University of Heidelberg
  - University of Munich

- **Israel**
  - Chaim Sheba Medical Center
  - Rambam Medical Center

### Cardiovascular
- Atherosclerosis
- Atrial fibrillation
- Deep vein thrombosis
- Hypertension
- Peripheral arterial disease
- Septal perforation

### Musculoskeletal
- Back and neck pain
- Bone cancer
- Muscular dystrophy
- Osteoarthritis
- Osteoid osteoma
- Spinal cord injury
- Spinal tumors

### Endocrine Disorders
- Diabetes
- Obesity
- Thyroid and parathyroid tumors
- Thyroid nodules

### Neurological
- Alzheimer’s disease
- Brain tumors
- Cancer pain
- Depression
- Epilepsy
- Essential tremor
- Hydrocephalus
- Neuropathic pain
- Parkinson’s disease
- Stroke
- Traumatic brain injury
- Trigeminal neuralgia

### Oncological
- Bone metastases
- Colon cancer
- Esophageal cancer
- Head & Neck Cancer
- Liver tumors
- Lung cancer
- Pancreatic tumors
- Pediatric oncology
- Soft tissue tumors

### Urological
- Benign prostatic hyperplasia
- Bladder tumors
- Kidney stones
- Kidney tumors
- Prostate cancer
- Ureteroceles

### Women’s Health
- Breast cancer
- Breast fibroadenoma
- Uterine adenomyosis
- Uterine fibroids

*Not in this region

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

16
Asia

China
- Chongqing Medical University
- Fundan University Shanghai Cancer Center
- HIFU Hospital
- Peking Union Hospital, Chinese Academy of Medical Sciences
- PLA 301 Hospital (General Hospital of the People’s Liberation Army)
- Wenzhou Medical University

India
- GSL Medical College
- Jaslok Hospital and Research Centre

Japan
- Breastopia Namba Hospital
- Kochi University Hospital

Republic of Korea
- Asan Medical Center
- Chaum Hospital
- Samsung Medical Center
- Seoul National University Hospital

Singapore
- Nanyang Technological University

Taiwan
- Taipei Medical University Hospital

3
Oceania

Australia
- Future Medical Imaging Group
- Royal Women’s Hospital Melbourne
- University of Queensland

Cardiovascular
- Atherosclerosis*
- Atrial fibrillation*
- Deep vein thrombosis*
- Peripheral arterial disease*
- Hypertension
- Septal perforation*

Endocrine Disorders
- Diabetes
- Obesity*
- Thyroid and parathyroid tumors*
- Thyroid nodules*

Miscellaneous
- Glaucoma

Musculoskeletal
- Back and neck pain
- Bone cancer*
- Muscular dystrophy*
- Osteoarthritis
- Osteoid osteoma
- Spinal cord injury*
- Spinal tumors*

Neurological
- Alzheimer’s disease
- Brain tumors
- Cancer pain*
- Depression*
- Epilepsy*
- Essential tremor*
- Hydrocephalus*
- Neuropathic pain*
- Parkinson’s disease*
- Stroke
- Traumatic brain injury*
- Trigeminal neuralgia*

Oncological
- Bone metastases
- Colon cancer*
- Esophageal cancer*
- Head & Neck Cancer*
- Liver tumors
- Lung cancer*
- Pancreatic tumors
- Pediatric oncology*
- Soft tissue tumors

Urological
- Benign prostatic hyperplasia
- Bladder tumors
- Kidney stones
- Kidney tumors
- Prostate cancer
- Ureteroceles*

Women’s Health
- Breast cancer
- Breast fibroadenoma
- Uterine adenomyosis
- Uterine fibroids
- * Not in this region

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

Worldwide Total: 182

- North America: 54
- Europe: 76
- Asia: 48
- South America: 1
- Oceania: 3

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

**Canada**
- Jewish General Hospital
- London Health Sciences Centre
- Princess Margaret Hospital
- Sunnybrook Health Sciences Centre
- The Hospital for Sick Children (SickKids)
- Thunder Bay Regional Research Institute
- Toronto General Hospital
- Toronto Western Hospital
- University of Western Ontario

**United States**
- Brigham and Women’s Hospital (BWH)
- CHI St. Luke’s Health
- Children’s National Hospital
- Cincinnati Children’s Hospital Medical Center
- City of Hope
- Cleveland Clinic
- Duke University
- Grand Strand Urology

**Canada**
- Jewish General Hospital
- London Health Sciences Centre
- Princess Margaret Hospital
- Sunnybrook Health Sciences Centre
- The Hospital for Sick Children (SickKids)
- Thunder Bay Regional Research Institute
- Toronto General Hospital
- Toronto Western Hospital
- University of Western Ontario

**United States**
- Brigham and Women’s Hospital (BWH)
- CHI St. Luke’s Health
- Children’s National Hospital
- Cincinnati Children’s Hospital Medical Center
- City of Hope
- Cleveland Clinic
- Duke University
- Grand Strand Urology

**Cardiovascular**
- Hypertension
- Diabetes
- Obesity
- Thyroid and parathyroid tumors
- Thyroid nodules

**Endocrine Disorders**
- Glaucoma
- Hypersplenism

**Musculoskeletal**
- Back and neck pain
- Bone cancer
- Osteoarthritis
- Osteoid osteoma
- Sacroiliitis

**Neurological**
- Brain tumors
- Cancer pain
- Depression
- Epilepsy
- Essential tremor
- Neuropathic pain
- Obsessive-compulsive disorder
- Parkinson’s disease
- Stroke
- Trigeminal neuralgia

**Oncological**
- Bone metastases
- Colon cancer
- Esophageal cancer
- Liver tumors
- Pancreatic tumors
- Pediatric oncology
- Soft tissue tumors

**Urological**
- Benign prostatic hyperplasia
- Kidney stones
- Kidney tumors
- Prostate cancer

**Women’s Health**
- Breast cancer
- Breast fibroadenoma
- Uterine adenomyosis
- Uterine fibroids

* Not in this region
Clinical Research Sites by Region

South America

**Brazil**
- Instituto do Cancer do Estado de Sao Paulo

**Cardiovascular**
- Hypertension*

**Endocrine Disorders**
- Diabetes*
- Obesity*
- Thyroid and parathyroid tumors
- Thyroid nodules*

**Miscellaneous**
- Glaucoma
- Hypersplenism*

**Musculoskeletal**
- Back and neck pain
- Bone cancer
- Osteoarthritis
- Osteoid osteoma
- Sacroiliitis

**Neurological**
- Brain tumors
- Cancer pain*
- Depression*
- Epilepsy
- Essential tremor
- Neuropathic pain
- Obsessive-compulsive disorder*
- Parkinson’s disease
- Stroke*
- Trigeminal neuralgia*

