

## Liver Annual Evaluation Protocol

**Procedure: Lab Testing**

- Fluid Balance Panel
- Magnesium
- Liver Profile
- GGT
- CBC with Differential
- Prothrombin Time & INR
- PTT
- TSH & FT4
- Vitamin D Level
- Vitamin A Level
- Urine B-HCG (on females with a menstrual cycle within the past 12 months)
- AFP (repeated q6 months)
- CA 19-9 (repeated q6 months on patients with PSC)
- RPR (if clinical suspicion of exposure)
- HIV Antibody/Antigen (if suspicion of exposure)
- Hepatitis B Surface Antibody Quantitative (if patient listed to accept a Hepatitis B Core Ab Positive donor)
- HBV DNA Quantitative (Annually on patients with a positive Hepatitis B Surface Antigen)
- HCV RNA (repeat only per physician order)
- Blood alcohol level (repeat if patient on Random Drug Screen protocol)
- Hemoglobin A1C (repeat on all patients with diabetes)
- Lipid panel (repeat 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

- 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

# Liver Annual Evaluation Protocol

## Cardiac Testing

- EKG
- 2D Echocardiogram with estimation of PA Pressures and Bubble Study
- 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 (every 2 years or based on cardiology recommendations)

## Pulmonary Testing

- O2 Saturation
- PA & Lateral CXR
- Pulmonology Consult (for current smokers, those with pulmonary disease, HPS, PPH, sleep apnea)
- PFTs with Lung Volumes and DLCO (based on pulmonology recommendations)
- ABG (for patients with O2 sat <96%, per HPS protocol, or based on pulmonology recommendations)

## Urine Studies

- Urinalysis
- Urine Culture (if abnormal RBCs or WBCs on UA)
- Urine Cr/Protein Ratio
- Urine Toxicology Screen (repeat if patient on Random Drug Screen protocol)

## Radiologic Testing

- Abdominal Ultrasound with doppler (repeat q6 months alternating with doppler and without doppler)
- Multiphase MRI of Abdomen with IV Gadolinium OR Quadruple Phase CT Scan of Abdomen (repeat q2 years; modality determined by physician)
- 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 2years starting at age 55)
- Carotid Doppler (based on cardiology recommendations)
- CT Scan of Chest without Contrast
- For patients with HCC- updated dynamic imaging within the last 6 months
- GloFil (if creatinine clearance per 24-hour urine is <60 or based on nephrology recommendations)
- Peripheral Vascular Study (based on cardiology recommendations)
- Lower Extremity Venous Doppler (based on cardiology recommendations)
- MRCP (repeat per physician order)

## Endoscopic Studies

- Colonoscopy (per 2021 ACS Guidelines)

Risk Level	Colonoscopy Frequency
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

# Liver Annual Evaluation Protocol

## Consultations

- Hepatology (all patients)
- Transplant Surgeon (for patients with a MELD >30 that have not seen a Transplant Surgeon within the past 3 years, or a new SLK candidate that has not seen a Transplant Surgeon in over a year)
- 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 (as requested by MD or if eGFR is <60)
- ENT (as requested by MD)
- Neurology (as requested by MD)
- Urology (as requested by MD)
- Hematology/Oncology (as requested by MD)
- Infectious Disease (for HIV positive patients or as requested by MD)
- Anesthesia Consult for patients with:
  - 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

- Pneumococcal Vaccine (per MDMC guidelines)
- Influenza Vaccine (annually)
- Tetanus/Diphtheria Vaccine (q10 years)
- SARS-CoV-2 vaccine and booster