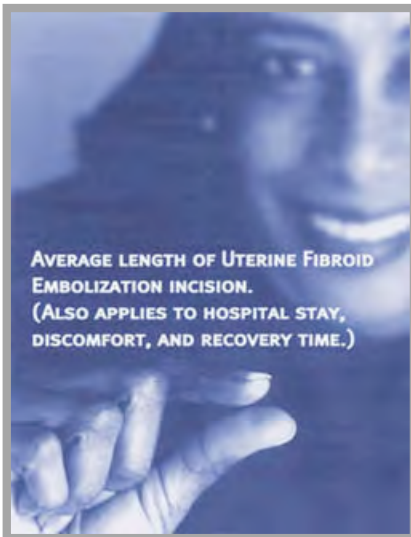


Chapter B2

Uterine Fibroid Embolisation

Keyhole Surgery with X-ray Vision



SEVERAL PROCEDURES HAVE BEEN DESIGNED TO TREAT FIBROIDS BY DESTROYING THEIR BLOOD SUPPLY IN ORDER TO MAKE THEM SHRINK, INSTEAD OF REMOVING THEM OR THE WHOLE UTERUS SURGICALLY.

UTERINE FIBROID EMBOLISATION (UFE) IS THE MOST SUCCESSFUL OF THESE. THIS IS MUCH LESS INVASIVE THAN SURGERY, CARRIES LESS RISK AND HAS A HIGH SUCCESS RATE AND QUICK RECOVERY TIME.

MOST PATIENTS HAVE RATED THIS PROCEDURE AS VERY TOLERABLE.

MORE EXPERIENCE has been gained in other forms of treatment, as more and more women start to oppose hysterectomy – the mainstream treatment for symptomatic fibroids. While first Uterine Fibroid Embolisation was deemed ‘experimental’, this is now far from the truth ! UFE is now replacing hysterectomy for an increasing number of women. It isn’t always made available to patients, for various reasons. Not a lot of referring doctors and gynaecologists know enough about this option, so sometimes patients need to ‘educate’ their doctor.

This chapter is meant to inform both referring doctors and patients, and is a compilation of patient histories and other published scientific studies around this procedure as well as my personal experience as a patient.

I found a cure in this procedure. And I was quite astounded that it was so easy, as I had already reluctantly come to terms with the probability of needing hysterectomy surgery. And as with so many ‘simple solutions’, I was not informed about it by any physician that I had consulted – nor was I supported in my choice by any of the gynaecologists. Unfortunately this seems not an exception.

Therefore, this chapter is quite extensive; I read everything there is to know about fibroid embolisation – and the evidence is clear that it is a viable option, in spite of what your gynaecologist may tell you, or what my personal experiences are for that matter. Next to a compilation of scientific medical information, I do give my personal view on some alleged uncertainties around this procedure, that often for legality reasons physicians have to be very careful making statements about.

Personally, I would wholeheartedly recommend this procedure to any woman with symptomatic fibroids. As you will read here, there are very few contraindications.

B2 Summary

The Fibroid Embolisation Procedure

Page– 4

UFE is giving women an important, minimally invasive treatment option to hysterectomy and other invasive surgeries. The procedure is approximately 90% successful at alleviating the heavy bleeding and painful periods associated with fibroids.

The complete UFE procedure is described, with explanatory pictures – with an overview of the advantages compared to surgery.

Healing Process

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Describes in detail what happens to the fibroids and the uterus after the procedure – and what to expect during recovery.

Recovery is much more rapid than after surgery – typically 1-2 weeks.

Who is a Candidate for UFE

Page–9

Women with symptomatic uterine fibroids, who desire to avoid hysterectomy or repeated myomectomy, should certainly look into the possibility of fibroid embolisation.

It may also be an alternative to myomectomy in restoring or preserving fertility.

The size of fibroids and uterus does not have to be a contra-indication; symptom relief is the most important outcome measure, and seems to be largely independent of the degree of volume reduction of fibroids and uterus. Only severe pressure symptoms caused by a big fibroid seems to be the main real limitation for choosing UFE; when the fibroid might not shrink quickly enough to eliminate pressure on important pelvic structures.

Contrary to myomectomy, each and every fibroid is treated with UFE – even the smallest.

Complications and Side Effects - Compared to other treatment

Page–12

A complete overview of most side effects and complications with fibroid embolisation – and comparisons with other treatment options.

In the absence of risk factors associated with surgery, UFE is considered to be very safe.

Complication rate is much lower than with any other treatment, and recovery is much more rapid than with any type of surgery. US studies have put the complication rate at just 11 % for UFE, compared to a 25% rate for Myomectomy surgery.

Described in detail the management of the main side effect: post-procedural pain.

UFE and Sexual Function

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Fibroid embolisation does not cause sexual dysfunction and may even result in improvement of sexual function. It has been long known that after hysterectomy quite a few women experience sexual and/or emotional difficulties to some degree, from a decline in desire to even loss of orgasm. The important difference after embolisation is that the uterus is restored to normal function with a minimal impact on the tissues.

But, what exactly is the function of the uterus other than for bearing children ...

What other Patients say

Page–18

"I couldn't believe my first period. I only used one pack of pads compared to the five or six I would use before. No more clotting, no more cramping and no heavy bleeding."

"If I had one thing to say to other women having this problem it would be: don't be afraid. This will make the quality of your life much better."

And more...

Interventional Radiology

Page–21

Interventional radiology procedures are a major advance in medicine that replace open surgical procedures. They involve no general anaesthetics, no large incision, less risk, less pain and a shorter recovery time.

Explained are the amount of X-rays used with the procedure and the variety of materials that is in use for blocking blood flow to the fibroids.

The cost aspect of this procedure is favourable.

Also discussed is the role of gynaecologists.

Where to find an interventional radiologist

Page–24

A list of Interventional Radiologists with an interest in fibroid embolisation in the big cities in Australia. With links to other countries.

Answers to FAQ

Page–26

If you read this chapter in sequence, it will answer most of your questions. If still more questions remain, you can Email them to us or talk to your Interventional Radiologist.

We will try and keep this FAQ section up to date by adding answers to recurring questions.

More Q&A can be found on the FORUM page of the website.

In the news

Page–29

Up to date information about fibroid embolisation:

— *"Most UFE patients not referred by gynaecologist"— American 2002 publication.*

— *An article about UFE and this FibroidSolutions website has been published in the 2004 May issue of Good Medicine: Containing an interview with Professor Ken Thomson – Director of Radiology at the Alfred Hospital in Melbourne, and the leading interventional radiologist in Australia. And describing this author's own experiences as a patient.*

The Fibroid Embolisation Procedure

UFE is giving women an important, minimally invasive treatment option to hysterectomy and other invasive surgeries. The procedure is approximately 90% successful at alleviating the heavy bleeding and painful periods associated with fibroids.

The complete UFE procedure is described, with explanatory pictures – with an overview of the advantages compared to surgery.

How UFE differs from other treatment options

As a non-surgical alternative to hysterectomy and myomectomy, UFE (Uterine Fibroid Embolisation, also called Uterine Artery Embolisation) not only offers advantages over surgical procedures but also over other uterine sparing treatment options.

Myolysis for example (a laparoscopic procedure which uses laser electrical current to seal the blood vessels feeding the fibroid) frequently causes adhesions of organs to the uterus, because it is not always precise. Ablation techniques require burning or scraping of the entire uterine lining, incurring extensive scarring of tissue and rendering the endometrium infertile.

Adhesions, causing problems later on, can also happen after surgical removal of fibroids (myomectomy) or the whole uterus (hysterectomy). Additional surgery is often needed after myomectomy, because missed fibroids can recur.

A newer minimally invasive 'myomectomy' technique is MRI-Guided Focused Ultrasound; even though this seems very promising, here too, each and every fibroid needs to be treated separately – making the procedure unsuitable for women with multiple fibroids, as the time needed for treatment would be prohibitive. As with all myomectomy techniques, smaller fibroids can easily be missed, requiring additional treatment. In Australasia and some other countries, expensive new procedures like MRI-Guided Focused Ultrasound will for the time being not be available – as equipment and trained personnel is unavailable.

Uterine Fibroid Embolisation lacks these side effects and has in fact many more advantages.

What is UFE

The embolisation procedure is performed by an Interventional Radiologist; these are doctors who specialise in several types of embolisation and other minimally invasive procedures that nowadays often replace surgery. X-rays and other angiographic techniques are used, to see inside the body and guide a tiny catheter through the uterine arteries (much similar to heart catheterisation) – which makes it possible to place blocking particles into the arteries feeding the fibroids in order to make them shrink. The materials used are FDA-approved for embolisation, have been tested for many years and are well tolerated.

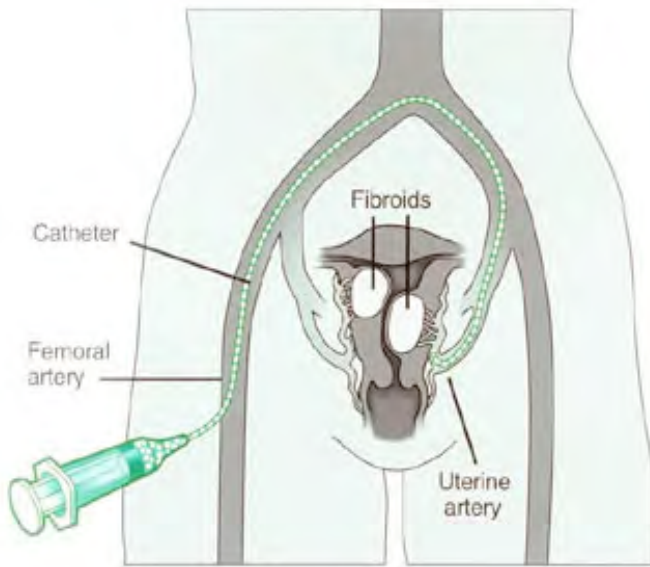
Embolisation of fibroids was first used as an adjunct to help decrease blood loss during myomectomy surgery. To the surprise of the initial users of this method, many patients had spontaneous resolution of their symptoms after only the embolisation and no longer needed surgery.

While embolisation to treat uterine fibroids has been performed since 1995, embolisation of the uterine arteries is not new. It has been used successfully by interventional radiologists since the 1970's to treat heavy bleeding after childbirth. Up till 2002, over 10.000 fibroid embolisations have been performed worldwide in at least 15 countries with over 200 scientific articles published.

