

## ARTICLES

# Chemotherapy-Handling Practices of Outpatient and Office-Based Oncology Nurses

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**Purpose/Objectives:** To determine the current patterns of use of personal protective equipment among oncology nurses while handling antineoplastic chemotherapeutic agents in outpatient and office-based settings.

**Design:** Descriptive-correlational, mailed survey.

**Setting:** National survey of oncology nurses.

**Sample:** 500 randomly selected members of the Oncology Nursing Society who identified their work settings as office, clinic, or outpatient private practice; 263 responded for an overall response rate of 53%.

**Methods:** Mailed, self-report survey based on the current Occupational Safety and Health Administration's (OSHA's) guidelines for the handling of hazardous drugs.

**Main Research Variable:** Chemotherapy-handling practices.

**Findings:** More than 94% of participants reported usually wearing gloves during chemotherapy handling; 55% reported using laboratory coats as protective garments. Usual use of face and respiratory protection was less than 6%. Chemotherapy was reported to be prepared in laminar air flow hoods in 99% of work settings. Only 46% of sites reported provided any type of medical monitoring.

**Conclusion:** Use and availability of personal protective equipment when handling chemotherapy have increased, but medical monitoring of exposed employees still is neither widely practiced nor consistent with OSHA guidelines.

**Implications for Nursing:** Safety concerns and potential adverse health effects associated with the occupational handling of chemotherapeutic agents have been reported. Historically, nurses' adherence to chemotherapy-handling guidelines has been poor. Results suggest that adherence is increasing; however, research is lacking regarding nurses' level of knowledge of and specific barriers to safe handling of chemotherapy.

### Key Points . . .

- ▶ Healthcare professionals involved with handling antineoplastic drugs may be exposed inadvertently to these agents, placing them at potential risk for acute and long-term adverse effects.
- ▶ The availability and use of protective equipment during chemotherapy handling have increased in outpatient settings. However, concerns may exist regarding management of spills.
- ▶ Little medical monitoring of adverse effects is occurring in the outpatient setting.

Generally, the occupational activities that pose the greatest risk of exposure are the preparation and administration of antineoplastic agents, cleaning of chemotherapy spills, and handling of patient excreta. During the course of patient treatment, healthcare professionals may be exposed inadvertently to these agents, placing them at risk for potential acute and long-term adverse effects. Valanis, Vollmer, Labuhn, and Glass (1993) reported a positive association between the degree of cytotoxic drug skin contact or exposure and the presence of acute symptoms reported by nursing staff. Healthcare workers exposed to these agents may be at risk for adverse side effects including nausea and vomiting, chronic cough, increased incidence of infection, myelosuppression, dizziness, headache, and eye irritation (Valanis, Hertzberg, & Shortridge, 1987). Other potential long-term adverse reactions

The use of antineoplastic chemotherapeutic agents for the treatment of cancer and other non-neoplastic diseases has expanded widely since the 1960s. In addition, trends in healthcare economics have caused a change in the delivery of chemotherapy from predominately a hospital-based service to outpatient and physician-based services. As a result, concerns have grown regarding the safety and potential adverse health effects associated with the occupational handling of chemotherapeutic agents. These concerns are based on the mode of action of many of these drugs, which significantly alter the functioning of cellular and DNA structures of cells (Chabner & Longo, 1996).

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