CLINICAL GUIDELINE

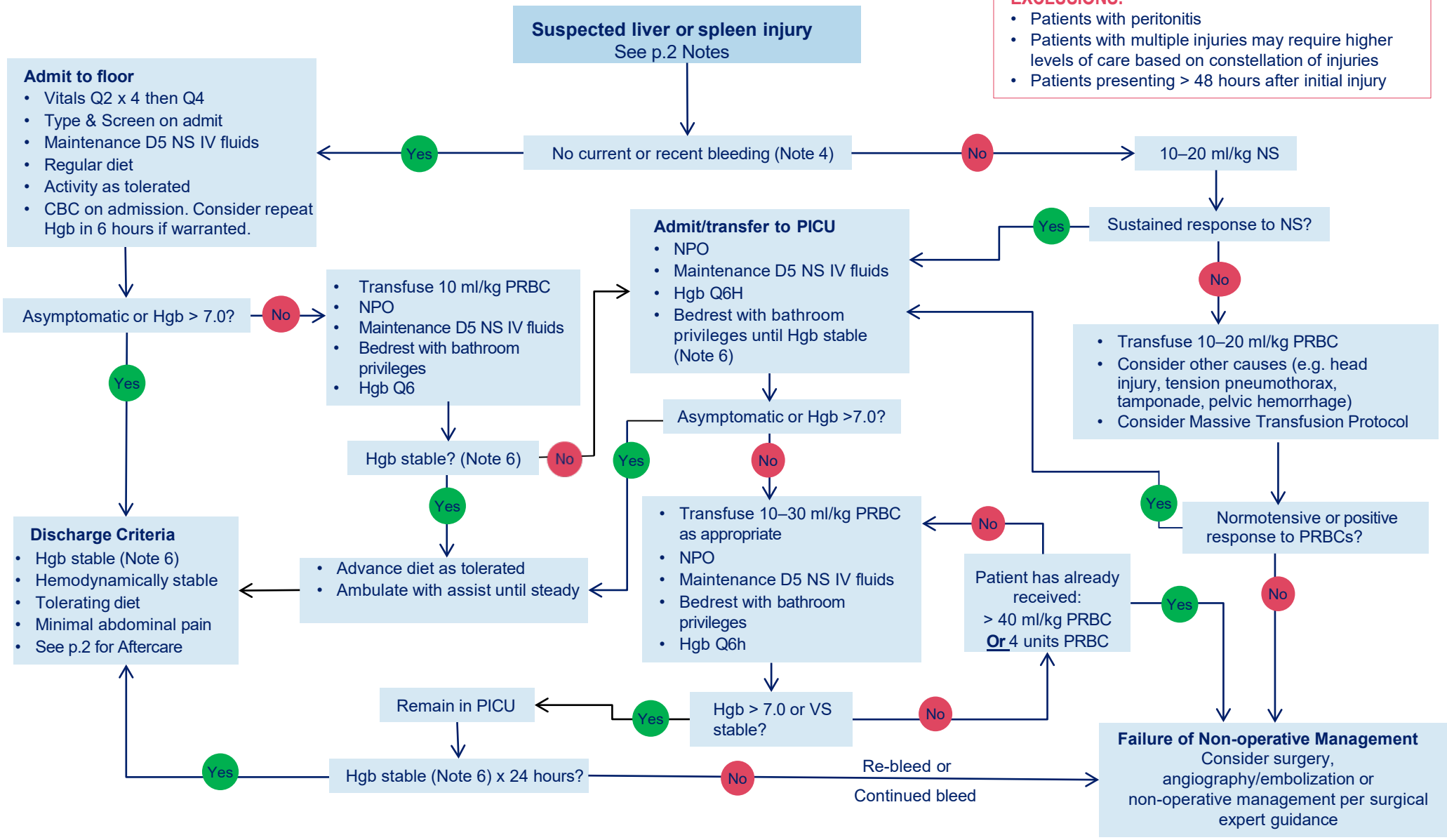
SOLID ORGAN INJURY MANAGEMENT

(Birth to 18 years)

Children's MINNESOTA

Aim: To standardize the management of patients with liver and splenic injuries based on hemodynamic stability.

EXCLUSIONS:
- Patients with peritonitis
- Patients with multiple injuries may require higher levels of care based on constellation of injuries
- Patients presenting > 48 hours after initial injury



Disclaimer: This guideline is designed for general use with most patients; each clinician should use their own independent judgment to meet the needs of each individual patient. This guideline is not a substitute for professional medical advice, diagnosis or treatment.

Aim: To standardize the management of patients with liver and splenic injuries based on hemodynamic stability.

NOTES

1. The Advanced Trauma Life Support protocol should be followed first.
2. This guideline may be used for patients with multiple injuries when not contraindicated.
3. Patients with peritonitis are managed per surgeon discretion. This algorithm does not apply to patients with peritonitis.
4. Signs of recent or ongoing bleeding may include pallor, hypoperfusion , anemia, lactic acidosis, inadequate response to transfusion, hemodynamic signs of hypovolemia.
5. Recurrent hypotension within the first hour because of intra abdominal bleeding or an SBP of less than 50mmHg after transfusion is an ominous sign, and strong consideration should be given to operative or angiographic intervention.
6. Stable hemoglobin is considered to be a drop of less than 0.5 g/dL over 12 hours.
7. Stable patients presenting within 48 hours after injury are admitted for observation (18 hours) but hemoglobin checks are optional.
8. Patients with injuries presenting > 48 hours after injury are managed at surgeon discretion.

AFTERCARE

Activity Restriction

• Restricting activity to grade plus 2 weeks and plus resolution of symptoms is safe.

• Shorter restrictions may be safe but there is inadequate data to support decreasing these recommendations.

Follow up Imaging

• Risk of delayed complications following spleen and liver injuries is low.

• Consider imaging for symptomatic patients with prior high grade injuries.

REFERENCES:

1. Notrica, et al. (2015) Nonoperative management of blunt liver and spleen injury in children: Evaluation of the ATOMAC guideline using GRADE. *Journal of Trauma and Acute Care Surgery*, 79(4), 683 693.
2. Gates, et al. (2019) Non operative management of solid organ injuries in children: An American Pediatric Surgical Association Outcomes and Evidence Based Practice Committee systematic review. *Journal of Pediatric Surgery,* 54 (2019) 1519 1526.

Approved by the Trauma Performance Improvement Committee 10/14/2024