

A REFERENCE MANUAL FOR UNDERSTANDING LIVER DISEASE

Common Patient Questions

**This manual was created to help understand your liver condition and
upcoming appointment at The University of Utah Liver Clinic
We welcome your comments and suggestions.
This is your manual.**

**I.Ray Thomason, M.D.
Frank O. Thomas, M.D.**

Special Thanks to my Editors and Contributors:

**Terry Box, M.D.
Juan Gallegos, M.D.
Tuan Pham, M.D.
Shaun Chandna, M.D.
Eduardo Rodriguez-Zarate, M.D.
Tasha Terry, R.N.
Cassandra Jacobson, R.N.
Amber Whitaker, M.A.**

TABLE OF CONTENTS

- 1. What should I expect on my first visit to the Liver Clinic?**
- 2. What should I expect on my follow-up visits?**
- 3. What should I know about my liver?**
- 4. What are the most common questions asked about liver disease?**
- 5. What are the 3 most important factors for treating liver disease?**
- 6. What liver medications might I need?**
- 7. What medications should I avoid?**
- 8. How will my liver disease be monitored?**
- 9. What procedures might be used to monitor or treat my liver disease?**
- 10. What will I receive when my appointment is complete?**
- 11. How do I get my results and communicate with the liver team?**
- 12. Are there liver websites where I can get additional information?**
- 13. What if I am getting ill or am worried about a change in my condition?**

1. What should I expect on my first visit to the Liver Clinic?

- a) ***Before your first visit***, please make sure that you:
 - i) Complete and bring with you the **Liver Questionnaire**.
 - ii) Review the ‘*A Reference Manual for Understanding Your Liver Disease*’ before your first visit. This manual may answer the majority of your questions.

- b) ***Arrive at least 20 minutes before your first visit with your completed forms.*** Give yourself plenty of time as there is always traffic congestion.
 - i) We recommend using the Free Valet in the front of the Main Hospital by the Emergency Department.
 - ii) We are on the A level.
 - iii) Take the elevators past the Starbucks on the main level (1st floor) down to the A level.
 - iv) Turn left out of the elevators and the Liver Clinic is around the corner to your left.

- c) ***Please bring the containers of any prescription and non-prescription (Tylenol, aspirin, vitamins, supplements, etc.) medications you are taking.***

- d) ***The goals of your Liver Team will be:***
 - i) To determine the cause of your liver problem and establish if there is damage to the liver.
 - ii) To monitor your liver disease and develop a plan to improve your liver health through diet, medications and vaccinations for Hepatitis A and B.
 - iii) To screen and monitor for complications of a damaged liver such as:
 - (1) Liver cancer.
 - (2) Enlarged veins (varices) in the esophagus that might cause bleeding in the future.

- e) ***When you arrive for your visit, ask about how to sign up for “My Chart” (details included in this manual on page***

2. What should I expect on my follow-up visits?

a) Since your last visit, *your Liver Team will review the following:*

- i) Other appointments
- ii) Labs
- iii) X-rays
- iv) Procedures
- v) Medications

b) *Review your current diet and physical activity level.*

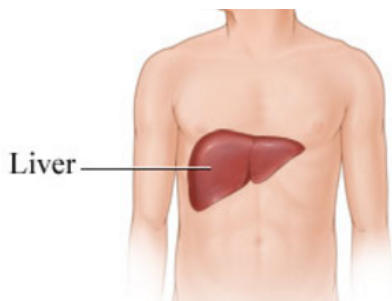
c) *Monitor for possible complications of liver damage* such as:

- i) Treatable cancers.
- ii) Treatable varices (enlarged veins in the esophagus or stomach) that can potentially pop and bleed.
- iii) About every two years monitor your bone health with a special bone scan.
- iv) Clots within the veins of the liver with ultrasound or other type of imaging.

d) *For every follow-up visit, always bring the containers of all of your prescription and non-prescription (Tylenol, aspirin, vitamins, supplements, etc.) medications you are taking.*

