

Frequently Asked Questions: Calculate Median MELD at Transplant (MMaT) around the Donor Hospital and Update Sorting within Liver Allocation

In June 2022, the OPTN will implement changes to liver allocation policy. For liver candidates age 12 and older, many exception scores granted by the National Liver Review Board (NLRB) are indexed to a median score reflecting recent transplants performed near the transplant hospital where the candidate is listed. This index score is called the median MELD at transplant (MMaT).

Prior to June 2022, the basis for the MMaT calculation has been liver transplants performed within the past year at hospitals within a 250 nautical mile (NM) radius of each transplant hospital, excluding certain less common types of transplants as outlined in OPTN policy. [Under the new policy](#), the MMaT calculation will be based on a 150 NM radius surrounding each donor hospital in the country, and that median value will apply to the exception score for any transplant candidate receiving liver offers from that donor hospital. A report listing the MMaT of each donor hospital in the United States is available [here](#).

Candidates with a MELD exception based on MMaT will no longer have a single exception score relative to the transplant program where they are registered. Instead, these candidates will have a MELD score adjustment based on the MMaT of the donor hospital where the match is being run. This means that MELD exception scores may fluctuate based on liver offers from different donor hospitals, and the specific scores will not be known until the match is run.

For candidates younger than age 12, the Pediatric End-stage Liver Disease (PELD) is used to determine medical urgency. The corresponding index score used for exceptions is the median PELD at transplant (MPaT). This is a national score calculated for all transplants performed on candidates younger than age 12, with certain exceptions outlined in OPTN policy. The MPaT calculation is not affected by the new policy, as it draws upon transplants performed nationwide.

Below are answers to common questions regarding the new policy and how it will be applied.

About the policy

- **How does median MELD at transplant (MMaT) around the donor hospital differ from MMaT around the transplant program?**

The main difference with the new policy is that exception candidates' scores will be assigned relative to the MMaT of the donor hospital where the match is being run as opposed to the transplant program at which the candidate is registered. Previously, exception scores were assigned based on the MMaT of transplants performed within 250 NM. Under the new policy, exception scores will be assigned based on the MMaT of transplants performed within 150 NM of

the donor hospital where the match is being run. This means that exception scores will change based on the location of the donor hospital.

For example, if the MMaT of a donor hospital is 25, candidates with an exception on a match run for a donor at that hospital with MMaT-3 will have a score equal to 22. For a donor hospital where the MMaT is 30, the same candidates with an exception for MMaT-3 will have a score equal to 27.

- **How will MMaT around the donor hospital be calculated?**

The MMaT for each donor hospital will be based on a cohort of recipients transplanted at programs within 150 NM of the donor hospital over a prior 365-day period. If there are either less than two active liver transplant programs or less than 10 qualifying transplants performed within 150 NM, the circle size will increase in increments of 50 NM until there are at least 2 active programs and 10 qualifying transplants to use within the 365-day cohort.

The calculation excludes recipients transplanted with livers from living donors, DCD donors, or donors from donor hospitals more than 500 NM away. Status 1A and Status 1B recipients are also excluded. MMaT scores for donor hospitals will be updated twice each year.

- **What about Hawaii, Puerto Rico, and Alaska?**

Because there is only one transplant program in Hawaii and Puerto Rico, respectively, two transplant programs do not need to be included in the MMaT cohort. The policy still requires there to be 10 transplants included in the MMaT calculation cohort for each program. If there have not been 10 qualifying transplants in a prior 365-day period for donor hospitals in either Hawaii or Puerto Rico, respectively, the cohort will go back 730 days.

Currently, there is not a transplant program in Alaska, and all donors recovered in Alaska are considered to be based at the Seattle-Tacoma Airport for the purposes of allocation. Similarly, for donors from Alaska, the MMaT will be calculated as if the location of the donor hospital is Seattle-Tacoma Airport.

- **How will the OPTN monitor the impact of the policy change?**

The OPTN is committed to monitoring all policy changes. Monitoring reports will be released approximately 6 months, 1 year, and 2 years after implementation. More detail on the specific monitoring metrics can be found in the [briefing paper](#).

Effects of the new policy

- **Will waiting time calculations change?**

Yes, the waiting time calculation will change. In the previous policy, all liver transplant candidates were sorted (after MELD/PELD score and blood type) within a classification based on time at current MELD or PELD score and higher. However, because exception scores will fluctuate based on the MMaT of the donor hospital, exception candidates will no longer be able to be sorted based on time at score or higher. Therefore, under the new policy, exception candidates will be sorted based on time since submission of earliest approved exception.

- **How will candidates be sorted?**

The new policy also changes the order in which candidates are sorted within allocation classifications and includes additional pediatric priority. When MELD and PELD score and blood type compatibility are equal, pediatric candidates are sorted ahead of adult candidates. If MELD or PELD score, blood type compatibility, and age (pediatric vs. adult) are equal, candidates with a lab score are sorted ahead of candidates with an exception score. Lab candidates are then sorted based on time at score or higher and exception candidates are sorted based on time since submission of earliest approved exception.