**Oncological**
- Bone metastases
- Colon cancer*
- Esophageal cancer*
- Liver tumors*
- Pancreatic tumors*
- Pediatric oncology
- Soft tissue tumors

**Urological**
- Benign prostatic hyperplasia
- Kidney stones*
- Kidney tumors*
- Prostate cancer

**Women’s Health**
- Breast cancer
- Breast fibroadenoma
- Uterine adenomyosis
- Uterine fibroids

* Not in this region

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

#### Europe

- **Austria**
  - Medical University of Vienna
- **Belgium**
  - Institut Jules Bordet
- **Czech Republic**
  - Mestska Nomocnice Ostrava
  - Na Homolce Hospital
  - St. Anne’s Hospital
  - Thomayer University Hospital
  - University Hospital Brno
- **France**
  - Centre Léon Bérard
  - 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
  - Hôpital Pitie-Salpêtrière
  - Hospices Civils de Lyon

#### Cardiovascular
- Hypertension
- Endocrine Disorders
  - Diabetes
  - Obesity
  - Thyroid and parathyroid tumors
  - Thyroid nodules
- Musculoskeletal
  - Back and neck pain
  - Bone cancer*
  - Osteoarthritis
  - Osteoid osteoma
  - Sacroiliitis
- Neurological
  - Brain tumors
  - Cancer pain
  - Depression*
  - Epilepsy*
  - Essential tremor
  - Neuropathic pain
  - Obsessive-compulsive disorder*
  - Parkinson’s disease
  - Stroke
  - Trigeminal neuralgia
- Oncological
  - Bone metastases
  - Colon cancer
  - Esophageal cancer
  - Liver tumors
  - Pancreatic tumors
  - Pediatric oncology*
  - Soft tissue tumors
- Urological
  - Benign prostatic hyperplasia*
  - Kidney stones
  - Kidney tumors
  - Prostate cancer
- Women’s Health
  - Breast cancer
  - Breast fibroadenoma
  - Uterine adenomyosis
  - Uterine fibroids
  - * Not in this region

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

Cardiovascular
- Hypertension

Endocrine Disorders
- Diabetes
- Obesity
- Thyroid and parathyroid tumors
- Thyroid nodules

Musculoskeletal
- Back and neck pain
- Bone cancer
- Osteoarthritis
- Osteoid osteoma
- Sacroiliitis

Miscellaneous
- Glaucoma
- Hypersplenism

Neurological
- Brain tumors
- Cancer pain
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- Pancreatic tumors
- Pediatric oncology
- Soft tissue tumors

Urological
- Benign prostatic hyperplasia
- Kidney stones
- Kidney tumors
- Prostate cancer

Women's Health
- Breast cancer
- Breast fibroadenoma
- Uterine adenomyosis
- Uterine fibroids

Any FUS research site treating patients as part of a clinical study.
Clinical

Clinical Research Sites by Region

Russia
- Medical Center of Central Bank of Russian Federation
- N. N. Petrov Research Institute of Oncology
- National Medical Surgery Center
- Research Center for Obstetrics, Gynecology and Perinatology of Russian Ministry of Health and Social Development
- Rostov Scientific Research Institute of Oncology

Spain
- CINAC HM Puerta del Sur
- Hospital Clinico San Carlos
- Hospital Universitari Mutua Terrassa
- Instituto Cartuja de Técnicas Avanzadas en Medicina

Switzerland
- FUS-Center, University of Zurich, Children’s Hospital
- Kantonsspital Aarau
- Kantonsspital Winterthur

United Kingdom
- Basingstoke and North Hampshire Hospital
- Birmingham Heartlands Hospital
- Churchill Hospital
- Southampton University Hospital
- St. Bartholomew’s Hospital
- St. Mary’s Hospital
- The Institute of Cancer Research
- University Hospital of Wales
- University of Glasgow
- University of Hull

Cardiovascular
+ Hypertension

Endocrine Disorders
▲ Diabetes
▲ Obesity
▲ Thyroid and parathyroid tumors
▲ Thyroid nodules

Miscellaneous
◆ Glaucoma
◆ Hypersplenism
▲ Back and neck pain
▲ Bone cancer
▲ Osteoarthritis
▲ Osteoid osteoma
▲ Sacroiliitis

Neurological
▲ Brain tumors
▲ Cancer pain
▲ Depression
▲ Epilepsy
▲ Essential tremor
▲ Neuropathic pain
▲ Obsessive-compulsive disorder
▲ Parkinson’s disease
▲ Stroke
▲ Trigeminal neuralgia

Oncological
◆ Bone metastases
○ Colon cancer
○ Esophageal cancer
○ Liver tumors
○ Pancreatic tumors
○ Pediatric oncology
○ Soft tissue tumors

Urological
◆ Benign prostatic hyperplasia
▲ Kidney stones
▲ Kidney tumors
▲ Prostate cancer

Women’s Health
☆ Breast cancer
☆ Breast fibroadenoma
☆ Uterine adenomyosis
☆ Uterine fibroids

* Not in this region

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

### China
- 307 Hospital of PLA
- Central Hospital of Shanghai Xuhui District
- Children’s Hospital of Chongqing Medical University
- Chinese University of Hong Kong
- 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
- HAIFU Hospital
- Henan University Huaibe Hospital
- Institute of Ultrasonic Engineering in Medicine and Clinical Centre for Tumour Therapy
- 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
- Shanghai Jiaotong University
- Suining Central Hospital
- The First Affiliated Hospital of Chongqing Medical University
- The First People’s Hospital of Shijiazhuang
- The Second Affiliated Hospital of Zhejiang University
- The Second Artillery General Hospital of Chinese PLA
- The Third Xiangya Hospital of Central South University
- Tianjin Medical University

