



MRI guided Focused Ultrasound (MRgFUS) for uterine fibroids

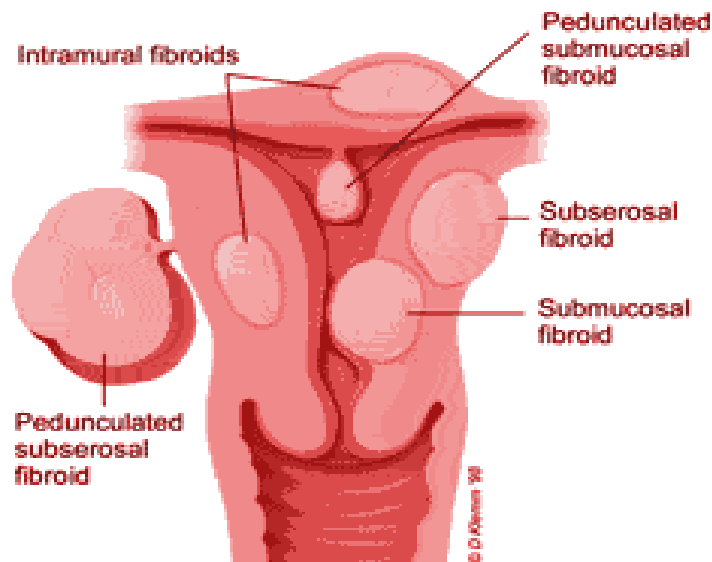
Information for patients

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What are Fibroids?

Fibroids are abnormal growths of the muscle wall of the womb or uterus. Uterine fibroids are the most common tumours of the female genital tract. You might hear them referred to as "fibroids" or by several other names, including leiomyoma, leiomyomata, myoma and fibromyoma. Fibroids are non-cancerous (benign) growths. While fibroids do not always cause symptoms, their size and location can lead to problems for some women including painful or heavy periods and pressure symptoms. Fibroids may occur in a number of locations. They most commonly lie in the wall of the uterus (intramural fibroids) but may protrude either outside the uterus or into the cavity of the uterus.



How common are fibroids?

Uterine fibroids are very common. The number of women who have fibroids increases with age until menopause: about 20 percent of women in their 20s have fibroids, 30 percent in their 30s and 40 percent in their 40s. From 20 percent to 40 percent of women aged 35 and older have uterine fibroids of a significant size. Fibroids are more common in certain ethnic groups.

Do fibroids need treatment?

Fibroids are very common and do not necessarily require any treatment at all. The most common indications for treatment are pain, heavy menstrual bleeding or pressure on adjacent organs such as the bladder.

What treatments are available?

Your gynaecologist is the person best qualified to discuss the various treatment options with you. The choice of treatment is highly individual and tailored to individual circumstances.

Medical treatment with tablets or injections manipulate hormones that affect fibroid growth but fibroids tend to regrow on discontinuation of treatment.

Myomectomy is a surgical procedure that removes just the fibroids, not the entire uterus. Various types of myomectomy may be possible depending on the type and location of the fibroids, including minimally invasive laparoscopic and hysteroscopic myomectomy. This is most commonly used in younger women who wish to maintain their ability to have a child.

Hysterectomy is the most common current therapy for women who have fibroids and is effective in essentially all cases in which bleeding is a problem. It usually resolves the pain or urinary symptoms that women may have. It is typically performed in women who do not wish to have more children.

Endometrial Ablation is a treatment particularly suited to subendometrial fibroids which lie under the lining of the cavity of the uterus. It is performed by gynaecologists via a camera inserted through the cervix and is particularly suitable when heavy bleeding is the dominant symptom.

Uterine fibroid embolisation (UFE), also known as **Uterine artery embolisation (UAE)** is a minimally invasive treatment that is performed under x-ray guidance and shrinks fibroids by blocking the blood supply.

MRI Guided Focused Ultrasound Ablation (MRgFUS), which focuses ultrasound waves on the fibroids and destroys them by heat treatment under MRI imaging guidance.

What is MRgFUS

MR guided Focused Ultrasound (MRgFUS) is a non-invasive, out-patient procedure which uses focused ultrasound waves 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 radiologist “see” inside the body to pinpoint, guide, and continuously monitor the treatment. 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.