- **Is it possible to know the MMaT scores for individual donor hospitals when requesting an exception?**

The OPTN will provide the MMaT values for each donor hospital [here \[link to be supplied\]](#). When a donor becomes available and a match is run, the donor hospital MMaT score will be displayed within the organ offer information.

- **Why is there a minimum exception score of 15?**

The new policy includes a minimum exception score of 15, which aligns with the national sharing threshold. There could be a donor hospital whose MMaT would be 17. This would mean that exception candidates with an exception for MMaT-3 would be assigned a score of 14, which is below the national sharing threshold. Thus, without that minimum score, a liver would be offered first to all candidates with a MELD/PELD above 15 across the nation before being offered to the majority of exception candidates, some of whom will be listed at transplant hospitals closer to the donor location.

Candidates with an initial HCC exception and first extension, specifically, will continue to have a six-month delay, during which their assigned score will be 6. To address the new circumstance, during that six-month period, HCC candidates will appear on the match run with their calculated MELD score.

- **How will the policy impact pediatric candidates?**

The new policy will not change the median PELD at transplant (MPaT) calculation, which is based on a national cohort. However, it will include some additional priority for pediatric candidates.

In the new sorting order, when MELD/PELD and blood type compatibility are equal, pediatric candidates will be ranked ahead of adult candidates.

Information for transplant candidates and their caregivers

- **What exactly is changing?**

The most significant change will be to the way MELD exception scores are assigned. As you may know, liver transplant candidates whose MELD or PELD score does not accurately reflect their need for transplant can receive a MELD or PELD exception score.

While some MELD exception candidates receive specific score values (for example, some exception patients receive a fixed MELD of 40), most exception scores are assigned relative to the median MELD at transplant (MMaT). This is a measure of the midpoint of MELD scores of people transplanted within a certain area over a one-year period.

Under the current policy, MELD exception scores are assigned relative to the median MELD score of recipients transplanted within the area around your transplant program. The median MELD score is used so that MELD exception scores are similar to the MELD scores needed to access transplant in the area around your transplant program. Most MELD exceptions are assigned a score equal to MMaT minus 3. For example, if the MMaT at your transplant program is 30 and you have an exception for MMaT minus 3, you will have a MELD exception score equal to 27.

However, under this policy, two transplant programs that are close to each other can have different MMaT scores and the exception candidates at those transplant programs will thus have different exception scores, despite having a similar need for transplant. For example, on the same match run for a liver offer, one transplant program may have an MMaT of 30, while a nearby transplant program may have an MMaT equal to 29. Candidates with a MELD exception at the first transplant program will have higher exception scores than similar candidates at the second transplant program.

Under the upcoming policy change, exception scores will still be assigned relative to MMaT. But instead of basing the MMaT around the transplant program, the MMaT will be calculated for the donor hospital where the match is being run. This aligns better with liver allocation, which is centered around the donor hospital. It will also ensure all of the exception candidates who

appear on the match for that donor will be assigned an exception score using the same MMaT score.

In addition to the change to MELD exception scores, the policy for sorting candidates on the match is changing slightly. Upon implementation, pediatric candidates will receive additional priority relative to adult candidates and candidates with a lab MELD or PELD score will receive some priority over exception candidates.

- **How does this affect me?**

If you have a MELD exception, your exception score will now be calculated relative to the MMaT of the donor hospital. You will not have a set exception score. Instead, you will have a score adjustment, such as MMaT minus 3, that will be specific to each match run. It may be different from one match to another, based on the MMaT of the donor hospital.

For example, if one donor hospital has an MMaT equal to 30 and you have an exception adjustment of MMaT minus 3, you will appear on that match run with a score of 27. If a different donor hospital has an MMaT equal to 32, you will appear on the match with a score of 29.

This will not affect any liver candidates younger than age 12, who would have an exception score based on the PELD formula. There is a median PELD at transplant (MPaT) score used to assign exception scores for these candidates. The calculation of the MPaT includes the PELD score of all liver transplant patients nationwide, so it does not need to be adjusted the same way as MMaT.

Another feature of the new policy is that it will prioritize any pediatric candidate (younger than age 18) over any adult candidate (age 18 or older) if their medical urgency score and blood type compatibility are the same. This is expected to increase pediatric access to liver transplantation.

- **Will there be a transition process? Will my priority for transplant change?**

No, the new policy will be implemented on June 28, 2022. At that time, your exception score will be converted from being based on the MMaT of your transplant program to being based on the MMaT around each donor hospital. No one will lose their exception upon implementation.

Once the policy is implemented, pediatric candidates and candidates with a lab score will receive slightly increased priority.

- **Do I need to do anything to prepare for this change?**

No. You do not need to have any additional medical tests or supply any new information. As always, your transplant team will have the most detailed and up-to-date information about your treatment. Please feel free to discuss the new policy with them to understand what will and will not change.

