



## ***Global Overview of Baxter's Renal Business***

Baxter is a leader in renal home therapies through its products for peritoneal dialysis (PD), providing PD solutions, devices, related supplies and services to help patients with end-stage kidney disease perform dialysis treatment at home. Baxter also manufactures products and provides support services for Continuous Renal Replacement Therapy (CRRT), an acute, hospital-based therapy, and distributes products for in-center hemodialysis (HD). More than 7,000 Baxter employees around the world participate in the company's Renal business. Renal products represent 18 percent of Baxter's annual sales, and totaled \$2.3 billion in 2009. More than half of Renal sales come from outside the United States, making this the most global of Baxter's three businesses.

Baxter has been a dialysis pioneer for more than 50 years, beginning with the introduction of the first commercially built artificial kidney. More than 30 years ago, Baxter led the development of PD to provide patients with home-based treatment options and an alternative to in-center HD treatment. Today, Baxter, in partnership with DEKA Research and Development Corporation, is developing home therapy options aimed at employing a compact design and convenient use for patients, such as a new automated PD cyclor and home HD technology platform.

### **SUMMARY OF DIALYSIS TREATMENT OPTIONS**

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 ill because toxins and excess fluids accumulate systemically in the blood.

End-stage kidney disease (ESKD), or kidney failure, is a chronic, irreversible condition that will 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.

#### **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 while the patient sleeps.

#### **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**

Recently, growing clinical evidence suggests that more frequent HD may improve patient outcomes. This has prompted an interest in the development of home HD systems that make frequent dialysis more convenient for patients. Home HD can be done at night while the patient is asleep, typically lasting six to eight hours per treatment, or during the day, typically lasting two to four hours per treatment.





## **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. AKI can result from any condition that decreases the supply of blood to the kidneys or obstructs the flow of urine once it has left the kidneys. This can lead to a systemic accumulation of metabolic waste and fluid requiring immediate attention in an acute care setting. CRRT is typically performed 24 hours a day in the intensive care unit until kidney function returns, or in the case of permanent injury, until the patient is transferred to HD or PD.

## **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 its suite of dialysis treatment solutions and devices. Educational services are designed to improve quality of care. They include instructor-led courses about PD, and programs designed to help PD clinics put success strategies in place. Support services include HomeCare Services, providing patients and nurses support to help manage product ordering, tracking and delivery. Baxter's Renal Clinical Helpline gives health care practitioners access to clinical expertise, and Baxter's Technical Services team provides customer support for hardware and software issues 24 hours a day, seven days a week. A range of educational services for CRRT and HD are also available.

### **PD Solutions**

Baxter's global portfolio of PD solutions enables clinicians to "personalize" dialysis treatment to meet a wide variety of patient needs for removing waste and excess water from the bloodstream. DIANEAL is Baxter's standard glucose PD solution, whereas PHYSIONEAL is a glucose PD solution with a neutral pH (7.4). Baxter also provides the only non-glucose PD solutions, EXTRANEAL (icodextrin) and NUTRINEAL (amino acids). (PHYSIONEAL and NUTRINEAL PD solutions are not approved for sale in the United States.)

### **APD and CAPD Systems**

For APD, Baxter provides the HOMECHOICE and HOMECHOICE PRO cyclers, which automatically perform solution exchanges overnight while the patient sleeps. Their compact size and ease of use are conducive to home treatment, and make 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.

### **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**

In 2009, Baxter acquired certain assets from Edwards Lifesciences Corporation to offer a comprehensive portfolio of products for CRRT. Baxter offers an automated fluid balance monitoring system that is fully integrated for CRRT and therapeutic plasma exchange (TPE) therapies. The company also offers a wide range of hemofilters and tubing sets that allow physicians to select the right product for each patient.