

# CJON WRITING MENTORSHIP PROGRAM PAPER

# Assessing Workplace Compliance With Handling of Antineoplastic Agents

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Oncology nurses and ancillary support personnel who work in oncology settings are at risk for exposure to antineoplastic drugs in their workplaces. A review of the literature reveals issues of environmental contamination and personal exposure. Although the United States has no formal regulations regarding hazardous drugs, including cytotoxic agents, guidelines have been published and are readily available to improve workplace safety. Oncology healthcare workers must be aware of the serious nature of antineoplastic drug exposure and the avenues available to initiate a simple, highly effective, problem-solving process called SOLVE® to make medical workplaces safer.

Oncology nurses, infusion pharmacists, physicians, operating room personnel, and support services personnel who work in oncology settings are at risk of exposure to antineoplastic drugs in their workplaces. According to the 1999 Bureau of Labor Statistics, the number of workers who may be exposed to hazardous drugs exceeds 5.5 million (National Institute for Occupational Safety and Health [NIOSH], 2004). Exposure to hazardous drugs most often occurs from aerosols, dust, spills, or contaminated surfaces during preparation, administration, and disposal. Exposure to hazardous drugs may occur through inhalation, skin contact, skin absorption, ingestion, or injection. The purpose of this article is to enlighten healthcare workers about the serious nature of antineoplastic drug exposure, inform hospital administrators of safety compliance issues, and educate the healthcare industry regarding a simple, highly effective, problem-solving process used in the manufacturing and industrial environment that can be used to make medical workplaces safer.

A study of 7,094 pregnancies involving pharmacy and nursing staff exposed to antineoplastic agents found a statistically higher risk of spontaneous abortion (Valanis, Vollmer, & Steele, 1999). Protection from hazardous drug exposure depends on safety programs established by employers and followed by workers. Factors that affect worker exposure to antineoplastic drugs include the following.

- Drug handling (preparation, administration, and disposal)
- Frequency and duration of drug handling
- Potential for absorption through direct and airborne contact
- Availability of ventilated cabinets in the drug mixing environment
- Availability of personal protective equipment (PPE)
- Work practices that do not consider the long-term dangers of exposure.

## At a Glance

- ◆ Handling antineoplastic agents incorrectly increases risk for personal and environmental exposure.
- ◆ Compliance with organizational guidelines in the proper handling of antineoplastic agents should be assessed routinely.
- ◆ SOLVE® is a very effective and positive process that can be used by organizations to measure outcomes regarding compliance in the handling of antineoplastic agents.

The likelihood that a worker will experience adverse effects from hazardous drugs increases with the frequency of exposure, and the risk of adverse effects rises significantly with a lack of proper work practices.

Currently, neither NIOSH, the Occupational Safety and Health Administration (OSHA), nor the American Conference of Governmental Industrial Hygienists has established recommended exposure limits (RELs) or threshold limit values for workplace safety in regard to hazardous drugs. RELs refer to concentrations of chemical substances and represent conditions under

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Digital Object Identifier: 10.1188/06.CJON.473-477