

Liver transplantation

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There are three possible policies for prioritization for liver transplantation: medical urgency, utility and transplant benefit. The first is based on the severity of cirrhosis, using Child–Turcotte–Pugh score and, more recently, the Model for End-stage Liver Disease (MELD) score, or variants of MELD, for allocation. Although prospectively developed and validated, the MELD score has several limitations, including interlaboratory variations for measurement of serum creatinine and international normalized ratio of prothrombin time, and a systematic adverse female gender bias. Adjustments to the original MELD equation and new scoring systems have been proposed to overcome these limitations; incorporation of serum sodium improves its predictive accuracy. The MELD score poorly predicts outcomes after liver transplantation due to the absence of donor factors incorporated into the scoring system. Several utility models are based on donor and recipient characteristics. Combined poor recipient and donor characteristics lead to very poor outcomes, which in a utility system would be considered unacceptable. Finally, transplant benefit models rank patients according to the net survival benefit that they would derive from transplantation. However, complex statistical models are required, and unmeasured characteristics may unduly affect the models. Well-designed prospective studies and simulation models are necessary to establish the optimal allocation system in liver transplantation

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