

CIRRHOSIS CARE

CIRRHOSIS DIAGNOSIS

Cirrhosis is often diagnosed by a combination of medical history, blood tests and imaging. Liver biopsy is rarely needed. Elevated APRI ≥ 2 or FIB-4 > 3.25 have high positive predictive values for cirrhosis. Ultrasound showing scalloped or nodular liver or enlarged spleen support the cirrhosis diagnosis. Also, FibroScan and MRE tests can add support for cirrhosis diagnosis based on liver stiffness. A platelet count below 150,000 is suggestive of portal hypertension due to cirrhosis in the absence of other causes. Stigmata of liver disease such as esophageal varices, hepatic encephalopathy, and ascites indicate decompensated cirrhosis.

All cirrhotic patients should be assessed at every visit for alcohol use with AUDIT-C, advised to abstain from alcohol, and referred to treatment if indicated. https://www.integration.samhsa.gov/images/res/tool_auditc.pdf

COMPENSATED VERSUS DECOMPENSATED CIRRHOSIS

Calculate Child-Turcotte-Pugh (CTP) score to determine: (<https://www.hepatitisc.uw.edu/page/clinical-calculators/ctp>). CTP uses bilirubin, albumin, INR, and presence of ascites or hepatic encephalopathy for calculation.

- A score of 5-6 is Class A, compensated cirrhosis.
- A score of 7-9 is Class B (moderately severe); 10 and above is class C (most severe). Class B and C scores indicate decompensated cirrhosis.

MANAGING CIRRHOSIS COMPLICATIONS

Hepatic Encephalopathy (HE) – Treat with lactulose and dose to 2-3 soft bowel movements daily or rifaximin 500mg twice daily. You can add on rifaximin if lactulose alone is not sufficiently treating HE.

Drug	Initial dose	Adjustments
Lactulose (preferred)	30-45mL p.o. bid	Adjust dose (up/down – 1Tbsp to 3 Tbsp) and frequency (daily to qid) to maintain 2-3 soft bowel movements/day (up to 6 soft BMs for those who have significant HE)
Rifaximin (alternative to lactulose or add on)	550mg BID	No adjustment necessary

Ascites – Perform diagnostic paracentesis for new onset or if patient admitted to hospital or has a change in clinical status. Sodium restricted diet 2000mg/day. If serum sodium is ≥ 135 mEq treat with a **single morning dose** of spironolactone and furosemide, pending BP tolerability. Consider fluid restriction and increasing furosemide dose to raise serum sodium.

Drug – Give Both Drugs Below as Single A.M. Doses	Initial dose	Adjust Dose Based on BP Tolerability and to Maintain Na Level > 135 mEq
Spironolactone	100mg	Escalate dose every 3-5 days as needed. Decrease if Na < 135 mEq and stop if Na < 130 mEq.
Furosemide	40mg daily	Monitor KCL and Sodium. Can increase to raise sodium level.

Esophageal Varices/Bleeding Varices Prophylaxis - Baseline EGD if decompensated cirrhosis or platelets $< 150,000$ or if available, FibroScan fibrosis score ≥ 20 and platelets $< 150,000$. Follow up EGD based on initial findings and whether patient is on carvedilol (selective and nonselective beta blocker) or nonselective beta blocker (see table below). No need for follow-up EGD if on prophylaxis. After variceal bleed, endoscopic variceal ligation should be done every 2-8 weeks with follow-up EGD until eradication of varices.

Drug	Initial dose	How to Adjust Dose
Carvedilol (preferred selective and non-selective beta blocker [NSBB])	6.25mg daily	Increase to 6.25mg BID after 3 days. Goal systolic BP \geq 90
Propranolol (alternative - NSBB)	20-40mg BID	Increase every 2-3d to max 320mg if no ascites; 160mg if ascites. Goal resting HR of 55-60 BPM and systolic BP \geq 90
Nadolol (alternative - NSBB)	20-40mg daily	Increase every 2-3d to max 160mg if no ascites; 80mg/d if ascites present. Goal resting HR of 55-60 BPM and systolic BP \geq 90

Coagulopathy – Platelets $<$ 150 or INR \geq 1.2 on 2 or more occasions $>$ 1 month apart. Important to recognize this as part of the sequelae of cirrhosis and know that patient is at risk for bleeding. You will likely see splenomegaly accompanying this type of thrombocytopenia.

ROUTINE LABS/DIAGNOSTICS

- Baseline labs: hepatitis C antibody, HBsAg (if not previously known), HIV screen, consider autoimmune markers if patient or family history of autoimmune disease.
- CMP q6months with yearly CBC, PT/INR.
- RUQ US and AFP every 6 months. This is to screen for hepatocellular carcinoma.
- Baseline EGD if decompensated cirrhosis or platelets $<$ 150,000 or if available, FibroScan fibrosis score \geq 20 and platelets $<$ 150,000. Follow up EGD based on initial findings and whether patient is on non-selective beta blocker (such as propranolol or nadolol) or carvedilol (selective and nonselective beta blocker).

VACCINATIONS RECOMMENDED

- Check hepatitis A and B immune/vaccine status and vaccinate if needed
- Pneumococcal vaccination
- Yearly influenza vaccine
- Plus other routine adult vaccinations

DIETARY AND EXERCISE RECOMMENDATIONS

- Daily energy intake 35-40 kcal/kg ideal body weight
- Protein (1.2-1.5g/kg/day)
- Eating a balanced diet including vegetables, fruits, fiber-rich whole grains, and lean proteins (such as fish, chicken, caribou, moose) is recommended. Do not eat processed and fast foods.
- Because the cirrhotic liver cannot store energy well, small meals or liquid supplements throughout the day including a late night snack and breakfast upon rising are recommended. No skipped meals. Consider an oral branched-chain amino acid supplement (Such as leucine, isoleucine and valine)
- In cirrhosis, the kidneys hold on to sodium and this results in the body holding more fluids leading to edema, ascites. Sodium intake \leq 2000mg/day is recommended. Note: 1 teaspoon salt = 2,325 mg sodium.
- Avoid raw or undercooked meats or seafood since cirrhosis causes immune dysfunction and increases risk of infections.
- Exercise as tolerated is important to maintain muscle integrity.

GOT A QUESTION? WHO TO CALL

Liver Disease & Hepatitis Program – 907-729-1560 and ask for a provider or nurse.