

UNIVERSITY OF TOLEDO HEALTH SCIENCE CAMPUS

SUBJECT: SPECIMEN TRANSPORT IN
COMPUTERIZED TUBE SYSTEM

Procedure No: S-08-011

PROCEDURE STATEMENT

All laboratory specimens will be transported in a manner consistent with existing infection control procedures.

PURPOSE OF PROCEDURE

To establish safe procedures and guidelines for the operation of the pneumatic tube system for transporting laboratory specimens from patient care areas to the clinical laboratory.

PROCEDURE

I. ITEMS NOT APPROVED FOR TRANSPORT IN THE CTS SYSTEM

1. Specimens identified as precious specimens such as ascites fluid, amniotic fluid, cerebrospinal fluid, joint fluid, pleural fluid, surgical tissue/aspirate and certain timed specimens where the specimen cannot be recollected without undue harm to the patient.
2. 24-hour urines (containers larger than urine cup)
3. Formalin and/or alcohol preserved specimens
4. Blood bags, IV sets, IV solutions that have been implicated in a possible transfusion reaction
5. Drinks or food items
6. Contaminated supplies
7. Sharps
8. Non-leak tight containers containing liquids
9. Blood gases (except as noted below)
10. Flammable liquids
11. Hazardous chemicals
12. Specimens from patients with known dangerous, communicable diseases
13. Hazardous drugs (chemo agents) not in sealed, solid unit-dose containers
14. Blood Culture Bottles
15. ABG Samples

II. PACKAGING

Potentially infectious items must be contained and transported in a manner that prevents breakage, leakage or contamination of the system. In accordance with Universal Precautions and OSHA Bloodborne Pathogen standard, all blood and body fluids must be handled as potentially infectious. Refer to the Exposure Control Plan in the Infection Control Manual for handling of biohazardous materials.

Gloves must be worn when inserting and removing specimens of blood and body fluids from carriers.

Leakage is primarily due to:

- Improper packaging and non-immobilization of contents
- Use of non-leak tight containers or failure to tighten container lids

To prevent spillage or breakage, remember:

- Containment prevents leakage
- Immobilization ensures integrity

Sealed Plastic Bags will be used to immobilize and package items. See the following for specific packaging procedures:

- A. Urine and Stool Specimens (120 ml or less plastic container)
 - 1. Make sure container cap is secure.
 - 2. Place sealed, labeled specimen in a clean biohazard specimen resealable plastic storage bag (e.g., zip lock).
 - 3. Completely close biohazard specimen resealable plastic storage bag.
 - 4. Place biohazard specimen resealable plastic storage bag in carrier and send to Lab.
 - 5. Liquid stool cannot be sent through the tube system.
- B. Blood/Body Fluids - Vacutainer Tubes
 - 1. Place labeled tubes in slots of vacutainer tube bag.
 - 2. Place sealed, labeled tubes in clean biohazard specimen zip lock bag.
 - 3. Completely close biohazard specimen zip lock bag.
 - 4. Place biohazard specimen zip lock bag in carrier and send to Lab.
- C. Culture Specimens (Cultures, sterile containers less than 150 ml)
 - 1. Make sure specimens are securely contained in primary container.
 - 2. Place sealed, labeled specimen in clean biohazard specimen resealable plastic storage bag.
 - 3. Completely close biohazard specimen resealable plastic storage bag.
 - 4. Place biohazard specimen resealable plastic storage bag in carrier and send to Lab.
- D. Pharmacy Transport
 - 1. The blue pneumatic tubes are for pharmacy use.
 - 2. Receiver will return empty blue tube back to Pharmacy.
 - 3. Controlled substances must be sent using the secure send function.
 - 4. Hazardous drugs can only be transported if in a solid dosage form and a unit-dose, sealed container, as long as the drugs are contained in a properly labeled sealed bag to alert an employee to the hazard and prevent any surface contamination within the tube (i.e. creams, capsules, tablets).
- E. Color Codes

The specific colors belong to their designated departments and tubes must be maintained by them. Colors include Blue, red, yellow, clear.

 - 1. Blue: Pharmacy/Medicine
 - 2. Red: Specimens from the ED and OR
 - 3. Yellow: Specimens from a Code
 - 4. Clear: General Use

III. DECONTAMINATION PROCEDURES (DO NOT DISCARD CARRIERS)

Tubes should be decontaminated by responsible departments when deemed necessary. This should be done using a 1:10 bleach wipe to wipe the interior and exterior of the tube. Purple top wipes are not recommended for the tubes.

Plastic Carriers: Forward to Sterile Processing in a secondary container with a biohazard label for decontamination if visibly soiled or wet.

