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Nurse-Led Collaborative Project Provided Alternative Renal Replacement Modality

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For most hospitals, the extent of renal replacement therapy (RRT) in the ICU include only Continuous Renal Replacement Therapy (CRRT) and Intermittent Hemodialysis (IHD). CRRT is costly to any organization, yet using IHD on critically ill patients can mean hemodynamic instability. The increased demand for CRRT coupled with limited resources may spark organizations to develop a more comprehensive renal replacement program – a program that will offer comparable hemodynamic stability, excellent solute control, with fewer resources while being fiscally responsible.

Nurse-led taskforce reviewed the literature, studied best practices, and performed comparative analysis of available renal replacement therapies. Findings demonstrated no appreciable difference in outcomes despite the need for increased nurse staffing, equipment, cost, and hemodynamic instability with CRRT. A hybrid treatment, Slow Low Efficiency Dialysis (SLED), however, maintains hemodynamic stability and decreases cost per case.

Consultation with key stakeholders resulted in: developing a physician order set; piloting SLED in one ICU then several and; developing RRT and staffing guidelines. Dialysis RNs provided didactic education and practical instructions to ICU RNs, and validated nurse competency. Our evaluation demonstrates: improved electrolyte and hemodynamic stability; and decreased cost relative to fewer laboratory tests and less electrolyte replacement and treatment time. SLED demonstrated: better solute control; 50% decrease in non-labor costs; and decreased duration of 1:1 nursing care from 24 to 12 hours without increasing mortality rate, when compared to CRRT. SLED on critically ill patients demonstrated improved hemodynamic stability with comparable cost when compared to IHD. ICU and Dialysis nurses collaboratively manage the SLED program offering an effective alternative to traditional CRRT.

When we think beyond the traditional RRT modalities in the ICU, we are better able to provide the patient with the right therapy, at the right time and the right cost.

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