



# **Uterine Artery Embolisation**

For the treatment of uterine fibroids and adenomyosis

*Information for patients*

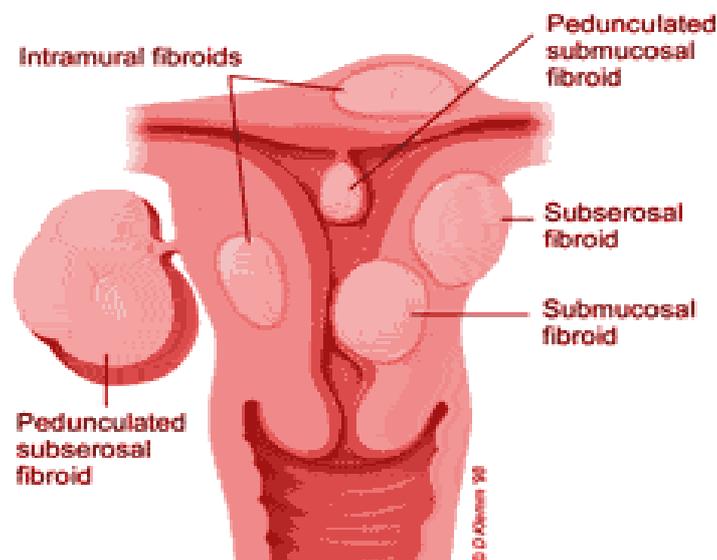
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## What are Fibroids?

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.



## What is Adenomyosis?

Adenomyosis is a condition that may be found either in association with fibroids or alone and involves part of the endometrium, or lining of the womb becoming implanted in the muscle of the wall. It causes similar symptoms to fibroids though painful periods may be a more pronounced feature of adenomyosis. On ultrasound scanning adenomyosis may be mistaken for fibroids but MRI scanning clearly differentiates the two. Adenomyosis can also be treated with uterine artery embolisation and the information in this booklet regarding the procedure applies to both conditions.

## How Common are fibroids?

Uterine fibroids are very common. The number of women who have fibroids increases with age until menopause. 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. Fibroids may regrow on discontinuation of treatment.

**Myomectomy** is a surgical procedure that removes just the fibroids, not the entire uterus. There are different types of myomectomy including hysteroscopic myomectomy (a procedure through the cervix for fibroids lying within the uterine cavity), laparoscopic (keyhole) myomectomy for suitable fibroids and open surgical myomectomy.

**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. Subtotal hysterectomy is an option in suitable cases, leaving the cervix and ovaries in place.

**Endometrial Ablation** is a treatment of the lining of the uterus to treat heavy bleeding (menorrhagia) in suitable cases. There are several different types of endometrial ablation and this procedure is performed by a gynaecologist.

**Uterine artery embolisation (UAE)**, also known as **Uterine fibroid embolisation (UFE)** is now a mainstream treatment option that aims to shrink the fibroids by blocking the blood supply.

**MRI guided focused ultrasound (MRgFUS)** which focuses high intensity ultrasound waves (**HIFU**) on the fibroids in a dedicated MRI scanner and heat treats them. This is only suitable for a relatively small percentage of fibroids depending on their size, location and other factors and availability is very limited.

**Combination treatments**, for example medication followed embolisation or embolisation followed by surgery, are possible when there are different types of fibroids present and these may be recommended following discussion between your gynaecologist and interventional radiologist to tailor the best treatment in your particular circumstances.

## **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, in the case of fibroid embolisation, particles specially designed for the purpose and made of synthetic materials such as PVA or trisacryl gel that do not cause any reaction in the body. Interventional radiologists performing the procedure 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 applies these skills and techniques in the uterus.

Dr. Crowe was one of the pioneers of fibroid embolisation in the UK and has personally completed over 4500 fibroid embolisations since 2000. His team at the BMI Priory Hospital is one of the most experienced in Europe for this particular procedure.

## **Who is involved?**

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

**Your Consultant Gynaecologist or General Practitioner-** who refers you for the procedure. Embolisation may not be the most appropriate treatment of fibroids in many cases and your gynaecologist can explain the various alternatives. Through the Birmingham Fibroid Clinic Dr. Crowe works closely with Consultant Gynaecologist, Miss Shirin Irani, to offer the full range of minimally invasive fibroid treatment options.

