"piggyback" heart; this type of transplant is rarely done in children.

Before transplantation, potential recipients undergo a careful cardiac evaluation to determine if there are any other medical or surgical options to improve the patient's cardiac status. Other organ systems are assessed to identify problems that might increase the risk of or preclude transplantation. A psychosocial evaluation of the patient and family is done to assess family function, support systems, and ability to comply with the complex medical regimen after the transplant. Support services to help the family successfully care for their child are provided when possible. Parents and older adolescents need extensive education about the risks and benefits of transplantation so that they can make an informed decision. Patients are listed on a national computer network organized by the United Network for Organ Sharing to match donors and recipients. (See also Organ or Tissue Donation and Autopsy, Chapter 17.)

The total number of pediatric heart transplants has increased from 274 in 1998 to 372 in 2012 (Scientific Registry of Transplant Recipients, 2012). Primary diagnosis for the majority of candidates continues to be complex CHD and most (87.9%) candidates are status 1A at the time of transplant (Scientific Registry of Transplant Recipients, 2012). The 1-year graft survival rate for pediatric heart transplants performed in 2012 was 87.5% (Scientific Registry of Transplant Recipients, 2012).

Waiting list mortality remains high, particularly in the smallest children. Recent progress in suitable ventricular assist devices for use in children as a bridge to transplantation has made outcomes to survival for cardiac transplantation more successful (Blume, Naftel, Bastardi, et al, 2006). A multicenter study using the US Scientific Registry of Transplant Recipients was recently conducted (Almond, Thiagarajian, Piercy, et al, 2009). Among 3098 children listed for a heart transplant between 1999 and 2006, the median age was 2 years. Sixty percent of patients were listed as a top status (30% ventilated and 18% on supportive measures), and of those children, 17% died, 63% received transplants, 8% recovered, and 12% remained listed. These numbers concluded that US waiting time remains high in the current era, and high-risk groups in these categories could benefit from emerging cardiac assist devices, such as extracorporeal membrane oxygenation and ventricular assist devices.