Hathaway Children's Services
Sylmar, CA

The possibility of kidney transplantation often provides hope for relief from the rigors of hemodialysis and peritoneal dialysis. Most children and families respond well to a kidney transplant, and most children can be successfully rehabilitated.

The National Kidney Foundation* and other agencies provide a number of services and information for families of children with renal disease.

Technologic Management of Renal Failure

Dialysis

Dialysis is the process of separating colloids and crystalline substances in solution by the difference in their rate of diffusion through a semipermeable membrane. Methods of dialysis currently available for clinical management of renal failure are **peritoneal dialysis**, wherein the abdominal cavity acts as a semipermeable membrane through which water and solutes of small molecular size move by osmosis and diffusion according to their respective concentrations on either side of the membrane, and **hemodialysis**, in which blood is circulated outside the body through artificial membranes that permit a similar passage of water and solutes. A third type of dialysis is **hemofiltration**, in which blood filtrate is circulated outside the body by hydrostatic pressure exerted across a semipermeable membrane with simultaneous infusion of a replacement solution. Types of hemofiltration include continuous venovenous hemofiltration, continuous venovenous hemodialysis, and continuous venovenous hemofiltration. These continuous renal replacement therapies are used in AKI, severe fluid overload, and inborn errors of metabolism or after bone marrow transplant.

Peritoneal dialysis is the preferred form of dialysis for infants, children, and parents who wish to remain independent, families who live a long distance from the medical center, and children who prefer fewer dietary restrictions and a gentler form of dialysis.