OPTN Policy Notice
Liver and Intestine Distribution Using Distance from Donor Hospital

Sponsoring Committee:	**Liver and Intestinal Transplantation Committee**
Policy/Bylaws Affected:	**1.2 Definitions; 1.3.A Acceptable Variances; 1.4.E OPTN Computer Match Program Outages; 5.4.B Order of Allocation; 5.10.C Other Multi-Organ Combinations; 7.3.B Allocation of Intestines; Policy 9: Allocation of Livers and Liver-Intestines; and Bylaws Appendix M: Definitions**
Public Comment:	**October 8, 2018 – November 1, 2018**
Effective Date:	**Pending implementation and notice to OPTN members**

Problem Statement

The liver organ distribution policies currently use donation service areas (DSAs) and OPTN regions as geographic units of distribution. These are not good proxies for geographic distance between donors and transplant candidates because the disparate sizes, shapes, and populations of DSAs and regions result in an inconsistent application for all candidates. This presents a potential conflict with the OPTN Final Rule.

Summary of Changes

This policy changes allocation of livers to remove references to DSA and region and incorporate distance from the donor hospital (specifically 150 nautical miles (nm), 250 nm and 500 nm). It also replaces median MELD at transplant (MMaT) in the DSA or region in the calculation of exception scores with the MMaT within a 250 nm circle around the transplant hospital for patients that are at least 12 years old, and with the median Pediatric End-Stage Liver Disease (PELD) at transplant in the nation for patients less than 12 years old. It includes a change to intestine allocation that will replace DSA and region with a single 500 nm circle and a change to simultaneous liver-kidney allocation to replace DSA and region with 150 and 250 nm circles. It also changes existing liver allocation variances, clarifies exception scoring, modifies the allocation of livers from Alaska, provides additional priority for pediatric candidates when there is a pediatric donor, clarifies treatment of blood type B candidates when the donor is blood type O, simplifies allocation of livers for other methods of hepatic support and MELD <6, and clarifies other references to local, DSA, and region.

What Members Need to Do

Transplant Hospitals:
Transplant hospitals may need to prepare for potential additional cost and coordination of transportation to recover organs. Programs may be interacting with OPOs and donor hospitals outside of the DSA and region more frequently than under the current system.

OPOs:
OPOs need to prepare for any additional cost and coordination of transportation. Organizations may be interacting with transplant programs outside of the DSA and region more frequently than under the current system.

Affected Policy Language

New language is underlined (example) and language that is deleted is struck through (~~example~~).

1.2 Definitions

Allocation MELD or PELD Score
The highest exception or calculated MELD or PELD score available to the candidate according to Policy. Allocation MELD or PELD Score includes liver-intestine points.

Calculated MELD or PELD Score
The highest non-exception MELD or PELD score available to the candidate according to Policy. Calculated MELD or PELD score excludes liver-intestine points.

Geographical Area
A physical area used to group potential transplant recipients in a classification. ~~OPTN Policy uses the following geographical areas for organ allocation: *DSA, region, nation, and zones*.~~

Match MELD or PELD Score
The MELD or PELD score available to the candidate at the time of the match for a deceased donor liver or liver-intestine.

Region
For ~~the administration of organ allocation and appropriate geographic representation within the OPTN policy structure, the~~ administrative purposes, OPTN membership is divided into 11 geographic regions. Members belong to the Region in which they are located. The Regions are as follows:

Region 1:	Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Eastern Vermont
Region 2:	Delaware, District of Columbia, Maryland, New Jersey, Pennsylvania, West Virginia, and the part of Northern Virginia in the Donation Service Area served by the Washington Regional Transplant Community (DCTC) OPO.
Region 3:	Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, and Puerto Rico
Region 4:	Oklahoma and Texas
Region 5:	Arizona, California, Nevada, New Mexico, and Utah
Region 6:	Alaska, Hawaii, Idaho, Montana, Oregon, and Washington
Region 7:	Illinois, Minnesota, North Dakota, South Dakota, and Wisconsin
Region 8:	Colorado, Iowa, Kansas, Missouri, Nebraska, and Wyoming
Region 9:	New York and Western Vermont
Region 10:	Indiana, Michigan, and Ohio
Region 11:	Kentucky, North Carolina, South Carolina, Tennessee, and Virginia

1.3 Variances

1.3.A Acceptable Variances

Permissible variances include, but are not limited to:

- Alternative allocation systems
- Alternative local units
- Sharing arrangements
- Alternative point assignment systems

The following principles apply to *all* variances:

1. Variances must comply with the NOTA and the Final Rule.
2. Members participating in a variance must follow all rules and requirements of the OPTN Policies and Bylaws.
3. If the Board later amends an OPTN Policy to contradict with a variance, the Policy amendment will not affect the existing variance.
~~4. There must be a single waiting list for each organ within each DSA.~~
~~5. Where the alternative local unit created by a variance is a subdivision of the OPO's DSA the OPO will allocate organs to the remainder of the DSA after allocating organs to this alternative local unit.~~
~~6.~~ 4. If a member's application to create, amend, or join a variance will require other members to join the variance, the applicant must solicit their support.
~~7.~~ 5. The Board of Directors may extend, amend, or terminate a variance at any time.

1.4.E OPTN Computer Match Program Outages

If the OPTN Contractor and members cannot communicate by any method and the OPTN computer match program is either not accessible or not operational, affected OPOs:

1. Must refer to recent matches of similar blood type and body size for ranking ~~local~~ transplant candidates.
2. Must use ~~local~~ transplant program waiting lists to match the best organ with waiting transplant candidates.
3. Must document and report to the OPTN Contractor their process for allocation during the outage.

5.4.B Order of Allocation

The process to allocate deceased donor organs occurs with these steps:

1. The match system eliminates candidates who cannot accept the deceased donor based on size or blood type.
2. The match system ranks candidates according to the allocation sequences in the organ allocation policies.
3. OPOs must first offer organs to potential recipients in the order that the potential recipients appear on a match run.
4. If no transplant program on the initial match run accepts the organ, the host OPO may give transplant programs the opportunity to update candidates' data with the OPTN Contractor. The host OPO must re-execute the match run to allocate the organ.
~~5. If no transplant program within the DSA or through an approved regional sharing arrangement accepts the organ, the Organ Center will allocate an abdominal organ first regionally and then nationally, according to allocation Policies. The Organ Center will allocate thoracic organs according to *Policy 6: Allocation of Hearts and Heart-Lungs* and *Policy 10: Allocation of Lungs.*~~
~~6.~~ 5. Members may export deceased donor organs to hospitals in foreign countries only after offering these organs to all potential recipients on the match run. Members must submit the *Organ Export Verification Form* to the OPTN Contractor prior to exporting deceased donor organs.

5.10.C Other Multi-Organ Combinations

When multi-organ candidates are registered on the heart, lung, or liver waiting list, the second required organ will be allocated to the multi-organ candidate from the same donor according to *Table 5-4* below: ~~if the donor's DSA is the same DSA where the multi-organ candidate is registered.~~

Table 5-4:

Organ	Candidate is registered within the following geographical area:
Heart	Same DSA as the donor hospital
Liver	150 nautical miles from the donor hospital
Lung	250 nautical miles from the donor hospital

If the multi-organ candidate is on a waiting list outside the ~~donor's DSA~~ geographical areas listed above, it is permissible to allocate the second organ to the multi-organ candidate receiving the first organ.

7.3.B Allocation of Intestines

Intestines are allocated to candidates according to *Table 7-1* below.

Table 7-1: Allocation of Intestines

~~Classification~~	~~Candidates that are within the:~~	~~And are:~~
~~1~~	~~OPO's DSA~~	~~Status 1 and a blood type identical to the donor~~
~~2~~	~~OPO's DSA~~	~~Status 1 and a blood type compatible with the donor~~
~~3~~	~~OPO's DSA~~	~~Status 2 and a blood type identical to the donor~~
~~4~~	~~OPO's DSA~~	~~Status 2 and a blood type compatible with the donor~~
~~5~~	~~OPO's region~~	~~Status 1 and a blood type identical to the donor~~
~~6~~	~~OPO's region~~	~~Status 1 and a blood type compatible with the donor~~
~~7~~	~~OPO's region~~	~~Status 2 and a blood type identical to the donor~~
~~8~~	~~OPO's region~~	~~Status 2 and a blood type compatible with the donor~~
~~9~~	~~Nation~~	~~Status 1 and a blood type identical to the donor~~
~~10~~	~~Nation~~	~~Status 1 and a blood type compatible with the donor~~
~~11~~	~~Nation~~	~~Status 2 and a blood type identical to the donor~~
~~12~~	~~Nation~~	~~Status 2 and a blood type compatible with the donor~~

Classification	Candidates registered at a transplant hospital that is within this distance from a donor hospital	Who are:
1	500nm of the donor hospital	Status 1 and a blood type identical to the donor
2	500nm of the donor hospital	Status 1 and a blood type compatible with the donor
3	Nation	Status 1 and a blood type identical to the donor
4	Nation	Status 1 and a blood type compatible with the donor
5	500nm of the donor hospital	Status 2 and a blood type identical to the donor
6	500nm of the donor hospital	Status 2 and a blood type compatible with the donor
7	Nation	Status 2 and a blood type identical to the donor
8	Nation	Status 2 and a blood type compatible with the donor

Policy 9: Allocation of Livers and Liver-Intestines

9.1 Status and Score Assignments

9.1.A Adult Status 1A Requirements

To assign a candidate adult status 1A, the candidate's transplant hospital must submit a *Liver Status 1A Justification Form* to the OPTN Contractor. A candidate is not registered as status 1A until this form is submitted. When reporting laboratory values to the OPTN Contractor, transplant hospitals must submit the most recent results including the dates of the laboratory tests.

The candidate's transplant program may assign the candidate adult status 1A if *all* the following conditions are met:

1. The candidate is at least 18 years old at the time of registration
2. The candidate has a life expectancy without a liver transplant of less than 7 days and has at least *one* of the following conditions:

    a. Fulminant liver failure, without pre-existing liver disease and currently in the intensive care unit (ICU), defined as the onset of hepatic encephalopathy within 56 days of the first signs or symptoms of liver disease, and has at least *one* of the following criteria:
        i. Is ventilator dependent
        ii. Requires dialysis, continuous veno-venous hemofiltration (CVVH), or continuous veno-venous hemodialysis (CVVHD)
        iii. Has an international normalized ratio (INR) greater than 2.0

    b. Anhepatic

c. Primary non-function of a transplanted whole liver within 7 days of transplant, with aspartate aminotransferase (AST) greater than or equal to 3,000 U/L and at least *one* of the following:
   - International normalized ratio (INR) greater than or equal to 2.5
   - Arterial pH less than or equal to 7.30
   - Venous pH less than or equal to 7.25
   - Lactate greater than or equal to 4 mmol/L

   All laboratory results reported for the tests required above must be from the same blood draw taken 24 hours to 7 days after the transplant.

d. Primary non-function within 7-days of transplant of a transplanted liver segment from a deceased or living donor, evidenced by at least *one* of the following:
   - INR greater than or equal to 2.5
   - Arterial pH less than or equal to 7.30
   - Venous pH less than or equal to 7.25
   - Lactate greater than or equal to 4 mmol/L

e. Hepatic artery thrombosis (HAT) within 7-days of transplant, with AST greater than or equal to 3,000 U/L and at least *one* of the following:
   - INR greater than or equal to 2.5
   - Arterial pH less than or equal to 7.30
   - Venous pH less than or equal to 7.25
   - Lactate greater than or equal to 4 mmol/L

   All laboratory results reported for the tests required above must be from the same blood draw taken 24 hours to 7 days after the transplant.

   ~~Candidates with HAT in a transplanted liver within 14 days of transplant not meeting the above criteria will be listed with a MELD of 40.~~

f. Acute decompensated Wilson's disease

9.1.C Pediatric Status 1B Requirements

To assign a candidate pediatric status 1B, the candidate's transplant hospital must submit a *Liver Status 1B Justification Form* to the OPTN Contractor. A candidate is not registered as status 1B until this form is submitted.

The candidate's transplant program may assign the candidate pediatric status 1B if *all* the following conditions are met:

1. The candidate is less than 18 years old at the time of registration. This includes candidates less than 18 years old at the time of registration, who remain on the waiting list after turning 18 years old, but does not include candidates removed from the waiting list at any time who then return to the waiting list after turning 18 years old.

