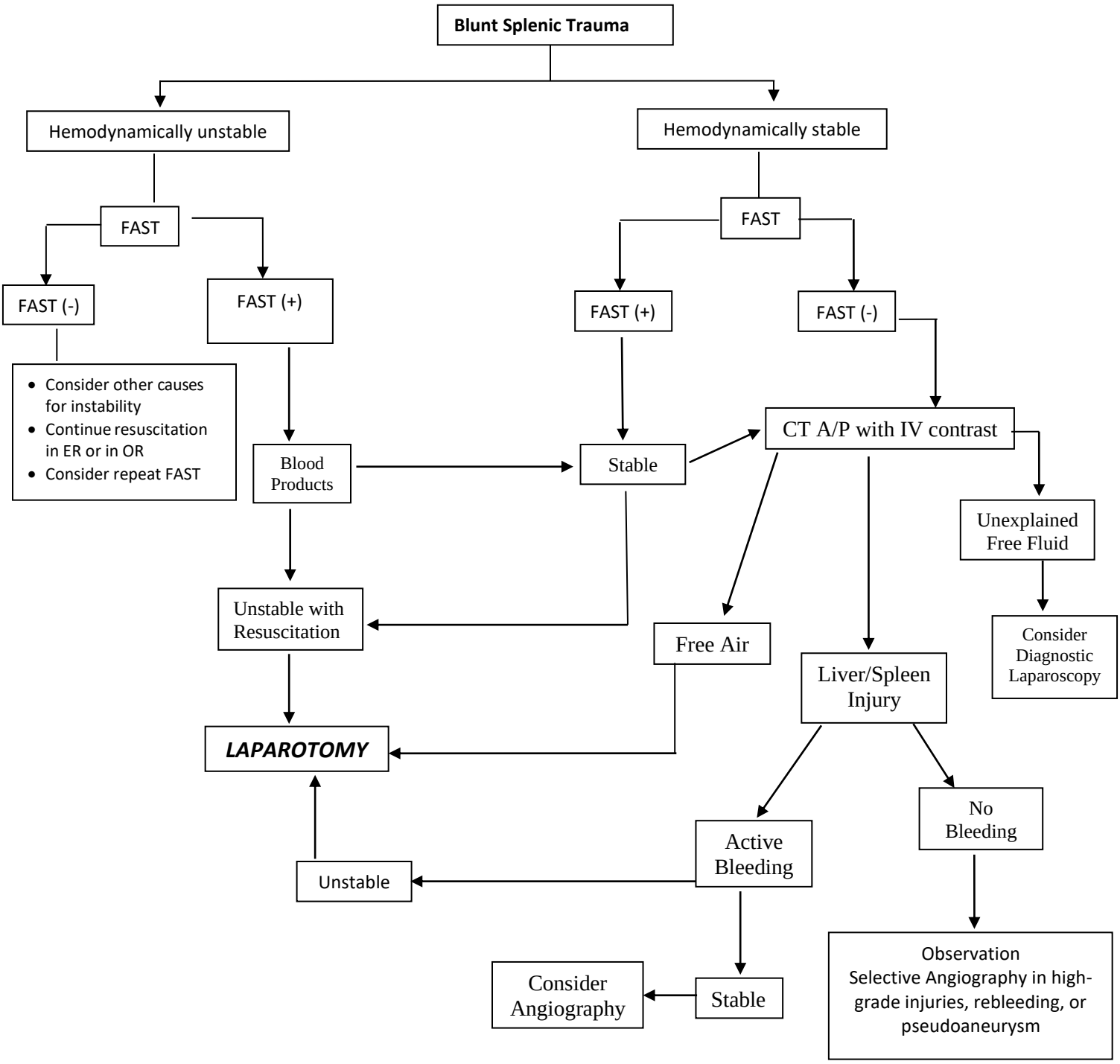
Trauma Center Practice Management Guideline

