



# **Uterine Artery Embolisation**

## **For the treatment of fibroids**

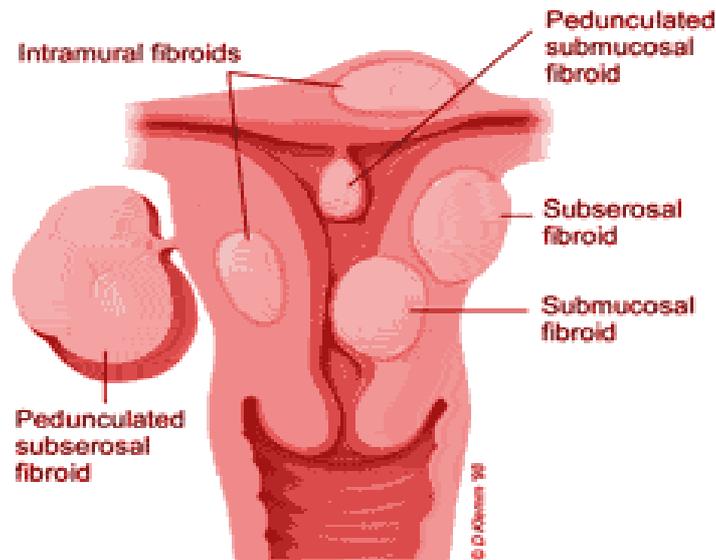
Information for patients

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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. This is most commonly used in younger women who wish to maintain fertility.

**Hysterectomy** is effective in essentially all cases in which bleeding is a problem. It usually resolves the pain or urinary symptoms that women may have but is more invasive than other treatments with a longer recovery time. It is typically performed in women who do not wish to have more children

**Microwave Endometrial Ablation (MEA)** is a treatment particularly suited to subendometrial fibroids which lie under the lining of the cavity of the uterus. MEA is performed by gynaecologists via a probe inserted through the cervix.

**Uterine artery embolisation (UAE)**, also known as **Uterine fibroid embolisation (UFE)** is a more recent treatment first used clinically for fibroids in Paris in the early 1990s although used for other indications before then. Over 400,000 fibroid embolisations have now been performed worldwide and the procedure is now a mainstream option.

**MRI guided focused ultrasound ablation** which focuses ultrasound waves on the fibroids and destroys them. This is not readily available at present and only suitable for certain types of fibroids.

## **What is 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 small foam particles, metal coils or, as in the case of fibroid embolisation, polyvinyl alcohol (PVA) particles specially designed for the purpose. The interventional radiologists performing the procedure already have years of experience of embolisation in other parts of the body for problems such as cancerous growths or to stop bleeding following trauma. Uterine fibroid embolisation simply applies these skills and techniques in the uterus.

## **Who is involved?**

A team of people is involved in the fibroid embolisation procedure.

**Your Consultant Gynaecologist** who refers you for the procedure and performs the necessary examination and investigations before hand and may follow you up post procedure. Embolisation may not be the most appropriate treatment of fibroids in many cases and your gynaecologist can explain the various alternatives.

**Consultant Interventional Radiologist – Dr. Paul Crowe** who performs the actual embolisation procedure and has experience of performing several hundred fibroid embolisations since 2000. Dr. Crowe will meet you first in the out-patient department to discuss suitability and answer any questions you may have.

**Nursing staff – Sister Denise Terry and her team** in the Interventional Radiology Suite.

**Radiographers** – One or two radiographers will be present controlling the X-Ray equipment.

**The ward nurses in the Gynaecology Unit (Aspen Ward)** who will prepare you for the procedure and look after you afterwards.

**Your GP** who is kept informed about the procedure and who will be important in recognising any possible complications later on.

## **What is involved before the procedure?**

### **Referral**

You will 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.

### **Out-patients**

The radiologist and a member of the Radiology nursing staff will discuss the procedure with you in the out-patients clinic where you may ask any questions that you may have. If you wish to proceed an MRI scan will be arranged as an out-patient. Although you will probably already have had an ultrasound scan we routinely perform an MRI scan before proceeding to embolisation. MRI very accurately defines the size and location of the fibroids and, more importantly excludes other conditions that can mimic fibroids. If the MRI scan shows suitability for embolisation arrangements will be made for admission for the procedure itself. As the embolisation is booked well in advance you will get plenty of notice.