2. The candidate has *one* of the following conditions:

   a. The candidate has a biopsy-proven hepatoblastoma without evidence of metastatic disease.

   b. The candidate has an organic acidemia or urea cycle defect and an approved MELD or PELD exception meeting standard criteria ~~score~~ for metabolic disease ~~score of 30 points~~ for at least 30 days.

c. Chronic liver disease with a calculated MELD ~~greater than 25for adolescent candidates 12 to 17 years old,~~ or ~~a calculated~~ PELD greater than 25 ~~for candidates less than 12 years old~~, and has at least *one* of the following criteria:
   i. Is on a mechanical ventilator
   ii. Has gastrointestinal bleeding requiring at least 30 mL/kg of red blood cell replacement within the previous 24 hours
   iii. Has renal failure or renal insufficiency requiring dialysis, continuous veno-venous hemofiltration (CVVH), or continuous veno-venous hemodialysis (CVVHD)
   iv. Has a Glasgow coma score (GCS) less than 10 within 48 hours before the status 1B assignment or extension.

d. Chronic liver disease and is a combined liver-intestine candidate with an adjusted MELD or PELD score greater than 25 according to *Policy 9.1.F: Liver-Intestine Candidates* and has at least *one* of the following criteria:
   i. Is on a mechanical ventilator
   ii. Has gastrointestinal bleeding requiring at least 10 mL/kg of red blood cell replacement within the previous 24 hours
   iii. Has renal failure or renal insufficiency requiring dialysis, continuous veno-venous hemofiltration (CVVH), or continuous veno-venous hemodialysis (CVVHD)
   iv. Has a Glasgow coma score (GCS) less than 10 within 48 hours before the status 1B assignment or extension.

9.1.D MELD Score

Candidates who are at least 12 years old receive an initial $MELD_{(i)}$ score equal to: *0.957 x Loge(creatinine mg/dL) + 0. 378 x* Log_e*(bilirubin mg/dL) + 1.120 x Loge (INR) + 0.643*

Laboratory values less than 1.0 will be set to 1.0 when calculating a candidate's MELD score.

The following candidates will receive a creatinine value of 4.0 mg/dL:

- Candidates with a creatinine value greater than 4.0 mg/dL
- Candidates who received two or more dialysis treatments within the prior 7 days
- Candidates who received 24 hours of continuous veno-venous hemodialysis (CVVHD) within the prior 7 days

The maximum MELD score is 40. The MELD score derived from this calculation will be rounded to the tenth decimal place and then multiplied by 10. ~~At the time of allocation, the MELD score may go above 40 with the inclusion of proximity points to a candidate within the circle or OPO's DSA.~~

For candidates with an initial MELD score greater than 11, the MELD score is then re-calculated as follows:

$MELD = MELD_{(i)} + 1.32*(137-Na) – [0.033*MELD_{(i)}*(137-Na)]$

Sodium values less than 125 mmol/L will be set to 125, and values greater than 137 mmol/L will be set to 137.

~~If a candidate's recalculated MELD score requires recertification within 7 days of implementation based on *Table 9-1: Liver Status Update Schedule*, the transplant hospital will have 7 days to update laboratory values. If after 7 days the laboratory values are not updated, the candidate will be re-assigned to the previous lower MELD score~~

9.1.F Liver-Intestine Candidates

Adult liver c~~C~~andidates ~~awaiting a liver-intestine transplant~~ who are also registered and active on ~~both waiting lists~~ the waiting list for an intestine transplant at that transplant hospital will automatically receive an additional increase in their MELD or PELD score equivalent to a 10 percentage point increase in risk of 3-month mortality. Candidates less than 18 years old will receive 23 additional points to their calculated MELD or PELD score instead of the 10 percentage point increase. The transplant hospital must document in the candidate's medical record the medical justification for the combined liver-intestine transplant and that the transplant was completed.

9.2 Status and Laboratory Values Update Schedule

The OPTN Contractor will notify the transplant hospital within 2 days ~~48 hours~~ of the deadline for recertification when a candidate's laboratory values need to be updated. Transplant hospitals must recertify a candidate's values according to *Table 9-1*. ~~These data must be based on the most recent clinical information, laboratory tests, and diagnosis and include the dates of all laboratory tests~~.

When reporting laboratory values to the OPTN Contractor, transplant hospitals must submit the most recent results including the dates of the laboratory tests. In order to change a MELD or PELD score voluntarily, all laboratory values must be obtained within the same 2 day ~~48-hour~~ period.

Table 9-1: Liver Status Update Schedule

If the candidate is:	The new laboratory values must be reported every:	And when reported, the new laboratory values must be no older than :
Status 1A or 1B	7 days	~~48 hours~~2 days
MELD 25 or greater (ages 18 or older)	7 days	~~48 hours~~2 days
MELD/PELD 25 or greater (less than 18 years old)	14 days	~~72 hours~~ 3 days
MELD/PELD 19 to 24	~~1 Month~~30 days	7 days
MELD/PELD 11 to 18	~~3 months~~90 days	14 days
MELD/PELD 10 or less	~~12 months~~365 days	30 days

Status 1B candidates have these further requirements for certification:

- Candidates with a gastrointestinal bleed as the reason for the initial status 1B upgrade criteria must have had another bleed in the past 7 days immediately before the upgrade in order to recertify as status 1B.
- Candidates indicating a metabolic disease or a hepatoblastoma require recertification every 90 days ~~three months~~ with lab values no older than 14 days.

If a candidate is not recertified by the deadline according to *Table 9-1*, the candidate will be re-assigned to their previous lower MELD or PELD score. The candidate may remain at that previous lower score for the period allowed based on the recertification schedule for the previous lower score, minus the time spent in the uncertified score.

If the candidate remains uncertified past the recertification due date for the previous lower score, the candidate will be assigned a MELD or PELD score of 6. If a candidate has no previous lower MELD or

PELD score, and is not recertified according to the schedule, the candidate will be reassigned to a MELD or PELD score of 6, or will remain at the uncertified PELD score if it is less than 6.

9.2.A Recertification of Status 1A or 1B

Transplant hospitals must submit a completed *Liver Status 1A or 1B Justification Form* to the OPTN Contractor for *each* recertification as a status 1A or 1B. A request to continue as status 1A or 1B beyond 14 days accumulated time will result in a review of all status 1A or 1B liver candidate registrations ~~within the donation service area (DSA)~~ at the transplant hospital. A review will not occur if the request was for a candidate meeting the requirements for hepatoblastoma in *Policy 9.1.C: Pediatric Status 1B* or a metabolic disease in *Policy 9.5.F: Requirements for Metabolic Disease MELD or PELD Score Exceptions*.

9.3 Status Exceptions

The Liver and Intestinal Organ Transplantation Committee establishes guidelines for review of status and MELD/PELD score exception requests.

If a candidate's transplant program believes that a candidate's current status does not appropriately reflect the candidate's medical urgency for transplant, the transplant program may register a candidate at an exceptional status. However, the Liver and Intestinal Organ Transplantation Committee will retrospectively review all exception candidates registered as status 1A or 1B and may refer these cases to the Membership and Professional Standards Committee (MPSC) for review according to *Appendix L* of the OPTN Bylaws.

9.4 MELD or PELD Score Exceptions

9.4.A MELD or PELD Score Exception Requests

A MELD or PELD score exception request must include *all* the following:

1. A request for a specific MELD or PELD score
2. A justification of how the medical criteria supports that the candidate has a higher MELD or PELD score
3. An explanation of how the candidate's current condition and potential for benefit from transplant would be comparable to that of other candidates with that MELD or PELD score

Approved MELD or PELD exception scores are valid for 90 days from the date the exception is approved.

9.4.C MELD or PELD ~~Score~~ Exception Extensions

~~Transplant hospitals may submit a MELD/PELD Exception Score Request Form to the NLRB every 90 days.~~

A candidate's approved exception ~~score~~ will be maintained if the transplant hospital enters a MELD or PELD Exception Score Extension Request ~~the extensionrequest between 3 and 30~~ before the due date ~~according to *Table 9-1: Liver Status Update Schedule,*~~ even if the NLRB does not act before the due date. If the extension request is ~~later~~ denied or if no MELD or PELD Exception Score Extension Request is submitted before the due date, then the candidate will be assigned the calculated MELD or PELD score based on the most recent reported laboratory values.

Each approved MELD or PELD exception extension is valid for an additional 90 days beginning from the day that the previous exception or extension expired.

9.4.D Calculation of Median MELD or PELD at Transplant

Median MELD at transplant (MMaT) is calculated by using the median of the MELD scores at the time of transplant of all recipients at least 12 years old who were transplanted at hospitals within 250 nautical miles of the candidate's listing hospital in the last 365 days.

Median PELD at transplant (MPaT) is calculated by using the median of the PELD scores at the time of transplant of all recipients less than 12 years old in the nation.

The MMaT and MPaT calculations exclude recipients who are either of the following:

1. Transplanted with livers from living donors, DCD donors, and donors from donor hospitals more than 500 nautical miles away from the transplant hospital
2. Status 1A or 1B at the time of transplant.

The OPTN Contractor will recalculate the MMaT and MPaT every 180 days using the previous 365-day cohort. If there have been fewer than 10 qualifying transplants within 250 nautical miles of a transplant hospital in the previous 365 days, the MMaT will be calculated based on the previous 730 days.

Exceptions scores will be updated to reflect changes in MMaT or MPaT each time the MMaT or MPaT is recalculated. The following exception scores are not awarded relative to MMaT or MPaT and will not be updated:

1. Exception scores of 40 or higher awarded by the NLRB according to *Policy 9.4.A: MELD or PELD Score Exception Requests*
2. Any exception awarded according to *Policy 9.5.D: Requirements for Hepatic Artery Thrombosis (HAT) MELD Score Exceptions*
3. Exceptions awarded to candidates less than 18 years old at time of registration according to *Policy 9.5.I: Requirements for Hepatocellular Carcinoma (HCC) MELD or PELD Score Exceptions*
4. Initial and first exceptions awarded to candidates at least 18 at time of registration according to *Policy 9.5.I: Requirements for Hepatocellular Carcinoma (HCC) MELD or PELD Score Exceptions*

9.5 Specific Standardized MELD or PELD Score Exceptions

Candidates are eligible for MELD or PELD score exceptions or extensions that do not require evaluation by the NLRB if they meet *any* of the following requirements for a specific diagnosis of *any* of the following:

- Cholangiocarcinoma (CCA), according to *Policy 9.5.A: Requirements for Cholangiocarcinoma MELD or PELD Score Exceptions*
- Cystic fibrosis, according to *Policy 9.5.B: Requirements for Cystic Fibrosis MELD or PELD Score Exceptions*
- Familial amyloid polyneuropathy, according to *Policy 9.5.C: Requirements for Familial Amyloid Polyneuropathy (FAP) MELD or PELD Score Exceptions*
- Hepatic artery thrombosis, according to *Policy 9.5.D: Requirements for Hepatic Artery Thrombosis (HAT) MELD ~~or PELD~~ Score Exceptions*
- Hepatopulmonary syndrome, according to *Policy 9.5.E: Requirements for Hepatopulmonary Syndrome (HPS) MELD or PELD Score Exceptions*
- Metabolic disease, according to *Policy 9.5.F: Requirements for Metabolic Disease MELD or PELD Score Exceptions*
- Portopulmonary hypertension, according to *Policy 9.5.G: Requirements for Portopulmonary Hypertension MELD or PELD Score Exceptions*
- Primary hyperoxaluria, according to *Policy 9.5.H: Requirements for Primary Hyperoxaluria MELD or PELD Score Exceptions*

- Hepatocellular carcinoma, according to *Policy 9.5.I: Requirements for Hepatocellular Carcinoma (HCC) MELD or PELD Score Exception*

If a candidate's exception score based on the score assignments relative to MMaT or MPaT in this section would be lower than 15, the candidate's exception score will be 15.

9.5.A Requirements for Cholangiocarcinoma (CCA) MELD or PELD Score Exceptions

A candidate will receive a MELD or PELD score exception for CCA, if the candidate's transplant hospital meets *all* the following qualifications:

1. Submits a written protocol for patient care to the Liver and Intestinal Organ Transplantation Committee that must include *all* of the following:
   - Candidate selection criteria
   - Administration of neoadjuvant therapy before transplantation
   - Operative staging to exclude any patient with regional hepatic lymph node metastases, intrahepatic metastases, or extrahepatic disease
   - Any data requested by the Liver and Intestinal Organ Transplantation Committee

2. Documents that the candidate meets the diagnostic criteria for hilar CCA with a malignant appearing stricture on cholangiography and at least *one* of the following:
   - Biopsy or cytology results demonstrating malignancy
   - Carbohydrate antigen 19-9 greater than 100 U/mL in absence of cholangitis
   - Aneuploidy

   The tumor must be considered un-resectable because of technical considerations or underlying liver disease.