MRgFUS may be used to treat benign uterine fibroids (myomas) without surgery. This incision-free, uterine-sparing approach offers an important alternative to treatments such as hysterectomy, myomectomy and UAE (uterine artery embolisation).

Adenomyosis

Adenomyosis is a condition in which parts of the lining of the uterus, the endometrium, become embedded in the muscle wall. It often occurs in association with fibroids or may present on its own. Adenomyosis causes similar symptoms of painful and heavy periods and can also be treated by MRgFUS in the very same way as fibroids.

Who is involved?

A team of people is involved in the MRgFUS procedure.

Your General Practitioner or gynaecologist will need to refer you to the Birmingham Fibroid Clinic at Spire Parkway Hospital.

Consultant Interventional Radiologist – Dr. Paul Crowe

Consultant Gynaecologist - Miss Shirin Irani, who works with Dr. Crowe to offer the full range of minimally invasive fibroid treatment options.

MRgFUS Specialist Nurse – Sue Hook who will liaise with you prior to your procedure be the main point of contact For follow up.

Specialist MRgFUS Radiographers – Emily Wittan and Louise Chew.

MRgFUS Patient Co-ordinator - Cavell Farnell

Your GP who is kept informed about the procedure.

What is involved before the procedure?

Referral

You may have been referred to the interventional radiologist by your gynaecologist who will have performed an examination and possibly arranged imaging tests such as an ultrasound or MRI scan. If you are referred directly by your GP arrangements can be made for you to see consultant gynaecologist Miss Shirin Irani at Spire Parkway Hospital

Initial Assessment Visit

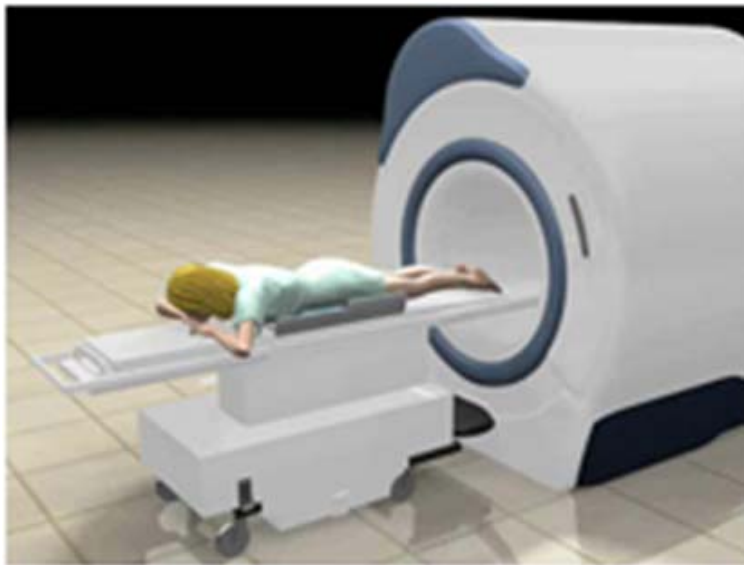
Although you will probably already have had an ultrasound scan we routinely perform an MRI scan before proceeding to MRgFUS. MRI very accurately defines the size and location of the fibroids and, more importantly excludes other conditions that can mimic fibroids. A one-stop clinic on Tuesday afternoons at Spire Parkway Hospital allows you to have an MRI scan done which is reported immediately by Dr. Crowe and you can then see Miss Irani and Dr. Crowe in Out-Patient consulting suites to discuss the scan findings and treatment options.

The Day of the Procedure

On the day of the procedure you will be admitted and clerked in by the nursing staff. A pregnancy test is routinely performed prior to the procedure. It is routine to insert a bladder catheter. This is for your own comfort as you will need to lie flat for a few hours during but also because filling of the bladder with urine during the treatment would displace the uterus and move the fibroids.

Before the procedure you will be given a suppository of a long acting anti-inflammatory pain killer. The MRgFUS procedure is not particularly painful and we aim to prevent pain rather than wait until it happen. Paracetamol is also given by intravenous infusion during the treatment.

