Protocols for patients with specific health concerns

These do not apply to all patients.

Increased Risk Donor Protocol

If you received an increased risk donor organ you will get lab work done at 1 month post-transplant, 3 months post-transplant, and 6 months post-transplant.

The lab work to be done includes:

- HIV testing
- HBV testing
- HCV testing

A transplant coordinator will contact you when the time nears for these labs to be done.

Hepatocellular Carcinoma (HCC) Protocol

If you had hepatocellular cancer (HCC) before your transplant, you will have tests done every 6 months for 2 years to watch for any new cancer cells..

These tests include:
Abdominal ultrasounds or abdominal MRIs, and lab draw for alpha feta protein (tumor marker) A transplant coordinator will contact you when the time nears for you to have these tests done as part of this protocol.

Neuroendocrine Tumor (NET) Protocol

If you had a NET before transplant a CT scan of abdomen/chest/pelvis will be done at 1 month and 6 months post-transplant. The Neuroendocrine Clinic will follow you for for life. A transplant coordinator will contact you as the time nears for these appointments to take place.

Additional Testing

The following tests may be done from time to time following your transplant. You may have some of these tests done before your transplant.

Procedures

Chest X-Ray

It is common to have a chest X-ray right after transplant. A chest X-ray is done if you have breathing issues such as a lasting cough (productive or dry), chest pain, shortness of breath, a bad cold (sore throat or runny nose) or infection

Ultrasound

This test uses sound waves to look for abnormality of your new liver. A gel is put on the abdomen over the area of the liver and a probe -shaped like a microphone is moved gently over the abdomen. Pictures are displayed on a computer screen for the doctors to view. This test is done if there are question of blood clots in the blood vessels of the liver, bile duct problems or rejection.

Liver Biopsy

A liver biopsy is a procedure in which a small piece of the liver is removed with a needle.It is looked at under a microscope by a pathologist. A liver biopsy is performed when rejection is suspected. An increase of the liver function tests can mean rejection. There are many other causes for these lab values to increase including infection or bile duct problems. A biopsy of the transplanted liver is ordered to decide the possible cause of the increased labs and help us plan treatment. It is very common to have a liver biopsy after a liver transplant.

Percutaneous Transhepatic Cholangiography (PTC)

A PTC is a procedure that helps us look at the bile ducts. With sedation, dye is inserted into the liver through a needle. Using X-ray, the radiologist looks for narrowing of the bile ducts.

A PTC is done when there is a change in the labs values or ultrasound.

Endoscopic Retrograde Cholangiopancreatography (ERCP)

An ERCP helps the doctor to diagnose and treat problems in the liver, gallbladder, bile ducts and pancreas. The procedure combines X-ray and the use of an endoscope - a long, flexible, lighted tube. The scope is goes through the patient's mouth and throat, then through the esophagus, stomach and duodenum.

The doctor can look at the inside of these organs and find any abnormalities. A tube is then passed through the scope, and a dye is injected to allow the internal organs to appear on an X-ray. If narrowing or block of the bile duct is found, it can be opened by placing a tube across the narrowing or the block.

Endoscopy

An endoscopy is a procedure to diagnose or treat a condition of the upper gastrointestinal system. The endoscope is put in through the mouth.

Colonoscopy

A colonoscopy is done to diagnose or treat a condition of the lower gastrointestinal system. The colonoscope is put in through the anus.

Ileoscopy

An ileoscopy is a procedure that uses an endoscope to diagnose or treat a condition in the small intestine. The scope is put in through the ileostomy.

Magnetic Resonance Imaging (MRI)

An MRI uses combination of large magnets, radiofrequencies and a computer to show detailed pictures of organs and structures within the body. MRI does not use radiation for this image.

Computed Tomography (CT)

A CT scan uses X-rays to make detailed pictures of structures inside the body.

Lab Tests

Lab Values

The transplant office will order your labs at a local facility that is convenient for you. We will give the lab permission to give those lab results to you if you should ask. The lab values are sent to the transplant office for review.

Following is a chart of common lab values ordered by the transplant team. Lab result ranges may differ from one lab to another. Your lab results may fall outside of the normal range, but may be normal for you. You can get lab results from your local lab or through One Chart | Patient. The transplant will let you know your lab schedule when you are discharged.

Please let us know which local lab you will be using. The lab should be open on holidays and weekends in case we need to draw lab work during those times.

Test	Normal Range	Comment
Hemoglobin (Hgb)	10–16 gms/dl	Measurement of the oxygen carrying capacity of your blood Hematocrit
Hematocrit (HCT)	30–46%	Measurement of relative volume of cells and plasma in blood White Blood Count
White Blood Count (WBC)	4,000–10,000/ul (Usually reported out as 4.0-10.0)	Measures the body's white blood cell count and defense against infection causing agents
Platelet Count (Plat)	150,000–400,000/ul (Usually reported out as 150-400)	Measures the number of platelets in your blood which are important for blood clotting
Blood Urea Nitrogen (BUN)	8–40 mg/dl	Measurement of your kidney function
Creatinine Serum (Scr)	0.6–1.8 mg/dl	Measurement of the amount of sodium in blood
Sodium (NA)	135–145 mmol/L	Notify transplant office of a persistent drop in NA
Potassium (K)	3.6–5.0 mmol/L	Measurement of the amount of potassium in blood
Bicarbonate	20.0–31.0 mmol/L	Measurement of the amount of bicarbonate in blood
Glucose	65–110 mg/dl	Measurement of the amount of sugar in blood
Total Bilirubin	0.1-1.3 mg/dL	Measurement of bilirubin in blood - may become elevated if liver is not functioning properly
Alanine Aminotransferase (ALT)	11-66 U/L	ALT is measured to see if the liver is damaged or diseased
Asparatate Aminotranferase (AST)	15-46 U/L	AST is measured to see if the liver is damaged or diseased

Test	Normal Range	Comment
Gamma Glutamic Transpeptidase (GGTP)	8-78 U/L	GGTP is measured to see if there is damage to the bile ducts or bile flow in the liver
Prothrombine Time and International Normalized Ratio (PT/INR)	10-14 seconds/1.0	Measurement of how long it takes for blood to clot
Albumin	3.4 - 5.4 (g/dL)	Measurement the amount of this protein in the clear portion of the blood
Cyclosporine Level	Varies	Measurement of the amount of cyclosporine in blood
Tacrolimus Level	Varies	Measurement of the amount of tacrolimus in blood.
Rapamune Level	Varies	Measurement of the amount of sirolimus in blood.
Everolimus Level	Varies	Measurement of the amount of everolimus in blood

*Lab result ranges may differ from one lab to another.