

# A simpler fix for fibroids



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## Conservative alternatives to hysterectomy are becoming increasingly popular

SYMPTOMATIC uterine fibroids are a common cause for gynaecological consultation in general practice. They are the top indication for hysterectomy worldwide, although less invasive treatment options, such as uterine artery embolisation (explored in more depth below), are becoming more common.

Uterine fibroids – also known as myomas or leiomyomas – are benign, smooth muscle tumours arising from the uterine myometrium.

Known risk factors include nulliparity, increased frequency of menses, early menarche, African descent, family history of fibroids, history of dysmenorrhea, obesity and increasing age.

Uterine fibroids are present in 40-80% of women aged 50 years and can cause painful, heavy or prolonged menstrual bleeding. Large fibroids or multi-fibroid uteruses can cause pelvic pressure symptoms, bloating and urinary urgency. Iron deficiency anaemia due to excess blood loss may result in fatigue.

Uterine fibroids have three subgroups:

- Subserosal: projecting outside the uterus.
- Intramural: within the myometrium.
- Submucosal: projecting into the uterine cavity.

### MANAGEMENT PATHWAYS

**Medical options:** Tranexamic acid; non-steroidal anti-inflammatories; levonorgestrel intrauterine system (LNG-IUS); progesterin; gonadotropin-releasing hormone agonists (GnRH).

**Surgical options:** Hysterectomy or myomectomy via laparotomy, laparoscopy

or hysteroscopy, hysterectomy or endometrial resection via hysteroscopy.

Hysterectomy may be the most effective treatment for symptomatic fibroids, but is associated with increased peri-operative and postoperative morbidity, extended hospital stays and recovery times and, in rare cases, mortality.

More conservative options are becoming increasingly popular, especially in women keen to preserve their uterus. It is essential to eliminate malignancy as a differential diagnosis before treatment. Fast-growing uterine masses in postmenopausal women warrant a high degree of suspicion.

**Non-surgical (radiological) options:** Uterine artery embolisation (UAE); MRI-guided ultrasound ablation.

### THE UAE OPTION

UAE, also known as fibroid embolisation, causes ischaemia by occluding the blood supply to a fibroid, causing atrophy and shrinkage. Being highly vascular, fibroids tend to shrink by 25% when occluded and up to 50-75% from infarction at six months.

The myometrium of the uterus can quickly establish a blood supply, via collateral vessels from the ovarian and vaginal circulation. Fibroids do not have access to this collateral supply; instead they are fed by uterine arteries, which can be blocked by tiny embolic particles, making them susceptible to ischaemia.

UAE works well with large, multi-fibroid uteruses or with fibroids over 6cm. Smaller submucosal fibroids, which often cause heavy bleeding and dysmenorrhea, respond best to hysteroscopic myomectomy. Active infection or pregnancy are contraindications for UAE.

The procedure usually involves an overnight stay in hospital and 30-60 minutes in theatre with either a general anaesthetic, conscious sedation, and/or hypogastric nerve block.

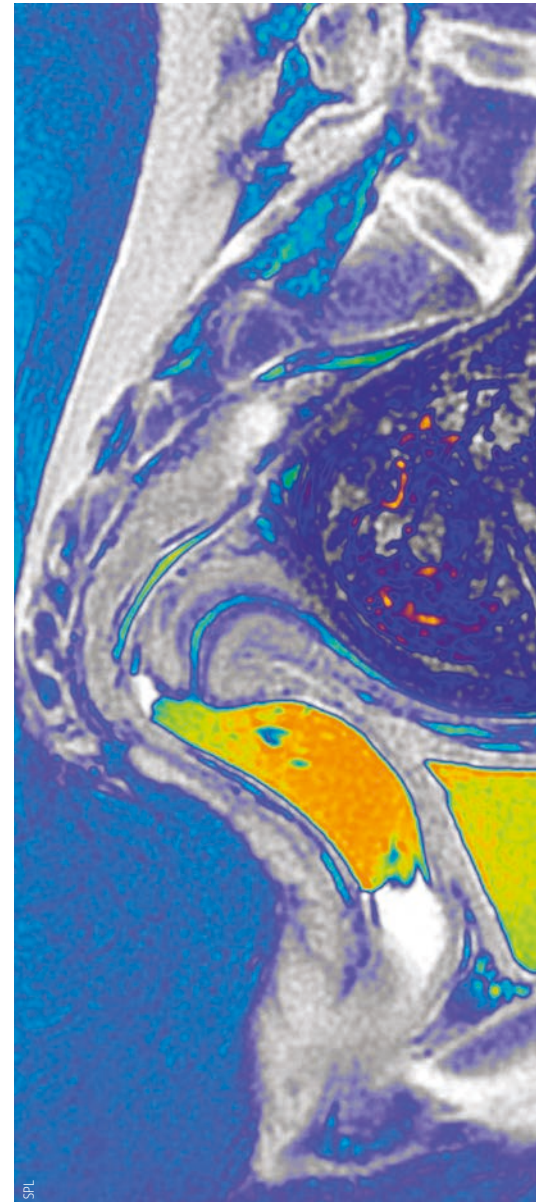
A micro-catheter (1mm) is inserted into the common femoral artery and guided to the contralateral uterine artery, just above the cervicovaginal branches. Embolic particles are then injected into the distal part of the vessel causing occlusion.