3. Submits cross-sectional imaging studies. If cross-sectional imaging studies demonstrate a mass, the mass must be single and less than three cm.

4. Documents the exclusion of intrahepatic and extrahepatic metastases by cross-sectional imaging studies of the chest and abdomen within 90 days prior to submission of the initial exception request.

5. Assesses regional hepatic lymph node involvement and peritoneal metastases by operative staging after completion of neoadjuvant therapy and before liver transplantation. Endoscopic ultrasound-guided aspiration of regional hepatic lymph nodes may be advisable to exclude patients with obvious metastases before neo-adjuvant therapy is initiated.

6. Transperitoneal aspiration or biopsy of the primary tumor (either by endoscopic ultrasound, operative or percutaneous approaches) must be avoided because of the high risk of tumor seeding associated with these procedures.

A candidate who meets the requirements for a standardized MELD or PELD score exception will be assigned a score according to *Table 9-2* below.

Table 9-2: CCA Exception Scores

Age	Age at registration	Score
At least 18 years old	At least 18 years old	3 points below MMaT
At least 12 years old	Less than 18 years old	Equal to MMaT
Less than 12 years old	Less than 12 years old	Equal to MPaT

~~A liver candidate at least 18 years old at the time of registration that meets the requirements for a standardized MELD score exception will be assigned a score that is 3 points below the median MELD at transplant for liver recipients at least 18 years old in the DSA where the candidate is registered.~~

~~A liver candidate 12 to 17 years old at the time of registration that meets the requirements for a standardized MELD score exception will be assigned a score equal to the median MELD at transplant for all liver recipients in the DSA where the candidate is registered.~~

~~A liver candidate less than 12 years old at the time of registration that meets the requirements for a standardized PELD score exception will be assigned a score equal to the median MELD at transplant for all liver recipients in the region where the candidate is registered.~~

In order to be approved for an extension of this MELD or PELD score exception, transplant hospitals must submit an exception extension request according to *Policy 9.4.C: MELD or PELD Score Exception Extensions,* and provide cross-sectional imaging studies of the chest and abdomen that exclude intrahepatic and extrahepatic metastases. These required imaging studies must have been completed within 30 days prior to the submission of the extension request.

9.5.B Requirements for Cystic Fibrosis (CF) MELD or PELD Score Exceptions

A candidate will receive a MELD or PELD score exception for cystic fibrosis if the candidate's diagnosis has been confirmed by genetic analysis, and the candidate has a forced expiratory volume at one second (FEV1) below 40 percent of predicted FEV1 within 30 days prior to submission of the initial exception request.

A candidate who meets the requirements for a standardized MELD or PELD score exception will be assigned a score according to *Table 9-3* below.

Table 9-3: Cystic Fibrosis Exception Scores

Age	Age at registration	Score
At least 18 years old	At least 18 years old	3 points below MMaT
At least 12 years old	Less than 18 years old	Equal to MMaT
Less than 12 years old	Less than 12 years old	Equal to MPaT

~~The OPTN Contractor will re-calculate the median MELD at transplant every 180 days using the previous 365-day cohort. If there have been fewer than 10 transplants in the DSA in the previous 365 days, the median MELD at transplant will be calculated for the region where the candidate is registered. At each 180 day update, candidates with existing standardized score exceptions will be assigned the score to match the re-calculated median MELD at transplant. The median MELD at transplant calculation excludes recipients transplanted with livers recovered by OPOs outside the recipient transplant hospital's region.~~

In order to be approved for an extension of this MELD or PELD score exception, transplant hospitals must submit an exception extension request according to *Policy 9.4.C: MELD or PELD Score Exception Extensions.*

9.5.C Requirements for Familial Amyloid Polyneuropathy (FAP) MELD or PELD Score Exceptions

A candidate will receive a MELD or PELD score exception for FAP if the candidate's transplant hospital submits evidence of *all* of the following:

1. Either that the candidate is also registered and active on the waiting list for a heart transplant at that transplant hospital, or has an echocardiogram performed within 30 days prior to submission of the initial exception request showing the candidate has an ejection fraction greater than 40 percent.
2. That the candidate can walk without assistance.
3. That a transthyretin (TTR) gene mutation has been confirmed.
4. A biopsy-proven amyloid.

A candidate who meets the requirements for a standardized MELD or PELD score exception will be assigned a score according to *Table 9-4* below.

Table 9-4: FAP Exception Scores

Age	Age at registration	Score
At least 18 years old	At least 18 years old	3 points below MMaT
At least 12 years old	Less than 18 years old	Equal to MMaT
Less than 12 years old	Less than 12 years old	Equal to MPaT

~~A liver candidate at least 18 years old at the time of registration that meets the requirements for a standardized MELD score exception will be assigned a score that is 3 points below the median MELD at transplant for liver recipients at least 18 years old in the DSA where the candidate is registered. If the candidate's exception score would be higher than 34 based on this calculation, the candidate's score will be capped at 34.~~

~~A liver candidate 12 to 17 years old at the time of registration that meets the requirements for a standardized MELD score exception will be assigned a score equal to the median MELD at transplant for all liver recipients in the DSA where the candidate is registered.~~

~~A liver candidate less than 12 years old at the time of registration that meets the requirements for a standardized PELD score exception will be assigned a score equal to the median MELD at transplant for all liver recipients in the region where the candidate is registered.~~

~~The OPTN Contractor will re-calculate the median MELD at transplant every 180 days using the previous 365-day cohort. If there have been fewer than 10 transplants in the DSA in the previous 365 days, the median MELD at transplant will be calculated for the region where the candidate is registered. At each 180 day update, candidates with existing standardized score exceptions will be assigned the score to match the re-calculated median MELD at transplant. The median MELD at transplant calculation excludes recipients transplanted with livers recovered by OPOs outside the recipient transplant hospital's region.~~

In order to be approved for an extension of this MELD or PELD score exception, transplant hospitals must submit an exception extension request according to *Policy 9.4.C: MELD or PELD Score Exception Extensions* and meet one of the following criteria:

1. ~~and an echocardiogram that meets *both* of the following criteria~~: An echocardiogram that shows ~~Shows~~ that the candidate has an ejection fraction greater than 40 percent within the last 120 days
2. Registered and active on the waiting list for a heart transplant at that hospital ~~every six months~~
3. ~~Has been performed within 30 days prior to submission of the extension request~~

9.5.D Requirements for Hepatic Artery Thrombosis (HAT) MELD ~~or PELD~~ Score Exceptions

A candidate will receive a MELD ~~or PELD~~ score exception for HAT if the candidate is at least 18 years old at registration and has HAT within 14 days of transplant but does not meet criteria for status 1A in *Policy 9.1.A: Adult Status 1A Requirements*.

Candidates who meet these requirements will receive a MELD ~~or PELD~~ score of 40.

In order to be approved for an extension of this MELD ~~or PELD~~ score exception, transplant hospitals must submit an exception extension request according to *Policy 9.4.C: MELD or PELD Score Exception Extensions.*

9.5.E Requirements for Hepatopulmonary Syndrome (HPS) MELD or PELD Score Exceptions

A candidate will receive a MELD or PELD score exception for HPS if the candidate's transplant hospital submits evidence of *all* of the following:

1. Ascites, varices, splenomegaly, or thrombocytopenia.
2. A shunt, shown by either contrast echocardiogram or lung scan.
3. PaO2 less than 60 mmHg on room air within 30 days prior to submission of the initial exception request.
4. No clinically significant underlying primary pulmonary disease.

A candidate who meets the requirements for a standardized MELD or PELD score exception will be assigned a score according to *Table 9-5* below.

Table 9-5: HPS Exception Scores

Age	Age at registration	Score
At least 18 years old	At least 18 years old	3 points below MMaT
At least 12 years old	Less than 18 years old	Equal to MMaT
Less than 12 years old	Less than 12 years old	Equal to MPaT

~~The OPTN Contractor will re-calculate the median MELD at transplant every 180 days using the previous 365-day cohort. If there have been fewer than 10 transplants in the DSA in the previous 365 days, the median MELD at transplant will be calculated for the region where the candidate is registered. At each 180 day update, candidates with existing standardized score exceptions will be assigned the score to match the re-calculated median MELD at transplant. The median MELD at transplant calculation excludes recipients transplanted with livers recovered by OPOs outside the recipient transplant hospital's region~~.

In order to be approved for an extension of this MELD or PELD score exception, transplant hospitals must submit an exception extension request according to *Policy 9.4.C: MELD or PELD Score Exception Extensions,* ~~and~~with evidence that the candidate's PaO_2 remained at less than 60 mmHg on room air within the 30 days prior to submission of the extension request.

9.5.F Requirements for Metabolic Disease MELD or PELD Score Exceptions

A liver candidate less than 18 years old at the time of registration will receive a MELD or PELD score exception for metabolic disease if the candidate's transplant hospital submits evidence of urea cycle disorder or organic acidemia.

~~A liver candidate 12 to 17 years old at the time of registration that meets the requirements for a standardized MELD score exception will be assigned a score equal to the median MELD at transplant for all liver recipients in the DSA where the candidate is registered. If the candidate does not receive a transplant within 30 days of being registered with the exception score, then the candidate's transplant physician may register the candidate as a status 1B.~~

A candidate who meets the requirements for a standardized MELD or PELD score exception will be assigned a score according to *Table 9-6* below.

Table 9-6: Metabolic Disease Exception Scores

Age	Age at registration	Score
At least 12 years old	Less than 18 years old	Equal to MMaT
Less than 12 years old	Less than 12 years old	Equal to MPaT

~~A liver candidate less than 12 years old at the time of registration that meets the requirements for a standardized PELD score exception will be assigned a score equal to the median MELD atransplant for all liver recipients in the region where the candidate is registered.~~ If the candidate does not receive a transplant within 30 days of being registered with the exception score, then the candidate's transplant physician may register the candidate as a status 1B.

~~If a candidate has a metabolic disease other than urea cycle disorder or organic academia, and the candidate's transplant program believes that a candidate's MELD/PELD score does not appropriately reflect the candidate's medical urgency, then the transplant physician may request an exception according to *Policy 9.4.A: MELD or PELD Score Exception Requests*.~~
In order to be approved for an extension of this MELD or PELD score exception, transplant hospitals must submit an exception extension request according to *Policy 9.4.C: MELD or PELD Score Exception Extensions.*

9.5.G Requirements for Portopulmonary Hypertension MELD or PELD Score Exceptions

A candidate will receive a MELD or PELD score exception for portopulmonary hypertension if the transplant hospital submits evidence of *all* of the following:

1. Initial mean pulmonary arterial pressure (MPAP) level
2. Initial pulmonary vascular resistance (PVR) level
3. Initial transpulmonary gradient to correct for volume overload
4. Documentation of treatment
5. Post-treatment MPAP less than 35 mmHg within 90 days prior to submission of the initial exception
6. Post treatment PVR less than 400 dynes*sec/cm^5 ~~dynes/sec/cm.^{5}~~, or less than 5.1 Wood units (WU), on the same test date as post-treatment MPAP less than 35 mmHg

A candidate who meets the requirements for a standardized MELD or PELD score exception will be assigned a score according to *Table 9-7* below.

Table 9-7: Portopulmonary Hypertension Exception Scores

Age	Age at registration	Score
At least 18 years old	At least 18 years old	3 points below MMaT
At least 12 years old	Less than 18 years old	Equal to MMaT
Less than 12 years old	Less than 12 years old	Equal to MPaT

In order to be approved for an extension of this MELD or PELD score exception, transplant hospitals must submit an exception extension request according to *Policy 9.4.C: MELD or PELD Score Exception Extensions* ~~and perform a repeat~~ with evidence of a heart catheterization ~~every three months~~ since the last exception or extension request that confirms the mean pulmonary arterial pressure (MPAP) remains less than 35 mmHg.