How embolisation works

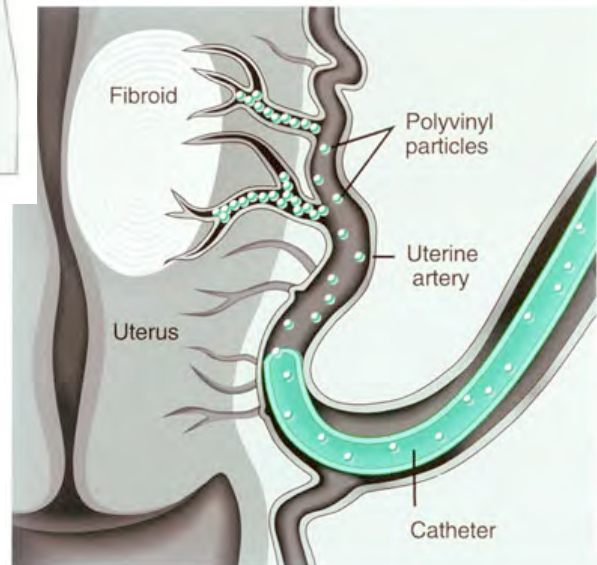
The procedure is performed while the patient is conscious, but mildly sedated and feeling no pain. It does not require general anaesthesia.

A small tube (catheter) about one millimetre in diameter is inserted into an artery in the groin via a tiny nick in the skin (about the size of a pencil tip) which is locally anaesthetised, and then guided to the uterus while the Interventional Radiologist watches using a 'real time' X-ray (fluoroscopy). Tiny plastic particles the size of grains of sand, are then injected into the artery that is supplying blood to the fibroids :



The tiny catheter can be steered around corners and down to the site of the fibroid. From the one puncture site, both right and left uterine arteries can be entered under X-ray control.

Only when the tube is in exactly the right place, deep in the uterine artery, are the particles injected.



The particles flow to the vascular fibroids first and wedge into the vessels; this blocks the blood flow to the fibroids and causes them to degenerate and shrink – eventually resulting in resolution of symptoms. After the tube is removed, simple pressure to the puncture site is applied; no stitches are needed.



THE ANGIOSUITE

Professor Ken Thomson, Melbourne, performing fibroid embolisation – with patient monitor and dye injector in the foreground.

This special room allows the Interventional Radiologist to perform procedures, and if any complication should arise, surgeons could even operate right in the same room.

*PRE-PROCEDURE X-RAY*

The first step with embolisation is to perform a diagnostic angiogram.

During the angiogram, contrast media is injected and watched with the aid of fluoroscopy – a 'real time' X-Ray technique. This creates a 'road map' of all the important pelvic vessels.

By following this 'map' the catheter can be manipulated directly into the uterine artery on each side. It is because of this 'road map' that PVA particles are kept from going to the wrong place.

*POST-PROCEDURE X-RAY*

As soon as enough particles have been injected to stop the blood flow to the fibroids, the Interventional Radiologist completes the procedure.

Immediately after the procedure

After completing the procedure, in 30 minutes to an hour, bed rest is required for up to six hours, during which the leg where the puncture site is located has to be kept straight. This is to give the artery time to heal and prevent bleeding and bruising.

While the procedure itself is not painful, most women experience moderate to severe pain and cramping in the first several hours following the procedure – a common side effect. Pain-killing medications and drugs that control swelling typically are prescribed to treat this – much the same as after surgery. In the first hours after the procedure, pain is managed by intra-venous pain medication with a pump that allows self-administration, followed by oral pain relief when you go home. In some cases pain relief is not needed.

Usually you may go home the same day, but occasionally overnight hospitalisation is required.

How the particles find their way

Although the uterus is embolised, it is only through part of its blood supply. Fibroids are very vascular; Doppler Ultrasound measurements have shown that the vessels around a fibroid have a lower resistance to flow than the normal parts of the uterus. This is why the particles enter the large vessels of fibroids first and largely bypass the smaller vessels that are the major blood supply to the normal part of the uterus.

The blood vessels supplying fibroids are usually 500-600 microns in diameter; small 350–550 micron PVA particles are injected into these vessels and easily flow into the fibroid's lifeline. Blockage occurs because the particles are too big to pass through the capillaries to the draining veins (capillaries are only about 15 microns). The particles remain lodged in place and cannot travel to other parts of the body.

Since the normal part of the uterus receives less of the emboli – and because it also has other blood supply – it recovers.

Success rate

Like myomectomy, Fibroid Embolisation spares the uterus, but embolisation is much easier to do and generally with more durable results. Recovery is rapid; many women resume light activities in a few days and the majority of women are able to return to normal activities within one to two weeks.

Overall success rates range from 81 - 94%: 80 - 100 % of patients have experienced significant or total relief of heavy bleeding, bulk symptoms improved in 60 – 80 % and pain reduced in 70 – 90 % of cases. Personally I had significant further improvement in pain over the next year post-procedure. You may expect significant enhancement of quality of life – the days of dreading your next period will be over.

The procedure is effective for multiple fibroids – this in contrast to myomectomy, where missed fibroids can regrow. Recurrence of treated fibroids after UFE has not been reported.

Studies around fertility are hopeful; the myometrium is healthy in 99% of treated patients.

(For more on fertility issues see B3)

Advantages of Uterine Fibroid Embolisation

- No incisions and no abdominal scar; only a small puncture that requires no stitches.
- No anaesthetics required; only some conscious sedation ('twilight' drugs).
- No other pelvic organs are affected; risk of damage is negligible.
- No risk for blood loss during procedure.
- Minimal hospitalisation, much shorter than with surgery.
- Complication rate significantly lower.
- Recovery much more rapid than with any type of surgery; much less time off work
- High success rate.
- No impact on hormonal function and no emotional side effects.
- No regrowth; each and every fibroid is treated at once, regardless of their size or location in the uterus.
- No risk for adhesions that require re-hospitalisation and additional surgery.
- If the procedure is not successful and surgery is needed, this will be easier, with much less bleeding.

Healing Process

Describes in detail what happens to the fibroids and the uterus after the procedure – and what to expect during recovery.

Recovery is much more rapid than after surgery – typically 1-2 weeks.

The 'Miracle'

Most patients will feel tired after the procedure but roughly 90% of patients are back to normal activity levels by post-procedural day 4; the rest within one to two weeks. The groin and leg may feel a little stiff for some days as the puncture is healing.

The first menstrual period may still be heavy because of build up of endometrial lining prior to the procedure – but should be without haemorrhaging and clots – and the second period should be lighter. Many women feel it's like a miracle; suddenly they have normal periods again, often lighter than they have ever had.

As soon as your periods normalise, you'll really feel much better than before the procedure. Your body will thank you for the opportunity to be able to raise your iron and haemoglobin levels – anaemic fatigue will soon be a thing of the past.

(Find information on iron supplementation and diet in chapter B6).

What happens to the **uterus** after the procedure

Blood supply is not as static as you would imagine. Fibroids have a rich supply of blood from the uterine artery – as they grow, this is diverted from the uterine wall. To counteract this starvation of the muscular uterine wall, the body pulls out all the stops and starts to develop a blood supply from arteries that normally supply other pelvic tissues like the vagina, cervix, tubes and ovaries. This is called a collateral blood supply. After embolisation these vessels expand rapidly and together with the remaining uterine arteries adequately protect the wall of the uterus from harm.

What happens to the **fibroids** after the procedure

When the blood supply to the fibroid is cut off, the fibroid tissue degenerates because of lack of oxygen and nutrients. The fibroids lose their fluid content, their cells liquefy and are removed by the body – this is called hyaline degeneration. In time, the remaining tissue undergoes a process of fibrosis (scarring of connective tissue), and loses its ability to grow again. The overall effect is that the fibroid shrinks (hurray! Isn't it fantastic to have the radiologist who performs your follow-up ultrasound examination, searching for fibroids that are no longer detectable).

This process is how the body heals many injuries.

When cells called fibroblasts enter the area of the former fibroid to form scar tissue, the plastic particles become enclosed in this scar tissue permanently. These fibroblast cells also bring with them new blood supply – though considerably less extensive than before. It is this blood supply that supplies the area that remains – now no longer fibroid tissue – with oxygen and nutrients. Thus, the resulting scar tissue remains healthy, and slowly contracts.

This process may take up to six months, when most of the shrinking occurs and a noticeable effect will appear on your follow-up ultrasound. Some studies indicate a progressive decrease in uterine and fibroid volume over a two-year follow-up and a further decline in menstrual loss over this time.

But your periods and energy levels will have normalised long before that.



Who is a Candidate for UFE

Women with symptomatic uterine fibroids, who desire to avoid hysterectomy or repeated myomectomy, should certainly look into the possibility of fibroid embolisation.

It may also be an alternative to myomectomy in restoring or preserving fertility.

The size of fibroids and uterus does not have to be a contra-indication; symptom relief is the most important outcome measure, and seems to be largely independent of the degree of volume reduction of fibroids and uterus. Only severe pressure symptoms caused by a big fibroid seems to be the main real limitation for choosing UFE; when the fibroid might not shrink quickly enough to eliminate pressure on important pelvic structures.

Contrary to myomectomy, each and every fibroid is treated with UFE – even the smallest.

In general

Patients who have symptomatic uterine fibroids and who desire to avoid hysterectomy or repeated myomectomy, may consider UFE. You should be screened by a gynaecologist to establish that your symptoms are caused by uterine fibroids. When appropriate, tests should be performed to ensure that there is no likelihood of cancer. (Find more on controversies around biopsies in A1 and A2).

UFE is an especially good option for women with medical conditions that might make surgery more hazardous. The procedure involves no blood loss or possible need for transfusions, so it may be ideal for patients who wish to avoid transfusion for health or religious reasons.

Fibroid size and response to embolisation

First it was believed that the smaller the fibroid, the better the response. Thought was that with a uterine size between 20-24 weeks 'pregnancy' and/or fibroids larger than 10 cm or subserosal ones, embolisation wouldn't work for reason that not enough shrinkage could be achieved.

The actual size of a fibroid uterus may be caused by a few dominant fibroids, each greater than 10 cm in diameter, or by multiple small fibroids, each less than 10 cm in diameter – so it is clear that uterine size alone cannot be an indicator. Another point is that fibroid size is irrespective of the severity of symptoms – small fibroids may cause more trouble than much bigger ones, depending on their position in the uterus – so diminishing the effect of a symptomatic fibroid whatever the size or the shrinkage factor, will possibly cause improvement.

Recent data indicates that although the shrinkage factor of larger sized fibroids is indeed less, it appears there is still a considerable decrease in pain and pressure symptoms as well as in bleeding abnormalities. UFE affords relief of menorrhagia to roughly 90% of patients, and improvement in pressure symptoms in 85-90% – *regardless of uterine and fibroid size.*

The only case where fibroid size may be a problem is when severe pressure symptoms (bladder or bowel problems) may not be relieved quickly enough by embolisation.

A woman with a very large uterus may not have volume reduction to normal, and may never achieve a flat abdomen, but uterine size alone is not a contra-indication to UFE.

While volume measurements of fibroids and uterus may be the most 'objective' results for physicians to go by, it is important to realise that they are the least useful outcome measure for this treatment. Symptom relief is the most important outcome measure, and seems to be largely independent of the degree of volume reduction.

It is thought that the reason for this may be that the venous distension (swell out) of vessels supplying the fibroid is decreased after embolisation, and so blood loss becomes less. But personally I believe it may be more than that: haemorrhaging occurs when the spiral arteries *surrounding* intact fibroid tissue are unable to shut because the uterine musculature is disturbed by the fibroid. When the blood supply to the fibroid is shut off and the surrounding tissue heals, the action of the spiral arteries may normalise, resulting in normal uterine bleeding; no haemorrhaging and no clots and a normal duration. (What causes haemorrhaging is explained further in A2).

