Preventing Blood Transfusion Errors in the Operating Room: Redesigning the Patient Identification Process

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Introduction

- Blood transfusion errors caused by patient misidentification can be catastrophic.
- Current evidence confirms integrating technology such as barcode scanning promotes enhanced safety for patients through reduction of blood transfusion errors.1,2,3
- In 2016, nursing informaticists redesigned the patient identification verification process during blood transfusion administration in the OR using barcode scanning and dual patient identification.
- Prior to 2016, barcode scanning for blood product accuracy was in use for patient identification at a large academic healthcare system however not being used in the operating room (OR).

Methods

- A multidisciplinary workgroup comprised of nurses, certified registered nurse anesthetists, patient registration representatives, nursing informaticists, organizational leaders, and a regulatory readiness leader analyzed processes in the OR, identified barcode scanning as best practice, and identified barriers to barcode scanning in the OR setting.4,5
- After completing a Failure Mode and Effects Analysis (FMEA) to identify potential barriers to implementing barcode scanning in the OR, the workgroup designed a two-step solution to allow for barcode scanning in the OR:
  - Adding a second patient identification band to the patient label document.
  - Patient identification verification:
    - Preoperative nurse validates the patient’s identification by verifying the patient identification bands are correct and documents on the preoperative checklist.
    - Prior to the initiation of the procedure, the intraoperative OR staff performs a time-out including verification of the patient identification bands. The patient identification band is placed in a holder attached to the anesthesiologist’s computer monitor in the OR, allowing the anesthesiologist to barcode scan for patient identification.
    - Circulating nurse documents a debrief timeout in EMR, verifying the second patient identification band was discarded post procedure to ensure it would not be used on subsequent patients coming into the OR.

Results

- In 2017, the organization had zero transfusion errors and barcode scanning compliance rate of blood products in the OR was 95.6%.
- In 2018, the organization had zero transfusion errors and a 94.4% barcode scanning compliance rate.

Conclusions

- The newly designed process addressed issues with patient identification during blood transfusion in the OR and improved the consistency of patient identification and verification of blood products to be transfused during surgical procedures.
- Nursing informaticists worked with the EMR vendor to create a report specific to barcode scanning of blood products in the OR to expand the opportunity to measure and report quality data. The report gives compliance on both blood product and patient identification scanning and outlines specific user information to allow for follow up of any barcoding issues.
- With positive outcomes following the implementation of the pilot project at one hospital campus, the workgroup scaled the project and implemented the new process at the remaining 11 hospital campuses throughout the system.

Purpose

- The purpose of the project was to implement barcode scanning of blood products in the OR to ensure consistency in positive patient identification and reduce the risk of transfusion errors.

References


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