

Assigning Priority for Liver Transplantation

Liver failure can result from many causes. Some patients have failing livers as a result of an in-born condition called biliary atresia, a blockage in the liver that causes liver failure. Other causes involve problematic behaviors—exposure to toxic chemicals, drugs, or a diet high in salt, sugar, and fat. Alcohol consumption is also a major cause of liver failure and the need for a transplant.

It is estimated that up to 35% of alcoholics have alcoholic hepatitis. Some patients with alcoholic hepatitis have a complete recovery from liver disease when they stop drinking. However, for 10-15% of patients with alcoholic hepatitis this develops into cirrhosis of the liver, a major cause of death in the United States.

In terms of health outcomes, data shows similar long-term survival rates for both recovering-alcoholic and non-alcoholic transplant recipients. Roughly 20% of recovering-alcoholic transplant recipients use alcohol following their transplant, with only 5% of recipients exhibiting “repetitive or heavy drinking.” Non-alcoholic transplant recipients also engage in similar rates of alcohol consumption following transplantation.

The yearly demand for liver transplants far exceeds the supply of available organs. Currently, livers are allocated on a point system called a Model End Stage Liver Disease (MELD) score, which indicates the patient’s likelihood of mortality within 3 months without a liver transplant (see table below). A higher MELD score indicates a patient in greater need of a liver transplant. In order to determine the likelihood of a successful transplant, transplant teams also assess a patient’s “support system” as an indication of whether the patient will be able to comply with important post-operative care or refrain from risky behaviors post-transplant. There is also a requirement that recovering alcoholics must remain sober for six months prior to being put on the transplantation list.

MELD Score	Probability of Mortality within 3-Months
6-19	6-18% likelihood of mortality
20-29	19-52% likelihood of mortality
30-39	53-70% likelihood of mortality
40	> 70% likelihood of mortality

Your team is part of the Transplant Selection Committee at Cleveland State Hospital. The committee meets weekly to re-assess current patients and to determine whether and in what order new patients should be added to the transplant list. At today's meeting you have five new patient files to consider:

Patient: Mr. Abe

Mr. Abe, 65 year old male, is assessed to have a MELD score of 19. It is determined that his liver failure is a result of cirrhosis caused by Hepatitis C. Individuals can live with chronic Hepatitis C for roughly 30 years before it develops into cirrhosis. When interviewed as part of his transplant evaluation, he explained that he contracted Hepatitis C in his late 20's from a tattoo while he was serving in the army. He has a strong social support network including his wife of 35 years, four children, and six grandchildren.

Patient: Mrs. Breeze

Mrs. Breeze, 36 year old female with a history of alcoholic cirrhosis, is assessed to have a MELD score of 39. For the past six months she has been attending Alcoholics Anonymous (AA) meetings and has been maintaining contact with her AA sponsor twice weekly. The report from her AA sponsor indicates that Bree has been sober for the past six months, except for a few sips of Champagne at her sister's wedding two months ago. Mrs. Breeze had also been enrolled in a formal rehabilitation program but did not complete it as she became too ill and required hospitalization. She has been in the ICU for two weeks. Mrs. Breeze's spouse and 16 year old daughter have written a letter to the transplant team pleading with them to approve her for the waiting list.

Patient: Mr. Chase

Mr. Chase, 22 year old male, was brought to the emergency department by his neighbor. He is jaundiced, encephalopathic, and required emergency intubation. He has been transferred to the intensive care unit (ICU) and evaluated by the hepatology team. Unfortunately, the exact cause of his acute liver failure is unknown. Based on his liver function, his MELD score is 32, but after five days of monitoring in the ICU, the team care determines that a liver transplant will be necessary to stabilize his condition and off a hope for curing him. Thus far the healthcare team has been unable to contact any family for Mr. Chase, so his home-support situation cannot be assessed.

Patient: Ms. Drake

Ms. Drake, 55 year old female, is assessed to have a MELD score of 24. When interviewed as part of her transplant evaluation, she admitted that she used drugs and drank heavily during her college years, but completed an alcohol rehabilitation program when she was 30. She has

documented sobriety for the past 25 years and has become an active member in her church. Unfortunately, her husband of 20 recently passed away and she has no children or local relatives to help her with post-op care, raising concerns that she might lack a strong support system to assist with her post-op recovery.

Patient: Miss Evan

Miss Evan, 19 year old female, suffers from a hereditary genetic disorder that causes cirrhosis. Her symptoms have been progressively increasing over the past year and she is assessed to have a MELD score of 18. When interviewed as part of her transplant evaluation, she explained that she has had to postpone starting college due to her illness and is also unable to work full-time. She indicated that she will therefore need a liver transplant before she can live independently. Fortunately, because she still lives with her parents she has a strong support system.