

Lorene K. Jansson, RD, CD, CNSD, Susan M. Brand, RD, CD and Sheryl A. Knowles, RN, CRNI, Walgreens-OptionCare, Everett, Wash.

Background

An enteral misconnection is defined by A.S.P.E.N. as “an inadvertent connection between an enteral feeding system and a non-enteral system such as an intravascular catheter, peritoneal dialysis catheter, tracheostomy, medical gas tubing, etc.”¹ Patient harm or even death can occur, and have occurred, when enteral formulas, fluids or medications are inadvertently placed into a nonenteral route (e.g., enteral formula infused into an IV line).

Enteral delivery systems include everything from the enteral formula container to the enteral tube itself. These systems are often compatible with IV delivery systems. IV-compatible enteral systems include leur lok connections, leur slip connections and spike tubing. Safe enteral-only systems include feeding tubes with oral hubs that connect only with oral syringes, tubes that use cath tip

Introduction (cont.)

syringes, and spike systems that are incompatible with IV spike systems. However, adapters are available to make these otherwise enteral-only connections dangerously compatible with IV systems.

Objectives

Home care patients receiving dual therapies (e.g., enteral and IV therapies) face the risk of enteral misconnections. Home care clinicians must ensure that all enteral patients and caregivers receive safe supplies and education on how to avoid misconnections. Even patients receiving a single therapy should be aware of the risks, in case they transition to a dual therapy.

Methods

To improve patient safety, one home care team set out to reduce the risk of enteral misconnections. Clinical dietitians researched the topic and conducted a systematic review of the organization’s existing enteral supplies.¹⁻³ After a thorough review, the clinical team analyzed safe, enteral system alternatives, began using them in patient care, and collected feedback from clinicians, patients and caregivers.

Results

The improvement process identified several challenges:

- Some hospitals still use IV-compatible nasogastric feeding tubes, and there is some caregiver resistance to introducing enteral-only alternatives once the patient is in home care.

Results (cont.)

- Many syringe pumps require IV-compatible, leur lok syringes
- Hospitals often send patients home with an oral hub nasogastric tube that is fitted with an adapter to make it IV compatible.
- To date, there is no universal system for color-coding safe enteral connections.
- The current selection of safe-system enteral connections is limited, and home care clinicians must often navigate varied manufacturer offerings and product updates to find safe options.

Conclusions

Ensuring against enteral misconnections is an ongoing challenge that requires active collaboration among hospitals, home care organizations, manufacturers, patients and caregivers. Care teams must work to increase patient and caregiver education on how to reduce the risk of enteral misconnections. At the same time, clinicians must become more aware of the risks posed by using convenient but potentially unsafe enteral systems. Collaboration between clinicians and manufacturers may also help produce universally coded and more readily available safe, enteral-only systems to improve patient safety.