



single-stranded phosphodiester oligonucleotides) has been evaluated as a potential treatment option for severe veno-occlusive disease. It is an attractive option because of the lack of severe adverse effects, although convincing evidence for efficacy has not been established.

## LIVER TRANSPLANTATION

### MELD Score

The Model for End-stage Liver Disease (MELD) score is calculated based on the serum creatinine concentration, prothrombin time (International Normalized Ratio), and bilirubin level and has been used to predict short-term mortality in cirrhosis and to prioritize patients awaiting liver transplantation. The MELD score ranges from 6 to 40. Higher scores are associated with more advanced disease and increased predicted mortality. Patients are typically considered for liver transplantation when the MELD score reaches 15. The average MELD score nationally at which patients undergo transplantation is 20.

### Prognosis

Liver transplantation is a highly successful procedure in patients with progressive, advanced, and otherwise untreatable liver disease. Advances in surgical techniques and supportive care, the use of cyclosporine and tacrolimus for immunosuppression, and careful selection of patients have all contributed to the excellent results of liver transplantation. Between 70% and 80% of patients undergoing liver transplantation survive at least 5 years, usually with good quality of life. The most common indication for liver transplantation in the United States is chronic liver disease resulting from hepatitis C virus infection. Other liver diseases for which transplantation is commonly performed include cirrhosis from alcoholic liver disease, NAFLD, autoimmune hepatitis, primary biliary cirrhosis, and primary sclerosing cholangitis. Patients with hepatitis B are candidates for liver transplantation

if they can be given hepatitis B immunoglobulin or nucleoside analogues to help prevent recurrence. Excellent results have also been obtained in selected patients with acute liver failure (see [Chapter 42](#)). Liver transplantation for malignant hepatobiliary disease has been less successful because of recurrent disease in the transplanted liver.

*For a deeper discussion on this topic, please see Chapter 153, "Cirrhosis and Its Sequelae," in Goldman-Cecil Medicine, 25th Edition.*

### SUGGESTED READINGS

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