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Improving Processes of returning blood during emergencies/conclusion in continuous renal replacement therapy (CRRT)

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Introduction

CRRT is a form of dialysis that is prescribed for patients who are hemodynamically unstable. During the termination of CRRT, blood in the circuit will be returned back to patient to prevent hypotension and blood loss. Currently, the process of returning blood requires numerous consumables, long procedure time and most importantly breaking the chain of the closed-system.

Implementation: PDSA 3- Staff (Lack of Training)



Objectives

To improve the efficiency for the returning of blood in CRRT by shortening the time frame by 50%.

Analysis of problem



Before (Above Left): Previously only On-the-job training **After** (Above Right): Teaching videos and slides incorporated during training

Results

The run chart (Fig. 2) indicates the time taken to return blood in CRRT pre and post implementation of the closed method. In comparison to the number of steps required in Fig. 3, the time saved was ~10 mins.



Fig 1: Cause and effect diagram on increased time taken in terminating CRRT

Methodology



Implementation: PDSA 1- Equipment on Gathering Consumables



Fig 2: Run chart that indicates the time taken to return blood in CRRT pre and post implementation of the closed method



Open-system during termination of CRRT

Pre-connection of normal saline 0.9% allows closed-system during termination of CRRT. Fig 3: Comparison of steps and time taken to return blood in CRRT pre and post implementation of the closed method

Conclusion

The new process has improved the efficiency for the returning of blood in CRRT. With the closed method in place, it has helped to reduce man-hours as well as risk of infection. This also reduced the stress in our healthcare workers and blood borne exposure risk to them. With the positive outcomes and feedbacks gathered from participants, the new process will be implemented to other areas handling CRRT.