

## Hepatic Encephalopathy

The liver is one the most vital organs of the body, serving numerous functions including metabolism of medications and filtration of toxins from the blood. However, in chronic liver disease, the liver lacks the capacity to carry out these normal functions, which can lead of accumulation of drugs and toxins within the body. When these toxins reach the brain, they can cause a marked decline in mental status, otherwise known as **hepatic encephalopathy (HE)**.

### What Does HE Look Like?

HE can be particularly hard to identify as it can present as a wide spectrum of nonspecific neurological and psychiatric manifestations. Because of these non-specific signs and symptoms, HE is a **diagnosis of exclusion**, meaning all other differential diagnoses should be ruled out prior to initiating treatment.

HE Signs & Symptoms <sup>†</sup>	Differential Diagnoses
<ul style="list-style-type: none"><li>• Apathy or Lethargy</li><li>• Asterixis*</li><li>• Decreased Alertness</li><li>• Disorientation</li><li>• Inappropriate Behaviors</li><li>• Personality Changes</li><li>• Sleep Disruptions</li><li>• Tremors</li></ul>	<ul style="list-style-type: none"><li>• Delirium</li><li>• Dementia</li><li>• Electrolyte Abnormalities</li><li>• Hypoglycemia</li><li>• Infection / Sepsis</li><li>• Stroke</li><li>• Substance Abuse</li></ul>

<sup>†</sup>Signs and symptoms of HE may be classified as **covert** (i.e., not readily apparent) or **overt** (i.e., openly displayed or evident).

\*Asterixis: Disruption in muscle control secondary to brain dysfunction; often characterized by the involuntary flapping motion of outstretched hands and wrists.

### What Do The Guidelines Say?

The following recommendations have been extracted from the [2014 AASLD Practice Guideline on Hepatic Encephalopathy in Chronic Liver Disease](#).

- ✓ Diagnosis should involve use of clinical tools such as the [West Haven Criteria](#) and the [Glasgow Coma Scale](#).
- ✓ Treatment of minimal HE and covert HE is not routinely recommended apart from a case-by-case basis.
- ✓ An episode of overt HE should be actively treated.
  - **Lactulose** is the **first choice** for treatment of episodic overt HE.
  - **Rifaximin** is an effective **add-on therapy** to lactulose for prevention of overt HE recurrence.
- ✓ Secondary prophylaxis after an episode of overt HE is recommended.
  - Lactulose is recommended for prevention of recurrent episodes of HE.
  - Rifaximin as an add on therapy to lactulose is recommended for prevention of recurrent HE episodes, after the 2nd episode.
- ✓ Primary prophylaxis for overt HE is not required, except in patients with cirrhosis and a high known risk to develop HE.