Once complete, the catheter is guided to the other uterine artery to repeat the procedure. About one patient in 50 will

have an aberrant blood supply to their uterus, meaning other vessels may require embolisation. The procedure is performed using an (angiogram). Total patient exposure to ionising radiation is a low dose of 20 rads (20cGy).

**Postoperative care:** For many patients, the ischaemia caused by embolisation can result in painful postoperative uterine cramping. This usually lasts for four to 36 hours and is why most patients are kept in hospital overnight.

It can be prevented through a hypogastric nerve block performed at the beginning of the procedure. These patients do



not usually require opiate-based analgesia and may go home on the same day.

Patients who do not have regional anaesthesia are usually treated postoperatively with potent opiate analgesia, usually patient controlled, and anti-nauseants.

The groin incision is usually 5mm or less, meaning postoperative recovery is rapid. Most patients will be back at work within five days, compared with four weeks for hysterectomy.

UAE follow-up at six weeks, three months and six months is standard. The patient can expect her menstrual period to be somewhat irregular in the few months

following the procedure, but this will normalise after two or three cycles.

The three-month follow-up is usually the most satisfying for clinicians, with the majority of patients reporting reductions in urinary symptoms, dysmenorrhoea and heavy menstrual bleeding. If large fibroids had been present, most patients will report greatly reduced abdominal girth.

#### UAE advantages versus disadvantages:

Although access and case numbers lag significantly behind many developed countries including the US and Europe, UAE is becoming increasingly popular in Australia.

This is because it is much less invasive than hysterectomy, with reduced hospital stay, lower post-operative risks, a quicker return to normal activities and lower costs. It also offers a quicker recovery time than laparoscopy/hysteroscopy myomectomy procedures, which carry the standard risks associated with surgery.

A 2014 Cochrane review comparing UAE with standard care (myomectomy/hysterectomy) found no difference in patient satisfaction at two-year follow-up.

The reviewers stated that UAE candidates had a slightly higher risk of minor post-surgical complications and a greater risk of needing re-intervention at two years. The risk factor was 15-32% for the UAE group compared with 7% for the hysterectomy/myomectomy group.

Patients require counselling about the higher rate of re-intervention, balanced with lower costs and less invasiveness.

The impact of UAE on fertility, ovarian reserve and pregnancy outcomes is not yet clear. However, there are many cases of successful pregnancy following UAE, including UAE being performed in patients suspected of infertility secondary to a multi-fibroid uterus.

#### RECOMMENDATIONS

Women keen to preserve their uterus or unwilling to undergo surgery will benefit from counselling on the risks and benefits of all treatment options.

For patients suited to, or interested in pursuing, a non-surgical approach, GPs can refer to an experienced interventional radiologist who will take a thorough clinical history, order appropriate imaging, rule out malignancy and ascertain whether UAE would be the most appropriate treatment.

Alternatively, patients can be given referrals to both an interventional radiologist and a gynaecologist to explore all options and then make an informed choice. ■

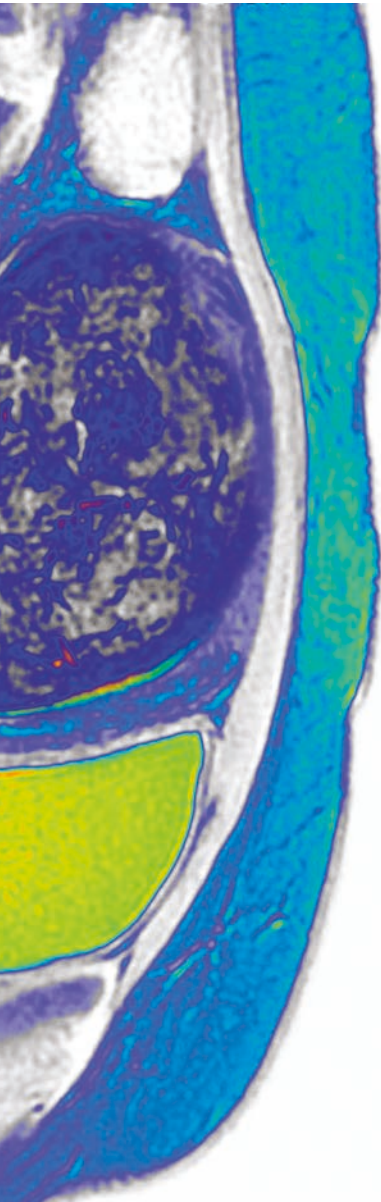
References at [medobs.com.au](http://medobs.com.au)

\* A/Prof Lyon was previously head, interventional radiology, Alfred Hospital, Melbourne. For the past eight years he has been scientific convenor and secretary for the Interventional Radiology Society of Australasia. He is also an examiner for the European Boards of Interventional Radiology. He has published over 40 scientific papers.

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#### Practice points

- Sonography or MRI may be helpful for differential diagnosis of uterine masses; the position and number of fibroids will dictate the appropriate treatment regime. Malignancy must be ruled out, especially in postmenopausal women
- Large, multi-fibroid presentations or fibroids over 6cm may be better suited to UAE
- Smaller submucosal fibroids (which often cause heavy bleeding and dysmenorrhoea) may respond best to myomectomy via laparotomy, laparoscopy or hysteroscopy



**Uterine fibroid. Coloured MRI scan of the pelvis of a 27-year-old female with a large fibroid (dark blue) in her uterus. The lumbar vertebrae appear at the top, and the sacrum is to the left.**