### Cardiovascular
- Hypertension

### Endocrine Disorders
- Diabetes*
- Obesity*
- Thyroid and parathyroid tumors*
- Thyroid nodules*

### Musculoskeletal
- Back and neck pain
- Bone cancer
- Osteoarthritis
- Osteoid osteoma
- Sacroilitis*

### Miscellaneous
- Glaucoma
- Hypersplenism

### Neurological
- Brain tumors*
- Cancer pain
- Depression
- Epilepsy*
- Essential tremor
- Neuropathic pain*
- Obsessive-compulsive disorder
- Parkinson’s disease
- Stroke
- Trigeminal neuralgia*

### Oncological
- Bone metastases
- Colon cancer
- Esophageal cancer*
- Liver tumors
- Pancreatic tumors
- Pediatric oncology*
- Soft tissue tumors

### Urological
- Benign prostatic hyperplasia
- Kidney stones
- Kidney tumors
- Prostate cancer

### Women’s Health
- Breast cancer
- Breast fibroadenoma
- Uterine adenomyosis
- Uterine fibroids

* Not in this region

---

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

**India**
- Apollo Specialty Hospital, Chennai
- Gsl Medical College
- Jaslok Hospital and Research Centre

**Japan**
- Breastopia Namba Hospital
- Hokuto Hospital
- Kochi University Hospital
- Shinsuma General Hospital
- Takanobashi Central Hospital
- Tokai University
- Tokyo Medical University
- Tokyo Women’s Medical Hospital
- Washokai Sadamoto Hospital

**Kazakhstan**
- National Medical Research Center

**Malaysia**
- University of Malaya

**Republic of Korea**
- CHA Bundang Medical Center
- Chaum Hospital
- Samsung Medical Center
- Seoul National University Hospital
- The Catholic University of Korea
- YUMC Gangnam Severance Hospital
- YUMC Severance Hospital

**Singapore**
- Nanyang Technological University

**Taiwan**
- Taipei Medical University Hospital

**Cardiovascular**
- Hypertension

**Endocrine Disorders**
- Diabetes*
- Obesity*
- Thyroid and parathyroid tumors*
- Thyroid nodules*

**Musculoskeletal**
- Back and neck pain
- Bone cancer
- Osteoarthritis
- Ostoid osteoma
- Sacroiliitis*

**Neurological**
- Brain tumors*
- Cancer pain
- Depression
- Epilepsy*
- Essential tremor
- Neuropathic pain*
- Obsessive-compulsive disorder
- Parkinson’s disease
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- Prostate cancer

**Women’s Health**
- Breast cancer
- Breast fibroadenoma
- Uterine adenomyosis
- Uterine fibroids

* Not in this region
Clinical Research Sites by Region

**Australia**
- Future Medical Imaging Group
- Royal Women’s Hospital Melbourne

**New Zealand**
- Mercy Angiography

### Cardiovascular
- Hypertension

### Endocrine Disorders
- Diabetes*
- Obesity*
- Thyroid and parathyroid tumors*
- Thyroid nodules*

### Musculoskeletal
- Glaucoma*
- Hypersplenism*
- Back and neck pain*
- Bone cancer*
- Osteoarthritis
- Osteoid osteoma*
- Sacroiliitis*

### Neurological
- Brain tumors*
- Cancer pain
- Depression *
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- Pancreatic tumors*
- Pediatric oncology*
- Soft tissue tumors

### Urological
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- Kidney stones*
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- Prostate cancer*

### Women’s Health
- Breast cancer*
- Breast fibroadenoma*
- Uterine adenomyosis
- Uterine fibroids

* Not in this region

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Any FUS research site treating patients as part of a clinical study.
## Commercial Treatment Sites by Indications and Regions

### North America
- **18** Benign prostatic hyperplasia
- **6** Bone metastases
- **1** Breast cancer
- **1** Kidney tumors
- **1** Liver tumors
- **2** Osteoid osteoma
- **29** Prostate cancer
- **1** Soft tissue tumors
- **15** Uterine fibroids

### Europe
- **5** Benign prostatic hyperplasia
- **15** Bone metastases
- **13** Breast cancer
- **15** Breast fibroadenoma
- **4** Essential tremor
- **15** Glaucoma
- **12** Kidney tumors
- **12** Liver tumors
- **2** Neuropathic pain
- **12** Osteoid osteoma
- **1** Pancreatic tumors
- **4** Parkinson’s tremor
- **160** Prostate cancer
- **12** Soft tissue tumors
- **11** Thyroid nodules
- **1** Trigeminal neuralgia
- **1** Uterine adenomyosis
- **46** Uterine fibroids

### Asia
- **28** Benign prostatic hyperplasia
- **3** Bone metastases
- **90** Breast cancer
- **2** Breast fibroadenoma
- **1** Depression
- **1** Essential tremor
- **89** Kidney tumors
- **90** Liver tumors
- **1** OCD
- **89** Osteoid osteoma
- **2** Pancreatic tumors
- **1** Parkinson’s tremor
- **29** Prostate cancer
- **91** Soft tissue tumors
- **3** Thyroid nodules
- **1** Uterine adenomyosis
- **122** Uterine fibroids

### South America
- **1** Benign prostatic hyperplasia
- **8** Prostate cancer
- **1** Uterine fibroids

### Africa
- **1** Breast fibroadenoma
- **1** Prostate cancer
- **1** Thyroid nodules

### Oceania
- **2** Uterine fibroids

---

*Any site with a focused ultrasound system and regulatory approval from the respective country and currently providing treatments.*
Commercial Treatment Sites by Country

Any site with a focused ultrasound system and regulatory approval from the respective country and currently providing treatments.

