

British Columbia Cancer Agency POLICY

Title: Cytotoxic Agents, Safe Handling Standards	Number: V-10
Effective Date: September 1, 1997 Revised August 1, 2000	Approved By: Provincial Systemic Program Committee

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A. SCOPE

This Policy covers the preparation, administration, and disposal of cytotoxic agents.

Cytotoxic agents may also be referred to as antineoplastics or chemotherapy. These drugs may be administered by many routes. This policy refers to all routes of administration.

For further information, refer to the individual drug monographs in the Cancer Drug Manual and relevant Site and departmental directives and procedures.

B. POLICY STATEMENT

The management of the British Columbia Cancer Agency is committed to promoting a safe and healthy workplace for all staff in the organization, and to that end cytotoxic agents will be properly handled, in accordance with the attached appendices, to ensure that the preparation, administration, and disposal of these agents will not pose an undue hazard to the staff or patients involved in their use.

C. RESPONSIBILITIES

Senior Management

- Designate responsibility for the implementation and maintenance of the Cytotoxic Standards.
- Ensure that all managers and supervisory staff are familiar with and adhere to the Cytotoxic Standards.
- Ensure that health surveillance mechanisms are established for all staff who are at significant risk of exposure to cytotoxic agents.

Directors/Managers and Supervisory Staff

- Ensure that all staff are fully familiar with the Cytotoxic Standards and that they are properly trained in, and comply with all workplace policies and procedures.
- Ensure that health and safety of patients and staff are given primary consideration when implementing or altering processes, programs, or physical facilities related to cytotoxic agents.
- Make every effort to accommodate requests to change work assignments from staff who are pregnant, breastfeeding or attempting to reproduce.
- Ensure cytotoxic exposure records are maintained for duration of employment of each employee plus 10 years, and training records for 3 years from the date training occurred. (WCB Regulations Oct.99).

Employees/Medical Staff

- Follow all safety requirements according to Workers Compensation Board Regulations and the Cytotoxic Standards.
- Report all unsafe acts and conditions.
- Actively participate in the recommended health surveillance programs.

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- Actively participate in the training programs provided.

Occupational Health & Safety

- Co-ordinate the planning, development, and implementation of the Cytotoxic Standards.
- Develop, implement, and maintain a health surveillance program for all staff exposed to cytotoxic agents.
- Assist in the development of new procedures as required.

D. GENERAL DIRECTIVES

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Education

- Education for safe handling and exposure documentation of cytotoxic agents is to be provided within the first 3 months of hire.
- Information on the possible risks and necessary precautions to take when handling cytotoxic agents must be made available to all relevant staff.
- Written procedures for handling of cytotoxic agents must be accessible and adhered to by all relevant staff.
- Personnel handling cytotoxic agents must be trained in the use of personal protective equipment and safe handling procedures to decrease risk of exposure to these agents. (Refer to Table 2: Personal Protective Equipment)
- To ensure that safe handling procedures are being followed, work practices must be assessed at appropriate intervals with retraining provided as necessary.

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Storage and Transportation

- Access to cytotoxic agent storage areas must be limited to authorized personnel.
- Containers of prepared cytotoxic agents must be transported in clear zip-loc bags and stored in these bags until time of administration (see Table 1).
- Cytotoxic agents must be stored separately from other drugs.
- Storage must be designed in a manner that will prevent containers of cytotoxic agents from falling.
- Pneumatic tubes must not be used for transporting cytotoxic agents.
- If damaged cartons of cytotoxic agents are to be opened, this must occur in an isolated area following BCCA Policy "Spill Management of Cytotoxic Agents" and/or relevant Site Directives (see Table 1).
- For transportation outside the facility, cytotoxic agents must be packaged according to Transportation of Dangerous Goods Regulations and transported via courier (see Table 1).

