



Facts At-A-Glance

- Hepatic encephalopathy (HE) is a brain disorder caused by liver damage.
- HE can be an acute (short-term) or chronic (long-term) condition and can be mild, moderate, or severe.
- HE occurs when the liver cannot remove toxic chemicals in the blood and these chemicals enter the brain.
- Symptoms of HE may progress slowly, or may occur suddenly.
- Common symptoms of HE include confusion, forgetfulness, personality or mood changes, poor concentration and judgment, stale or sweet odored breath, change in sleep patterns, and worsening of handwriting or small hand movements.
- People with HE can enter a coma or have brain damage.
- HE can be a medical emergency and hospitalization is usually required.
- Treatments aim to manage the disease and keep people out of the hospital.
- The best way to reduce the risk of HE is to prevent, treat, or manage liver disease.



Your Liver. Your Life.

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Hepatic ENCEPHALOPATHY



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Why is the liver important?

The liver is the second largest organ in your body and is located under your rib cage on the right side. It weighs about three pounds and is shaped like a football that is flat on one side.

The liver performs many jobs in your body. It processes what you eat and drink into energy and nutrients your body can use. The liver also removes harmful substances from your blood.

What is hepatic encephalopathy?

Hepatic encephalopathy (HE) is a brain disorder that is caused by liver damage. HE can be an acute (short-term) or chronic (long-term) condition and can be mild, moderate, or severe.

What causes an episode of hepatic encephalopathy?

HE occurs when the liver is damaged and cannot remove toxic chemicals, such as ammonia, from the blood. These chemicals then enter the brain and cause it to not function well.

The following factors may trigger HE:

- Dehydration (loss of water from the body)
- Low oxygen levels in the body
- Eating too much protein
- Constipation
- Medications that affect the nervous system, such as tranquilizers or sleep medications
- Infections
- Intestine, stomach, or esophagus bleeding
- Kidney problems
- Surgery

What are symptoms of hepatic encephalopathy?

HE can cause mental and physical symptoms. They can vary from person to person, and may progress slowly or occur suddenly.

Symptoms may include:

- Mild confusion
- Forgetfulness
- Personality or mood changes
- Poor concentration
- Poor judgment
- Stale or sweet odored breath
- Change in sleep patterns
- Worsening of handwriting or small hand movements

Severe symptoms may include:

- Unusual movements or shaking of hands or arms (also known as "flapping")
- Extreme anxiety
- Seizures
- Severe confusion
- Sleepiness or fatigue
- Severe personality changes
- Jumbled and slurred speech
- Slow movement

What are the complications of hepatic encephalopathy?

Complications of HE may include:

- Brain swelling
- Permanent nervous system damage
- Increased risk of heart failure, kidney failure, respiratory failure and sepsis (blood poisoning)
- Coma

How is hepatic encephalopathy treated?

HE can be a medical emergency and hospitalization is usually required. It is important to see a doctor as soon as symptoms begin. At the hospital, doctors determine and treat what may have caused hepatic encephalopathy. Treatments aim to manage the disease and keep people out of the hospital.

Depending on the cause, treatments may include:

- Stopping intestine, stomach, and esophagus bleeding
- Healing infections
- Addressing kidney failure
- Providing life support if the person is in a coma

For people with chronic HE, doctors may recommend:

- Diet changes such as avoiding too much or too little protein
- Rifaximin (Xifaxan550) to reduce bacteria in the intestines that make toxins the liver cannot process
- Lactulose (type of sugar) to prevent the liver from absorbing toxins from the intestine
- Prevention and treatment of constipation
- Medicine to remove blood from the intestines or procedures to control active bleeding
- Medicine to treat infections

What is the best way to reduce the risk of hepatic encephalopathy?

The best way to reduce the risk of HE is to prevent, treat, or manage liver disease. Talk to your doctor about risk factors and steps that can be taken to prevent chronic HE.