OR Specimen Labeling

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ABSTRACT

Mislabeled surgical specimens jeopardize patient safety and quality care. The purpose of this project was to determine whether labeling surgical specimens with two patient identifiers would result in an 80% reduction in specimen labeling errors within six months and a 100% reduction in errors within 12 months. Our failure mode effects analysis found that the lack of two patient identifiers per label was the most unsafe step in our specimen handling process. We piloted and implemented a new process in the OR using the Plan-Do-Check-Act conceptual framework. The audit process included collecting data and making direct observations to determine the sustainability of the process change; however, the leadership team halted the direct observation audit after four months. The total number of surgical specimen labeling errors was reduced by only 60% within six months and 62% within 12 months; therefore, the goal of the project was not met. However, OR specimen labeling errors were reduced.
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Personnel at our urban academic medical center in Chicago, Illinois, send an average of 500 specimens per month from the OR to the pathology laboratory. Of those 500 specimens, the number of mislabeled specimens has ranged from zero to 10 each month, with an average of four mislabeled specimens per month. Recently, personnel submitted 36 occurrence reports within a nine-month period because of mislabeled OR specimens. Reasons for the reports included a mismatch between the specimen requisition and the specimen container label in terms of the name, location, or laterality of the specimen. Mislabeled specimens present significant patient safety issues because mislabeled specimens lead to misdiagnoses; wrong, inappropriate, or delayed treatment; and specimens that cannot be processed, which results in prolonged or repeated surgery for patients. Additionally, uncorrected errors promote a work culture that is unsafe and results in poor-quality, unsafe, and inconsistent nursing practice and patient care.

PROBLEM

At our facility, the standard of practice in the OR when handling surgical specimens is for the RN circulator to place a label with two patient identifiers on the specimen container and requisition.[1,2] The most common identifiers used are the patient's name and date of birth.[1] A risk manager at the hospital conducted a root cause analysis that revealed that nurses in the OR were not checking the two patient identifiers, there was no standardized process for handling specimens in the OR (eg, nurses processed specimens differently from each other), and current practice did not match the professional standards of our hospital, AORN,[3] or the Association of Surgical Technologists (AST).[2]

DESCRIPTION OF THE SETTING

Our facility is an 18-bed OR in a teaching hospital in which personnel perform approximately 13,500 surgeries per year. Surgical personnel send more than 5,000 specimens per year from the OR to the pathology laboratory. These specimens include tissue from orthopedic, general surgery, oncologic, gynecologic, otorhinolaryngologic, transplant, and ophthalmologic procedures.

STATEMENT OF GOALS

The purpose of this project was to identify causes of mislabeled surgical specimens, develop new OR interventions to reduce the number of mislabeled specimens, and determine

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whether implementing a policy that requires RN circulators to use two patient identifiers per label and verify the label with another health care provider would result in an 80% reduction in specimen labeling errors within six months and, if possible, a 100% reduction in errors within 12 months.

REVIEW OF THE LITERATURE

According to the literature, unrecognized, mislabeled surgical specimens are a common occurrence and a patient safety concern.[4,5] Eliminating specimen labeling errors by implementing a standardized patient identification process, creating independent checks for processes, and learning from mistakes are ways to reduce errors and improve overall patient safety in the OR.[4,5] It is essential that personnel identify specimens correctly at the point of collection for physicians to accurately diagnose and treat patients.[6] To reduce specimen labeling errors and improve patient safety, the Failure Mode and Effects Analysis (FMEA) team at the Children's Hospitals and Clinics of Minnesota successfully implemented a zero-tolerance specimen labeling process after using an FMEA to identify flaws in their system. The FMEA team used communication strategies to balance safe patient care, practice solutions, policies, and physician satisfaction to implement a new organizational policy on specimen labeling. The results of the new policy showed a 75% decrease in the number of specimen labeling errors within six months.[6]

According to AORN's *Guidelines for Perioperative Practice*,[3] accurate specimen handling requires effective multidisciplinary communication, minimal distractions, and an awareness of potential opportunities for error. The RN circulator should verify the patient identification and specimen information by asking the surgeon for verbal verification of this information before the scrub person transfers the specimen from the sterile field. The RN circulator should use the "write down, read back" method to verbally confirm the patient identification and specimen information with the surgeon and scrub person to minimize the risk of miscommunication. He or she should immediately label the specimen after its transfer from the sterile field. Team members should identify the patient by using two unique identifiers at the time the specimen is removed from the patient and placed into the specimen container according to hospital policy.[3] For example, in our project, the unique patient identifiers used according to hospital policy were the patient's name and date of birth. The RN circulator should confirm the specimen identification and labeling with the surgical team during the end-of-procedure debriefing, which should include verification that the patient information on the label and requisition are correct and legible.[3]

METHODOLOGY

The success of the project and practice change depended on acceptance, support, and buy-in from the entire OR team for the duration of the project. To become an effective leadership team, achieve the organizational goal, and obtain acceptance and buy-in, I formed a multidisciplinary OR Specimen Labeling Committee (ORSLC) as a subcommittee of the Patient Safety Committee to eliminate barriers and professional silos that interfere with collaboration and safe practice.[7,8] The chief safety and risk officer, the OR leadership team, and the chairperson of pathology supported the goal of improving the process of identifying and handling OR specimens from surgeon hand over to specimen receipt in the pathology laboratory. The committee was composed of a chairperson, surgeons, OR administrators, nurses, an OR technologist, a risk manager, pathologists, and a pathology technologist. The institutional review board gave our project an exemption because they considered it quality improvement.

FMEA

In this project, the team used the FMEA process to identify system issues by exposing unsafe steps that led to surgical specimen labeling errors in the existing OR process. The purpose of using the FMEA was to design a new process of specimen labeling that prevents errors rather than simply detecting them.[9] I began the FMEA process by asking the OR staff committee members to list every step in the process of specimen collection in the OR from the patient registering for surgery to the receipt of specimens in the pathology laboratory. The committee eliminated the steps in the process that did not specifically focus on specimen handling, and this reduced the list from approximately 30 steps to 14 steps (Table 1). I completed the FMEA form (Table 2) and the committee scored the steps (Table 3) after consulting with the ORSLC members to assess criticality. After the steps were scored, I computed the overall criticality scores and assigned rank (Table 4). The FMEA identified the most critical failures in the current process that led to mislabeled specimens to be the

- RN circulator placing labels on specimen containers,
- RN circulator completing pathology requisitions, and
- scrub person handing off the specimen to the RN circulator.

The FMEA revealed other failures in the current process, including

- not using two patient identifiers when the team members performed the initial patient verification and during specimen collection,