Iowa Methodist Medical Center — Des Moines

Splenic Injury Evaluation and Management Guideline

ADULT **Practice Management Guideline**	**Effective: 04/2014**
Contact: Trauma Center Medical Director	**Last Reviewed: 04/2024**



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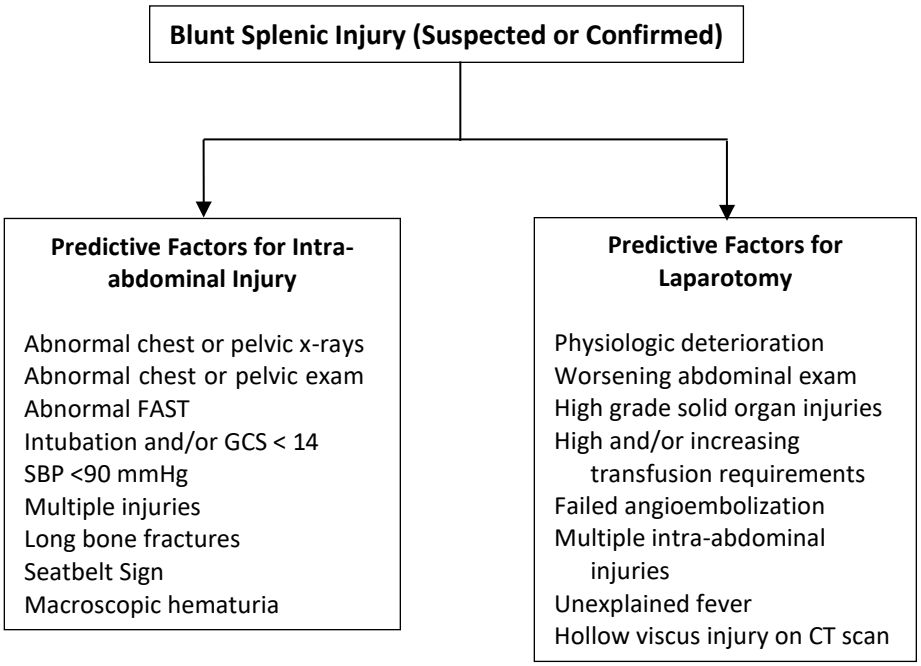
Iowa Methodist Medical Center — Des Moines

Blunt Splenic Injury Management (Suspected or Confirmed)	
ADULT **Practice Management Guideline**	**Effective: 04/2014**
Contact: Trauma Center Medical Director	**Last Reviewed: 04/2024**



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Splenic Injury Evaluation and Management Guideline

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PURPOSE

To address the evaluation of trauma patients with suspected or definitively identified splenic injury.

DEFINITION

Expectant management: Intentional non-operative approach to splenic injury management, after consideration of a patient's overall co-morbid illness and injury burden. Appropriate vigilance must be maintained to ensure patients failing non-operative management are identified without delay. Physician and nursing staff directly involved in a patient's care are to be aware of the patient's phase of care, particularly during the early period of inpatient hospital care.

On initial patient admission, a clear plan is to be communicated to resident and nursing staff for tracking a patient's (a) serum hemoglobin; (b) serial abdominal exam; and (c) vital signs. A typical schedule for serial lab draws will be every 6 to 12 hours for the first 24 to 48 hours then once or twice daily thereafter.

BACKGROUND

A carefully performed physical exam, with an awareness of limitations imposed by individual patient factors such as diminished mental status, remains central to decision making in the trauma bay. Appropriately selected adjunct diagnostic studies are used to minimize the risk of missed injury. A clinician deciding on which studies to recruit in the evaluation of a trauma patient will need to be cognizant of the hemodynamic stability of the patient. A modified hemodynamic instability scoring system cited in the Western Trauma Association Splenic Trauma Algorithm Guidelines provides a useful framework for classifying a trauma patient's hemodynamic status, with blunt abdominal trauma patients exhibiting Grade 4 and 5 hemodynamic instability generally requiring immediate laparotomy. Trauma patients requiring surgical intervention for hemorrhage control have better outcomes, and improved survival, if the interval from injury to surgical control of bleeding is minimized.

