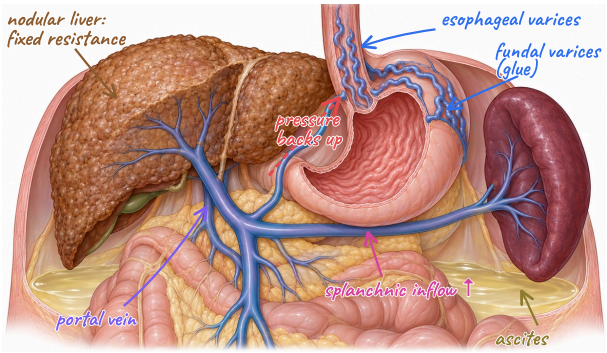
ER BASICS · ONE-PAGER

GI Bleeding, Liver Failure and Pancreatitis

Upper GI and variceal bleeding, encephalopathy, SBP, acute liver failure and pancreatitis

7 sources + more detail
erbasics.com/sheets/gi-liver.html
checked Oct 2026

ANATOMY Portal hypertension: why varices bleed



1 Upper GI bleeding

- Two large-bore IVs, type and crossmatch; protect the airway if vomiting blood or obtunded
- Transfuse at Hgb under 7 g/dL (about 8 with heart disease); overtransfusion raises rebleeding
- IV PPI; after endoscopy for high-risk ulcers, high-dose PPI for 72 h
- Endoscopy within 24 h of presentation; erythromycin 250 mg IV beforehand clears the stomach
- Glasgow-Blatchford score 0–1: low risk

VARICEAL BLEED (CIRRHOSIS)	DO
Vasoactive drug	Octreotide as soon as suspected, 2–5 days
Antibiotic	Ceftriaxone 1 g/day, up to 7 days
Endoscopy	Within 12 h: band ligation
High risk (Child C, or B with active bleeding)	Pre-emptive TIPS within 72 h
Uncontrolled	Balloon tamponade as a bridge; intubate first

EXAM TIP Exams test octreotide plus antibiotics for varices, and a restrictive Hgb goal of 7–8: more blood raises portal pressure.

2 Cirrhosis and liver failure

PROBLEM	CLUES	TREATMENT
Hepatic encephalopathy	Confusion, asterixis; find the trigger	Lactulose to 2–3 soft stools a day; add rifaximin
Spontaneous bacterial peritonitis	Ascitic neutrophils 250/mm³ or more	Ceftriaxone or cefotaxime plus albumin (day 1 and 3)
Large paracentesis	Over 5 L removed	Albumin 6–8 g per liter removed
Hepatorenal syndrome	Rising creatinine despite albumin	Albumin plus terlipressin or norepinephrine

Encephalopathy triggers: GI bleeding, infection, low K, constipation, sedatives, dehydration.

Acute liver failure: INR 1.5 or more plus encephalopathy in a patient without cirrhosis. Acetaminophen is the top US cause: give acetylcysteine (also helps other causes). Call a transplant center early; check glucose often; ammonia over 150–200 raises cerebral edema risk (HOB 30°, sodium 145–155).

SAFETY Acetaminophen overdose: start acetylcysteine without waiting for symptoms; the liver injury peaks at 72–96 h.

3 Acute pancreatitis

- Diagnosis: 2 of 3 — typical epigastric pain to the back, lipase over 3 times normal, imaging
- Causes: gallstones, alcohol, triglycerides over 1,000 mg/dL, high calcium, after ERCP, drugs
- Fluids: moderate, goal-directed lactated Ringer's; aggressive fluids caused overload without benefit (WATERFALL)
- Feed by mouth early as tolerated; enteral beats parenteral
- No prophylactic antibiotics for sterile necrosis
- Severe = organ failure lasting over 48 h (revised Atlanta)

SAFETY Watch for ARDS, low calcium (Chvostek, Trousseau), and abdominal compartment syndrome: bladder pressure over 20 mm Hg with new organ failure.

MORE Upper GI bleeding: risk scores and resuscitation

Peptic ulcer is the leading upper GI source, then varices, erosive disease, Mallory-Weiss tears and angioectasia. As little as 50–100 mL of blood can cause melena, and digested blood raises the BUN; a BUN/creatinine ratio above 30 favors an upper source (Srygley 2012).

SCORE	COMPONENTS	PREDICTS
Glasgow-Blatchford (0–23)	BUN, Hgb, SBP, HR, melena, syncope, liver or heart failure	Need for intervention; 0–1: outpatient (ACG 2021)
AIMS65 (0–5)	Albumin <3.0, INR >1.5, mentation, SBP ≤90, age ≥65	Death: 0.3% at 0, 31.8% at 5 (Saltzman 2011)
Full Rockall (0–11)	Age, shock, comorbidity, diagnosis, stigmata	Rebleeding and death; ≤2 is low risk

Transfuse at 7 g/dL, about 8 with cardiovascular disease (ACG 2021). Villanueva 2013 (921 patients, 7 vs 9 g/dL) found better 6-week survival (95% vs 91%) and less rebleeding (10% vs 16%) with restriction; the survival gain was in Child-Pugh A and B cirrhosis, and portal pressure rose only in the liberal arm.

Erythromycin 250 mg IV 30–120 min before endoscopy clears the stomach (check the QTc). Pre-endoscopic PPI downstages stigmata without changing outcomes; ACG 2021 made no recommendation either way. Endoscopy within 24 h is the target; sooner did not help in Lau 2020 (516 patients, Glasgow-Blatchford ≥12: 30-day mortality 8.9% within 6 h vs 6.6% at 6–24 h). Tranexamic acid failed in HALT-IT (2020, 12,009 patients): death from bleeding 4% in both arms, venous thromboembolism 0.8% vs 0.4%.

EXAM TIP Restart low-dose aspirin for secondary prevention soon after hemostasis: in Sung 2010, continuing it raised 30-day rebleeding (10.3% vs 5.4%) but cut 8-week mortality (1.3% vs 12.9%).

MORE TIPS and balloon tamponade

TIPS joins a hepatic vein to a portal branch with a covered 8–10 mm stent, aiming for a portal pressure gradient below 12 mm Hg (Baveno VII); it loads the right heart and diverts ammonia past the liver. Heart failure, severe pulmonary hypertension, uncontrolled sepsis and unrelieved biliary obstruction contraindicate it (AASLD 2010). MELD was first built to predict death after elective TIPS (Malinchoc 2000).

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