

## General Considerations

- The decision to be wait-listed will always depend on the patient's overall condition and the doctors' assessment as to whether liver transplantation would be the adequate therapy in this particular case. The assessment would be based on consultations, laboratory measurements, and special exams in line with specific criteria set by the Bundesärztekammer (= Federal Board of Physicians).
- The organ allocation (whether brain-dead or a living donor) strictly follows the German Transplantation Law.
- Even a patient scheduled for a living organ donation must first be put on the nationwide waiting list.
- The allocation of organs is based on medical data (i.e., the MELD-score; see above).
- The waiting time for a liver may substantially differ depending on the MELD-score (reflecting the current state of health), the increase in number of patients on the national waiting list, and the number of donated livers.

**All patients with liver diseases are in need of information, e.g. the information provided in this brochure. Moreover, there may be special circumstances that require a personal talk.**

**Membership in Liver Transplanted Germany e.V. offers the opportunity for a personal talk and information exchange. Through your membership you also contribute financially to help produce and distribute brochures like this and our bi-annual magazine "Lebenslinien". We invite you to join; annual membership fee is €40; for families €50; reduced rates apply to youth, students etc.**

## Personal Talk?

Do you still have questions? Or would you just like to talk? Just give us a call!

The coordinators for the various regions can talk to you and put you in touch with the appropriate contact person in your area:

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Contact persons throughout Germany are also listed in our magazine "Lebenslinien" or on the internet: [www.lebertransplantation.de](http://www.lebertransplantation.de); e-mail to: [info@lebertransplantation.de](mailto:info@lebertransplantation.de)

**Other brochures are available, e.g., for Liver Transplantation, Living Liver Donations, Travel and LTx, Vaccinations and LTx, Post-Transplant Care and others. We will be happy to inform you.**

 **Lebertransplantierte  
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# MELD-Score

*Information for Patients*  
**The MELD-Score  
Who gets the next  
available organ?**



 **Lebertransplantierte  
Deutschland e.V.**

## Introduction

As of 16 December 2006 the allocation of donated livers by Eurotransplant was changed. The allocation of an organ now is determined by the patient's actual state of health, rather than the time on the waiting list. The intention is to give priority to those patients most in need of a life saving organ.

## The MELD-Score

The patient's actual condition can be objectively measured by the MELD-score. Three parameters in the patient's blood added together are good predictors of the patient's remaining life span without a transplantation (and hence the urgency of the transplant).

MELD is an acronym which stands for **M**odel **E**nd-stage **L**iver **D**isease. It is derived from a relatively complicated statistical analysis where the three parameters below demonstrated the best predictive quality for a patient's three-month survival chances:

- Serum creatinine (sKrea; mg/dl)
- Total bilirubin (tBili; mg/dl)
- INR (= international normalized ratio for the clotting tendency of blood derived from the Quick test).

The formula below is what calculates the MELD-score: (for information only, not necessarily for your own calculations!

Your transplant center will inform you about your own personal MELD-score.)

$$10 \{0.957 \log(\text{Serum creatinine}) + 0.378 \log(\text{bilirubin ges.}) + 1.12 \ln(\text{INR}) + 0.643\}$$

All values of the variables under 1 are rounded to 1; creatinine over 4 is rounded down to 4, while for patients undergoing dialysis twice weekly the measure is rounded up to 4. The upper limit of the MELD is 40. Higher values are lowered to 40. The minimum MELD score to be wait listed is 6.

## Always Up-to-Date

### Important:

- The laboratory values have to be updated by the transplantation center in varying intervals, depending on the actual MELD-score: at < 10, once a year; at > 10 to < 18, every three months; at > 18 to < 24, once a month; at 25 and higher as well as for HU patients (= high urgency) , once a week.
- If the TX-Center fails to report the latest MELD-score to Eurotransplant on time, the patient's MELD will be reduced to the latest reported lower value.
- In case the TX-Center misses a timely report twice in a row, the patient's MELD will be dropped to 6.
- In case of even MELD-scores for two patients, the patient who has been wait listed longer will be allocated the available organ.
- For children under 16 years of age and 12 years, respectively, a special match-MELD will be calculated to make sure that they will be transplanted within three months, if at all possible.

**The TX-center will ask each patient to have the MELD measured at the prescribed intervals.**

**It is very important that you report the latest measurements on time for the TX-Center to forward the updates to Eurotransplant without delay, and the center keeps your MELD score up-to-date with Eurotransplant.**

**Otherwise your score could be reduced!**

**If there are more frequent and differing (higher) lab results, you should report those to the TX-Center. The center can have Eurotransplant update the measurements at any time.**

**Please note:** In case the MELD-score changes, particularly if it increases, meaning gets worse, you should report it to the TX-Center immediately, i.e. at any time, even if outside the scheduled interval for updates.

## Exceptions

Patients with **primary sclerosing cholangitis (PSC)** or **HCC** (hepatocellular carcinoma) eligible for transplant surgery are assigned a MELD-score of 22 at the time of being wait-listed, and they are automatically rated higher every three months. For patients with **amyloidosis (FAP)**, **hepatopulmonary syndrome** and **morbus Osler** the MELD-score is calculated the same way. This also applied to **hepatic** hemangioma, however only one year after being wait-listed. For the following diseases the MELD is also calculated this way, although starting from a different basis: **adult polycystic degeneration of the liver (APDL)**, **primary hyperoxaluria type 1 (PH 1)**, **cystic fibrosis (CF)**, **Porto pulmonary hypertension**, and **CCC** (cholangiocellular carcinoma). In case of **biliary sepsis** and **secondary sclerosing cholangitis (SSC)**, however, the MELD-score will first be based on the three parameters of the lab-MELD, with an add-on corresponding to an increased risk of mortality of 30 percent. For **non-metastasizing hepatoblastoma** and **defects of the urea cycle** a MELD-score of 30 is given. If after 30 days no organ can be allocated, the patient will be put into High Urgency (HU) status.

**For most of the above diseases it must be emphasized that not all patients would be eligible for transplant surgery. Other medical conditions also have to be taken into account.**