Fibroid location and UFE

In comparison, subserosal fibroids (under the outside covering) tend to shrink the least, but symptoms will still reduce after embolisation.

Ovarian cysts will require other treatment. But embolisation will likely be successful for fibroids in the cervix; as the blood supply of the entrance to the uterus comes from the uterine arteries, a fibroid in this location will be automatically treated. (For a description of types and location of fibroids see A1).

Endometriosis and Adenomyosis

Next to uterine fibroids, patients may have multiple conditions, such as adenomyosis or endometriosis, which may be partly or sometimes the actual cause of their symptoms. These patients *might* benefit from embolisation – these conditions are not a contraindication to embolisation, as was first believed. Many gynaecologists still think hysterectomy is the only treatment option for women with adenomyosis. The outcome of a very well designed study however was that for the group of women with symptomatic fibroids and adenomyosis, clinical improvement was 90% – exactly the same outcome as for the control group (women with symptomatic fibroids alone).

Fertility

Although myomectomy is still considered by many physicians to be the first choice for women who desire to preserve fertility, UFE may in some cases be a good option.

The number, size, or position of the fibroids can sometimes make myomectomy difficult, and likely to result in hysterectomy. For women who have undergone one or more myomectomy and had recurring fibroids, a repeat myomectomy may not be advisable because of the potential of adhesions that could cause infertility. Fibroid embolisation may be the best option for these women.

There is no reason to assume that a woman who has had fibroid embolisation should be unable to support a pregnancy. (Extensive information on fibroids and fertility can be found in B3).

Possible limitations

Pregnancy

Any possibility of pregnancy is an absolute contra-indication to the procedure. Even though it is non-invasive for the mother, it might be harmful for the foetus, so embolisation is NEVER done in pregnancy, even if fibroids start to grow quickly.

If a fibroid becomes painful during pregnancy (Red Degeneration), treatment is only possible with pain-medication and bed-rest. (Fibroids during pregnancy are discussed in B3).

Age

There appears to be no age alone limitation, patients ages have ranged from the 20's well into the 50's years. However, there can be restrictions in some pre- or post-menopausal women:

Women over 45 have a higher risk of early menopause after the procedure. This will be adequately explained and compared with hysterectomy in the next paragraph 'Complications and Side Effects'. The alternative option – to wait for menopause to occur naturally, when fibroids will shrink on their own – is not always a good option (discussed in FAQ in this chapter).

When symptomatic fibroids call for treatment, UFE may well be the best option, after gynaecological clearance is obtained to rule out malignancy.

In post-menopausal women not on HRT, fibroid embolisation may be more technically challenging due to the small calibre of the uterine arteries. For this reason, some interventional radiologists turn those women away. But it might still offer a suitable treatment option; find an interventional radiologist who is willing to discuss your options.

Severe pressure symptoms

When symptoms are mainly due to the physical size of the fibroid, such as urgency of bowels or bladder, embolisation may not work quickly enough and the interventional radiologist may suggest considering another form of treatment.

Pedunculated fibroids or very large dominant transmural fibroids

Both submucosal fibroids on a *thin* stalk attachment to the uterus, as well as very large transmural fibroids, are at risk for expulsion. In women who's *only or significant* fibroid is one of these, it is felt to be a relative contraindication for UFE by most Irs.

(See next paragraph: Complications / Fibroid expulsion).

Fibroids outside the uterus

With the exclusion of fibroids in the cervix (see "Fibroid location and UFE" above), growths in the ovaries or the ligaments on either side of the uterus cannot be treated by embolisation: The blood vessels to these parts are different from the ones that supply the uterus, hence uterine artery embolisation will not reach these tissues.

Abnormalities of uterine arteries

In the incidence any abnormality of the uterine artery or a shared blood flow with an ovarian artery is seen on ultrasound or during angiographic examination, embolisation is not performed or discontinued. It seems that MR is even more accurate in evaluating associated ovarian and tubal disease, but this is not yet used in all hospitals.

Prescribed lupron

If you are on LUPRON to shrink the fibroids, you cannot have an embolisation right away. The purpose of LUPRON is to shut off your natural oestrogen supply (oestrogen 'feeds' fibroids, hence shrinkage occurs – but it will regrow as soon as the medication is stopped) and induces a temporary menopause. It also causes the arteries in the fibroid to narrow, by 24% according to one study. Because successful embolisation requires the natural dilation of fibroid vessels, the treatment is likely to fail.

A waiting time of 3-6 months is recommended by most authorities, so the large fibroid blood vessels can reappear. In the unusual case when the LUPRON does not shrink the fibroids and a severe bleeding condition continues, this may be the exception to the rule. For this situation a Doppler Blood Flow Study on the fibroids is recommendable – Colour Doppler ultrasound has the ability to determine how much blood flow is present. If the vessels are sufficiently large despite recent LUPRON treatment, embolisation can be performed without delay.

Malignancy

Malignant tumours do not respond to embolisation and need other treatment. Many gynaecologists perform a biopsy (D&C and hysteroscopy) routinely in the diagnostic process, to rule out malignancy. Fibroids are non-cancerous tumours of the uterus and these benign tumours do not transform into malignant ones; if malignancy is present, this is thought to be so in the first place.

Because the incidence of leiomyosarcoma (malignant tumours) is so rare, deep uterine fibroid biopsies prior to performing UFE is now generally felt to be unnecessary. Malignancy can be easily missed in a biopsy; results are usually unrevealing, even in the presence of malignancy. It isn't necessarily the biggest tumour that could possibly be malignant. Unlike routinely happens after surgery, no samples can be sent for biopsy with embolisation.

This is sometimes seen as a risk factor – but this is only so in theory. Theoretically then, the only sure thing would be a hysterectomy, removing the cervix as well; but personally I would not have any part of me that is so-called of 'no use anymore' removed, just because of an ever so small chance of cancer developing – the risks of surgery are far greater. There would for instance be a lot of women without their breasts if it would be viable medical practice to cut away any part at risk for cancer.

If in the rare case malignancy is present and undetected, no improvement after embolisation (usually pain and bulk symptoms) will and should prompt further evaluation. (More on malignancy in A2).

Note: It is beyond the scope of this article to describe each and every possible limitation, as it can sometimes be a combination of factors that limits the choice for embolisation, all of which needs to be established by your doctor.

Complications and Side Effects – Compared to Other Treatment

A complete overview of most side effects and complications with fibroid embolisation – and comparisons with other treatment options.

In the absence of risk factors associated with surgery, UFE is considered to be very safe. Complication rate is much lower than with any other treatment, and recovery is much more rapid than with any type of surgery. US studies have put the complication rate at just 11 % for UFE, compared to a 25% rate for Myomectomy surgery.

Described is in detail the management of the main side effect: post-procedural pain.

Note: For a more complete description of complications and side effects associated with other procedures mentioned here for comparison, please refer to the relevant chapters.

Side effects

Post-embolisation syndrome

Low-grade fever, nausea and generally feeling unwell, occurs in less than 10% of patients and is called 'post-embolisation syndrome'. It can usually be controlled with appropriate medication but mostly resolves spontaneously without additional treatment. Fever is most likely due to the release of tissue-breakdown products from degenerating fibroids and thus can be seen as a healing and cleaning reaction of the body. In exceptional cases post-embolisation syndrome might persist for several weeks.

Herbal detoxification might be of assistance in such cases, but tests have not been published on this (see B6).

A high fever that is not subsiding within a few days is a sign of infection and requires further treatment (look under 'Complications').

Post-hysterectomy syndrome can be more serious and long-lasting.

Vaginal discharge

Chronic vaginal discharge (spotting or brown discharge) may occur, lasting a few months. One report said it was noticed in 8% of patients. Especially in patients with large fibroids, intermitted non-purulent vaginal discharge has been reported, presumed to be necrotic fibroid tissue debris.

Vaginal discharge or spotting is also reported after hysterectomy and myomectomy surgery. Also, heavy bleeding from suture lines can occur (1%).

Allergy

There is a slight risk (1 in 10,000) of allergy to the contrast media. This involves skin rashes or stuffiness in the throat. In most hospitals the best available contrast dye is used; a non-ionic iodine containing drug. If you have a known allergy to iodine or any other substance, the interventional radiologist needs to be told about it – there are alternatives available.

To flush out the contrast media, patients will be kept well hydrated after the procedure.

PAIN: Management during the procedure

During the procedure, pain is managed with local anaesthetic at the puncture site in the groin where the catheter is inserted, complemented by an anti-inflammatory suppository and sedative drugs to help you relax – which will make a big difference.

One of the risks of major operations like hysterectomy or myomectomy is the use of a general anaesthetic.

There is no general anaesthetic required for embolisation, and for that alone fewer side effects can be expected. The use of epidural anaesthesia with embolisation – like some clinics in America do – is not standard. Preferred in Australia is the use of a technique called Intravenous or Conscious Sedation. This uses a combination of several drugs such as Fentanyl (a synthetic opiate like drug), and Hypnovel (called Versed in America, a tranquilliser similar to Valium) – commonly referred to as ‘twilight drugs’.

Interventional Radiologist at the Alfred Hospital in Melbourne and Associate of the Melbourne Fibroid Clinic, Professor Ken Thomson says:

We think an epidural has its own significant set of risks, including infection and possible thrombosis – as the legs are effectively paralysed as well as numb. This is not a sensible thing to do for fibroids. It also means in hospital stay for at least 24 hours (in Melbourne we use the Medihotel so we would have a stay of about 12 hours in hospital). We generally do regular angiography without the necessity of much pain relief at all, but we use conscious sedation for fibroids because of the general levels of anxiety associated with an embolisation procedure and the expectation of pain.

During the procedure you will be able to follow progress on the monitor screens, and actually feel pleasantly sleepy and quite unaware of time, as Conscious Sedation gives a time compression and amnesia.

You will feel no pain at all during the procedure. The only thing that may be noticed is a sensation of warmth when X-ray dye is administered.

PAIN: Management post procedure and after discharge from hospital

As the blood flow to the uterus and fibroids has changed after embolisation, this can result in some level of ischemic pain. This is worse in the first hours following embolisation and can vary greatly. It is usually managed via an IV-drip (intra-venous) in the arm that you will be able to activate yourself during the few hours stay in hospital.

This gives a dose of Morphine (or similar drug) and is adjusted so that you cannot overdose. Overdoing it however is possible; some women have a nauseous night from it afterwards – which is the major side effect of the used narcotics.

The level of pain generally plateaus in most patients by six hours, but usually peaks at one hour post procedure. From then on it will only get better and can be managed by oral pain relief when going home.

In exceptional cases prolonged stronger pain relief may be necessary, but it is also quite possible to experience no pain at all. In a few patients, response is reported to be delayed by 18-24 hours, but almost all patients report that the pain has significantly improved by the morning after the procedure.