Labelling/Signage

- To indicate their potentially hazardous contents, cytotoxic agents (including oral and topical forms), wastes, equipment and waste containers must be labelled with distinctive warning signs/labels such as:

"CYTOTOXIC AGENT - SUSPECTED CARCINOGEN

-- handle with gloves --

-- dispose of properly --"

- Warning signs must be posted in all areas where cytotoxic agents are stored or mixed. The signs must be clearly visible and must clearly state the identified hazards. i.e.

**"CAUTION
KNOWN OR SUSPECTED CARCINOGEN,
AUTHORIZED PERSONNEL ONLY."**

Personal Protective Equipment (PPE)

- Personal protective equipment (PPE) must be worn whenever cytotoxic agents are handled (See Table 2).
- The appropriate PPE must be available in all areas where cytotoxic agents are handled.
- PPE must not be worn outside the preparation, administration, or storage area.

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- PPE must be worn when dismantling and disposing equipment used in the administration of cytotoxic agents.
- Used disposable PPE must be handled as cytotoxic waste.

Drug Preparation

- Any BCCA personnel preparing cytotoxic agents will follow Pharmacy Directive I-20 and relevant Site Directives.
- Preparation of cytotoxic agents must take place in Pharmacy or, in facilities where there is not a Pharmacy, by personnel who have access to an approved biological safety cabinet and who are trained to prepare and handle these agents safely.
- Preparation of cytotoxic agents must take place in a Class II Type B or better, externally-vented biological safety cabinet which must have airflow monitoring devices and be certified at least annually.
- Only luer-lock connections will be used in the preparation of cytotoxic agents.

Drug Ordering and Checking

- All orders for cytotoxic agents must be written by a physician. To facilitate drug preparation, changes to a previously-written order may be made by a pharmacist upon verbal order from a physician. However, the dose must not be given until the new order has been signed and dated by a physician.
- A Registered Nurse (RN) may not accept telephone orders for cytotoxic agents or for adjustments to doses of cytotoxic agents.
- All orders for cytotoxic agents must be checked by a chemotherapy certified RN, as per Nursing Directive C-252. Discrepancies exceeding plus or minus 5% of the dose, calculated according to the patient's treatment plan, must be clarified with the physician.

Administration of Cytotoxic Agents

- Any BCCA personnel administering cytotoxic agents must follow procedures in Nursing Directive C-252 and/or relevant Site Directives.
- Some routes may be designated for administration by physician only. Consult BCCA-Approved Parenteral Routes List.
- Cytotoxic agents must not be transferred from syringes to bags outside of an approved biological safety cabinet.

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- The RN administering cytotoxic agents must have completed a Chemotherapy Certification Program, as outlined by the employer. The RN participating in the chemotherapy certification practicum may administer cytotoxic agents under the supervision of a chemotherapy preceptor or clinical instructor/educator
- Only luer-lock connections will be used for the administration of cytotoxic agents.
- All tubing used to administer chemotherapy must be primed with a solution that does not contain a cytotoxic agent.
- All chemotherapy infusions will be administered by a secondary medication line except in those cases where the nature of the chemotherapy requires specialty tubing.
- The primary line must be well flushed with a minimum of 25 mL of compatible IV solution prior to disconnection.
- Any tubing used to administer cytotoxic agents must be disposed of as cytotoxic waste, even though tubing has been flushed prior to disconnection.

Cytotoxic Waste

- All waste products from the preparation and administration of cytotoxic agents shall be treated as cytotoxic waste and ultimately disposed of according to relevant Federal and Provincial regulations.
- All work areas must be provided with a closable, puncture-resistant, shatterproof container for disposal of contaminated sharps/breakable materials or liquids clearly labelled with the cytotoxic hazard symbol. All syringes and needles used for preparation, and administration must be placed in this container for disposal without being crushed, clipped or capped. This container must be sealed when three-quarters full or at indicated maximum fill line.
- All disposable non-sharp materials may be disposed of in 4 mil thick plastic bags which are kept inside a covered waste container or carton clearly labelled cytotoxic waste. The bag must be sealed when it is filled and the lid of the container or carton must be taped.
- While awaiting disposal from the facility, cytotoxic waste shall be stored in a secure area in covered, labelled containers with plastic liners.