**North America**
- Bahamas
- Canada
- Costa Rica
- Cuba
- Dominican Republic
- Grand Cayman
- Mexico
- Trinidad and Tobago
- United States

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

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

**Asia**
- China
- India
- Iran
- Japan
- Kazakhstan
- Kingdom of Saudi Arabia
- Lebanon

**Oceania**
- Australia
- United States

**Africa**
- Egypt
- South Africa

- Malaysia
- Qatar
- Republic of Korea
- Singapore
- Taiwan
- United Arab Emirates
- Uzbekistan
- Vietnam
Commercial Treatment Sites by Region

<table>
<thead>
<tr>
<th>Region</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td>46</td>
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<tr>
<td>Europe</td>
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<tr>
<td>Asia</td>
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<td>South America</td>
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<td>Africa</td>
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</tr>
<tr>
<td>Oceania</td>
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</table>

Worldwide Total: 471

Any site with a focused ultrasound system and regulatory approval from the respective country and currently providing treatments.
### Commercial Treatment Sites by Region

#### North America

<table>
<thead>
<tr>
<th>Country</th>
<th>Facilities</th>
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<tbody>
<tr>
<td>Bahamas</td>
<td>Doctors Hospital</td>
</tr>
<tr>
<td><strong>Canada</strong></td>
<td>◆ Can-Am HIFU</td>
</tr>
<tr>
<td></td>
<td>◆ Cleveland Clinic Canada</td>
</tr>
<tr>
<td></td>
<td>◆ Don Mills Surgical Unit</td>
</tr>
<tr>
<td></td>
<td>◆ Jewish General Hospital</td>
</tr>
<tr>
<td></td>
<td>◆ Les Cours Medical Centre</td>
</tr>
<tr>
<td></td>
<td>◆ London Health Sciences Centre</td>
</tr>
<tr>
<td></td>
<td>◆ Sunnybrook Health Sciences Centre</td>
</tr>
<tr>
<td></td>
<td>◆ Thunder Bay Regional Research Institute</td>
</tr>
<tr>
<td></td>
<td>◆ University of Western Ontario</td>
</tr>
<tr>
<td><strong>Costa Rica</strong></td>
<td>◆ Hospital CIMA San Jose</td>
</tr>
<tr>
<td><strong>Cuba</strong></td>
<td>● Hospital Medical Surgical Research Center (CIMEQ)</td>
</tr>
<tr>
<td><strong>Dominican</strong></td>
<td>◆ Clinica Union Medica</td>
</tr>
<tr>
<td><strong>Republic</strong></td>
<td><strong>Grand Cayman</strong></td>
</tr>
<tr>
<td></td>
<td>◆ Chrissie Tomlinson Hospital</td>
</tr>
<tr>
<td><strong>Mexico</strong></td>
<td>◆ Centro Médico Puerta de Hierro</td>
</tr>
<tr>
<td></td>
<td>◆ Hospital Galenia</td>
</tr>
<tr>
<td></td>
<td>◆ Medica Sur Tlalpan</td>
</tr>
<tr>
<td></td>
<td>◆ San Javier Hospital Marina</td>
</tr>
<tr>
<td><strong>Trinidad</strong></td>
<td>◆ Trinidad Urology Center</td>
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<tr>
<td><strong>and Tobago</strong></td>
<td><strong>United States</strong></td>
</tr>
<tr>
<td></td>
<td>◆ Associated Urology of North Carolina</td>
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<tr>
<td></td>
<td>✪ Brigham and Women’s Hospital</td>
</tr>
<tr>
<td></td>
<td>◆ Carolina Urology Partners</td>
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<td>◆ City of Hope</td>
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<td>◆ Duke Health Center at Southpoint</td>
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<td>◆ Focused Ultrasound Northwest</td>
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<tr>
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<td>◆ Fox Chase Cancer Center</td>
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<td></td>
<td>◆ Keck School of Medicine - USC</td>
</tr>
<tr>
<td></td>
<td>◆ Louisville Surgery Center</td>
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<td>◆ Mayo Clinic - Minnesota</td>
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<td></td>
<td>◆ Memorial Sloan-Kettering Cancer Center</td>
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<td></td>
<td>◆ miVIP Surgery Center</td>
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<td></td>
<td>◆ National Institutes of Health</td>
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<td></td>
<td>◆ New York University - Langone Medical Center</td>
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<td>◆ Northern Litho</td>
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<tr>
<td></td>
<td>◆ Pacific Coast Urology Medical Center</td>
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<tr>
<td></td>
<td>◆ Riverside Methodist Hospital</td>
</tr>
<tr>
<td></td>
<td>◆ San Francisco Surgery Center</td>
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<td>◆ Sarasota Interventional Radiology</td>
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<td>◆ Stanford University Medical Center</td>
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<td>◆ University MRI &amp; Diagnostic Imaging Centers - South</td>
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<td></td>
<td>◆ University of California San Diego Thornton Hospital</td>
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<td></td>
<td>◆ University of California San Francisco</td>
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<td></td>
<td>◆ University of Miami Hospital</td>
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<td></td>
<td>◆ University of Virginia Health System</td>
</tr>
<tr>
<td></td>
<td>◆ Urology Clinics of North Texas</td>
</tr>
</tbody>
</table>

### Conditions Treatable

**Endocrine Disorders**
- Thyroid nodules
- Breast cancer

**Musculoskeletal**
- Osteoid osteoma
- Breast fibroadenoma

**Miscellaneous**
- Glaucoma
- Uterine fibroids

**Neurological**
- Depression
- Essential tremor
- Neuropathic pain
- OCD
- Parkinson’s disease
- Trigeminal neuralgia
- Breast cancer
- Uterine adenomyosis

**Oncological**
- Bone metastases
- Liver tumors
- Pancreatic tumors
- Soft tissue tumors
- Prostate cancer
- Breast fibroadenoma

**Urological**
- Benign prostatic hyperplasia
- Kidney tumors
- Uterine fibroids

*Not in this region*

---

*Any site with a focused ultrasound system and regulatory approval from the respective country and currently providing treatments.*
Commercial Treatment Sites by Region

South America

Argentina
- Centro de Urologia

Bolivia
- Centro de urología avanzada de la Clínica Incor

Brazil
- Centro de Prostata San Paulo
- Hospital AC Camargo de São Paulo
- Hospital Nossa Senhora das Gracas
- Instituto do Cancer do Estado de Sao Paulo (ICESP)

Ecuador
- Hospital Carlos Andrade Marin
- Hospital IESS
- Hospital Policía Nacional Guayaqui

Endocrine Disorders
- Thyroid nodules*
- Osteoid osteoma*

Musculoskeletal
- Depression*
- Essential tremor*
- Neuropathic pain*
- OCD*
- Parkinson’s disease*
- Trigeminal neuralgia*

Miscellaneous
- Glaucoma*

Neurological
- Benign prostatic hyperplasia
- Kidney tumors*
- Prostate cancer

Oncological
- Bone metastases*
- Liver tumors*
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- Soft tissue tumors*

Urological
- Breast cancer*
- Breast fibroadenoma*
- Uterine adenomyosis*
- Uterine fibroids

* Not in this region

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## Commercial Treatment Sites by Region