9.5.H Requirements for Primary Hyperoxaluria MELD or PELD Score Exceptions

A candidate will receive a MELD or PELD score exception for primary hyperoxaluria if the candidate's transplant hospital submits evidence of all of the following:

1. The liver candidate is registered on the waiting list for a kidney transplant at that transplant hospital ~~combined liver-kidney transplant~~
2. Alanine glyoxylate aminotransferase (AGT) deficiency proven by liver biopsy using sample analysis or genetic analysis
3. Estimated glomerular filtration rate (eGFR) by six variable Modification of Diet in Renal Disease formula (MDRD6), or glomerular filtration rate (GFR) measured by iothalamate or iohexol, is less than or equal to 25 mL/min on 2 occasions at least 42 days apart

A candidate who meets the requirements for a standardized MELD or PELD score exception will be assigned an exception score according to *Table 9-8* below.

Table 9-8: Primary Hyperoxaluria Scores

Age	Age at registration	Score
At least 18 years old	At least 18 years old	Equal to MMaT
At least 12 years old	Less than 18 years old	3 points above MMaT
Less than 12 years old	Less than 12 years old	3 points above MPaT

~~A liver candidate at least 18 years old at the time of registration that meets the requirements for a standardized MELD score exception will be assigned a score equal to the median MELD at transplant for liver recipients at least 18 years old in the DSA where the candidate is registered. If the candidate's exception score would be higher than 34 based on this calculation, the candidate's score will be capped at 34.~~

~~A liver candidate 12 to 17 years old at the time of registration that meets the requirements for a standardized MELD score exception will be assigned a score that is 3 points above the median MELD at transplant for all liver recipients in the DSA where the candidate is registered.~~

~~A liver candidate less than 12 years old at the time of registration that meets the requirements for a standardized MELD or PELD score exception will be assigned a score that is 3 points above the median MELD at transplant for all liver recipients in the region where the candidate is registered.~~

~~The OPTN Contractor will re-calculate the median MELD at transplant every 180 days using the previous 365-day cohort. If there have been fewer than 10 transplants in the DSA in the previous 365 days, the median MELD at transplant will be calculated for the region where the candidate is registered. At each 180 day update, candidates with existing standardized score exceptions will be assigned the score to match the re-calculated median MELD at transplant. The median MELD at transplant calculation excludes recipients transplanted with livers recovered by OPOs outside the recipient transplant hospital's region.~~

In order to be approved for an extension of this MELD or PELD score exception, transplant hospitals must submit an exception extension request according to Policy 9.4.C: MELD or PELD Score Exception Extensions with evidence that the candidate is registered on the waiting list for a kidney transplant at that hospital.

9.5.I Requirements for Hepatocellular Carcinoma (HCC) MELD or PELD Score Exceptions

Upon submission of the first exception request, a candidate with hepatocellular carcinoma (HCC) will be provided a score according to Policy *9.5.I.vii: Extensions of HCC Exceptions* if the candidate ~~is:~~

- ~~At least 18 years old and~~ meets the criteria according to *Policies 9.5.I.i through 9.5.I.vi.*
- ~~Twelve to 17 years old, and the National Liver Review Board (NLRB) has determined that the candidate's calculated MELD score does not reflect the candidate's medical urgency.~~
- ~~Less than 12 years old, and the NLRB has determined that the candidate's calculated PELD~~

9.5.I.i Initial Assessment and Requirements for HCC Exception Requests

Prior to applying for a standardized MELD or PELD exception, the candidate must undergo a thorough assessment that includes *all* of the following:

1. An evaluation of the number and size of lesions before local-regional therapy that meet Class 5 criteria using a dynamic contrast enhanced computed tomography (CT) or magnetic resonance imaging (MRI)
2. A CT of the chest to rule out metastatic disease
3. A CT or MRI to rule out any other sites of extrahepatic spread or macrovascular involvement
4. An indication that the candidate is not eligible for resection
5. An indication whether the candidate has undergone local-regional therapy
6. The candidate's alpha-fetoprotein (AFP) level

The transplant hospital must maintain documentation of the radiologic images and assessments of all OPTN Class 5 lesions in the candidate's medical record. If growth criteria are used to classify a lesion as HCC, the radiology report must contain the prior and current dates of imaging, type of imaging, and measurements of the lesion.

For those candidates who receive a liver transplant while receiving additional priority under the HCC exception criteria, the transplant hospital must submit the *Post-Transplant Explant Pathology Form* to the OPTN Contractor within 60 days of transplant. If the pathology report does not show evidence of HCC, the transplant hospital must also submit documentation or imaging studies confirming HCC at the time of assignment. The Liver and Intestinal Organ Transplantation Committee will review a transplant hospital when more than 10 percent of the HCC cases in a one-year period are not supported by the required pathologic confirmation or submission of clinical information.

9.5.I.ii Eligible Candidates Definition of T2 Lesions

Candidates with T2 HCC lesions are eligible for a standardized MELD or PELD exception if they have an alpha-fetoprotein (AFP) level less than or equal to 1000 ng/mL and *either* of the following:

- One lesion greater than or equal to 2 cm and less than or equal to 5 cm in size.
- Two or three lesions each greater than or equal to 1 cm and less than or equal to 3 cm in size.

A candidate who has previously had an AFP level greater than 1000 ng/mL at any time must qualify for a standardized MELD or PELD exception according to Policy 9.5.I.iv: Candidates with Alpha-fetoprotein (AFP) Levels Greater than 1000.

9.5.I.iii Lesions Eligible for Downstaging Protocols

Candidates are eligible for a standardized MELD or PELD exception if, before completing local-regional therapy, they have lesions that meet *one* of the following criteria:

- One lesion greater than 5 cm and less than or equal to 8 cm
- Two or three lesions each greater than 3 cm or less than or equal to 5 cm, and a total diameter of all lesions less than or equal to 8 cm
- Four or five lesions each less than 3 cm, and a total diameter of all lesions less than or equal to 8 cm

For candidates who meet the downstaging criteria above and then complete local-regional therapy, their residual lesions must subsequently meet the requirements for T2 lesions according to *Policy 9.5.I.ii: Eligible Candidates Definition of T2 Lesions* to be eligible for a standardized MELD or PELD exception. Downstaging to meet eligibility requirements for T2 lesions must be demonstrated by CT or MRI performed after local-regional therapy. Candidates with lesions that do not initially meet the downstaging protocol inclusion criteria who are later downstaged and then meet eligibility for T2 lesions are not automatically eligible for a standardized MELD or PELD exception and must be referred to the NLRB for consideration of a MELD or PELD exception.

9.5.I.iv Candidates with Alpha-fetoprotein (AFP) Levels Greater than 1000

Candidates with lesions meeting T2 criteria according to *Policy 9.5.I.ii Eligible Candidates Definition of T2 Lesions* but with an alpha-fetoprotein (AFP) level greater than 1000 ng/mL may be treated with local-regional therapy. If the candidate's AFP level falls below 500 ng/mL after treatment, the candidate is eligible for a standardized MELD or PELD exception as long as the candidate's AFP level remains below 500 ng/mL. Candidates with an AFP level greater than or equal to 500 ng/mL following local-regional therapy at any time must be referred to the NLRB for consideration of a MELD or PELD exception.

9.5.I.v Requirements for Dynamic Contrast-enhanced CT or MRI of the Liver

CT scans and MRIs performed for a Hepatocellular Carcinoma (HCC) MELD or PELD score exception request must be interpreted by a radiologist at a transplant hospital. If the scan is inadequate or incomplete then the lesion will be classified as OPTN Class 0 and imaging must be repeated or completed to receive an HCC MELD or PELD exception.

9.5.I.vii Extensions of HCC Exceptions

In order for a candidate to maintain an approved exception for HCC, the transplant program must submit an updated MELD or PELD Exception Score Request Form ~~every 90 days~~ that contains the following:

- Documentation of the tumor using a CT or MRI
- The type of treatment if the number of tumors decreased since the last request
- The candidate's alpha-fetoprotein (AFP) level

The candidate will then receive the additional priority unless *any* of the following occurs:

- The candidate's lesions progress beyond T2 criteria, according to *9.5.I.ii: Eligible Candidates Definition of T2 Lesions*
- The candidate's alpha-fetoprotein (AFP) level was less than or equal to 1,000 ng/mL on the initial request but subsequently rises above 1,000 ng/mL
- The candidate's AFP level was greater than 1,000 ng/mL, the AFP level falls below 500 ng/mL after treatment but before the initial request, then the AFP level subsequently rises to greater than or equal to 500 ng/mL
- The candidate's tumors have been resected since the previous request

~~A liver candidate at least 18 years old at the time of registration that meets the requirements for a standardized MELD score exception will be assigned the candidate's calculated MELD score upon initially requesting a MELD score exception, and upon submitting the first exception request. For each subsequent request, the candidate will receive a MELD score that is 3 points below the median MELD at transplant for liver recipients at least 18 years old in the DSA where the candidate is registered. If the candidate's exception score would be higher than 34 based on this calculation, the candidate's score will be capped at 34.~~

When a liver candidate at least 18 years old at the time of registration submits an initial request or the first extension request that meets the requirements for a standardized MELD score exception, the candidate will receive a MELD score of 6, and appear on the match according to that exception score or the calculated MELD score, whichever is higher.

A candidate who meets the requirements for a standardized MELD or PELD score exception will be assigned a score according to *Table 9-9* below.

Table 9-9: HCC Exception Scores

Age	Age at registration	Exception Request	Score
At least 18 years old	At least 18 years old	Initial and first extension	6
At least 18 years old	At least 18 years old	Any extension after the first extension	3 points below MMaT
At least 12 years old	Less than 18 years old	Any	40
Less than 12 years old	Less than 12 years old	Any	40

~~The OPTN Contractor will re-calculate the median MELD at transplant every 180 days using the previous 365-day cohort. If there have been fewer than 10 transplants in the DSA in the previous 365 days, the median MELD at transplant will be calculated for the region where the candidate is registered. At each 180 day update, candidates with existing standardized score exceptions will be assigned the score to match the re-calculated median MELD. The median MELD at transplant calculation excludes recipients transplanted with livers recovered by OPOs outside the recipient transplant hospital's region.~~

~~A liver candidate less than 18 years old at the time of registration that meets the requirements for a standardized MELD or PELD score exception will be assigned a MELD or PELD score of 40.~~

~~To receive an extension, the transplant program must submit an updated MELD/PELD Exception Score Request Form that contains all of the following:~~

- ~~An updated narrative~~
- ~~Document the tumor using a CT or MRI~~
- ~~Specify the type of treatment if the number of tumors decreased since the last request~~
- ~~The candidate's alpha-fetoprotein (AFP) level~~

~~If a candidate's tumors have been resected since the previous request, then the transplant program must submit an updated MELD/PELD Exception Score Request Form to the NLRB for prospective review.~~

9.5.I.viii Appeal for Candidates not Meeting HCC Criteria

~~If the NLRB denies the initial HCC MELD/PELD Exception Score Request Form, the transplant program may appeal with the NLRB but the candidate will not receive the additional MELD or PELD priority until approved by the NLRB. The NLRB will refer the matter to the Liver and Intestinal Organ Transplantation Committee for further review and possible action if the NLRB finds the transplant program to be noncompliant with these Policies.~~

~~Requests and appeals not resolved by the NLRB within 21 days will be referred to the Liver and Intestinal Organ Transplantation Committee for review. The Liver and Intestinal Organ Transplantation Committee may refer these matters to the MPSC for appropriate action according to *Appendix L* of the OPTN Bylaws.~~

9.7.B Points Assigned by Blood Type

For status 1A and 1B transplant candidates, those with the same blood type as the deceased liver donor will receive 10 points. Candidates with compatible but not identical blood types will receive 5 points, and candidates with incompatible types will receive 0 points. Blood type O candidates who will accept a liver from a blood type A, non-A_1 blood type donor will receive 5 points for blood type incompatible matching.

