MR guided Focused Ultrasound with ExAblate 2000

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What is MR guided Focused Ultrasound Surgery?
MR guided Focused Ultrasound Surgery is a non-invasive, outpatient procedure which uses high doses of focused ultrasound waves (HIFU) to destroy uterine fibroids, without affecting any of the other tissues around the fibroid. The procedure is conducted in a magnetic resonance imaging (MRI) scanner which helps the physician "see" inside the body to pinpoint, guide, and continuously monitor the treatment.

Imagine using a magnifying glass to focus the sun's energy on a single point to create a flame to burn a leaf. The focused ultrasound energy is directed at a small volume of the fibroid, raising its temperature high enough to cause thermal ablation (killing of the cells) without impacting other tissues. Pulses of energy are repeated until the entire volume is treated.

What does the MR guidance provide?
Magnetic resonance imaging (MRI) is advanced diagnostic technology which provides 3D imaging of internal organs without radiation. The MR guided FUS treatment uses the MR images to identify where the fibroid is and what portion has been treated, without the need for any incisions. It also provides real time feedback about temperature changes of the treated fibroid to make sure that the fibrotic tissue has been ablated (destroyed).

What happens during the procedure?
During the procedure you lie on your stomach on a patient table that fits into a standard MRI scanner.
First, the doctor identifies the fibroid(s) on MR images taken of your pelvic region. Then, after detailed planning, high energy focused ultrasound waves heat a small spot in the uterine fibroid to a
temperature of up to 85°C. During the pulse or sonication, which lasts about 15 seconds, the doctor monitors the progress and reviews temperature-sensitive images. Since each sonication treats a very small volume, this process will be repeated until the required volume is treated, typically about 50 times. The procedure lasts about 3 hours depending upon the size and number of fibroids treated. Following the treatment the body gradually removes the treated tissue over a period of months, providing symptom relief.

**What should I experience during the treatment?**

Before treatment you are given a sedative and pain medication to help you relax. You lie on a patient table and are made comfortable before starting treatment. The treatment takes place with you lying on the patient table inside the MR scanner. Your clinical team will be in the next room with two-way communication using a microphone and a speaker. The doctor will inform you when images are being acquired (scanning) and when the system is sonicating (treatment). During treatment, it is normal to feel a warming sensation in the pelvic region. You will be given a safety stop button that allows you to immediately stop the sonication if the treatment becomes painful.

You are conscious the entire time and provide feedback during the procedure to the physician. Afterwards you'll be asked to rest for a few hours in the clinic, while the mild sedation wears off. Then you'll be able to go home and resume normal activity.

**How do I know if I'm a candidate for MR guided FUS?**

If you require treatment for your fibroid related symptoms, but want to avoid surgery and preserve your uterus, consult your doctor, who will ask you questions about your fibroid symptoms, general health and medical history. You will also have routine blood work, an internal gynecological examination and MR imaging of your fibroids. Based on this information your doctor will decide if you are a candidate for MR guided FUS.

**How do I find out more about the procedure?**

Contact the clinical coordinator at one of the sites under treatment locations. The clinical coordinator will step you through the screening procedure and help you determine if ExAblate is the right choice for you. The following procedure usually takes place once you call the clinical coordinator:

- **Initial telephone conversation:** to provide more details on what the procedure entails and answer any questions you may have on the procedure. Information about insurance coverage and/or clinical trials may also be discussed. The clinical coordinator can send you a patient guide and additional information about the procedure.
- **Preliminary screening:** if ExAblate is an option you wish to consider, the clinical coordinator will set up a preliminary screening for you to determine if you are a potential candidate for ExAblate.
- **MRI screening:** once you have been determined a potential candidate, you will be invited for an MRI exam. This is called the "Screening Exam" to determine if your fibroids are amenable for treatment. If your fibroids are treatable by ExAblate (meaning that they are reachable by the system), these MR images will also aid your physician in preparing a treatment plan for your fibroids.
- **Scheduling treatment:** If you are eligible for the treatment, your clinical coordinator will then arrange a time and date for you to be treated, as well as provide you with instructions on how to prepare for the procedure. The clinical coordinator will also discuss with you post-procedure follow-up and expectations.

**References:**

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Would you like you like more information on Exablate or MR guided Fus?

Video of how MR Guided Focused Ultrasound works (5Mb)

High Intensity Focused Ultrasound (HIFU) - Imagine the technology to see inside your body, visualize your fibroid and treat it without incisions.

Click here to download Patient Pamphlet (PDF 2MB)

Fibroid Form - This is a moderated forum where you can ask your questions about fibroids and receive answers from other women and medical professionals.

Fibroid Resource Center
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