Acute Limb Ischaemia

There is 24/7 Vascular Surgery cover at MRI, provided by the specialist team and the first point of contact should always be the on-call SpR via switchboard. In case of difficulty accessing the SpR, the Consultant is also available.

Background:

1.1 Acute limb ischaemia is the sudden onset of ischaemic symptoms of either upper or lower limb in a previously well perfused limb due to obstruction of arterial flow.

1.2 It is most commonly due to a thrombosis on pre-existing chronic PVD, or an arterial embolus secondary to atrial fibrillation, but may also be due to occlusion of an aneurysmal artery (esp popliteal), trauma or occlusion of a pre-existing arterial graft.

Presentation:

1.3 Acute limb ischaemia can present with varying severity with the most severe acute ischaemia resulting in **paralysis** and **paraesthesia** of the affected limb combined with **pain**, skin **pallor** and an **absence of palpable pulses**. Acute ischaemia is classified by the SVS/ISCVS system based on the combination of presenting signs, and this grading identifies the urgency of intervention.

Where all of these signs are present emergency surgery or endovascular intervention to restore the circulation within 6-8 hours of onset of symptoms (not presentation) is necessary to prevent loss of limb. Fasciotomies may also be required to prevent secondary ischaemic damage from an acute compartment syndrome due to reperfusion swelling.

Grade of Ischaemia	Sensory status	Motor Status	Pulses on HHD in distal limb (likely to be monophasic)	
I	Mild paraesthesia, sensation intact	Normal	Present	Stabilise
IIa	Rest pain, sensation intact	Normal	Present	Urgent intervention
IIb	Pain, reduction in sensation	Reduced power	Present, may be weak	Emergency intervention
III	Insensate	Paralysis complete	None	Limb likely to be beyond salvage

For acute limb ischaemia secondary to trauma – please see GM Trauma Network vascular policy.

1.4 Less severe acute ischaemia may present with pain and an absence of pulses in the affected limb but no neurological effects. Urgent surgery or endovascular intervention is commonly necessary within days to prevent the development of tissue loss or gangrene.

Pathway (see flowchart):

1.5 All patients should be discussed in the first instance with the duty Vascular SpR at MRI, by the referring doctor who may be the GP, A/E staff, or other team at the hub or spoke sites. Use of the MDSAS NHS vascular referral service is unlikely to be appropriate for genuine critical acute ischaemia, but should be considered for remote image assessment.

A good history of risk factors, duration and severity of symptoms and functional premorbid state are all essential to determining the appropriate response.