Great care is taken to ensure that you are in a comfortable position before the treatment starts. For the treatment you will lie on your tummy with the fibroid positioned directly over the ultrasound transducer. A gel pad is placed on the table to establish direct contact with the skin. A coil is placed over the pelvis to aid imaging and you slide into the MRI scanner feet first.



Some initial MRI scans are performed and the treatment is planned by the radiographer and interventional radiologist on the workstation in the control area. The area to be treated is plotted on the scans with markers to avoid any encroachment of the ultrasound energy on other organs, particularly bowel. Treatment or sonication is then commenced.



During the treatment you may experience a mild heating sensation in the pelvis. If you are uncomfortable you can at any time stop the sonication by pressing a button that will be given to you at the start of the treatment. The duration of the treatment depends on the size and number of fibroids being treated and also on other factors such as the blood supply. For larger fibroids treatment can

take up to 3-4 hours. Throughout this time staff in the MRI control room will be in touch with you via an intercom and will come into the scan room periodically.

On completion of the treatment a final MRI scan is obtained and you will then be assisted off the scanner table and back to your room. You can then have something to eat or drink and will be kept in the hospital for a few hours to ensure the sedation has fully worn off. You should not drive yourself home and should arrange to be collected.

After MRgFUS

Your nurse who was with you throughout your treatment will telephone you the following morning to check on your recovery and to answer any queries you may have.

You may experience some abdominal pain or pelvic pain which may be like period pain. Some mild cramping or nausea may also occur but usually only requires over the counter type medications. Most patients have no problems following the procedure and can return to work and normal activities in 1-2 days.

Occasionally MRgFUS may cause redness of your abdominal skin, firmness in the area of treatment, minor pain, skin burns, bleeding and/or bruising. These effects would be visible immediately after treatment and if present usually resolve within 10 days. If any sign of any skin reddening appears after leaving hospital please discuss this with your MRgFUS Nurse at the time of the follow up phone call. You will be given a direct dial phone number to call the MRgFUS team in the event of any concerns post treatment.

Occasionally irregular menstrual bleeding can occur for a few weeks after the procedure and settles without treatment. Passing a catheter into your bladder can occasionally cause burning and frequency of passing urine due to a urinary tract infection. If this occurs please you should contact your GP who will be able to treat you with a suitable antibiotic. The MRgFUS team sends a detailed discharge letter to your GP who will be kept fully informed.

Follow up

Following your initial telephone follow up the day after the procedure arrangements will be made for a follow up MRI scan at 6 months. Obviously you can be seen earlier if there are any concern.

What are the Possible Complications?

Skin Burns

Mild skin irritation can occur due to the heating effect of the ultrasound treatment. This may resemble mild sunburn and usually does not require any treatment. Occasionally some lumpiness may be noticed in the superficial fat at the site of treatment.

Bowel Injury

This is an extremely rare complication and great care is taken when planning treatment to avoid tissues other than the fibroids. It is particularly important to avoid any loops of bowel close to the fibroids as bowel injury could lead to bowel perforation that would necessitate open surgery. The ability to accurately visualise bowel and plan surgery is what makes MRgFUS a safer procedure than other forms of fibroid ablation that rely in ultrasound scanning alone.

Periods

You may experience some spotting in the few days following treatment and it is possible that your initial period following an MRgFUS treatment may be heavy.

Pregnancy

One of the attractions of MRgFUS treatment is that by avoiding hysterectomy it can keep fertility options open. As yet there are still relatively small numbers of reports cases (approximately 150 successful pregnancies around the world) but indications are that MRgFUS may be a safer option than other types of fibroid treatment if future pregnancy is desired. We would however advise that you wait until after your 6 month follow up MRI scan before trying to conceive.

Audit and research

As MRgFUS is still a relatively new procedure the National Institute for Clinical Excellence (NICE) requires centres offering the treatment to participate in regular audit. We also conduct our own research but will only use your information in an anonymised format and with your consent.

Further Information

There is a wealth of information available on the internet. The following is a selection:

www.birminghamfibroidclinic.co.uk

www.drpaulcrowe.com

www.spireparkway.com

www.insightec.com

www.femisa.org.uk

UK patient support group

If you have any queries having read this leaflet please do not hesitate to get in touch.

Spire Parkway Hospital MR Therapy centre 0121 – 704 7603

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www.birminghamfibroidclinic.co.uk

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