

American Association for the Surgery of Trauma
(AAST) classification system

AAST classification system: Liver

- Low-grade injuries (Grade I, II, III):
- Grade I
 - Hematoma: Subcapsular <10% surface area.
 - Laceration: capsular tear <1 cm parenchymal depth

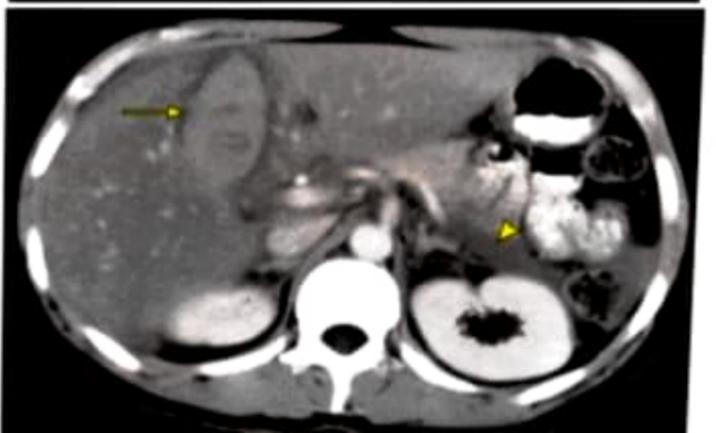
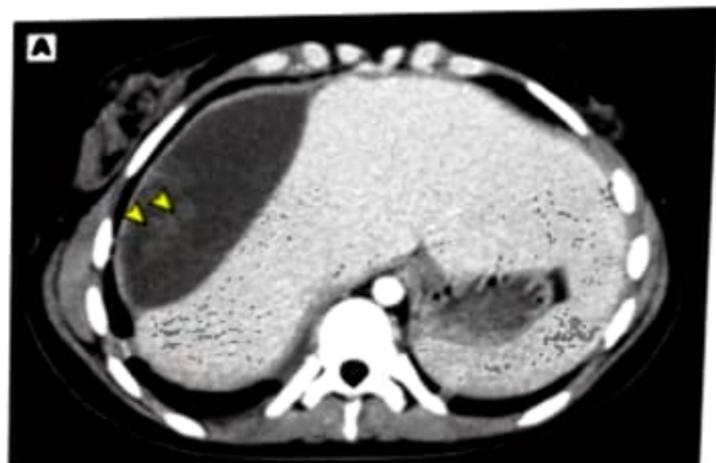
Low grade liver laceration on computed tomography



The CT scan of the dome of the liver shows a small linear intraparenchymal laceration (arrow).

AAST classification system: Liver

- Low-grade injuries (Grade I, II, III):
- Grade II:
 - Hematoma: subcapsular 10 to 50 % surface area
 - Intraparenchymal <10 cm in diameter
 - Laceration: capsular tear 1 to 3 cm parenchymal depth, <10 cm in length

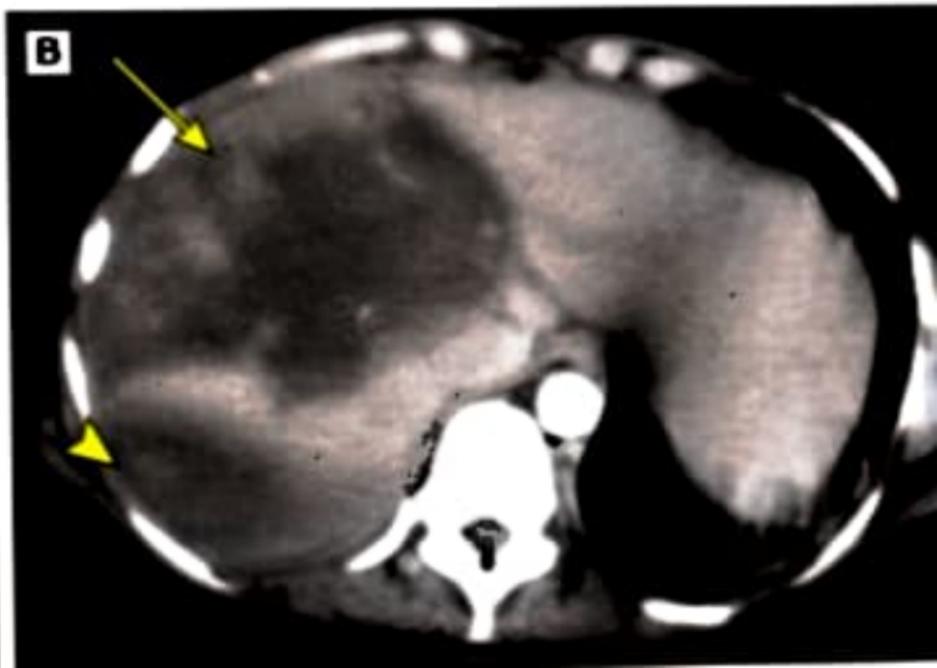
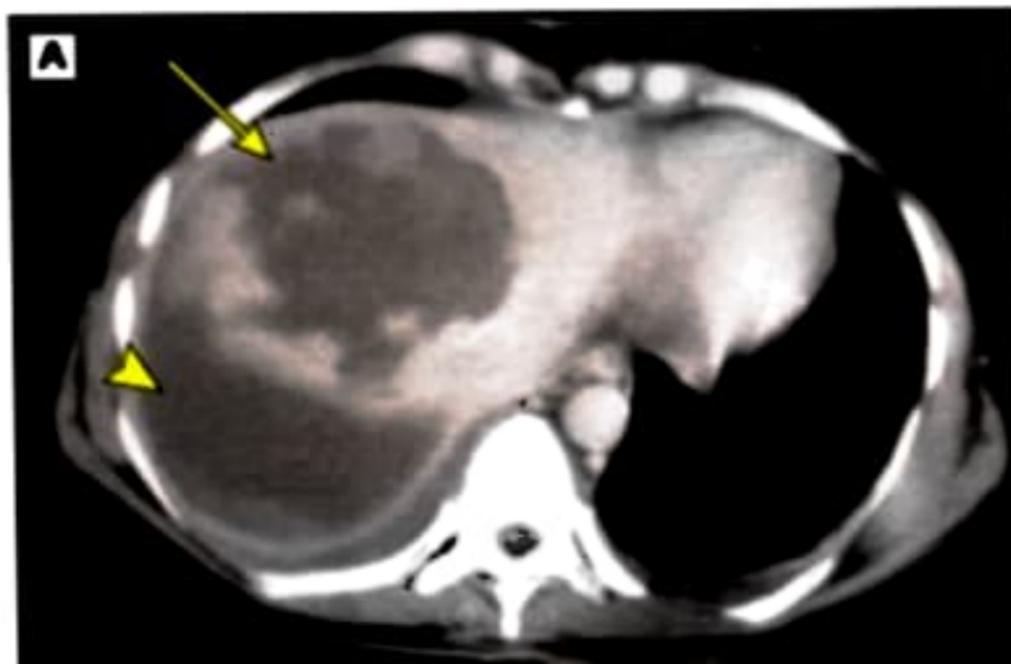


