Liver Transplant

I. Policy

University Health Alliance (UHA) will reimburse for a liver transplant when it is determined to be medically necessary and when it meets the medical criteria guidelines (subject to limitations and exclusions) indicated below.

II. Criteria/Guidelines

A. A liver transplant, using a cadaver or living donor, is covered (subject to Limitations/Exclusions and Administrative Guidelines) for carefully selected patients with end-stage liver failure due to irreversibly damaged livers.

B. Etiologies of end-stage liver disease include, but are not limited to, the following:

1. Hepatocellular diseases
   a. Alcoholic liver disease
   b. Viral hepatitis (either A, B, C, or non-A, non-B)
   c. Autoimmune hepatitis
   d. Alpha-1 antitrypsin deficiency
   e. Hemochromatosis
   f. Non-alcoholic steatohepatitis
   g. Protoporphyria
   h. Wilson's disease

2. Cholestatic liver diseases
   a. Primary biliary cirrhosis
   b. Primary sclerosing cholangitis with development of secondary biliary cirrhosis
   c. Biliary atresia

3. Vascular disease
   a. Budd-Chiari syndrome

4. Primary hepatocellular carcinoma

5. Inborn errors of metabolism

6. Trauma and toxic reactions

7. Miscellaneous
   a. Polycystic disease of the liver with massive hepatomegaly causing obstruction or functional impairment
   b. Familial amyloid polyneuropathy
   c. Pediatric patients with nonmetastatic hepatoblastoma
   d. Unresectable hilar cholangiocarcinoma

C. Liver retransplantation is covered (subject to Administrative Guidelines) in patients with:
1. Primary graft nonfunction
2. Hepatic artery thrombosis
3. Chronic rejection
4. Ischemic type biliary lesions after donation after cardiac death
5. Recurrent non-neoplastic disease causing late graft failure

Liver Specific Criteria

A. The MELD and PELD scores range from 6 (less ill) to 40 (gravely ill). The MELD and PELD scores will change during the course of a patient’s tenure on the waiting list.

B. Patients with liver disease related to alcohol or drug abuse must be actively involved in a substance abuse treatment program.

C. Patients with polycystic disease of the liver do not develop liver failure but may require transplantation due to the anatomic complications of a hugely enlarged liver. The MELD/PELD score may not apply to these cases. One of the following complications should be present:
   1. Enlargement of liver impinging on respiratory function
   2. Extremely painful enlargement of liver
   3. Enlargement of liver significantly compressing and interfering with function of other abdominal organs

D. Patients with familial amyloid polyneuropathy do not experience liver disease, per se, but develop polyneuropathy and cardiac amyloidosis due to the production of a variant transthyretin molecule by the liver. The MELD/PELD score may apply to these cases. Candidacy for liver transplant is an individual consideration based on the morbidity of the polyneuropathy. Many patients may not be candidates for liver transplant alone due to coexisting cardiac disease.

E. Criteria used for patient selection of hepatocellular carcinoma patients eligible for liver transplant include the Milan criteria, which is considered the criterion standard, the University of California, San Francisco (UCSF) expanded criteria, and UNOS criteria.
   1. Milan Criteria: a single tumor 5 cm or less in diameter or 2 to 3 tumors 3 cm or less
   2. UCSF expanded Criteria: a single tumor 6.5 cm or less or up to 3 tumors 4.5 cm or less, and a total tumor size of 8 cm or less
   3. UNOS T2 Criteria: a single tumor 1 cm or greater and up to 5 cm or less in diameter or 2 to 3 tumors 1 cm or greater and up to 3 cm or less and without extrahepatic spread or macrovascular invasion. UNOS criteria, which were updated in 2013, may prioritize T2 HCC that meet specified staging and imaging criteria by allocating additional points equivalent to a MELD score predicting a 15% probability of death within 3 months.
   4. Patients with hepatocellular carcinoma are appropriate candidates for liver transplant only if the disease remains confined to the liver. Therefore, the patient should be periodically monitored while on the waiting list, and if metastatic disease develops, the patient should be removed from the transplant waiting list. In addition, at the time of transplant a backup candidate should be scheduled. If locally extensive or metastatic cancer is discovered at the time of exploration prior to hepatectomy, the transplant should be aborted, and the backup candidate scheduled for transplant.

Donor Criteria – Living-Related Adult-to-Adult Transplant

A. Donor morbidity and mortality are prime concerns in donors undergoing right donor hepatectomy as part of living-donor liver transplantation. Partial hepatectomy is a technically demanding surgery, the success of which may be related to the availability of an experienced surgical team. In 2000, the American Society of Transplant Surgeons proposed the following guidelines for living donors:
1. Should be healthy individuals who are carefully evaluated and approved by a multidisciplinary team including hepatologists and surgeons to assure that they can tolerate the procedure
2. Should undergo evaluation to assure that they fully understand the procedure and associated risks
3. Should be of legal age and have sufficient intellectual ability to understand the procedures and give informed consent
4. Should be emotionally related to the recipients
5. Must be excluded if the donor is known or believed to be coerced
6. Need to have the ability and willingness to comply with long-term follow-up

NOTE:

This UHA payment policy is a guide to coverage, the need for prior authorization and other administrative directives. It is not meant to provide instruction in the practice of medicine and it should not deter a provider from expressing his/her judgment.

