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## BALLOON ANGIOPLASTY

Hardening of the arteries that causes narrowing is usually the result of a build up over a long period of time of fatty deposits, mainly consisting of cholesterol. With time bits of calcium (bone), old blood and other material collect within these areas of narrowing. The appearance of the artery, once it has undergone these changes, is rather like that of a rusty pipe. Unlike a water pipe however, the artery is an elastic pipe and does actually still stretch. Because of this ability of the artery to stretch **balloon dilatation** (angioplasty) is used as a means of treating the problem.

Balloon angioplasty is usually used to treat hardening of the arteries in the lower limbs where narrowing restricts blood flow in the limb thus producing pain in the muscles of the leg when walking. Severe narrowing or blocks may even result in the leg becomes cold, painful or even starts to die (gangrene). The aim of balloon angioplasty is to re-open the artery to allow the flow of blood to be restored. The procedure requires an initial angiogram followed by balloon treatment as appropriate. The angiogram is performed by an insertion of a needle into the groin artery and this is followed by the threading of a fine tube up the needle into the artery. Dye is then injected to make the artery show up on the x-ray screen.

Once the area of narrowing has been defined, a balloon is then threaded through the needle in a collapsed state. It is then inflated within the narrow segment of artery to stretch it open. The balloon is then deflated and withdrawn through the needle. A further angiogram is done to check that the result is satisfactory. The needle is then withdrawn from the artery and pressure applied to the puncture site in the groin to prevent bleeding.

On occasions the artery being treated may also require stenting. This refers to the placement of a wire mesh tube inside the artery to keep it open after treatment. These devices are mostly used for the arteries above the groin.

### **PROCEDURE:**

The procedure itself is normally done in the Vascular Laboratory under local anaesthetic. (Sedation is available if you feel nervous.) You may request no sedation or a general anaesthetic from the doctor before the procedure if you wish. Any excess pain should be reported to the doctor performing the procedure. Following the completion of the balloon procedure, pressure in the groin is required to seal the artery where the needle was inserted. This is often uncomfortable but not excessively painful.

You are then required to lie flat for some hours after the procedure to ensure that there is no further bleeding from where the puncture was performed in the artery. Once the seal has been confirmed you can then sit up, move about. You may go home or stay in hospital overnight at completion of the procedure - whichever is appropriate.

**RISKS:**

The angiogram itself may cause problems by dislodging some of the hardening of the artery, or there may be difficulties associated with the angiogram dye (used to make the artery show up on the x-ray) and this can result in danger to the foot or an allergic response.

The local risks of balloon angioplasty are rupture or thrombosis of the artery. This may often require further treatment by means of clot dissolving medicine, or else an operation may be required to repair the damage. This happens in approximately 1 in 200 procedures. Rarely complications that are disastrous occur and the limb may be in danger of amputation from lack of blood supply. The risk of amputation is 1 in 5,000 procedures and loss of life less than 1 in 10,000. Bruising (haematoma formation) may occur around the needle puncture site and can produce some uncomfortable swelling and/or bruising on occasions. Mostly however, the puncture site not troublesome. Any excessive discomfort or bleeding at the needle puncture site should be reported to Mr. Milne immediately.

**SMOKING:**

Tobacco consumption after balloon angioplasty is a 'sure fire' recipe for re-occlusion or re- blockage. It is therefore imperative that you cease smoking prior to and then following a balloon procedure if you expect to get a good result.

**DURABILITY:**

Most balloon angioplasties result in a considerable period of improvement. The most common problem after balloon angioplasty is re-narrowing which occurs in about 5% of people in the following weeks. More often people return with further trouble some years later and this is due to narrowing of the artery, generally at another site. This problem can also be treated by further balloon procedures.

Your balloon procedure is performed by Mr. Milne or a nominated interventional radiologist. Mr Milne is always on standby should any problem occur after balloon treatment. Any difficult or complicated procedures are often performed by Mr. Milne and a radiologist in conjunction.

**STENTING:**

Most balloon angioplasties result in a good result in the leg arteries but sometimes a metal "stent" is required to keep the vessel open or stabilises the lumen of the artery. Abdominal arteries are nearly always stented at the time of balloon angioplasty as this results in better long term improvement. The stents are made of stainless steel or steel alloys and are inert. They are not subject to rejection and will not show on metal detectors. MRI scanning may find the stents distort the images so mention this if you require this type of scan in the future. Infection of a stent is very rare but does constitute a risk of the procedure.