

Quality Improvement Activity: Timely Antibiotic

Describe the scenario.

A 35 year-old female arrives to the day surgery unit at 0600 for a scheduled hysterectomy. The nurse begins her admission and reviews the pre-op orders. The physician has ordered that an IV be placed, intravenous fluids, and administration of a prophylactic antibiotic 30 minutes prior to the set surgery time at 0800. The TPCN informs the IV nurse on the unit that the patient is ready to have her IV placed. The IV nurse gathers her supplies and enters the patient room. She establishes the IV access and hangs the ordered fluids. After ensuring that there are no complications with the site she notifies the TPCN that the IV has been started and the ordered LR is hanging. The primary nurse ensures that the H&P has been complete and all consents have been signed. She then informs her patient that the OR team will be there to get her shortly when they are ready to begin surgery. At 0700 the nurse receives another admit. She quickly completes her admission and then accompanies a co-worker downstairs to the cafeteria to get breakfast. Twenty minutes later the nurse arrives back to the unit. It is 0755 by this time and the nurse remembers that she needs to administer the prescribed antibiotic for her hysterectomy patient. She pulls the medication from the pyxis and goes into the room. The nurse begins the infusion at the ordered rate then exits the room. Ten minutes late the OR team calls and notifies the nurse that they are coming to get the patient. She heads into the patient room to find that the antibiotic is still over half full. She disconnects the medication anyway and informs the patient that the surgery team is on their way to get her. After surgery, the patient arrives back to the unit for post-op observation. Two hours after surgery the patient notifies the nurse that she is not feeling well. The post-op nurse recognizes that the patient is experiencing fever and chills. She decides to contact the physician and asks that he come see the patient. The physician ordered cultures to be drawn and stated that he would be by later to see the patient. When he arrives to the unit he inspects the surgical site and finds it to be reddened, swollen, and painful. Results for the drawn cultures reveal *S. aureus* to be present.

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

The TPCN who admitted this patient failed to provide quality care. She did not manage her time appropriately and was unable to complete necessary orders. I do think that it is common that nurses do not always prioritize the needs of the patient and fail to understand the importance of following orders as accurately as prescribed.

What circumstances led to the occurrence?

The primary nurse for the patient did not appropriately manage her time and complete the required orders. She may have felt over worked after her new admission arrived and decided to take a break at an inappropriate time. She did not ask another nurse to hang the antibiotic for her at the recommended time before leaving the unit, and she failed to get back in time to hang it at the correct time.

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

In order to determine how often antibiotics are administered in the timely manner, we could review the MAR to see exactly what time the medications were scanned and given. That time should be compared to what is ordered by the physician or when the patient's surgery begins.

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

Evidence shows that prophylactic antibiotic administration should occur at least 30 minutes before surgery and not more than 60 minutes before the first cut. In order to be sure that antibiotics before surgery are being as closely administered to that time frame as possible the OR and pre-op floor should communicate effectively to verify when the surgery will start and when the antibiotic should begin infusing in order to allow it to be given within the appropriate time slot. Nurses should use reminders to ensure that they do not forget to begin the infusion of the medication. If the nurse is aware that the antibiotic has not been infused or hasn't been completely given, she should collaborate with the OR and they should work together to ensure that it is able to be given as ordered prior to the beginning of surgery.

How will you measure the efficacy of the interventions?

In order to measure how effective interventions have been we should monitor all post-op patients who were ordered and given antibiotics. We should note the time frames that they were given and compare them to when surgery began. Charting should be done to monitor all patients after surgery and documentation of any complications that may be related to infection should be kept. Data can be compared to determine if the times that antibiotics are given appropriately benefit patients.