

TRAUMA SERVICES
DEPARTMENTAL GUIDELINES AND
PROCEDURES

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TITLE: BLUNT SPLENIC TRAUMA MANAGEMENT

PURPOSE: To provide a guideline for the initial evaluation and management of blunt splenic trauma at the Hospital.

GUIDELINE/PROCEDURES STATEMENT:

ELABORATIONS:

Non-operative management has become the standard of care for the hemodynamically stable patient with blunt splenic trauma. The following is a guideline for the initial evaluation and management of blunt splenic trauma.

I. PROCEDURE:

- 1) Patients with blunt splenic injury and hemodynamic instability or peritonitis should be taken to the operating room (OR) emergently for an exploratory laparotomy.
- 2) Patients with blunt splenic injury without peritonitis or hemodynamic instability should be managed non-operatively (as long as they remain hemodynamically stable) according the following guidelines:
 - All patients should receive an abdominal computed tomography (CT) with intravenous (IV) contrast to properly grade the injury and assess for active bleeding/extravasation of contrast (“blush”).
 - Any patient with arterial extravasation or evidence of pseudoaneurysm on CT should be referred to interventional radiology (IR) for angiography.
 - Any patient with a grade IV or V injury should be taken to IR for angiography and embolization regardless of presence of extravasation of contrast.
 - In patients with less than a grade IV splenic injury and no active extravasation on the admission CT, angiography should be performed if they have a drifting hemoglobin requiring the transfusion of packed red blood cells (PRBCs) despite being hemodynamically stable.

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- Proximal embolization or using coils will be the standard for embolization unless the bleed is very focal and more selective embolization is appropriate.
 - Patient who have embolization do not need a course of prophylactic antibiotics or prophylactic immunization.
 - Please note that while predictive of failure of non-operative management, the presence of head injury or any other concomitant injury is not an absolute contraindication to non-operative management.
 - All patients with blunt splenic injury being managed non-operatively must be admitted to the Trauma Surgical Intensive Care Unit (TSICU) where:
 - Hemoglobin (Hgb) and hematocrit (Hct) measurements along with a thromboelastogram (TEG) will be done every 4 hours until there are three stable measurements.
 - Transfusion (of hemodynamically stable patients) should be employed according to the PRBC transfusion guideline.
 - Thromboembolic chemoprophylaxis may begin after 3 stable Hgb/Hct measurements as long as the patient is at least 24 hours s/p injury.
 - There is insufficient evidence for routine repeat CT scan unless there is an indication (e.g. fever, vomiting, abdominal pain).
 - The patient may be discharged to the floor after at least 24 hours of stable Hgb/Hct measurements.
 - Patients may be out of bed as long as there is no contraindication from concurrent injury.
 - Patients should follow-up in the Trauma Clinic 2 weeks status-post discharge from the hospital.
 - At the time of discharge, the patient should be counseled to limit high impact activities (e.g. contact sports) for 6 months.
- 3) All patients who receive splenectomy urgently should receive vaccinations at the time of discharge, if there is any concern that they will not return for their 2 weeks post-op

