

LIVER TRANSPLANTATION: DONOR SOURCES, TYPES OF TRANSPLANTS AND PIGGYBACK TECHNIQUES

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Liver transplantation is one of the most effective treatment methods for end-stage liver diseases. This thesis highlights donor sources, types of liver grafts, indications for transplantation, and surgical techniques for managing the inferior vena cava using Piggyback approaches.

According to donor source, liver transplantation is divided into deceased donor liver transplantation and living donor liver transplantation. In most cases, whole-organ liver transplantation is performed. However, in selected clinical situations, segmental (split) or reduced-size liver transplantation techniques are applied. In split liver transplantation, one deceased donor liver is divided and transplanted into two recipients, usually an adult and a pediatric patient. Reduced-size grafts are used when there is a size mismatch between the donor organ and the recipient's body size.

Indications for liver transplantation primarily include end-stage liver diseases. In developed countries, the most common causes are end-stage liver disease associated with hepatocellular carcinoma, alcoholic liver disease, and non-alcoholic fatty liver disease. Additional indications include chronic viral hepatitis (B, C, or D), autoimmune hepatitis, cryptogenic liver disease, and cholestatic liver diseases such as primary biliary cirrhosis and primary or secondary sclerosing cholangitis. Metabolic liver disorders, including alpha-1 antitrypsin deficiency, Wilson's disease, hereditary hemochromatosis, and Crigler–Najjar syndrome, are also recognized indications. Furthermore, Budd–Chiari syndrome, amyloidosis, drug-induced acute liver failure, polycystic liver disease, and selected primary and secondary malignant liver tumors may require liver transplantation.

During liver transplantation, several techniques are used to manage the inferior vena cava. The Classical Piggyback technique preserves the recipient's inferior vena cava and anastomoses the donor hepatic veins to the recipient hepatic veins, providing better hemodynamic stability and reduced blood loss. The Modified Piggyback technique improves venous outflow and reduces the risk of hepatic venous stenosis and Budd–

Chiari syndrome and is currently the most widely used method. The Modified Conventional technique is applied when Piggyback methods are not feasible but is associated with higher hemodynamic risk.

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