Introduction:
Continuous renal replacement therapy (CRRT) is labor intensive and requires advanced nursing knowledge and skills. However, 40% of registered nurses (RN) are less than 2-year post-registration experiences in our unit. Also there is an increasing demand of CRRT from 185 CRRT days in 2017 to 248 CRRT days in 2018. The obstacles for CRRT in our department, includes variation of regimen, complicated workflow and insufficient training of nurses.
A continuous quality improvement project is carried out to standardize the regimen, enhance workflow and provide structured training to nurses in the intensive care unit, to enhance nursing competence.

Methods:
1. Questionnaires was set and distributed to identify obstacles of safe CRRT care.
2. Workgroup was set up to carry out discussion and conduct literature review. New nurse led protocols were designed. A standardize CRRT doctor prescription form was designed to guide the new practice
3. Department journal club applied the evidence-based practice to introduce the new update practice
4. A single page CRRT nursing observation form was made to allow easy observation. The practice of safety check was introduced. Micro-teaching was conducted.
5. Lecture, demonstration and stimulation workshop was arranged.

Results:
1. Patient outcome showed 80% electrolyte imbalance (Potassium) was corrected within 8 hours of the commencement of the new CRRT regime.
2. CRRT circuit half-life is prolonged from 12 hours to 48 hours.
3. The new method of capping procedure. No catheter associated blood-stream infection was seen after the new method was launched.
4. Knowledge improvement from 70% in pretest to 98% passing rate after training.
5. 90% of experienced nurse expressed the theory enhancement session and simulation workshop were useful.
6. Majority of nurses can perform CRRT independently.

Conclusion:
By standardizing the CRRT regimen, improving workflow and providing structured training, patient safety and nursing staff competency are achieved.