The pain is described as a heavy ‘menstrual’ cramping pain, and residual pain typically improves each day over the next several days, yet can occasionally persist for up to two weeks.

Professor Ken Thomson:

The pain post procedure is thought to be related to over-embolisation.

We have always left a bit of uterine artery while others have blocked it right off.

The concept is now that the ‘arterial tree’ should just be ‘pruned’ instead of ‘stumped’ – this seems to have the same outcome but less pain.

Not much is known yet about the reasons for individual differences. There is no correlation between fibroid volume and pain. Also, the severity cannot be used to predict outcome of the procedure.

Several recent reports now say that post-procedural pain has lessened with changing the endpoint of embolisation, as described above. This results in less uterine ischaemia and therefore less pain with no apparent change in efficacy.

Pain is also associated with major surgery. And in addition, recovery time of both hysterectomy and myomectomy is much longer; generally one to two months as a minimum; compared to one to two weeks for embolisation.

PAIN: Some patient stories about pain

Personally I experienced no post-procedural pain at all with both procedures I had. This doesn’t seem to be the rule however; most women do need strong pain relief. I only had some low-level discomfort in the days after the procedure when the fibroids started shrinking. When I needed the second embolisation for better results (the necessity of which is an exception), I had no trouble at all, not even the slightest discomfort, and felt just as fit as before – or in fact fitter than ever before.

What other patients say:

The procedure was pretty simple. I was awake but I didn't feel anything. I didn't even feel the little incision they made in the groin.

Nothing hurt or anything and then it was done. I had really bad cramps for two days or so and I took prescription drugs for three days. And that was it.

After the procedure, I had some mild cramping, but it was mild compared to what I was used to during my periods.

I think if they had told me I was going to have pain for a month or three months, I would have taken that over having a hysterectomy.

I went home the next day with a prescription for Ibuprofen and another pain killer and I didn't even need them all. I had cramps for two days and on the third day I went on a boat ride.

(Share your own experience with other patients:

please go to the website's Forum section for information.)

Complications

Because so many referring doctors seem to know only half the truth about possible complications with embolisation, this listing explains these in more detail.

It is important to realise that the major complication rate with UFE is significantly lower than with surgery. The rate of minor complications seems to be lower as well. Like with almost any medical procedure, things can go wrong – but serious complications are very rare. Also, the absence of risk factors associated with surgery like anaesthetics, incisions, damage to other organs, and the emotional aspect of some operations, are unknown with embolisation.

Note: For a more complete description of complications and side effects associated with other procedures mentioned here for comparison, please refer to the relevant chapters.

Infection

A high fever that is not subsiding within a few days is a sign of infection and requires further treatment. Before the procedure, patients are usually screened for infections, and when appropriate, antibiotics are given during the procedure.

A small number of patients (2-3%) have experienced infection, which can usually be controlled with antibiotics, but in some cases calls for urgent hysterectomy – as antibiotics are largely ineffective where there is no blood supply to deliver them. There seems to be a 0.5-1% chance of infection leading to hysterectomy. The overall rate on the need for hysterectomy is reported to be 5% – this is because of combined reasons for failure and the need of further treatment.

In most hospitals preventative antibiotics are used routinely. The concept of prophylactic antibiotics is to have circulating levels of 'bug killer' *before* they are introduced. Physicians that do not give routine antibiotics, usually state that they prefer not to introduce 'bugs' in the first place – by being very particular about sterile procedure. They only use antibiotics when required or in high-risk cases.

Chances for infection are in theory similar with surgical procedures, but can be a bit higher with vaginal hysterectomy. Urinary infections or infections in the abdominal or vaginal cuts can occur with surgery. Prophylactic antibiotics are nearly always used with surgery, and regularly additional antibiotic treatment is necessary.

With myomectomy, conversion to hysterectomy occurs in at least 1%.

Myomectomy carries additional risks; commonly, adhesions develop causing tissue and organs in the abdomen to fuse together, which can lead to pain or infertility and often require additional surgery.

There seems to be a large difference in skill amongst surgeons in applying preventative measures for adhesions and blood loss with myomectomy.

Rarely, infection occurs after natural childbirth or a Caesarean section.

Bleeding from puncture site

Most referring doctors will have checked for coagulation abnormalities in the process of diagnosing uterine fibroids, so the chance for bleeding from the puncture site is almost insignificant in an otherwise healthy woman. If you have a bleeding tendency (other than from your fibroids) the interventional radiologist needs to be told about it; specific tests may be needed before it is safe to proceed with the embolisation (and the same applies for surgery).

To prevent bleeding, simple pressure is applied to the puncture site for about 20 minutes and the leg kept stretched for six hours post procedure. After that, normal, not strenuous activities may be resumed.

With myomectomy and hysterectomy the same risks apply as arteries are cut during surgery. Contrary to embolisation, blood will be lost during the operation, sometimes serious enough to require transfusion. After surgery, heavy bleeding from the suture line can occur (1%).

Pulmonary embolus

Compared to surgery, the risk of deep venous thrombosis that can travel to the lungs is much smaller (only 1 in 1000). No cases of pulmonary embolus following embolisation have been reported in Australia so far (up till 2002). Cases of calf thrombosis without the pulmonary complication have been reported in patients who had a family history or were overweight.

There is no evidence of embolus caused by particles travelling to the lungs.

Pulmonary embolus is a serious complication that can rarely be fatal. In relation to UFE the risk is extremely low, because immobilisation after the embolisation procedure is only six hours, which reduces the risk for emboli considerably compared to surgery. This is especially important since a large percentage of women with symptomatic fibroids are overweight, due to hormonal imbalances.

Patients who have a history of venous thromboembolisation (VTE) should tell the interventional radiologist, who has ways of further minimising the risk.

The risk for pulmonary embolus with surgery is 1 in 400-500; twice as high as with embolisation.

Especially with an abdominal hysterectomy, where a large incision has to heal, longer immobilisation increases the risk for emboli.

Fibroid expulsion

When a pedunculated (on a thin stalk) submucosal fibroid becomes necrosed after UFE, there is a possibility it is released into the endometrial cavity. The reason for this is because the stalk becomes devascularised and this may lead to the fibroid falling off. This necrotic mass with no vascularisation may result in significant potential complications if untreated. Fibroids on a thin stalk are quite rare however.

Theoretically, the same could happen with a pedunculated *subserosal* fibroid – protruding on the *outside* of the uterus. This would mean it could be released into the abdominal cavity, or peritoneum; but it has not been reported thus far. (Perhaps tissue on the outside of the uterine wall is different; I will try to find more information on this).

Fibroid slough of large intramural fibroids that because of their size protrude into the endometrial cavity – so are only partly surrounded by endometrium – has also been reported.

Reports on expulsion are generally 5%, but one individual report said 25%. It doesn't seem to happen with smaller fibroids unless they are solitary and intracavitary – so almost completely surrounded by endometrium, with only a minor attachment to the muscular wall of the uterus. (For fibroid locations refer to A1).

Similar expulsions have also been reported during gynaecological drug treatment with GnRH analogs.

When expulsion happens, it produces a typical 'wave-like' pattern of pain, similar to labour pain. Usually this material is expelled without incident, but when it is retained in the uterus or cervix it can become secondarily infected, needing antibiotics or hysteroscopy and D&C to remove this material.

It can be easily managed by the IR/Gyn team when treated in time, so it is important to be in contact with your doctor should pain or prolonged fever develop. In the rare case where an infection is unresponsive to antibiotics, hysterectomy may be necessary.

To avoid expulsion, pedunculated fibroids can be reached with hysteroscopic or laparoscopic instruments through respectively vaginal opening or small abdominal incisions, and resected or treated with laser – although this presents its own set of difficulties. If there are other fibroids present as well, additional embolisation or surgical interference will be needed to remove these.

In case of large intracavitary fibroids (typically those over 8-9 cm in diameter), some doctors have advocated resection before embolising other fibroids present. Also, UFE followed by a planned interval myomectomy to prevent post-embolisation syndrome or infection has been done. There are not enough data however, that show there is a clearly higher risk for more serious complications to develop with such fibroids.

Some cases might prompt close monitoring after embolisation – and proceedings to resection or other treatment when needed.

Menopause

There's a 1-5% chance of entering menopause after embolisation. This is more likely to occur in women in their mid-forties or older, who are already nearing menopause.

The chance increases in women over 45 (15% or more). This might be related to changes in ovarian blood supply, but the frequent correlation of this with the pre-menopausal time suggests a different explanation. Some women only report a *temporary* amenorrhoea (cessation of menses), without associated menopausal symptoms. Studies of post-procedural FSH levels show that no patient under 45 had any permanent change in FSH and in those over 45 some cases of minor changes were reported, but cessation of menses did not necessarily occur. (To learn more about the risks with early menopause and the use of HRT, see B1).

Hysterectomy can compromise ovarian function, resulting in menopause two to three years after surgery, with an average of up to 4 years earlier – a fact often down-played by gynaecologists. When the ovaries are removed as well, instant menopause occurs.

Unwanted embolisation

The same extremely precise methods that are used for blocking arteries in the brain or spinal cord are used for fibroid embolisation. Because the uterine artery has connections to the ovarian artery, there is a *theoretical* possibility for uterine artery embolisation to affect blood flow to the ovaries, causing ovarian failure. The same applies for potential possible damage to other pelvic organs. This is however an extremely unlikely occurrence in the hands of a well-trained interventional radiologist. Ovarian injury has not been definitely demonstrated and only in rare cases inaccurately placed particles have caused necrosis or blood loss to the bladder or vagina. Unintended embolisation has not been reported in Melbourne.

Red degeneration

Very rarely a fibroid may break down and liquefy quicker than usual, causing Red Degeneration. This is something that can occur spontaneously when a fibroid outgrows its blood supply, for instance when it grows rapidly during pregnancy.

It is extremely painful and if it happens after embolisation, surgical removal is recommended to avoid rupture of the fibroid. Normally, a slower liquefaction process called 'hyaline degeneration' occurs after embolisation, causing the fibroids to shrink slowly, as described in 'Healing Process'.

Recurrence of symptoms

The published recurrence rate is 5-6%. It can in most cases be adequately treated by a repeat embolisation – which will be even less invasive than the first procedure. Regrowth of fibroids has not been reported.

The causes of failure of UFE have not yet been completely explored thus far, but single case reports shed some light on potential causes. One example is a case of ovarian artery supply to the uterus and fibroids, which prevented successful infarction of the fibroids. In my own case one of the fibroids had still sufficient blood supply to heal from the embolisation, causing increasing blood loss after initial improvement. Additional embolisation solved the problem.

One positive effect may be that in case abatement of symptoms is not adequate and surgery is needed, the surgery is easier, with much less bleeding.

Recurrence of symptoms after myomectomy happens more often; missed fibroids may start to grow, and also adhesions may call for repeat surgery. Although after hysterectomy the initial symptoms will mostly be solved, complications after surgery (involving other pelvic organs) may require further treatment.

