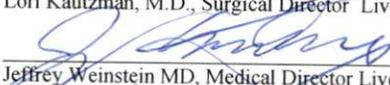
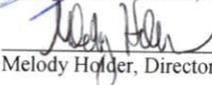


 <b>The Transplant Institute</b> METHODIST DALLAS <b>Methodist Dallas Medical Center</b>	<b>Title:</b> Liver Transplant Evaluation Protocol	<b>Effective Date:</b> 05/01/2003
	<b>Section:</b> Liver	
<b>Approved by:</b>  _____ Lori Kautzman, M.D., Surgical Director Liver Transplant Program		<b>Revision Date(s):</b> 04/06/2006; 7/16/2007; 10/07/2009; 9/15/2011; 02/20/2017; 02/10/2020; 06/19/2020; 09/09/2020; 09/27/21; 03/01/2022; 01/18/2024; 4/01/2025
 _____ Jeffrey Weinstein MD, Medical Director Liver Transplant Program		
 _____ Melody Holder, Director Transplant Clinical Operations		
		<b>Next review Date:</b> 04/2028

**Purpose:** To ensure timely and uniform evaluation of potential liver transplant recipients.

**Policy:** The following tests will be done on all patients evaluated for possible liver transplant.

**Procedure:**

Lab Testing

- Basic Metabolic Profile - (within the past month)
- Magnesium (within the past month)
- Liver Profile- (within the past month)
- GGT (within the past month)
- CBC with Differential (within the past month)
- Prothrombin Time & INR (within the past month)
- PTT (within the past month)
- ABO x 2
- RPR (once; repeated only if clinical suspicion of exposure)
- AFP (within the past 6 months)
- TSH- & FT4 (within the past year)
- HIV Antibody/Antigen (once; repeated only if clinical suspicion of exposure)
- CMV IgG (within the past year for patients with no previous IgG testing or a negative test result; in patients with a previous positive test result, no need to repeat test)
- Varicella IgG (once on individuals ≤60 years of age)
- Measles (Rubeola) IgG
- Rubella IgG
- Mumps IgG
- Hepatitis A Antibody Total (if no positive test within the past year)
- Hepatitis B Surface Antigen (if no positive test within the past year)
- Hepatitis B Surface Antibody Quantitative (within the past 5 years)
- Hepatitis B Core Antibody Total (if no positive test within the past year)
- Hepatitis B Virus DNA Quantitative (within the past year on patients with a positive Hepatitis B Surface Antigen or a positive Hepatitis B Core Antibody)
- Hepatitis B e Antibody (within the past year on patients with a positive Hepatitis B Surface Antigen)
- Hepatitis B e Antigen (within the past year on patients with a Positive Hepatitis B Surface Antigen)

- Hepatitis C Antibody (once; do not perform if the patient has had a prior positive HCV-RNA)
- HCV RNA (once if positive HCV antibody and no HCV RNA level within past year)
- Hepatitis C Genotype (once on patients with positive HCV RNA and no prior HCV genotype result)
- Iron (once)
- TIBC (once)
- Iron Saturation (once)
- Ferritin (once)
- Alpha 1 Antitrypsin Level and Phenotype (once)
- Blood Alcohol Level (once)
- PPD with Controls or TB Interferon gamma release assay (once)
- Hemoglobin A1C (within the past year on all individuals with diabetes)
- Lipid Panel (within the past year on all patients who meet the criteria for cardiology referral)
- Prostate Specific Antigen (per 2021 ACS Guidelines)

<i>Risk Level</i>	<i>PSA Frequency</i>
Average Risk	Screening starting at age 50
African Americans or patients with father/brother/son diagnosed with prostate cancer before 65 y/o	Screening starting at age 45
Screening Frequency	Every 2years PSA<2.5 Yearly PSA>2.5-4 Urology Consult PSA >4

- Ceruloplasmin (once on patients with cryptogenic cirrhosis and age <65)
- Vitamin D Level (within the past year)
- Vitamin A Level (within the past year)
- Urine B-HCG (on females with a menstrual cycle within the past 12 months)
- CEA (once on patients with PSC)
- CA 19-9 (within the past year on patients with PSC or HCV)
- HCC High Risk Panel (if requested per physician order)
- ANA (within the past 5 years for patients with cryptogenic cirrhosis)
- ASMA (within the past 5 years for patients with cryptogenic cirrhosis)
- AMA (within the past 5 years for patients with cryptogenic cirrhosis)
- Pap Smear

<b>Risk Level</b>	<b>Pap Smear Frequency</b>
Age 21–29	HPV test every five years (preferred) HPV/Pap cotest every five years (acceptable) Pap test every three years (acceptable)
Age 30–65	HPV test every five years (preferred) HPV/Pap cotest every five years (acceptable) Pap test every three years (acceptable)
Age 65 and older	No screening if a series of prior tests was normal
History of cervical pre cancer OR immunosuppressed patients	Ob/Gyn Consult
Total Hysterectomy with BSO and no cervix (not for cancer)	Screening at Ob/Gyn discretion

