

Module 7: Specimen Collection and Processing



My Lab...
Collects & Cares for patients' specimens properly

Key Message ...

My lab collects and cares for specimens properly

Desired Outcome

Proper specimen collection, labeling, packaging, storage, tracking, and disposal

Back to Our Process Map



- Track the specimen from order placement through the release of results and storage of records & documents

ACTIVITY:

Process Table

| Steps | What happens | Who's responsible | Procedures needed | Pitfalls |
|----------------------------------|--------------|-------------------|-------------------|----------|
| Order placed | | | | |
| Patient presents to lab | | | | |
| Requisition completed & reviewed | | | | |
| Type of specimen determined | | | | |
| Collect Specimen | | | | |
| Specimen Log | | | | |
| Specimen Rejection | | | | |
| Test Request | | | | |

Activity: Process Mapping – Part II

Complete the Table

Purpose

To complete the four categories of the process table, for each step:

- What happens?
- Who's responsible?
- What procedures are needed?
- What pitfalls occur at each step?

What will you need?

- Index cards for each of the four categories of the table & tape
- Handout: Specimen Flow Process Table
- Job Aid: Tips

What will you do?

- Form four groups
- Each group will receive a set of cards for one category
- Each group attaches cards in appropriate place in table, proceeding in order
- Gather around completed table
- Participate in class discussion
- Receive Handout & Job Aid



15 minutes

Tasks

- 7.1 - Determine appropriate tests based on test request and assign test responsibility
 - Module 1: How Do You Assign Personnel to Tasks?
- 7.3 - Enforce good specimen handling and processing practices

Three Phases of Testing

- Pre-Analytic
- Analytic
- Post – Analytic
- In which stage do most of the errors occur?



Activity: Specimen Collection - Phlebotomy Role Play

Purpose

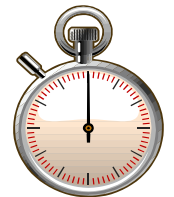
- To reinforce proper phlebotomy technique
- To introduce competency assessment and customer satisfaction

What will you need?

- Job Aid 1: Phlebotomy Checklist
- Job Aid 2: Phlebotomy Key Competencies
- Job Aid 3: Phlebotomy Patient Survey

What will you do?

- Observe the role play
- Evaluate the phlebotomist using Job Aid 1
- Assess the competency of the phlebotomist using Job Aid 2
- Assess customer satisfaction using Job Aid 3
- Participate in the classroom discussion



10 minutes

Ensuring specimen integrity is of utmost importance!

But what is the best method to reject inappropriate specimens?

SPECIMEN MANAGEMENT

To Accept or Reject?

- Criteria for Specimen Acceptability
 - Labeling Errors
 - Unsatisfactory Specimens
 - Specimens with Hazardous Handling Conditions
 - Requisition Inadequacies
- Specimen Rejection Documents
 - Form to document specimen rejection

Activity: Specimen Management

Purpose

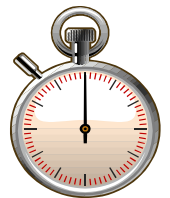
To assure the quality of the inputs into the laboratory in order to assure the quality of the output

What will you need?

Job Aid 1: Criteria for Specimen Acceptability

What will you do?

- Observe, compare, and contrast two different methods to reject unacceptable specimens
- Participate in the classroom discussion regarding the role-plays
- Explore ways that specimen rejection can be prevented



10 minutes

Tasks

- Review specimen log for completeness
- Ensure adherence to specimen referral requirements
- Track specimen referral status and review referral reports to ensure timely return of test results

If the laboratory receives a quality specimen, then the patient can receive a quality result.

Packaging Specimens for Shipment to Referral Sites

Triple Packaging System

“Primary receptacles shall be packed in secondary packagings in such a way that, under normal conditions of transport, they cannot break, be punctured or leak their contents into the secondary packaging. Secondary packagings shall be secured in outer packagings with suitable cushioning material. Any leakage of the contents shall not compromise the integrity of the cushioning material or of the outer packaging” (World Health Organization (2004).

Transport of Infectious Substances, Annex 2, p27.)

Activity: Packaging Specimens for Shipment to Referral Sites

Purpose

To safely and effectively package specimens using the supplied packing materials.

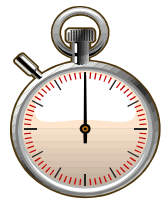
What will you need?

- Job Aid 1: Triple Packaging System
- Job Aid 2: Specimen Packaging and Shipping
- Specimen packing material packets

What will you do?

