

1 Problem

What When	Problem(s)	Enteral feeding through intravenous (IV) line
	Date	Various
Where	Different, unusual, unique	Connectors allow functionally dissimilar tubes or catheters to be connected
	Facility, site	Healthcare facilities
	Unit, area, equipment	Luer connectors
Impact to the Goals	Task being performed	Use of enteral feeding and IV
	Frequency	TJC found 116 case studies involving misconnections directing enteral feeding solutions into IV lines, resulting in 21 deaths
	Patient Safety	High potential for death, serious injury
	Compliance	"Never event"
	Patient Services	Improper delivery of required care
	Property/ Equipment	Misconnections physically possible

RE-ENGINEERED CONNECTORS MAY PREVENT TUBING MIX-UPS

Cause Map

Tubing misconnection issues, which can have a severe impact on patient safety, have been reported since the 1970s. The Joint Commission found 116 case studies, including 21 that resulted in deaths, where enteral feeding solutions were accidentally directed into intravenous (IV) lines. Action is being taken that would prevent these misconnections by ensuring that each type of tubing has its own, non-compatible connector.

"The basic lesson from these cases is that if it *can* happen, it *will* happen. Luer connectors are implicated in or contributed to many of these errors because they enable functionally dissimilar tubes or catheters to be connected."

- The Joint Commission Sentinel Event Alert Issue 36 dated April 3, 2006

"A well-designed device should prevent misconnections and should prompt the user to take the correct action."

- Stephanie Joseph, project engineer, ECRI Institute

"Having a unique connector for each type of medical delivery system instead of one universal Luer connector will reduce the risk of accidentally connecting unrelated systems, like connecting a feeding tube to an intravenous line."

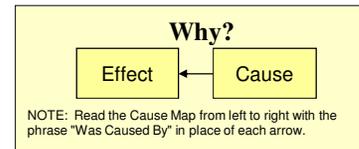
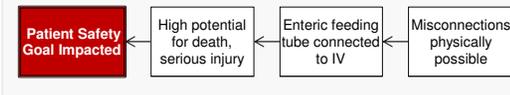
- Gina Pugliese, vice president, Premier Safety Institute

2 Analysis

Basic Level Cause Map - Start with simple Why questions.

Basic Cause-and-Effect

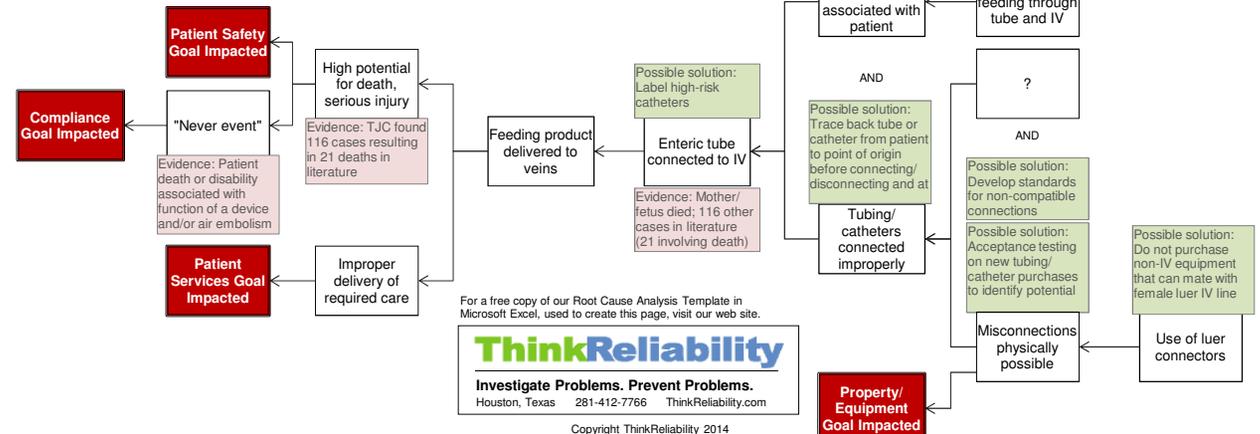
Because misconnections are physically possible between feeding tubes and IVs, patient safety is at risk.



3 Solutions

No.	Action Item	Cause
1	Route tubes & catheters in different, standard directions (IV toward head; enteric towards feet)	Multiple tubing/ catheters associated with patient
2	Label high-risk catheters	Enteric tube connected to IV
3	Trace back tube or catheter from patient to point of origin before connecting/ disconnecting and at hand-off	Tubing/ catheters connected improperly
4	Develop standards for non-compatible connections	Misconnections physically possible
5	Acceptance testing on new tubing/ catheter purchases to identify potential for misconnection	
6	Do not purchase non-IV equipment that can mate with female luer IV line connectors	Use of luer connectors

More Detailed Cause Map - Add detail as information becomes available.



For a free copy of our Root Cause Analysis Template in Microsoft Excel, used to create this page, visit our web site.

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