

# Hepatic Encephalopathy

## What is hepatic encephalopathy (HE)?

- ▶ Hepatic encephalopathy (HE) is abnormal function of the brain caused by severe liver disease.
- ▶ It occurs when the liver is sick and no longer able to effectively remove toxins from the blood.
- ▶ When toxins build up, problems with attention, memory, judgment, and sleep can occur.
- ▶ HE symptoms can be managed if caught early and treated properly.

## What are triggers for HE?

- ▶ Dehydration
- ▶ Bleeding inside your stomach or bowel
- ▶ Infections, even as minor as urinary tract infections
- ▶ Sedatives, pills for sleep or pain medications that contain opiates
- ▶ Kidney problems
- ▶ Constipation
- ▶ Surgery
- ▶ Not taking the medications needed to treat HE

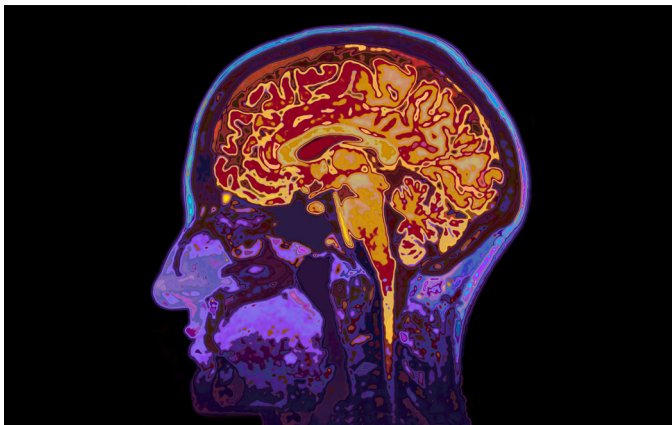
## How is HE diagnosed?

- ▶ There is no single test used to diagnose HE. A physical exam, medical history, and your symptoms can help in the diagnosis of HE.

## What are signs and symptoms of HE?

- ▶ Sleep disturbances (e.g., sleepy during the day and awake at night)
- ▶ Hand tremors
- ▶ Worsening handwriting
- ▶ Slurred speech
- ▶ Agitation
- ▶ Irritability or personality changes
- ▶ Forgetfulness or poor memory
- ▶ Poor concentration
- ▶ Sleepiness
- ▶ Confusion (not knowing the date, not recognizing family members or surroundings)
- ▶ Symptoms of HE can be mild to severe; It can worsen quickly and, in severe cases, it can lead to coma

**It is important for you and your family to be familiar with the symptoms of HE so that you can recognize them early and seek proper medical attention.**



## How can HE be managed and treated?

### 1. Identify and correct triggers

### 2. Medications

#### ▶ Lactulose

- Decreases absorption of toxic substances from your intestines, so they can be eliminated when you have bowel movements
- Work with your provider to determine a lactulose dose that produces 2-3 soft stools a day
- Continue taking your lactulose even if you feel fine, to have 2-3 soft stools a day
- If you get severe diarrhea (more than 5-6 stools/day), please call your provider

#### ▶ Rifaximin

- An antibiotic that decreases the production of toxic substances in the intestine
- Continue taking your rifaximin even if you feel fine

### 3. Diet

- ▶ It is important to include adequate protein in your diet to prevent malnourishment
- ▶ Increasing plant and dairy sources of protein, such as yogurt and beans, helps keep you nourished without building up too many toxins

### 4. Living with HE

- ▶ It may not be safe for you to drive
- ▶ You may need help remembering to take your medications, cleaning, cooking, or other activities

### **Seek immediate medical attention if you experience any of the following triggers for HE or worsening HE symptoms:**

1. Fever since this may be a sign of an infection
2. Diarrhea which can result in dehydration
3. Signs of internal bleeding such as black stools or blood in the stool
4. Difficulty with driving
5. Increased sleepiness
6. Agitation or confusion