Introduction to Intensive Care

Every year, 2.1 million patients are admitted to an intensive care unit (ICU). These patients have serious and often multiple life-threatening complications that cannot be managed on general hospital units, often requiring life-sustaining measures such as the use of a ventilator or other comprehensive procedures and medication therapies. ICUs are areas where patients receive rapid, specialized and around-the-clock management from a multidisciplinary health care team. With advances in medicine, ICUs have evolved into specialty areas, each providing a high level of care to manage the specific needs of patients. Common ICUs include cardiac, surgical, medical (respiratory/pulmonary), neurotrauma, burn, oncology, pediatric and neonatal care.

What a Pharmacist Provides

Pharmacists review all patient medication orders and assure timely preparation and delivery of medication to the patient care area. More importantly, pharmacists are involved at the point of decision making, participating in rounds with the medical staff, making suggestions on drug therapy before a medication is even ordered. This proactive approach optimizes medication therapy management and dramatically reduces the incidence of errors. ICU pharmacists counsel patients, family members and/or caregivers on medications that the patient is prescribed to take upon discharge. Pharmacists also provide education to other health care professionals, providing in-services or other educational presentations to nurses and physicians. ICU patients frequently have multiple diseases that affect organ function, which can ultimately influence the effects of medications in the body. Pharmacists review and adjust each patient’s medication regimen for appropriate indication, dosing, drug interactions, intravenous medication compatibilities, adverse effects and cost-effectiveness, allowing them to recommend appropriate adjustments.

Correct dosing of antimicrobial drugs in septic patients receiving continuous renal replacement therapy (CRRT) is complex. A recent study aimed to evaluate the effects of dosing adjustments performed by pharmacists on the length of intensive care unit (ICU) stay, ICU cost and antimicrobial adverse drug events (ADEs). Pharmacists made 183 antimicrobial dosing adjustment recommendations for septic patients receiving CRRT. Dosing adjustments were related to a reduced length of ICU stay from 10.7 days to 7.7 days in the intervention group, and to cost savings of $3,525 per septic patient receiving CRRT in the ICU.