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Patient Safety Tip of the Week

June 20, 2023

What Can Go Wrong on Intrahospital Transport?

There are certain times during a hospitalization that patients are especially vulnerable. One of those times is the intrahospital transport. A case with fatal consequences provides one example of what can go wrong (CDPH 2020).

A patient with a history including high blood pressure and coronary artery disease with bypass grafts was admitted to a facility through the emergency department with a chief complaint of rectal bleeding. The patient was to be admitted to telemetry service and the telemetry monitoring order for the patient, continued throughout the patient's hospitalization. On the fourth hospital day the patient had a colonoscopy in the gastrointestinal laboratory and was discharged from the GI lab back to the telemetry unit. Progress Notes signed by a physician at 2 PM indicated no complication and no bleeding related to the colonoscopy.

The patient returned to the inpatient unit at 2:10 PM. The nurse's note at 2:20 PM indicated patient's oxygen saturation was 94%, blood pressure 130/97, and temperature was 97.7 degrees Fahrenheit after colonoscopy. At approximately 2:50 PM the patient was found to be unresponsive, and a Code Blue was called. CPR was administered unsuccessfully, and the patient was declared dead at 3:15 PM.

The patient had not been connected to telemetry on returning from the colonoscopy. Investigation disclosed that the patient's portable telemetry box was located in the bottom of her chest pocket, but the RN did not see it when the patient returned to the telemetry unit.

The Clinical Supervisor (CS) of the GI lab stated that, when a patient was on telemetry monitoring, the practice was to connect the patient's telemetry monitor to the wall monitoring system in the GI lab where staff monitor the patient's cardiac rhythms during the patient's procedure. The CS further stated after the GI procedure, the staff would disconnect the patient's telemetry monitor from the GI lab's wall monitoring system and would reconnect the patient to the portable telemetry monitor where it will be

continuously monitored remotely from the facility's central telemetry monitoring area. The CS further stated she assisted with transporting Patient A back to the telemetry unit and gave report to the patient's nurse.

Director of the Medical/Surgical/Telemetry unit (DMST) stated the patient was disconnected from the portable telemetry monitor when the patient was in the GI lab. The DMST stated the telemetry monitor should have been connected immediately when the patient returned to the unit after having the colonoscopy. The DMST stated the patient's portable telemetry box was located in the bottom of a chest pocket but the RN did not see it when the patient returned to the telemetry unit.

The Telemetry Technician (TT) stated she remembered when RN1 told her the patient left the telemetry unit earlier for a procedure, but she did not receive a call when the patient returned to the unit. The TT stated if the patient was connected to her portable telemetry monitor after the colonoscopy was completed, she would have seen a rhythm on her remote monitoring system, but she did not see a rhythm. The TT further stated she called the telemetry unit multiple times to inform them that the patient had no cardiac rhythm being monitored but no one answered the phone. The TT stated that, when she was able to speak with a nurse in the telemetry unit, the patient had already suffered a cardiac arrest.

An interview with the telemetry unit RN stated when the patient returned from the GI lab the patient was alert and oriented. The RN stated she saw the telemetry leads in the pocket of the patient's gown, but the leads were not connected to a portable telemetry monitor box and she could not locate the patient's portable telemetry monitor box. The RN stated while she went to look for another telemetry monitoring box, she ran into the patient's physician and then started to look over the patient's discharge paperwork. The RN stated later she overheard another RN call a Code Blue for the patient. She stated that, during the Code Blue, the Telemetry Technician called to notify her that the telemetry monitor lead was disconnected but the TT had not notified her prior to the Code Blue.

This case obviously highlights several failures in communication. But one of the ways we try to ensure that important items don't get forgotten is by using the "**Ticket to Ride**" **intrahospital transport checklist**. The "Ticket to Ride" checklist originated to ensure patients did not run out of oxygen during transports to other areas of the hospital, such as the radiology suite or procedural areas. But the checklist has evolved to include consideration of all items that are important when a patient is sent to those areas. Such a checklist is usually standardized but usually includes a place for including attention to medical devices that may be attached to a patient, such as a telemetry transmitter.

And the "Ticket to Ride" must be done in both directions. That is, it must convey what needs to be done when the patient is transported from a unit to that other area and then again when the patient is transported from the other area back to the unit of origin. Thus, it should have reminded the staff in the GI lab to connect the patient to telemetry and

then alerted the nursing staff on the telemetry unit to make sure that patient got reconnected to telemetry.

We also refer you back to our August 25, 2015 Patient Safety Tip of the Week "Checklist for Intrahospital Transport" for discussion about the many factors contributing to incidents related to intrahospital transports. These include equipment failures, oxygenation issues, battery/power issues, and things like attention to patient hydration. And don't forget the problems that arise when sending diabetic patients off for substantial periods of time (what to do with their insulin, planning for meals, etc.). We refer you to a Netherlands study (Brunsveld-Reinders 2015) to actually see the checklist they created for intrahospital transports. The article also addresses transport team composition (which may vary depending upon whether the patient is ventilated or on pressors or inotropes) and education/training needs for members of the transport team.

A good "Ticket to Ride" type checklist for intrahospital transport should cover all three phases of transport: pre-transport, during-transport, and post-transport (Jarden 2010, Brunsveld-Reinders 2015).

Telemetry is overutilized in most hospitals. In fact, when we discuss alarm fatigue with hospitals, we tell them the first area of focus should be to eliminate telemetry in those patients not meeting accepted guidelines for starting or continuing telemetry. But, when patients do meet criteria for telemetry, it is important to ensure that telemetry is properly implemented. Our June 23, 2020 Patient Safety Tip of the Week "Telemetry Incidents" summarized our many examples of things that can go wrong related to telemetry.

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"

Some of our prior columns on the hazards associated with telemetry:

- June 19, 2007 "Unintended Consequences of Technological Solutions"
- April 1, 2008 "Pennsylvania PSA's FMEA on Telemetry Alarm Interventions"
- February 23, 2010 "Alarm Issues in the News Again"
- July 2011 "What's New in the Patient Safety World"
- February 4, 2014 "But What If the Battery Runs Low?"
- May 22, 2018 "Hazardous Intrahospital Transport"
- June 23, 2020 "Telemetry Incidents"
- February 7, 2023 "Reducing Unnecessary Telemetry"

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