

Nurse Knowledge of Intrahospital Transport



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KEYWORDS

- Intrahospital transport (IHT) • Patient safety • Clinical handover • Nurse anesthesia • Nurse

KEY POINTS

- Preventable adverse events and other medical errors occur to hundreds of thousands of Americans every year. The financial burden of these preventable events is estimated to be \$29 billion. According to the World Health Organization, reducing medical errors has become an international concern.
- Protecting patients from harm is a primary responsibility of all nurses regardless of whether the nurse works in the intensive care unit or operating room. Adherence to intrahospital transport (IHT) policies to maintain patient safety can be discerned once the level of the knowledge of these policies among nurses is determined.
- Improving patient safety during IHT involves management of essential elements of IHT, including communication, personnel, equipment, and monitoring. Although patient safety obstacles are apparent in each stage of IHT, communication during handover is consistently inadequate. Knowledge of the clinical handover policy is essential in following established structure during communication. Recommendations for improving patient safety during IHT consistently include equipment management, team composition, and enhanced communication through education and training.
- Recognition of IHT risk requires anticipatory guidance and communication between providers. Assembling proper equipment and medications for IHT depend on providers knowing their role based on policies generated by the organization.
- The analysis of survey results also demonstrates differences in 3 core elements of IHT among the provider groups: preplanning, personnel requirements, and communication. Knowledge of these 3 elements and policies differ significantly among providers, whereas no differences exist because of experience with IHT or training. As clinical decision making is based more on best practice and policy, knowledge of policies is essential.

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NURSE KNOWLEDGE OF INTRAHOSPITAL TRANSPORT: A DOCTORATE OF NURSING PRACTICE PROJECT

Critically ill patients are transferred to locations outside the intensive care unit (ICU) by intrahospital transport (IHT) for procedures or diagnostic testing. Up to 52% of patients in ICUs are transported at least once to departments such as surgery.¹ During these transports, up to 70% of patients may suffer an adverse event, such as hypotension, dysrhythmias, hypoxemia, or cardiac arrest.² In 2001, the Agency for Healthcare Research and Quality (AHRQ) recognized these types of IHT to be a patient safety issue and placed priority on development of practices to reduce patient risk (<http://archive.ahrq.gov/clinic/ptsafety/chap47.htm>). Warren and colleagues³ developed safety guidelines for IHT components (team composition, handover communication, and checklists) and recommended planning, use of qualified personnel, and focus on proper equipment management. Despite these guidelines and recommendations, adverse events and patient safety issues continue to occur during IHT. In 2007, equipment and patient instability were identified as issues contributing to adverse events, whereas training and education were recommended to improve adherence with guidelines.⁴ Adverse events may occur in up to 68% of all IHT, with 4.2% to 8.9% requiring therapeutic interventions.⁵

To transport critically ill patients in a safe and effective manner, a large magnet hospital in the Southeastern United States developed a specific IHT policy and a clinical handover policy, including specific definitions and procedures. The anesthesia department created a checklist describing core elements of IHT for direct admissions and specified equipment and personnel required for IHT. Data from this hospital's perioperative enterprise reporting revealed the main operating room performed 3294 procedures on patients from the trauma ICU (TICU) from January 1, 2012 to June 30, 2012. During this period, approximately 12% or 397 of these patients were transferred directly from the TICU to the operating room using IHT. As adverse events may occur in up to 70% of all IHT, compliance with the hospital's IHT policy is essential in minimizing risk.

The assessment of compliance with IHT policy begins with an evaluation of potential failure modes that may interfere with the implementation of safety policies.⁶ The scope of this project included examination of the primary findings from the literature regarding patient safety issues during IHT, description of hospital policies, and checklists for IHT and assessment of ICU nurse and nurse anesthetists' knowledge of these policies. Five core elements of IHT derived from the literature were assessed in this project: (1) preplanning, (2) appropriate personnel, (3) appropriate equipment, (4) continuous monitoring, and (5) documentation/communication of patient status.⁷ The results of this project provide insight into provider knowledge, which is foundational to the direction of future quality and patient safety improvement efforts.

STATEMENT OF THE PROBLEM

IHT is associated with adverse events and presents risk for patient safety.^{2-5,8} Despite safety initiatives, adverse events continue to occur and can include hypoxemia, hypothermia, arrhythmia, hypotension, hypertension, pneumothorax, intracranial hypertension, accidental extubation/loss of airway, bronchospasm, equipment failure, wrong patient transports, cardiac arrest, and death.⁵

At the hospital that provided the setting for this project, IHT affects 12% of trauma patients undergoing surgery. The hospital has a specific policy for IHT, which includes guidelines for preplanning, equipment, monitoring, personnel, and communication to support the patients' physiologic needs during transport. Steps in the process of IHT

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