


Title: Engineering Services - Pneumatic Tube System Operational - Guidelines

 Health <i>University of Missouri</i>	Document Owner: Paul Ketron	Last Approved Date: 06/26/2018
	Content Expert: Glenn Jensen Jr	

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I. Purpose Statement

- a. University Hospital (UH) is to provide a pneumatic tube system for transporting clinical items throughout the facility.
- b. Engineering Services (ES) will ensure proper functionality of the pneumatic tube system by developing procedures and restrictions regarding its operation.

II. Definitions

- a. Authorized User: This is a staff member that has received departmental training on the operation of the pneumatic tube system, has read this guideline, and has received departmental permission to use the system.

III. Content

- a. Pneumatic Tube Rules
 - i. Transportation of food, drink or personal items is strictly prohibited. These carriers are considered as biohazards.
 - ii. Notification of inappropriate use or improper packing will be made to the “Sending” department from the “Receiving” department.
 - iii. Repeat departmental offenders will be documented via the institutional incident/variance reporting procedures.
 - iv. Continued misuse may result in the loss of the ability to utilize the system.
 - v. Individual misuse will be dealt with via the institutional progressive discipline procedures.
 - vi. No items will be sent to the Sterile Processing Department (SPD); this function has been discontinued.
 - vii. Do not remove foam liners to send items through system as damage to items being sent may occur.
- b. Pneumatic Tube Procedures
 - i. Authorized User – A: Sending Procedures
 - 1. No object weighing more than 6 lbs. is to be transported.

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2. The “Station Ready” message indicates your station is available to send a carrier.
 3. Place items to be sent in an empty carrier using an approved protective foam liner.
 4. Close carrier and insure that both latches are engaged and nothing protrudes from the carrier.
 5. Place carrier in dispatcher.
 6. Select the proper code from the directory and enter this number on the keypad.
 7. Press send.
 8. The “Selection Accepted” message indicates your carrier has been accepted for processing.
- ii. Authorized User – B: Receiving Procedures
1. The “Incoming Carrier” message indicates that carriers will be arriving at your station. Remove carriers promptly as they arrive to prevent receiver from becoming full and shutting off station. Damage to other carriers or the contents of other carriers will be prevented.
 2. Press “Cancel/Clear” label to turn off carrier received alarm.
 3. If carriers or carrier latches are damaged or missing foam or O ring, remove from system and call ES at 882-7111.
 4. If “Return Extra Carriers” is displayed, send extra carriers back by pressing “Empty Return” label.
- iii. Authorized User – C: Cleaning Procedures
1. In the event of a suspected contamination, immediately stop sending carriers.
 2. If the spill is confined to the carrier, dispatch arm, station display, dispatcher or keyboard, the sending or receiving department will provide for the clean-up using an aerosol disinfectant available from Housekeeping.
 3. The discard of soiled foams is the responsibility of the receiving department. Set carrier aside and call ES to pick up carrier at 882-7111.
 4. If the spill has contaminated the surfaces surrounding the dispatch center, contact Housekeeping by telephone at 573-882-8037 or by voice Pager at 573-397-9114 and inform Housekeeping of the spill location.

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- a. If the interior of the pneumatic tube system has been contaminated, the Authorized User is to contact ES at 573-882-7111 and inform the operator the location of the contamination by receiving station number, type of spill, time the spill was noticed, and the extent of the spill.
- iv. Housekeeping Procedures
 1. Housekeeping is to respond to spill site and clean/disinfect all areas and surfaces surrounding the dispatch center.
 2. Housekeeping should page the Mechanical Plant Specialist (MPS) on duty and relay the spill information that was provided by the user.
- v. ES MPS Procedures
 1. Respond to the site of the spill and assess the extent of the contamination and initiate necessary clean up procedures within the tube system.
 2. Inform the users when the system clean-up is complete and available for use.
- vi. Authorized Users/Housekeeping/ES MPS Cleaning Procedures
 1. Observe the following step-by-step clean up and safety procedures:
 - a. Use body substance precautions:
 - i. Wear gloves when it is reasonably anticipated that hands will be in contact with any moist body substance (blood, urine, feces, wound drainage, oral secretions, sputum, vomitus or items/surfaces soiled with these substances).
 - ii. Use general purposes utility gloves for housekeeping chores involving potential blood contact.
 - iii. Wear masks and/or eye protection when it can be reasonably anticipated that eyes and/or mucus membranes may come in contact with body substances.
 - iv. If soiling of clothing is anticipated, wear disposable apron or gown
 - b. Absorb liquid with clean dry cloths or paper towels.
 - c. Use Alpha-HP and using a clean cloth or paper towel, thoroughly wipe and disinfect the soiled area.

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- d. Place a wet floor sign over the area until floor is completely dry, if necessary.
- e. Carefully place soiled rags in a trash can liner for removal at the end of your shift.
- f. If the gloves worn to clean up the spill are reusable rubber gloves, they should be washed with soap and running water prior to removal.
 - i. Disposable gloves should be removed without soiling the hands and should be disposed of in a plastic bag in the trash container.
- g. Hands must be washed immediately after removing the gloves.
- h. Use safety precautions:
 - i. Disinfectant/detergent is corrosive and may cause eye damage and skin irritation. Avoid breathing spray mist. Do not get in eyes, or skin or clothing. Protective gloves are recommended when working with solution.
 - ii. Utility gloves may be decontaminated and reused but should be discarded if they are peeling, cracked, discolored, have punctures, tears, or other evidence of deterioration.
 - iii. Remove gloves when task is finished or if touching public items or areas that others may contact.
- vii. Authorized Laboratory User – Laboratory Sending Procedures
 - 1. Packaging Requirements for Laboratory Specimens
 - a. Specimens must be packed to prevent breakage and spills within the tube carrier. In the event of a spill or leak, supervisory personnel and/or ES should be notified.
 - b. All appropriate laboratory specimens must be packaged in sealed clear biohazard bags and securely placed between foam liners.
 - c. Biohazard bags will be used once and then disposed.
 - d. Requisition slips should be placed in the outside pocket of the biohazard bag. In the event of a leak the requisition can be used to identify the source of the specimen and other pertinent information for re-collection of the specimen.

