

Hazardous Drug Safety:

Clarifying the confusion about closed systems

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Hazardous Drugs

Risks associated with exposure to hazardous drugs (HDs) such as chemotherapy, have been well documented over the past two decades and include miscarriages and infertility, as well as an increased possibility of developing cancer. Nurses administering HDs are at a high risk for exposure as IV tubing is prone to dripping when disconnected. Spills are also a significant source of exposure since unlike compounding, administration takes place in an open, unprotected environment. Not surprisingly, HD contamination has been found in hospitals and clinics in Europe, North America, Canada, and Australia. And while personal protective equipment (PPE) is a necessary approach to safety, preventing HDs from escaping the IV tubing or container should be the primary objective.

CSTDs

In 1999, the first closed system drug-transfer device (CSTD) was described in the literature to help mitigate HD exposure during compounding. The original device, along with several others that followed, were then adapted with varying degrees of success for HD administration. The publication of USP General Chapter <800> in 2016 by the US Pharmacopeia, making CSTDs required for IV administration, has helped the CSTD acronym become more familiar to U.S. nurses.

The European Challenge

In Europe, the use of CSTDs for compounding is considerably less common than in the U.S, and most HDs in the UK are prepared without them. In France, only 12% of nurses reported using a CSTD for administration. Further complicating the prob-

lem is a misunderstanding of what a “closed system” represents. Almost half of the nurses in a recent UK survey indicated they used closed systems for HD administration—

Recent European surveys indicate most nurses are indeed concerned about their exposure.

despite the fact that CSTDs are not readily available to them. The authors believed that the nurses mistakenly confused the term with needless connectors.

Clarity For A Complex Problem

To help with the confusion, the term Closed Safety System for Administration (CSSA) has been proposed by CytoPrevent, a group of HD experts from several countries. The CytoPrevent Board consists of nurses, physicians and pharmacists who are committed to HD safety. A CSSA is defined as a luer-designed device that connects the distal end of IV tubing or syringe to a needleless connector, thereby preventing drips before and after administration. The hallmark of CSSA is usability, since nurses are less likely to use a device that is awkward or cumbersome—despite its effectiveness. A luer-based design does not require an adaptor, which is needed for most CSTDs. This helps maintain a lower overall cost.

The Road Forward

The issues surrounding HD safety during administration are complex and requires enhanced education, consistent messaging, and well-designed products. Establishing the CSSA acronym is the first step in reducing confusion and promoting nursing safety.

For more information, see *“Closed safety system for administration (CSSA): proposal for a new cytotoxic acronym,”* Eisenberg, S. *British Journal of Nursing*, 23022, Vol 31, No 10 (Oncology Supplement)