Uterine artery embolisation (fibroid embolisation)

Information for patients

This leaflet aims to provide you with information about uterine fibroids and a treatment called uterine artery embolisation (UAE). You may already have heard about the technique, as in October 2004 the National Institute of Clinical Excellence (NICE) established the procedure as safe enough for routine use. This leaflet explains what we know about the benefits and risks of UAE and will hopefully help you to make a decision about whether UAE is suitable for you.

What are Fibroids?

Fibroids are benign, non-cancerous growths which develop in the wall of the uterus or womb. They are present in about 1 in 4 women over the age of 30. Many women go through life unaware of them, and after the menopause (or ‘change’) they often shrink away. Some women with fibroids have pain or heavy bleeding during their periods while others may find that the fibroids cause pressure symptoms either in the tummy generally or maybe on the bladder. A few women may have difficulty getting pregnant. It should be remembered that other conditions may cause similar symptoms. Your gynaecologist will advise you whether your symptoms are likely to be due to fibroids or another condition. There are different types of fibroids and their name depends on their location (see below).

[Diagram of fibroids in the uterus]

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How common are fibroids?

Uterine fibroids are very common. The number of women who have fibroids increases with age until menopause: about 20% of women in their 20s have fibroids, 30% in their 30s and 40% in their 40s. From 20 to 40% 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.

Diagnosis of fibroids

Fibroids may be suspected at examination by your GP or gynecologist, but are most commonly confirmed by means of an ultrasound scan. Magnetic resonance imaging (MRI) is another painless scanning technique that is used to show the fibroids, and also to measure their response to treatment.

Hysteroscopy may be used to assess fibroids and exclude other diseases. This involves passing a small telescope through the vagina under anaesthetic to see the uterine cavity. Laparoscopy involves the passing of a telescope through a small cut in the umbilicus (tummy button) to examine the outer surface of the uterus and the ovaries. It is not usually performed for fibroids, but it is used to exclude other diseases.

Treatment options

Waiting
In older patients, and if symptoms are not severe, waiting until the menopause occurs may be sufficient, as fibroids shrink after this. However, if you are taking hormone replacement therapy (HRT) the fibroids may continue to grow.

Drugs
Hormonal treatment is not very effective. A special type of hormone, GnRH, may reduce the size of the fibroids, but the treatment has side effects such as osteoporosis, and when it is stopped the fibroids tend to come back again.

Surgery
The most effective treatment for fibroids is hysterectomy. The uterus is removed, providing a permanent cure but this is a major operation, and women often take 6 weeks to 3 months to recover and return to work. It is impossible to become
pregnant following hysterectomy, so it is unsuitable for those wishing to have children, and many other women wish to avoid a hysterectomy if possible.

Fibroids can be removed from the uterus leaving the main part of the muscle behind (myomectomy). This preserves the ability to have children but can cause scarring in the pelvis, and occasionally if the operation is complicated, a hysterectomy may be required.

Other surgical procedures to remove fibroid tissue but preserve the womb include **hysteroscopic resection** (cutting out part or all of fibroid by laser or electric currents via a telescope passed through the abdominal wall under anaesthetic).

**Uterine Fibroid Embolisation**

Embolisation is the process of causing an organ or tumour to reduce in size by blocking its blood supply. This can be achieved using a number of different materials such as foam particles, metal coils or, as in the case of fibroid embolization, polyvinyl alcohol (PVA) particles specially designed for this purpose. The interventional Radiologist performing the procedure has experience on this type of work and is supported by a team of specialist nurses and radiographers in the interventional room.

**Who is involved?**

Your Gynaecologist who refers you for the procedure and performs the necessary examination and investigations beforehand and may follow you up post procedure. He/she may have arranged for you to have an MRI scan. Embolisation may not be the most appropriate treatment for fibroids in many cases and your gynaecologist can explain the various options.

A Consultant Interventional Radiologist who performs the actual embolization procedure is an experienced Consultant Interventionalist who specializes in this field of radiology. You will meet them before your procedure to discuss the MRI results and to discuss whether embolization is a suitable treatment option for you.