### Europe

#### Austria
- Allgemeines Krankenhaus der Stadt Wien
- Barmherzige Brüder
- Krankenhaus der Barmherzigen Brüder Wien
- TILAK Unternehmen Gesundheit
- University of Vienna

#### Belgium
- Algemeen Ziekenhuis Middelheim
- Institut Jules Bordet

#### Bulgaria
- Saint Marina Hospital

#### Denmark
- Aarhus University Hospital

#### France
- American Hospital of Paris
- Centre Hospitalier de Chambéry
- Centre Hospitalier de Saintonge
- Centre Hospitalier Nord de Marseille - CHU
- Centre Hospitalier Universitaire de Caen
- CHU de Bordeaux - Hôpital du Tondu
- CHU de Bordeaux - Hôpital Saint-André
- CHU de Guadeloupe - Hôpital les Abymes
- CHU de Lille - Hôpital Huriez
- CHU de Limoges - Hôpital Dupuytren
- CHU de Nancy - Hôpital de Brabois
- CHU de Nice - Hôpital Pasteur
- CHU de Reims - Hôpital Robert Debré
- CHU de Rennes - Hôpital Pontchaillou
- CHU de Rouen - Hôpital Charles Nicolle
- CHU de Strasbourg - Hôpital Civil
- CHU de Toulouse - Hôpital Rangueil
- CHU de Tours - Hôpital Bretonneau
- Clinique Aguillera
- Clinique Beau Soleil
- Clinique Chirurgicale du Pre
- Clinique Clement Devron
- Clinique du Palais
- Clinique Francois Chenieux
- Clinique Juge
- Clinique Mathilde
- Clinique Pasteur
- Clinique Saint Georges
- Clinique Saint Nicolas
- Clinique Saint-Michel
- Clinique Sourdille
- Clinique urologique Nantes Atlantis
- Groupe Hospitalier Diaconesses Croix Saint-Simon
- Hôpital de la Croix-Rousse
- Hôpital A. Michallon
- Hôpital Claude Huriez
- Hôpital des Quinze-Vingts
- Hôpital du Val de Grace
- Hôpital Edouard Herriot
- Hôpital Foch
- Hopital Privé la Louviere
- Hopital Saint-Joseph
- Hopitaux Civils de Colmar Hopital Pasteur

### Comorbidities

#### Endocrine Disorders
- Thyroid nodules

#### Musculoskeletal
- Osteoid osteoma

#### Miscellaneous
- Glaucoma

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Commercial Treatment Sites by Region

### Germany
- Agaplesion Diakonieklinikum Hamburg
- Akademisches Lehrkrankenhaus der Universität Freiburg
- Amper Klinik
- Asklepios Klinik Uckermark
- Asklepios Kliniken Weißenfels-Hohenmölsen GmbH
- Borad Zentrale Bottrop
- Bremen Zentrum für Nuklearmedizin und PET/CT
- Brustzentrum Marienhospital Bottrop
- Buergershospital Frankfurt
- Charité Universitätsmedizin Berlin
- Diagnoseklinik Stephansplatz
- Diakonie-Klinikum Stuttgart
- DRK-Seepark Klinik Debstedt GmbH
- Ev. Jung-Stilling-Krankenhaus
- Ev. Krankenhaus Göttingen-Weende e.V.
- Franziskus-Krankenhaus
- Gemeinschaftspraxis für urologie GmbH - Urologische Ambulanz
- GFR Gesundheits-und Pfegezentrum Russelsheim gGmbH-Klinikum

### Switzerland
- HELIOS Klinik Schkeuditz
- Katholisches Klinikum Essen GmbH
- Klinik und Poliklinik für Urologie der Universität Regensburg am Caritaskrankenhaus St. Josef
- Klinikum Fürth
- Klinikum Itzehoe
- Klinikum Konstanz
- Klinikum Nürnberg
- Klinik fuer Prostata-Therapie GmbH
- Krankenhaus Dresden-Friedrichstadt
- Krankenhaus Nordwest
- Marienhospital Arnsberg GmbH
- Marienhospital Stuttgart
- Paracelsus Klinik Golzheim
- Paracelsus Klinik Reichenbach GmbH
- Praxis für Nuklearmedizin Paderborn
- Radiologische Gemeinschaftspraxis
- Rotkreuzklinikum München
- Sankt Katharinen Krankenhaus
- St. Antonius-Hospital
- St. Barbara Hospital
- St. Elisabeth-Krankenhaus Köln-Hohenlind
- St. Elisabeth-Krankenhaus Leipzig
- St. Elisabethen-Krankenhaus der Katharina-Kasper gGmbH
- St. Josefs Hospital GmbH
- Staatliches Klinikum München
- Theresienkrankenhaus Mannheim
- Universitäres Herzzentrum Hamburg GmbH
- Universitätsklinikum Aachen
- Universitätsklinikum Bonn

### Endocrine Disorders
- Thyroid nodules

### Musculoskeletal
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Commercial Treatment

Commercial Treatment Sites by Region

- University Hospital of Cologne
- University Medical Center Lubeck
- University of Munich
- Urologennetz Region Düsseldorf
- Urologische Universitätsklinik Heidelberg
- Zentralklinik Bad Berka

**Israel**
- Chaim Sheba Medical Center
- Israel HIFU Ltd.
- Normed
- Rambam Medical Center

**Italy**
- Alliance Medical, Italy
- Arco dell’Angelo
- Azienda Ospedaliera 'Di Venere - Giovanni XXIII'
- Azienda Ospedaliera A. Cardarelli
- Azienda Ospedaliera S. Maria degli Angeli
- Careggi General Hospital
- Casa di Cura Abano Terme
- Casa di Cura Columbus
- Cisanello Hospital of University of Pisa
- CROB IRCCS Rionero
- European Institute of Oncology
- Foligno Hospital
- INI Divisione Canistro
- INI Divisione Grottaferrata
- Istituto Oncologico Romagnolo

