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Patient Safety Tip of the Week

March 4, 2025

Perioperative Intrahospital Transports

Lots can go wrong during intrahospital transports (see the list of our many columns on this topic below). The original "**Ticket to Ride**" checklists were developed when clinicians recognized that many patients ran out of oxygen during intrahospital transports. But there are many other things that can go wrong during intrahospital transports.

The Anesthesia Patient Safety Foundation Newsletter recently had a great article on perioperative intrahospital transports, particularly from the perspective of the anesthesiologist (Andrew 2025). The authors note that the incidence of intrahospital adverse events (ITAE's) during transport or within 24 hours of transport approaches 80% in some studies, but that most of the literature involves intrahospital transports for patients in ICU's or ER's.

They note that the perioperative patient is likely particularly vulnerable during intrahospital transports, citing production pressure, reduction in support personnel, and increased patient acuity as likely heightening the risk of perioperative transport.

From the literature, they put together a table with ITAE's classified as respiratory, cardiovascular, neurological, and equipment related. They cite a multicenter study involving critically ill patients (Zirpe 2023) that found 102 ITAE's identified in the following categories:

- cardiac (30.3%)
- airway and/or respiratory (17.6%)
- neurologic (16.6%)
- equipment problems (12.7%)

They put together a "Perioperative Intrahospital Patient Transport Checklist" that contains specific items and considerations under those and other categories. It includes considerations before, during, and after transport. Not only does it include ensuring an adequate oxygen supply and mode of administration, but it also includes ensuring that a transport ventilator is charged and working. It also makes sure that any infusion pumps

and monitors are charged. Of course, it lists items and drugs that might be needed for resuscitation or airway management are available. It has multiple other items right down to the final steps of plugging the bed in, connecting the monitors, and performing a comprehensive handoff.

The authors further note that ASA guidelines on PACU transport state that a patient who has received general anesthesia, regional anesthesia, or monitored anesthesia "shall be accompanied by a member of the anesthesia care team who is knowledgeable about the patient's clinical condition."

They also note some of the physical and ergonomic challenges anesthesia personnel are subjected to during such patient transports. They note that transport stretchers or beds may weigh as little as 100 pounds but up to as much as 700 pounds and that bed width and length may be challenging to maneuver while simultaneously managing an airway or performing an intervention during an ITAE. Those comments remind us that one item which should always be considered is the route to be taken. We've seen instances where size of the bed with all attachments did not fit a particular elevator or access door.

This is a good checklist. We'd anticipate it could be modified for the particular type of surgical patient being transported. For example, we'd expect an orthopedic or neurosurgical patient might have different additional considerations than, say, a gynecological or ENT patient.

Your facility may have a generic "Ticket to Ride" checklist that's used for transport of patients from a general floor and maybe one for ICU patients. But how many of you have one specifically for perioperative patient transports?

Some of our prior columns on intrahospital transports and the "Ticket to Ride" concept:

- April 8, 2008 "Oxygen as a Medication"
- November 18, 2008 "Ticket to Ride: Checklist, Form, or Decision Scorecard?"
- August 11, 2009 "The Radiology Suite…Again!"
- March 13, 2012 "Medical Emergency Team Calls to Radiology"
- August 25, 2015 "Checklist for Intrahospital Transport"
- September 1, 2015 "Smarter Checklists"
- November 2016 "Oxygen Tank Monitoring"
- February 2018 "Oxygen Cylinders Back in the News"
- May 22, 2018 "Hazardous Intrahospital Transport"
- October 30, 2018 "Interhospital Transfers"
- March 31, 2020 "Intrahospital Transport Issues in Children"
- June 23, 2020 "Telemetry Incidents"
- July 14, 2020 "A Thesis on Intrahospital Transports"
- August 4, 2020 "Intravenous Issues"

- February 2021 "Risk from Intrahospital Transfer: Healthcare-Associated Infection"
- May 25, 2021 "Yes, Radiologists Have Handoffs, Too"
- July 2021 "Unique Way to Rapidly Identify Oxygen Flow"
- April 2022 "Safety Issues in Interhospital Transports"
- January 31, 2023 "Alert on Oxygen Cylinder Use"
- June 20, 2023 "What Can Go Wrong on Intrahospital Transport?"
- November 19, 2024 "Oxygen Disruption Events"

References:

Andrew C, Fitzsimons M. Intrahospital Patient Transport: Checklists, Adverse Events, and Other Considerations for the Anesthesia Professional. APSF Newsletter 2025; 40(1): 24-26
https://www.apsf.org/article/intrahospital-patient-transport-checklists-adverse-events-and-other-considerations-for-the-anesthesia-professional/

Zirpe KG, Tiwari AM, Kulkarni AP, et al. Adverse events during intrahospital transport of critically ill patients: a multicenter, prospective, observational study (I-TOUCH Study). Indian J Crit Care Med 2023; 27: 635-641
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