

Hepatic Encephalopathy

What is it?

What causes it?

What can make it worse?

What can make it better?



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Stages of Hepatic Encephalopathy

Stage	Neurologic Symptoms	Physiologic Symptoms	Treatment
0	Lack of detectable changes in personality or behavior. Minimal changes in memory, concentration and intellectual function.	Minimal changes in coordination.	None. Monitor for progression or changes in mental status.
1	Lack of awareness, shortened attention span. Impaired addition and subtraction. Altered sleep patterns. Feeling of euphoria, depression or irritability. Mild confusion. Slowing in ability to perform mental tasks.	Asterixes can be detected (When arms are held straight out in front of the body, a recurrent flapping tremor of the hands or arms, like the action of a bird's wings)	If chronic, treat with Lactulose Otherwise, monitor for progression or changes in mental status.
2	Lethargy or apathy. Disorientation (time). Obvious personality changes.	Inappropriate behavior. Slurred speech. Obvious asterixes.	Attempt to reverse with increased Lactulose or enemas. Possible hospital admission. Treat the cause.
3	Unable to perform mental tasks. Somnolent but can be aroused. Disorientation (time & place). Marked confusion, amnesia	Occasional fits or rage. Speech present but incomprehensible.	Attempt to reverse with increased Lactulose or enemas. Hospital admission. Treat the cause.
4	Coma (with or without response to painful stimuli)	None	ICU

What is it?

Hepatic Encephalopathy is a syndrome found in patients with liver disease such as cirrhosis. It can be defined as a spectrum of neurological abnormalities in patients with liver dysfunction. It causes personality changes, intellectual impairment and a decreased level of consciousness. Subtle signs of encephalopathy are observed in approximately 70% of patients with liver disease.

What causes it?

Although the exact cause is not known, it is believed that hepatic encephalopathy is caused by a build up of toxic substances within the brain, due to the decreased ability of the liver and gastrointestinal system to act as a filter.

What can make it worse?

Impaired Kidney Function – this leads to a decreased ability to rid the body of toxins such as urea and ammonia.

Gastrointestinal Bleeding – the presence of blood in the upper GI tract can result in increased ammonia and nitrogen absorption.

Infection – this can cause decreased kidney function and increased tissue breakdown. Both of these can increase ammonia levels.

Constipation – this increases the intestinal production and absorption of ammonia.

Medications – drugs that affect the central nervous system may worsen encephalopathy

Diuretics (water pills) – decreased potassium levels and a decreased pH may lead to conversion of ammonium to ammonia

Dietary Protein Intake – although this is an infrequent cause, it is known to worsen encephalopathy

What can make it better?

Monitoring the above issues, discussing medications with your physician and decreasing dietary protein intake can all help in decreasing the frequency and severity of encephalopathy.