- Laboratorio di Tecnologie Oncologiche (LATO) HSR Giglio, Fondazione Istituto San Raffaele G. Giglio di Cefalu
- Niguarda Hospital
- Nuova Villa Claudia
- Ospedale Cardinal Massaia di Asti
- Ospedale di Massa
- Ospedale di Nocera Inferiore Umberto I
- Ospedale Misericordia e Dolce di Prato
- Ospedale San Bartolomeo di Sarzana
- Ospedale San Giovanni Bosco
- Ospedale San Raffaele Giglio di Cefalu
- Ospedale Sant’ Anna di Como
- P.O. di Castellanza
- P.O. di Este
- Policlinico Gemelli
- Rome American Hospital
- Sora Cancer Centre
- University of L’Aquila
- University of Perugia
- University of Rome - La Sapienza

**Monaco**
- Centre Hospitalier Grace de Monaco

**The Netherlands**
- Amphia Ziekenhuis
- Franciscus Ziekenhuis
- University Medical Center Utrecht
- Zaans Medisch Centrum

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Any site with a focused ultrasound system and regulatory approval from the respective country and currently providing treatments.
# Commercial Treatment

## Commercial Treatment Sites by Region

<table>
<thead>
<tr>
<th>Region</th>
<th>Sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norway</td>
<td>◆ The Intervention Centre, Oslo University Hospital Rikshospitalet</td>
</tr>
<tr>
<td></td>
<td>● ESKULAP Hospital</td>
</tr>
<tr>
<td></td>
<td>● HIFU Clinic Warsaw</td>
</tr>
<tr>
<td></td>
<td>★ Szpital Pro-Familia</td>
</tr>
<tr>
<td>Poland</td>
<td>● ESKULAP Hospital</td>
</tr>
<tr>
<td></td>
<td>● HIFU Clinic Warsaw</td>
</tr>
<tr>
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<td>★ Szpital Pro-Familia</td>
</tr>
<tr>
<td>Romania</td>
<td>• DTL Medica</td>
</tr>
<tr>
<td></td>
<td>★ HIFU Terramed Conformal Centre</td>
</tr>
<tr>
<td>Russia</td>
<td>● Center of Family Planning &amp; Reproduction (CFPR)</td>
</tr>
<tr>
<td></td>
<td>● Central Bank Medical Center</td>
</tr>
<tr>
<td></td>
<td>● Central Institute of Traumatology and Orthopedics</td>
</tr>
<tr>
<td></td>
<td>● City Hospital No. 2</td>
</tr>
<tr>
<td></td>
<td>● Clinical Diagnostis Center Zdorovie</td>
</tr>
<tr>
<td></td>
<td>● Ekaterinburg Regional Hospital N1/Ural Medical University Central Ural Region</td>
</tr>
<tr>
<td></td>
<td>● Far Eastern Federal University</td>
</tr>
<tr>
<td></td>
<td>● Gazprom Medical Centre, Omsk West Siberia Region</td>
</tr>
<tr>
<td></td>
<td>● Hospital of Veterans of War</td>
</tr>
<tr>
<td></td>
<td>● Khanty-Mansiysk Regional Hospital North Siberia</td>
</tr>
<tr>
<td></td>
<td>● Main Military Clinical Burdenko’s Hospital</td>
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<tr>
<td></td>
<td>● Medical Center of Central Bank of Russian Federation</td>
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<td>● Military Medical Academy St. Petersburg</td>
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<td>● Moscow City Clinical Hospital Botkin</td>
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<td>● Moscow Regional Rehabilitation Center of Roszdrav</td>
</tr>
<tr>
<td></td>
<td>● Moscow Regional Research and Clinical Institute</td>
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<tr>
<td></td>
<td>• N. N. Petrov Research Institute of Oncology</td>
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<tr>
<td></td>
<td>● National Medical Surgery Center</td>
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<tr>
<td></td>
<td>● NII of Urology</td>
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<tr>
<td></td>
<td>● Orenbourg Oncology Center</td>
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<td></td>
<td>● Research Center for Obstetrics, Gynecology and Perinatology of Russian Ministry of Health and Social Development</td>
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<td>● Rostov Scientific Research Institute of Oncology</td>
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<td>● Russian Railways (RDZ) Hospital Central Siberia</td>
</tr>
<tr>
<td></td>
<td>● Samara Oncoly Centre</td>
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<tr>
<td></td>
<td>● Saratov City Medical Academy</td>
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<tr>
<td></td>
<td>● St. Petersburg Oncology Dispanser</td>
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<tr>
<td></td>
<td>● The I.M. Sechenov Moscow Medical Academy (MMA)</td>
</tr>
<tr>
<td></td>
<td>● Ufa Oncology Center</td>
</tr>
<tr>
<td>Spain</td>
<td>●Clinica Santa Elena</td>
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<td></td>
<td>● Clinica Virgen Blanca S.A.</td>
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<tr>
<td></td>
<td>● Hospital Gral. Universitario Gregorio Maranon</td>
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<td></td>
<td>● Hospital Universitari Mutua Terrassa</td>
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<td></td>
<td>● IMEX</td>
</tr>
<tr>
<td></td>
<td>● Instituto Cartuja de Tecnicas Avanzadas en Medicina</td>
</tr>
<tr>
<td></td>
<td>● Policlinica San Antonio</td>
</tr>
<tr>
<td></td>
<td>● ResoFus - Centre Medic Alomar</td>
</tr>
</tbody>
</table>

### Endocrine Disorders
- Thyroid nodules
- Osteoid osteoma
- Glaucoma

### Neurological
- Depression*
- Essential tremor
- Neuropathic pain
- OCD*
- Parkinson’s disease
- Trigeminal neuralgia

### Oncological
- Bone metastases
- Liver tumors
- Pancreatic tumors
- Soft tissue tumors

### Urological
- Benign prostatic hyperplasia
- Kidney tumors
- Prostate cancer

### Women’s Health
- Breast cancer
- Breast fibroadenoma
- Uterine adenomyosis
- Uterine fibroids

*Any site with a focused ultrasound system and regulatory approval from the respective country and currently providing treatments.
Commercial Treatment Sites by Region

### Sweden
- Karolinska University Hospital
- Uppsala University Hospital

### Switzerland
- Center for Ultrasound Functional Neurosurgery
  - CHU de Genève
  - CHUV de Lausanne
- Clinique De Montchoisi
  - Clinique Generale Beaulieu
- EOC - Ospedale Regionale di Bellinzona e Valli
- FUS-Center, University of Zurich, Children’s Hospital
  - Geneva University Hospital
  - Hospital de Zone de Nyon
- Inselspital - Universitaetsspital Bern
- Kantonsspital Winterthur
- Universitatsspital Nord

