

Los Angeles City Fire Department

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PRECAUTIONS WHILE TREATING AND TRANSPORTING PATIENTS RECEIVING CHEMOTHERAPY

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I. Background

Chemotherapy is a broad term applied to a range of medications used in the treatment of cancer and other diseases including HIV/AIDS and hepatitis. The relative toxicity of these agents varies widely with some substances being quite toxic and potentially hazardous and others being relatively benign. These medicines may be administered orally or intravenously. With an increasing number of patients receiving chemotherapy at home, or as out-patients, the possibility of members treating or transporting these patients has increased correspondingly. Although the chemotherapy agent is excreted in the patient's urine and feces for up to seven days after they finish treatment, these patients do not in and of themselves present a significant risk of exposure to the agent. If the patient is receiving intravenous chemotherapy, and the agent is still infusing, the risk of exposure is slightly greater. In either situation, members must observe some reasonable precautions when treating and transporting these patients.

II. Precautions at the Scene

As soon as you are aware that the patient is receiving chemotherapy, notify all other members on the scene. Anyone having contact with the patient should wear powder-free latex gloves (the Department issued latex glove is sufficient), face protection (i.e. goggles and mask or one-piece face shield) and the moisture resistant gown or jumpsuit from the Communicable Disease Protection Kit. The gloves should be pulled over the cuff of the jumpsuit or gown. If you are allergic to latex gloves, the Department issued Nitrile glove is an acceptable alternative. If your gloves become punctured or torn at any time, immediately remove them, wash your hands, if possible, and put on fresh gloves. Gloves should not be worn for more than thirty minutes when handling chemotherapy agents. Due to the risk to a fetus or an infant; **members who are pregnant or nursing should not participate in the care of these patients.**

If the patient is receiving oral chemotherapy no additional precautions are necessary.

If the patient is receiving intravenous chemotherapy, the chemotherapy agent may be in a glass intravenous (IV) bottle (this will vary depending on the solution). The tubing should have positive-locking (*Luer-lok*® type) connections. The connections on the tubing should also be securely taped and the tubing should have a plastic-backed pad (*Chux*®) placed under it to help contain and absorb any leaks or seepage. As long as the IV line and bottle remain intact and the IV catheter remains in place, there is little chance of exposure to the agent. Although the agent can be detected in all body fluids, these pose a minimal risk of exposure. As with any fluid from any patient, simply avoid contact with these substances.

The caregiver at the scene will have a container labeled "Chemotherapy Waste" for any disposable items contaminated by the agent or by the patient's bodily fluids. Emesis, urine and feces are normally discarded in the toilet. A spill kit should also be available at the scene. The kit must be used to contain and absorb any spills of the chemotherapy agent. Anything used to clean up the spill must be double-bagged, using the bags from the spill kit. (**DO NOT** use a red "BioHazard" bag, they are not intended for this purpose) This should be transported to the hospital with the patient for disposal.

Whenever possible, have the caregiver discontinue the chemotherapy infusion prior to a transport. Generally, if the patient requires emergency medical intervention, continued intravenous chemotherapy infusion is not a priority. If possible, bring the unused portion of the infusion with the patient to the hospital. This will allow the patient's physician the option of administering the balance of the infusion after the patient has been stabilized. The container and administration set should be placed back in the container in which it was delivered to the patient or facility for transport to the hospital. If the original container is not available, a "zip-lock" plastic bag or closeable plastic container may be used.

III. Precautions while Transporting

If it is not possible or practical, for whatever reason, to discontinue the infusion; continue the same precautions observed at the scene with regard to the IV container and the tubing. Because the Department does not supply infusion pumps or spill kits, both an infusion pump, to regulate the rate of infusion of the chemotherapy agent, and a spill kit, to contain and absorb any spills, must be transported from the scene with the patient. Since members are not trained in the operation of infusion pumps, ensure that the caregiver accompanies the patient in the ambulance to monitor and, if necessary, turn off the infusion pump. Because intravenous chemotherapy must be administered through an infusion pump, if an infusion pump cannot be transported with the patient, the chemotherapy infusion must be discontinued prior to transport. If a spill kit is not available at the scene, **DO NOT** transport the chemotherapy agent whether or not it is infusing.