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- e. Close carrier and verify that latches are completely closed and place the carrier in upright position.
- f. Specimen transport bags and replacement foam liners can be obtained through Materials Management.
2. Appropriate Laboratory Specimens for Transport
 - a. Blood in vacutainer tubes. If more than one vacutainer tube is sent, wrap outside of biohazard bag with a rubber band. If specimen needs to be transported on ice, place one bag of ice in bag and wrap around tube and place in a second bag.
 - b. Urine-tube only those specimens which are in an approved screw on leak resistant lid.
 - c. Swabs in transport medium-place in sealed biohazard bag.
 - d. Blood cultures-place in sealed biohazard bag. No more than two cultures in a tube at the same time
 - e. Sputum.
3. Inappropriate Laboratory Specimens for Transport
 - a. Surgical (Tissue) Specimens
 - b. Urine in non-approved containers.
 - c. Cytology Specimens
 - d. Body Fluids other than blood or urine
 - e. All specimens must be properly labeled and accompanied by a completed requisition. Unlabeled tubes will be discarded.
 - f. Improperly labeled tubes or incomplete requisitions will be rejected and the physician/nursing unit notified.
 - g. Any label discrepancies must be corrected at the laboratory. NO specimens will be transported back to the nursing unit.
- viii. Authorized Blood Bank User – Blood Bank Sending Procedures
 1. Immediately prior to sending blood via pneumatic tube the transfusing nurse must request the unit.
 2. The following information must be given by the nurse:
 - a. Patient's name
 - b. Medical record
 - c. Blood product requested
 - d. Patient's location
 - e. Nurse's name

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3. Blood Bank medical technologist prepares the unit for transport following the dispense procedure.
4. After completion of the dispense procedure in the computer, the Blood Bank staff records the appropriate information on the dispense log, and stamps the component/cross-match tag with the delivery/receipt stamp.
5. The unit of blood and the attached cross-match/component transfusion tag are placed into a biohazard bag and inserted into the pneumatic tube carrier for transport.
6. Blood Bank staff follows Pathology Standard Operating Procedures for use of the pneumatic tube system for transportation to the appropriate nursing unit.
7. Upon receipt of the unit of blood, the nurse records his/her name and the date/time received on the top copy.
8. The top copy is then removed and immediately returned to the Blood Bank via pneumatic tube.
9. Procedural Notes:
 - a. If the receipt copy is not returned within ten minutes the Blood Bank must call the nursing unit to determine the status of the unit of blood.
 - b. Only one unit of blood may be transported through the tube system at a time.
 - c. Any problems with the delivery of blood must be reported to the Blood Bank Supervisor for follow-up.
 - d. Return of any blood products may be sent via the pneumatic tube, but require the floor to call first to inform the Blood Bank staff why the unit is being returned.
 - i. Any units out of the blood bank greater than 30 minutes will be discarded in the lab.
 - ii. Following transfusion, the pink copy of the compatibility tag may be returned in the pneumatic tube.
 - e. Blood units for the operating room requiring refrigeration must be hand delivered to the monitored Blood Bank refrigerator located in the operating room.
 - i. They will not be sent via the pneumatic tube system.

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- ix. Authorized Cardiopulmonary User – Cardiopulmonary Sending Procedures
 1. Anticipated Pneumatic Tube Usage for Cardiopulmonary Services
 - a. Vascular Lab Service will send reports only.
 - b. The Heart Catheterization (Cath) Lab, will send reports, blood, medications and sterile supply items
 - c. Cardiology is not anticipated to use the system.
 - d. Respiratory Care will send reports, specimens and small supply items.
 2. Respiratory Care Services Procedures for Transport of Arterial Samples
 - a. Page the ABG Lab Supervisor on Pager 573-256-8525 or the Respiratory Care Supervisor on Pager 573-256-8621 to notify them of a pending sample.
 - b. Wear gloves and observe body substance precautions during entire procedure
 - c. Each sample must have an identification label on the syringe.
 - d. Use only plastic syringes for pneumatic tube transport.
 - e. Place syringe in a biohazard plastic bag and surround with ice. Roll the bag around the syringe and seal.
 - f. Place the bagged iced sample in a second plastic biohazard bag and seal.
 - g. Place the bagged iced sample with request in a foam filled carrier and transport to the third (3rd) floor ABG lab.
- x. Authorized Pharmacy User – Department of Pharmacy Services Sending Procedures
 1. The following will NOT be sent via the Pneumatic Tube System:
 - a. Chemotherapeutic agents
 - b. Controlled Medications/Narcotics
 - c. TPN Solutions
 - d. Dialysis Solutions
 - e. IV solutions greater than 1000 milliliter (mL) in volume
 - f. Thrombolytics
 - g. Medications that should not be shaken
 - h. Any medication that is to be prepared in glass
 - i. Medication orders (all medications orders are to be hand delivered or sent by fax).

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2. All other Pharmacy materials may be sent via the Pneumatic Tube System.
- xi. Damaged or Soiled Carriers
 1. If a carrier arrives damaged or soiled within the carrier itself, set carrier(s) aside, contact ES by dialing 882-7111 and inform ES to pick up/replace the carrier and place it back into service.

IV. Attachments

- a. Not applicable.