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Patient Safety Tip of the Week

December 9, 2025

Intrahospital Transport of Critically Ill Children

We've done numerous columns on the hazards of intrahospital transport (see list below). Intrahospital transport is especially hazardous for critically ill or anesthetized children. Haydar recently did a review of the many "error traps" encountered in transporting such children for invasive procedures, diagnostic testing, or transfer within the hospital (Haydar 2025) and identified 5 key error traps:

Error Trap #1: Failure to Fully Weigh All Risks, Costs, and Benefits Associated with Transport for a Procedure or Test
When we do a root cause analysis or investigation after a serious patient safety event related to a procedure or transport, one of the first questions we ask is "Was the procedure really necessary?". You'd be surprised how often the likely benefit from the procedure was outweighed by the potential risks. Haydar elevated this to his #1 error trap.

He notes that risk estimation of adverse events during transport is an essential first step and is best performed by the anesthesiologist in concert with the intensivist, noting that both the degree and nature of physiological support as well as the number of nursing and physician bedside interventions required impact risk. He notes that the majority of adverse events during transport are respiratory in nature and describes many such events. He gives one example where a high risk patient is sent for a CT scan, when a portable CT scan might have been more appropriate.

He also notes that most transport-associated events occur during post-procedure transport. He therefore recommends that, if the patient's physiologic support requirements have increased significantly after the procedure, the transport team should consider intensivist or consultant assistance with patient optimization prior to transport back to the ICU.

Error Trap #2: Failure to Secure Appropriate Resources for Transport and at Every Destination

The original "Ticket to Ride" checklists came about because oxygen ran out on many intrahospital transports (some say as many as 50% of such transports had oxygen shortages). But those checklists have evolved into much more comprehensive checklists to prepare for a multitude of events that might occur during a transport. Haydar points out that you must plan ahead to ensure that you have all the personnel, supplies, equipment, medications, and monitors that you need, not only for the transport itself but also at each site the patient will be stopping. He notes that the transport team leader, often an anesthesiologist, should count all tasks required during transport and have an appropriately skilled team member dedicated to each one.

Lastly, he points out something that transport teams often fail to do - careful route planning. Ensuring hallways are passable and obtaining an elevator key (if needed), are examples that should be done in advance.

Error Trap #3: Failure to Provide Pertinent Information During Transfers of Care
Think about the number of handovers that occur during an intrahospital transport. The team in the ICU or PACU must provide all appropriate information to the transport team. The transport team (and probably also the team back in the ICU or PACU) must also provide information to the team in the radiology suite (or other destination). Then, after the procedure has been completed, the procedure team must communicate back to the transport team and the ICU or PACU team. Lastly, the transport team must do a handover to the team back in the ICU or PACU.

Haydar provides examples of various handover checklists that might be used.

Error Trap #4: Failure to Anticipate Physical and Physiological Changes Associated with Transport
Haydar notes three important categories of changes occur when critically ill patients are transported for anesthesia care:

- changes in equipment
- changes in patient position
- physiological effects of medications administered to facilitate transport.

Haydar provides specific examples of each as they apply to the child being transported.

Error Trap #5: Failure to Execute the Plan Effectively as a Team
It's obvious that any type of intrahospital transport requires effective teamwork. Leadership, delegation, communication, coordination and culture (both team culture and hospital culture) are all important elements of successful transports.

Haydar concludes: "Improving the safety of patients during this period should include multidisciplinary discussion and resource optimization; use of systematic tools, standardized communication, and checklists to improve processes of care; encouraging the prioritization of a culture of safety around transport; and adapting the team composition and leadership style to suit the specific clinical scenario."

While Haydar's review is about transporting critically ill and anesthetized children, most of the principles and recommendation apply equally to almost any intrahospital transport. Great article!

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"
- March 4, 2025 "Perioperative Intrahospital Transports"

References:

Haydar B. Error Traps in the Intrahospital Transport of Critically Ill and Anesthetized Children. Paediatr Anaesth 2025; 35(7): 497-503
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