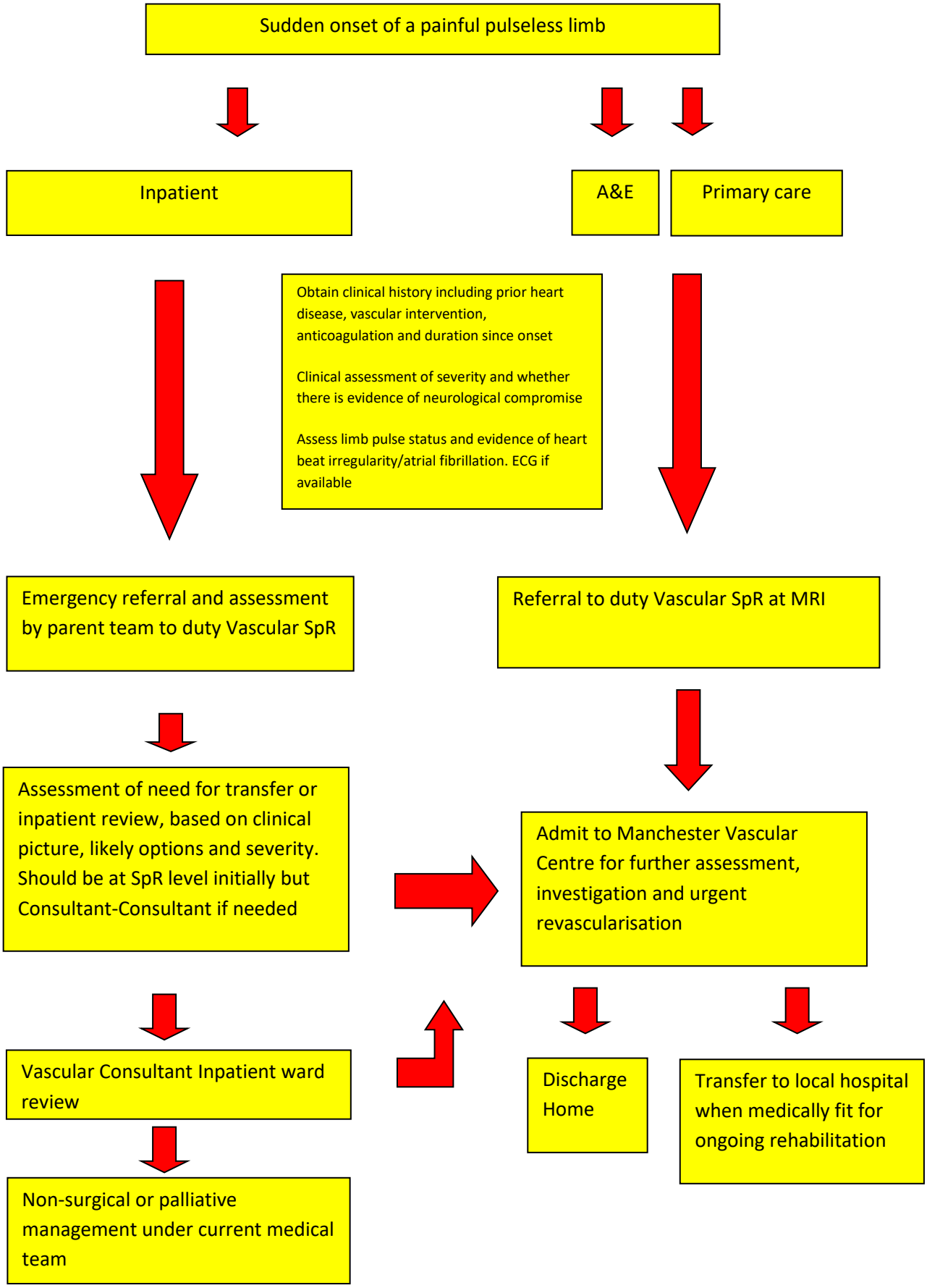
Patients requiring urgent intervention will be accepted and admitted to the Manchester Vascular Centre (MVC) at MRI. In complex cases where the urgency of transfer is not clear at SpR level, the discussion should be at Consultant level prior to making a decision on inter-hospital transfer.

1.6 Anticoagulation (Heparin 50000IU iv stat) will generally be indicated but will be advised on a case by case basis.

1.7 For patients where intervention is not indicated, eg very mild self-limiting symptoms in patients already on effective anticoagulation or severe co-morbidities such that palliation is relevant, appropriate care can be arranged at the nearest spoke with the local team. This can be at middle grade level unless there needs to be further discussion which should all be at Consultant level. It is inappropriate to transfer patients to the hub for end-of-life care.

1.8 On admission to the major arterial centre at MRI patients will be assessed by the admitting on call vascular emergency team with a clinical management plan which may include emergency surgery, thrombolysis, endovascular intervention, urgent reconstructive surgery, medical or palliative management.

1.9 Following the care spell at MRI, patients who are able to return home will be discharged to the community for appropriate outpatient follow-up, those with on-going care needs will be discussed with the nearest spoke Hospital regarding repatriation on a priority basis (see Admission & Repatriation Policy)


Sudden onset of a painful pulseless limb
Inpatient
A&E
Primary care
Obtain clinical history including prior heart disease, vascular intervention, anticoagulation and duration since onset
Clinical assessment of severity and whether there is evidence of neurological compromise
Assess limb pulse status and evidence of heart beat irregularity/atrial fibrillation. ECG if available
Emergency referral and assessment by parent team to duty Vascular SpR
Referral to duty Vascular SpR at MRI
Assessment of need for transfer or inpatient review, based on clinical picture, likely options and severity. Should be at SpR level initially but Consultant-Consultant if needed
Admit to Manchester Vascular Centre for further assessment, investigation and urgent revascularisation
Vascular Consultant Inpatient ward review
Discharge Home
Transfer to local hospital when medically fit for ongoing rehabilitation
Non-surgical or palliative management under current medical team