Body Wastes

- Uncontained body wastes (see glossary) from all patients must be handled using Cytotoxic Spill Procedures (see Agency Policy “Spill Management of Cytotoxic Agents”).
- Contained body wastes (see glossary) from all patients must be handled using standard Body Substance Precautions (B.S.P.) - Standard Precautions.

Non-disposable Equipment/Items

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- Terminal cleaning of non-disposable equipment/items must include thorough washing, with mild detergent. Cleaning personnel must wear appropriate personal protective equipment.
- If non-disposable equipment/items are sent to another department for terminal cleaning, they must be transported in sealed leak-proof bags or containers.
- Linen contaminated with cytotoxic agents, blood, vomitus, or excreta must be handled using standard body substance precautions and transported to laundry facilities in impermeable bags.

Spills

- A clearly labelled cytotoxic spill kit will be kept in all areas where cytotoxic agents are received, prepared, administered or stored. Refer to Agency Policy “Spill Management of Cytotoxic Agents” for list of recommended contents of spill kits.
- Spills and breakages must be cleaned up immediately by a properly protected person trained in the appropriate procedures. Refer to Agency Policy “Spill Management of Cytotoxic Agents” for spill clean-up procedures.
- Spills inside a biological safety cabinet (BSC) must be cleaned promptly to avoid expansion and spread; decontamination procedures must be used if the spill is large enough to contaminate multiple surfaces inside the cabinet. Refer to current Pharmacy directive for procedures for spill clean-up inside a BSC.
- Spills of an unknown nature must be handled using cytotoxic spill procedures.

Documentation

- All employees who prepare or administer cytotoxic agents are required to document their exposure on the “Daily Exposure Record of Cytotoxic Agents.”
- BCCA is “required to maintain exposure records for duration of employment of each employee plus 10 years, and training records for 3 years from the date training occurred” (WCB Regulations, Oct. 99).

E. DIRECTIVES FOR SPECIFIC PROCEDURES

Preparation of cytotoxic agents - refer to current versions of:

- BCCA Policy V-A-180 “Spill Management of Cytotoxic Agents”
- Pharmacy Division Directive I-20
- Pharmacy Site Directive(s) related to preparation of cytotoxic agents
- other Site Directives relevant to preparation of cytotoxic agents

Administration of cytotoxic agents - refer to current versions of:

- BCCA Policy V-A-180 “Spill Management of Cytotoxic Agents”

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- Nursing Division Directive C-252
- Nursing Site Directive(s) related to administration of cytotoxic agents
- other Site Directives relevant to administration of cytotoxic agents

Receiving and transport of cytotoxic agents - refer to current versions of:

