



*Questions and Answers
for Transplant Candidates about*

Liver Allocation

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United Network for Organ Sharing (UNOS) is a non-profit, charitable organization that serves as the Organ Procurement and Transplantation Network (OPTN) under contract with the federal government. The OPTN helps create and define organ allocation and distribution policies that make the best use of donated organs. This process involves continuously evaluating new advances and discoveries so policies can be adapted to best serve patients waiting for transplants. All transplant programs and organ procurement organizations throughout the country are OPTN members and are obligated to follow the policies the OPTN creates for allocating organs.

The OPTN strives to match donated livers to candidates as equitably as possible. Some of the key goals of the liver transplant system include:

- Increasing the number of transplants and using as many donated livers as possible
- Minimizing deaths among those waiting for a transplant
- Giving priority to those who need a transplant the soonest
- Minimizing differences in transplant access based on where patients live or where they choose to list for a transplant
- Balancing transplant access for candidates with special medical circumstances, such as disease type or age (pediatric vs. adult)

To address these goals, liver transplant policies define how the network will use medical information about organ donors and transplant candidates. The policies are programmed into a computerized matching system. This system sets the order of patients to be considered for each liver that becomes available.

How are livers allocated?

When medical information about a potential liver donor is entered into the computerized OPTN matching system, the computer screens out any patients who are not a match based on blood type, body size or other medical factors. The matching system then sets the order of transplant candidates based on the following key factors:

- their medical urgency (see below for information about MELD, PELD and exception scores)
- how close their transplant hospital is to the donor hospital (to learn more, visit <https://optn.transplant.hrsa.gov/governance/policy-initiatives/liver#PolicyInitiativesLiverOverview>)
- blood type compatibility (organs are offered first to candidates with the same blood type as the donor, followed by those whose blood type is not identical but compatible)
- whether the candidate, and/or the organ donor, are adult (age 18 or older at the time of listing) or pediatric (younger than age 18 at the time of listing)
- how long patients have waited in their current urgency status, as well as any higher status

Liver candidates who appear the highest on a match run are generally sicker than other patients, are listed at a hospital fairly close to the donor hospital, and are a close biological match with the donor.

Learn more about the donor matching process:

<https://optn.transplant.hrsa.gov/learn/about-transplantation/donor-matching-system/>

What are MELD and PELD? How are they used?

Liver disease can become severe very quickly or develop very slowly. The transplant system is designed to give the highest priority to people at the highest risk of dying without a transplant. Your level of illness compared to that of others is an important part of the matching process.

For most liver transplant candidates, a numerical scale based on medical criteria assesses how quickly they need a transplant within the next three months. The Model for End-Stage Liver Disease (MELD) score is used for patients age 12 and older. MELD is a numerical scale estimating how urgently a person needs a transplant in the next three months. The MELD score can range from 6 (less ill) to 40 (gravely ill). It is calculated by a formula that compares lab tests of liver and kidney function. Learn more about MELD and PELD scores: <https://optn.transplant.hrsa.gov/resources/allocation-calculators/about-meld-and-peld/>

Candidates younger than age 12 receive a Pediatric End-Stage Liver Disease (PELD) score. PELD is a formula that includes some of the same lab tests used in MELD, with additional factors recognizing children's growth and development needs. PELD scores may also range higher and lower than the range of MELD scores.

If you have current lab test values that assess your liver function, you can put them into an online resource calculator to see what your **MELD** or **PELD** score may be. Your actual MELD or PELD score is based on information your transplant program sends to the OPTN.

<https://optn.transplant.hrsa.gov/resources/allocation-calculators/meld-calculator/>

If your MELD or PELD score is very high, you will have very high priority for a transplant. MELD scores range from 6 (least sick) to 40 (most sick). PELD scores may range lower or higher than MELD scores.

Your score may go up or down over time as your liver disease either worsens or improves. Your score may be recalculated a number of times while you are on the waiting list. This helps ensure that the matching system accurately compares your need to that of others.

Do MELD and PELD account for all medical conditions?

MELD and PELD scores reflect the medical need of most liver transplant candidates. However, there are special exceptions for patients with medical conditions that MELD and PELD do not address as well.

