ED ACCREDITATION UPDATE
COVERING COMPLIANCE WITH JOINT COMMISSION STANDARDS

TJC: Plan and prepare for the transition to new tubing connectors to minimize the risk of dangerous misconnections, clinician frustration

Phased-in transition to new tubing connectors set to begin early next year

Finally, the International Organization for Standardization (ISO) is rolling out new tubing connector standards designed to reduce the risk of accidental tubing misconnections. While such problems may not be on the radar screens of busy frontline health care providers, patient safety professionals are only too familiar with the risks posed by a misplaced connector.

"It is serious and it has been a problem for a long time because of the Leur connector that is shared by various types of tubing that access different body sites," explains **Michael Cohen**, RPh, MS, ScD, president of the Institute for Safe Medication Practices (ISMP) in Horsham, PA. "We have a medication errors reporting program, and every once in a while we get a report about a misconnection. This goes back many, many years."

The Joint Commission (TJC) is well acquainted with the problem as well. In fact, in August, TJC issued a Sentinel Event Alert noting that the risk for a tubing misconnection is high in hospital settings when you consider that most patients who are admitted to a hospital receive intravenous infusions of one type or another over the course of their stay. Further, the accrediting agency is putting health care organizations on notice that they need to be vigilant in managing the risk posed by these misconnections during the transition to the new ISO connector standards, which will be phased in over time.

Consider multiple types of misconnections

The most common type of tubing misconnection

EXECUTIVE SUMMARY

To reduce the risk of dangerous tubing misconnections, the ISO is rolling out new tubing connector standards that will eventually make it nearly impossible for tubing associated with one delivery system to be connected to a delivery system that serves a different purpose. Experts welcome the change, noting that tubing misconnections that cause injury and even death have been happening for years. However, TJC has issued a Sentinel Event Alert, warning that health care organizations need to be vigilant in managing the risk posed by these misconnections during the phased-in transition to the new connectors.

- Experts explain that tubing misconnections occur because many different types of tubing utilize the same Leur connector, making it possible for a clinician to mistakenly connect a tube to the wrong delivery system.
- The most common type of tubing misconnection reported to the ISMP is when a clinician wants to administer something to a patient through a feeding tube, but accidently administers the substance through an IV tube instead.
- The first new connector, called the ENFit, is going to be for enteral feeding tubes. It will not connect to IV tubing, making that type of misconnection unlikely. The new connector should be available early next year.
- Since hospitals will continue to use older tubing until their supplies are exhausted, manufacturers will temporarily provide adapters capable of making new administration sets compatible with older tubing.

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reported to ISMP is when a clinician wants to administer something to a patient through a feeding tube, but accidently administers it through the IV tube instead, explains Cohen. "Unfortunately, the tubing for administering [the feeding substance] that connects with the tubing in the patient is very much like IV tubing. It has the same connector," he explains. "So every once in a while [a clinician] prepares the feeding substance and … unfortunately, they connect it to an intravenous line — a central line catheter where it fits perfectly, and then it starts infusing."

This creates two types of problems, advises Cohen. "One, the level of sterility [in the feeding substance] may not be as great as you would see with IV fluids," he says. "And the second problem is that some of the feeding materials we use are very thick … and they wind up in the pulmonary capillaries. Given enough quantities, this could affect breathing."

Another type of misconnection that can have particularly dire consequences occurs when a clinician accidently injects intravenous fluids into the spinal canal or epidural space. Cohen explains that this type of misconnection can lead to a fatality in some cases.

Cohen adds that one of the oddest misconnections — and one that has been reported to ISMP several times — involves the use of automatic blood pressure (BP) monitors. "The nurses set these up so that every 15 minutes or half hour or so the patient's BP cuff will inflate, check the patient's BP, and then that [reading will] register on the monitor," observes Cohen. "The monitor sends air to pump up the BP cuff so that it can do the reading."

