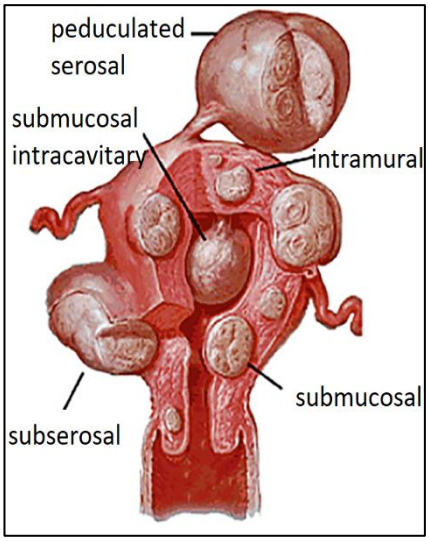
CARE
CENTRE FOR ADVANCED REPRODUCTIVE ENDOSURGERY

Update on Uterine Fibroid

What is fibroid?
Fibroid, also called a ***myoma*** or ***leiomyoma***, is a slow-growing, non-cancerous (*benign*) tumour of the uterus. When small, it may be the size of a pea or a marble. With continuing growth, it may be the size of a cricket ball, but sometimes may be as large as a football by the time it is first discovered. In general, fibroid has the consistency of a baseball but sometimes can be soft or liquified (degenerative) or rock-hard (calcified).

How common is fibroid?
Fibroid is the most common tumour of the uterus, found in 30 to 70% of women of all ages. The incidence of fibroid rises with age, with family history, and in certain racial groups. A person may have one or multiple fibroids. Fibroids may reform in the same person years after surgical removal.



Where are fibroids located in the uterus?
The uterine wall consists of 3 layers – the outer wall (serosal), middle layer (mural), and inner layer (endometrial). Fibroids are often described according to where they are located in the uterine wall.

A **subserosal** (or subserous) fibroid is one that lies under the serosal layer. A **pedunculated** serosal fibroid is one that is attached to the outside of uterus on a pedicle.

An **intramural** fibroid is one that lies in the middle layer of the uterine wall. If larger than the uterine wall thickness, an intramural fibroid can protrude outwards as well as inwards.

A **submucosal** (or submucous) fibroid is one that lies in the inner layer (endometrial) of the uterine wall. It may be partly embedded in the wall of the uterus or may project fully into the cavity from a pedicle (**intracavitary**).

What are the symptoms of fibroid?
The majority of women who have fibroids do not have any abnormal symptoms and may never know that they have fibroids.

In some cases, the presence of fibroids may be suspected on abdominal or pelvic examination during a general physical check-up. In others, fibroids may be seen during routine antenatal ultrasound or discovered during ultrasound examination for investigation of abnormal symptoms such as pain, heavy bleeding or infertility.

The following is a list of the most common types and variety of symptoms which may lead to clinical suspicion of fibroids:

- Heavy, prolonged menstrual bleeding
- Abdominal lump or distension
- Pelvic pain
- Pelvic pressure
- Frequent urination
- Difficulty emptying the bladder
- Constipation
- Backache

In a subset of women, fibroids may cause adverse fertility or obstetric outcomes such as:

- Recurrent miscarriage (submucosal fibroid)
- Acute pain in pregnancy (from fibroid degeneration)
- Premature labour
- Placental abruption
- Abnormal fetal presentation (breech, transverse lie)
- Obstructed labour
- Post-partum bleeding

Can fibroid become cancerous?

Cancer or malignant change in a fibroid, called ***sarcoma,*** is very uncommon but unpredictable, with estimated incidence ranging from 1 to 5/1000.

Clinical features such as the size and growth of fibroids cannot be relied upon to predict the risk of sarcoma.

In general, fibroids generally grow slowly in the premenopausal years. They may often stop growing or shrink to smaller size after the menopause. While growth of fibroids after the menopause may raise suspicion of malignant change, in fact, this rarely turns out to be the case.