IV. Handling a Spill

The likelihood of a spill occurring at the scene or during transport is minimal, however should a spill occur **DON'T PANIC**. Chemotherapy agents are and have been used in hospitals every day and with reasonable precautions pose minimum risk to the caregiver. Unless the spill results in the release of fumes, it is not necessary to request a Hazardous Materials (Haz-Mat) response for a spill of this size (usually less than 500cc or 1 pint).

Simply use the contents of the spill kit to contain and absorb the spill as quickly as possible. The exact contents of the spill kit may vary but at a minimum it should contain: two sets of latex gloves, a gown, a mask, a pair of goggles, several absorbent towels, two heavy-duty plastic waste disposal bags (one or both may be labeled "Chemotherapy Waste" and for glass fragments, a scoop and scraper and a puncture resistant container.

Priority should be given to containing the spill. Verbally warn anyone working in the area and prevent anyone from walking through the spill. Put on the heavy latex gloves and the disposable shoe covers from the spill kit. Use the absorbent towels in the spill kit to cover and absorb the spill as quickly as possible. Minimize contact with the solution while cleaning up the spill and discard all contaminated material in one of the plastic bags from the spill kit. Because any waste contaminated by a chemotherapy agent must be "double-bagged" for disposal, if only one of the bags is labeled, use the unlabeled bag first.

If the spill kit has a powder or granular desiccant, that may also be used to absorb the spill. If there are glass fragments present, use the scoop and scraper to pick them up and to discard them in the puncture resistant container.

Complete the decontamination of the affected area by washing it with detergent and water and rinsing it with clear water three times. Continue to wear all the protective equipment while performing decontamination. Use disposable towels to absorb the contaminated detergent and water discarding them in the bag containing the other contaminated materials. Anything used to absorb or cleanup the spill must be placed in this plastic bag.

When you have finished decontaminating the area, remove all of the protective equipment except the inner pair of gloves and place these items in the same bag as the rest of the contaminated material. Close and seal this bag and place it inside the other bag from the spill kit. Remove your inner gloves and place these inside the outer bag. Close and seal the outer bag. This waste must be discarded at the hospital. Check with the hospital staff regarding their procedure for handling chemotherapy waste.

If the spill has occurred in the ambulance, on your arrival at the hospital place your company NAV (not available) until the spill has been completely cleaned-up.

When completing the EMS Report (F-902M) document the name of the agent and the approximate volume of the spill, how the spill occurred, how it was contained and cleaned-up and the names of anyone exposed to the spill, including the patient.

V. Procedures at the Hospital

Notify the staff at the receiving hospital in advance if possible, that your patient is receiving chemotherapy and whether or not the agent is still infusing. If you have not been able to notify the hospital in advance, be patient while the hospital staff prepares to receive the patient from you.

VI. Exposure Care

If a chemotherapy agent spills onto your skin, immediately rinse the area thoroughly with water or saline and as soon as possible wash the affected area with soap and water. If the agent gets in your eyes, immediately flush your eyes with normal saline solution for, at least, five minutes.

ANY EXPOSURE TO A CHEMOTHERAPY AGENT MUST BE EVALUATED BY A PHYSICIAN.

As soon as possible, notify your commanding officer and contact the Medical Liaison Unit to arrange for first care. Because this is a chemical exposure, an F-3, Hazardous Substance Exposure Report and F-166A, IOD Injury or Illness report must be forwarded, through channels, to the Medical Liaison Unit.

Even if you have not had direct contact with the chemotherapy agent, as soon as possible after the incident, remove your gloves and wash your hands thoroughly with soap and water.

VII. Conclusion

Chemotherapy agents are a valuable and effective treatment option for certain diseases. While their use does include some potential risk for members of this Department, they are widely used with a high degree of safety every day. With reasonable care the risk to a member caring for a patient receiving chemotherapy is minimal.