Splenic Trauma

- Most commonly injured solid abdominal organ in blunt trauma and most common abdominal organ injury requiring surgery
- Prone to develop delayed hemorrhage, but excellent prognosis with early intervention (surgery/embolization)
- Identification of active arterial extravasation or pseudoaneurysm best predictor of need for surgery and failure of nonoperative management.
- Grading may be misleading: "Minor" injuries may go on to devastating delayed bleed or delayed rupture.
- Consider congenital splenic cleft (rather than laceration) in absence of peri-splenic hematoma or free fluid
- Innocuous splenic injuries may lead to life-threatening delayed hemorrhage, especially with anticoagulation

Contrast extravasation

- Finding of contrast extravasation on the other hand, which is not part of the grading system, has great impact on the patients management
- Because when there is active bleeding, there will be failure of a non-operative management in 80% of the cases.
- In these patients the need for intervention is almost ten times as high compared to patients without extravasation.

AAST (American Association for Surgery of Trauma)

- Grading system is based on extent of injury at laparotomy and applied to CT findings
- Does not take into account active extravasation and pseudoaneurysm formation
- I: Subcapsular hematoma (< 10% of surface area of spleen) or laceration < 1 cm
- II: Subcapsular hematoma (10-50% of surface area of spleen) or laceration 1-3 cm
- III: Subcapsular hematoma (> 50% of surface area of spleen), parenchymal hematoma > 5 cm or expanding laceration > 3 cm or involving trabecular vessels, ruptured subcapsular or parenchymal hematoma
- IV: Laceration involving segmental or hilar vessels with devascularization/infarct of at least 25% of spleen
- V: Shattered spleen; hilar vascular injury with complete devascularization/infarct of spleen

Shortecommings of this grading scale

- Often underestimates injury extent.
- Significant interobserver variability.
- Does not include:
  - Active bleeding
  - Contusion
  - Post-traumatic infarcts
- Most importantly: no predictive value for non-operative management (NOM)