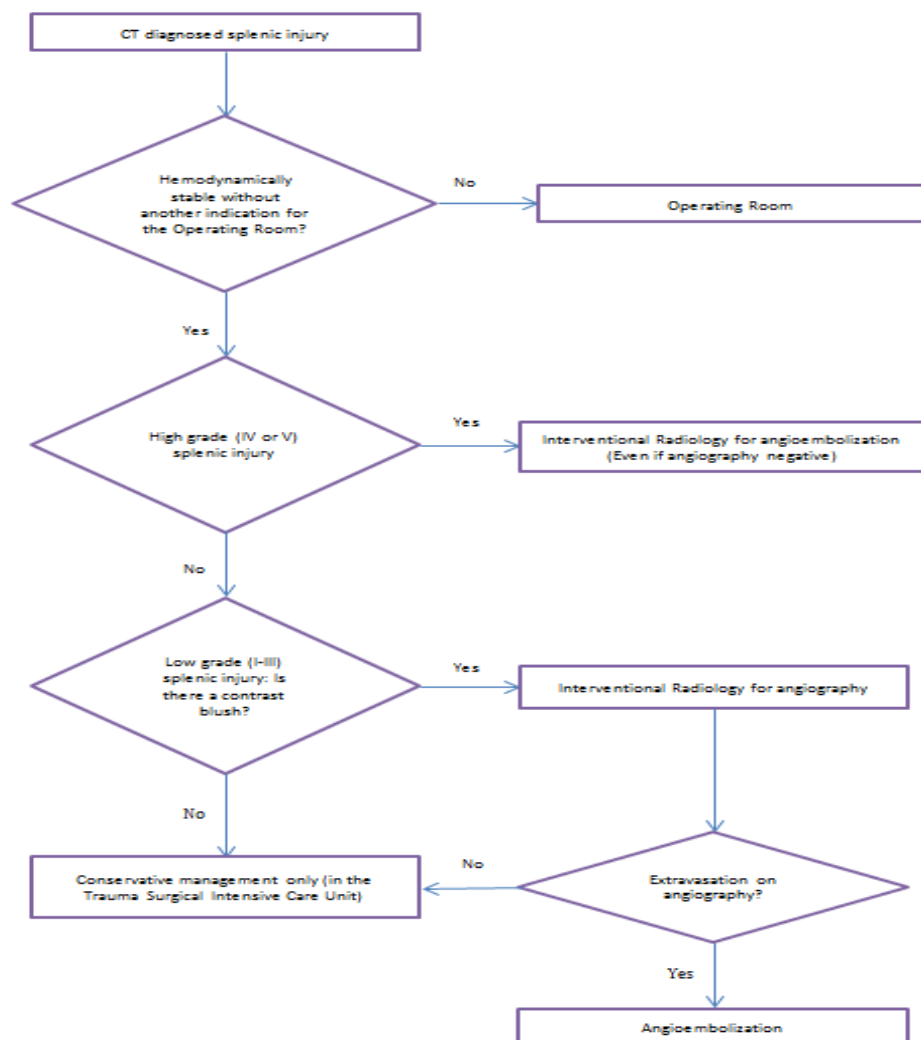
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clinic visit. They also should be counseled on periodic booster immunizations.
(Elective splenectomy should be vaccinated 2 weeks pre-operatively.)

NOTE THAT THIS GUIDELINE IS BASED ON BEST EVIDENCE AND LOCAL EXPERT OPINION. IT IS NOT TO BE UNDERTAKEN IN THE ABSENCE OF CLINICAL JUDGMENT. IF YOU ARE TO STRAY FROM IT, PLEASE DOCUMENT IN THE MEDICAL RECORD AS TO WHY.

