



Massachusetts General Hospital

Pneumatic Tube System Guidelines

Last Updated: January 14, 2005

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1. Do's and Don't

	Do	Don't
CARRIERS	<ul style="list-style-type: none"> • DO transport items with at least one liner • DO Use elastic bands to secure items to liner. • DO store carriers on rack. 	<ul style="list-style-type: none"> • DO NOT remove liners. • DO NOT transport items without liners. • DO NOT store carriers in receiving bin
7am – 11 pm	<ul style="list-style-type: none"> • DO use the system to transport only: <ul style="list-style-type: none"> - Stat Specimens, - Stat Blood Products, - Stat Meds 	<ul style="list-style-type: none"> • DO NOT transport Routine Specimens • DO NOT transport Urine Specimens
11pm – 7 am	<ul style="list-style-type: none"> • DO use the system to transport above items, and <ul style="list-style-type: none"> - Routine blood and - Stat Urine specimens (only in the approved <u>black screw top specimen tube</u>). 	<ul style="list-style-type: none"> • DO NOT transport Urine specimens via PTS between 7 am and 11 pm (exception: ED for urine toxicology to chemistry and urine from ED Laboratory) • DO NOT transport Urine specimens in containers other than <u>black screw top specimen tube</u>). • DO NOT transport Microbiology specimens any time.
Bulk Packaging	<ul style="list-style-type: none"> • DO individually wrap specimens prior to bulk packaging. • DO limit the number of specimen tubes to 6 (SIX) per carrier. • DO limit the number of ICED specimens to 1 (ONE) per carrier. • DO limit the number of Urine specimens to 1 (ONE) per carrier. 	<ul style="list-style-type: none"> • DO NOT transport more than 6 (SIX) blood specimens per carrier • DO NOT transport more than 1 (ONE) ICED specimen per carrier • DO NOT bulk package Urine specimens.
System Failure or System Performance Questions	<ul style="list-style-type: none"> • Do call Buildings and Grounds at Ext: 6-2422 	
Gloves	<ul style="list-style-type: none"> • DO store gloves near-by Station 	<ul style="list-style-type: none"> • DO NOT Store gloves in carrier bin

2. What may be transported via the pneumatic tube system?

Only Approved Items may be transported to Approved Locations.

Transaction	Approved Items	Unapproved Items
TO <u>CHEMISTRY, STAT</u> (STATION 50 ONLY)	<ul style="list-style-type: none"> • ALL Chemistry Stat lab specimens (red-striped Req # 12852) • Main Chemistry Lab specimens that are Stat (Req# 11852) • ALL Toxicology specimens (Req # 13852) 	<ul style="list-style-type: none"> • Main Chemistry Lab specimens that are NOT Stat
TO <u>HEMATOLOGY, STAT</u> (STATIONS 51 & 41)	<p>7 am – 11 pm:</p> <ul style="list-style-type: none"> • <i>STAT</i> hematology blood specimens • <i>STAT</i> Sputum, pleural fluid, cerebral spinal fluid in approved securely capped container. • ALL ED lab specimens. <p>11pm – 7am ONLY:</p> <ul style="list-style-type: none"> • Above plus • Routine specimens including Stat Urine specimens in approved securely capped container. 	<p>7am – 11 pm:</p> <ul style="list-style-type: none"> • All Routine or <i>Non-STAT</i> specimens • <i>STAT</i> Urine specimens • All Urine containers other than approved black screw top specimen tube.
TO BLOOD GAS LAB (STATION 21, 40, 60, 74)	<ul style="list-style-type: none"> • All blood gas specimens (Req # 10847 and Pedi/Neo Req# 83703) • All Calcium Ion specimens Req # 10847) • All Pediatric Bilirubin specimens 	
TO BLOOD BANK (BTS)	<ul style="list-style-type: none"> • <i>STAT</i> samples with blood product requisitions (Req. #0010693) • Blood product requisition # 10693 • Transfusion reaction blood bags and specimens; transfusion reaction form (req. #11603) • Blood Pick-Up Slip (#10601) 	<ul style="list-style-type: none"> • <u>Pre-op orders</u> • Any specimens for viral testing, including hepatitis or HIV • Empty plastic bags
FROM BLOOD BANK	<ul style="list-style-type: none"> • All types of blood components (PRBC, FFP, platelets, cryoprecipitates.. 	Blood derivatives, including albumin, IVIg, Rh Immune Globulin
FROM PHARMACY	<ul style="list-style-type: none"> • IV/irrigation solutions/pre-mixed syringes and oral medications. • Non-stock medications (new orders). • Colostomy supplies that fit in carrier and < 2 lbs. 	<ul style="list-style-type: none"> • Investigational drugs, chemotherapy drugs. • TPN • Refill medication (5 day supply) unless ordered STAT. • Products >2 lbs or 1 liter or too big for carrier.