Divide into groups of 4-5

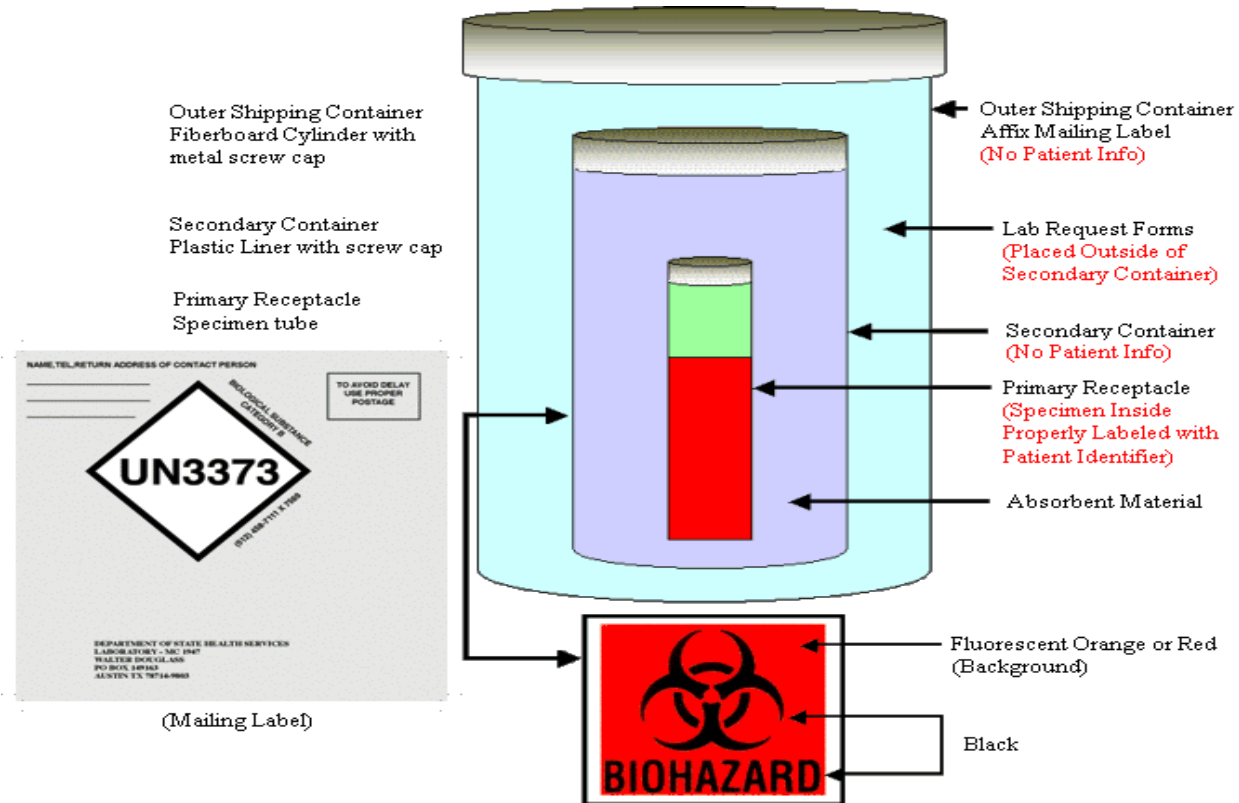
- Draw and label a triple packaging system
- Package specimens with the supplied packaging materials using Job Aids 1 & 2 as a guide.



20 minutes

Specimen Packaging Diagram

DO NOT put any patient information on outer container or secondary containers or lids.



Biohazard Label should be on Secondary Container.
DO NOT put Biohazard Label on Outer Container.

General Specimen Packaging and Shipping

- **Utilize PPE** when packaging specimens.
- Ensure specimens are in **the appropriate transport media** (primary containers) for the specimen collected and the test requested (primary containers). Ensure that primary containers **will not leak**
- **Determine the requirements** temperature (ambient temperature vs refrigerated) and the referral timeframe (i.e., 6 hours) for the specimen collect and the test requested.
- Consult the driver/courier schedule to ensure that the sample will reach the referral center **within the necessary referral timeframe**.
- Place cool packs **on the bottom** of a secure leak-proof secondary container to properly preserve the specimens during shipping (specimens shipped at ambient temperature may not require cool packs, although it is often still advisable in warm climates).
- Place the primary container(s) in the secondary container **with sufficient absorbent material** —paper towels, cotton balls, commercial products— to absorb the entire contents of the primary containers.
 - *Ambient temperature specimens can be transported in the same secondary packaging as refrigerated specimens, but should be packed as far away from the cool pack as possible and be insulated by at least one layer of absorbent material.*
- Ensure secondary container(s) is **labeled properly with a biohazard** sticker or stamp.
- Place secondary container(s) in an outer shipping container **that can be secured** with a screwtop, latch mechanism or sealed with tape.
- **Place test requisition forms** in a plastic sheath (if possible) inside the outer shipping container with specimen tracking form.
- Confirm that the contact information for the laboratory is **clearly marked** on the outer shipping packaging and/or in paperwork inside the outer packaging
- Note the **date and time of pick-up** on the specimen tracking form and/or the driver/courier logbook.
- Ensure that the drivers/couriers have **received basic safety training** in the transportation of specimens.
- **Disinfect** the bench where the specimens were packaged.