Liver

- Low-grade injuries (Grade I, II, III):
- Grade III
 - Hematoma: subcapsular >50% of surface area or ruptured subcapsular or parenchymal hematoma
 - Intraparenchymal hematoma >10 cm or expanding
 - Laceration >3 cm in depth

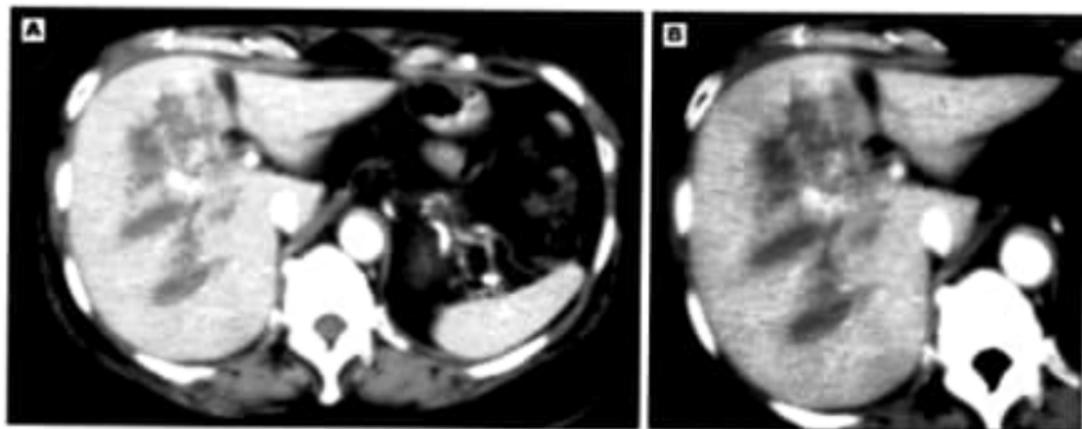


- High-grade injuries (Grade IV, V)
- Grade IV
 - Laceration: parenchymal disruption involving 25 to 75% of a hepatic lobe or 1 to 3 Couinaud segments



- High-grade injuries (Grade IV, V):
 - Grade V:
 - Laceration:
 - ✓ Parenchymal disruption involving >75% of hepatic lobe
 - ✓ >3 Couinaud's segments within a single lobe
 - Vascular Juxtahepatic venous injuries; ie, retrohepatic vena
 - Grade VI:
 - Cava/central hepatic vein
 - Hepatic avulsion

“bear claw injury”



Liver injury scale (1994 revision)

Grade*	Type of Injury	Description of Injury	ICD-9	AIS-90
I	Hematoma	Subcapsular, <10% surface area	864.01 864.11	2
	Laceration	Capsular tear, <1cm parenchymal depth	864.02 864.12	2
II	Hematoma	Subcapsular, 10% to 50% surface area intraparenchymal <10 cm in diameter	864.01 864.11	2
	Laceration	Capsular tear 1-3 parenchymal depth, <10 cm in length	864.03 864.13	2
III	Hematoma	Subcapsular, >50% surface area of ruptured subcapsular or parenchymal hematoma; intraparenchymal hematoma > 10 cm or expanding		3
	Laceration	>3 cm parenchymal depth	864.04 864.14	3
IV	Laceration	Parenchymal disruption involving 25% to 75% hepatic lobe or 1-3 Couinaud's segments	864.04 864.14	4
V	Laceration	Parenchymal disruption involving >75% of hepatic lobe or >3 Couinaud's segments within a single lobe		5
	Vascular	Juxtahepatic venous injuries; ie, retrohepatic vena cava/central major hepatic veins		5
VI	Vascular	Hepatic avulsion		6

*Advance one grade for multiple injuries up to grade III

From Moore et al. [4]; with permission