

Antineoplastic Administration, Handling & Disposal

INTRODUCTION

Antineoplastic agents (cancer chemotherapy drugs) can cause mutagenesis, teratogenesis, carcinogenesis, and sterility when administered to humans. The risk varies with the specific drug and its concentration, and with the frequency and duration of exposure.

Concern has therefore been raised regarding potential hazards to personnel handling chemotherapy drugs. Studies indicate that observing certain precautions while handling chemotherapy drugs reduces personnel exposure and presumably risk.

All personnel working with chemotherapeutic drugs must receive hazardous chemical training for the specific agents they are working with as part of the laboratory specific safety training. The hazardous chemical training should include but is not limited to the health and physical hazards of the chemicals, signs and symptoms associated with exposure, appropriate work practices, personal protective equipment, and emergency procedures. Much of this information can be found on the Safety Data Sheet (SDS) which must be made available to staff.

PRECAUTIONS FOR AGENT PREPARATION (reconstitution and dilution)

1. All agent preparation must be performed in a chemical fume hood, glove box, or a biological safety cabinet (BSC) that does not exhaust into the room. BSCs that exhaust into the room (i.e. Class II A2 without a canopy) may NOT be used for antineoplastic agents. BSCs that do not exhaust into the room and are acceptable for antineoplastic agent use are Class II A2 with a canopy and Class II B. If a sterile environment is necessary, use a BSC instead of a chemical fume hood.
2. Wear chemotherapy gloves or double gloves of either surgical quality latex gloves or nitrile. Chemotherapy gloves provide the greatest protection.
3. Wear a protective gown that is lint-free, non-permeable with a solid front, long sleeves, and tight-fitting elastic or knit cuffs (gowns specifically designed for chemotherapeutic agents).
4. When double gloving, one glove should be placed under the gown cuff and one over.
5. The outer glove should be changed immediately if contaminated. Both gloves should be changed if the outer gloves is torn, punctured, or overtly contaminated with the drug (as in a spill) and every hour during preparation.
6. All potentially contaminated disposable items (i.e. gloves used for preparation, absorbent pads) must be placed in a plastic bag while in the chemical fume hood/BSC and then in the chemotherapy waste container. Sharps should be disposed of in a sharps container specific for chemotherapy. This sharps container must be labeled as holding chemotherapy items.
7. Preparations should be performed over plastic backed absorbent pads. Dispose of immediately upon contamination and upon completion of work.
8. External surfaces of syringes should be wiped with a clean alcohol pad to remove any potential contamination.
9. Chemotherapeutic agents must be stored in an area labeled chemotherapeutic agents.
10. Chemotherapeutic agents must be transported in secondary, sealed, non-breakable, labeled containers. An example is a ziplock bag with chemo labels.
11. Leurlock syringes are recommended.

12. A Chemotherapeutic agent spill kit must be available. 70% isopropyl alcohol is an acceptable decontaminant for these agents.
13. The chemical fume hood, glove box, or biological safety cabinet must be cleaned (70% isopropyl alcohol) upon completion of tasks.
14. Hands must be washed upon completion of tasks.
15. Excess chemotherapeutic agent, not used, must be disposed of in chemotherapy waste container.
16. Consult with UW Safety - RMMC at 307-766-3698 for disposal needs.

PRECAUTIONS FOR AGENT ADMINISTRATION

1. Wear double gloves (latex or nitrile) for all procedures involving chemotherapy administration.
2. Change gloves after each use, tear, puncture, medication spill, or after 30 minutes of wear for latex, 60 minutes for nitrile.
3. Wear protective gown with solid front at all time.
4. For situations where potential eye contact with chemotherapeutic agent exists, safety goggles or face shield should be used.
5. Use lock needles, if possible.
6. Dispose all waste material in the appropriate chemical waste container.

CHEMOTHERAPY WASTE COLLECTION AND DISPOSAL

1. For guidance on disposal (i.e. bedding, waste, supplies) and to obtain chemotherapy waste containers, contact the UW Safety Regulated Materials Management Center at 6-3697.
2. For mixed waste (i.e. biohazard waste with anti-neoplastic waste) disposal determination, contact the RMMC.
3. Dispose all waste in a plastic bag and discarded in the chemical waste container.
4. Seal filled chemical waste containers with the enclosed screw top.
5. For waste pick-up call the UW Safety - RMMC at 307-766-3698..

CLEANING CHEMOTHERAPY SPILLS

1. **Spills must be cleaned up immediately by properly protected and trained personnel. Spills should be cleaned using contents in the spill kits. All other persons should leave the area.**
2. Small spills (less than 5 ml) outside the fume hood/BSC should be cleaned immediately by personnel wearing a gown, two pairs of gloves (latex or nitrile) and mask. For spills greater than 5ml, a respirator mask (requires enrollment in UW's respirator program) and eye protection should also be worn (found in the spill kits).
3. Liquids should be wiped with absorbent pads. The spill area should then be cleaned thoroughly with a detergent solution followed by clean water. Place waste in plastic bag and then in the chemotherapy waste container.
4. Contact RMMC at 307-766-3698 for information on spill kits for chemotherapeutic agents

ACUTE EXPOSURE

1. In case of skin contact, wash the affected area with soap and water as soon as possible for at least 15 minutes.
2. For eye exposure, flush with water for at least 15 minutes. Then go to the Iverson Memorial Hospital Emergency Department.
3. Report incident to supervisor. Supervisor reports the accident/injury.