**Consultant Interventional Radiologist –** Dr. Paul Crowe who performs the actual embolisation procedure and also arranges the necessary pre-procedure MRI scan and follow-up scans. Prior to the procedure you will be seen for an initial out-patient consultation to discuss the MRI scan results and treatment options.

**Nursing staff –** in the Interventional Radiology Suite who are highly specialised nurses trained in patient care and as scrub assistants for the procedure

**Radiographers –** who will be present controlling the X-Ray equipment.

**The ward nurses** who will prepare you for the procedure on the day 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 may have been referred to the Dr. Crowe at the Birmingham Fibroid Clinic by your GP or gynaecologist who will have performed an examination and may already have arranged scans. If you are not under the care of a gynaecologist arrangements can be made for a consultation with Miss Irani at one of our Birmingham locations.

### **MRI Scan and Initial Consultation**

You will be seen in the out-patient clinic for an initial consultation. An MRI scan is routinely arranged prior to your out-patient visit so that the results are available on the day. For those travelling long distances appointments can be co-ordinated so that the MRI scan and consultation can be done in one visit.

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 and you wish to proceed arrangements will be made for admission for the procedure itself.

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

The Priory Hospital Reservations department will send you full information regarding arrival time and fasting on the morning of the procedure. You will be admitted to the 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 afterwards. More importantly, the catheter keeps the bladder empty during the procedure. It does not matter if you are due a period around the time of the embolisation.

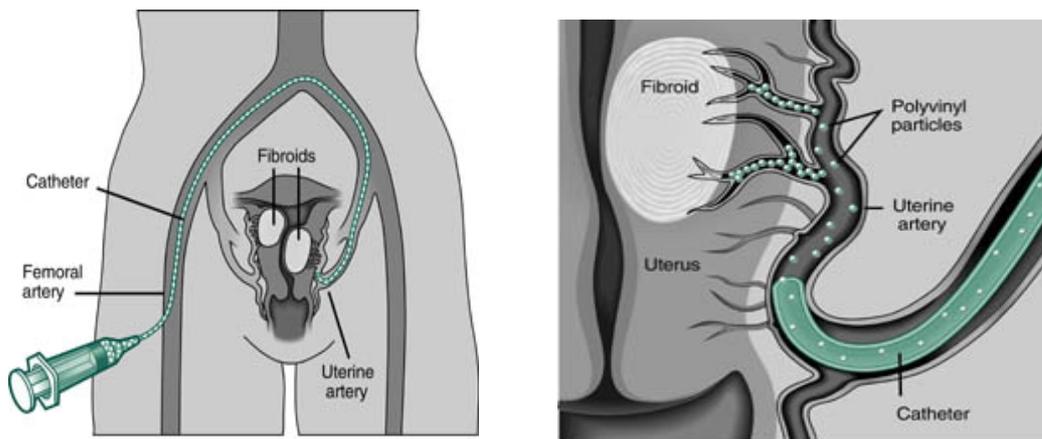
The embolisation procedure itself is usually painless but pain can occur afterwards when the arteries have been blocked and spasm occurs. Medication is given at the start of the procedure aiming to prevent pain. We routinely set up a PCA (patient controlled analgesia) pump which runs through a small drip and allows you to give yourself small doses of morphine as required for a few hours after the procedure. The amount of discomfort felt by patients varies enormously and the advantage of a PCA pump is that you are in complete control 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 also be given an antibiotic injection to prevent infection as well as anti-sickness medication because the morphine given to control pain can cause nausea later in the day.

## The procedure itself

Local anaesthetic is injected in the groin. This may 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 particles are carefully injected under x-ray guidance. They are precisely calibrated in size to wedge in the arteries supplying the fibroids but to maintain blood supply to the normal uterine muscle around the fibroids. The particles are pushed along by the blood flow and cannot flow back into other parts of the body. Over several minutes, the arteries to the fibroids are slowly blocked.



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. You also listen to some relaxing music if you wish to bring headphones.