Gynaecology pre assessment nurse – once we know that you are a suitable candidate for UAE, we will arrange a pre assessment clinic appointment where you will be seen by a nurse. A short assessment will be undertaken and if needed you will be given request forms for blood tests to be taken prior to your UAE procedure.

Interventional nursing staff – our interventional nursing team work specifically within the X-ray department. They work closely with the radiographers and Consultant radiologists.
Interventional radiographers – our specially trained radiographers ensure that the area we work in is safe and that you receive the lowest possible dose of radiation whilst ensuring good image quality.

Nursing staff on Brockham ward – all gynaecological patients are looked after on Brockham ward. The ward staff have experience in post-operative/post procedure care of gynaecological patients.

**Admission procedure**

Following your MRI scan and discussion with the Interventional Radiologist regarding the risks and benefits of UAE, you will be sent an appointment for the pre assessment clinic and also a date for your procedure.

Prior to your admission you should ensure that you have the following over the counter medications at home to take once you are discharged:

Paracetamol 500mgs, Ibuprofen 400mgs – for control of any pain.

Senna tablets and/or lactulose – to prevent constipation.

On the day of your procedure you will be admitted to the Radiology Day Case unit (in the main X-ray department). You will be advised about what you can eat and drink before the procedure at your pre assessment clinic appointment. It is advisable to take any morning medication before 8am.

You will need to report to the reception desk in the main X-ray department and a member of the nursing team will collect you. You can bring a family member/friend who can stay with you in the day case unit.

Please ensure that you bring with you all that you might need for an overnight stay including any medication you normally take.

You should ensure that there is someone available to collect you the next day and be available to stay with you overnight on your first night at home. You are not allowed to drive for 3 days following the procedure.

There is always a small risk that your procedure will have to be cancelled due to unexpected emergency admissions but we will keep you informed and ensure that we contact you to arrange a new appointment date if this happens.
Pre procedure preparation

As part of the preparation for the UAE procedure the nurse will:

- Shave your groin area on both sides. You may wish to do this at home the night before and this can be checked by the nurse.
- Insert a urinary catheter into your bladder to prevent the bladder filling during the procedure and to help you remain as comfortable as possible during and after the procedure.
- Obtain a urine specimen so that a pregnancy test can be undertaken to ensure that there is no possibility of pregnancy.
- Insert a cannula (small plastic tube) into one of the veins in your arm so that intravenous drugs and fluids can be administered before, during and after the procedure.
- A rectal suppository may be given containing a drug called Diclofenac. Diclofenac is a NSAID (non-steroidal anti-inflammatory drug) which reduces inflammation and pain. It is given as a rectal suppository before the start of the procedure and aids your comfort during and after the UAE.
- Antibiotics will be given before the procedure via the cannula in your arm which will help prevent any infection issues following the embolisation.
- A drug to help prevent nausea/vomiting will also be given before the procedure to ensure your well-being.

A pre procedure check list will be completed to ensure that you are fully prepared for the procedure.
The Consultant interventional radiologist will go through the procedure again with you and answer any questions you may have and ask you to sign a consent agreeing to the procedure.

CONSENT

It is important that you understand that as part of the consent process it is stated that ‘the procedure (UAE) is contraindicated in women who are unwilling to have a hysterectomy in any circumstances…’BFCR(09)1.

During the consent process you will be informed that the symptoms may not be relieved in some women, that symptoms may return and that further procedures may be needed. Patients contemplating pregnancy should also be informed that the effects of the procedure on fertility and pregnancy are uncertain.

Please feel free to ask any further questions at this time.
The procedure

Once you have been prepared and consent has been obtained you will be taken into the procedure room.

You will lie on the x-ray table on your back and the nurse will connect you to our monitoring equipment which allows us to monitor your pulse, blood pressure, respiration rate and oxygen levels. We may give you some oxygen via some small nasal cannula (tubes). One of the x-ray nurses will be responsible for monitoring you during the procedure and will be able to answer any questions that you have. However as talking causes your abdominal muscles to move and therefore your blood vessels, we try to keep talking to a minimum during the procedure. Before the procedure you will be given instruction as to how to use the patient controlled morphine administration pump (PCA) which is used to give you pain relief during and after the procedure.

