

Decreasing Unplanned and Nightshift Circuit Changes for Pediatric CRRT Patients

Angela Jarden, MSN, RN, CCRN and Raed BouMatar, MD

Background

The use of continuous renal replacement therapy (CRRT) has become a staple in the treatment of critically ill pediatric patients with acute kidney injury and hypervolemia. Ideal CRRT circuit changes occur during dayshift after 72 hours as flow rates and tubing integrity are not guaranteed past this time. Unplanned circuit changes, however, increase nursing workload and affect achievement of the filtration rate goal due to the circuit downtime. Additionally, circuit changes during nightshift, 1900 to 0700, can be more difficult and pose a risk to pediatric patients due to the limited number of staff and resources present.

In 2015 our institution transitioned to a nurse ran CRRT program, which includes nursing priming and initiating all circuits. Education and protocol development occurred prior to CRRT treatment on any patients. Protocol, at that time, for circuit changes was for consultation with nephrology on timing of circuit changes. A majority of circuits were decided to only be changed when the circuit clotted or clogged, deemed to be an unplanned circuit change.

Background Cont.

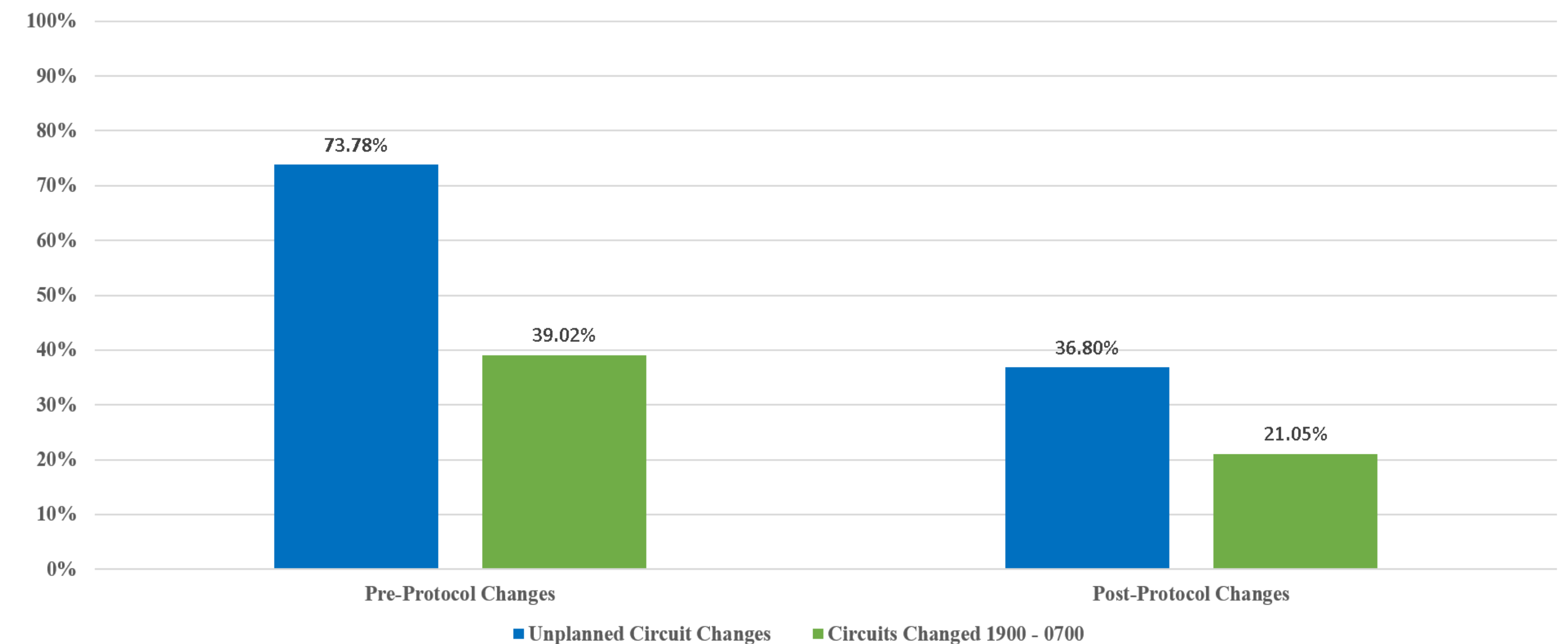
In late 2016, following an incident with a nightshift circuit change and expressed displeasure from nursing regarding unplanned and nightshift circuit changes, a proposal to standardize circuit change times was brought forth to the nephrologist group. The new protocol aimed to standardize the circuit changes to dayshift, every 72 hours. Exception to this protocol would be for neonates requiring a blood prime and these circuits would still only be changed when clotted or clogged. The protocol change was approved by the nephrologists and was instituted in the beginning of 2017.

Methods

A retrospective chart review of all CRRT patient circuit changes from January 2015 to December 2018 was performed. Circuit changes were divided into either planned/scheduled or unplanned, as well as when the circuit was changed, either dayshift, 0700 to 1900, or nightshift, 1900 to 0700, to evaluate the impact standardizing circuit changes had.

Results

CRRT Circuit Changes



Conclusion

While there are still occasions in which circuits clot or clog, which necessitate unplanned and/or nightshift circuit changes, the initiation of a protocol standardizing when circuits are changed has decreased the number of unplanned and nightshift circuit changes. As a result nursing workload has decreased and patient safety has increased.