3. Carriers and Packaging

1. Personnel must inspect PTS carriers, as they use them. (Look for cracks, frays or gaps in carpeting, broken latches)
2. Do not transport severely damaged carriers through the system. Return to Buildings and Grounds, ext. 62422.
3. Liners must not be removed from carriers.

Packaging Specimens in Carriers

Blood Specimens

- 6) Specimens (NOT ON ICE)
 - a) Six (6) specimens per carrier limit.
 - i) No restriction on the number of patients represented by these six items.
- 7) Specimens (ON ICE, i.e. APTT)
 - a) One (1) specimen per carrier limit
 - i) Fill small plastic container (with secure screw top lid) half full with crushed ice.
 - ii) Push labeled blood tube(s) into ice and secure top of container tightly to prevent leaking.
 - iii) Place container in a small plastic bag and tie securely.
 - iv) Secure appropriate requisition around the outside of the plastic bag with a rubber band.
 - v) Send packaged specimen through the pneumatic tube or deliver directly to lab.
- 8) Transfusion reaction bag with blood / blood products must be sent in an individual carrier.
 - a) (See page 5, "Returning Transfusion Reaction Specimens").

Urine Specimens

Chemistry (Restricted to ED Toxicology specimens only)

Hematology (Restricted Stat specimens only from 11:00 p.m. to 7:00 a.m.)

- 6) Urine specimens must be transported individually in **black screw-top tubes**.
 - a) Collect or transfer urine to black screw-top tube.
 - b) Place one tube into a plastic zip-lock bag and seal.
 - c) Secure requisition around the outside of the bag with a rubber band.
 - d) Place the **single sample** in the PTS carrier with two liners.
 - e) Transport to the lab.

4. Sending and Receiving

Sending Procedure

1. Flashing *rejected* light indicates that station cannot send or receive because receiver is full or station is inoperable.
2. Latch carrier securely.
3. Ensure that contents are immobile and nothing is protruding from carrier.
4. Insert one end of the carrier into *dispatcher*, with other end resting on support.
5. Enter *station location number (Note Directory)*
6. Press *send* button.

Receiving Procedure:

1. Remove carrier from receiver bin in a timely fashion.
2. Unlatch carrier and remove contents observing *Standard Precautions*
3. Insert one end of the carrier into *dispatcher*, with other end resting on support.
4. Press *send* button; if station has an “empty” button, the “empty” button must be pressed first.

5. Special Procedures

Blood Bank Products

BTS uses the pneumatic tube system to send requested blood components to all patient-care areas *except* the Operating Rooms (ORs).

6) Requesting and Receiving Blood via the PTS

- a) Send a completed BTS "Pick-Up" slip (#10601) *clearly identifying the Patient Name, Location and PTS Station Number.*
- b) The Blood Bank will send the requested product promptly, as soon as product is ready.
- c) The product will be enclosed in a plastic bag to contain any potential spills.
- d) A copy of form #10601 will be enclosed with the product.
- e) Return any clean plastic bags via Specimen Transport to Blood Bank.
- f) Dispose of plastic bags in the appropriate biohazard container.

7) Returning Transfusion Reaction Specimens and Implicated Blood Products through the System

- a) Samples and blood bag(s) on all reactions, except urticarial, must be sent to the Blood Bank as soon as possible.
- b) It is permissible to send post-reaction specimens and blood bags through the pneumatic tube system, but transport of these items must be in accordance with protocol in the nursing manual (NPROM 19-11-1, p.2 of 3) and summarized as follows:
 - i) Close administration set tubing completely. Remove needle from end of tubing and dispose appropriately.
 - ii) Wrap exposed end of tubing with gauze and secure gauze to tubing with tape. Also, tie a knot in the tubing approximately 4-6 inches above taped end to help prevent leakage.
 - iii) Place blood bag with any residual blood, plus attached administration set, in a plastic bag. Place labeled post-reaction specimens in the same bag. Twist top of the plastic bag and then fasten with a rubber band. Attach completed "Suspected Transfusion Reaction Report" to the outside of the bag.
 - iv) Insert bag and "Suspected Transfusion Reaction Report" in a pneumatic tube carrier and send both to the Blood Bank. Please note that no other specimens should be included in this carrier.
 - (1) CAUTION: Do not over pack carrier. Do not allow items to protrude from carrier.
- c) If the pneumatic tube system is inoperable, specimens and blood bags should be placed in a bag and hand-carried to the Blood Bank without delay.