The procedure is undertaken under sterile conditions just as if you are in an operating theatre. The doctors and nurses will wear sterile gowns and following the cleaning of both of your groins with antiseptic solution; you will be covered with a sterile drape. The procedure is performed under local anaesthetic. The nurse looking after you will be responsible for your comfort and will be administering drugs to control your pain under the direction of the radiologist. The local anaesthetic is injected into the groin area which stings initially and then goes numb.

A small nick is made in the skin through which a tiny catheter (tube) is passed into the femoral artery. The radiologist will steer the catheter through the arteries to the uterus using x-ray guidance. The catheter is advanced into the uterine artery.

Only when in a safe position without risk of particles entering arteries to other organs are the particles injected. The particles are precisely calibrated in size to wedge in the arteries supplying the fibroids and the radiologist will inject them where they will be pushed along by the blood flow and cannot reflux back into other parts of the body.

Over several minutes the arteries are slowly blocked and the embolization continues until there is nearly complete cessation of the flow in the uterine artery.
A catheter is inserted into the artery in the groin; this is manipulated towards the uterine artery supplying blood to the fibroid.

It is necessary to embolise the arteries feeding both sides of the uterus even if the fibroids are confined to one side. It has been shown that if just one side is blocked the artery on the opposite side will grow to take over to feed the fibroid. This may mean having to make a small puncture in both groins.

Rarely other arterial supply will be identified that needs embolising such as the ovarian arteries. Your interventional Radiologist will explain this.

The x-ray dose is small but as the ovaries are very sensitive to radiation all possible measures are taken to minimize the dose. The procedure normally takes approximately 45 – 60 minutes.

If you have any pain or discomfort during the procedure please tell the nurse – she will encourage you to use the PCA or operate it on your behalf if you wish her to.

**After the procedure**

Following the procedure you will stay in the radiology day unit for a period of time. You will need to lie flat for 2 hours and then will be allowed to sit up slightly for a further 2 hours. This is to reduce the risk of bleeding from the puncture site in your groin.

Your morphine pump (PCA) will remain connected until the following day. This will allow you to control any pain or discomfort that you might have. The nursing staff can give you medication to relieve any nausea caused by the morphine.

The nursing staff will monitor your observations and check your groin areas for signs of bleeding.

You will be allowed to drink after 2 hours and will be able to eat after a further 2 hours.

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You will be transferred from the radiology day unit to Brockham ward when a bed space becomes available.

You will remain in hospital overnight and should expect to be discharged home by lunchtime, the day after the procedure. The morning after your procedure the PCA, cannula and urinary catheter will be removed.

You should have someone to collect you and stay with you overnight on your first night at home. You can return to normal activities almost immediately but may experience some fatigue and cramp like abdominal pain for a few weeks. However you should feel better in yourself after about 5 days.

**Medication** – Paracetamol and Ibuprofen are important for the relief of pain and control of post embolization symptoms. Senna and lactulose are taken to prevent constipation and straining.

**Driving** – you should not drive for 3 days

**Time off work** – you should expect to take 2 weeks off work.

**Resuming sexual relations** – Evidence on the resumption of sexual activity and the use of tampons post-procedure is not evidence based (BFCR(09)1).

*Due to the risk of infection and the possible passage of fibroid material, it would be advisable to use pads rather than tampons for at least 6 months following embolisation.*

Please ask a member of the Gynaecology team for further advice before you leave the ward.

**Follow up**

You will be given an appointment letter with a date to come back to see the Consultant Interventional Radiologist before you leave the radiology day unit.

A repeat MRI scan will be undertaken 6 months after your UAE.

If you have any queries or concerns once you are discharged home you can contact Brockham ward (01737 768511) or the Radiology nursing staff (01737 768511 Extension 6018).
What are the possible complications?

Infection: Infection is rare but a potentially serious complication and may occur in the degenerating fibroids anything up to several months following the procedure. Antibiotics are routinely given at the time of the embolization but if you develop a high temperature or bad smelling discharge at any time in the months following the procedure you should see your GP or gynaecologist for further advice. A course of antibiotics may be necessary.

Post embolization syndrome: This is an effect of the fibroid dying away. This results in mild flu-like symptoms and sometimes a minor temperature. It is helped by taking painkilling tablets such as Paracetamol. It should not last more than a week.