Step-by-Step Specimen Packaging Example



1. Collect specimens in primary containers and packaging materials



2. Place absorbent into bottom of secondary container.



3. Wrap each tube in paper towel.



4. Place tubes and biohazard marker in secondary container

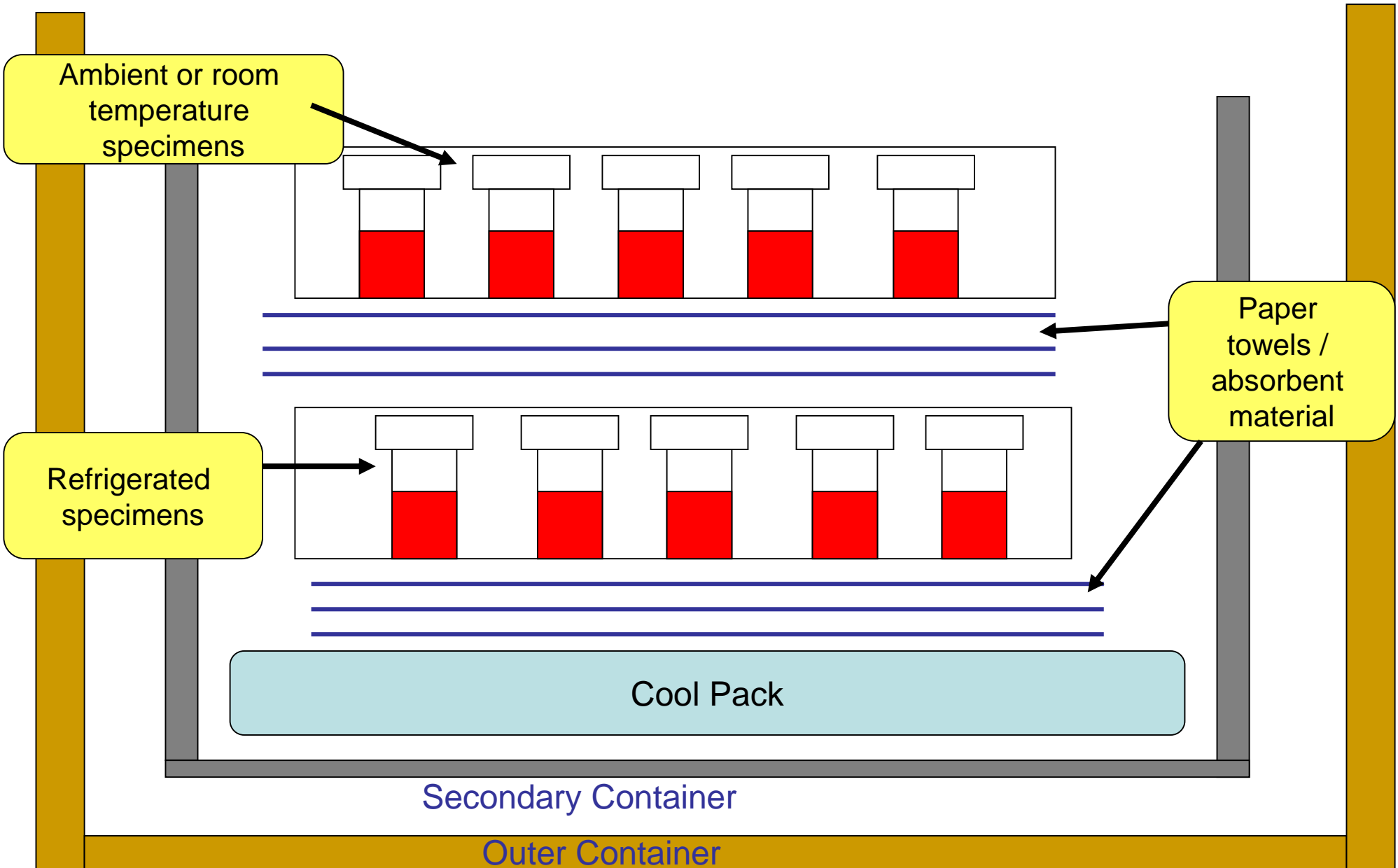


5. Put absorbent on top of tubes and screw on cap.



6. Roll lab form around the outside of the secondary container. Place in outer container. Screw on cap.

Cross Section of Refrigerated Specimen Packaging



Activity: Tracking Referral Specimens

Purpose

To monitor status of a referred specimen by reviewing a specimen log

What will you need?

- Worksheet 1: Referral Log Questions
- Handout 1: Specimen Referral Log
- Worksheet 2: Occurrence Report Form
- Handout 2: Occurrence Report Example

What will you do?

Work in groups of 2 (pairs)

- Review Handout 1 and complete the questions on Worksheet 1
- You have 7 minutes.

Divide into groups of 4-6 people

- Document the occurrence on Worksheet 2
- Select a spokesperson for your group to present the occurrence documentation to the class.
- You have 10 minutes.

7+10 minutes



Specimen Referral Log

Date of Review: 12/1/2008

| Specimen # | Patient Name | Specimen Type | Referred to | Transported by | Date Transported | Date Returned | Results | Notes |
|------------|-----------------|--------------------|-------------|----------------|------------------|---------------|----------------------------|---|
| 32 | Jones, Eileen | AFB -sputum | Mbabane | A.H. | 3/1/2008 | 5/1/2008 | negative | #A |
| 32 | | | | | | 5/1/2008 | negative | #B |
| 18 | Smith, David | Malaria- 2 smears | Manzini | A.H. | 3/1/2008 | 8/1/2008 | lab accident- recollect | 8/1/08 at 1445 called Manzini spoke with Laura, slides broke in lab, need to recollect. Dr Smith updated & patient notified at 1500 LJB (<i>initials of staff member</i>) |