~~Within each MELD or PELD score, donor livers will be offered to transplant candidates with blood types identical to the deceased donor first, then to candidates who are blood type compatible, followed by candidates who are blood type incompatible with the deceased donor.~~

9.8.C Allocation of Livers by Blood Type

~~Livers from blood type O donors may be offered to *any* of the following:~~

- ~~Status 1A and 1B candidates~~
- ~~Blood type O candidates~~
- ~~Blood type B candidates with a MELD or PELD score greater than or equal to 30~~
- ~~Any remaining blood type compatible candidates once the all blood type O and B candidates on the match run have been exhaustedat the region plus circle, and national level.~~

Livers from blood type O donors must be offered in the following order:

- Status 1A and 1B candidates, blood type O candidates, and blood type B candidates with a MELD or PELD score of at least 30
- Blood type B candidates with a MELD or PELD score less than 30
- Any remaining blood type compatible candidates

For status 1A or 1B candidates or candidates with an allocation MELD or PELD score greater than or equal to 30, transplant hospitals may specify on the waiting list if those candidates will accept a liver from a deceased donor of any blood type. Candidates are given points depending on their blood type according to *Policy 9.7.B: Points Assigned by Blood Type*.

9.8.D MELD or PELD Points for Geographic Proximity to the Donor Hospital

~~At the time of the match run, a liver or liver-intestine candidate with a MELD or PELD score registered at a transplant hospital within the circle or OPO's DSA receives proximity points according to *Table 9-3* below.~~

Table 9-3: Proximity Points

~~Candidates that are:~~	~~And have :~~	~~Will receive:~~
~~At least 18 years old at the time of registration on the waiting list~~	~~A calculated MELD score of at least 15~~	~~Three proximity points to their calculated MELD score~~
~~At least 18 years old at the time of registration on the waiting list~~	~~An approved HAT exception~~	~~Three proximity points to their allocation MELD score~~
~~12 to 17 years old at the time of registration on the waiting list~~	~~An allocation MELD score of at least 15~~	~~Three proximity points to their allocation MELD score~~
~~Less than 12 years old at the time of registration on the waiting list~~	~~An allocation PELD score of at least 15~~	~~Three proximity points to their allocation PELD score~~

9.8.~~E~~D Sorting Within Each Classification

Within each status 1A allocation classification, candidates are sorted in the following order:

- Total waiting time and blood type compatibility points (highest to lowest), according to *Policy 9.7: Liver Allocation Points*
- Total waiting time at status 1A (highest to lowest)

Within each status 1B allocation classification, candidates are sorted in the following order:

- Total waiting time and blood type compatibility points (highest to lowest), according to *Policy 9.7: Liver Allocation Points*
- Total waiting time at status 1B (highest to lowest)

~~Within each MELD or PELD score allocation classification, candidates with a MELD or PELD less than or equal to 6 are sorted in the following order:~~

- ~~First, all candidates are sorted in the following order:~~
  a. ~~Identical blood types, compatible blood types, then incompatible blood types~~
  b. ~~Waiting time at the current or higher allocation MELD or allocation PELD score (highest to lowest)~~
  c. ~~Total waiting time (highest to lowest)~~
- ~~Then those waiting list positions assigned to candidates with a MELD or PELD score less than or equal to six are redistributed between the pediatric candidates, according to their PELD or MELD score (highest to lowest).~~
  Within each MELD or PELD score allocation classification, all candidates are sorted in the following order:

- MELD or PELD score (highest to lowest)

- Identical blood types, compatible blood types, then incompatible blood types
- Waiting time at the current or higher MELD or PELD score~~, excluding proximity points~~ (highest to lowest)
- Time since submission of initial approved MELD or PELD exception request (highest to lowest)
- Total waiting time (highest to lowest)

9.8.EF Allocation of Livers from Non-DCD Deceased Donors at Least 18 Years Old and Less than 70 Years Old

Livers from non-DCD deceased donors at least 18 years old and less than 70 years old are allocated to candidates according to *Table 9-10* below.

Table 9-10: Allocation of Livers from Non-DCD Deceased Donors at Least 18 Years Old and Less than 70 Years Old

~~Classification~~	~~Candidates that are within the OPO's:~~	~~And are:~~
~~1~~	~~Region or Circle~~	~~Adult or pediatric status 1A~~
~~2~~	~~Region or Circle~~	~~Pediatric status 1B~~
~~3~~	~~Region or Circle~~	~~Any of the following:~~ • ~~At least 18 years old at time of registration and calculated MELD of at least 32 including proximity points~~ • ~~At least 18 years old at time of registration and has an approved HAT exception~~ • ~~Less than 18 years old at time of registration and allocation MELD or PELD of at least 32 including proximity points~~
~~4~~	~~DSA~~	~~MELD or PELD of at least 15~~
~~5~~	~~Region or Circle~~	~~MELD or PELD of at least 15~~
~~6~~	~~Nation~~	~~Adult or pediatric status 1A~~
~~7~~	~~Nation~~	~~Pediatric status 1B~~
~~8~~	~~Nation~~	~~MELD or PELD of at least 15~~
~~9~~	~~DSA~~	~~MELD or PELD less than 15~~
~~10~~	~~Region or Circle~~	~~MELD or PELD less than 15~~
~~11~~	~~Nation~~	~~MELD or PELD less than 15~~
~~12~~	~~Region or Circle~~	~~MELD or PELD of at least 32, blood type compatible~~
~~13~~	~~DSA~~	~~MELD or PELD of at least 15, blood type compatible~~
~~14~~	~~Region or Circle~~	~~MELD or PELD of at least 15, blood type compatible~~
~~15~~	~~Nation~~	~~MELD or PELD of at least 15, blood type compatible~~
~~16~~	~~DSA~~	~~MELD or PELD less than 15, blood type compatible~~

Classification	Candidates that are within the OPO's:	And are:
17	Region or Circle	MELD or PELD less than 15, blood type compatible
18	Nation	MELD or PELD less than 15, blood type compatible
19	DSA	Adult or pediatric status 1A, and in need of other method of hepatic support
20	DSA	Pediatric status 1B and in need of other method of hepatic support
21	DSA	Any MELD or PELD, and in need of other method of hepatic support
22	Region or Circle	Adult or pediatric status 1A, and in need of other method of hepatic support
23	Region or Circle	Pediatric status 1B and in need of other method of hepatic support
24	Region or Circle	Any MELD or PELD, and in need of other method of hepatic support
25	Nation	Adult or pediatric status 1A, and in need of other method of hepatic support
26	Nation	Pediatric status 1B and in need of other method of hepatic support
27	Nation	Any MELD or PELD, and in need of other method of hepatic support
28	DSA	Any MELD or PELD, and in need of other method of hepatic support, blood type compatible
29	Region or Circle	Any MELD or PELD, and in need of other method of hepatic support, blood type compatible
30	Nation	Any MELD or PELD, and in need of other method of hepatic support, blood type compatible

Classification	Candidates with a score of at least	And within this distance from the donor hospital[1]:	Donor blood type:	Candidate blood type
1	Status 1A	500nm	Any	Any
2	Status 1B	500nm	Any	Any
3	37	150nm	O	O or B
4	37	150nm	Non-O	Any
5	37	250nm	O	O or B
6	37	250nm	Non-O	Any
7	37	500nm	O	O or B
8	37	500nm	Non-O	Any
9	33	150nm	O	O or B
10	33	150nm	Non-O	Any
11	33	250nm	O	O or B
12	33	250nm	Non-O	Any
13	33	500nm	O	O or B
14	33	500nm	Non-O	Any
15	30	150nm	O	O or B
16	29	150nm	O	O
17	29	150nm	Non-O	Any
18	30	250nm	O	O or B
19	29	250nm	O	O
20	29	250nm	Non-O	Any
21	30	500nm	O	O or B
22	29	500nm	O	O
23	29	500nm	Non-O	Any
24	15	150nm	O	O
25	15	150nm	Non-O	Any
26	15	250nm	O	O
27	15	250nm	Non-O	Any
28	15	500nm	O	O
29	15	500nm	Non-O	Any
30	Status 1A	Nation	Any	Any
31	Status 1B	Nation	Any	Any
32	30	Nation	O	O or B

[1] Staff will seek a clarifying amendment to the headers of Tables 9-10, 9-13, and 9-14 to clarify that candidate's place of registration is used when calculating distance to donor hospital. This change will mirror the changes adopted in Amendment 1, Technical Corrections, of the December 2018 Board Meeting, and is shown here in Tables 9-11, 9-12, and 9-15.

Classification	Candidates with a score of at least	And within this distance from the donor hospital[1]:	Donor blood type:	Candidate blood type
33	15	Nation	O	O
34	15	Nation	Non-O	Any
35	Any	150nm	O	O
36	Any	150nm	Non-O	Any
37	Any	250nm	O	O
38	Any	250nm	Non-O	Any
39	Any	500nm	O	O
40	Any	500nm	Non-O	Any
41	Any	Nation	O	O
42	Any	Nation	Non-O	Any
43	29	150nm	O	B
44	29	250nm	O	B
45	29	500nm	O	B
46	15	150nm	O	B
47	15	250nm	O	B
48	15	500nm	O	B
49	15	Nation	O	B
50	Any	150nm	O	B
51	Any	250nm	O	B
52	Any	500nm	O	B
53	Any	Nation	O	B
54	37	150nm	O	A or AB
55	37	250nm	O	A or AB
56	37	500nm	O	A or AB
57	33	150nm	O	A or AB
58	33	250nm	O	A or AB
59	33	500nm	O	A or AB
60	29	150nm	O	A or AB
61	29	250nm	O	A or AB
62	29	500nm	O	A or AB
63	15	150nm	O	A or AB
64	15	250nm	O	A or AB
65	15	500nm	O	A or AB
66	15	Nation	O	A or AB
67	Any	150nm	O	A or AB
68	Any	250nm	O	A or AB

Classification	Candidates with a score of at least	And within this distance from the donor hospital[1]:	Donor blood type:	Candidate blood type
69	Any	500nm	O	A or AB
70	Any	Nation	O	A or AB
71	Status 1A, for other method of hepatic support	Nation	Any	Any
72	Status 1B, for other method of hepatic support	Nation	Any	Any
73	Any MELD or PELD for other method of hepatic support	Nation	Any	Any

9.8.FG Allocation of Livers from Non-DCD Deceased Donors 11 to 17 Years Old

Livers from non-DCD deceased donors 11 to 17 years old are allocated to candidates according to *Table 9-11* below.

Table 9-11: Allocation of Livers from Non-DCD Deceased Donors 11 to 17 Years Old

~~Classification~~	~~Candidates that are within the OPO's:~~	~~And are:~~
~~1~~	~~Region or Circle~~	~~Pediatric status 1A~~
~~2~~	~~Region or Circle~~	~~Adult status 1A~~
~~3~~	~~Region or Circle~~	~~Pediatric status 1B~~
~~4~~	~~Region or Circle~~	~~Any PELD~~
~~5~~	~~Region or Circle~~	~~MELD of at least 15 and 12 to 17 years old~~
~~6~~	~~Region or Circle~~	~~MELD of at least 15 and at least 18 years old~~
~~7~~	~~Region or Circle~~	~~MELD less than 15 and 12 to 17 years old~~
~~8~~	~~Region or Circle~~	~~MELD less than 15 and at least 18 years old~~
~~9~~	~~Nation~~	~~Pediatric status 1A~~
~~10~~	~~Nation~~	~~Adult status 1A~~
~~11~~	~~Nation~~	~~Pediatric status 1B~~
~~12~~	~~Nation~~	~~Any PELD~~
~~13~~	~~Nation~~	~~Any MELD and 12 to 17 years old~~
~~14~~	~~Nation~~	~~Any MELD and at least 18 years old~~

~~Classification~~	~~Candidates that are within the OPO's:~~	~~And are:~~
~~15~~	~~Region or Circle~~	~~Any PELD and blood type compatible~~
~~16~~	~~Region or Circle~~	~~MELD at least 15, 12 to 17 years old, and blood type compatible~~
~~17~~	~~Region or Circle~~	~~MELD at least 15, at least 18 years old, and blood type compatible~~
~~18~~	~~Region or Circle~~	~~MELD less than 15, 12 to 17 years old, and blood type compatible~~
~~19~~	~~Region or Circle~~	~~MELD less than 15, at least 18 years old, and blood type compatible~~
~~20~~	~~Nation~~	~~Any PELD and blood type compatible~~
~~21~~	~~Nation~~	~~Any MELD, 12 to 17 years old, and blood type compatible~~
~~22~~	~~Nation~~	~~Any MELD, at least 18 years old, and blood type compatible~~
~~23~~	~~Region or Circle~~	~~Adult or pediatric status 1A, and in need of other method of hepatic support~~
~~24~~	~~Region or Circle~~	~~Pediatric status 1B and in need of other method of hepatic support~~
~~25~~	~~Region or Circle~~	~~Any MELD or PELD, and in need of other method of hepatic support~~
~~26~~	~~Nation~~	~~Adult or pediatric status 1A, and in need of other method of hepatic support~~
~~27~~	~~Nation~~	~~Pediatric status 1B and in need of other method of hepatic support~~
~~28~~	~~Nation~~	~~Any MELD or PELD, and in need of other method of hepatic support~~
~~29~~	~~Region or Circle~~	~~Any MELD or PELD, in need of other method of hepatic support, and blood type compatible~~
~~30~~	~~Nation~~	~~Any MELD or PELD, in need of other method of hepatic support, and blood type compatible~~

