

HIGH FLOW VASCULAR MALFORMATIONS (AVM)

DIAGNOSIS & TREATMENT

PATIENT INFORMATION

This leaflet tells you about the treatment for **high flow vascular malformations often called AVMs**. It explains the options, what is involved and what the possible risks are. It is not meant to replace informed discussion between you and your doctor, but can act as a starting point for such discussions. If you have any questions about the procedure please ask the doctor who has referred you or the department which is going to perform it.

WHAT ARE AVMs?

AVMs are rare high flow vascular malformations. The amount of blood flowing through the lesion is very fast. The majority are present at birth, although not necessarily apparent. Occasionally AVMs can be acquired most commonly due to trauma or surgery. In AVMs there is an abnormal communication between an artery (high

flow) and a vein (low flow) through a "nidus" which is uncontrolled (no pressure / flow reduction).

HOW ARE AVMs DIAGNOSED?

Most are diagnosed taking a history and performing a clinical examination. Imaging is used to confirm, assess extent and nature of the artery and vein connections with relations to adjacent structures. This allows a full assessment and to plan treatment if necessary. Imaging that is commonly performed is ultrasound scan, CT or MRI and occasionally an angiogram.

WHAT ARE THE SYMPTOMS OF AVMs?

This depends on where the AVM is in your body. Most AVMs cause no symptoms until a complication occurs e.g. bleeding. When they occur in the soft tissues they cause swelling, pulsation, are warm to the touch and often have a thrill. We classify symptoms very broadly using the Schobinger classification.

Type 1: Quiescent - stable

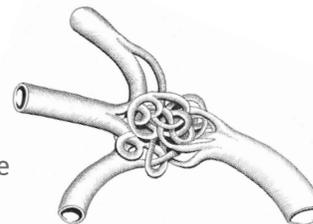
Type 2: Growing

Type 3: Pain, bleeding or functional problems

Type 4: Decompensating – heart problems

DO ALL AVMs NEED TREATMENT?

The majority of AVMs are either stable or slowly growing (Schobinger type 1 & 2). These AVMs are usually monitored and treatment considered if there are complications e.g. bleeding.



WHAT DAY TO DAY CARE DO AVMs NEED?

Generally AVMs do not need any special care on a daily basis. If the AVM is near to the skin they can bleed if knocked or scratched. If the AVM starts to bleed then apply pressure with a clean cloth. Keep the pressure on for at least 10-15mins. If it continues to bleed after this then go to your nearest Accident & Emergency unit.

Occasionally the skin over an AVM can break down and become an ulcer, which can be painful. These sometimes become infected, a visit to your family doctor (GP) is important to see if you need antibiotics.

WHAT ARE THE TREATMENT OPTIONS AVAILABLE?

1. OBSERVATION & CONSERVATIVE MANAGEMENT :

An explanation of the natural history with advice on compression garments, wound care and contacts. This is the typical plan for Schobinger type 1/2 AVMs.

2. SURGERY :

This can be an option for focal lesions. Often embolisation is performed before surgery to reduce bleeding complications. The AVM can return after surgery.

3. EMBOLISATION :

The aim is to reduce or stop the flow of blood in the abnormal communications "nidus" reducing symptoms and risk. This can be performed via the:

- a. **Artery:** Antegrade approach
- b. **Vein:** Retrograde approach.
- c. **Direct Stick:** Directly in to the nidus.

Embolisation (blocking of the vessel) uses a number of agents to achieve this depending on artery, vein or direct stick access. These include coils, plugs and liquid medicines

WHO HAS MADE THE DECISION?

These are very complex medical conditions and the multidisciplinary team responsible for your care will have decided after reviewing the imaging and meeting with you.

WHAT HAPPENS BEFORE EMBOLISATION?

You will have a pre-admission assessment, which may involve taking blood samples, photographs and other tests. The procedure will most likely be carried out under a general anaesthetic and requires an overnight stay.

You may be asked not to eat for four hours before the procedure, although you may still drink clear fluids such as water.

If you have any allergies, you must tell the radiology staff before you have the test.

If surgery is planned then the embolisation often happens 1-2 weeks prior to the planned date of your surgery.

WHO WILL YOU SEE?

On admission day Dr McCafferty will see you on the ward and answer any questions you may have before asking you to sign a consent form.

WHAT HAPPENS DURING THE EMBOLISATION?

You will be asked to wear a hospital gown. You will meet the anaesthetist who will discuss putting you to sleep for the procedure. A small cannula (thin tube) will be placed into a vein in your arm.

Embolisation is performed under sterile conditions and the interventional radiologist and radiology nurse will wear sterile gowns and gloves to carry out the procedure. Often we need to access an artery in your groin so we can perform a map of the AVM. This will guide us to the specific area to be treated, even if we then need to access a vein or directly in to the lesion to instill the treatment medicine.

Sometimes it is not possible to treat the AVM completely and we may need to arrange further treatment sessions. After the procedure you will be taken back to the ward and nursing staff will carry out routine observations including pulse and blood pressure and will also check the treatment site.

WILL IT HURT?

Often there is moderate pain in the AVM, which may last for a few days. The AVM may become hard and swollen over this time but after a few weeks it will reduce. Painkillers and anti-inflammatory medication can help during this period e.g. Paracetamol & ibuprofen

ARE THERE ANY RISKS?

Embolisation is a safe and effective procedure but as with any medical procedure there are some risks.

AVMs are very complex and the main risk is non-target embolisation where the medicine passes

into the wrong vessel. Most of the time this does not cause any problems. The main concern is distal ischaemia – when an area of skin becomes black. If this occurs in the hand or foot there is a small risk of losing a finger or toe.

Very rarely, nerve damage can occur if the malformation is close to a major nerve. This is usually a temporary situation due to the nerve being 'bruised'. However, although extremely rare, this can be a permanent loss.

If a general anaesthetic is required, this carries an extremely small risk. The risks will be discussed with you prior.

FINALLY

Some of your questions should have been answered by this leaflet, but remember that this is only a starting point for discussion about your treatment with the doctors looking after you. Make sure you are satisfied that you have received enough information about the procedure.

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Endorsed by



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