3. What should I know about my liver?

- a) **Where is the Liver?** The liver is a triangular shaped three-pound organ located within the upper right side of the abdomen.



b) **What is the Job of the Liver?**

i) *Makes proteins* that:

- (1) Keeps fluids inside the blood vessels. Lack of these proteins causes swelling in the abdomen (ascites) and legs (edema).
- (2) Helps with clotting. Lack of these proteins causes you to easily bruise and/or bleed (frequent nose bleeds, bleeding from the gums, etc.)
- (3) Helps fight infections. Lack of these proteins causes you to get more infections.

ii) *Filters body wastes* such as:

- (1) *Ammonia* that can cause “brain fog.” Excess ammonia can lead to a change in personality, increasing fatigue, difficulties with memory and in severe cases can cause coma.
- (2) *Bilirubin* that occurs with the breakdown of red blood cells. Excess bilirubin can cause yellowing of the whites of the eyes and yellowing of the skin (jaundice).

iii) *Eliminates chemical poisons* that:

- (1) Can cause damage to your body. A damaged liver has difficulty clearing these poisons.

iv) *Helps regulate your blood sugar.* A severely damaged liver can make it difficult for you to maintain a proper blood sugar range.

1. What are the most common questions asked about liver disease?

a) What is Cirrhosis?

- i) Cirrhosis occurs when normal healthy liver cells die and are replaced with scar tissue in the liver. Excessive scar tissue can squeeze the liver blood vessels. This narrowing of your liver blood vessels reduces blood flow through the liver, thereby reducing normal liver function.

b) What causes my liver cells to die?

- i) Viruses that infect the liver
- ii) Autoimmune diseases
- iii) Inherited disease
- iv) Diets high in calories (sweets/sugars, fatty foods, sodas, etc.) that cause excessive fat accumulation
- v) Alcohol
- vi) Drugs (prescription medication, Over-the-Counter (OTC) medications, herbs, and supplements)

c) Why does my doctor want to know all the medications and supplements I am taking?

- i) Your healthcare provider will want to evaluate everything you are taking prescribed and non-prescribed. Many over-the-counter drugs, herbal or dietary supplements have the potential to injure the liver.
- ii) There are many side effects from drug-to-drug interactions. For example, Drug A can make Drug B ineffective or even toxic.
- iii) When you are prescribed medication by other providers, be sure and tell them you have liver disease.

d) Can I have liver disease and feel fine?

- i) Yes, both early and or long-standing liver disease can cause no symptoms or mild symptoms, such as fatigue and nausea.

e) Can I have abnormal liver test results and not have liver disease?

- i) Yes, many other medical conditions can cause abnormal liver tests such as shock, burns, infections, muscle trauma, dehydration, pancreatitis, pregnancy.

f) Why is my family history so important?

- i) If you have an inherited disease it may be important for other members of your family to know that they *may* be susceptible to this disease. It may help your liver team better understand your current condition.

1. What are the 3 most important factors in treating liver disease?

The three most important factors are:

- Your diet -- You are what you eat/drink
- Taking your liver medications
- Avoid drinking alcohol or using medications that can further damage the liver

a) What kind of diet should I be eating?

