



SAFE HANDLING Q&A

GOWNS FOR HAZARDOUS DRUG ADMINISTRATION

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WHY IS A GOWN REQUIRED?

The reason for wearing a gown is to protect clothing and skin from becoming contaminated with hazardous drug (HD) residue. The risk for exposure exists when administering HDs in nearly any formulation and when discontinuing HD infusions. “Being careful” does not prevent unintentional exposures that can result from leaking or splashing from disconnections or dislodging of needles. However, a gown is not required for unit-dose, intact oral dosage forms.

WHAT KIND OF GOWN SHOULD BE WORN?

Although there is currently no testing standard for chemotherapy gowns, all guidelines make the same recommendations for gowns used for HD handling. Appropriate gowns must be disposable and should have evidence that they are resistant to permeation by HDs. Gowns that are polyethylene-coated or made from other laminate materials provide protection. Gowns must fasten in the back and have long sleeves and cuffs. Lab coats or other garments with buttons in the front do not meet these criteria (Polovich & Olsen, 2018; U.S. Pharmacopeial Convention [USP], 2016).

WHAT IS MEANT BY “SINGLE-USE” FOR GOWNS?

Single use means discarding a gown immediately after it is removed. Gowns are considered contaminated when worn during HD handling. Careful doffing involves turning the gown sleeves inside-out and folding the gown to prevent the transfer of HD residue from the outside of the gown to skin or clothing. There is no safe way to doff a gown, hang it up, and reuse it for another HD-handling activity.

WHY DO I NEED TO WEAR A GOWN TO TAKE DOWN CHEMOTHERAPY AFTER FLUSHING THE TUBING?

Although there is evidence that disconnecting and discarding IV tubing without a closed-system transfer device (CSTD) can result in exposure, there are no studies demonstrating that all available CSTDs prevent exposure. Any CSTD can fail or can become loose at connection points, and the absence of proper personal protective equipment could result in HD exposure. Therefore, until there is substantial evidence that the possibility of exposure is completely eliminated, the Oncology Nursing So-

ciety (ONS) continues to recommend wearing a gown and two pairs of chemotherapy-tested gloves (Polovich & Olsen, 2018).

HOW FREQUENTLY SHOULD GOWNS BE CHANGED?

There is no evidence-based guidance for how often to change a gown when administering HDs. Manufacturers’ recommendations are based on permeation data. USP<800> states that gowns should be changed every two to three hours when no permeation information is available (USP, 2016). This is not helpful because most HD administration handling tasks do not take that long to perform, and the recommendation is intended for compounding, which has a very different workflow than administration. Therefore, the single-use requirement for gowns applies: gowns are not to be reapplied after being removed. Wearing a gown continuously in the administration setting increases the risk for environmental contamination. ONS states that gowns should be removed and discarded immediately if knowingly contaminated, at the end of handling activities, or when leaving the drug handling area, without regard to a time frame (Polovich & Olsen, 2018).

WHAT DO WE DO ABOUT GENERATING A LOT OF WASTE?

Gowns add to HD waste, but safety is an important aspect of administering HDs. HD trace waste is destined for incineration. Other kinds of medical waste can end up in landfills. Although the cost of disposal of HD waste is higher than that of other medical waste, when incinerated, the impact on the environment is lessened. A number of changes over the decades intended to increase nursing and patient safety have also resulted in increased waste. However, healthcare workers would not consider going back to resterilizing needles and syringes or cleaning and reusing bedpans because the exposure risk for healthcare workers outweighs the increased waste.

REFERENCES

- Polovich, M., & Olsen, M.M. (Eds.). (2018). *Safe handling of hazardous drugs* (3rd ed.). Oncology Nursing Society.
- U.S. Pharmacopeial Convention. (2016). General chapter <800> hazardous drugs—Handling in healthcare settings. <https://www.usp.org/compounding/general-chapter-hazardous-drugs-handling-healthcare>

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