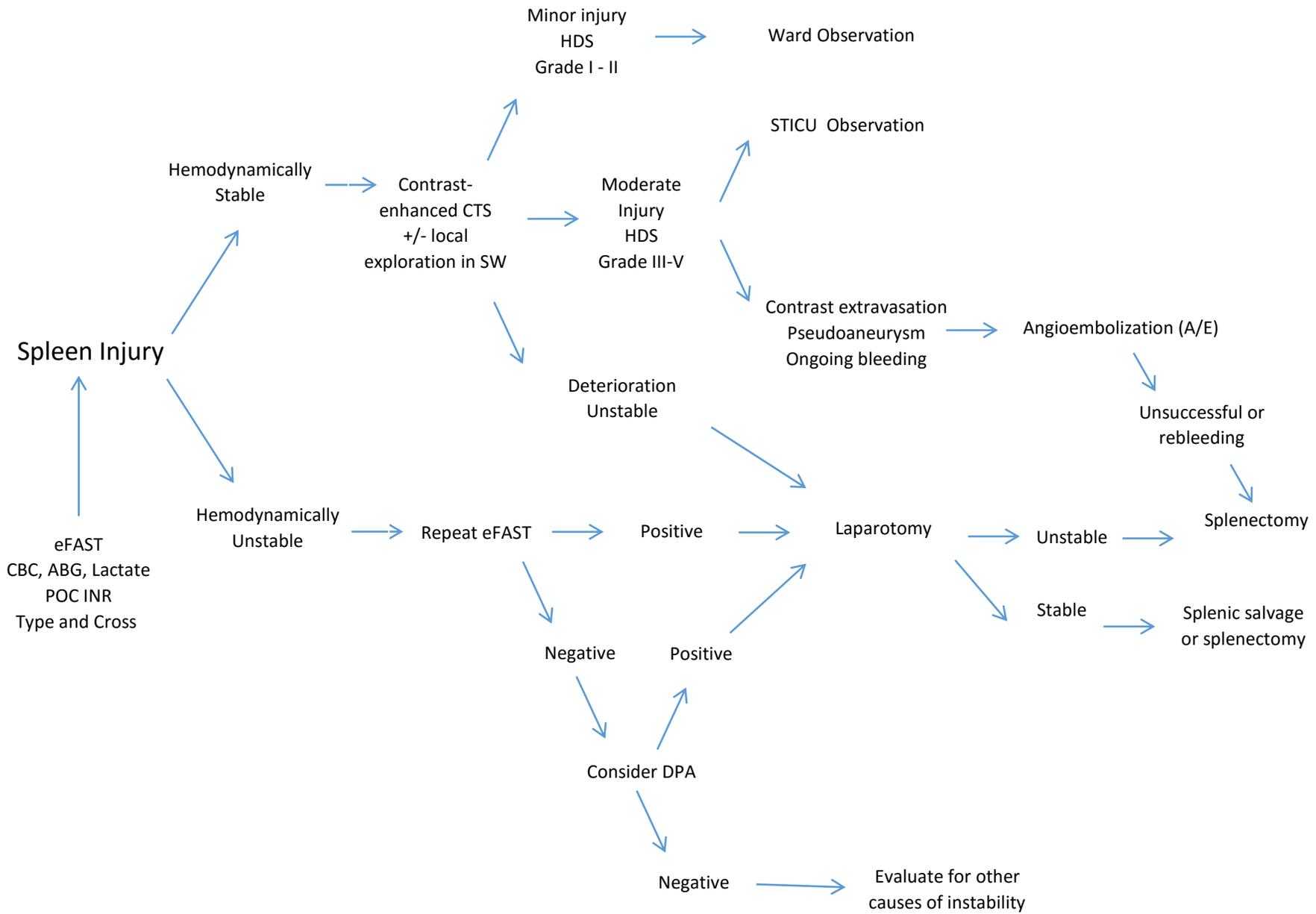


# Guideline for Management of Spleen Trauma



## Guideline for Management of Spleen Trauma

- NOM in splenic injuries is contraindicated in the setting of unresponsive hemodynamic instability or other indicates for laparotomy (peritonitis, hollow organ injuries, bowel evisceration, impalement)
- AG/AE may be considered the first-line intervention in patients with hemodynamic stability and arterial blush on CT scan irrespective from injury grade
- Age above 55 years old, high ISS, and moderate to severe splenic injuries are prognostic factors for NOM failure.
- Age above 55 years old alone, large hemoperitoneum alone, hypotension before resuscitation, GCS < 12 and low-hematocrit level at the admission, associated abdominal injuries, blush at CT scan, anticoagulation drugs, HIV disease, drug addiction, cirrhosis, and need for blood transfusions should be taken into account, but they are not absolute contraindications for NOM but are at higher risk of failure and STICU observation is necessary if primary operation is not done.
- AG/AE may be performed in hemodynamically stable and rapid responder patients with moderate and severe lesions and in those with vascular injuries at CT scan (contrast blush, pseudo-aneurysms and arterio-venous fistula)
- Hemodynamically stable patients with moderate injuries without blush should not undergo routine AG/AE but may be considered for prophylactic proximal embolization in presence of risk factors for NOM failure
- Splenuctomy should be performed when NOM with AG/AE failed, and patient remains hemodynamically unstable or shows a significant drop in hematocrit levels or continuous transfusion are required
- Clinical and laboratory observation associated to bed rest in moderate and severe lesions is the cornerstone in the first 48–72 h follow-up
- CT scan repetition during the admission should be considered in patients with moderate and severe lesions or in decreasing hematocrit, in presence of vascular anomalies or underlying splenic pathology or coagulopathy, and in neurologically impaired patients
- In the presence of underlying splenic pathology or coagulopathy and in neurologically impaired patients CT follow-up is to be considered after the discharge
- Activity restriction may be suggested for 4–6 weeks in minor injuries and up to 2–4 months in moderate and severe injuries
- Mechanical prophylaxis is safe and should be considered in all patients without absolute contraindication to its use
- Spleen trauma without ongoing bleeding is not an absolute contraindication to LMWH-based prophylactic anticoagulation
- LMWH-based prophylactic anticoagulation should be started as soon as possible from trauma and may be safe in selected patients with blunt splenic injury undergone to NOM
- In patient with oral anticoagulants the risk-benefit balance of reversal should be individualized

## Vaccination

–Splenectomy patients should receive immunization against the encapsulated bacteria

*S. pneumoniae*,

1 dose PCV13 (Prevnar) and 1 dose PPSV23 (Pneumovax) 8 weeks later

A second dose PPSV23 (Pneumovax) 5 years later

*H. influenzae*,

1 dose

*N. meningitidis*)

Meningococcal ACWY 2 doses at least 8 weeks apart, then booster at 5 years

Meningococcal B 2 doses at least one month apart

–Vaccination programs should be started no sooner than 14 days after splenectomy or spleen total vascular exclusion by Angio/Embo

–In patients discharged before 15 days after splenectomy or angioembolization, where the risk to miss vaccination is deemed high, vaccination is done before discharge

–Immunization against seasonal flu is recommended for patients

## References <sup>1-3</sup>

1. Moore FA, Davis JW, Moore EE, Jr., Cocanour CS, West MA, McIntyre RC, Jr. Western Trauma Association (WTA) critical decisions in trauma: management of adult blunt splenic trauma. *J Trauma*. 2008;65(5):1007-1011.
2. 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(5 Suppl 4):S294-300.
3. Coccolini F, Montori G, Catena F, et al. Splenic trauma: WSES classification and guidelines for adult and pediatric patients. *World Journal of Emergency Surgery*. 2017;12(1):40.