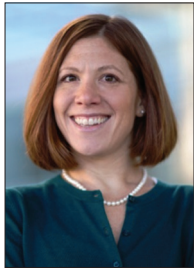


# Doing the Dirty Work: Who Handles Antineoplastic Drug Contaminated Excreta and do They Do It Safely?

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Antineoplastic drugs (ADs) given to combat cancer, can increase the risk of secondary cancers in those that receive them. ADs are also a hazard to those health-care workers who have long-term exposure to the agents.<sup>[1]</sup> Health-care workers can become exposed to ADs through spills and splashes, during the administration of the agents and even during exposure to the excreta of patients (most commonly urine and stool).<sup>[1]</sup> Levels of AD retained in urine, stool, and vomit of patients vary in amount and duration based on the agent, and personal characteristics of the patient. The active drug can be found in bodily fluids for at least 48 hours and up to 7 days post-administration.<sup>[2]</sup> Recent research is also beginning to document that ADs are in the work environment and being metabolized by health-care workers who are not coming into direct contact with the agents or the bodily fluids of patients receiving them such as unit clerks, volunteers, and dieticians.<sup>[3]</sup> Prior research has documented adverse effects of exposure to ADs for health-care workers including skin rashes, infertility, birth

defects, miscarriage, and an increased risk for cancer, notably leukemia.<sup>[4-7]</sup> The research that has been done to date has primarily focused on pharmacists and nurses who are preparing and administering these agents and less on nursing assistants (NAs) who are handling the excreta of patients receiving them.

In the United States alone, it is estimated that more than 1,420,570 people work as NAs.<sup>[8]</sup> NAs provide care under the direction of a licensed health-care provider. They are often responsible for the majority of assistance with activities of daily living for patients which includes feeding, bathing, toileting, dressing, repositioning patients, and changing their linens. Nurses often delegate tasks like assistance with toileting to NAs. As suggested in an ethnographic study by Jervis, because of their frequent contact with excreta, NAs are at risk of being viewed as “polluted people” who do tasks that are unpleasant to nurses.<sup>[9]</sup> However, do NAs know how to safely handle the excreta of patients receiving ADs? In the U.S., federal regulations mandate that Certified

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NAs receive at least 75 hours of training and 16 hours of clinical training,<sup>[10]</sup> but when it comes to oncology-specific education for NAs, such as the hazards involved in exposure to ADs, recommendations for safe handling of excreta contaminated with ADs or even required provision of personal protective equipment (PPE) by employers, no mandates exist.

Recommendations for safe handling of hazardous drugs and the excreta of patients receiving them exist from the National Institute for Occupational Safety and Health (NIOSH)<sup>[11]</sup> and are based on the results of research. A single case study described the effects experienced by one NA exposure to ADs from contact with patient excreta,<sup>[11]</sup> but few studies have included NAs in their sampling frame.<sup>[12,13]</sup> No study has been specifically focused on AD exposure for this large sector of the health-care workforce. Based on these limited findings, NIOSH recommends that NAs use chemoprotective PPE when handling excreta or linens of patients who have received ADs within the last 48 hours.<sup>[1]</sup> These behaviors include two pairs of chemotherapy rated gloves, a disposable gown, and a face shield if splashing is nonabsorbent.<sup>[1]</sup> The actual practice of NAs with regard to the handling of excreta has not been examined. While factors that influence the use of PPE when handling chemotherapy have been examined among nurses,<sup>[14]</sup> NAs have never been queried about what influences their use of PPE.

We need to begin to think about exposures for NAs who have less education and training than nurses and are often doing “the dirty work.” Who handles the excreta of patients receiving ADs? How do they do so? Were they trained? By whom? Can you think of how their practice could be safer? Do you have any best practices to share with others when it comes to training assistive personnel to handle AD contaminated excreta safely? We have garnered a basic understanding from the literature, but there is much more to learn from what and who is missing. It's time to begin to critically examine exposures for those handling AD contaminated excreta in our practice settings.

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### **Conflicts of interest**

There are no conflicts of interest.

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