

# Hepatic Encephalopathy

## Atlantic Canada Liver Transplant Program

# Hepatic Encephalopathy

## What is hepatic encephalopathy?

- Your liver filters toxins from your blood. If your liver is damaged by cirrhosis (scar tissue), it may not remove toxins as it should.
- When toxins (like ammonia) build up in your brain, it can cause hepatic encephalopathy (H.E.).
- H.E. is a condition that affects your brain and central nervous system. It can change how you think, feel, and act.
- If H.E. is found early and treated, you can manage it at home.

## What can trigger H.E.?

- › Dehydration (not having enough fluids)
- › Bleeding in your stomach or bowel
- › Infections (like a urinary tract infection [UTI])
- › Constipation (not being able to poop)
- › Not taking your medications
- › Surgery
- › Sedatives (medications to help you relax or sleep)
- › Pain medications that have opiates (like oxycodone, hydromorphone, fentanyl, and acetaminophen [Tylenol®] with codeine)

- Sometimes H.E. can happen for other reasons that cannot be identified.

## **What are the symptoms?**

- › Trouble concentrating
- › Changes in your sleep (like trouble sleeping at night)
- › Feeling irritable or agitated
- › Short-term memory loss
- › Tremors or “hand flapping”
- › Confusion or disorientation (not remembering where you are or what is happening)
- › Feeling drowsy
- › Coma

## **How is H.E. treated?**

- H.E. is treated with a medication called **lactulose**. This is a laxative that makes you poop more often and makes your poops more acidic. This helps your body get rid of toxins.
  - › Lactulose comes as a syrup. Take enough so you have 2 to 3 soft poops a day. Keep taking it even if you feel fine.
  - › Take 1 dose (amount) when you first wake up in the morning. Take the dose that is recommended for you. 1 dose is usually 1 to 3 tablespoons (15 to 45 ml).

- › If you have not had 2 to 3 soft poops by lunchtime, take a 2<sup>nd</sup> dose.
- › If you have still not had 2 to 3 soft poops by suppertime, take a 3<sup>rd</sup> dose.
- › If you have still not had 2 to 3 soft poops by bedtime, take a 4<sup>th</sup> dose.
- If you take too much, you will get diarrhea (loose, watery poops), but if you do not take enough, you will have H.E. symptoms.
- If you have severe (very bad) diarrhea (more than 5 poops a day), take less lactulose and call your prescribing health care provider.

## **If you have diabetes with high blood glucose levels:**

- Because lactulose has sugar, **you must monitor your blood sugar levels.** You may wish to review your diabetes medications with your primary health care provider or your diabetes health care provider.
- If lactulose does not help your H.E. symptoms, your health care team may prescribe **rifaximin (Zaxine®)**. This is an antibiotic medication that changes the bacteria in your gut so they make less toxins.
  - › Rifaximin comes as a pill. It is taken 2 times a day. Keep taking it even if you feel fine.

- › Ask your pharmacist for more information about rifaximin, including possible side effects.




## **Living with H.E.**

- H.E. can affect your brain function:
  - › You may not be able to drive.
  - › You may need a support person to remind you to take your medications.
  - › You may need help with activities of daily living.

### **If your symptoms get worse:**

- Take another dose of lactulose and **call your doctor.**
- **Go to the nearest Emergency Department right away if you have:**
  - › Fever (temperature above 38 °C or 100.4 °F)
  - › Diarrhea
  - › Black poop
  - › Blood in your poop
  - › Worse confusion
  - › Trouble waking up

**Note:** This pamphlet is about lactulose therapy **only**. Talk with your primary health care provider if your H.E. is not getting better. You may need other treatments.

Problem	What do do
Lactulose is too sweet	<p>Mix it with juice, water, a protein shake, lemon tea, or a soft dessert to help with the taste.</p> 
<p>A lot of diarrhea or gas (farting)</p> <p>Strong stomach cramps</p> <p>Burping</p>	<p>Talk with your primary health care provider about changing your dose.</p> 
Dehydration	<p>Make sure you are drinking enough fluids. Check with your primary health care provider first if you are on fluid restrictions.</p> 

# Notes:

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This pamphlet is for educational purposes only. It is not intended to replace the advice or professional judgment of a health care provider. The information may not apply to all situations. If you have any questions, please ask your health care provider.

Find all patient education resources here:  
[www.nshealth.ca/patient-education-resources](http://www.nshealth.ca/patient-education-resources)

Connect with a registered nurse in Nova Scotia any time:  
Call 811 or visit: <https://811.novascotia.ca>

*Prepared by:* Multi-Organ Transplant Program, QE II  
*Designed and Managed by:* Library Services

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