Blood Gas Specimens

- 6) ALL BLOOD GAS SPECIMENS ARE CONSIDERED **STAT**.
- 7) Blood gas specimens sent to the lab by the pneumatic tube do not require ice.
- 8) Blood gas specimens sent to the lab by **courier** must be packaged **on ice** and should be transported to the lab **immediately**.

Pediatric Specimens

- 6) Routine operating instructions apply for all pediatric specimens transmissions. But here are some specific points to remember:
 - a) All pediatric specimens from NICU, PICU, Ellison 16 and 17, Blake 13 and 14, and the pediatric section of the Emergency Department are all treated as STAT requests.
 - b) Bulk packaging applies to all specimens with the exception of capillary tubes. Blood gas tubes must be sent one at a time, ensuring that the appropriate rubber caps are placed on each end of the collection tube.

6. Quality Assurance

The Department of Pathology is responsible for periodically monitoring compliance of the Pneumatic Tube System Guidelines and will provide feedback to the Pneumatic Tube Committee.

An MGH incident report should also be filed whenever there is an unusual occurrence or staff or patients are put at risk.

7. System Downtime

- Scheduled** The system may be shut down for periodic preventive maintenance. Buildings and Grounds will notify user areas at least 48 hours in advance.
- Unscheduled** Unscheduled downtime due to power outages, computer failure, spillage, or blockage within a pneumatic tube system zone does occur occasionally. Should you experience such downtime, please notify Buildings and Grounds.

In the event of scheduled or unscheduled downtime, the following back-up plan will go into effect (reminder: This plan is only for those items that are approved for transport through the pneumatic tube system):

0-8 Hours of Projected Unscheduled or Scheduled Downtime

- It will become the responsibility of the patient-care areas to: Check with a nearby unit to use their Pneumatic Tube Station if one is operable, place specimens in the specimen bin for next round pick-up or deliver specimens directly to the laboratory for testing or during the Night shift (11:00p.m. – 7:00 a.m.), call Central Dispatch at 6-2255 for specimen pick-up.
- If any station in Pharmacy is inoperable, Pharmacy personnel will hand deliver all pharmacy items until the system is operational.

Greater than 8 Hours of Projected Unscheduled or Scheduled Downtime

- Buildings and Grounds Department will be responsible for paging the Laboratory Support Services Shift Supervisor at pager ID# 22093 if unscheduled downtime is projected for more than 8 hours between 7:00 a.m. and 11:00 p.m., all days. During the Night Shift (11:00 p.m. – 7:00 a.m.), Buildings and Grounds will page Central Dispatch Supervisor (#22066).
- If scheduled or unscheduled downtime is expected to last more than eight hours, a supervisor from Laboratory Support Services (Mon-Fri during the day: pager ID# 22076; Evenings, weekends and holidays: pager ID# 22093) will meet with the clinical nursing directors (Monday through Fridays, days) or clinical nursing supervisors (off-shifts, weekends, and holidays) to evaluate specimen transport needs. Frequent contacts between the two departments will continue until the situation is resolved. From 11:00 p.m. – 7:00 a.m., Nursing will coordinate specimen transport needs with Central Dispatch (x6-2255).
- If any station in Pharmacy is inoperable, Pharmacy personnel will hand deliver all pharmacy items until the system is operational.

8. Infection Control Guidelines

Specimen Transport and Handling

- Leakage generally results from improper packaging and use of containers that are not leak proof.
- As a general rule, all blood and body fluids should be handled as potentially contaminated and, therefore, hazardous. **Standard Precautions must be strictly observed.** Padded liners are provided for specimen transport, and must be used to insure the integrity of the specimen.
- Specimens must be packaged in leak-proof containers. See section on Specimen Packaging. The outside of the specimen container must be kept clean and dry. The specimen container must be labeled with the patient's name and unit number. Contaminated specimens must not be transported.
- The specimen container is placed in a plastic bag closed securely, and the laboratory requisition is attached to the outside of the plastic bag by a rubber band. Staples or paper clips must not be used since they may place the laboratory staff at risk.

