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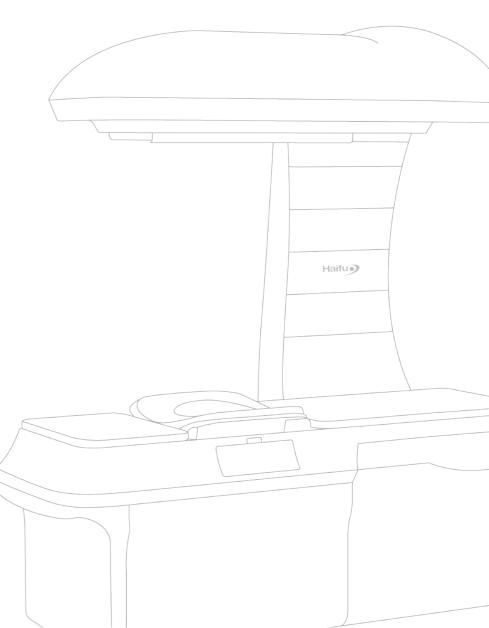
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# HAIFU MEDICAL

Haifu Focused Ultrasound Tumor Therapeutic System





#### Haifu Medical

Treatments — minimize harm to patients!



Diseases that Harm Require Therapies that Harm Less

--Sir William Osler

## **INTEGRATED SOLUTIONS**

Medical Device



Haifu Focused Ultrasound Tumor Therapeutic System

Smart Treatment Planning System (TPS)

3D Image Processing System

Operation Platform Set-up



Development of Clinical Protocols and Solutions

Academic Platform Set-up

Collaborative Research Solutions

Tele-medicine Service Center Global HIFU Training Program



Tele-medicine Diagnosis and Treatment Planning

Tele-medicine Medical Consultation

Remote System Monitoring and Maintenance

International Standards for HIFU Training

Resources Sharing Based on a Global Team of Experts

Collaborative Integration Platform for Global Medical Philosophies

# JC200

World-leading Technology: a Revolution in Non-invasive Treatment

#### **High Intensity Focused Ultrasound (HIFU)**

As a non-invasive therapy, HIFU ablation, by utilizing the physical properties of ultrasound such as good tissue penetration and focusability, can precisely focus the ex-corporal emitted low-intensity ultrasound beam onto the target lesion inside the body. The focal sound intensity amplified tens of thousands of times and hyperthermia ranging between 65-100°C is instantly generated. Irreversible coagulative necrosis of the target tissue is achieved by the collective thermal, cavitation, mechanical and sonochemical effects of focused ultrasound, so as to meet the goal of quick, precise and non-invasive treatment.

#### Indications

Liver tumors

Bone tumors

Breast tumors

Uterine fibroids

Soft tissue tumors

03 Auxiliary System Control System Water Treatment Cabinet Treatment System Safety Protection System Smart Treatment Planning System (TPS)  $\widehat{+}$ Multifunctional Image-guided Monitoring System Ultrasonic Driving System Image Data Management System: HIFU MARS Enhanced Focused Ultrasound Transducer Multi-dimensional Precise Target Locating System

02





Digital Full-body Ultrasonic Scanner provides sharp tumor images in real time and tracks the whole treatment process



### 

Multi-axis motion - global dynamic trajectory engine

The six-axis motion system ensures the free access of focal point in the three-dimensional space of the tumor, allowing better image acquisition and observation

Positioning with sub-millimeter precision

Multi-dimensional conformal positioning to achieve precise control and conformal ablation



### Precise Dosing

Fully automatic tracking and recording of single-point treatment parameters

Optimization of the dose distribution Treatment efficacy tracking

Full coverage of region of interest Individualized treatment planning



### Precise "Surgical" Margin

Focused Ultrasound Transducer

Small Focus, Strong Acoustic Intensity, Better Acoustic Focusing, Precise Control

The transition zone between the treated and non-treated tissue is less than 6-cell width

### AN INTEGRATED SYSTEMIC FUSION

A comprehensive solution to achieve rapid, precise and efficient focused ultrasound ablation therapy with a new model of integrated treatment

### One-stop Strategy for Diagnosis and Therapy



Precise simulation and positioning guidance with diagnostic-quality multifunctional images

Real-time efficacy evaluation of grayscale imaging before and after treatment

Diagnosis-treatment one-stop solution to streamline clinical workout













Seamless Multi-system Link



Shared database to ensure data synchronization, accuracy, security, efficiency and interconnectivity of between multiple systems