Mortality

Fibroid embolisation has only seen 2 deaths worldwide in about 20,000 procedures (up till 2002 ; both cases occurring before 2000). One was in England from acute uterine infection (not responding to medication and additional surgery) and the other in Italy from pulmonary embolus.

The risk of dying from direct or indirect results of surgery is much higher.

UFE and Sexual Function

Fibroid embolisation does not cause sexual dysfunction and may even result in improvement of sexual function. It has been long known that after hysterectomy quite a few women experience sexual and/or emotional difficulties to some degree, from a decline in desire to even loss of orgasm. The important difference after embolisation is that the uterus is restored to normal function with a minimal impact on the tissues.

But, what exactly is the function of the uterus other than for bearing children ...

Sexual function after UFE

Up till 2002 two studies have been published comparing pre and post UFE sexual function – assessing change in sexual activity, desire frequency, inhibition, dyspareunia (pain during intercourse), and orgasm frequency and quality. Concluded was that fibroid embolisation does not cause sexual dysfunction and may even improve sexual function, especially in patients presenting with bulk symptoms.

In the American study 17% of patients reported improvement and nearly all were in the group with bulk related symptoms. Factually this translates in scientific terms as no significant effect on sexual function – unless you are one of the lucky ones. Of the total of patients reporting improvement, all had increased frequency of desire and about half of those had increased frequency of orgasm, and some had stronger orgasms.

While in the American study the levels of sexual inhibition were reported to have remained the same and in some cases had seen improvement, in the English study some cases of decreased levels of sexual interest and satisfaction were reported. However, this was a very small study and involved only around 5 patients (10%) who reported this decrease. The American study reported only one case of decreased desire in a 52-year old patient, which she herself attributed to menopause. Another case I found, was of an individual patient who reported a decrease in internal orgasm (deep uterine contractions). But my own experience was the opposite, and I didn't have bulk problems.

A correlation has been suggested between improved libido and improved blood supply to the cervix and upper vagina after embolisation. The cause of the reverse happening could perhaps be found in having fibroids in a certain location in the uterus, causing a temporary reduction in blood supply just after embolisation.

Presumably, in these rare cases of decrease in sexual function, this will resolve as re-canalisation of the blood vessels takes place over time (see "Healing Process").

Scientifically, all this is difficult to prove without a lot of angiographic investigation.

Theoretically, improved sexual function could occur because the blood supply to the reproductive organs is no longer diverted away from their tissues in order to feed the fibroids – and this can especially be so where large fibroids were present. As healing of the starved tissues takes place, improved blood flow might help restore the normal function of the uterus, cervix, vagina and clitoris. What happens during sexual arousal is that these parts fill with blood, making them swell and become more sensitive – simply put, the sensation of orgasm involves rhythmic contraction and flowing back of this blood, like a 'tidal wave'.

So with the uterus intact after embolisation, it is likely that in the absence of disturbing factors like fibroids, sexual function can be restored or even improved compared to the situation before treatment.

The uterine connection

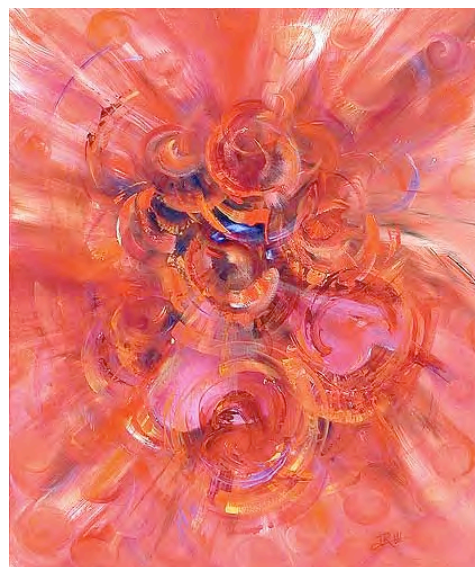
It has been long known that after hysterectomy quite a few women experience emotional difficulties and a decline in sexual desire and some even loose orgasm. It is often believed that this is 'merely' a mental/emotional response. This may certainly play a role, however; clear physiological evidence for changes in sexual perception after hysterectomy is available, as well as for changes in mood.

When after UFE the symptoms associated with fibroids are eliminated, their impact on a woman's sex-life will improve as well. The important difference after fibroid embolisation is that the uterus is in fact largely restored in its functioning, with a minimal impact on the tissues. But what exactly *is* the function of the uterus other than for bearing children:

The uterus plays a not insignificant role in the total hormonal picture – influencing our total wellbeing – and is an important sexual organ. Its role is by no means fully understood by medical science. Not only does it produce less known hormones that are important in protecting us from heart disease – next to the cervix, the womb also plays an important role in sexual pleasure and orgasm. (All this is explained in more detail in B1: Importance of the Uterus).

Further investigation around sexual function is currently under way in comparative assessment studies. One thing is for sure; studies have clearly shown a better mental and emotional score after fibroid embolisation compared with the score following hysterectomy.

Celebration Time
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What other Patients say

Patients are invited to share similar or additional stories around fibroids that could be used on the website and might help other women in dealing with symptoms and finding proper treatment. For more information see the website's FORUM section.

My story as an UFE-patient

My personal experiences around fibroid embolisation were nothing but positive. In the hospital, I was treated like a person on the way back to health, instead of a terribly weak patient with a failing organ that had to be cut out along with some other parts prone to showing signs of dysfunction. How lucky I felt that I had questioned this, and had persisted in looking for a way to do something about the fibroids, without doctors taking out my healthy parts; you do not cut off a whole finger when there's just a wart on it ...

I was amazed how light the embolisation procedure was – my anticipation vanished as soon as the procedure started. I didn't feel a thing, was pleasantly sleepy and before I noticed they had started, and I was trying to follow on the monitor what was happening, it was over. Just when it got interesting . . . (that's why I went back for a second time ☺). I did come prepared for some genuine suffering, but this proved to be almost easier than the dentist, and I was lucky to have no pain at all after the procedure. Professor Ken Thomson, the Interventional Radiologist, told me he liked to prepare patients for the worse, so the actual level of pain isn't so bad – the joker (I was already half thinking something wasn't right).

I am the sort of person that wants to know what's happening; so straight after the procedure I started asking some more questions. They were answered with a wink and the remark I would probably not be able to remember (due to the twilight drugs); I told him he'd be surprised – I guess that's where the whole idea for a website was conceived.

I flew home after some days and was a little tired for a few days more, but that was pretty much it. Although most patients experience some level of pain, most are already used to severe cramping period after period, so I believe this is not something us girls cannot handle.

But what I hardly could believe, was my first period – it was lighter than ever before, with just a little cramping and hardly any clotting. And even though I needed additional embolisation when the bleeding became a little worse again, this was nowhere near the downpour I had experienced before. So much for a rapid healing process; a blood vessel that had not been closed off well enough, had already started to recover its blood supply to the fibroid.

After the second procedure I didn't even notice something had changed . . . until the next period, which absolutely broke minimum records.

Anyway, I was more than happy with the results and it kept on improving; after about a year I had no more cramping or discomfort *at all*, and now only need to use a handful of pads during 3 days or so, and that's it. This is a major change from before, when I was in pain and haemorrhaging for days or rather weeks, and *per day* needed the same amount of tampons plus pads that I now use for my entire menstrual period. Also, I had some very positive changes in sexual function.

On the follow-up ultrasounds done 6 months after the procedure, only some remnants of the biggest fibroid could be seen, the rest had vanished.

I feel very grateful that I have been able to keep my female parts intact. I am happy about the medical possibilities that helped me to do so. But, next to that.....at first I started to feel more and more outraged about the two years of suffering (and in fact long before that), which could have been prevented if I had been informed properly.

As I started to get my normal energy levels back (though I had trouble remembering how that used to be), I learned even more – and I felt I just *had* to write about it.

I know that more women share similar experiences.
So please let us know how *you* go after your embolisation:

Other patient's stories

Almost every embolisation patient would recommend UFE to their friends:

With the doctors who wanted me to have a hysterectomy, there was this feeling of "them and me." I was trying to keep the parts I was born with and they were trying to take them out. With the embolisation procedure, that wasn't the attitude at all. It was, let's fix this, let's work together. It was very comforting.

It's so wonderful to have my life back; it's like a miracle. I'm so grateful to the gynaecologist who referred me to the interventional radiologist. It makes me almost want to cry whenever I see him.

After the procedure, I had some mild cramping, but it was mild compared to what I had before. I was back to work in a week and feeling like myself again by my first menstrual cycle. My period was like normal – the pain was much less and the blood flow was much less. Now it's a year later and I'm on a normal cycle with normal blood flow and manageable pain maybe for one day during my period. I'm very happy with the results.

If I had one thing to say to other women having this problem it would be, don't be afraid. This will make the quality of your life much better.

It was pretty simple. I was awake but I didn't feel anything. I didn't even feel the little incision they made in the groin. I didn't even know it was happening. They had a TV screen up there and I could see the whole thing – the fibroid and the little balls going in there. The doctor made me feel so comfortable – he talked to me the whole time and told me what was going on. He'd say, "Oh, good shot. Good shot" and we'd laugh.

I couldn't believe my first period. I only used one pack of pads compared to the five or six I would use before. No more clotting, no more cramping and no heavy bleeding.

I think if they had told me I was going to have pain for a month or three months I would have taken that over having a hysterectomy. I'm a pretty aggressive patient. I ask questions and when I want to know more about something I go straight to the library and look it up. If I was not this type of person, I would have thought hysterectomy was my only option. I think the most important thing is for women to know their options and make their own, best choice.

I don't remember much about having the actual procedure. You're awake but not really. Nothing hurt or anything and then it was done. I had really bad cramps for two days or so and I took prescription drugs for three days. And that was it. I was back to work on the third day because I had to be. If I had a choice, I probably would have taken a week off work but I didn't have a choice; I'm a single mother with three kids and I need to work. I'm a jogger and I was back to that in maybe a week and a half. I think I recovered so fast because I am in good shape – I work out and jog a lot.

When I had my next period, it was amazing. I didn't have to use super tampons again and I never have to use additional pads for leaking. It is just like when I was young. Another benefit was that when I had the fibroids, my stomach was kind of big – like I was four months pregnant. Just a couple months later my stomach was way down.

I was so grateful to that gynaecologist that he knew about this procedure and didn't just pressure me into having a hysterectomy. The doctors wanted to be certain that it was fibroids that were causing my pain, so my gynaecologist looked inside with a laparoscope. He found terrible adhesions and scarring from my previous surgeries – that was what was causing my pain. The interventional radiologist had given me a lot of information about uterine fibroid embolisation and I was really interested when he told me how non-invasive it was. I'd been through so many surgeries and I didn't want to go through another one. What really sticks in my mind was that, although I was sedated, I was awake for the procedure.