### Cardiac Testing

- EKG (within the past year)
- 2D Echocardiogram with estimation of PA Pressures and Bubble Study (within the past year)
- Cardiology Consult (for those with symptoms, history of cardiac event, family history, positive stress test, or risk factors such as diabetes, HTN, smoking, hyperlipidemia, male >40, female >45)
- Stress Test (for those with symptoms, history of cardiac event, family history, positive stress test, or risk factors such as diabetes, HTN, smoking, hyperlipidemia, male >40, female >45)

### Pulmonary Testing

- O2 Saturation (within the past month)
- PA & Lateral CXR (within the past year)
- Pulmonology Consult (for current smokers and for previous smokers with  $\geq 15$  pack year history, those with pulmonary disease, those with symptoms, HPS, PPH, abnormal PFTs, resting O2 saturation <96%, sleep apnea)
- PFTs with Lung Volumes and DLCO (for current smokers and for previous smokers with  $\geq 15$  pack year history, those with pulmonary disease, those with symptoms, HPS, PPH, resting O2 saturation <96%, sleep apnea)
- ABG (for current smokers and for previous smokers with  $\geq 15$  pack year history, those with pulmonary disease, those with symptoms, HPS, PPH, abnormal PFTs, resting O2 saturation <96%, sleep apnea)
- Chest CT w/o Contrast (smoking history of 30 pack year and Age 55-75)

### Urine Studies

- Urinalysis (within the past month)
- Urine Culture (if abnormal RBCs or WBCs on UA)
- Urine Cr/Protein Ratio (within the past month)
- Urine Toxicology Screen (within the past year)
- 24-Hour Urine for Copper (if requested per physician order)

### Radiologic Testing

- Abdominal Ultrasound with Doppler Evaluation of Hepatic Vessels (within the past 6 months)
- Multiphase MRI of Abdomen with IV Gadolinium OR Quadruple Phase CT Scan of Abdomen (within the past year)
- Mammogram (Screening should be up-to-date and performed per 2015 ACS guidelines which recommend screening every 1 year beginning at age 45, and every 2 years starting at age 55)
- Carotid Doppler (within the past year for patients with known carotid disease or prior CEA/Stent, patients with known CAD/PAD, history of TIA/CVA, cervical bruit, age >69, 2 or more CAD risk factors)
- CT Scan of Chest without Contrast for patients with HCC – updated dynamic imaging within the last 6 months
- Bone Scan (x1 on patients with HCC)
- Bone Density Study (at discretion of physician)
- Peripheral Vascular Study (at discretion of physician)
- Lower Extremity Venous Doppler (at discretion of physician)
- MRCP (if requested per physician order)

### Endoscopic Studies

- Colonoscopy (per 2021 ACS Guidelines)

<b>Risk Level</b>	<b>Colonoscopy Frequency</b>
Average risk	Every 10 years beginning at age 45
IBD	Every 1-2 years
PSC without IBD	Every 5 years
History of Colon Polyp, Colon CA, or family history of colon CA	per Hepatologist

### Consultations

- Transplant Coordinator (all patients)
- Hepatology (all patients)
- Transplant Surgeon (all patients)
- Social Worker/Financial Coordinator (all patients)
- Dietitian (all patients)
- Psychologist (on patients with a history of psychiatric disorders, substance and/or ETOH abuse, upon Social Worker recommendation, or physician order)
- Dentist (as requested by Infectious Disease)
- Psychiatry (as requested by MD or psychologist)
- Endocrinology (as requested by MD)
- Nephrology (for those with EGFR<60 on baseline labs)
- ENT (as requested by MD)
- Neurology (for those with history of seizures)
- Urology (for those with gross or microscopic hematuria or recurrent UTIs)
- Hematology/Oncology (for those with history of malignancy)
- Infectious Disease (all patients if available, required for patients with HIV, positive PPD or TB Interferon gamma release assay, positive RPR, recurrent cholangitis, recurrent cellulitis, history of MRSA/VRE infection)
- Anesthesia Consult for patients with any of the following:
  - History of Anesthetic Complications
  - ICU Patients with a MELD > 30
  - Significant Cardiopulmonary Disease
  - Congenital Diseases
  - At the request of the MD or Liver Transplant Selection Committee

### Recommended Immunizations

- Hepatitis A Vaccine (for patients who are Hepatitis A Antibody negative)
- Hepatitis B Vaccine (for patients who are Hepatitis B Surface Antibody negative and not diagnosed with chronic Hepatitis B)
- Pneumococcal Vaccine (per MDMC guidelines)
- Influenza Vaccine (annually)
- Tdap/TD Vaccine (Tdap initially x1 then Td q10 years)
- Meningococcal Vaccine (once)
- Shingrix vaccine (x 2 for patients with positive IgG and for all patients >60 y/o)
- SARS-CoV-2 vaccine and booster