

# Preventing Medical Errors

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FDA Patient Safety News

## More Patient Deaths from Luer Misconnections

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A recent FDA article in the publication "Safe Practices in Patient Care" highlights the serious errors that continue to occur when different devices that use Luer fittings are mistakenly connected to each other.

Luer connectors, fittings and locks are widely used because they are inexpensive and easy to use. But the connector design also makes it easy for unrelated delivery systems to be connected to each other, sometimes with disastrous results.

Some of these incidents occurred when tubing from a portable blood pressure monitor was mistakenly connected to the patient's IV line, causing fatal air emboli. In another case, an air supply hose from a pneumatic compression device was inadvertently hooked up to a needleless IV tubing port.

The FDA article describes still other kinds of misconnections. For example, during a lithotripsy procedure, an ultrasonic lithotripter suction hose was incorrectly inserted into the roller pump. Instead of debris from the fractured stone being suctioned from the kidney, air was pumped into it. The hose was reconnected after the mistake was discovered, but the patient went into cardiac arrest and died shortly afterwards. And in yet another example, a patient misconnected her Foley catheter to her nasogastric (NG) tube. She was found with the Foley catheter disconnected from the drainage bag but with one end still in her bladder. The other end was connected to her NG tube, and urine was going into her stomach.

All these examples show that these misconnections can occur with a wide variety of devices, and in any clinical setting. In 2006, JCAHO responded to these kinds of events by issuing a Sentinel Event Alert. JCAHO's alert lists a number of recommendations to help prevent these kinds of mistakes. Here are some of them:

- Do not purchase non-IV equipment with connectors that can physically mate with a female IV Luer connector.
- Always trace a tube or catheter before connecting any new device or infusion.
- When a patient arrives in a new setting or service, as part of the hand-off

process, recheck connections and trace all patient tubes and catheters to their sources.

- Inform non-clinical staff, patients, and their families that they must get help from clinical staff whenever their devices or infusions need to be connected or disconnected.
- Never use a standard Luer syringe for oral medications or enteric feedings.
- Be sure to emphasize the risk of tubing misconnections in orientation and training curricula.

**Additional Information:**

Gallauresi B, Eakle M, Morrison A. Misconnections between medical devices with Luer connectors: under-recognized but potentially fatal events in clinical practice, *Safe Practices in Patient Care*. Volume 3, No. 2.