### **The Day of the Procedure**

You can eat breakfast on the morning of the procedure. You will be admitted to Aspen Ward where you will be clerked in by the nursing staff. A pregnancy test is routinely performed prior to the procedure. It is also routine to insert a bladder catheter. This is for your own comfort as you will need to lie flat for several hours after the procedure. More importantly, however, the catheter keeps the bladder empty during the procedure as the contrast or dye injected to show the arteries is excreted by the kidneys and ends up in the bladder. Without a catheter the views the radiologist gets of the uterine arteries would be obscured. A blood sample is also taken as a baseline measure of ovarian function. It does not matter if you are due a period around the time of the embolisation.

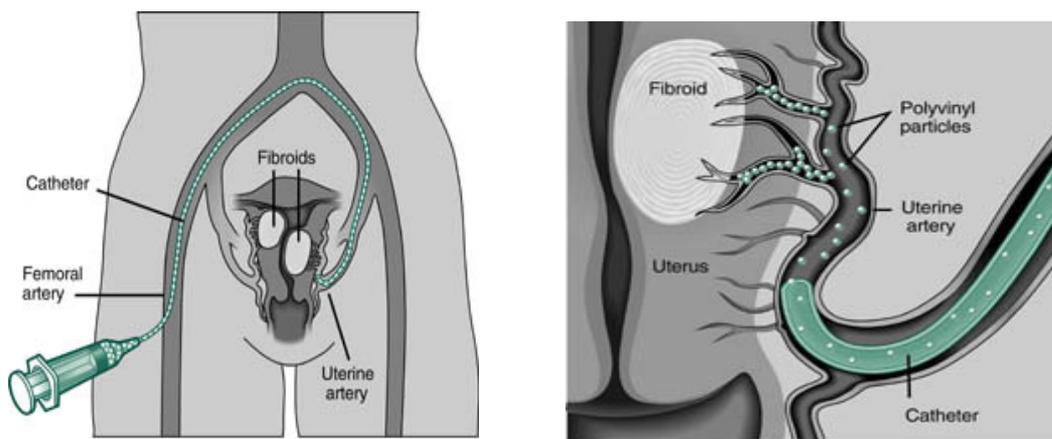
The embolisation procedure itself is usually painless but pain can occur afterwards when the arteries have been blocked and spasm occurs. We routinely set up a PCA (patient controlled analgesia) pump which runs through a small drip in the back of your hand and allows you to give yourself small doses of morphine as required. This can be used during the procedure and for 12 hours or so afterwards. The amount of discomfort felt by patients varies enormously and the advantage of a PCA pump is that you are in complete control of the painkillers and can use as much or as little as you need to control any pain you may have.

At the start of the procedure you will be given antibiotic injections and suppositories which prevent the introduction of any infection at the time of the procedure.

## The procedure itself

Local anaesthetic is injected in the groin. This may just sting a little for a few minutes but will then go numb. A small nick of only a few millimetres is made at the crease at the top of the leg to access the femoral artery, and a tiny tube (catheter) is inserted into the artery. The interventional radiologist steers the catheter through the arteries to the uterus using X-ray imaging to guide the catheter's progress. The catheter is advanced into the uterine artery to a point beyond any branches going to the cervix.

Only when in a safe position without risk of particles entering arteries to other organs such as the bladder are the particles injected. The interventional radiologist slowly injects tiny particles (made of polyvinyl alcohol or PVA) These are precisely calibrated in size to wedge in the arteries supplying the fibroids. They are pushed along by the blood flow and cannot reflux back into other parts of the body. Over several minutes, the arteries are slowly blocked. The embolisation is continued until there is nearly complete cessation of flow in the uterine artery.



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 and feed the fibroid. This may mean having to make small punctures in both groins. The x-ray dose is small but as the ovaries are very sensitive to radiation all possible measures are taken to minimise the dose. The procedure normally takes approximately 30 minutes. You may be awake or can have some sedation if you wish.