At present, there are no imaging or blood tests that can reliably predict the malignant potential of a fibroid, or to differentiate a benign fibroid from a sarcoma. The diagnosis of a sarcoma is therefore often unforeseen and relies on histological diagnosis of the removed fibroid or uterus.

What tests are available to determine the location, number, size and characteristics of fibroids?

- **Ultrasound –** an outpatient imaging test using sound waves to examine the uterus, ovaries, fallopian tubes, and to map the size and location of fibroids. The examination is either done abdominally or transvaginally.
- **Hysterosalpingo- Contrast- Sonography (HyCoSy) -** an outpatient ultrasound procedure that uses saline solution to assess the uterine cavity and fallopian tubes.
- **Hysterosalpingography (HSG) –** an outpatient X-ray examination of the uterus and fallopian tubes that uses a contrast material to assess the uterine cavity and fallopian tubes.

- **MRI -** (magnetic resonance imaging) a scan that uses a magnetic field and radio waves to take pictures inside the body. MRI is regarded as the most accurate imaging test currently available which can provided detailed images of the number, location, size, and appearance of fibroids, particularly when multiple and large.
- **Hysteroscopy –** a day procedure using a small telescope inserted through the cervix to examine the uterine cavity.
- **Laparoscopy** – a day procedure using a small telescope to examine the abdominal and pelvic cavity through a small incision at the umbilicus. Apart from assessing fibroids, this technique can also check the ovaries, the fallopian tubes and co-existing conditions such as endometriosis.

What are the available treatment options for women with fibroids?
Women with fibroids who experience none or mild symptoms, a **watchful approach** with periodic ultrasound monitoring and annual review is an appropriate option. This is because fibroids are generally non-cancerous, slow-growing, and tend to shrink after menopause.

Where fibroids cause major symptoms or problems, there is a wide range of **medical** and **surgical** treatment options available to choose from. Depending on individual circumstances, the choice of treatment option should follow discussion of benefits and risks and guidance from an experienced doctor. Sometimes, it may be worthwhile to obtain more than one opinion if one is not clear about the recommended management.

Non-hormonal medical treatment options for fibroids:
- **Iron supplements** - help to correct iron deficiency from heavy bleeding
- **Tranexamic acid (Cyclokapron)** - an antifibrinolytic medication that works by slowing the processes that cause heavy menstrual periods. Apart from instructions given by the doctor or pharmacist, more useful information is available at https://www.nps.org.au/medical-info/medicine-finder/cyklokapron-tablets.
- **Nonsteroidal anti-inflammatory drugs (NSAIDs)** – may help to relieve pain and heavy bleeding related to fibroids in mild cases. Beware of gastro-intestinal side-effects from prolonged use.

Hormonal treatment options for fibroids
As female sex hormones play a role in fibroid development, a variety of hormonal therapies may be used to control or relieve symptoms such as heavy bleeding and shrink fibroids.

Hormones may therefore be helpful in helping to treat anemia and reduce fibroid size before surgery. They may help symptomatic women who wish to wait for natural menopause, or those who, for whatever reasons, elect not to have surgical treatment.

The range of hormone therapies for fibroids includes:
- **GnRH analogues** (injections or nasal sprays) – useful to reduce heavy bleeding, improve anemia, reduce the size fibroids before surgery.
- **Progestins** (hormonal intrauterine device and progestin-only pills) – used to control heavy bleeding.
- **Progestin and estrogen combinations** (combined birth control pills)

- **Ulipristal acetate** (Esmya) – a selective progesterone receptor modulator (SPRM) shown to be very effective for short-term control of heavy bleeding.

  On 9 February 2018, the Medicines & Healthcare products Regulatory Agency (MHRA) advised of new temporary safety measures for Esmya (Ulipristal) following reports of serious liver injury in women using this medicine for uterine fibroids.