IV. SYSTEM SPILL PROCEDURES

A. Procedures for Users

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

1. Stop sending carriers from the station where the contamination was first noticed, initiate EMERGENCY SHUTDOWN from your station. (punch in special function 91, and then SEND)
2. Call Facilities Maintenance (419-383-5353).
3. Notify Facilities Maintenance and state:
 - a. Receiving station's number
 - b. Sending station's number (if known)
 - c. Type of spill, specimen type and suspected amount
 - d. Time the contaminated carrier arrived (or was first noticed)
 - e. Number of contaminated carriers that have arrived
4. Notify Infection Prevention (419-383-5006) of system spill and Environmental Health and Radiation Safety (419-530-3600) Departments so that it may be logged.
5. Follow the Decontamination Procedure in this policy.
6. Remove contents of carrier using protective clothing (utilizing Universal Precautions).
7. Discard the specimen and secondary containment bag (if unable to be cleaned or salvaged) into a red infectious waste bag.
8. Call the sending station and request another specimen be hand delivered.
9. Contact Sterile Processing (419-383-5107) for further decontamination of the carrier. Place the carrier in a biohazard waste bag and deliver to Sterile Processing.
10. Facilities Maintenance is responsible for decontamination of the system and will return the system to service when cleaning is completed.
11. Contact Environmental Health and Radiation Safety (419-530-3600) for any spills outside of the station.

B. Facilities Maintenance Action

1. Immediately verify that the system has been shut down. The system can be turned off at the System Control Center (SCC) or at any station.
2. From the system transaction printout, verify from which station the carrier was dispatched and when. Use the riser diagram to determine the route that the carrier traversed from the source station to the destination station. Use the transaction printout to determine if other transactions used that route or any part of it before the system was shut off.
 - a. Determine from the "System Traffic Display" if any transactions in process, when the system was shut off, used that route or any part of it.
 - b. If any of these transactions used the same route or any part of it, determine their source and destination stations and clean-out those routes in addition to the route in which the spill occurred.
3. Purge the entire system to clear the "Emergency Stop" status of the system. Be careful to assign contaminated stations as the recovery stations in those zones with contaminated routes. This procedure will eliminate the spread of contamination to other routes in contaminated zones.
4. From the SCC, individually schedule "Off" all stations on any zone with one or more contaminated routes.
5. Assign "Off Dispatch" to any station on contaminated routes. This will allow clean-out carriers to be sent back to the stations from which they were dispatched.

C. Procedure for Disinfecting Stations and Tubing

The basic procedure consists of sending a carrier containing the clean-out bottle from station to station until all affected segments of the system have been traversed. This procedure will require one person except when cleaning the interzone lines, which will require two people and telephone/radio communication between them.

As the carrier travels through the tubing, the clean-out bottle dispenses the cleaning solution, while the carrier rubbing bands act as swabs.

1. Donning protective clothing prepare bleach solution, 1:10 dilution of bleach (5.25% sodium hypochlorite). Bleach can be obtained from Central Stores
2. Fill the clean-out bottle to within 1/4" of the top holes on bottle.
3. Place the lid on the bottle.
4. While maintaining the upright position of the bottle, place it in a carrier.
5. Close and latch the carrier.
6. Periodically check the level of the cleaning solution. When there is less than an inch of solution left in the bottle, refill it and towel dry the carrier rubbing bands.
7. Use diagnostics to clean-out any contaminated interzone lines.
8. Turn the contaminated zones on.
9. Send the clean-out carrier back to yourself from all stations suspected of being contaminated to clean the contaminated routes.
10. Reassign all stations on "Off" schedules to their original on/off schedules when clean-out is completed.

When the schedules have been entered, the system will be fully operational. If appropriate, a hospital wide "All Clear On the Tube System" will be announced by the Operator.

Source: Safety & Health Committee

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2/2/05

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12/16/22

PNEUMATIC TUBE

SPILL CONTROL-SHUTDOWN PROCEDURE

1. Should you **SUSPECT** a spill, **SHUT DOWN THE SYSTEM!**
2. Stop sending carriers from the station where the contamination first noticed.
3. At the station punch in:
 - **SPECIAL FUNCTION,**
 - **91** and then punch **SEND/ENTER**
4. Call Facility Maintenance at: **419-383-5353**
 - State receiving station's number
 - Sending station's number if known
 - Type of spill, specimen type and suspected amount
 - Time the contaminated carrier arrived
 - Contact Central Stores or Environmental Services for Bleach
5. Refer to Env. Health & Radiation Safety procedure S-08-011, <http://www.utoledo.edu/depts/safety/docs/S-08-011.pdf> for further details related to infection control and decontamination.