Leakage and Cleanup

The plastic bag is used to contain spillage. If spillage occurs:

- Use gloves to handle specimen.
- Check plastic bag for spillage outside the bag. If the liner is contaminated it should be discarded. If the plastic carrier is contaminated, it should be sent or delivered to CSR for cleaning.
- Match specimen to requisition.
- Place the specimen and requisition (if contaminated, in a plastic bag) and notify the sending location of the spill and request a new specimen.
- After receiving a new specimen, discard the old specimen, bag, and gloves in the designated infectious waste container.
- Wash your hands and fill out an incident report.

Spills should be cleaned with Virex II, a detergent-disinfectant, available pre-mixed from Environmental Services.

9. Sterile Reprocessing Department (SPD) Procedure for Cleaning Contaminated Carriers

In the event of a spill of contamination - whether inside or outside the carrier - the carrier should be removed from service for cleanup and decontamination. It is vital that all relevant Standard Precautions and Infection Control Policies be adhered to, and that gloves, goggles, and other protective garments be worn when handling a contaminated carrier.

- Remove the contaminated liners and dispose of them in the appropriate biohazard container.
- Wash excess blood from the carrier in the appropriate dirty utility room sink. Place the contaminated carrier in a red biohazard bag and secure the bag.
- Hand deliver the carrier (in the red bag) to the Sterile Reprocessing Department (SPD) on White 4.
- SPD will clean and gas sterilize the carrier. SPD will call the patient-care unit within 24 hours for retrieval.

Contact Buildings and Grounds for potential system/zone contamination if blood is visible on the outside of the carrier.

10. Training

Training: PCS Unit personnel will be trained on the pneumatic tube system guidelines during their unit-based orientation. Each patient care unit must have a mechanism for reviewing with its personnel any changes to these guidelines. Non-PCS units must establish and implement training programs based on the contents of this document. All training must be documented.

ADDENDUM: Yawkey PTS Guidelines

Yawkey Pneumatic Tube System Guidelines, Including Guidelines for Transporting Chemotherapy (Cytotoxic) Drugs

Purpose:

The Yawkey Pneumatic Tube System (PTS) is to facilitate the transport of blood and urine specimens to the Yawkey Laboratory for those practices authorized to use the laboratory. **Staff transporting clinical specimens must adhere to the Hospital Pneumatic Tube Guidelines.**

The Hospital has also approved the **Transport of Chemotherapy (Cytotoxic) Drugs** via the PTS system in the Yawkey building **between Pharmacy and the Infusion Unit ONLY**. These guidelines are intended to address issues associated with that use.

There is sufficient evidence* for concern to indicate a need for safe handling and worker protection guidelines for those health care workers involved in the handling, disposal and spill clean up and decontamination of systems coming in contact with cytotoxic agents. With this in mind this Standard Operating Procedure (SOP) has been written to address 1) routine procedure for transporting these drugs via the pneumatic tube system, and 2) in the event of a spill, the expected employee response. **(Actual scientific data defining specific environmental hazards associated with the handling of antineoplastic agents is inconclusive.)*

This SOP requires strict and specific adherence to packaging protocols by Pharmacy Personnel and Nursing Staff Certified in the handling of Cytotoxic Drugs. These individuals are the Primary Responders should a spill occur and are responsible for the containment and clean up. Buildings and Grounds staff are responsible for cleaning the tube system itself.

A1. Critical Elements

- 1) **Transport of these drugs are limited and restricted to the tube system that runs between the Yawkey Pharmacy (Station # 180) and the Infusion Unit (Station # NS N280; NSC 281; NSS 282).**
- 2) **Only end product solutions for direct patient administration may be transported via the PTS.**
- 3) Spillage of any antineoplastic drug is considered a potential hazard to health care personnel and the environment: adherence to the protective procedure for clean up of a spill is essential. Major routes of exposure for health care workers handling antineoplastic agents include: inhalation of drug aerosols or droplets, absorption through the skin, and ingestion.
- 4) The pneumatic tube system moves carriers by air displacement using large blowers creating vacuum and air movement. Spillage within the system can create and move aerosols that have the potential of exposing personnel in the immediate proximity of the pneumatic tube station to these agents. Thus there is a no tolerance policy for improper packaging and transport.
- 5) If a carrier containing a drug is transmitted to and received at an unauthorized or incorrect station, it is to be returned unopened to the Pharmacy.

