

Infusion of Antineoplastic Therapies in the Home

Infusion of antineoplastic medications in nontraditional settings, including the home, is not a new concept. However, the emergence of the novel coronavirus, COVID-19, has accelerated conversations around ensuring that patients with cancer can continue timely cancer treatment regimens while minimizing their risk of COVID-19 exposure and infection. Administration of antineoplastics through home infusion has been offered as a potential solution and continues to gain momentum among healthcare facilities and third-party payers.

When considering the feasibility of home infusion of cancer treatment, the safety of patients, families, and healthcare workers is of prime importance. Healthcare facilities must take a programmatic approach to evaluate their ability to offer home infusion of antineoplastics, and not all facilities will have the capacity, staff, and resources to do so. Determining the feasibility of home infusion of cancer treatment requires careful patient selection, provider and patient education, and extensive planning (Gorski, 2020).

The Oncology Nursing Society and American Society of Clinical Oncology published joint standards for chemotherapy administration safety. The standards focus on safety concerns related to environment of care; treatment planning and patient education; ordering, preparing, dispensing, and administering chemotherapy; and monitoring for toxicities, adherence, and complications following administration (Neuss et al., 2017). Adhering to the safety standards ensures that policies and procedures are in place to minimize risk for error and patient harm, and that the standards are intended for all care settings, including the home.

In addition to adherence to administration safety standards, healthcare facilities must consider the elements of antineoplastics that make their administration a specialty, requiring focused training and

competency validation of staff involved. Specialized education, preparation, and training of RNs who administer the therapies ensures a safe level of care (Oncology Nursing Society, 2017). The principles of antineoplastic administration that require additional training and specialty knowledge apply in the home setting as well.

Antineoplastics used for cancer treatment are often hazardous drugs (HDs) that demonstrate one or more of the following characteristics: carcinogenicity, genotoxicity, teratogenicity, reproductive toxicity, or organ toxicity. Any HD-handling activity, regardless of setting, can result in healthcare worker exposure (Oncology Nursing Society, 2019). With less control over the care environment, home infusion of HDs may pose an additional level of complexity and challenge to ensuring the safety of the nurse and those in the home with the patient. Great caution needs to be taken to prevent occupational exposure to HDs and the well-documented complications that occur as a result of surface contamination and exposure. Staff must receive thorough training on safe-handling principles, risk-reduction behaviors, and appropriate use of personal protective equipment (Polovich & Olsen, 2018).

Just as nuances and intricacies of antineoplastic administration require training and skill for oncology nurses, home infusion, a specialty within home care, necessitates a level of skill and expertise in elements such as home assessment, safety considerations, and resource utilization (Gorski, 2020). The infusion of antineoplastics in the home requires a careful synthesis of the oncology nursing and home infusion nursing specialties to yield optimal patient outcomes and quality care.

The decision to proceed with home infusion of cancer treatment should be done with caution and consideration of the risk of harm for nurses, patients, and other members of the household. Interprofessional considerations from providers, nurses, pharmacists, patients, and families are required, and policies and procedures that reduce the risk for medication error and staff and family exposure to HDs must be securely in place.

It is the position of ONS that any healthcare organization planning to provide antineoplastic drug

KEYWORDS antineoplastic therapy; COVID-19; chemotherapy administration; home infusion; nursing

ONF, 47(6), 629–630.

DOI 10.1188/20.ONF.629-630

infusions in the home setting must establish the following:

- A model of care delivery in which:
 - The complexity and risk of infusion-related complications are evaluated to determine regimens suitable for home infusion. Investigational non-U.S. Food and Drug Administration (FDA)-approved drugs are not recommended to be administered in the home setting.
 - Patient and family readiness to have care delivered in the home is assessed. The patient's home environment is conducive to home infusions.
 - The compounding of antineoplastic agents occurs outside of the home setting.
 - RNs are responsible for all aspects of administering and monitoring the infusion of antineoplastic drugs and supportive therapies.
 - The patient has successfully completed a first dose of all prescribed medications in the current regimen without incident prior to converting to infusion in the home.
 - The RN has access to patient informed consent and a full treatment plan, including diagnosis, body measurement calculations, drugs, doses, duration of treatment, and goals of therapy.
 - The patient's medication is transported inside of a durable container capable of spill containment. In addition, a spill kit is kept at the home.
 - There is access to a second chemotherapy competent professional prior to administration to verify patient name and second identifier (e.g., driver's license in the home setting), drug name and dose, rate and route of administration, infusion volume, and expiration dates and times.
 - Access to emergency medications and supportive care measures are available. There are order sets for emergency management in the event of an adverse reaction during the infusion. Clear instructions are given to manage a delay in accessing emergency services based on patient location.
 - Documentation guidelines are established for independent verification, treatment administration, patient education, and planned follow-up care and testing.

- Requirements for RNs who administer antineoplastic drug infusions in the home.
 - Be approved as chemotherapy/immunotherapy competent within the nurse's institution or supporting agency. Competency is obtained through the successful completion of didactic learning followed by a clinical practicum.
 - Hold current basic life support certification and have access to a licensed independent practitioner.
 - Have an annual competencies assessment.
- Policies that comply with regulatory requirements for HDs as well as care standards for the home setting.
 - Address the personal and occupational safety of the home infusion RN.
 - Follow guidelines for compounding and administering HDs, including biologic safety cabinets and closed-system transfer devices when the dosage form allows.
 - Ensure HD waste is disposed in a manner that protects staff and the environment.
 - Define required personal protective equipment.

REFERENCES

- Gorski, L.A. (2020). Infusion therapy: A model for safe practice in the home setting. *American Nurse Journal*, 15(6), 8–11. <https://www.myamericannurse.com/infusion-therapy-a-model-for-safe-practice-in-the-home-setting>
- Neuss, M.N., Gilmore, T.R., Belderson, K.M., Billett, A.L., Contik-Kalchik, T., Harvey, B.E., . . . Polovich, M. (2017). 2016 updated American Society of Clinical Oncology/Oncology Nursing Society chemotherapy administration safety standards, including standards for pediatric oncology. *Oncology Nursing Forum*, 44(1), 31–43. <https://doi.org/10.1188/17.ONF.31-43>
- Oncology Nursing Society. (2017). The education of the nurse who administers and cares for the individual receiving chemotherapy, targeted therapy, and immunotherapy [Position statement]. <https://www.ons.org/make-difference/ons-center-advocacy-and-health-policy/position-statements/education-nurse-who>
- Oncology Nursing Society. (2019). Ensuring healthcare worker safety when handling hazardous drugs [Position statement]. <https://www.ons.org/make-difference/ons-center-advocacy-and-health-policy/position-statements/ensuring-healthcare>
- Polovich, M., & Olsen, M. (2018). *Safe handling of hazardous drugs* (3rd ed). Oncology Nursing Society.