

Case Study

Quanta™ Dialysis System in the Hospital Setting

At a glance

To demonstrate performance of the Quanta Dialysis System in the acute care setting, Quanta Dialysis Technologies® partnered with Desert Cities Dialysis to conduct a pilot study at two nearby, California-based hospitals. Over a two-month period, 52 patient-treatment sessions (44 IHD and 8 SLED) were completed between the two hospitals, of which Quanta monitored 33.

Key Takeaway

The Quanta Dialysis System offers the flexibility, maintainability and trainability required to successfully perform multiple modalities of kidney replacement therapy throughout the hospital. IHD and SLED treatment locations included:



Bedside



Intensive Care Unit



ER Hallway

BACKGROUND

The Quanta Dialysis System, powered by Trinal™ Kidney Therapy (TKT™), is a compact and portable hemodialysis system for use in chronic and acute care settings.

Capable of performing multiple hemodialysis modalities, including IHD, SLED and CRRT (CVVHD & SCUF), the device is well-positioned to support patients across the acute care setting – from intensive care units (ICU) to long-term care facilities.

CHALLENGE

Desert Cities Dialysis is a dialysis provider offering care in outpatient, home and inpatient settings. Two local, California-based hospitals have contracted with Desert Cities Dialysis to manage their dialysis programs. Both hospitals are equipped to perform IHD treatments (<5 hours), yet neither hospital has the technology to support ICU patients requiring extended dialysis (>5 hours), such as SLED or CRRT (CVVHD & SCUF).

Looking to a solution to better tailor the kidney replacement therapy to the patient while also improving quality metrics, such as length of stay and mortality, Desert Cities Dialysis decided additional dialysis modalities are needed to support critically ill patients.

SOLUTION

First and only FDA-cleared to perform IHD, SLED and bagless CRRT (CVVHD & SCUF) in a single, compact device, the Quanta Dialysis System was seen by Desert Cities Dialysis as an all-in-one solution to support this technology gap and agreed to a pilot study to prove capabilities.

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RESULTS

As part of the pilot, Quanta's clinical nurse educators trained 41 hospital staff members - dialysis technicians (29%), dialysis nurses (37%) and ICU nurses (34%) - from all three institutions.

Of the Quanta monitored and recorded treatments, IHD and SLED were performed bedside in the acute unit (61%), the emergency room (ER) hallway (9%) and the ICU (30%). Extended therapy (>5 hours) in the ICU accounted for 18% of treatments performed. Treatments were delivered via fistula, graft and CVC, with the majority being CVC.

Thirty-nine (39) hot rinses were recorded during the pilot study. The average number of days between each hot rinse was 5.6 days as compared to the daily chemical or heat disinfection required of traditional IHD machines.

CONCLUSIONS

1

Trainability

Quanta trained over 40 staff members with varying experience across multiple institutions, validating its ease of use.

2

Flexibility

The Quanta Dialysis System provides the flexibility to deliver both intermittent and extended kidney replacement therapy across various hospital environments.

3

Maintainability

The Quanta Dialysis System requires only a weekly hot rinse allowing staff to spend less time on device maintenance, and more time on patient care.