However, sometimes clinicians inadvertently connect the BP monitor to a needleless IV system so that when the air pumps into what is supposed to be a BP cuff, it is actually being pumped into a patient's vein, says Cohen. "Enough quantity of air can [create] an air embolus where a whole bolus of air gets into the heart chamber and blood does not pump out," he says. "This can be very dangerous. Given a large enough quantity of air, it can kill someone. We have had some deaths reported from this in the past."

While many of these tubing misconnections tend to happen on a hospital's upper floors, there are also risks in the emergency setting. "Emergency departments are by their very nature hectic, chaotic places. Medical professionals are often hurried, harried, and running from place to place, trying their best to get patients the care they need," explains **Jeannie Kelly**, RN, MHA, LHRM, a quality assurance consultant at Soyring Consulting in Tampa, FL. "Tubing can become disconnected when transferring a seriously ill patient to diagnostic imaging. A nurse may misconnect the tube in haste."

> "… THE SECOND PROBLEM IS THAT SOME OF THE FEEDING MATERIALS WE USE ARE VERY THICK … AND THEY WIND UP IN THE PULMONARY CAPILLARIES."

Another more common type of misconnection does not even involve clinicians. "When a patient gets up to use the bathroom or turns in his bed, tubing can become disconnected," notes Kelly. "The patient or a family member, trying to be helpful, may then misconnect the tubing."

Guard against confusion/frustration

To prevent all of these types of misconnections, the ISO has developed new international manufacturing standards for connectors that will make it nearly impossible to connect a tube from one delivery system to a delivery system that serves a different function. "The ISO has been hearing about these reports all these years, so they have come up with different fittings for these connectors besides the Leur," explains Cohen.

The first new connector, called the ENFit, is going to be for enteral feeding tubes, explains Cohen. "It will not connect to an IV line, so you will no longer be able to give an IV infusion of these feeding substances," he explains. "It is going to be a very systematic implementation over several months, starting in January [2015]. It will involve the [enteral feeding] administration set, the feeding tube which only accepts the new connection, and the syringes to give medications through a port that will be on the side that will have the same fitting so that it can only be used for gastrointestinal purposes."

The new connectors were originally supposed to be rolled out in the fall of 2014, but their debut has been delayed because [at press time] the FDA had not yet approved the application from the manufacturers to produce the connectors, explains Cohen. "No one has actually gone ahead and produced the product yet,

so there are no samples out there for people to handle and talk about," he says.

Nonetheless, as TJC points out in its Sentinel Event Alert, clinical leaders need to be prepared for the changes, and mindful of the risks that will accompany the gradual transition to the new connectors.

Kelly agrees, noting that while the changeover to the new, safer connectors is long overdue, there is likely to be some initial confusion and frustration.

"One thing to remember is that nurses are resourceful and will always find a work-around," observes Kelly. "The goal of training should be to emphasize the risk inherent in using the old connectors, and the benefit of the new connectors. [Once they are available from the manufacturers], let the staff handle them and get used to them in training sessions prior to roll out. Challenge them to find the work around if they can, and educate again on the danger of the old connectors."

Complicating the transition to the new connectors is the reality that hospitals will still have some inventory of the older tubes that they will continue to use until supplies run out, and many patients will have the older tubes already in place even as the new connectors are phased in. To accommodate this reality, manufacturers will make available an adapter that will make the new administration set compatible with the old tubing, explains Cohen.

"These tubes can stay in place for a long time. [Clinicians] are not going to take a patient in for a surgical procedure just to make the change to the new tubing, so we have to have these [adapters] to make the new administration sets compatible," says Cohen. "Eventually, [manufacturers] will remove the [adapter] when it is no longer needed, but it is going to be available for at least a year."

Stay on top of needed supplies

One potential problem that administrators need to guard against during the transition to the new connectors is the possibility that clinicians may resort to jerry-rigging when a tubing connection does not fit. "I think you have to remind people on your staff that if something doesn't connect properly there is probably a reason for it. Check it out; don't just go ahead with it," observes Cohen. "This [message] is particularly important for young, inexperienced professional staff members who may not have run into this issue before. I think there will be a lot of learning."

