Personal Protective Equipment Use and Hazardous Drug Spills Among Ambulatory Oncology Nurses

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A bout 8 million healthcare workers are potentially exposed to hazardous drugs each year in the United States (Connor & McDiarmid, 2006; Randolph, 2012). Oncology nurses prepare and administer substantial volumes of antineoplastic drugs; roughly 18 million doses are administered to adults annually in the United States (Cherry, Woodwell, & Rechtsteiner, 2007). Potentially harmful urinary and blood metabolites have been detected in nurses who handle these drugs (Connor et al., 2010). Adverse health effects from exposures include acute issues (skin rashes, eye irritation, nausea), long-term reproductive issues (infertility, spontaneous abortions, congenital anomalies), and possible cancers (National Institute for Occupational Safety and Health [NIOSH], 2004; Occupational Safety and Health Administration, 1999).

Despite more than 30 years of efforts to improve personal protective equipment (PPE) use and safe-handling guidelines, recent studies have documented work surface contamination and dermal, eye, and inhalation exposure among oncology nurses who report hazardous drug spills (Friese, Himes-Ferris, Frasier, McCullagh, & Griggs, 2011; Kopp, Schierl, & Nowak, 2012). NIOSH (2004) reported workplace hazardous drug exposure as a persistent problem among healthcare workers. The use of chemotherapy-tested gloves, single-use disposable gowns, respirators or masks, eye protection, and closed-system transfer