

# Minimizing Staff Exposure to Antineoplastic Agents During Intravesical Therapy

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Exposure to chemotherapy is a daily risk for nurses in oncology infusion centers. Although significant advances have been made in developing systems to make IV administration of antineoplastic agents safer, less attention has been given to developing systems to minimize exposure risk during instillation of intravesical chemotherapy. This article describes the use of a closed system developed at a comprehensive cancer center and compares it to two closed systems reported in the literature.

## At a Glance

- Safe handling of biohazard medications is important for all healthcare workers involved in the administration of antineoplastic agents.
- Nurses need to advocate for use of chemotherapy administration systems that minimize exposure to staff and patients.
- Infrequently performed procedures need to be supported by clearly specified procedural steps that are readily accessible to the nurse.

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The risk for exposure to chemotherapy is a daily occurrence for nurses working in oncology infusion centers. Exposure may occur while handling chemotherapy drugs or when staff comes into contact with aerosols, dust, spills, or contaminated surfaces (Gambrell & Moore, 2006; Polovich, 2011). Exposure to hazardous drugs can cause ill effects in healthcare workers (Polovich, 2011). The National Institute for Occupational Safety and Health (NIOSH, 2004) published an alert to increase healthcare workers' awareness about the risks of working with hazardous drugs. In this alert, NIOSH stated specifically that, "Working with or near hazardous drugs in health care settings may cause skin rashes, infertility,

miscarriage, birth defects, and possibly leukemia or other cancers" (p. 1).

Minimizing staff exposure to antineoplastic agents is a safety priority for the Oncology Nursing Society (Polovich, 2011) and the American Society of Health-System Pharmacists (2006). To date, progress has been made on developing tubing and devices that minimize the risk of exposure while administering agents via IV or by IV push. Closed system drug transfer devices (CSTD), for example, have been developed and recommended for use (Polovich, 2011). However, less attention has been paid to developing closed systems for intravesical administration of chemotherapeutic agents. Intravesical therapy is used infre-

quently, but more commonly used in patients with bladder cancer. This therapy is a procedure in which chemotherapy is instilled into the patients' bladder using a urinary catheter.

In July 2007, medical and nursing administration at the Karmanos Cancer Center decided that intravesical therapy, formerly done by nurses in the urologist's office, should be administered by nurses in the infusion center. The clinical nurse specialist (CNS) for the infusion center was consulted to facilitate this transition. Findings from the assessment of intravesical administration procedures led the team to conclude that an opportunity existed to reduce the risk of exposure to chemotherapy administered in this setting. The open system used in the urologist's office increased risk for chemotherapy spills and exposed staff to chemotherapy by aerosolization. At the time of this practice transition, the literature reflected a growing interest in intravesical therapy (Brassel & Kamat, 2006; Lamm, McGee, & Hale, 2005; Richie, 1992; Thrasher & Crawford, 1992), but no closed systems were described. Consequently, the first author of the current article set out to discover or invent an alternative closed system for intravesical therapy that would mitigate the risk of staff exposure to chemotherapy and reduce or eliminate the risk of chemotherapy spills.

## Background and Review of the Literature

Intravesical therapy is used to treat patients with bladder cancer (Washburn, 2007). The procedure typically involves using a Foley catheter to instill chemotherapy and/or biotherapy agents directly