A2: Equipment

ECO-Seal Carriers

Zip N' Fold Pouches

Spill Kit (available from Environmental Services)

Single pair of "Chemo" Gloves or two pair of Latex or Latex-free Surgical Gloves

Gown

Eye Goggles

Plastic Backed Absorbent pads

Mask

A3: Actions

6) PHARMACY ACTIONS:

- a) Preparing carrier for transport
 - i) Select specially labeled carrier
 - ii) Verify that the carrier contains at least one liner
- b) Preparing drugs for transport
 - i) Place drugs in sealed primary container.
 - ii) Place (i) into sealed **secondary container (secure Zip-N-Fold vinyl bag with Velcro) with an absorbent.**
 - iii) Place into carrier
- c) Transport carrier

SPECIAL CONSIDERATIONS

Each Carrier is limited to a maximum of :

- 3 x 60 cc syringes or
- 1 x 1L bag of fluid

6) RECEIVING STATION ACTIONS:

- a) Don gloves
 - i) Carrier containing Chemo drugs, don Chemo gloves or 2 pair latex or latex free alternatives
- b) Retrieve carrier from station
- c) Before opening inspect carrier for possible damage or spillage
- d) Transport Carrier to clinician

SPECIAL CONSIDERATIONS

2a. To avoid contact with leaking drug, inspect carrier for wetness and (without opening) visual signs of liquid outside the primary or secondary container.

2c. If damage or spillage is suspected Contact your Supervisor and B&G Immediately.

Caution: If a carrier containing a drug is received at an incorrect location, do not open the carrier and return it to Pharmacy.

6) SPILL DETECTION AND CLEAN UP:

- a) If damage or spillage is suspected, notify supervisor and B&G who will immediately shutdown the system.
- b) Try to determine extent of spillage.
 - i) Contained within carrier
 - ii) Spill extends to outside carrier.

3a. To avoid contact with leaking drug, inspect carrier for wetness and (without opening) visual signs of liquid outside the primary or secondary container.

6) SPILL CONTAINED WITHIN CARRIER:

- a) Don Chemo gloves or 2 pair latex or latex free alternatives and gown.
- b) Place the carrier and contents into a Chemo Waste container.
- c) Follow disposal procedure in the Nursing Procedure manual.

6) SPILL EXTENDS OUTSIDE CARRIER:

SPECIAL CONSIDERATIONS

- a) In the event of a spill that extends outside the carrier notified B&G immediately so they may shutdown the system.
- b) Don Chemo gloves or 2 pair latex or latex free alternatives and gown.
- c) Place carrier and contents into a Chemo Waste container
- d) Clean up spill with an absorbent pad and solid material with damp pad.
- e) Thoroughly wash area with detergent and water 3 times. Rinse with plain water.
- f) Place contents and clean up material into a Chemo Waste container.
- g) Seal station opening with plastic bag and wait for B&G.

5a) The drug spilled should be identified and Material Safety Data Sheet (MSDS) reviewed. Clean up procedure should adhere to the precautions recommended on the MSDS.

6) CLEANING AND DECONTAMINATING THE PNEUMATIC TUBE SYSTEM AFTER A SPILL:

SPECIAL CONSIDERATIONS

- a) In the event of a spill that extends outside the carrier B&G is to be immediately notified so they may shutdown the system.
- b) Don Chemo gloves or 2 pair latex or latex free alternatives and gown.
- c) Place carrier and contents into a Chemo Waste container
- d) Clean up spill with an absorbent pad and solid material with damp pad.
- e) Thoroughly wash area with detergent and water 3 times. Rinse with plain water.
- f) Place contents and clean up material into a Chemo Waste container.
- g) Seal station opening with plastic bag and wait for B&G.spills.

Material Safety Data Sheet (MSDS) must be available at both the Yawkey Pharmacy site and the Infusion Unit

Once the spill has been cleaned an Incident Report is to be filed and a Root Cause analysis should be considered.

6) TRAINING:

- a) Each individual utilizing the Pneumatic Tube System must familiarize themselves with the PTS Guidelines and must undergo Infection Control and Hazard Communication Training.
- b) Each individual working in the immediate area of the pneumatic tube station should undergo Hazard Communication training.