I had some nausea, but it didn't last long. I couldn't believe that a week later I was up and about and walking about two miles a day. This was incredible to me – after my surgeries it took as long as six or eight weeks to recover. And my symptoms were gone. I had so much energy; when the fibroids were bad and I was anaemic, I'd try to exercise, but I'd just peter out. Three weeks after the embolisation procedure, I was up to five miles of walking at a stretch – it was great. It's been three years and I am still absolutely free of symptoms. I know even before I go for my checkups that the fibroids haven't come back, because my stomach is flat, I don't have any bloating. I thought I would never be free of this and now I'm like a new person. It's so wonderful to have my life back; it's like a miracle.

The first month after the procedure when I got my period, it was a major change. I could hardly believe it, but for the first time in years my period was normal. It lasted only two to three days, the heavy bleeding was gone and there was very little pain. Since then, the bleeding is lighter. I am absolutely pleased with the results. I used to take 800 milligrams of Motrin when my period started and it still didn't take the pain away. Now, at the most I need a couple of Tylenol for minor cramps right before my period starts, and that's it.

It's a big relief – I was so tired of looking pregnant when I'm not. I would recommend this to any woman who has felt the dilemma of what to do about fibroids.

I was diagnosed six years ago with fibroids after my periods became extremely painful with heavy bleeding, especially during the first few days. I'm self-employed and the bleeding got so bad, I'd just stay home on the worst days, it was so messy and inconvenient. I didn't want a hysterectomy; I'd heard horror stories about possible complications and I didn't want to give up the option of some day having children. Myomectomy was also not an attractive option – I'd heard that the chances were good that the fibroids would grow back. I kept thinking, there has to be something else. Then I saw an article in a magazine about the fibroid embolisation procedure and I went to the Internet for more information.

I'll tell anybody because I think this is a really great option and too few women know about it.

(Share your story with other patients:

go to the website's Forum section for more information)

Interventional Radiology

Interventional radiology procedures are a major advance in medicine that replace open surgical procedures. They involve no general anaesthetics, no large incision, less risk, less pain and a shorter recovery time.

Explained are the amount of X-rays used with the procedure and the variety of materials that is in use for blocking blood flow to the fibroids.

The cost aspect of this procedure is favourable.

Also discussed is the role of gynaecologists.

About Interventional Radiologists

An Interventional Radiologist is a physician who has special training to diagnose and treat conditions percutaneously (through the skin) using miniature tools and image guidance. They not only use diagnostic radiology (a field which includes X-Ray, MRI, Ultrasound, and Cat Scan) but also perform procedures to treat a wide variety of conditions that once required surgery. They insert tiny tubes (catheters), balloons and other small instruments, using X-Ray imaging to guide them through the body's vascular and other systems. Interventional Radiologists pioneered coronary angiography and other minimally invasive procedures that have become commonplace in medicine today. Other examples are chemo-embolisation; the delivery of cancer-fighting agents directly to the site of a tumour – and fallopian tube catheterisation or ovarian vein embolisation; the first being a treatment for infertility using a catheter to open blocked fallopian tubes without surgery, and the latter for 'varicose veins' in the ovary which can be one other cause of pelvic pain. These procedures are a major advance in medicine, replacing open surgical procedures. They involve only tiny incisions, carry very low risk, while generally less pain is involved and recovery times are shorter.

It is the aim of the Interventional Radiologist to provide you with treatment for your fibroids with a minimum of discomfort, with preservation of your uterus and with little disturbance of your enjoyment of life.

Interventional Radiology has been a rapidly growing area in medicine. Embolisation is a tried and true technique, and there is established experience with embolising uterine arteries.

Treating uterine fibroids with this method is a relatively recent application (since the 1990's), and especially pre- and post-procedure management as an important part of treatment, is a relatively new area for some Interventional Radiologists, as far as I understood.

Even though all Interventional Radiologists are trained in performing embolisation, it is best to find an IR experienced in fibroid embolisation. If you are not certain, ask to talk to patients who had the procedure.

Technical failure rates are thought to be caused by the following:

1. Skill of IR
2. Abnormalities of uterine artery
(diagnostic angiograms are performed as a first step during the procedure)
3. Shared blood flow from uterine artery and ovarian artery, with both feeding the fibroids
(called collateral blood supply; also to be determined through angio-investigation, or previous MRI)

With each and every medical procedure things may go wrong. UFE is simply an alternative – not a ‘new’ one, but an *effective* one and relatively *safe* one – that women should be told about in honest terms. Some American fibroid clinics seem to lobby their specialism by promoting this procedure to be a “revolutionary new treatment for fibroids”, while in Australia most IR’s have only recently started to realise there is a growing demand for alternative fibroid treatment. At the same time, some referring GPs and gynaecologists are still being rather conservative about it, as there is not enough knowledge amongst them of this procedure. Currently, many patients seek an IR for fibroid treatment without a prior gynaecological opinion.

I sincerely hope all presented information will be of help to change this situation.

More research is being done as the profile of embolisation is rising; in 1999 the ‘FIBROID Registry’ was called into being – a long-term plan for research in UFE. This will possibly help to provide further scientific answers to questions about long-term effectiveness and safety (also in comparison to other treatment) as well as fertility rate and contentment amongst patients – and will establish a benchmark for clinical practice and resource utilisation. It represents what is likely to be the largest study of a fibroid therapy ever undertaken.

The role of gynaecologists

Gynaecologists generally do not perform embolisation, unless the gynaecologist has had radiologic training and is experienced in the more focused area of interventional radiology. They are an important part in your treatment however, as their expertise in the evaluation/treatment of pelvic masses, hormonal effects and surgical management of complications is invaluable.

It is a pity that many gynaecologists are not very well informed about the simple and effective UFE therapy, and often do not give proper information to their patients regarding this procedure. They are either ignorant or act out of profit motives; as hysterectomy is a no.1 money spinner. Learning about this as a patient makes you cringe; how can a *doctor* willingly mutilate a fellow human being because this is better for them personally – but unfortunately this seems to happen throughout health care. One doctor disclosed to me: “I use the analogy of radical mastectomy vs radiation therapy for breast cancer. There was a time that surgeons didn’t disclose that radiation was equivalent to radical mastectomy. Just to make a buck, many surgeons would perform what I think is a mutilating operation on a woman without telling her that she had a choice.” Only about 1 in 10 women who underwent embolisation were informed of the option by their gynaecologist. At best they say they don’t know anything about it, and at worst they tell patients the procedure isn’t effective, or even dangerous. Several women have been told in no uncertain terms that the procedure would result in severe pain for weeks. In the surveys I read about, none of the women who had the procedure experienced that.

Another report said: From the women who had UFE, 79% said their gynaecologists did not tell them about UFE, 64% said their doctors recommended hysterectomy, and 23% were steered to myomectomy. The majority of patients finds out about UFE through television, newspaper, magazine and Internet stories and advertisements, and 20% were referred by family and friends. (See also ‘Recent press releases about UFE’ in the last paragraph).

Most Interventional Radiologists will feel though, that the best results are achieved with a team approach. In the interest of patients, something definitely needs to change in the approach from the part of gynaecologists.

The use of foreign substances in the body

The PVA particles used in embolisation are locked in the body forever. Many substances that are not native to the body are used in surgery every day. These tested materials share one common property;

the body has a minimal reaction to their presence. This is a characteristic of for example the metals used in hip replacement and the mesh for arterial grafts, while with silicon the long-term experience has a major liability in inducing immune problems and hence is no longer used. Fortunately there is long-term experience with PVA (since 1970) and in that time no such adverse allergic or immune reactions have been reported.

There is a difference in particle sizes used in various countries. French physicians use PVA with a 300 micron size particle, while in America a 500-micron particle and in Australia 350–550 micron PVA particles are used. Clinical outcomes have been the same.

Even smaller particles, 50 microns and less – so small that they get still further out into the smallest capillary vessels – may have usefulness in the treatment of certain cancers (such as Hepatoma, a liver tumour), but do not represent an improvement in the Fibroid Embolisation procedure.

Different materials used for embolising

Polyvinyl alcohol particles (PVA) used for fibroid embolisation, are inert plastic balls so small that several would fit on the head of a pin. In water they look like the 'snow' in snow-domes children play with. They are the most widely used and best documented of several possible materials to block arteries.

Other materials have been tested, like Gelfoam (gelatin sponge pledgets) and Embospheres (tris-acryl gelatin or calibrated microspheres):

There seemed to be a trend towards lesser volume reduction of fibroids with Gelfoam, but this study was not completed – and volume reduction alone does not seem to be a measure for success rate anyhow. Given that Gelfoam is a 'temporary' agent that resolves in the body over time, it was thought that it should be the agent of choice in women who want to preserve fertility. Whereas some publications report it is an effective alternative in treating young women – another scientific paper, on the contrary, reported a risk of durably occluding the main uterine artery segments when using this material (2002, Robert L. Worthington-Kirsch, MD – Pennsylvania). So some physicians now have abandoned the use of the cheapest material of Gelfoam, with exception for use in special cases. Of the embolic agents used, Gelfoam also stimulates the strongest inflammatory response.

Because restoration of flow in the main uterine artery after embolising with PVA has been established (as described previously in Healing Process) and it is the best documented agent, this might be the safer option. As far as I know, interventional radiologists in Australia use permanent agents: polyvinyl alcohol foam, with the USP trade name Ivalon. A report from April 2002 concludes: "in spite of embolisation of the uterine arteries with permanent agents, most patients show no change in myometrial enhancement, suggesting minimal ischaemic effects on the myometrium."

Embospheres (or Embosphere Microspheres) have some advantages over PVA – mainly due to their use during the embolisation procedure – but are more expensive and not as widely available as yet, as isn't documentation about immune problems. This material has different properties, so the Interventional Radiologist needs to get familiarised with that.

Between all three types of materials used, no significant difference in post procedure pain was found and comparison studies have shown no significant differences in outcome of the embolisation.

X-ray

Radiation doses used during an embolisation procedure are kept low. Refinements in technique can significantly reduce absorbed ovarian and skin doses. These include using pulsed fluoroscopy, limiting use of oblique and magnification fluoroscopy, good restriction of the field of view to minimise the area X-rayed, and high energy X-rays, so most goes straight through. To prevent radiation burns, procedure times should be less than 120 minutes – most are much shorter. Burns are known to be caused by a fluoroscopy time of over 3 hours. In Melbourne, a dose meter is used to measure and record doses; fluoroscopy times are typically between 8 and 15 minutes.

There is little in the literature about patient dose with fibroid embolisation as it can vary so much. Some reports say the mean estimated ovarian dose is an order of magnitude 10 to 30 times larger than typical diagnostic radiographic studies, but is nonetheless 10 to 30 times *less* than radiotherapy for Hodgkin's Disease of the pelvis. Studies on Hodgkin's patients have not shown any increase in infertility or genetic defects, and thus an effect from X-ray exposure during the UFE procedure is extremely unlikely.

Cost

The cost of Uterine Fibroid Embolisation is typically lower than traditional surgery like hysterectomy and myomectomy. This is mainly due to cost benefit associated with shorter hospitalisation. In Australia it is covered by Medicare when done in a public hospital. Ask your doctor about the details.

