

# How to Prevent Hepatic Encephalopathy

Hepatic encephalopathy (HE) is a reversible worsening of brain function in patients with liver disease. One of the contributing factors to HE is a build up of ammonia in the blood and brain. If left untreated, HE can lead to coma and death.

## Take lactulose and rifaximin

Lactulose helps pull ammonia from the blood stream into the gut, where it is excreted.

Rifaximin kills bacteria that produce ammonia.

*Expected side effects of lactulose are: mild diarrhea, gas, bloating, burping, stomach pain, nausea, and cramps.*

*\*If you or your loved one is having difficulty getting rifaximin, please talk to your provider.*



## Call your doctor if you develop these serious side effects due to lactulose:



- severe, ongoing diarrhea
- vomiting
- hives
- difficulty breathing
- seizures
- muscle cramps and weakness
- irregular heartbeat
- mood changes

## What to eat:

- Cooked poultry, eggs and fish (no shellfish)
- Plant proteins and soluble fiber foods like lentils, black beans, chickpeas and tofu
- Probiotic foods such as plain yogurt and kefir
- Foods with zinc and thiamine such as whole grains, green vegetables, cashews and almonds



*\*Plan ahead if you are eating out.*

*\*Eat more frequently: 4+ small meals/snacks daily, with a bedtime snack*

*\*Take your multivitamin daily and remind your provider to check your zinc and thiamine regularly.*

## What not to eat:

- Limit red meat & pork (6oz/week), as it may worsen ammonia levels
- Avoid organ meats
- Limit salt to <2 grams per day (that is less than a teaspoon!) because it can worsen swelling and dehydration



*\*Follow all other diet restrictions per your medical team*

## What not to do

- Do not drink alcohol, because it causes liver damage and HE
- Do not drive unless cleared by your doctor
- Do not get infected; avoid people who are sick



## Triggers for HE

*Triggers are different for everyone but here are some common ones:*

- dehydration
- medications (opiates or benzodiazepines)
- gastrointestinal bleeding
- kidney failure
- constipation
- infection
- Too much animal protein (red meat)
- TIPS
- low sodium levels



*Sometimes people develop HE without a trigger*

## Safety concerns

Patients taking lactulose are more at risk for falls since they often have to rush to the bathroom. Placing a commode next to the bed or creating a short, clear path to the bathroom can help prevent falls.



## Increase the lactulose dosage when:

You have not had a bowel movement in 24 hours, and display these signs and symptoms (s/s):

- difficulty troubleshooting
- mood and personality disturbances
- sleep disturbances

## Go to the emergency room when:

An increased dose of lactulose is ineffective and you display these s/s:

- decreased energy
- trouble with basic problem solving or math
- slurred speech
- strange behavior
- flapping of the hands (asterixis).



## Call 911 if you see that your loved one is lethargic, difficult to arouse, and severely confused.

### Sources

- Hudson, M., & Schuchmann, M. (2019). Long-term management of hepatic encephalopathy with lactulose and/or rifaximin: a review of the evidence. *European journal of gastroenterology & hepatology*, 31(4), 434.
- Pazgan-Simon, M., Zuwała-Jagiełło, J., Serafińska, S., & Simon, K. (2015). Nutrition principles and recommendations in different types of hepatic encephalopathy. *Clinical and experimental hepatology*, 1(4), 121.
- Saab, S., Suraweera, D., Au, J., Saab, E. G., Alper, T. S., & Tong, M. J. (2015). Probiotics are helpful in hepatic encephalopathy: a meta-analysis of randomized trials. *Liver International*, 36(7), 986–993. <https://doi.org/10.1111/liv.13005>