Transplant Institute

Beth Israel Deaconess Medical Center

A teaching hospital of Harvard Medical School

LIVER TRANSPLANT RECIPIENT EVALUATION CLINICAL PATHWAY

This Clinical Pathway is intended to assist in clinical decision making by describing a range of generally acceptable intervention and outcomes. The guidelines attempt to define practices that meet the needs of most patients under most circumstances. However, the ultimate judgment must be made based on circumstances that are relevant to that patient and treatment may be modified according to the individual patient needs.

	Pre-visit interview	Initial visit (within 2 wks of interview)	Review of Chart (when results available)	Presentation (Multi-Disciplinary Selection Committee)	Follow-up
CONSULTS	• Transplant coordinator calls patient within 24h of referral to either conduct or schedule an interview • Interview completed and information entered into OTTR • Obtain names of all care providers; data entry staff to enter into OTTR	• Transplant hepatology • Transplant coordinator • Surgical consult appointment arranged if the patient is an appropriate candidate for liver transplantation	• Hepatologist and coordinator reviews results. • Surgical consult to be completed prior to presentation • Additional consults: ○ ID (foreign born, prior severe infection, HIV) ○ Cardiology (significantly abnormal ETT or pulmonary HTN) ○ Pulmonary consult if PFTs abnormal or if pulm HTN ○ Anesthesia consult if FEV1< 1.5L ○ Urology (elevated PSA) ○ Oncology (history of cancer)	**1st presentation:** *New evaluations* • Hepatologist presents to multidisciplinary selection committee • Consensus reached on advisability of listing • First ABO verification done at meeting and filed in chart. If not done, OTTR reminder generated to complete • Review remaining tests/evaluations to be performed	• Transplant surgery (follow-up as needed) • Hepatology follow-up (guideline): ○ MELD >20 q1 month ○ MELD 15-20 q3 months ○ MELD <15 q6 months
BEHAVIORAL HEALTH		• Psychosocial evaluation by transplant social worker including financial assessment • If applicable, "Patient Responsibility Agreement" (for substance abuse) reviewed with patient and signed.	Transplant psychology evaluation for ○ Smoking cessation ○ Weight loss ○ Compliance ○ Relapse prevention ○ History of known mental disorder ○ History of substance abuse or dependence within last 2 years		• QOL assessment q 8 weeks • Social work follow-up and re-evaluation as needed • Integrate into appropriate behavioral health intervention pathway as needed ○ Smoking cessation ○ Weight loss ○ Compliance ○ Relapse prevention ○ Caregiver burdens
CORRESPONDENCE COORDINATION COMPLIANCE	• Release of records permission mailed or faxed to patient. • Transplant coordinator will obtain relevant physician notes, op notes, discharge summaries and compile in chart or in OTTR under "evaluation". • Must have patient release prior to obtaining records.	• Letter sent by hepatologist to referring physicians, PCP and any other relevant providers (cardiology, oncology, etc.)	• Transplant coordinator compiles all results in OTTR under "evaluation"	• Minutes of discussion recorded • Patient added to UNOS list if appropriate • Letter to patient and referring physician • RRB request made if necessary	• Letter to patient, PCP and referring MD if removed from list or suspended, within 10 days of actions. • Patient/family meeting or phone call from hepatologist to review decision and letter before letter sent
LAB TESTS		• Lab tests to be completed at initial visit: CBC and Diff, PT, PTT, INR, Chem 7 AST, ALT, Alk Phos, T Bili, Alb, gGT,Ca, Mg, Phosphorus, PTH, lipid profile if fasting. 25 (OH) Vit D, ANA, AMA, CEA, CA19-9, AFP, Iron/TIBC, Ferritin, IgG, IgA, IgM, A1AT level and phenotype. Type and Screen for 1st ABO test Serum and Urine Toxicology screen HCV Ab, HBsAg, HBsAb, HBcAb (IgG) RPR, VZV IgG, Rubella IgG, Rubeola IgG, Toxoplasma IgG HIV Ab, EBV Panel, CMV (IgG) • If male >50 years: PSA • If HBsAg positive: HBV DNA and genotype • If HCV Ab positive: HCV RNA and genotype • If HIV Ab positive: CD4 count and HIV VL • If fulminant liver failure: HAV IgM, HBcIgM, Ceruloplasmin, peripheral blood smear		• MELD labs and second ABO performed	• MELD labs at each clinic or the following minimal frequency: ○ MELD score < 10: once per year ○ MELD score 11-18: every 6 months ○ MELD score 19-24 every month ○ MELD score > 25 every week • AFP every 3 months • If HBsAg positive: HBV DNA every 3 months • Random toxicology screen with every MELD lab • Obtain updated serology testing Q2 years