Also, materials management supervisors are going to have to make room for new products as the new connectors and any temporary extension pieces or adapters get phased into use. Ordering the new items properly and making sure that the hospital does not run out will be an added challenge, says Cohen.

Other unanticipated challenges could arise as well, as hospitals adapt to the new connectors, but this is an important change that has been a long time coming, stresses Cohen. He adds that the changes are being phased in very slowly and systematically "all in the hope that any downside will be minimized or eliminated."

Make use of resources, tools

While the new ISO connector standards grew out of a collaborative effort involving manufacturer groups, clinicians, regulators, and others, the roll out of the new connectors is being managed by the Global Enteral Device Supplier Association (GEDSA), a non-profit trade group based in Columbus, OH. As part of this effort, GEDSA has created a website to keep health care providers informed about the rollout: www.stayconnected2014.org.

The ISMP is also making a resource available to health care providers to help them prepare for and manage the transition to the new connecters. A comprehensive "Tubing Misconnections Self-Assessment for Healthcare Facilities" form is available for download at www.ISMP.org. Click on the "tools" link in the upper right-hand section of the website's front page, then scroll down until you reach the "self assessments" link. Click on this link to find the tubing self-assessment form. Users will be asked to sign up for the form, but it will then be available for download immediately.

The Joint Commission says it does not have any current plans to introduce new accreditation or certification standards related to the new connector standards, but it is participating in GEDSA's Stay Connected committee, and it is strongly urging health care organizations to assess their risks regarding tubing misconnections, and establish processes and protocols to insure the safe transition to the new ISO connectors. ■

SOURCES

- **Michael Cohen**, RPh, MS, ScD, President, Institute for Safe Medication Practices, Horsham, PA. E-mail: mcohen@ismp.org.
- **Jeannie Kelly**, RN, MHA, LHRM, Quality Assurance Consultant, Soyring Consulting, Tampa, FL. E-mail: Jeannie.kelly@soyringconsulting.com.

Seize upon mistakes/errors as opportunities for system improvement

To pick up on any problems related to the new tubing connector standards or the transition to these standards, it is important to nurture an environment that encourages error reporting. However, this is a continuing challenge for health care organizations, observes **Jeannie Kelly**, RN, MHA, LHRM, a quality assurance consultant at Soyring Consulting in Tampa, FL. "Most adverse events are under-reported, and in a punitive culture under-reporting will continue," she says.

> "IF [THEY] SEIZE UPON THESE TYPES OF EVENTS AS OPPORTUNITIES TO IMPROVE THE SYSTEM, STAFF WILL BE AWARE OF THE RISKS AROUND THEM.".

Consequently, rather than punishing or suspending personnel who are involved in an error or adverse event, Kelly advises administrators to make an example of how staff can learn from the misstep. "Don't just focus on providing more training. Do a root-cause analysis to determine what in the system contributed to the error," she explains. "Was a nurse stressed due to the ED getting slammed? Was staffing adequate? Were staff members working as a team?"

Taking a larger view can pay multiple dividends, notes Kelly. "If administrators seize upon these types of events as opportunities to improve the system, staff will be aware of the risks around them and work as a team to design and maintain safe systems."

TJC: Standards apply to the safe and effective management of Ebola patients

The Joint Commission has signaled to health care organizations that their readiness to safely receive and manage suspected Ebola cases is very much within the purview of surveyors on several fronts. The accrediting agency has highlighted accreditation chapters that it says are "focal" to identifying any strengths or weaknesses in a healthcare organization's response plans as well as its ability to care for patients with Ebola virus disease (EVD) while "minimizing the risk of transmission" to others. The highlighted chapters include the following:

- Leadership (LD) 04.01.01,04.01.07
- Environment of Care (EC) 02.02.01,03.01.01
- Emergency Management (EM) 02.01.01,02.02.01,02.02.03,02.02.05,02.02.07
- Human Resources (HR) 01.04.01,01.05.03,01.06.01
- Infection Control (IC) 01.03.01,01.05.01, 01.06.01,02.01.01,02.01.01,02.03.01
- Nursing (NR) 01.01.01,02.03.01
- NPSG.07.01.01 ■

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