Classification	Candidates with a MELD/PELD score of at least	And registered at a transplant hospital that is within this distance from the donor hospital	Donor Type	Candidate Type
1	Pediatric Status 1A	500nm	Any	Any
2	Adult Status 1A	500nm	Any	Any

Classification	Candidates with a MELD/PELD score of at least	And registered at a transplant hospital that is within this distance from the donor hospital	Donor Type	Candidate Type
3	Pediatric Status 1B	500nm	Any	Any
4	PELD of at least 30	500nm	O	O or B
5	Any PELD	500nm	O	O
6	Any PELD	500nm	Non-O	Any
7	MELD of at least 30 and candidate is less than 18 years old at registration	500nm	O	O or B
8	Any MELD and candidate is less than 18 years old at registration	500nm	O	O
9	Any MELD and candidate is less than 18 years old at registration	500nm	Non-O	Any
10	Pediatric Status 1A	Nation	Any	Any
11	Adult Status 1A	Nation	Any	Any
12	Pediatric Status 1B	Nation	Any	Any
13	PELD score of at least 30	Nation	O	O or B
14	Any PELD	Nation	O	O
15	Any PELD	Nation	Non-O	Any
16	MELD of at least 30 and candidate is less than 18 years old at registration	Nation	O	O or B
17	Any MELD and candidate is less than 18 years old at registration	Nation	O	O
18	Any MELD and candidate is less than 18 years old at registration	Nation	Non-O	Any

Classification	Candidates with a MELD/PELD score of at least	And registered at a transplant hospital that is within this distance from the donor hospital	Donor Type	Candidate Type
19	MELD of at least 30 and candidate is at least 18 years old at registration	500nm	O	O or B
20	Any MELD and candidate is at least 18 years old at registration	500nm	O	O
21	Any MELD and candidate is at least 18 years old at registration	500nm	Non-O	Any
22	MELD of at least 30 and candidate is at least 18 years old at registration	Nation	O	O or B
23	Any MELD and candidate is at least 18 years old at registration	Nation	O	O
24	Any MELD and candidate is at least 18 years old at registration	Nation	Non-O	Any
25	Any PELD	500nm	O	B
26	Any MELD and candidate is less than 18 years old at registration	500nm	O	B
27	Any PELD	Nation	O	B
28	Any MELD and candidate is less than 18 years old at registration	Nation	O	B
29	Any MELD and candidate is at least 18 years old at registration	500nm	O	B
30	Any MELD and candidate is at least 18 years old at registration	Nation	O	B
31	Any PELD	500nm	O	A or AB

Classification	Candidates with a MELD/PELD score of at least	And registered at a transplant hospital that is within this distance from the donor hospital	Donor Type	Candidate Type
32	Any MELD and candidate is less than 18 years old at registration	500nm	O	A or AB
33	Any PELD	Nation	O	A or AB
34	Any MELD and candidate is less than 18 years old at registration	Nation	O	A or AB
35	Any MELD and candidate is at least 18 years old at registration	500nm	O	A or AB
36	Any MELD and candidate is at least 18 years old at registration	Nation	O	A or AB
37	Adult or Pediatric Status 1A, for other method of hepatic support	Nation	Any	Any
38	Pediatric Status 1B, for other method of hepatic support	Nation	Any	Any
39	Any MELD or PELD for other method of hepatic support	Nation	Any	Any

9.8.GH Allocation of Livers from Non-DCD Deceased Donors Less than 11 Years Old

Livers from non-DCD donors less than 11 years old are allocated to candidates according to *Table 9-12* below.

Table 9-12: Allocation of Livers from Non-DCD Deceased Donors Less than 11 Years Old

~~Classification~~	~~Candidates that are within the OPO's:~~	~~And are:~~
~~1~~	~~Region or Circle~~	~~Pediatric status 1A~~
~~2~~	~~Nation~~	~~Pediatric status 1A and 0 to 11 years old~~
~~3~~	~~Region or Circle~~	~~Adult status 1A~~
~~4~~	~~Region or Circle~~	~~Pediatric status 1B~~

Classification	Candidates that are within the OPO's:	And are:
5	Region or Circle	Any PELD
6	Region or Circle	MELD of at least 15 and 12 to 17 years old
7	Region or Circle	MELD of at least 15 and at least 18 years old
8	Region or Circle	MELD less than 15 and 12 to 17 years old
9	Region or Circle	MELD less than 15 and at least 18 years old
10	Nation	Pediatric status 1A and 12 to 17 years old
11	Nation	Adult status 1A
12	Nation	Pediatric status 1B and 0 to 17 years old
13	Nation	Any PELD
14	Nation	Any MELD and 12 to 17 years old
15	Nation	Any MELD and at least 18 years old
16	Region or Circle	Any PELD and compatible blood type
17	Region or Circle	MELD of at least 15, 12 to 17 years old and blood type compatible
18	Region or Circle	MELD of at least 15, at least 18 years old and blood type compatible
19	Region or Circle	MELD less than 15, 12 to 17 years old and blood type compatible
20	Region or Circle	MELD less than 15, at least 18 years old, and blood type compatible
21	Nation	Any PELD and blood type compatible
22	Nation	Any MELD, 12 to 17 years old, and blood type compatible
23	Nation	Any MELD, at least 18 years old, and blood type compatible
24	Region or Circle	Adult or pediatric status 1A, and in need of other method of hepatic support
25	Region or Circle	Pediatric status 1B and in need of other method of hepatic support
26	Region or Circle	Any MELD or PELD, and in need of other method of hepatic support
27	Nation	Adult or pediatric status 1A, and in need of other method of hepatic support

~~Classification~~	~~Candidates that are within the OPO's:~~	~~And are:~~
~~28~~	~~Nation~~	~~Pediatric status 1B and in need of other method of hepatic support~~
~~29~~	~~Nation~~	~~Any MELD or PELD, and in need of other method of hepatic support~~
~~30~~	~~Region or Circle~~	~~Any MELD or PELD, and in need of other method of hepatic support, and blood type compatible~~
~~31~~	~~Nation~~	~~Any MELD or PELD, and in need of other method of hepatic support, and blood type compatible~~

Classification	Candidates with a MELD/PELD score of at least	And registered at a transplant hospital that is within this distance from the donor hospital	Donor Type	Candidate Type
1	Pediatric status 1A	500nm	Any	Any
2	Pediatric Status 1A and candidate is less than 12 years old	Nation	Any	Any
3	Adult Status 1A	500nm	Any	Any
4	Pediatric Status 1B	500nm	Any	Any
5	PELD of at least 30	500nm	O	O or B
6	Any PELD	500nm	O	O
7	Any PELD	500nm	Non-O	Any
8	MELD of at least 30 and candidate is less than 18 years old at registration	500nm	O	O or B
9	Any MELD and candidate is less than 18 years old at registration	500nm	O	O
10	Any MELD and candidate is less than 18 years old at registration	500nm	Non-O	Any

Classification	Candidates with a MELD/PELD score of at least	And registered at a transplant hospital that is within this distance from the donor hospital	Donor Type	Candidate Type
11	Pediatric Status 1A and candidate is at least 12 years old	Nation	Any	Any
12	Adult Status 1A	Nation	Any	Any
13	Pediatric Status 1B	Nation	Any	Any
14	PELD of at least 30	Nation	O	O or B
15	Any PELD	Nation	O	O
16	Any PELD	Nation	Non-O	Any
17	MELD of at least 30 and candidate is less than 18 years old at registration	Nation	O	O or B
18	Any MELD and candidate is less than 18 years old at registration	Nation	O	O
19	Any MELD and less than 18 years old at registration	Nation	Non-O	Any
20	MELD of at least 30 and candidate is at least 18 years old at registration	Nation	O	O or B
21	Any MELD and candidate is at least 18 years old at registration	Nation	O	O
22	Any MELD and at least 18 years old at registration	500nm	Non-O	Any
23	Any MELD and at least 18 years old at registration	Nation	Non-O	Any
24	Any PELD	500nm	O	B

Classification	Candidates with a MELD/PELD score of at least	And registered at a transplant hospital that is within this distance from the donor hospital	Donor Type	Candidate Type
25	Any MELD and candidate is less than 18 years old at registration	500nm	O	B
26	Any PELD	Nation	O	B
27	Any MELD and candidate is less than 18 years old at registration	Nation	O	B
28	Any MELD and candidate is at least 18 years old at registration	500nm	O	B
29	Any MELD and candidate is at least 18 years old at registration	Nation	O	B
30	Any PELD	500nm	O	A or AB
31	Any MELD and candidate is less than 18 years old at registration	500nm	O	A or AB
32	Any PELD	Nation	O	A or AB
33	Any MELD and candidate is less than 18 years old at registration	Nation	O	A or AB
34	Any MELD and candidate is at least 18 years old at registration	500nm	O	A or AB
35	Any MELD and candidate is at least 18 years old at registration	Nation	O	A or AB
36	Status 1A, for other method of hepatic support	Nation	Any	Any
37	Status 1B, for other method of hepatic support	Nation	Any	Any

Classification	Candidates with a MELD/PELD score of at least	And registered at a transplant hospital that is within this distance from the donor hospital	Donor Type	Candidate Type
38	Any MELD or PELD for other method of hepatic support	Nation	Any	Any

9.8.HI Allocation of Livers and Liver-Intestines from DCD Donors or Donors at Least 70 Years Old

Livers and liver-intestines from DCD donors or donors at least 70 years old are allocated to candidates according to *Table 9-13* below.

Table 9-13: Allocation of Livers and Liver-Intestines from DCD Donors or Donors at Least 70 Years Old

~~Classification~~	~~Candidates that are within the OPO's:~~	~~And are:~~
~~1~~	~~Region or Circle~~	~~Adult or Pediatric status 1A~~
~~2~~	~~Region or Circle~~	~~Pediatric status 1B~~
~~3~~	~~DSA~~	~~MELD or PELD of at least 15~~
~~4~~	~~Region or Circle~~	~~MELD or PELD of at least 15~~
~~5~~	~~Nation~~	~~Adult or Pediatric status 1A~~
~~6~~	~~Nation~~	~~Pediatric status 1B~~
~~7~~	~~Nation~~	~~MELD or PELD of at least 15~~
~~8~~	~~DSA~~	~~MELD or PELD less than 15~~
~~9~~	~~Region or Circle~~	~~MELD or PELD less than 15~~
~~10~~	~~Nation~~	~~MELD or PELD less than 15~~
~~11~~	~~DSA~~	~~MELD or PELD of at least 15, and blood type compatible~~
~~12~~	~~Region or Circle~~	~~MELD or PELD of at least 15, and blood type compatible~~
~~13~~	~~Nation~~	~~MELD or PELD of at least 15, and blood type compatible~~
~~14~~	~~DSA~~	~~MELD or PELD less than 15, and blood type compatible~~
~~15~~	~~Region or Circle~~	~~MELD or PELD less than 15, and blood type compatible~~

~~Classification~~	~~Candidates that are within the OPO's:~~	~~And are:~~
~~16~~	~~Nation~~	~~MELD or PELD less than 15, and blood type compatible~~
~~17~~	~~DSA~~	~~Adult or pediatric status 1A, and in need of other method of hepatic support~~
~~18~~	~~DSA~~	~~Pediatric status 1B and in need of other method of hepatic support~~
~~19~~	~~DSA~~	~~Any MELD or PELD, and in need of other method of hepatic support~~
~~20~~	~~Region or Circle~~	~~Adult or pediatric status 1A, and in need of other method of hepatic support~~
~~21~~	~~Region or Circle~~	~~Pediatric status 1B and in need of other method of hepatic support~~
~~22~~	~~Region or Circle~~	~~Any MELD or PELD, and in need of other method of hepatic support~~
~~23~~	~~Nation~~	~~Adult or pediatric status 1A, and in need of other method of hepatic support~~
~~24~~	~~Nation~~	~~Pediatric status 1B and in need of other method of hepatic support~~
~~25~~	~~Nation~~	~~Any MELD or PELD, and in need of other method of hepatic support~~
~~26~~	~~DSA~~	~~Any MELD or PELD, and in need of other method of hepatic support, and blood type compatible~~
~~27~~	~~Region or Circle~~	~~Any MELD or PELD, and in need of other method of hepatic support, and blood type compatible~~
~~28~~	~~Nation~~	~~Any MELD or PELD, and in need of other method of hepatic support, and blood type compatible~~

Classification	Candidates with a score of at least	And within this distance from the donor hospital[2]:	Donor blood type	Candidate blood type
1	Status 1A	500nm	Any	Any
2	Status 1B	500nm	Any	Any
3	30	150nm	O	O or B
4	15	150nm	O	O
5	15	150nm	Non-O	Any
6	30	250nm	O	O or B

[2] See Footnote 1.

