Linens (e.g., sheets, blankets, pillowcases, towels) may be contaminated with hazardous drugs (HDs) that leak during administration. IV drugs may leak from loose IV tubing connections or from tubing that is accidentally disconnected from IV devices, such as implanted ports. Oral liquid HDs and those being given through a feeding tube may also spill and contaminate linens. Spilled drug can be transferred to anyone who touches the linens. This includes nurses, people who provide care to patients, and anyone who is responsible for washing clothes and linens of treated patients.

Patients who have been treated with HDs by any route will excrete drug residue in their body fluids for hours or days after receiving them. Urine, emesis, stool, and sweat may contain HD residue. When contaminated body fluids soil bed sheets or linens, the HD residue can be transferred to anyone who touches the linens (e.g., nurses, people who provide care to patients, anyone who is responsible for washing clothes and linens of treated patients).

Preventing Linen Contamination
Healthcare workers can prevent linen contamination with the following strategies (Polovich & Olsen, 2018).

- Secure IV connections to prevent accidental disconnection that can result in leaking.
- Use a closed-system transfer device.
- Use gauze around connections and a dead-end cap to apply to end of HD tubing when disconnecting from the patient side.
- Use disposable, plastic-backed pads to protect linens when accessing IV connections or preparing liquid drugs for administration.
- Discourage patients from using bedpans or urinals when they can get up to use the toilet because these containers may spill, resulting in contaminated linens.
- Use disposable, leak-resistant diapers or pads rather than reusable diapers or pads for incontinent patients.
- Use external bladder and bowel collection devices to contain the HD-contaminated waste.

Handling Hazardous Drug-Contaminated Linens
- Touch contaminated linens only with gloved hands.
- If linens might touch clothing during handling (e.g., when stripping a bed), wear a gown in addition to gloves.

According to Occupational Safety and Health Administration (OSHA, 2014) guidelines, laundry that is contaminated with HD-contaminated excreta must be handled according to the bloodborne pathogens standard. In addition to wearing PPE, that means:

- Handling laundry as little as possible (do not sort or rinse)
- Bagging the laundry at the location where it was used
- Placing contaminated laundry in a labeled or color-coded bag so that staff can recognize the nature of the contents
- Using a bag that prevents leaking if the contaminated laundry is wet enough to soak through or leak during transport
- Considering double-bagging HD-contaminated linen

OSHA (2016) also states that the contents of laundry bags with HD-contaminated linens should be prewashed, and then the linens should be added to other laundry for a second wash.

Further Considerations
For patients at home, healthcare providers should do the following before patients leave healthcare facilities:

- Provide information on possible contamination of linens with HDs and HD-contaminated body fluids and the length of time to follow precautions.
- Teach patients/caregivers to handle contaminated linens with gloves and to wash HD-contaminated linens separately from other laundry.
- Teach patients/caregivers to place HD-contaminated linens directly into the washer to avoid transferring contamination to a laundry basket or hamper.

The following should be considered regarding safe handling of HD-contaminated linens in a healthcare facility:

- Does the organizational policy address handling contaminated linens?
- Does orientation for staff include the safe handling of contaminated linens?
- How are patients treated with HDs identified, and how is that information communicated to those who handle linens?
- How is HD-contaminated linen identified? What bags are used for transporting HD-contaminated linen to the laundry?
- Is all laundry handled as contaminated?
- Is laundry processed on site, or is it transported to another location?
REFERENCES

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