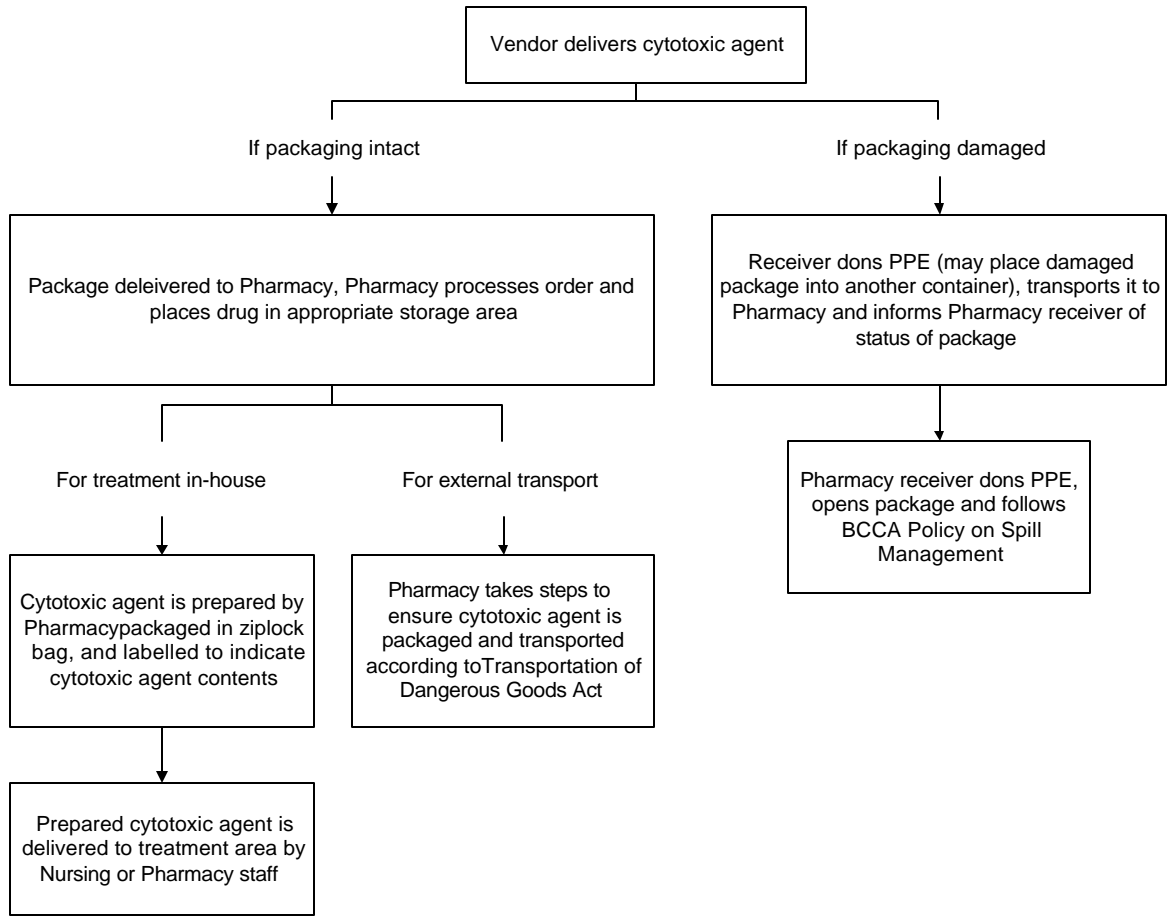
- BCCA Policy V-A-180 "Spill Management of Cytotoxic Agents"
- any Site Directive(s) relevant to receiving and transport of cytotoxic agents
- Host hospital policies, directives and/or procedures relevant to receiving and transport of cytotoxic agents

Maintenance, housekeeping, and other activities related to cytotoxic agents - refer to current versions of:

- BCCA Policy V-A-180 "Spill Management of Cytotoxic Agents"
- any Site Directives relevant to maintenance, housekeeping, etc.
- Host hospital policies, directives and/or procedures relevant to maintenance, housekeeping, etc.

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Table 1: STORAGE AND TRANSPORTATION OF CYTOTOXIC AGENTS



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TABLE 2: PERSONAL PROTECTIVE EQUIPMENT

<u>PROTECTIVE EQUIPMENT</u>				
	GLOVES Surgical latex - (7-9 mil thickness) or material which provides equal or better protection. Gloves must be changed at least hourly or immediately if contaminated, torn, or punctured. Wash hands with soap and water after removal of gloves.	GOWN Moisture-resistant, long-sleeved gown with cuffs. Gowns must be changed daily, immediately if contaminated, and immediately after spill clean-up.	EYE PROTECTION Eye/face protection (e.g., chemical splash goggles) must be worn when there is a hazard of eye contact. (Adequate eyewash facilities must be provided)	MASK (as approved by Workers Compensation Board)
<u>ACTIVITY</u> (When to Wear)				
Preparation (does not include counting using tray and spatula)	Always	Always	If preparing outside a biological safety cabinet	No
Administration	Always	Always, except intact capsules or coated tablets	If hazard of eye contact	No
Spill Clean-Up	Always	Always	Always	Yes
Waste Disposal	Always	If waste	If waste	No

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