  The temporary safety measures are:

  - Do not initiate new treatment courses of Esmya, including in women who have completed one or more treatment courses previously.
  - Perform liver function tests at least once a month in all women currently taking Esmya. Stop Esmya treatment in any woman who develops transaminase levels more than 2 times the upper limit of normal, closely monitor and refer for specialist hepatology evaluation as clinically indicated. Liver function tests should be repeated in all women 2 to 4 weeks after stopping treatment.
  - Check transaminase levels immediately in current or recent users of Esmya who present with signs or symptoms suggestive of liver injury (such as nausea, vomiting, malaise, right hypochondrial pain, anorexia, asthenia, jaundice). If transaminase levels are more than 2 times the upper limit of normal, stop treatment, closely monitor and refer for specialist hepatology evaluation as clinically indicated.
  - Advise women using Esmya on the signs and symptoms of liver injury.

  More detailed information regarding Esmya and liver damage is available at https://www.rcog.org.uk/globalassets/documents/guidelines/safety-alerts/esmyamhrafeb2018.pdf.

An excellent guide on '**Uterine fibroids: When is treatment with hormones considered?**' is available at **PubMed Health** https://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0072716/.

Non-surgical treatment options for fibroids
A number of procedures are available to destroy fibroid(s) or its blood supply without removing it:

- **Uterine artery embolization** – often carried out by an intervention radiologist, this procedure involves insertion of a thin plastic tube (catheter) into a major blood vessel in the groin (femoral artery) and injection of tiny plastic particles to block the blood vessels that supply the fibroid. UAE is reported to help improve symptoms in > 80% of women. In about 20% of cases, there may be no improvement, temporary positive effect followed by recurrence of symptoms and further fibroid growth afterwards.

  Reported common (1/10 to 1/100) side-effects of UAE include abdominal pain, nausea, vomiting, fever. Uncommon (1/100 to 1/1000) side-effects include damage to blood vessels, deep vein thrombosis, ovarian failure /menopause /infertility

(4/100), overwhelming sepsis, and increased risk of miscarriage. For more helpful information, refer to the article '**Uterine fibroids: What are the benefits and risks of uterine artery embolization?**' is available at https://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0072717/.

- **Magnetic resonance-guided focused ultrasound surgery (MRgFUS)** - an outpatient procedure that destroys the fibroid by using by high-intensity focused ultrasound under magnetic resonance imaging (MRI) guidance. In contrast to other options, MRgFUS technique claims to be associated with minimal risks and complications, requires no overnight hospital stay and allows most patients to return to work and normal activities in one to two days. Reported adverse events include skin burns, nerve damage, damage to adjacent organs such as bowel thermal injury and perforation.

Surgical treatment options for fibroids

For women who suffer from severe bleeding, pain, abdominal distension, poor reproductive outcomes due to fibroids, surgery may be the best treatment option after trial of conservative therapies. As surgery for treatment of fibroids is usually an elective procedure, time is available for obtaining information and careful discussion of benefits and risks before making a decision.

The two main surgical treatment options include:

- **Myomectomy** - only the **fibroids** are removed, meaning the uterus is retained. Depending on location, fibroids can be removed via the vagina using hysteroscopy, via the abdomen through an open incision or laparoscopic (keyhole) surgery.
- **Hysterectomy** – means removal of the uterus. So, it is not an option for women who want to have children. On the other hand, it may be a suitable for women who have very many or large **fibroids**, who have completed (or elect not to consider) childbearing, and who wish to avoid the risk of recurrence of fibroids.

As there may be different levels of expertise and skills amongst gynaecologists when it comes to surgical treatment for fibroids, it may be worthwhile to seek more than one opinion to determine which types of myomectomy (hysteroscopic, laparoscopic, open) or hysterectomy (total or subtotal), and routes of surgery (vaginal, laparoscopic, open) may be suitable for individual circumstances.

Another helpful article on '**Uterine fibroids: Surgery'** is available at PubMed Health **https://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0072715/.**

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A/Professor Alan Lam at **CARE** (**Centre for Advanced Reproductive Endosurgery**) specialises in the assessment and management of fibroids, particularly in laparoscopic and hysteroscopic surgical management options.

For **an appointment at CARE, please ring 9966 9121.**