Where to find an Interventional Radiologist

Last update: 22/03/2008

Disclaimer: *This information is not intended to recommend doctors – just to provide information for patients to explore.*

Important Note: *I came to understand that sometimes radiology departments do not actively advertise the UFE procedure, for reason it is less profitable than other radiologic procedures. Those physicians who are ethical and want to offer women the possibility of this minimally invasive treatment for fibroids are few.*

Also, gynaecologists often do not disclose this treatment as a choice, because of profit motives around hysterectomy.

Interventional Radiologists AMERICA

Visit the website of the Society of Cardiovascular and Interventional Radiology (SCVIR) to conduct a search for an IR in different area's in the USA: <http://www.scvir.org> or go to www.ask4ufe.com

Southern California

— Dr. Joel Garris, MD, FACR – Los Angeles, USA, Board Certified Interventional Radiologist, and one of the early practitioners in the US offering UFE.

Web: www.dr-garris.com

Email: jgarris@ucla.edu

Dr. Garris may be contacted via email for questions about fibroids and UFE or to arrange a complimentary office consultation.

Dr. Garris: "Unfortunately, women are not always told by their gynecologists or their primary physicians about UFE. You had an excellent result from UFE and women facing treatment for this common condition are fortunate that you effectively put into perspective their various treatment options, including UFE. It is a unique service to women seeking treatment for fibroids and offering accurate and up to date medical information."

Interventional Radiologists AUSTRALIA

This list is expanding as we go. It has proven to be quite hard to find out about names of Interventional Radiologists; for reason it might be construed as validating the listed names as qualified – without any current way of really checking – it is illegal in Australia for the IRSA (Interventional Radiology Society of Australasia) to put up names of their members on their own website. While I was promised contact-details, I am still waiting for them.

The following list contains the currently known names from Interventional Radiologists with a special interest in UFE. As most specialists are not listed in the phone-directory under their personal name, we will have to rely on reports of patients for further details. Also, local referring doctors might be able to help out.

Any additional information from patients is always welcome.

Please contact me via the website's Forum.

I'd be happy to help out with any other queries as well.

Melbourne

- The Alfred Hospital – Department of Radiology
Commercial Rd, Prahran, Melbourne 3004 VIC
Patients from out of the area can have their embolisation done in Melbourne, and fly home soon after. Discuss this with the Radiology Department :
- Dr. Peter Mitchell
 - Dr Stuart M. Lyon, Vascular and Interventional Radiologist
Ph: 03 9276 2118 / Fax: 03 9276 2988 / Email: s.lyon@alfred.org.au
Web: www.minimallyinvasivetherapies.com
 - Professor Ken Thomson, leading Interventional Radiologist in Australia
Ph. 03 9276 2536

Dr. Lyon: "The FibroidSolutions website is a good idea - there is a lot of misinformation out there. Much of fibroid embolisation is now patient initiated."

Prof. Thomson is Director of Radiology, and associate with the former Melbourne Fibroid Clinic. Recognised as the leading Interventional Radiologist in Australia, he was one of the first to embrace the new international radiology techniques and performed his first intentional arterial embolisation in 1976. He is author of over 70 scientific papers and book chapters on interventional radiology and has taught these procedures across Asia, South Africa, the USA, Europe, as well as Australia and New Zealand. Experience since the mid 90's with uterine artery embolisation in Melbourne and from the published literature, has altered the way that this radiology department approaches the patient and the disease process itself. Magnetic Resonance Imaging (MRI) is changing the patient-selection and follow-up process.

Prof. Thomson has stated that a strategy was required for managing patient internet information and misinformation. This website was started just for that reason.

Brisbane

- Dr. John Clouston
Wesley Hospital – Southern X-Ray
Ph. 07 3371 9588

Lismore

- Dr. Ian Cappe
St. Vincents Hospital – North Coast Radiology
Ph. 02 6621 8411

Sydney

- Dr. Greg Britts
Royal Nth. Shore Hospital
Ph. 02 9926 8505
- Dr. Philip Vladica
- Dr. William Clarke

Adelaide

- Dr. Roger Davies
- Dr. Nindi Sandhu

Canberra

— Dr. Murali Guduguntla

Perth

— Dr. Sanjay Nadkarni

Referring Doctors AUSTRALIA**Lismore**— Dr. Kingsley Pearson, General Practitioner
Ph. 02 6622 5030**Interventional Radiologists EUROPE****THE NETHERLANDS****Tilburg**— St. Elisabeth Ziekenhuis
Webaddress: <http://www.vleesboom.nl>**An appeal to referring doctors**

Because most patients feel much more secure if they have a physician that supports their choice and supervises follow-up care, I would like to invite General Practitioners as well as Gynaecologists to apply for registration in our listing of referring doctors who do work in cooperation, or are willing to, with Interventional Radiologists.

Please go to the website's FORUM section for contact details: <http://www.fibroidsolutions.com>

Patients with uterine fibroids would be helped with informed medical support.

An appeal to patients

Women who have been or are still suffering from uterine fibroids, are invited to share their experiences around their treatment with other patients.

You can Email me directly and join the FORUM in the website: <http://www.fibroidsolutions.com>

*Please do ask your doctor if they want to be included in this directory,
so more and more women can find the right place to go to straight away.*

Answers to FAQ

If you read this chapter in sequence, it will answer most of your questions. If still more questions remain, you can Email them to us or talk to your Interventional Radiologist. We will try and keep this FAQ section up to date by adding answers to recurring questions. More Q&A can be found on the FORUM page of the website.

"What is the best part in the cycle for the procedure?"

Several women have asked me this, and at the time of my own procedure this was my concern as well. Apparently though, it doesn't make much difference in which part of the menstrual cycle the embolisation is performed. But because this seems to be a concern for many women, I will elaborate on explaining why:

For the interventional radiologist to perform the procedure, it doesn't matter if you are having your period or not. Your own inconvenience is not enough reason to postpone and have another bad period, as bleeding will become lighter as soon as the fibroids are embolised. Any menstrual bleeding occurring at the time of the procedure, is expected to be reasonably under control after embolisation. When you have to stay flat on your back for the first 4 to 6 hours, nursing staff is equipped to help you with adequate protection.

A study has been done by an American physician, Dr. Halberg, about how the timing of different kinds of surgery can significantly alter a patient's outcome. He found, for instance, that midcycle was the best time for breast cancer surgery; women that underwent surgery in the days before and during their period, were four times more likely to suffer recurrence of breast cancer. Thought was that hormones released around a woman's period were immune suppressing. Personally, I suspect the reason could also be that when progesterone levels kick-in around midcycle, the immune system is simply working more optimally. Also, in this example, natural progesterone levels suppress breast cancer (Dr. John Lee). However, these differences in outcome can only occur provided ovulation takes place; if the woman has an-ovulatory cycles during healing this could give another outcome.

One could wonder if similar differences might occur with treatment of fibroids during certain parts of the hormonal cycle. Women often have an-ovulatory cycles where fibroids are present. If supplementing progesterone would make a difference at all, it certainly will not alter outcome if used in the form of synthetic progestins (like Primolut). On the contrary; unlike natural progesterone, the synthetic version of this hormone will have oestrogen-like side effects, because it readily binds to oestrogen receptors as well as progesterone receptors – this means bloating, fluid retention, breast tenderness, nausea etc. and ... immune suppression. For some patients, however, taking progestins prior to treatment is a necessity in order to manage excessive blood loss.

So in theory, using Natural Progesterone Cream could have a positive effect on healing. This is what I had been using for quite a while before my procedure, and also afterwards, together with appropriate homeopathy – and this could have contributed to my painless and rapid healing. But this is hard to know for certain, as I was also on Primolut shortly before both procedures that I had, when the natural progesterone proved to be insufficient to control my bleeding. It could perhaps even be so that taking the Primolut was a contributing factor in my case for needing a second procedure, because of its effect on the dilation of blood vessels.... (Additional information on Natural Progesterone can be found in B6).

As soon as you start considering these things, one would also have to take into account things like biorhythm-phases during the procedure and healing period, as this has an impact on immune responses as well. I tried to schedule my procedure around these issues . . . as well as a plane ticket . . . and a place to stay . . . and avoiding bleeding during my travel – and got completely mad. After all; it is to be hoped that the Interventional Radiologist performing the procedure has a good day as well...

In the end I resolved in thinking that even though the body's resistance can be somewhat lower during a menstrual period; if my body can cope with one heavy period after another, it can certainly cope with this. And thankfully, recurrence is not an issue after fibroid embolisation treatment, nor is heavy surgery involved, so there's very little reason to worry.

Yet another consideration could be that the endometrial lining that develops during the month prior to embolisation, will have to be shed during the following period. This is the main reason why the first period after embolisation can still be somewhat heavy. From this point of view it might make some difference to

have the procedure early in the cycle when the endometrial lining is still thin. On the other hand, straight after a heavy period you are not likely to be at your fittest.

Again, postponing because of this will be counterproductive in any case.

There's one more consideration I am looking into: Whenever spasm of the vessels occurs during the procedure, this may prevent passage of the particles or the catheter and give a less satisfactory outcome. According to Prof. Ken Thomson spasm occurs because of wall contact, and seems to happen more easily in slender women with smaller blood vessels.

Personally, I have been wondering if it could make a difference for slender women whether the blood vessels are naturally more or less dilated during certain parts of the menstrual cycle...

As I am a slender woman myself, I wonder if the necessity of a second embolisation in my case, could have been prevented... (Nevertheless, I prefer that over hysterectomy – and in the end I had a perfect outcome). So far, Interventional Radiologists believe that vessel-spasm occurs independent of the menstrual cycle.

They also believe that hypervascular fibroids seem to be a predictor of success. Vascularity can be determined with MR. In both selection and follow-up, MR is more useful than ultrasound – but not widely available. As the causes of both success and failure are becoming understood, additional basic research still is required.

Generally speaking, there's no such thing as the most ideal time in the cycle. As with any medical procedure, it doesn't hurt to be as fit as you can before you go in. Although minimally invasive, after the procedure the blood flow to a whole organ will have been changed and you need to recover from that. (Find suggestions for assisting this in B6).

The only legitimate reason for postponement could be an infection going on elsewhere in the body – like for instance in one of your teeth (I had to finish a root canal treatment first and wait for a few weeks). Other than that, if you get the OK from your Interventional Radiologist, do not postpone it; you will do your body the biggest favour to stop the heavy bleeding as soon as you can. You'll be surprised how quickly you recover and pick up energy, simply because you rid your body of the burden of heavy blood loss and pain. Haemorrhaging and clotting should be a thing of the past straight away and the second period after the procedure will be much lighter. Many women feel it's like magic – they suddenly have a normal period – and most cannot even remember having had such light periods.

"Is there a limit to the number of fibroids that can be embolised?"

There is no limit to the number of fibroids in a uterus that will respond to embolisation. It may be possible that not all fibroids have the same amount of shrinkage, but as stated earlier this is no measure for the success of the treatment.

Each and every fibroid is treated in one procedure – this in contrast to myomectomy where small fibroids can be missed, which can start growing after the operation and often call for repeat surgery.

