Decreasing Extubation and Dangle Times after Open Heart Surgery

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Pre-Intervention
Cardiac surgeons expressed concern regarding delay to extubation post-operatively. Baseline data was collected on 60 patients from January 26 to April 14, 2016:
- 17 (28.33%) were extubated in the CVOR
- 13 (21.67%) were not eligible for fast-track extubation based on physician orders and the CVICU Weaning Protocol
- 30 (50%) were eligible for fast-track extubation using the CVICU Weaning Protocol
  - 60% were extubated in less than 6 hours
  - 6.67 hours was our average time to extubation

Project Aim: Extubation < 6 Hours
Reduce the average time to extubation and dangle after Open Heart Surgery

Project Strategy
The pre-intervention data was presented to the CVICU RN’s at staff meetings, and barriers to early extubation were discussed. A “unit culture” that avoided extubation in the hour prior to shift change was identified as the primary barrier.

Evidence to support fast-track extubation was presented and strategies to achieve an average extubation time of less than 6 hours was discussed. RN Champions for the project were identified to reinforce project goals.

Actions Taken
An Evidence-based Flyer was developed by one of the RN Champions and posted throughout the CVICU and extubation goal times were discussed in rounds and at RT “huddles”.
A sign was developed for posting outside the patient room marking the 6-hour window for extubation.

Post-Intervention Results
Post-intervention data was collected on 381 patients from May 2, 2016 to July 31, 2017:
- 133 (34.91%) were extubated in the CVOR
- 72 (18.9%) were not eligible for fast-track extubation based on physician orders and the CVICU Weaning Protocol
- 176 (46.19%) were eligible for fast-track extubation using the CVICU Weaning Protocol
  - 79.55% were extubated in less than 6 hours
  - 5.45 hours was our average time to extubation

Extubation & Dangle Time
With daily rounding and a sign to remind the team of our extubation target we saw rapid achievement of our extubation goals.

However, we began to notice that our patients returning from the CVOR extubated and our patient extubated using the CVICU Weaning Protocol were not being dangled until morning weights. Following presentation of the information to CVICU RN’s:
- Day staff committed to dangling patients extubated in the OR
- Night staff adjusted the timing of daily weights from morning to evening, which encouraged earlier mobility.

References