

3.1 Safe Handling, Administration and Disposal of Chemotherapy Agents

The information provided in the following sections is intended to guide safe practice in the POGO Satellite Program. It is not intended to replace your institutional policies and procedures. Please ensure all staff are aware of their own institutional policies and procedures and refer to them as their primary source.

Introduction

The need to help ensure a quality environment and to protect healthcare personnel from hazardous drugs (HDs) has been a topic of concern for decades. Safe levels of exposure have not been determined by a reliable method. Growing evidence highlights that acute and chronic health effects can occur due to occupational exposure to over 200 HDs used commonly in healthcare settings.

The [National Institute for Occupational Safety and Health \(NIOSH\)](#) considers a drug to be hazardous if it exhibits one or more of the following characteristics in humans or animals:

- carcinogenicity
- teratogenicity or developmental toxicity
- reproductive toxicity
- organ toxicity at low doses
- genotoxicity
- structure and toxicity profiles of new drugs that mimic existing HDs

The [United States Pharmacopeia \(USP\)](#) is utilized by the [Association of Pediatric Hematology/Oncology Nurses \(APHON\)](#) as all US hospitals are required to be in compliance with its standards by December 2019. The [USP General Chapter <800>](#) describes requirements including responsibilities of personnel handling HDs; facility and engineering controls; procedures for deactivating, decontaminating and cleaning; spill control; and documentation. These standards apply to all healthcare personnel who receive, prepare, administer, transport or otherwise come in contact with HDs and all the environments in which they are handled. The goals of these standards are to help increase awareness, provide uniform guidance to reduce the risk of managing HDs, and help reduce the risk posed to patients and the healthcare workforce.

The greatest risk of occupational exposure to HDs occurs during the drug manufacturing and preparation processes as the drugs are in their highest concentrations at these times. A lower risk of occupational exposure occurs when handling patient excreta and during drug administration. As a safe level of occupational exposure has not yet been determined, all possible precautions should be taken to reduce or eliminate exposure.

The two primary routes of potential exposure of healthcare personnel handling HDs are through direct skin contact and through inhalation of aerosolized drug products generated when spraying, misting or splashing occurs. Other potential routes of exposure are through eye contact, needlestick injury and



ingestion. Safe handling procedures, including handling of body fluids, are to be followed for all patients who have received HDs within the last 48 hours.

The risks involved can be reduced significantly if one adheres to standard safety precautions while handling chemotherapy agents. Personal protective equipment (PPE), a closed system and ventilation cabinets if you are manipulating the hazardous drug all minimize risk of exposure. Information related to health risks to fetuses due to the handling of HDs during pregnancy is limited.

Education

All pediatric oncology nursing orientation programs should include a review of hospital policy, procedures and guidelines for administering oral chemotherapy, monitoring chemotherapy infusions, caring for patients receiving chemotherapy and the risk of occupational exposure from these HDs.

- Parenteral chemotherapy should only be administered by healthcare professionals who have been specially trained in parenteral chemotherapy administration.
- All specialized childhood cancer programs and POGO Satellite Clinics are using, or in the process of switching to, the required [APHON Chemotherapy and Biotherapy Provider Program](#). This training encompasses all areas of HD administration. See aphon.org or speak with a POGO Satellite Clinic team member for more information.
- For POGO Satellite Clinics without a pediatric oncology orientation program, Satellite nurses are to be trained and tested in HDs administration by a certified APHON Pediatric Chemotherapy and Biotherapy Instructor at a specialized childhood cancer program or POGO Satellite Clinic.

Patients Who Go To Other Areas of the Hospital

- Personnel in other areas of the hospital (e.g., Diagnostic Imaging, Echocardiography) should observe safe handling guidelines when handling patients who have received chemotherapy agents.
- This guidance document should be disseminated to all hospital personnel who may care for oncology patients in other areas.

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Record of Updates

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