Classification	Candidates with a score of at least	And within this distance from the donor hospital[2]:	Donor blood type	Candidate blood type
7	15	250nm	O	O
8	15	250nm	Non-O	Any
9	30	500nm	O	O or B
10	15	500nm	O	O
11	15	500nm	Non-O	Any
12	Status 1A	Nation	Any	Any
13	Status 1B	Nation	Any	Any
14	30	Nation	O	O or B
15	15	Nation	O	O
16	15	Nation	Non-O	Any
17	Any	150nm	O	O
18	Any	150nm	Non-O	Any
19	Any	250nm	O	O
20	Any	250nm	Non-O	Any
21	Any	500nm	O	O
22	Any	500nm	Non-O	Any
23	Any	Nation	O	O
24	Any	Nation	Non-O	Any
25	15	150nm	O	B
26	15	250nm	O	B
27	15	500nm	O	B
28	15	Nation	O	B
29	Any	150nm	O	B
30	Any	250nm	O	B
31	Any	500nm	O	B
32	Any	Nation	O	B
33	15	150nm	O	A or AB
34	15	250nm	O	A or AB
35	15	500nm	O	A or AB
36	15	Nation	O	A or AB
37	Any	150nm	O	A or AB
38	Any	250nm	O	A or AB
39	Any	500nm	O	A or AB
40	Any	Nation	O	A or AB

Classification	Candidates with a score of at least	And within this distance from the donor hospital[2]:	Donor blood type	Candidate blood type
41	Status 1A, for other method of hepatic support	Nation	Any	Any
42	Status 1B, for other method of hepatic support	Nation	Any	Any
43	Any MELD or PELD for other method of hepatic support	Nation	Any	Any

9.8.J Allocation of Liver-Intestines from Non-DCD Deceased Donors at Least 18 Years Old and Less than 70 Years Old

Livers and intestines from non-DCD deceased donors at least 18 years old and less than 70 years old are allocated to candidates according to *Table 9-~~8~~14* below:

Table 9-~~8~~14: Allocation of Liver-Intestines from Non-DCD Deceased Donors at Least 18 Years Old and Less than 70 Years Old

~~Classification~~	~~Candidates that are within the OPO's:~~	~~And are:~~
~~1~~	~~Region or Circle~~	~~Liver or liver-intestine and adult or pediatric status 1A~~
~~2~~	~~Region or Circle~~	~~Liver or liver-intestine and pediatric status 1B~~
~~3~~	~~Region or Circle~~	~~Liver or liver-intestine and any of the following:~~ ~~At least 18 years old at time of registration and calculated MELD of at least 32 including proximity points~~ ~~At least 18 years old at time of registration and has an approved HAT exception~~ ~~Less than 18 years old at time of registration and allocation MELD or PELD of at least 32 including proximity points~~
~~4~~	~~Nation~~	~~Liver-intestine and adult or pediatric status 1A~~
~~5~~	~~Nation~~	~~Liver-intestine and pediatric status 1B~~
~~6~~	~~Nation~~	~~Liver-intestine and any MELD or PELD~~
~~7~~	~~DSA~~	~~Liver and MELD or PELD of at least 15~~
~~8~~	~~Region or Circle~~	~~Liver and MELD or PELD of at least 15~~
~~9~~	~~Nation~~	~~Liver and adult or pediatric status 1A~~
~~10~~	~~Nation~~	~~Liver and pediatric status 1B~~

Classification	Candidates that are within the OPO's:	And are:
11	Nation	Liver and MELD or PELD of at least 15
12	DSA	Liver and MELD or PELD less than 15
13	Region or Circle	Liver and MELD or PELD less than 15
14	Nation	Liver and MELD or PELD less than 15
15	Region or Circle	Liver or liver-intestine, MELD or PELD of at least 32, and blood type compatible
16	Nation	Liver-intestine, any MELD or PELD, and blood type compatible
17	DSA	Liver, MELD or PELD of at least 15, and blood type compatible
18	Region or Circle	Liver, MELD or PELD of at least 15, and blood type compatible
19	Nation	Liver, MELD or PELD of at least 15, and blood type compatible
20	DSA	Liver, MELD or PELD less than 15, and blood type compatible
21	Region or Circle	Liver, MELD or PELD less than 15, and blood type compatible
22	Nation	Liver, MELD or PELD less than 15, and blood type compatible
23	DSA	Liver or liver-intestine, adult or pediatric status 1A, and in need of other method of hepatic support
24	DSA	Liver or liver-intestine, pediatric status 1B, and in need of other method of hepatic support
25	DSA	Liver or liver-intestine, any MELD or PELD, and in need of other method of hepatic support
26	Region or Circle	Liver or liver-intestine, adult or pediatric status 1A, and in need of other method of hepatic support
27	Region or Circle	Liver or liver-intestine, pediatric status 1B, and in need of other method of hepatic support
28	Region or Circle	Liver or liver-intestine, any MELD or PELD, and in need of other method of hepatic support
29	Nation	Liver or liver-intestine, adult or pediatric status 1A, and in need of other method of hepatic support
30	Nation	Liver or liver-intestine, pediatric status 1B, and in need of other method of hepatic support

~~Classification~~	~~Candidates that are within the OPO's:~~	~~And are:~~
~~31~~	~~Nation~~	~~Liver or liver-intestine, any MELD or PELD, and in need of other method of hepatic support~~
~~32~~	~~DSA~~	~~Liver or liver-intestine, any MELD or PELD, in need of other method of hepatic support, and blood type compatible~~
~~33~~	~~Region or Circle~~	~~Liver or liver-intestine, any MELD or PELD, in need of other method of hepatic support, and blood type compatible~~
~~34~~	~~Nation~~	~~Liver or liver-intestine, any MELD or PELD, in need of other method of hepatic support, and blood type compatible~~

Classification	Candidates with a score of at least	And within this distance from the donor hospital[3]:	Donor blood type	Candidate blood type
1	Status 1A	500nm	Any	Any
2	Status 1B	500nm	Any	Any
3	37	150nm	O	O or B
4	37	150nm	Non-O	Any
5	37	250nm	O	O or B
6	37	250nm	Non-O	Any
7	37	500nm	O	O or B
8	37	500nm	Non-O	Any
9	33	150nm	O	O or B
10	33	150nm	Non-O	Any
11	33	250nm	O	O or B
12	33	250nm	Non-O	Any
13	33	500nm	O	O or B
14	33	500nm	Non-O	Any
15	30	150nm	O	O or B
16	29	150nm	O	O
17	29	150nm	Non-O	Any
18	30	250nm	O	O or B
19	29	250nm	O	O
20	29	250nm	Non-O	Any
21	30	500nm	O	O or B

[3] See Footnote 1.

Classification	Candidates with a score of at least	And within this distance from the donor hospital[3]:	Donor blood type	Candidate blood type
22	29	500nm	O	O
23	29	500nm	Non-O	Any
24	Status 1A and also registered for an intestine	Nation	Any	Any
25	Status 1B and also registered for an intestine	Nation	Any	Any
26	30 and also registered for an intestine	Nation	O	O or B
27	Any and also registered for an intestine	Nation	O	O
28	Any and also registered for an intestine	Nation	Non-O	Any
29	15	150nm	O	O
30	15	150nm	Non-O	Any
31	15	250nm	O	O
32	15	250nm	Non-O	Any
33	15	500nm	O	O
34	15	500nm	Non-O	Any
35	Status 1A	Nation	Any	Any
36	Status 1B	Nation	Any	Any
37	15	Nation	O	O
38	15	Nation	Non-O	Any
39	Any	150nm	O	O
40	Any	150nm	Non-O	Any
41	Any	250nm	O	O
42	Any	250nm	Non-O	Any
43	Any	500nm	O	O
44	Any	500nm	Non-O	Any
45	Any	Nation	O	O
46	Any	Nation	Non-O	Any
47	29	150nm	O	B
48	29	250nm	O	B
49	29	500nm	O	B

Classification	Candidates with a score of at least	And within this distance from the donor hospital[3]:	Donor blood type	Candidate blood type
50	15	150nm	O	B
51	15	250nm	O	B
52	15	500nm	O	B
53	15	Nation	O	B
54	Any	150nm	O	B
55	Any	250nm	O	B
56	Any	500nm	O	B
57	Any	Nation	O	B
58	37	150nm	O	A or AB
59	37	250nm	O	A or AB
60	37	500nm	O	A or AB
61	33	150nm	O	A or AB
62	33	250nm	O	A or AB
63	33	500nm	O	A or AB
64	29	150nm	O	A or AB
65	29	250nm	O	A or AB
66	29	500nm	O	A or AB
67	15	150nm	O	A or AB
68	15	250nm	O	A or AB
69	15	500nm	O	A or AB
70	15	Nation	O	A or AB
71	Any	150nm	O	A or AB
72	Any	250nm	O	A or AB
73	Any	500nm	O	A or AB
74	Any	Nation	O	A or AB
75	Status 1A, for other method of hepatic support	Nation	Any	Any
76	Status 1B, for other method of hepatic support	Nation	Any	Any
77	Any MELD or PELD for other method of hepatic support	Nation	Any	Any

9.8.K Allocation of Liver-Intestines from Non-DCD Donors 11 to 17 Years Old

For combined liver-intestine allocation from non-DCD donors 11 to 17 years old, the liver must first be offered as follows:

- According to *Policy 9.8.G: Allocation of Livers from Non-DCD Deceased Donors 11 to 17 Years Old*
- Sequentially to *each* liver candidate, including all MELD and PELD candidates, through national status 1A and 1B offers

The liver may then be offered to combined liver-intestine potential recipients sequentially according to the intestine match run.

9.8.L Allocation of Liver-Intestines from Non-DCD Donors Less than 11 Years Old

Livers and intestines from non-DCD donors less than 11 years old are allocated to candidates according to *Table 9-15* below.