Periods: It is not uncommon for your first period to be either missed or heavier than usual after the procedure, it is rather unpredictable. Following that, your periods should return to normal. Due to the risk of infection and the possible passage of fibroid material, you should use pads rather than tampons for at least 6 months following embolisation.

Vaginal discharge: You may have a vaginal discharge for some weeks to several months after the procedure. If you feel otherwise well, this is not a cause for alarm as it represents dead tissue being expelled from the womb and it should eventually clear up. Although occasionally solid pieces of fibroid tissue may be passed, it more commonly appears as whitish stringy material that may be mixed with blood clot at the time of your period. Again this is not a cause for concern.

Ovarian failure: If particles enter the ovarian artery during the procedure it is possible that ovarian failure and early menopause may result. This is a very small risk as all measures are taken during the embolization to prevent particles ending up where they should not. A blood test taken before the embolization (follicle stimulating hormone or FSH) provides a baseline measure of ovarian failure.

Pregnancy: The official UK guidelines from the Royal College of Radiologists and Obstetricians and Gynaecologists Joint Working Party (Nov 2000) recommended that women undergoing uterine fibroid embolization should be advised not to try and conceive due to theoretical adverse effects on the embryo. These early recommendations were perhaps over cautious and it is recognized that many women choose embolization as an alternative to hysterectomy in order to preserve fertility and keep their options open. It is not however advisable to become pregnant within 12 months of the procedure as the fibroids are still breaking down.

Most of the major centres around the world performing UAE now have patients who have had a normal pregnancy following embolization although there is a higher risk of requiring a caesarean delivery. There is still much ongoing research and data collection in this area and if fertility is a particular concern then you should discuss this further with your gynaecologist or Interventional radiologist.
Results of UAE

- There is a greater than 90% success rate overall.
- Failure due to revascularization (new ovarian blood supply) = 6%
- Technical failure = 3%
- Onset early menopause > 45 years of age = 10%
- Onset early menopause < 45 years of age = 1%
- Risk of hysterectomy = 1%

Registries and Research

As uterine fibroid embolization is still a relatively new procedure it is important that any information regarding complications or modifications of technique is shared and recorded.

The UK Fibroid Embolisation Registry run by the British Society of Interventional Radiologists (BSIR) is no longer actively recruiting new entrants, but other research projects are on-going.

Audit may also be undertaken to gather information in order to influence local practice. Your data (anonymised) will only be used with your prior agreement.

NICE

The National Institute for Clinical Excellence (NICE) is a part of the NHS which provides guidance for the NHS and for patients on clinical procedures like fibroid embolization. It issues evidence based guidance based on clinical and cost effectiveness.

NICE guidance issued in October 2004 concluded that embolization is safe and that most patients have improved symptoms.

The guidance also pointed out that more evidence is required on the degree and duration of the procedures’ benefits and its effects on fertility.
Further reading

Understanding NICE guidance: UAE  
www.nice.org.uk/IPG367publicinfo

British Society of Interventional Radiologist  
www.bsr.org  (go to patient section)

Femsia UK organization UAE Information,  
www.femisa.org.uk  (support and advice)

UK website with discussion groups  
www.fibroidnetwork.com

Society of Interventional Radiologists (USA)  
www.sirweb.org  (see patients & public section)

Finally

Some of your questions should have been answered by this leaflet, but remember that this is only a starting point for discussion about your treatment with the doctors looking after you. Make sure you are satisfied that you have received enough information about the procedure.

Further information

If you need to cancel, change your appointment or have any concerns/queries about your examination, please contact the Radiology Nursing Team on: 01737 768511 x6018 (Monday to Friday, 9am – 5pm).

Directions, parking and travel information for East Surrey Hospital and Crawley Hospital is available on our website at www.surreyandsussex.nhs.uk/finding-us/

Contact Us

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Lead Radiology Nurse  
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Email: pals@sash.nhs.uk
Write to: PALS, East Surrey Hospital
Redhill, Surrey RH1 5RH

You can also ask a member of staff to contact PALS on your behalf.

This information can be made available in other languages and formats, including in larger text. Contact: 01737 231 958 for help.