Abdominal CT scan with IV contrast is the most reliable method to identify and assess the severity of injury to the spleen and other intra-abdominal solid organs. The severity of splenic injury (as suggested by CT grade or degree of hemoperitoneum), neurological status, and/or the presence of associated injuries are not contraindications to nonoperative management. In the presence of ongoing bleeding, the decision to attempt angiographic embolization needs to be made with an awareness of the patient's evolving hemodynamic status, overall injury burden, and available endovascular capabilities.

PROCEDURE STATEMENTS

1. ATLS precepts will guide the initial evaluation and management of trauma patients at IMMC.

2. Patients who have diffuse peritonitis or who are hemodynamically unstable after blunt abdominal trauma should be taken urgently for laparotomy

3. A patient's initial hemodynamic status and early response to resuscitation will dictate/determine the parameters within which the trauma team must act in planning the patient's subsequent workup and injury management.

4. A FAST (+) patient who requires aggressive ongoing resuscitation (i.e. Grade 4 or 5) instability should be triaged to the OR. Extremely rare exceptions to this guideline may exist (e.g. assessing for futility due to brain injury, assessing for pelvic hemorrhage that may be more amenable to angioembolization).

5. A negative FAST in a hemodynamically unstable patient reliably rules out the abdomen as the source of hemodynamic instability, although FAST may need to be repeated during the patient's resuscitation before this conclusion can be arrived at with appropriate certainty.

6. In patients with Grades 4 and 5 instability in whom there is reason to doubt intra-abdominal hemorrhage as the source for the instability, the trauma team should consider continuing resuscitation in the OR while further evaluation of refractory shock is continued.

7. Patients who are identified to have splenic injuries on CT imaging should have these injuries graded according to AAST Organ Injury Scale. Note, however, that the clinical status of the patient is the primary consideration in deciding whether the patient needs an intervention.

8. Angiography should be considered for patients with greater than III injuries, presence of a contrast blush, moderate hemoperitoneum, or evidence of ongoing splenic bleeding. The decision on where to attempt angioembolization (i.e. in radiology or in surgery) should be made by the trauma surgeon.

9. If non-operative management is attempted, monitor hemoglobin every 6 - 8 hours for 24 to 48 hours, and then less frequently as the patient's clinical status permits.

10. Any signs of recurrent hemorrhage should prompt a re-evaluation of the patient. A patient with recurrent hemorrhage may need emergent splenectomy, re-imaging, or more frequent monitoring of abdominal exam, labs and vitals.

11. Follow-up CT imaging of a patient's splenic injury should be considered, particularly for higher grade injuries.

12. Success rates for NOM of higher grade splenic injuries may be improved by more liberal use of angioembolization (performed with or without the presence of blush on contrast CT imaging), although the risk of splenic abscess is increased.

13. During angioembolization, trauma surgeon and interventional radiologist are to be aware that proximal (non-selective) embolization carries with it a LOWER risk of spleen infarction and abscess formation, whereas selective embolization may be less effective while potentially preserving more splenic function. Controversy exists regarding the optimal technique to employ in trauma.

14. If spleen is removed, order splenic vaccinations as per guideline. Patients who undergo angioembolization do not require splenic vaccinations.

15. Bedrest or restricted activity in the hospital is not supported in the literature for isolated splenic injury. Nonetheless, various protocols have been proposed in the literature for stepwise return to normal activity.

16. Time to complete healing of splenic injures varies with the extent and severity of the injury. The traditional recommendation is for restricted activity for a total of 3 months following injury. For most patients, repeat CT scan imaging solely for the purpose of documenting healing is NOT justified.

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