- i) It is important to have a nutritious healthy diet. Eat real food -- items your grandmother would recognize. A diet that is:
- (1) High in protein: mainly chicken, plant-based protein (beans, tofu, etc.) and fish. Minimize red meat.
 - (2) Low in Salt:
 - Avoid added salt at the table.
 - Avoid canned soups and vegetables.
 - Avoid sports drinks (ex: Gatorade, Powerade).
 - Avoid potato chips, pickles, hot dogs, etc.
 - (3) Made up of non-wheat grains (like rice, oats).
 - A gluten-free diet is okay
 - Avoid wheat products like bread, pasta, and pizza.
 - (4) Avoid foods high in corn syrup
 - Avoid fast food restaurants and drive-throughs
 - Avoid fructose-containing sodas and fruit juices.
 - (5) Drink 2 cans of protein supplement (like Ensure or Boost) an hour or two before bedtime to help prevent muscle breakdown if recommended by your doctor.
 - (6) Substitute unhealthy fats with healthier fats like olive oil, avocados, and nuts.
 - (7) 2-5 cups of paper-filtered coffee each day is beneficial for your liver. **AVOID** excessive sugar and cream (Frappuccinos or milk shakes)
- ii) See the attached Mediterranean Diet – it is a nice example of a healthy diet.
- iii) When the liver is damaged it is important to eat extra protein calories (an extra 33% daily) to prevent muscle loss. Speak with your providers/dietician for a specific goal.
- iv) When the liver is damaged, it uses your muscles for energy- especially throughout the night. This can create muscle loss and weakness.

6. What liver medications might I need?

- a) **Diuretics:** These drugs are used to reduce the amount of excessive fluid accumulation in your legs (edema) and abdomen (ascites).
 - i) There are two common types of diuretics you will be taking.
 - (1) **Spirolactone** (Aldactone): 25 to 400 mg once each morning. This diuretic can cause your body to retain potassium.
 - (2) **Furosemide** (Lasix): 10-160 mg once each morning. This diuretic can cause your body to lose potassium.
 - ii) Take each of the prescribed medications every morning as directed by your liver team.

- b) **To Reduce Brain Fog** from excess accumulation of ammonia into your blood take:
 - i) **Lactulose syrup:** take ½ to 2 tablespoons 1-6 times/day. Adjust the frequency or amount until you have 2-3 loose bowel movements/day. Lactulose works by preventing the absorption of excessive ammonia from the intestines.
 - ii) **Rifaximin:** 550 mg twice a day
 - (1) Rifaximin kills the bad bacteria in the intestines that make ammonia.
 - (2) This medication usually requires pre-authorization by your insurance company. Our liver team will help you obtain your authorization.

- c) **Statins** (Lipid/cholesterol lowering medications including Lipitor, Crestor, etc.): Overall, statins are safe in patients with liver disease and are commonly used to improve cholesterol level and prevent heart attacks and strokes.

- d) **Beta Blockers** (Propranolol, Nadolol, Carvedilol): these drugs are used to lower the pressure in the liver to allow easier blood flow into and through the liver. They are prescribed to prevent bleeding from large veins (varices) in the esophagus.

- e) **Antibiotics** (Cipro, Levaquin, Bactrim, etc.): are used to cure infections in the bile and in the ascites (abdominal fluid).

7. What medications should I avoid?

- a) **NSAID's** (Aleve, ibuprofen, etc.): these drugs can hurt your kidneys.
- b) **Tylenol (acetaminophen)**: Although you can use this to treat pain and fever, you should not take more than 1-2 grams per day, especially if you are malnourished or drink alcohol excessively.
- c) **Herbs and Supplements**: These types of medications can cause liver damage. Do not take any medications until you discuss their use with your liver team.
- d) **Narcotics, sleeping medication and anti-anxiety medication** can increase brain fog and are poorly detoxified in livers that are damaged.

8. How will my liver disease be monitored?

- a) Your liver team will be constantly monitoring your liver disease for ongoing injury with lab tests, imaging, and Fibro Scan if needed.
- b) Your liver team will review your liver health to make sure that:
 - i) Your vaccinations for Hepatitis A & B are up-to-date.
 - ii) Monitor your medications for appropriate doses based upon your liver symptoms.
 - iii) If your liver has been damaged, especially to the point of cirrhosis your liver team will check:
 - (1) Every 6 months for early small liver cancers by obtaining:
 - Tumor markers in the blood
 - Liver Imaging studies (Ultrasound, CT scan or MRI scan)
 - (2) Check every several months the status the varices (veins) in the esophagus, and provide banding if needed.