The only medical priority exceptions to MELD and PELD are known as Status 1A and 1B. Status 1A patients have acute (sudden and severe onset) liver failure and are not likely to live more than a few days without a transplant. Status 1B is reserved for very sick, chronically ill patients younger than 18 years old. Less than one percent of liver transplant candidates are Status 1A and 1B at any one time.

You may have a condition, such as liver cancer or metabolic disease, that MELD and PELD address less well. Your MELD or PELD score would be too low to give you enough medical priority. If so, you may get an “exception score” – a score in the same range as MELD and PELD but decided in a different way. This score is used in place of your lab-calculated MELD or PELD score in the matching process.

How are exception scores decided?

You may receive a “standard” exception score if your condition meets OPTN policy criteria. This means your score would be the same as anyone else with the same medical condition. These exceptions must be renewed at set times to ensure you still qualify.

Standard exception scores are compared to the median MELD or PELD score at transplant for your transplant hospital. A median is the “midpoint” score over a range of all transplants done recently at your transplant hospital and others nearby. If the median score is 28, it means half of the people transplanted had a score of 28 or lower, while half had at a score above 28.

The standard exception for most adult MELD candidates will be a score of three points below the transplant hospital’s median MELD score at transplant. So if your hospital’s median score is 28, your standard score would be 25. A few standard exceptions have higher or lower scores based upon OPTN policy.

The standard exception for most PELD candidates will be the national median PELD score at transplant. This is calculated on a national basis, not on a hospital basis, since fewer transplant hospitals perform pediatric transplants.

The OPTN liver allocation policy lists all standard exception scores and when they need to be extended. Your transplant team can tell you whether you qualify for a standard exception and what your score would be. Read about OPTN policies:

https://optn.transplant.hrsa.gov/media/1200/optn_policies.pdf#named-dest=Policy_09

Some transplant candidates have special needs that may require a higher score than the standard exception. Others have unique medical needs not fully addressed by either the MELD/PELD system or the standard exception process. In these cases, the transplant team can ask a national review board of liver transplant professionals to grant a custom exception score.

The review board, drawn from liver physicians and surgeons around the country, considers each exception request on an individual medical basis. It then decides whether to accept or deny the request. If the board denies the request, the transplant team may appeal the decision for further review.

Why is distance from the donor considered?

Livers cannot be frozen and kept in storage. They must be transplanted within several hours, even though they are carefully preserved while being taken to the transplant hospital. Donor age can also affect time limits, as livers from older donors may need to be transplanted more quickly.

For this reason, distance from donor to transplant hospital is part of the matching process. In general, livers are first offered over a wider geographic area for the sickest patients who need a transplant the soonest. If there are no very urgent candidates, or if the liver is not accepted for any of them, it will be offered first for transplant patients listed at hospitals close to the donor. It may then be offered for patients in similar urgency listed at hospitals farther from the donor location.

To learn how the sequence of liver offers is based on distance, visit:
<https://optn.transplant.hrsa.gov/governance/policy-initiatives/liver#PolicyInitiativesLiverOverview>

How is waiting time counted in the system?

Two or more candidates could have equal priority based on MELD or PELD score, distance from the donor hospital, and other factors. If so, the patients who appear first on the match are those who have waited the longest at their current status, as well as any time previously spent waiting at a higher status.

Waiting time only determines who comes first in the matching system when two or more patients are in the same geographic area and have the same MELD or PELD score. It is not used for any purpose other than to break ties.

Is this system likely to change?

Liver transplant policy continues to change as transplant experts study the system and find ways to improve it for patients. In fact, this system is designed to be flexible and allow improvements. In transplantation, as in all scientific fields, new studies are taking place all the time to learn how to save more lives and help people live longer and better.

How can I learn more?

If you are not yet listed for a liver transplant, your doctor will need to refer you to a transplant hospital for evaluation. A transplant team must accept and list you as a transplant candidate.

If you have been listed for a transplant, talk with your doctor or the medical team at your transplant program. They know the most about your medical condition and treatment. Don't be afraid to ask questions. It will help you to understand all your treatment options.

You may also learn more about organ donation and transplantation at <https://www.organdonor.gov/>, or contact the OPTN's patient services department by email (patientservices@unos.org) or phone (888-894-6361).

*Our mission is to unite and strengthen the donation
and transplant community to save lives.*

follow us



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