- o Smart Treatment Planning System (TPS)
- O IGRT Multifunctional Image-guided Monitoring System
- Olmage Data Management System: HIFU MARS



### **CLINICAL ADVANTAGES**



One-time Treatment

Full coverage of targeted treatment area



Non-invasive treatment with no incision and no bleeding, preserving organ structure and function

Precise HIFU treatment



High 3D conformability



No limitations on the tolerance dose of therapies such as radiotherapy or

chemotherapy

No distinction between oxygen-rich cell and hypoxic cells

 $\langle \hat{\mathcal{A}} \rangle$ 

Activation of host's anti-tumor immunity

No radiation

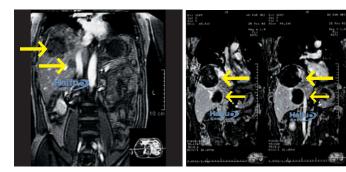
Green therapy



Up to the standards of the Technical Management Specification for Focused Ultrasound Ablation Surgery (Expert Consensus 2020)

Screening Diagnosis Treatment Post-operative care

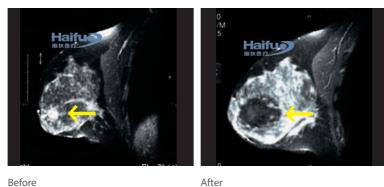
#### Liver Cancer Primary liver cancer, 62-year-old male



After

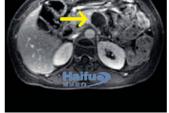
As the lesion was adjacent to the roof of the diaphragm, as well as the inferior vena cava and the portal venous system, MRI suggested that there was still blood supply in the lesion after 5 times of RF and 2 times of TACE, indicating the presence of residuals. HIFU treatment achieved complete ablation of the tumor with the surrounding vessels intact

#### **Breast Cancer** Right-sided breast cancer, 46-year-old female



Pre-treatment MRI showed an abundant blood supply in a 10-mm tumor. With a 30-mm ablation area, the blood supply of the treated region disappeared

Tumor of pancreatic body and tail 46-year-old female

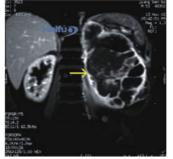


After

Pancreatic Cancer

Upper and lower diameter of 34mm, left and right diameter of 39mm, and anterior-posterior diameter of 25mm; Follow-up MRI conducted after HIFU treatment

Renal cancer (f) Left-sided renal metastasis after pelvic surgery 53-year-old male





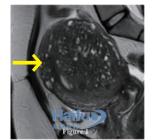
Before After
Before treatment, MRI showed that the left-sided renal metastasis was heterogeneously enhanced. After treatment, the tumor was ablated completely with a thin linear band

## **QUALIFICATIONS**

- Haifu Focused Ultrasound Tumor Therapeutic Systems (JC series) have been installed in 29 countries and regions;
- The JC series have got 16 approvals including CE, KFDA, SFDA, GOST in 43 countries and regions;
- Haifu Medical has gained about 560 patents globally.

\*Data collected by July 2022.

#### Adenomyosis Adenomyosis 23 year-old Female



Before

Before





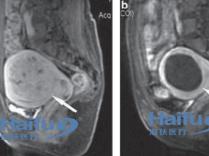
3 months after

This is a single lady with severe painful menses. Figure 1 shows that she has a large posterior adenomyosis. Figure 2 shows the contrast MRI of the same patient. In this patient HIFU need to be done carefully so as to preserve the endometrial cavity. Her HIFU sonication time was 800s. Figure 3 is contrast MRI done one day after HIFU. It shows the ablated areas of adenomyosis which appears as darker areas on the contrast MRI. Figure 4 shows 3 months after HIFU the lesion has shrunk

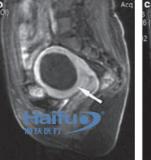
1 day after

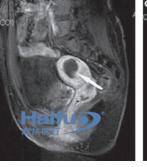
Uterine fibroids 39-year-old female

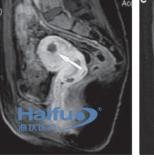
Before

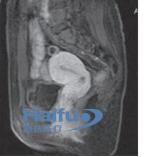


1 month after









12 months after

24 months after

6 months after

The lesion shrank 1/6/12 month(s) after HIFU treatment and disappeared after 24 months