9. What procedures might be used to monitor or treat my liver disease?

- a) **EGD**-Is an endoscopy procedure performed with a thin scope with a light and camera at its tip. It is used to examine the inside of the upper digestive tract. During the procedures, your doctor will look at the esophagus (E), stomach (G) and duodenum (D) for signs of back pressure from the liver in veins of the esophagus called “varices.” Once found your doctor may place rubber bands around them to keep them from popping and bleeding. For more information see these video on YouTube:
<https://www.youtube.com/watch?v=Zxrykg-9bok>
<https://www.youtube.com/watch?v=FHERv38mjko>
- b) **Fibro Scan:** This is a special test that uses sound waves to assess potential fat and scar tissue in the liver. The procedure is done in the outpatient clinic. Please fast for at least 3 hours prior to the scan.
- c) **X-Ray Imaging: Ultrasounds, CT scans, and MRI scans** give us information about the blood vessels that supply the liver, the amount of fat or scar tissue within the liver, the presence of early liver growths and cirrhosis.
- d) **Paracentesis:** This is a procedure to remove excessive fluid that has accumulated in the abdominal cavity because of your liver disease. This is accomplished by passing a needle and catheter through the abdominal wall into the abdominal fluid collection. The fluid is then drained from the abdomen using special suction bottles. For more information see this video on YouTube:
<https://www.youtube.com/watch?v=zyvHGmigvD0>
- e) **Interventional Radiology**
 - i) **TIPS:** This procedure reduces the back pressure created by scar tissue in the liver. Under the guidance of a radiologist a plastic tube is placed in the liver that allows the incoming blood from the GI tract to flow freely through the liver. For more information see this video on YouTube:
www.youtube.com/watch?v=O2u4_hF3234
 - f) **Liver biopsy:** During this procedure, a needle is passed into the liver to get a small sample of liver tissue. Two methods are commonly used:
 - i) **Ultrasound guided needle biopsy.** For more information see this video on YouTube:
<https://www.youtube.com/watch?v=mnHPx5XEvfQ>
 - ii) **Trans-jugular Biopsy.** For more information see this video on YouTube:
<https://www.youtube.com/watch?v=k3uwAJKNPQ8>

10. What will I receive when my appointment is complete?

11. a) An Aftercare Visit Sheet that will address:

- i) A list of your medications –newly recommended and previous medications.**
- ii) Diet recommendations.**
- iii) Tests that we will schedule for you.**
- iv) An explanation of your liver condition once this has been confirmed.**
- v) Upcoming appointments we have arranged with other providers (if needed) and your return visit to the Liver Clinic. *If you need labs drawn the day of your visit, we can usually draw them in your exam room.***

**11. How can I get my results and communicate with the liver team?
Sign up for our online patient service, MyChart. If you are already registered, make sure your information is current.**

What is MyChart?

MyChart is a secure, online health management tool that connects University of Utah Health patients to portions of their personal medical record.

Is there a fee to use MyChart?

No. MyChart is a complimentary service offered to University of Utah Health patients.

How do I sign up?

First, you need to obtain an Activation Code to set up your personal My Chart account. You can find an activation code on your recent billing statement. If you do not have an activation code, please contact MyChart Support at <https://mychart.med.utah.edu/mychart/support.asp> or 801-213-5555 and have one generated for you.



If you cannot find the information and updates you need on MyChart, you may reach out to the Medical Assistant (MA) or nurse in the Liver Clinic.

12. Are there liver websites that I can get additional information?

For reliable patient information we recommend:

www.uptodate.com/patient

www.AASLD.org/patient

www.americanliverfoundation.org

13. WHAT IF I AM GETTING ILL OR AM WORRIED ABOUT A CHANGE IN MY

CONDITION?

If you have developed a new fever, severe abdominal pain, confusion, shortness of breath, chest pain, or bleeding notify us immediately.

If after business hours please go to the nearest Emergency Department where they can contact the Liver provider on call.

If you have a question that is **not urgent** please communicate through “MyChart”.