### Turkey
- Penta Elektronik Medikal Sistemler Ankara

### Ukraine
- Kiev City Oncology Hospital

### United Kingdom
- Basingstoke and North Hampshire Hospital
- BMI Goring Hall Hospital
- BMI The Hampshire Clinic
- BMI The Kings Oak Hospital
- Brighton and Sussex University Hospital
- Candover Suite Basingstoke
- Churchill Hospital
- King’s College Hospital
- London Breast Clinic
  - Mount Alvernia Hospital
  - Nottingham University City Hospital
  - Nuada Medical
  - Princess Grace Hospital
  - Spire Parkway Hospital
- St. Mary’s Hospital
- Stepping Hill NHS Hospital
- Sussex Nuffield Hospital
- The Essex Nuffield
- The HIFUClinic Spire Gatwick Park Hospital
- The Institute of Cancer Research
  - The King George Hospital NHS Trust
  - The Princess Royal Hospital NHS Trust
  - The Priory Hospital
  - The Royal Surrey County Hospital NHS Trust
  - The Winterbourne Hospital
- University College London Hospitals

### Endocrine Disorders
- Thryroid nodules

### Musculoskeletal
- Osteoid osteoma

### Miscellaneous
- Glaucoma

### Neurological
- Depression*
- Essential tremor
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Commercial Treatment

Commercial Treatment Sites by Region

China

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
Baoji Maternal and Child Health Hospital
Beijing Cancer Hospital
Beijing Hospital
Chengdu Shuangnan Hospital
Children’s Hospital of Chongqing Medical University
Chongqing Three Gorges Central Hospital
City Hospital of Bincheng District in Binzhou City
Dalian Friendship Hospital
Daxian People’s Hospital
Dengfeng People’s Hospital
Fifth People’s Hospital of Nanchong City
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
Fujian Provincial Hospital
Fuling Center Hospital of Chongqing
Fundan University Shanghai Cancer Center
Guangzhou First Municipal People’s Hospital
Guangzhou Three Municipal People’s Hospital of Hebei
HAIFU Hospital
Haifu Hospital of Tangshan Transportation Group Co. Ltd
Haikou Municipal Hospital
Huabei Oil Field General Hospital Group
Huainan Eastern Hospital
Huanggang Center Hospital
Hubei Maternal and Child Health Hospital
Institute of Ultrasonic Engineering in Medicine and Clinical Centre for Tumour Therapy
Jiangmen Wuyi 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
Lianyungang Orient Hospital
Liaoning Fushun Cancer Hospital
Luoyang Center Hospital
Maternal and Child Health Hospital of Yubei District
Nanshi Hospital
No. 91 Central Hospital of the Liberation Army
Nong Ken Hospital
Obstetric Hospital of Changchun
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)
Shaanshi Maternal and Child Health Hospital
Shandong Cancer Hospital
Shandong Guanqiao Traditional Chinese Medicine Hospital
Shandong Qianfoshan Hospital
Shanxi Traditional Chinese Medicine Hospital

- Endocrine Disorders
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  - Uterine fibroids

* Not in this region

Any site with a focused ultrasound system and regulatory approval from the respective country and currently providing treatments.
### Commercial Treatment Sites by Region

<table>
<thead>
<tr>
<th>Region</th>
<th>Sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>Bharat Scans, Concept Medicare Pvt Ltd, Jaslok Hospital and Research Centre, Rajiv Gandhi Cancer Research Hospital, SRL Diagnostics - Jankharia Imaging, Sunrise Hospital, Women's Center India</td>
</tr>
<tr>
<td>Iran</td>
<td>Pirooz One Day Surgery Clinic</td>
</tr>
<tr>
<td>Japan</td>
<td>Affiliated Hospital of Yokohama University, Aino Hospital, Aizu Chuo Hospital, Breastopia Namba Hospital, Clinical E.T., Fuji Kosei Hospital, Fukuoka Tokushukai Medical Center, Harasanshin Hospital, Hasegama Hospital, Hirakata Civic Hospital, Hiroshima Kosei Hospital, Iseikai Hospital, Itabashi Chuo Medical Center, Tokyo, Iwaki Urological Hospital, Japan Affiliated Hospital of Chiba University, Kashiwa Forest Clinic</td>
</tr>
</tbody>
</table>

### Commerical Treatment Centers for Other Indications

- First Affiliated Hospital of Medical College of Xi’an Jiaotong University
- Foshan Hospital
- Peking Union Medical Center
- Queen Mary Hospital of the University of Hong Kong
- The First Affiliated Hospital of Chongqing Medical University

### Conditions Treated

#### Endocrine Disorders
- Thyroid nodules

#### Musculoskeletal
- Osteoid osteoma

#### Miscellaneous
- Glaucoma*

#### Neurological
- Depression
- Essential tremor
- Neuropathic pain*
- OCD
- Parkinson’s disease
- Trigeminal neuralgia*

#### Oncological
- Bone metastases
- Liver tumors
- Pancreatic tumors
- Soft tissue tumors

#### Urological
- Benign prostatic hyperplasia
- Kidney tumors
- Prostate cancer

#### Women’s Health
- Breast cancer
- Breast fibroadenoma
- Uterine adenomyosis
- Uterine fibroids
  * Not in this region

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Any site with a focused ultrasound system and regulatory approval from the respective country and currently providing treatments.
## Commercial Treatment Sites by Region

