

# Treatment to stop heavy bleeding following birth (uterine artery embolisation)

This information is about a procedure called uterine artery embolisation (UAE), which can be used to treat ongoing excessive bleeding from the uterus (womb) following birth.

This leaflet may be given to you before or after the procedure to give you a better understanding of what has been done and why. If you have any questions or concerns, please speak to your midwife or doctor.

## What is uterine artery embolisation?

Uterine artery embolisation is a process of blocking the blood supply to the uterus with small particles of medical sponge/plastic to stop the flow of blood.

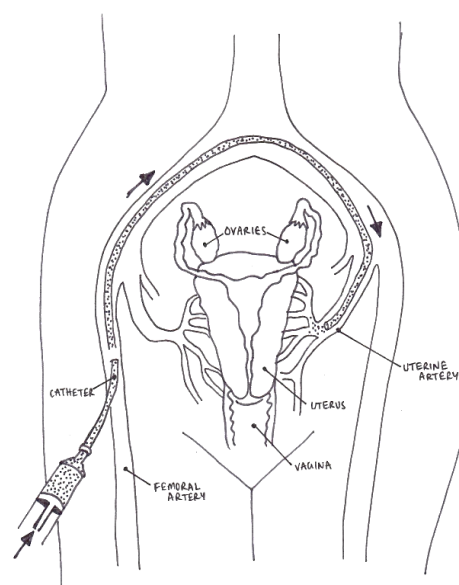
## How is it performed?

Uterine artery embolisation is performed by a specialist doctor called an interventional radiologist. The procedure usually takes place in the X-ray Department and takes 1-2 hours but can be performed in theatre if needed. You will have an anaesthetic appropriate to the circumstance, depending on how well or not you are and sometimes personal choice. This might include intravenous sedation, a spinal anaesthetic (injection into your spine to make you numb from waist down) or general anaesthetic (when you are asleep) prior to the procedure.

The blood supply for the uterus comes from two blood vessels called uterine arteries, which are connected to the major arteries in the groin. A long, thin, flexible plastic tube called a catheter is inserted into one of the main arteries in the groin or wrist through a very small cut in the skin. The catheter is very narrow, approximately 1.5mm wide.

Under x-ray guidance the catheter is moved forward so that the tip is placed within each uterine artery (right and left) in turn. At this point an angiogram is performed. This is when x-ray dye is injected into the catheter while taking x-ray images to give a 'road map' of the uterine artery.

This allows the radiologist to determine the best position to block the uterine artery in order to stop the bleeding. Once the tip of the catheter is in the desired position, small fragments of medical sponge or tiny plastic particles (the size of grains of sand) are injected to stop the blood flow in the uterine artery. These fragments of sponge and plastic particles have been used in the human body for many years and have been proven to be very safe. The result is checked with a repeat angiogram. The catheter is then removed and pressure is applied on the entry wound in the groin for about 15 minutes to stop any bleeding.



## When should uterine artery embolisation be considered and are there alternatives?

The commonest reason for bleeding after any delivery is an atonic (floppy) uterus. Other causes include trauma, tissue and bleeding disorders. Regardless of the cause, UAE is often considered with ongoing excessive bleeding and has a success rate of 90-95%. Other measures to treat vaginal bleeding after birth include more conservative measures including medication to help the womb to contract. Surgical procedures include:

- Balloon tamponade – this is where a balloon is inserted into the uterus and filled with water. This can be done through the vagina. The filled balloon puts pressure on the uterus from the inside, compressing the blood vessels and stopping the bleeding. This is a temporary measure and the balloon is usually deflated and removed up to 24 hours later.
- B-Lynch suture – this involves a laparotomy (an incision in the abdomen) to gain access to the uterus. Large sutures (stitches) are placed over the top of the uterus, like braces, to manually compress the uterus and stop the bleeding.
- Hysterectomy – this is a major operation involving surgical removal of the uterus. This is only performed in life-threatening situations. Performing UAE may reduce the chance of hysterectomy.

Uterine artery embolisation may sometimes be performed before a planned caesarean section if excessive bleeding is anticipated, for example with a low-lying placenta or abnormally invasive placenta. Here, the catheters (sheaths) are placed into the groin under local anaesthetic by the radiologist before the caesarean section starts.

## What are the risks of uterine artery embolisation?

- It is generally safe and effective. It is considered a minimally invasive procedure.
- Overall complications are uncommon. The most common complication is a low-grade fever after the operation, which is a normal response by the body's immune system. Bruising is also common.
- Technical failure (i.e. failure to insert the catheter or the procedure doesn't work). There has been a reported failure rate of about 10%. This means that 10 women in 100 who have had uterine artery embolisation may still require a hysterectomy to stop the bleeding. Rarer complications include:
  - infection in the pelvis
  - a haematoma (collection of blood) in the groin
  - temporary reduced blood supply to the bladder, buttocks and legs. This can lead to limb ischaemia (reduced blood supply) or limb loss in extreme cases
  - ovarian failure has been reported in 1% (1 in 100), with the women affected suffering premature menopause (premature ovarian insufficiency)
  - Damage to other organs such as skin, bladder or bowel (1 in 1000)

## Difficulties of uterine artery embolisation

Uterine artery embolisation is not always considered due to several factors:

- It requires a specialised x-ray department and a highly trained interventional radiologist to be available.
- It takes time and planning to organise the procedure, so early consideration is necessary to ensure the appropriate team is in place. This is not always possible in an emergency situation. The patient must be well enough to be transported to the X-ray department.

## Further information

Iffley Ward: 0118 322 7323 (available 24 hours)

Or contact your midwife or community health visitor.

## References:

1. Wee L, Barron J, Toye R. Management of severe postpartum haemorrhage by uterine artery embolization. Br J Anaesth. 2004; 93: 591-4.
2. RCOG good practice 6 (2007): Role of elective and emergency interventional radiology in postpartum haemorrhage.

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Consultant Obstetrician, January 2012

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*'Working together with women, birthing people and families to offer compassionate, supportive care and informed choice; striving for equity and excellence in our maternity service.'*

You can read our maternity strategy here



Compassionate

Aspirational

Resourceful

Excellent