"Is there any danger for infection having intercourse while the fibroids are still shrinking?"

Intercourse may be painful but unless there is a breach in the integrity of the lining of the vagina and uterus, or pre-existing STI (sexually transmitted infection) like Chlamydia etc, there should be no more danger with intercourse than with anything else. Even brushing your teeth produces a transient flush of bugs into the blood stream.

Theoretically the risk of infection exists while there is 'dead tissue' present but it is highest right after the embolisation. The process of healing includes protective mechanisms against infection.

"Does a previous treatment like myomectomy or endometrial ablation interfere with effectiveness of embolisation?"

Myomectomy is not expected to alter performance of UFE; the statistics reported remain the same, regardless of a previous surgical myomectomy.

Ablation will not interfere with the effectiveness of embolisation either. It is a method of cauterising the lining of the uterus, intended to induce scarring, and only a local surface treatment. It affects only the endometrial vessels, and does not alter the blood flow in the uterine arteries which are the critical pathways for embolisation.

"How long does the process of natural decrease in fibroid size take after menopause – is it just as well to wait and see, shortly before menopause?"

Although after menopause fibroids may decrease in size dramatically on their own, do not expect a sudden decrease in fibroid size when menopause arrives. In fact, growing fibroids can become significantly larger in the years while waiting for menopause. The gynaecologist together with the interventional radiologist are the best persons to advise you whether or not a potential size increase may demand treatment before menopause arrives.

A number of factors may be of influence on the natural occurring shrinking of fibroids. The decline in oestrogen production is the reason for fibroids to decrease in size after menopause. This process may however be counteracted when oestrogen replacement is taken. Hormone replacement (HRT) can nullify the effect of the natural decrease in oestrogen produced by the body. Some authorities believe that hormone supplementation should not have an impact because the dosage of oestrogen used for replacement is less than what a menstruating woman normally produces – but this is questionable because a synthetic hormone has different effects on the body. Consider also that supplementing oestrogen is hardly ever really necessary; it can be detrimental to your health if used for the wrong reasons. If a real need exists, natural oestrogen in very small amounts would be the best option, or even progesterone cream on its own could do the trick in reducing menopausal symptoms – and these natural substances will hardly interfere. In fact natural progesterone may aid in reducing the fibroids or keep them from growing. (More on natural progesterone in B6 / and on HRT in B1).

It is not always easy to predict what will happen, and so assessing whether or not it is wise to take a deep breath and hope for a relief when menopause arrives, is very hard.

Compared to what happens with the drug Lupron – causing a 'temporary menopause' with a rapid decrease in fibroid size over 3-6 months – the decrease in fibroid size after the shutdown of the ovaries in menopause is much less dramatic; a natural menopause results in a more gradual loss of oestrogen. The decrease in size is expected to take place over a number of years, rather than a few months.

Taking Lupron up to that stage can only be of temporary relief, as it is not indicated to be used longer than six months and fibroids will grow again when the medication is stopped.

In theory, it could be possible for a woman who is very near menopause and does not have very severe symptoms, to opt for herbal or homeopathic treatment in conjunction with natural progesterone, in order to stabilise fibroid growth and symptoms – this could especially be worthwhile trying in case there are contraindications for embolisation or other treatment, but will involve quite some dedication.

*"How much must I limit activity after the procedure?
Suppose my job is very physically demanding."*

In an otherwise healthy woman, normal not strenuous activity will be very comfortable after a few days. Very athletic things or activities that cause much jolting body motion are probably best put on hold for 1-2 weeks. After this, the major limiting factor is a tender uterus – and though activity will not be harmful, it may not be comfortable. Because the ability to rebound after any procedure varies from person to person, it is hard to give sharp guidelines. Simple observation after the first week as to what you can or cannot do comfortably, is probably the best indicator of when full activity can be resumed.

In the News

MOST UFE PATIENTS NOT REFERRED BY GYNECOLOGIST

Embargoed for release Monday, April 8, 2002

BALTIMORE – Searching for an alternative to hysterectomy or surgery to remove uterine fibroids, women are learning about a minimally invasive treatment – uterine fibroid embolization (UFE) – but typically not from their gynecologists.

Only about 1 in 10 women who underwent UFE at Northwestern Memorial Hospital in Chicago, were informed of the option by their gynecologists. In a survey of 100 women who had UFE at Northwestern, 79 (79 percent) said their gynecologists did not tell them about UFE: 64 (64 percent) said their doctors recommended hysterectomy, or surgical removal of the uterus, and 23 (23 percent) were steered to myomectomy, or surgical removal of individual fibroids. Results of the survey were presented at the 27th Annual Scientific Meeting of the Society of Cardiovascular & Interventional Radiology (SCVIR).

“There were 13 gynecologists who did recommend UFE,” said Robert Vogelzang, M.D., chief of interventional radiology, Northwestern Memorial Hospital, and professor of radiology, Northwestern University Medical School. “But of the rest, at best they said they didn’t know anything about it and at worst, they said the procedure wasn’t effective. Several women were told in no uncertain terms that the procedure would result in severe pain for weeks. None of the women who had the procedure at our institution experienced that.”

In a related Northwestern University study, only 14 (9 percent) of the 160 women who had the procedure in 2001 were referred by their gynecologists. The majority – 110 (69 percent) came to Northwestern after finding out about UFE through television, newspaper, magazine and Internet stories and advertisements, and 32 (20 percent) were referred by family and friends.

“More and more women are pursuing medical information on their own and are not necessarily content to follow the advice of their gynecologists. In this day and age of modern medicine, women are asking if there are treatment options besides major surgery,” said Dr. Vogelzang.

In addition to Dr. Vogelzang, co-authors of the study of gynecologists referring patients for UFE are: N.M. Lvoff, R.A. Omary, R.K. Ryu, H.B. Chrisman and S.A. Resnick. Co-authors of the study on how patients found out about UFE are: H.B. Chrisman, R.A. Omary, S. Resnick, M.B. Saker and A.A. Nemcek Jr.

An estimated 5,200 people are attending the SCVIR Annual Scientific Meeting in Baltimore. SCVIR is the professional society of interventional radiologists – physicians who specialize in minimally invasive, targeted treatments performed using imaging guidance. Interventional radiology procedures are an advance in medicine that replace open surgical procedures. They are generally easier for the patient because they involve no large incisions, less risk, less pain and shorter recovery times.

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MEDIA ALERT: CONDOLEZZA RICE TO UNDERGO NONSURGICAL INTERVENTIONAL RADIOLOGY TREATMENT FOR UTERINE FIBROIDS

SOCIETY OF INTERVENTIONAL RADIOLOGY
– Enhanced Care through Advanced Technology –

Interventional Radiologists Available for Interviews Throughout the Country on Uterine Fibroid Embolization Procedure.

Uterine fibroids are very common noncancerous (benign) growths that develop in the muscular wall of the uterus. They can range in size from very tiny (a quarter of an inch) to larger than a cantaloupe. Occasionally, they can cause the uterus to grow to the size of a five-month pregnancy. In most cases, there is more than one fibroid in the uterus.

Twenty to 40 percent of women age 35 and older have uterine fibroids of a significant size. African American women are at a higher risk for fibroids: as many as 50 percent have fibroids of a significant size.

Uterine fibroids are the most frequent indication for hysterectomy in premenopausal women and, therefore, are a major public health issue. Of the 600,000 hysterectomies performed annually in the United States, one-third are due to fibroids.

Most fibroids don’t cause symptoms—only 10 to 20 percent of women who have fibroids require treatment. Depending on size, location and number of fibroids, they may cause heavy bleeding, pain, urinary frequency and constipation.

About the Procedure

Uterine fibroid embolization (UFE), also known as uterine artery embolization, is performed by an interventional radiologist who makes a tiny nick in the skin, less than one-quarter of an inch, in the groin and inserts a catheter into the femoral artery. Using real-time imaging, the physician guides the catheter through the artery and then releases tiny particles, the size of grains of sand, into the uterine arteries that supply blood to the fibroid tumor. This blocks the blood flow to the fibroid tumor, causing it to shrink and die, and disruptive symptoms to subside. On average, 90 percent of women who have the procedure experience significant or total relief of heavy bleeding and other symptoms.

The FDA approved procedure is effective for multiple fibroids, and offers less risk, less pain and less recovery time than hysterectomy—as well as preserves the uterus.

Other UFE Facts

- An estimated 13,000-14,000 UFE procedures are performed annually in the U.S. (as of 2004).
- The embolic particles are approved by the FDA specifically for UFE, based on comparative trials showing similar efficacy with less serious complications compared to hysterectomy and myomectomy (the surgical removal of fibroids).
- UFE is covered by most major insurance companies and is widely available across the country.
- Most women with symptomatic fibroids are candidates for UFE and should obtain a consult with an interventional radiologist to determine whether UFE is a treatment option for them. An ultrasound or MRI diagnostic test will help the interventional radiologist to determine if the woman is a candidate for this treatment.

About Interventional Radiologists

Interventional radiologists are doctors who specialize in minimally invasive, targeted treatments that have less risk, less pain and less recovery time compared to open surgery.

They use their expertise in interpreting X-rays, ultrasound, MRI and other diagnostic imaging studies to understand, visualize and diagnose the full scope of the disease's pathology and to map out the procedure tailored to the individual patient. Then during the procedure, they image as they go to guide tiny instruments, such as catheters, through blood vessels or skin, to treat diseases at the site of the illness nonsurgically.

Interventional radiology is a recognized medical specialty by the American Board of Medical Specialties. Interventional radiologists are board-certified physicians with advanced training minimally invasive targeted treatments using imaging to guide them. Their board certification includes both Vascular and Interventional Radiology and Diagnostic Radiology. The American Board of Radiology certifies their specialized training.

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- An article about UFE and this FibroidSolutions website has been published in the **2004 May issue of Good Medicine**. Containing an interview with Professor Ken Thomson, who did the procedure for me – and my own experiences as a patient. Professor Thomson is Director of Radiology at the Alfred Hospital in Melbourne and leading Interventional Radiologist in Australia.
- More press articles about UFE in chapter B3: Fibroids & Fertility

FOLLOWING IS A LIST OF CONTENTS OF ALL CHAPTERS ...

YOUR BODY – YOUR CHOICE

It is a basic right to have control of your body
and make decisions about your health and health-care
on the basis of all available information,
free from the pressure of following
your physician's preferred treatment option.

DISCLAIMER

I have put all given information forward to my best knowledge and ability.
I can and will not accept responsibility for any misinterpretation or other inconvenience resulting from the information as provided.

I encourage every woman suffering from uterine fibroids to make her own decisions.

It is my sole intention to assist in this process, by providing information via the FibroidSolutions website, which I compiled from publicly accessible resources, partly not publicly accessible scientific publications, and personal experiences:

<http://www.fibroidsolutions.com>

Read more in the other chapters of www.fibroidsolutions.com :



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My Story — a Journey of Healing

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www.fibroidsolutions.com

**INFORMATION ABOUT UTERINE FIBROIDS
THAT MAKES A DIFFERENCE**