1. **Problem**

- **What**
  - Problem(s)
  - Enteral feeding through intravenous (IV) line

- **When**
  - Date
  - Different, unusual, unique

- **Where**
  - Facility, site
  - Unit, area, equipment
  - Task being performed

- **Impact to the Goals**
  - Patient Safety: High potential for death, serious injury
  - Compliance: "Never event"
  - Patient Services: Improper delivery of required care
  - Property/Equipment: Misconnections physically possible

- **Frequency**
  - TJC found 116 case studies involving misconnections directing enteral feeding solutions into IV lines, resulting in 21 deaths

2. **Analysis**

   - **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)
     - 2. Label high-risk catheters
     - 3. Trace back tube or catheter from patient to point of origin before connecting/disconnecting and at hand-off
     - 4. Develop standards for non-compatible connections
     - 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

---

**RE-ENGINEERED CONNECTORS MAY PREVENT TUBING MIX-UPS**

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 accidently connecting unrelated systems, like connecting a feeding tube to an intravenous line."

- Gina Pugliese, vice president, Premier Safety Institute

---

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