Baxter

Overview of Baxter's Renal Business

More than 50 years ago, Baxter pioneered lifesaving hemodialysis (HD) treatment for patients with end-stage kidney disease by introducing the first commercially built artificial kidney. Decades later, Baxter led the development of peritoneal dialysis (PD), a home-based alternative to the clinic-based HD treatment. Baxter remains a leading manufacturer of products for PD, providing PD solutions, devices, related supplies and services to help patients perform dialysis treatment. Baxter also manufactures products and provides support services for Continuous Renal Replacement Therapy (CRRT), an acute, hospital-based therapy, and distributes products for HD. Renal products represent 19 percent of Baxter's annual sales, and totaled $2.3 billion in 2008.

DIALYSIS TREATMENT

The kidneys remove waste, toxins and excess fluid from the blood. They also regulate body water and release important hormones in your blood to control blood pressure, make red blood cells and promote strong bones. If a person's kidneys fail, he or she will become quite ill because toxins accumulate in the blood. If there is no medical intervention, the patient may die.

End-stage kidney disease (ESKD), or kidney failure, is a chronic, irreversible condition that may ultimately lead to death without one of two interventions: dialysis or transplant. Because transplant is a limited option due to a shortage of donor organs, dialysis is by far the most common treatment. It is estimated that nearly 2 million people worldwide will use dialysis in lieu of properly functioning kidneys to cleanse their blood by 2010.

Peritoneal Dialysis

In PD, dialysis solution is administered into the peritoneal (abdominal) cavity through a catheter in the patient's abdomen. The peritoneal cavity is surrounded by a thin membrane (called the peritoneum), which serves as a filter through which waste and excess water are drawn into the solution. The used solution is then drained from the abdomen and discarded. There are two types of PD treatment: continuous ambulatory peritoneal dialysis (CAPD), in which patients manually infuse their PD solution and perform solution exchanges several times a day; and automated peritoneal dialysis (APD), in which solution is infused and drained automatically by a device.

Hemodialysis

In HD, blood is withdrawn from the body, usually from a site in the arm and pumped through an external filter, or dialyzer. The cleansed blood is then returned to the patient. Patients are connected to a machine throughout the process, which takes several hours and generally takes place three to four times a week in a dialysis clinic or hospital.

Home Hemodialysis (HHD)

Recently, growing clinical evidence suggests that more frequent HD may improve patient outcomes, prompting an interest in the development of home HD systems to make more frequent dialysis more convenient for the patients. HHD is a form of HD using a device modified for the home. It can be done at night while the patient is asleep, or during the day. It typically is done three to six times a week. The length of the dialysis sessions varies. If done during the night while the patient sleeps (nocturnal HD), it usually lasts anywhere from six to eight hours. If done during the day (short daily HD), the treatments are usually from two to four hours.

Continuous Renal Replacement Therapy (CRRT)
Acute kidney injury (AKI) is a rapid decline in the kidneys' ability to clear the blood of toxic substances, as opposed to chronic kidney disease, which occurs slowly over time. Acute renal failure can result from any condition that decreases the supply of blood to the kidneys, obstructs the flow of urine once it has left the kidneys, or causes injury to the kidneys. This can lead to an accumulation of metabolic waste in the blood requiring immediate attention in an acute care setting. CRRT is typically performed 24 hours a day in the intensive care unit to address AKI.

PRODUCT AND SERVICE PORTFOLIO

Education and Support Services
Baxter provides education for patients and clinicians, as well as support services to enhance the delivery of our suite of dialysis treatment solutions and devices.

PD Solutions
Baxter's portfolio of PD solutions provides unique clinical benefits and enables clinicians to "personalize" dialysis treatment to meet patient needs. DIANEAL is Baxter's standard base PD solution for removing waste and excess water from the bloodstream. PHYSIONEAL is a PD solution that is more biocompatible with the peritoneal membrane and reduces discomfort and pain on infusion for some patients. As many ESKD patients would benefit from reduced glucose intake, Baxter also provides the industry's only non-glucose-based specialty PD solutions, EXTRANEAL and NUTRINEAL. EXTRANEAL provides increased fluid removal in many patients when solutions stays in the peritoneal cavity for longer periods of time, while NUTRINEAL gives back amino acids to the patient, in addition to minimizing glucose intake.

APD and CAPD Products
For APD, Baxter provides the HOMECHOICE and HOMECHOICE PRO, which automatically perform solution exchanges overnight while the patient sleeps. Their compact size and ease of use are conducive to home treatment, and makes them convenient for patients to take with them when they travel. For CAPD, Baxter provides a variety of products to make solution-exchanges easier for patients, and to reduce the incidence of exchange-related infections. These include "twin bag" container systems that combine infusion and drainage in one closed system, making manual solution-exchanges easier to perform while dramatically reducing infection rates.

HD Products
For HD, Baxter distributes instruments and disposables, including dialyzers, to dialysis clinics. Baxter recently introduced the XENIUM family of synthetic dialyzers, developed to deliver excellent small and middle molecule toxin removal and excellent biocompatibility. Other HD products include saline and dialysis solutions as well as bloodlines and needles.

CRRT Products
Baxter and Edwards Lifesciences are working together in a Critical Care Nephrology Alliance in order to offer a comprehensive portfolio for CRRT. Baxter offers an automated fluid balance monitoring system that is fully integrated for CRRT and therapeutic plasma exchange (TPE) therapies. It incorporates advanced software technology with a smart design that allows clinicians to focus on their patients. Baxter offers a wide range of hemofilters and tubing sets that allow physicians to select the right product for each patient.