Brighton and Sussex University Hospitals NHS Trust

Sussex TRAUMA Network

Sussex Trauma Network

Guidelines for:

Interventional Radiology in Trauma

Interventional Radiology in trauma

Control Page

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Contents

1. Introduction

Interventional Radiology should be considered in the context of arterial bleeding from trauma related solid organ or pelvic injury. Consider IR if CT traumogram demonstrates **active arterial bleeding** or **significant haematoma** related to:

Grade 1-4 Liver / Splenic or Renal injuries (See appendix)
Pelvic fracture or crush injuries

2. Purpose

The purpose of this Guideline is to clearly define the care pathway for patients requiring interventional radiology following a trauma. This Guideline will be linked to [Standards of practice and guidance for trauma radiology in severely injured patients, second edition - BFCR(15)5, Provision of interventional radiology services - BFCR(14)12]

3. Definitions

4. Responsibilities, Accountabilities and Duties

4.1 Polytrauma Consultant on call:

The polytrauma consultant takes overall responsibility for patients with xxxx once notified of their arrival. Duties include ensuring patients are managed according to the guideline and that junior staff are aware of the guideline and [national] guidelines. The polytrauma consultant of the day will ensure availability to assess patients with xxxx and liaise with the relevant team members.

4.2 Emergency Medicine Consultant on duty (MTC):

The emergency medicine consultant on duty takes overall responsibility for the patients with xxxxx from the time they arrive in the emergency department until the polytrauma consultant takes over care. They also are responsible for ensuring that junior staff are aware of and follow this guideline and [national] guidelines.

4.4 The Trauma team lead consultant, following discussion and opinion from other trauma team members, will take responsibility for contacting the on-call IR consultant in cases where interventional radiology management is considered appropriate (via switchboard).

4.5 Emergency Medicine Registrar on duty:

The emergency medicine registrar on duty is responsible for implementation of this Guideline and managing the patient accordingly.

5. Standard Operating Procedure

5.1 In the majority of cases, the decision to contact interventional radiology will be based on the CT traumogram findings. An Interventional Radiology prompt sheet will be held in the resus department

Following the report of the CT traumogram by the general radiology consultant or registrar, the IR consultant can be contacted via switchboard.

Embolisation for the treatment of active haemorrhage should be considered early in the patient pathway if there is CT proven injury to the liver/kidneys/spleen or pelvic fractures. This is particularly important in the context of cardiovascular instability (embolization is less effective after multiple unit blood transfusions and in the context of haemorrhage related coagulopathy/DIC). Embolisation is also ineffective in the context of venous pelvic bleeding where surgical packing should be considered.

Following the decision to treat with embolization, the trauma team (including anaesthetic support) will accompany the patient to the level 5 IR suite (there is no separate theatre team for IR).

Embolisation of solid organs or pelvic vessels can be performed under local or general anaesthetic and so the decision for GA should be made by the trauma anaesthetist based on patient stability, compliance and associated injuries, as with all trauma cases. Embolisation can however be painful in the post-operative period due to ischeamic organ pain (depending on extent of embolization) and appropriate analgesia will need to be planned.

5.2

Other IR procedures in Trauma:

IR may also have a role in the endovascular management of patients with trauma related **aortic dissection or transection**, in conjunction with cardiothoracic surgery and vascular surgery.

IVC filter placement – if proven PE following lower limb/pelvic trauma related venous thrombosis.

Angiography – may be appropriate in the context of traumatic arterial injury with peripheral ischaemia following vascular surgical discussions.

6. Training Implications

All within the trauma team must be aware of the Guideline and ensure that the guideline is followed

7. Monitoring Arrangements

7.1 Any patients whose treatment falls outside this guideline should be raised onto the network clinical governance log, and discussed through internal clinical governance mechanisms.

Equality Impact Assessment Screening

8. Links to other Guidelines and policies

This Guideline should link to other network guidelines including xxxx

9. Associated documentation and Appendices

Appendix 1: Solid organ injury scales

Appendix 2: Version Control Sheet

Appendix 3: Plan for Dissemination of Standard Operating Procedures

10. References

National major trauma peer review measures 2016 – 1C-107

Appendix 1

Hepatic CT Injury Grading Scale

Grade I	Laceration(s) < 1 cm deep Subcapsular hematoma < 1cm diameter
Grade II	Laceration(s) 1-3 cm deep Subcapsular or central hematoma 1-3cm diam
Grade III	Laceration(s) 3-10 cm deep Subcapsular or central hematoma 3-10 cm diam
Grade IV	Laceration(s) > 10 cm deep Subcapsular or central hematoma > 10cm diam Lobar maceration or devascularization
Grade V	Bilobar tissue maceration or devascularization

Renal Injury Scale

Grade I	Contusion / Subcapsular hematoma No parenchymal laceration
Grade II	Laceration < 1 cm depth of renal cortex No urinary extravasation
Grade III	Laceration > 1 cm depth of renal cortex No urinary extravasation
Grade IV	Laceration extending through renal cortex, medulla and into collecting system Minor renal artery or vein injury with contained hematoma
Grade V	Shattered kidney Devascularized kidney, hilar avulsion

Appendix 2 - Version Control Sheet

Version	Date	Author	Status	Comment
1				

Appendix 3 - Plan for Dissemination of Guidelines

To be completed and attached to any document which guides practice when submitted to the appropriate committee for consideration and approval.

Title of document:			
Date finalised:		**Dissemination lead: Print name and contact details**	**Barbara Rayner**
Previous document already being used?	**N**		
If yes, in what format and where?			
Proposed action to retrieve out of date copies of the document:			
To be disseminated to: **MTC** **TUs** **LEHs**	**How will it be disseminated, who will do it and when?** **Via network communication mechanisms** **Each trust trauma lead is responsible for disseminating the network guidelines to the relevant teams/individuals within their own trust**	**Format** **Electronic**	**Comments:** **The Sussex Trauma Course, to be established during 2016 will be based on the network guidelines.**

Dissemination Record - to be used once document is approved

Date put on register / library of SOPs:		**Date due to be reviewed:**	
BSUH			
ESHT			
WSHT			

Disseminated to: (either directly or via meetings, etc.)	Format (i.e. paper or electronic)	Date disseminated:	No. of copies sent:	Contact details / comments:
Network CAG	Electronic			Barbara Rayner