## **After Fibroid Embolisation**

Following the embolisation procedure you will be taken back to Aspen Ward where you will be looked after by nursing staff familiar with looking after embolisation patients. You will need to lie flat for a few hours to reduce the risk of bleeding from the puncture sites in the groins. You will have the morphine pump to control any pain and the nursing staff can give medication to relieve any nausea caused by the morphine. A one night hospital stay is the norm and you should be ready to go home by lunchtime the day after the procedure. You can return to normal activities almost immediately but may experience some fatigue and crampy pain (like severe period pain) for a few weeks. You should not drive for 48 hours and it is advisable to book about 10 days off work.

The results of studies that have been published or presented at scientific meetings report that 78 percent to 94 percent of women who have the procedure experience significant or total relief of pain and other symptoms, with the large majority of patients considerably improved. The procedure is successful even when multiple fibroids are present. Unlike hysterectomy or myomectomy embolisation does not physically remove the fibroids but shrinks them. 80% reduction in volume over 12 months is achievable but shrinkage of larger fibroids is less predictable. Symptoms may still improve with a lesser degree of shrinkage.

## **Follow up**

The usual follow up consists of an ultrasound scan at 6 months and an MRI scan at 12 months. Dr. Crowe or your gynaecologist can of course see you earlier if required and if you have any concerns post procedure you should get in touch to make an earlier appointment.

## **What are the Possible Complications?**

### **Infection**

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

### **Post Embolisation Syndrome**

This is an effect of the fibroids dying away. This results in mild flu-like symptoms, and sometimes a minor temperature. It is helped by the painkilling tablets which you will be given to take home with you. 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 after the procedure. If you feel otherwise well, this is not a cause for alarm. It represents dead fibroid tissue being expelled from the womb and it should eventually clear up. Although occasionally solid lumps 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 embolisation to prevent particles ending up where they shouldn't (so called non-target embolisation). A blood test taken before the embolisation (FSH or follicle stimulating hormone) provides a baseline measure of ovarian function.

## **Pregnancy**

The official UK guidelines from the Royal College of Radiologists and Royal College of Obstetricians and Gynaecologists Joint Working Party (November 2000) recommended that women undergoing uterine fibroid embolisation 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 recognised that many women choose embolisation 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 normal pregnancies following embolisation although there is probably 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 Dr. Crowe will discuss the latest findings with you at the time of your initial consultation.

## **Registries and Research**

As uterine fibroid embolisation is still a relatively new procedure it is important that any information regarding complications or modifications of technique is shared and recorded for analysis. Dr. Crowe has been one of the leading contributors to the UK Fibroid Embolisation Registry run by the British Society of Interventional Radiologists (BSIR). That registry is no longer actively recruiting new entrants but other research projects are ongoing. 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 embolisation. It issues evidence based guidance based on clinical and cost effectiveness. NICE guidance issued in October 2004 concluded that embolisation is safe enough for routine use and provides symptomatic benefit for most patients in the short term. The guidance also pointed out that more evidence is required on the degree and duration of the procedure's benefits and of its effects on fertility.

### **Further Information**

If you have access to the internet there is a wealth of information available. The following is a selection:

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| <a href="http://www.bsir.org">www.bsir.org</a>   | British Society of Interventional Radiologists<br>(see 'Patients' section)        |
| <a href="http://www.sirweb.org">www.sirweb.org</a>                                     | Society of Interventional Radiologists (USA)<br>(see 'patients & public' section) |
| <a href="http://www.fibroids.com">www.fibroids.com</a>                                 | UCLA website  |
| <a href="http://www.fibroidnetwork.com">www.fibroidnetwork.com</a>                     | UK website with discussion groups etc.  |
| <a href="http://www.femisa.org.uk">www.femisa.org.uk</a>                               | UK patient support group  |
| <a href="http://www.nice.org.uk/IPG094publicinfo">www.nice.org.uk/IPG094publicinfo</a> | NICE patient information on UAE   |

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