

 <p>NORTHERN TRAUMA NETWORK NTN</p>	<p>Interventional Radiology</p>
<p>AUTHOR</p>	<p>Laura Duffy</p>
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Interventional Radiology Guidelines in Major Trauma Patients

Introduction

There is good evidence for the safety, efficacy, and cost-effectiveness of Interventional Radiology (IR) in the management of the bleeding major trauma patient.

Interventional radiology is available 24/7 at the RVI Major Trauma Centre and currently at JCUH on a case by case basis.

The decision whether a patient should undergo IR treatment should be made by both the consultant trauma team leader and the consultant interventional radiologist in conjunction with other specialty consultants involved in the care of the trauma patient e.g. Vascular Surgeon.

It is however important to note that where a patient in a Trauma Unit has life threatening haemorrhage that is not amenable to control in that Unit the TU bypass protocol should be followed and all transfers in this case will be from Emergency Department to Emergency Department.

All patients should have a contrast enhanced multiphase poly trauma CT prior to IR referral. Information from the CT is essential in the decision making process and when planning for the intervention. Referral to IR should be consultant to consultant level.

Apart from known severe allergic reaction to iodinated contrast, there are no significant contraindications to the use of IR to arrest haemorrhage in major trauma. Relative contraindications include renal impairment (due to the use of iodinated contrast) and pregnancy (radiation risk to foetus). However, the risk can be justified in the actively bleeding patient where the intervention is potentially lifesaving and there are no suitable alternatives. The effect on renal function can be minimised with use of renal protection protocols (e.g. N-Acetyl Cysteine and hydration). Extreme care should be exercised in these situations to minimise the nephrotoxic and radiation risks

Indications for Interventional Radiology

Aortic injuries

Thoracic aorta: Endovascular stent graft can be used for suitable "Type B" blunt thoracic aortic injury. IR is not indicated in aortic injuries involving the aortic root, ascending aorta, aortic arch and great vessels or in penetrating injuries.

Abdominal aorta: Endovascular stent graft can be used for localised aortic injury. Occlusion balloon may be indicated in significant distal haemorrhage to temporarily halt bleeding and stabilise patient.

Peripheral arterial injury

Arterial injuries where bleeding cannot be controlled or are surgically inaccessible can be treated with transarterial embolisation or stent graft. Patient management should be in conjunction with vascular surgery.

Abdominal solid organ injury

Splenic, liver or kidney injuries with active arterial bleeding, pseudoaneurysm formation, or arteriovenous fistula should be referred to IR for consideration of transarterial embolisation, or stent graft for main vessel injuries.

Pelvic Injury

Active arterial bleeding in the pelvis is an indication for transarterial embolisation, unless immediate open surgery is indicated to treat other injuries. IR is not indicated in pelvic venous or bony bleeding which can be controlled with external fixation.

Bowel Injury

Focal mesenteric bleeding with no signs of bowel ischaemia or perforation may be an indication for IR treatment in selected cases. IR is not indicated if patient requires a laparotomy.

Limb ischaemia

Arterial injury causing ischaemia can be treated with endovascular stenting for suitable lesions. Patient should be managed in conjunction with vascular surgery. Bleeding takes precedence over ischaemia.