A4. Do's and Don't

	Do	Don't
CARRIERS	<ul style="list-style-type: none">• DO transport items with at least one liner (Note special packaging for Drugs)• DO Use elastic bands to secure items to liner.• DO store carriers on rack.	<ul style="list-style-type: none">• DO NOT remove liners.• DO NOT transport items without liners.• DO NOT store carriers in receiving bin
Approved Items	<ul style="list-style-type: none">• DO use the system to transport only:<ul style="list-style-type: none">• Stat Specimens• Stat Meds and Chemo Drugs• Stat Urine specimens (only in the approved <u>black screw top specimen tube</u>).	<ul style="list-style-type: none">• DO NOT transport Routine Specimens• DO NOT transport Urine specimens in containers other than <u>black screw top specimen tube</u>).
Bulk Packaging	<ul style="list-style-type: none">• DO limit the number of specimen tubes to 6 (SIX) per carrier.• DO individually wrap specimens prior to bulk packaging.• DO limit the number of ICED specimens to 1 (ONE) per carrier.• Do limit the number of Urine specimens to 1 (ONE) per carrier.	<ul style="list-style-type: none">• DO NOT transport more than 6 (SIX) blood specimens per carrier• DO NOT transport more than 1 (ONE) ICED specimen per carrier• DO NOT bulk package Urine specimens.
System Failure or System Performance Questions	<ul style="list-style-type: none">• Do call Buildings and Grounds at Ext: 6-2422	
Gloves	<ul style="list-style-type: none">• Do store gloves near-by Station	Do NOT store gloves in carrier bin

A5. What may be transported via the pneumatic tube system?

Only Approved Items may be transported through the pneumatic tube system.

Transaction	Approved Items	Unapproved Items
YAWKEY LABORATORY	<ul style="list-style-type: none"> • STAT blood and urine specimens to be tested at the YCOC Lab using the YCOC requisition. • STAT urine (urinalysis) MUST be in Falcon (black screw top cap) tube. 	<ul style="list-style-type: none"> • Routine blood and urine specimens. • CSF / other body fluids. • Urine NOT in Falcon tube. • Drugs and Medications
PHARMACY	<ul style="list-style-type: none"> • All oral and IV medications except for those IV's that are unstable when shaken. • Non-stock medications. • Colostomy supplies that fit in carrier and < 2 lbs. • Investigational drugs, chemotherapy drugs (use special precautions). 	<ul style="list-style-type: none"> • Products >2 lbs or 1 liter or too big for carrier. • Chemotherapeutic agents that have a potential for alteration of active ingredient or vehicle (such as protein denaturation, cracking of emulsions, etc.) See Pharmacy List for other examples.

- For information only, OSHA's statements regarding this issue:

Transport. HD's (hazardous drugs) should be securely capped or sealed, placed in sealed clear plastic bags, and transported in containers designed to avoid breakage. Personnel involved in transporting HD's should be trained in spill procedures, including sealing off the contaminated area and calling for appropriate assistance.

All HD containers should be labeled as noted in Drug Preparation Work Practices. If transport methods that produce stress on contents (such as pneumatic tubes) are used, guidance from the OSHA clarification of 1910.1030 with respect to transport should be followed. This clarification provides for use of packaging material inside the tube to prevent breakage. These recommendations that pertain to the Bloodborne Pathogens Standard are prudent practice for HD's, e.g. padded inserts for carriers.

A6: Buildings and Grounds Pneumatic Tube System Cleanup

1. Shut off zone or zones contaminated by the spillage.
2. Review transaction path and clean the path(s) involved, including inter-zone pipes, if necessary.
3. Take the **Spill Kit** to the station requiring cleaning.
4. **Don Chemo gloves or 2 pair latex or latex free alternatives and gown.**
5. Fill the **Dispenser Bottle** with the **Mixed Cleaning Solution** to just shy of the **dispensing holes** in the **Dispensing Bottle**, so that the bottle does not leak the **Mixed Cleaning Solution**.
6. Insert the **Dispensing Bottle** into the **Modified Carrier**.
7. Place the **Modified Carrier** onto the **Dispatcher**.
8. Follow the procedure for lining up an air path and vacuum the carrier out of the station and pressure it back into the station.
9. If it is sent back to a different station, someone must be there to receive the carrier to prevent unnecessary spillage of cleaner in the station receiver bin.
10. Repeat this process in the affected lines several times.
11. After running the **Modified Carrier** through the system several times, remove the **Dispensing Bottle** from the **Modified Carrier** and run it through the system empty.
12. Repeat this process, occasionally removing the carrier and wiping down the wear bands of the carrier, to aid in the drying process.
13. Use Chemotherapy and Standard Precautions when handling the carrier, including using gloves and gown.

Approvals

- Approved by: MGH Safety Committee (Date: 1/4/2005)

References

- MGH Manual of Safety Policies