RADIOLOGY	• Transplant coordinator will obtain relevant radiology reports and films • All radiology images will be uploaded to PACS	• Obtain AP and Lateral Chest X-ray. • If female >40yrs,obtain mammogram results within last year (American Cancer Society 2003) • Pap smear: Age 21-30 every 2 years; Age 30-70yrs & 3 normal smears, every 3 years (ACOG 2009) • CTA abdomen/pelvis to evaluate for presence of focal liver lesions, patency of hepatic vasculature and celiac axis and liver volume OR MRI with IV gadolinium if allergic to iodine or renal insufficiency (creatinine >1.6) • If HCC: ○ Non contrast CT of chest to rule out metastatic disease ○ Nuclear bone scan to rule out metastatic disease	• If HCC: check CT chest and nuclear bone scan • Book RFA or TACE for ablation of tumor • Complete OTTR HCC Diagnosis/ Follow-up form		• Obtain results of yearly Mammograms and PAP smears. Results reviewed by coordinator • If RFA: contrast CT or MRI 1 month after RFA and then q3 months • If HCC: every 3 months ○ CT abdomen and pelvis ○ non contrast CT chest ○ Nuclear bone scan
HISTOCOMPATABILITY (if potential liver/ kidney transplant)	• Obtain history of prior liver transplants	• Obtain prior donor HLA antigens and HLA antibody specificities and document in OTTR		Redo criteria: Determine and document need for flow crossmatching, flow PRA testing	Document any detected anti-HLA antibodies and calculated PRA in all correspondences
PATHOLOGY	• Obtain results of all liver biopsies or other surgical specimens. Slides if appropriate	• Biopsy of liver or focal liver lesions at the discretion of the transplant hepatologist/ surgeon	• Relevant pathology slides should be submitted for pathology consult and review		
CARDIAC TESTING	• Transplant coordinator to obtain any recent relevant cardiac testing	• EKG on everyone • Cardiac ECHO on all patients to evaluate LVEF, valves, PASP, RV size and function • Cardiac Stress test with nuclear imaging (Exercise or pharmacologic if on beta blockade or unable to walk) ○ Diabetes Mellitus ○ Prior revascularization procedure ○ NASH ○ Age> 65yrs • Any patient with 3 or more of the following: ○ Age > 50 yrs, Systemic Hypertension (past/present) ○ Obestiy (BMI > 30.1), Increased LDL (> 160 past/present) ○ Family history of premature CAD (male < 55, female< 65)	• If positive stress test, schedule cardiac consult and/or left heart catheterization • If PASP is > 35mmHg then right heart cath		• Cardiac Stress test with nuclear imaging (Exercise or pharmacologic if on beta blockade or unable to walk) Frequency: ○ every year in diabetics ○ every 3 years in all others • Cardiac ECHO every year to assess PASP and LVEF in all patients
PULMONARY TESTING		• Full spirometry on all patients • ABG on all patients			
BONE		• Bone mineral density scan			• Bone mineral density scan yearly
MEDICATIONS	• Obtain list of current medications	• Review current medications			• Review current medications
CONSENTS		• Discuss/Consent extended criteria donor (ECD)/ donor after cadaver death (DCD) listing if applicable • Discuss/Consent for research studies if appropriate			• Sign consent for listing for liver transplantation • Discuss/Consent for ECD/DCD • Discuss/Consent for Research Studies if applicable
EDUCATION	• Send information book to patient • Refer patient and family to Transplant Institute website • Ask patient to attend 1st visit with family/friend	• Provide patient with Education Materials • Inform patient of mandatory Patient and Family Orientation • Review risks and benefits of transplant surgery • Review regional and national allocation • Review Hep C allocation if applicable • Review ECD and DCD listing if applicable • Review skin cancer prevention and screening, importance of smoking cessation. • Review risks of immunosuppression (infection and malignancy) and importance of compliance			• Vaccinations for HAV and HBV if not immune • Review regional and national allocation • Review skin cancer prevention and screening, importance of smoking cessation. • Review immunosuppression and importance of compliance

Development funded by the Julie Henry Fund

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Rev. 11/05/07