Table 9-15: Allocation of Combined Liver-Intestines from Donors Less than 11 Years Old

~~Classification~~	~~Candidates that are within the OPO's:~~	~~And are:~~
~~1~~	~~Region or Circle~~	~~Liver or liver-intestine and pediatric status 1A~~
~~2~~	~~Nation~~	~~Liver or liver-intestine, pediatric status 1A, and 0 to 11 years old~~
~~3~~	~~Nation~~	~~Liver-intestine, pediatric status 1A, and 12 to 17 years old~~
~~4~~	~~Region or Circle~~	~~Liver or liver-intestine and adult status 1A~~
~~5~~	~~Region or Circle~~	~~Liver or liver-intestine and pediatric status 1B~~
~~6~~	~~Region or Circle~~	~~Liver or liver-intestine and PELD greater than 20~~
~~7~~	~~Nation~~	~~Liver-intestine and pediatric status 1B~~
~~8~~	~~Nation~~	~~Liver-intestine and PELD greater than 20~~
~~9~~	~~Region or Circle~~	~~Liver or liver-intestine and PELD less than or equal to 20~~
~~10~~	~~Region or Circle~~	~~Liver or liver-intestine, MELD of at least 15, and 12 to 17 years old~~
~~11~~	~~Region or Circle~~	~~Liver or liver-intestine, MELD of at least 15, and at least 18 years old~~
~~12~~	~~Region or Circle~~	~~Liver or liver-intestine, MELD less than 15, and 12 to 17 years old~~
~~13~~	~~Region or Circle~~	~~Liver or liver-intestine, MELD less than 15, and at least 18 years old~~
~~14~~	~~Nation~~	~~Liver, pediatric status 1A, and 12 to 17 years old~~
~~15~~	~~Nation~~	~~Liver or liver-intestine and adult status 1A~~
~~16~~	~~Nation~~	~~Liver and pediatric status 1B~~
~~17~~	~~Nation~~	~~Liver or liver-intestine and any PELD~~

Classification	Candidates that are within the OPO's:	And are:
18	Nation	Liver or liver-intestine, any MELD, and 12 to 17 years old
19	Nation	Liver or liver-intestine, any MELD, and at least 18 years old
20	Region or Circle	Liver or liver-intestine, PELD greater than 20, and blood type compatible
21	Nation	Liver-intestine, PELD greater than 20, and blood type compatible
22	Region or Circle	Liver or liver-intestine, PELD less than or equal to 20, and blood type compatible
23	Region or Circle	Liver or liver-intestine, MELD of at least 15, 12 to 17 years old, and blood type compatible
24	Region or Circle	Liver or liver-intestine, MELD of at least 15, at least 18 years old, and blood type compatible
25	Region or Circle	Liver or liver-intestine, MELD less than 15, 12 to 17 years old, and blood type compatible
26	Region or Circle	Liver or liver-intestine, MELD less than 15, at least 18 years old, and blood type compatible
27	Nation	Liver or liver-intestine, any PELD, and blood type compatible
28	Nation	Liver or liver-intestine, any MELD, 12 to 17 years old, and blood type compatible
29	Nation	Liver or liver-intestine, any MELD, at least 18 years old, and blood type compatible
30	Region or Circle	Liver or liver-intestine, adult or pediatric status 1A, and in need of other method of hepatic support
31	Region or Circle	Liver or liver-intestine, pediatric status 1B, and in need of other method of hepatic support
32	Region or Circle	Liver or liver-intestine, any MELD or PELD, and in need of other method of hepatic support
33	Nation	Liver or liver-intestine, adult or pediatric status 1A, and in need of other method of hepatic support
34	Nation	Liver or liver-intestine, pediatric status 1B, and in need of other method of hepatic support
35	Nation	Liver or liver-intestine, any MELD or PELD, and in need of other method of hepatic support
36	Region or Circle	Liver or liver-intestine, any MELD or PELD, in need of other method of hepatic support, and blood type compatible
37	Nation	Liver or liver-intestine, any MELD or PELD, in need of other method of hepatic support, and blood type compatible

Classification	Candidates with a MELD/PELD score of at least	And registered at a transplant hospital that is within this distance from the donor hospital	Donor Type	Candidate Type
1	Pediatric Status 1A	500nm	Any	Any
2	Pediatric Status 1A and candidate is less than 12 years old	Nation	Any	Any
3	Pediatric Status 1A, candidate is at least 12 years old, and candidate is also registered for an intestine	Nation	Any	Any
4	Adult Status 1A	500nm	Any	Any
5	Pediatric Status 1B	500nm	Any	Any
6	PELD 30	500nm	O	O or B
7	PELD 20	500nm	O	O
8	PELD 20	500nm	Non-O	Any
9	Pediatric Status 1B, and candidate is also registered for an intestine	Nation	Any	Any
10	PELD of at least 30 and candidate is also registered for an intestine	Nation	O	O or B
11	PELD of at least 20 and candidate is also registered for an intestine	Nation	O	O
12	PELD of at least 20 and candidate is also registered for an intestine	Nation	Non-O	Any
13	Any PELD	500nm	O	O
14	Any PELD	500nm	Non-O	Any

Classification	Candidates with a MELD/PELD score of at least	And registered at a transplant hospital that is within this distance from the donor hospital	Donor Type	Candidate Type
15	MELD of at least 30 and less than 18 years old at registration	500nm	O	O or B
16	Any MELD and less than 18 years old at registration	500nm	O	O
17	Any MELD, candidate is less than 18 years old at registration	500nm	Non-O	Any
18	Pediatric Status 1A and at least 12 years old	Nation	Any	Any
19	Adult Status 1A	Nation	Any	Any
20	Pediatric Status 1B	Nation	Any	Any
21	PELD at least 30	Nation	O	O or B
22	Any PELD	Nation	O	O
23	Any PELD	Nation	Non-O	Any
24	MELD of at least 30 and less than 18 years old at registration	Nation	O	O or B
25	Any MELD and less than 18 years old at registration	Nation	O	O
26	Any MELD and less than 18 years old at registration	Nation	Non-O	Any
27	MELD of at least 30 and at least 18 years old at registration	500nm	O	O or B
28	Any MELD and at least 18 years old at registration	500nm	O	O

Classification	Candidates with a MELD/PELD score of at least	And registered at a transplant hospital that is within this distance from the donor hospital	Donor Type	Candidate Type
29	Any MELD and at least 18 years old at registration	500nm	Non-O	Any
30	MELD of at least 30 and at least 18 years old at registration	Nation	O	O or B
31	Any MELD and at least 18 years old at registration	Nation	O	O
32	Any MELD and at least 18 years old at registration	Nation	Non-O	Any
33	PELD 20	500nm	O	B
34	PELD of at least 20 and candidate is also registered for an intestine	Nation	O	B
35	Any PELD	500nm	O	B
36	Any MELD and candidate is less than 18 years old at registration	500nm	O	B
37	Any PELD	Nation	O	B
38	Any MELD and candidate is less than 18 years old at registration	Nation	O	B
39	Any MELD and candidate is at least 18 years old at registration	500nm	O	B
40	Any MELD and candidate is at least 18 years old at registration	Nation	O	B
41	PELD 20	500nm	O	A or AB

Classification	Candidates with a MELD/PELD score of at least	And registered at a transplant hospital that is within this distance from the donor hospital	Donor Type	Candidate Type
42	PELD of at least 20 and candidate is also registered for an intestine	Nation	O	A or AB
43	Any PELD	500nm	O	A or AB
44	Any MELD and candidate is less than 18 years old at registration	500nm	O	A or AB
45	Any PELD	Nation	O	A or AB
46	Any MELD, candidate is less than 18 years old at registration	Nation	O	A or AB
47	Any MELD, candidate is at least 18 years old at registration	500nm	O	A or AB
48	Any MELD, candidate is at least 18 years old at registration	Nation	O	A or AB
49	Adult or Pediatric Status 1A, for other method of hepatic support	Nation	Any	Any
50	Pediatric Status 1B, for other method of hepatic support	Nation	Any	Any
51	Any MELD or PELD for other method of hepatic support	Nation	Any	Any

9.9 Liver-Kidney Allocation

If a host OPO procures a kidney along with other organs, the host OPO must first offer the kidney according to *one* of the following policies before allocating the kidney to kidney alone candidates according to *Policy 8*: *Allocation of Kidneys*:

- *Policy 5.10.C: Other Multi-Organ Combinations*
- *Policy 9.9: Liver-Kidney Allocation*

- *Policy 11.4.A: Kidney-Pancreas Allocation Order*

~~If a host OPO is offering a kidney and a liver from the same deceased donor, then the host OPO must offer the kidney and liver according to *both* of the following:~~

~~Before allocating the kidney to kidney alone candidates, the host OPO must offer the kidney with the liver to local candidates who meet eligibility according to *Table 9-11: Medical Eligibility Criteria for Liver-Kidney Allocation* and regional candidates who meet eligibility according to *Table 9-11* and have a MELD score of at least 35 or status 1A.~~
~~The host OPO may then do *either* of the following:~~

~~a. The host OPO may offer the kidney and liver to any candidates who meet eligibility in *Table 9-11: Medical Eligibility Criteria for Liver-Kidney Allocation*.~~
~~b. After completing #1 above, the host OPO may offer the liver to liver alone candidates according to *Policy 9: Allocation of Livers and Liver-Intestines* and offer the kidney to kidney alone candidates according to *Policy 8: Allocation of Kidneys*.~~

If a host OPO is offering a kidney and a liver from the same deceased donor, then before allocating the kidney to kidney alone candidates, the host OPO must offer the kidney with the liver to candidates who meet eligibility according to *Table 9-16: Medical Eligibility Criteria for Liver-Kidney Allocation* and are one of the following:

- Within 150 nautical miles of the donor hospital and have a MELD or PELD of 15 or higher
- Within 250 nautical miles of the donor hospital and have a MELD or PELD of at least 29
- Within 250 nautical miles of the donor hospital and status 1A or 1B.

The host OPO may then do *either* of the following:

- Offer the kidney and liver to any candidates who meet eligibility in *Table 9-16: Medical Eligibility Criteria for Liver-Kidney Allocation*.
- Offer the liver to liver alone candidates according to *Policy 9: Allocation of Livers and Liver-Intestines* and offer the kidney to kidney alone candidates according to *Policy 8: Allocation of Kidneys*.

9.10.A Registration Accuracy

If a member questions the accuracy or appropriateness of a liver allocation or candidate status, the member may report it with reasons for the concern to the ~~host OPO's applicable~~ national liver review board (NLRB) ~~regional review board (RRB)~~. The ~~RRB~~ NLRB will retrospectively review the allocation or status.

If the ~~RRB~~ NLRB receives two or more reports about a member within any one year period, the ~~RRB~~ NLRB will report it to the Membership and Professional Standards (MPSC) Committee and request an on-site review of the member.

9.10.B Review of Status 1A and 1B Candidate Registrations

If ~~the regional review boards reject~~ three or more status 1A or 1B candidate registrations at a transplant program are rejected and each of the candidates receives a transplant while registered at the rejected status, then the OPTN Contractor will conduct an on-site review of the transplant program's status 1A and 1B candidate registrations. If the OPTN Contractor finds a Policy violation or inappropriate registrations, the transplant program will reimburse all necessary and reasonable expenses incurred by the OPTN Contractor in performing this review.

9.10.C Location of Donor Hospitals

For the purposes of determining the location of the donor hospital, livers, intestine, and liver-intestine organs procured in Alaska will be considered procured from the Seattle Tacoma Airport, Seattle Washington.

9.11.B Closed Variance for Allocation of Blood Type O Deceased Donor Livers ~~in Hawaii~~

This is a closed variance that applies only to ~~OPOs and transplant programs~~ liver and liver-intestine organs allocated by the OPOs in Hawaii and Puerto Rico to transplant programs in Hawaii and Puerto Rico, respectively due to ~~its~~ geographic~~al~~ location. This variance supersedes the treatment of blood type O donors according to *9.8.C Allocation of Livers by Blood Type*, and instead the OPO will allocate these blood type O organs to all blood type candidates within the same classification. ~~permits the allocation of blood type O deceased donor livers simultaneously to liver candidates within the DSA with compatible blood types in addition to identical blood types.~~

This variance permits Hawaii and Puerto Rico OPOs to offer blood type O organs to any candidates in Hawaii and Puerto Rico transplant programs, respectively, before having to offer it outside Hawaii and Puerto Rico, respectively.

9.11.C Closed Variance for Allocation of Livers Procured in Region 9

~~This is a closed variance that applies to livers procured in Region 9. This variance replaces all references to "DSA" with "region" throughout *Policy 9.8: Liver Allocation, Classifications, and Rankings.*~~

Bylaw Language:

Appendix M: Definitions

Regions

For ~~the administration of organ allocation and appropriate geographic representation within the OPTN policy structure, the~~ administrative purposes, OPTN membership is divided into 11 geographic regions. Members belong to the region in which they are located.

The regions are as follows:

Region 1	Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Eastern Vermont
Region 2	Delaware, District of Columbia, Maryland, New Jersey, Pennsylvania, Northern Virginia, West Virginia
Region 3	Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, Puerto Rico
Region 4	Oklahoma, Texas
Region 5	Arizona, California, Nevada, New Mexico, Utah
Region 6	Alaska, Hawaii, Idaho, Montana, Oregon, Washington
Region 7	Illinois, Minnesota, North Dakota, South Dakota, Wisconsin
Region 8	Colorado, Iowa, Kansas, Missouri, Nebraska, Wyoming
Region 9	New York, Western Vermont
Region 10	Indiana, Michigan, Ohio
Region 11	Kentucky, North Carolina, South Carolina, Tennessee, Virginia

Waiting List

The list of candidates registered with the OPTN to receive organ transplants. When a donor organ becomes available, the matching system generates a new, more specific list of potential recipients based on the criteria defined in that organ's allocation policy. ~~The criteria include, for example, organ type, geographic local and regional area, genetic compatibility measures, details about the condition of the organ, the candidate's disease severity, and time spent waiting.~~