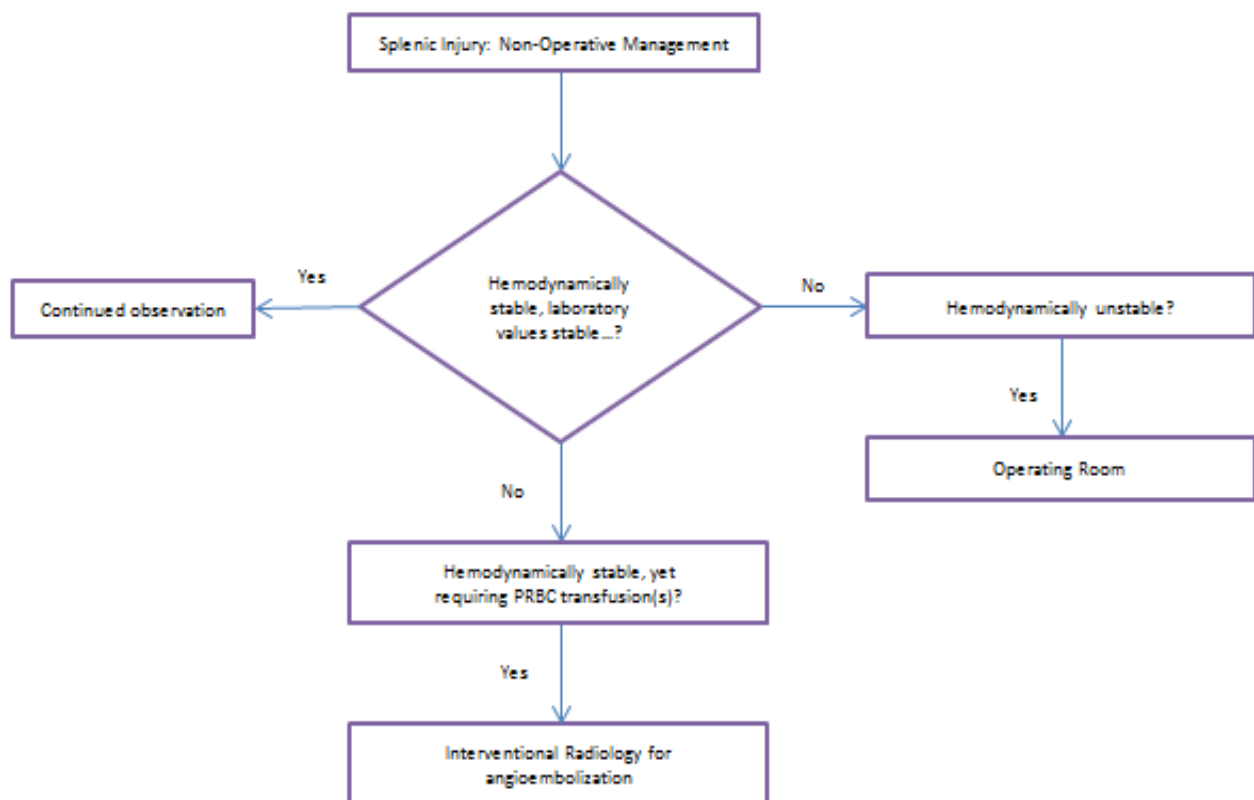
Flow Diagram for the Role of Interventional Radiology in the Management of Blunt Splenic Trauma:



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Flow Diagram for the Failure of the Non-Operative Management of Blunt Splenic Trauma:



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The American Association for the Surgery of Trauma (AAST) Splenic Injury Grading System:

Grade I

- [Subcapsular hematoma](#) < 10% of surface area
- Capsular laceration < 1 cm depth

Grade II

- [Subcapsular hematoma](#) 10-50% of surface area
- Intraparenchymal hematoma < 5 cm in diameter
- Laceration 1-3 cm depth not involving trabecular vessels

Grade III

- [Subcapsular hematoma](#) > 50% of surface area or expanding
- Intraparenchymal hematoma > 5 cm or expanding
- Laceration > 3 cm depth or involving trabecular vessels
- Ruptured subcapsular or parenchymal hematoma

Grade IV

- Laceration involving segmental or hilar vessels with major devascularization (> 25% of spleen)

Grade V

- Shattered spleen
- Hilar vascular injury with devascularized spleen

DEPARTMENT OF PRIMARY RESPONSIBILITY:

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Stassen NA, Bhullar I, Cheng JD, et al. Selective nonoperative management of blunt splenic injury: an Eastern Association for the Surgery of Trauma practice management guideline. *J Trauma Acute Care Surg*. 2012;73:S294–S300.

Bhullar IS, Frykberg ER, et al. At first blush: Absence of computed tomography contrast extravasation in Grade IV or V adult blunt splenic trauma should not preclude angioembolization. *J Trauma Acute Care Surg.* 2012;74:105-12.

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