<table>
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<tr>
<th>Region</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Kazakhstan</td>
<td>National Medical Research Center</td>
</tr>
<tr>
<td></td>
<td>Kobe Saisei Mirai Clinic</td>
</tr>
<tr>
<td>Lebanon</td>
<td>Bellevue Medical Center</td>
</tr>
<tr>
<td>Kingdom of Saudi Arabia</td>
<td>King Fahad Medical City</td>
</tr>
<tr>
<td></td>
<td>King Khalid University Hospital</td>
</tr>
<tr>
<td>Malaysia</td>
<td>Hospital Universiti of Sains Malaysia</td>
</tr>
<tr>
<td>Qatar</td>
<td>Sidra Medical and Research Center</td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>CHA Bundang Medical Center</td>
</tr>
<tr>
<td></td>
<td>Chaum Hospital</td>
</tr>
<tr>
<td></td>
<td>Dongtan Jeil Women’s Hospital</td>
</tr>
<tr>
<td></td>
<td>Echo Healthcare</td>
</tr>
<tr>
<td></td>
<td>Heryoojae Women’s Hospital</td>
</tr>
<tr>
<td></td>
<td>Hwamyeong Ilsin Christian Hospital</td>
</tr>
<tr>
<td></td>
<td>I Jeil OBGY Clinic</td>
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<tr>
<td></td>
<td>Incheon Christian Hospital</td>
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<tr>
<td></td>
<td>Incheon St. Mary’s Hospital of the Catholic University</td>
</tr>
<tr>
<td></td>
<td>Kohwoon Women’s Hospital</td>
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<tr>
<td></td>
<td>Medisum OBGY Clinic</td>
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<tr>
<td></td>
<td>Mizmoa Women’s Clinic</td>
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<tr>
<td></td>
<td>Samsung Medical Center</td>
</tr>
<tr>
<td></td>
<td>Yonsei University Health System</td>
</tr>
<tr>
<td></td>
<td>YUMC Severance Hospital</td>
</tr>
<tr>
<td>Singapore</td>
<td>KK Women and Children’s Hospital</td>
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### Conditions Treated

<table>
<thead>
<tr>
<th>Category</th>
<th>Conditions</th>
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</thead>
<tbody>
<tr>
<td><strong>Endocrine Disorders</strong></td>
<td>Thyroid nodules</td>
</tr>
<tr>
<td><strong>Musculoskeletal</strong></td>
<td>Osteoid osteoma</td>
</tr>
<tr>
<td><strong>Miscellaneous</strong></td>
<td>Glaucoma*</td>
</tr>
<tr>
<td><strong>Neurological</strong></td>
<td>Depression</td>
</tr>
<tr>
<td></td>
<td>Essential tremor</td>
</tr>
<tr>
<td></td>
<td>Neuropathic pain*</td>
</tr>
<tr>
<td></td>
<td>OCD</td>
</tr>
<tr>
<td></td>
<td>Parkinson’s disease</td>
</tr>
<tr>
<td></td>
<td>Trigeminal neuralgia*</td>
</tr>
<tr>
<td><strong>Oncological</strong></td>
<td>Bone metastases</td>
</tr>
<tr>
<td></td>
<td>Liver tumors</td>
</tr>
<tr>
<td></td>
<td>Pancreatic tumors</td>
</tr>
<tr>
<td></td>
<td>Soft tissue tumors</td>
</tr>
<tr>
<td><strong>Urological</strong></td>
<td>Benign prostatic hyperplasia</td>
</tr>
<tr>
<td></td>
<td>Kidney tumors</td>
</tr>
<tr>
<td></td>
<td>Prostate cancer*</td>
</tr>
<tr>
<td><strong>Women’s Health</strong></td>
<td>Breast cancer</td>
</tr>
<tr>
<td></td>
<td>Breast fibroadenoma</td>
</tr>
<tr>
<td></td>
<td>Uterine adenomyosis</td>
</tr>
<tr>
<td></td>
<td>Uterine fibroids</td>
</tr>
</tbody>
</table>

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Commercial Treatment

Commercial Treatment Sites by Region

**Taiwan**
- Cardinal Tien Hospital
- Chang Gung Memorial Hospital (Chiayi)
- Chang Gung Memorial Hospital (Keelung)
- Chang Gung Memorial Hospital (Linkou)
- Chang Gung Memorial Hospital (Taipei)
- Changhua Christian Hospital
- China Medical University Beigang Hospital
- China Medical University Hospital
- Dermacare
- E-Da Hospital
- Kaoshiung Veterans General Hospital
- Mackay Memorial Hospital
- New Taipei City Hospital Banciao Branch
- New Taipei City Hospital Sanchong Branch
- Taichung Veterans General Hospital
- Taipei Medical University Hospital
- Tung’s Taichung MetroHarbor Hospital

**Thailand**
- Chularat 9 Airport Hospital
- Samitivej Sukhumvit Hospital
- Samitivej Hospital
- Samitivej Hospital

**United Arab Emirates**
- Al Zahra Hospital

**Uzbekistan**
- Samarkand Urology Center

**Vietnam**
- Bao Son Hospital
- Phuc An Khang Hospital

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**Endocrine Disorders**
- Thyroid nodules
- 

**Musculoskeletal**
- Osteoid osteoma
- 

**Miscellaneous**
- Glaucoma*
- 

**Neurological**
- Depression
- Essential tremor
- Neuropathic pain*
- OCD
- Parkinson’s disease
- Trigeminal neuralgia*
- 

**Oncological**
- Bone metastases
- Liver tumors
- Pancreatic tumors
- Soft tissue tumors
- 

**Urological**
- Benign prostatic hyperplasia
- Kidney tumors
- Prostate cancer
- 

**Women’s Health**
- Breast cancer
- Breast fibroadenoma
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## Commercial Treatment Sites by Region

<table>
<thead>
<tr>
<th>Region</th>
<th>Commercial Treatment Sites</th>
</tr>
</thead>
</table>
| **Australia** | ✭ Future Medical Imaging Group (FMIG)  
                ✭ The Royal Women’s Hospital Melbourne |
| **Egypt**   | ✯ EgyHiFu |
| **South Africa** | ✦ Netcare Christiaan Barnard Memorial Hospital |

### Commercial Treatment

**Endocrine Disorders**
- ▲ Thyroid nodules
- ✦ Osteoid osteoma*
- ✦ Glaucoma*

**Musculoskeletal**
- ■ Depression*
- ■ Essential tremor*
- ■ Neuropathic pain*
- ■ OCD*
- ■ Parkinson’s disease*
- ■ Trigeminal neuralgia*

**Neurological**
- ■ Depression*
- ■ Essential tremor*
- ■ Neuropathic pain*
- ■ OCD*
- ■ Parkinson’s disease*
- ■ Trigeminal neuralgia*

**Oncological**
- ✦ Bone metastases*
- ✦ Liver tumors*
- ✦ Pancreatic tumors*
- ✦ Soft tissue tumors*

**Urological**
- ✦ Benign prostatic hyperplasia*
- ✦ Kidney tumors*
- ✦ Prostate cancer

**Women’s Health**
- ✯ Breast cancer*
- ✯ Breast fibroadenoma
- ✯ Uterine adenomyosis*
- ✯ Uterine fibroids

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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: engagement@fusfoundation.org.