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Moderate Sedation in the Surgical ICU

On September 1, 2021, a patient was admitted to the Surgical ICU following a triple coronary artery bypass grafting. The patient arrived to the floor intubated with an IV infusing Diprivan and Dexmedetomidine, two types of sedatives to create patient tolerance of the ventilator via moderate sedation. The physician had planned for the endotracheal tube to be discontinued anywhere from 6-10 hours post-op, so these sedatives would only be needed short term and in small amount. Upon report, the receiving RN was told by the PACU RN that the patient was sedated but responsive to touch. During the initial assessment of the patient by the receiving RN, she noted a negative 5 on the Richmond Agitation Sedation Scale. For a patient who requires moderate sedation, this finding is unexpected. The nurse expected to find a negative 2 or negative 3 on the scale, considering the patient does not require deep sedation. The nurse continued to attempt stimulating the patient by performing sternal rub and attempting to get a response to painful stimuli. With little to no response, the nurse slows the rate of the sedating drugs down on the IV pump. This brought the heart rate up some, but the patient remained unresponsive to voice and touch. At this point the RN gathers the vital signs and calls the physician.

Once the physician comes to observe the patient condition, they realize the PACU RN made a medical error when initiating the Diprivan and Dexmedetomidine, and forgot to lower the dose on the IV pump after the initial bolus of Diprivan was given. Diprivan is not reversible once it enters the body, and the patient was showing the negative 5 on the RASS score because the effects of the high dose of Diprivan had not worn off after the RN turned down the infusion.

The physician ordered a wean down to a sedation vacation and to continue to monitor respirations and vital signs closely.

Describe the scenario. In what way did the patient care or environment lack? Is this a common occurrence?

In the scenario, a patient who had received heart surgery was placed on moderate sedation while intubated post operatively. There was to be a loading dose of Diprivan given then titrated once stable and to achieve moderate sedation with response to voice and touch. The patient arrived to the SICU and was found to have a RASS score of negative 5. The RN was expecting the patient to be more awake considering what was passed onto her from the PACU RN. After more assessment the RN found it necessary to contact the physician for orders and insight. Once realizing the patient was over sedated in the PACU and was continuing to be over sedated upon arrival to a new unit, the medication was reduced significantly to illicit patient response with close monitoring.

What circumstances led to the occurrence?

There were several factors leading up to the incident. The physician could have given orders that were not clear, or the PACU nurse could have misinterpreted them. The PACU nurse may have forgot to change the dose on the IV pump after the initial bolus. The receiving RN failed to check the IV pump settings against standing orders and what is normal for moderate sedation.

In what way could you measure the frequency of the occurrence? (interviewing nurses, examining charts, patient surveys, observation, etc)

When a new patient is admitted to the floor, the charge nurse comes to write down the current rates of IV fluids/medications and settings of other equipment being used by the patient. We can observe the rates we associate with deeper sedation and see if patients are being admitted to the floor with those rates (depending if they are on weight based). Receiving RN's can be more observant and do neuro assessments sooner upon arrival and make sure they use meticulous charting. You can also ask nurses on the floor how many times they experience a patient having a different level of consciousness than what was told to them in report.

What Evidence based ideas do you have for implementing interventions to address the problem?

Providing nurses with an outline of the RASS score with transfer orders and implementing a standard protocol regarding assessment of sedation upon arrival.

- Provide nurses with a sheet to write down each medication infusing and at what rate/dose upon report vs. what they see the pump running upon arrival
- Provide guidelines for quick reference of usual rates to expect based on level of sedation
- Ensure the nurse knows what level of sedation their patient requires based on doctors' order and common procedures

How will you measure the efficacy of the interventions?

Measuring the efficacy can be done by watching trends of sedated patients and how well moderate sedation is tolerated by ventilated patients. We can monitor the charting of nurses in regards to the sedation level the patient is exhibiting vs. the level of sedation required for the

scenario. Medication errors can be alleviated by implementing strict read-back on verbal orders and using extreme caution with sedating medications.