Even though this payment policy may indicate that a particular service or supply is considered covered, specific provider contract terms and/or members' individual benefit plans may apply, and this policy is not a guarantee of payment. UHA reserves the right to apply this payment policy to all UHA companies and subsidiaries.

UHA understands that opinions about and approaches to clinical problems may vary. Questions concerning medical necessity (see Hawaii Revised Statutes §432E-1.4) are welcome. A provider may request that UHA reconsider the application of the medical necessity criteria in light of any supporting documentation.

IV. Limitations/Exclusions

A. Liver transplantation is not covered in the following patients as it has not been shown to improve health outcomes:

1. Patients with potential contraindications subject to the judgment of the transplant center, which may include the following:
   a. Known current malignancy, including metastatic cancer
   b. Recent malignancy with high risk of recurrence
   c. Untreated systemic infection making immunosuppression unsafe, including chronic infection
   d. Other irreversible end-stage disease not attributed to liver disease
   e. History of cancer with a moderate risk of recurrence
   f. Systemic disease that could be exacerbated by immunosuppression
   g. Psychosocial conditions or chemical dependency affecting ability to adhere to therapy

2. Patients with hepatocellular carcinoma that has extended beyond the liver.

3. Patients with intrahepatic cholangiocarcinoma.

4. Patients with neuroendocrine tumors metastatic to the liver.

5. Patients with ongoing alcohol and/or drug abuse:
   a. Evidence for abstinence may vary among liver transplant programs, but generally a minimum of three months is required
V. Administrative Guidelines

A. Prior authorization is required for a transplant evaluation and for the transplant itself and should be submitted by the proposed treating facility.

B. To request prior authorization, please submit via UHA’s online portal.

<table>
<thead>
<tr>
<th>CPT Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>47133</td>
<td>Donor hepatectomy (including cold preservation), from cadaver donor</td>
</tr>
<tr>
<td>47135</td>
<td>Liver allotransplantation, orthotopic, partial or whole, from cadaver or living donor, any age</td>
</tr>
<tr>
<td>47140</td>
<td>Donor hepatectomy (including cold preservation), from living donor; left lateral segment only (segments II and III)</td>
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<tr>
<td>47141</td>
<td>Donor hepatectomy (including cold preservation), from living donor; total left lobectomy (segments II, III and IV)</td>
</tr>
<tr>
<td>47142</td>
<td>Donor hepatectomy (including cold preservation), from living donor; total right lobectomy (segments V, VI, VII and VIII)</td>
</tr>
<tr>
<td>47143</td>
<td>Backbench standard preparation of cadaver donor whole liver graft prior to allotransplantation, including cholecystectomy, if necessary, and dissection and removal of surrounding soft tissues to prepare the vena cava, portal vein, hepatic artery, and common bile duct for implantation; without trisegment or lobe split</td>
</tr>
<tr>
<td>47144</td>
<td>Backbench standard preparation of cadaver donor whole liver graft prior to allotransplantation, including cholecystectomy, if necessary, and dissection and removal of surrounding soft tissues to prepare the vena cava, portal vein, hepatic artery, and common bile duct for implantation; with trisegment split of whole liver graft into 2 partial liver grafts (i.e., left lateral segment [segments II and III] and right trisegment [segments I and IV through VIII])</td>
</tr>
<tr>
<td>47145</td>
<td>Backbench standard preparation of cadaver donor whole liver graft prior to allotransplantation, including cholecystectomy, if necessary, and dissection and removal of surrounding soft tissues to prepare the vena cava, portal vein, hepatic artery, and common bile duct for implantation; with lobe split of whole liver graft into 2 partial liver grafts (i.e., left lobe [segments II, III, and IV] and right lobe [segments I and V through VIII])</td>
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<tr>
<td>47146</td>
<td>Backbench reconstruction of cadaver or living donor liver graft prior to allotransplantation; venous anastomosis, each</td>
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<tr>
<td>47147</td>
<td>Backbench reconstruction of cadaver or living donor liver graft prior to allotransplantation; arterial anastomosis, each</td>
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<tr>
<td>47339</td>
<td>Unlisted procedure, liver</td>
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VI. Policy History

Policy Number: MPP-0049-120301
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Original Document Effective Date: 03/01/2012
Previous Revision Dates: 03/01/2013
PAP Approved Date: 03/01/2012