## **After Fibroid Embolisation**

Following the embolisation procedure you will be taken initially to the recovery area in the interventional radiology suite to ensure any pain is under control before transfer back to your room. There you will be looked after by nursing staff familiar with looking after embolisation patients. They will keep a close eye on your pulse, blood pressure etc. You will need to lie flat for a few hours to reduce the risk of bleeding from the puncture site in the groin. 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 single night hospital stay is the norm and you should be ready to go home by late morning the day after the procedure. You should arrange for someone to collect you from the hospital and should have someone to stay with you on your first night at home. You can return to normal activities within days but may experience some crampy pain (like period pain) for a week or two. You should not drive for 48 hours and it is advisable to book about 7-10 days off work.

The results of studies that have been published or presented at scientific meetings report that 78–94% 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, however, still improve with a more modest degree of shrinkage.

## **Follow up**

The usual follow up consists of an ultrasound scan at 6 months and if necessary an MRI scan at 12 months. You can of course be seen earlier should the need arise.

## **Pregnancy**

The official UK guidelines from the Royal College of Radiologists and Royal College of Obstetricians and Gynaecologists Joint Working Party (revised 2013) recognise that successful pregnancy is possible following uterine artery embolisation. There is a lack of robust evidence directly comparing outcomes following embolisation and myomectomy and the document recommends that each case be considered individually and that any treatment of fibroids in women wishing to become pregnant in the future only be undertaken after fully informed discussion. Such discussion takes place at your initial out-patient consultation.

Like most of the major specialist fibroid embolisation centres around the world the Birmingham Fibroid Clinic has a number of patients who have gone on to have successful pregnancies post treatment. It is not, however, advisable to become pregnant within 6-12 months of the procedure as the fibroids are still breaking down and there is still a small theoretical risk of infection.

## **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 contact your GP, gynaecologist or radiologist. A course of antibiotics may be necessary.

### **Post Embolisation Syndrome**

This can result in mild flu-like symptoms, and sometimes a minor temperature in the first few days. It is helped by the painkilling tablets which you will be given to take home with you. It should not last more than a few days.

### **Periods**

It is common for the first period to be either missed or heavier than usual after embolisation. Periods can be erratic for the first few months but usually settle down into a more regular pattern by months 3-4. Due to the risk of infection and the possible passage of fibroid material you should ideally use pads rather than tampons for a few months post embolisation or if using tampons use them for short periods of time only.

### **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 (less than 1%) 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.

## **Registries and Research**

Dr. Crowe has been the leading contributor 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 and technical data that does not include your personal information may be collated and used for clinical governance and audit purposes.

## **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 2004 concluded that embolisation for fibroids is safe enough for routine use and provides symptomatic benefit for most patients in the short term. That guidance was updated in 2010 and specific NICE guidance recognising the role of embolisation in the treatment of adenomyosis was issued in 2013. Uterine embolisation for fibroids has also been included in NICE guidance on Heavy Menstrual Bleeding in 2007.

## **Private Health Insurance**

Most major private health insurance companies now cover uterine artery embolisation for both uterine fibroids and adenomyosis. You should always contact your insurer in advance to obtain pre-authorisation for any consultations, scans or treatments. There may be specific terms or conditions of your policy and if you have an agreed excess on your policy you will be liable for any resultant shortfall.

Insurance companies use a system of coding calls OPCS and the OPCS codes for fibroid embolisation to be quoted when obtaining pre-authorisation are:

OPCS code XR360 (for embolisation) plus:

OPCS code X3510 (for intravenous sedation, unless AXA-PPP who use AC100)

Up to date self-fund price quotes can be obtained on request.

## **Birmingham Fibroid Clinic Locations**

Scans and consultations with both Dr. Crowe and Miss Irani are available at the BMI Priory Hospital in Birmingham ([www.bmihealthcare.co.uk/priory](http://www.bmihealthcare.co.uk/priory)) and at the Spire Parkway Hospital in Solihull ([www.spireparkway.com](http://www.spireparkway.com)).

Embolisations are performed at the BMI Priory Hospital.

London appointments with Dr. Crowe for scans and consultations are available at 9 Harley Street ([www.9harleystreet.com](http://www.9harleystreet.com)) and embolisations are performed at the Princess Grace Hospital ([www.theprincessgracehospital.com](http://www.theprincessgracehospital.com)).

Paul Crowe  
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