

**CONWAY REGIONAL HEALTH SYSTEM
CLINICAL LABORATORY**

Computerized Tube System (CTS)

PURPOSE:

This policy is designed as a guideline for safe and proper operation of the Computerized Tube System, referred to as CTS. It is important to understand and adhere to the following procedures and protocols in order to maintain uninterrupted service from the CTS.

TRAINING

A very important aspect of utilizing the CTS to transport items is in-service training. It is necessary that all employees who will be using the CTS be knowledgeable about proper packaging procedures and system use. It is recommended that Unit Directors educate their staff during scheduled in-services or staff meetings, and require each staff member to sign acknowledgment of training.

PACKAGING

Before sending items in a CTS carrier, they must be properly packaged. Most problems with tube systems occur when items are improperly packaged and carriers are not closed (latched) tightly. This can cause the contents to **break and/or leak** while being transported.

Leakage is due to:

- Improper packaging and non-immobilization of contents
- Failure to tighten container lids

To prevent spillage, remember:

- **CONTAINMENT** prevents leakage
- **IMMOBILIZATION** ensures integrity
- Fragile items need to be immobilized
- Loose, small items need to be immobilized
- **ALL** items need secondary containment and packaging

Specially designed pouches have been developed by the CTS manufacturer specifically for transportation of items within the carrier. The Zip N' Fold pouch is a stand-alone system providing both containment and cushioning; no foam padding is needed. The Zip N' Fold pouches must be used to insure integrity and containment of all items.

A primary Biohazard specimen bag should be used for specimen transport, with the Zip N' Fold pouch being the secondary containment system. This drastically reduces the chances of CTS contamination. CTS contamination could result in several hours of CTS downtime, while decontamination procedures are implemented by Maintenance.

Paperwork, pharmaceuticals, and other supplies should be transported through the CTS in the Zip N' Fold pouches if they are able to fit. The CTS tubing experiences some condensation during certain seasons, which will potentially compromise the integrity of the aforementioned items.

Contaminated needles or other sharp contaminated objects should not be transported in the CTS.

Controlled substances will not be transported in the CTS. Exceptions are allowed in emergency situations, and require prior approval by Pharmacy Department.

INFECTION CONTROL

The primary concern in the transportation of clinical specimens in the CTS is leakage of the specimen into the carrier and potentially the CTS tubing, thus exposing employees to hazardous material. **Leakage as caused by breakage can be virtually eliminated if proper packaging methods are practiced.**

In accordance with the universal guidelines developed by CDC and adopted by OSHA, all blood and body fluids should be handled as potentially infectious material and, therefore, are considered hazardous. Specially designed pouches have been developed by the CTS manufacturer specifically for specimen transport and must be used to insure integrity and containment of specimens.

All workers handling specimens should wear the appropriate protective barrier clothing as defined by Universal Precautions.

Contaminated sharps should not be put into the CTS system.

Leakage and Clean-up Procedure:

The purpose of primary and secondary containment (Bio bags and Zip N' Fold pouch) is to contain any spillage that may occur. The spill is readily visible and alerts the receiver to use special handling procedures.

If spillage has occurred:

1. Check the outside of the carrier for leakage. If properly packaged, the spill should be contained within the Zip N' Fold pouch. If a specimen has leaked outside the carrier, the Maintenance Department shall be notified so that they can initiate a system shutdown and system cleanup procedure.
2. If a leak has contaminated the inside of the carrier only, the carrier and pouch will require decontamination and shall be set aside (see following procedures for decontamination and cleaning).
3. Immediately call the station that sent the specimen and request that a new specimen be sent.
4. Discard the specimen and disposable Biohazard bag in a biohazard container.

Decontamination Procedure:

Carriers and Zip N' Fold pouches:

Soaking in a 1:10 dilution of bleach or another mycobactericidal germicide.
Rinse thoroughly and allow to dry.

Decontamination of CTS and tubing:

This procedure is not done routinely. It is generally necessary only if there is strong evidence that a substantial spill has occurred and has contaminated the system tubing. If properly packaged, the Biohazard bags, Zip N' Fold pouches, and carriers contain all spillage. System decontamination requires shutdown of the CTS. Maintenance performs system decontamination and has this procedure in their installation and service manual. Notify Maintenance in the event of a major spill.

Recommendations for CTS Users:

1. Use gloves when packaging and un-packaging specimens from Biohazard specimen bags.
2. If transporting or handling the **CLOSED, INTACT** Zip N' Fold pouch between locations within the laboratory, it is not necessary to use gloves. However, if the Zip N' Fold pouch is not intact (not sealed), it is required that gloves be worn.

LABELING

OSHA Instruction CPL 2-2.44C, 7a, page 63

Labels – (g) (1). **Labels must be provided** on containers of regulated waste, on refrigerators and freezers that are used to store blood or OPIM*, and **on containers used to store, transport, or ship blood or OPIM**. This requirement alerts employees to possible exposure since the nature of the material or contents will not always be readily identifiable as blood or OPIM. (See Appendix E.).

* OPIM – Other Potentially Infectious Materials

Because it is impossible to predict with absolute certainty that a primary specimen container will not leak while being transported in the CTS, all specimens should be bagged with a Biohazard specimen bag.

If the Zip N' Fold pouch is contaminated, care shall be taken to avoid contaminating the carrier and the CTS station. Decontaminate any surface that may be contaminated following procedures previously outlined.

While using the CTS, carriers containing specimens can be accidentally misdirected to a location other than Laboratory. Therefore, all employees who might potentially open a carrier should be given instructions as to how to redirect a carrier to the Laboratory. However, if proper packaging procedures are followed, the transparent Zip N' Fold pouch should allow employees to identify specimens inside the carrier. Therefore, if there are departments within the hospital not utilizing Universal Precautions, the Biohazard label must be visible within the carrier. The Zip N' Fold pouch serves only to contain and immobilize contents.

SYSTEM SPILL PROCEDURE FOR USERS

Note: Always use Universal Precautions when handling carriers that may have been contaminated.

1. Stop sending carriers from the station where the contamination was first noticed.
2. Call Maintenance Department to shut down the system.
3. Check decontamination policy to proceed with cleaning of carriers and Zip N' Fold pouches.

4. Remove contents of carrier using protective clothing and Universal Precautions.
5. Discard specimen(s) and Biohazard specimen bag.
6. Remove gloves and wash hands.
7. Call sending station and request another specimen.
8. An incident report should be completed.

REFERENCES

1. USCDC: Recommendations for preventing transmission of infection with T-lymphotrophic virus type III/lymphadenopathy-associated virus in the workplace. MMWR 1985; 34: 681-684, 691-695
2. OSHA Instruction CPL 2-2.44C, March 6, 1992, Office of Health Compliance
3. Protection of Laboratory Workers from Infectious Disease Transmitted by Blood, Body Fluids and Tissue. NCCLS Document M29-T, Vol. 9 No. 1, 1989.
4. Biosafety in the Laboratory. Washington, D.C.: National Academy Press, 1989.
5. Train the Expert. Translogic Corporation, 1996.

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