| 87 | McCarthy, Tom | AFB-sputum | Mbabane | A.H. | 4/1/2008 | 6/1/2008 | negative | #A |
| 87 | | | | | | 6/1/2008 | negative | #B |
| 93 | Roam, Shawn | CD4 - EDTA WB tube | Mbabane | L.S. | 4/1/2008 | 5/1/2008 | 233 cells/mm3 | |
| 19 | Clinton, Steve | AFB-sputum | Mbabane | L.S. | 4/1/2008 | | | #A |
| 19 | | | | | | | | #B |
| 25 | Jones, Ann | CD4 - EDTA WB tube | Mbabane | A.H. | 5/1/2008 | 6/1/2008 | 483 cells/mm3 | |
| 33 | McCain, Elaine | Malaria- 2 smears | Manzini | L.S. | 6/1/2008 | 7/1/2008 | negative | |
| 46 | McCaine, Elaine | AFB-sputum | Mbabane | A.H. | 6/1/2008 | 8/1/2008 | 3+ | #A report called to Dr Smith 8/1/08 1452 LJB (<i>initials of staff member</i>) |
| 46 | | | | | | 8/1/2008 | 1+ | #B |
| 57 | Pacheco, Miguel | AFB-sputum | Mbabane | A.H. | 7/1/2008 | 9/1/2008 | negative | #A |
| 57 | | | | | | 9/1/2008 | negative | #B |
| 6 | Pacheco, Miguel | CD4 - EDTA WB tube | Mbabane | A.H. | 7/1/2008 | | | |
| 15 | Smith, David | AFB-sputum | Mbabane | A.H. | 8/1/2008 | 10/1/2008 | negative | #A |
| 15 | | | | | | | negative | #B |
| 28 | Pacheco, Miguel | Malaria- 2 smears | Manzini | C.C. | 9/1/2008 | 10/1/2008 | negative | |
| 31 | Smith, Susan | AFB-sputum | Mbabane | A.H. | 10/1/2008 | 12/1/2008 | 8 AFB/field | #A report called to Dr Smith 12/1/08 1500 LJB (<i>initials of staff member</i>) |
| 31 | | | | | | | negative | #B |
| 47 | Jones, Tom | AFB-sputum | Mbabane | A.H. | 10/1/2008 | | | #A |
| 47 | | | | | | | | #B |
| 59 | Rite, Carol | Malaria- 2 smears | Manzini | A.H. | 11/1/2008 | | | |

Activity: Workstation Set-up

Purpose

To create and organize an efficient and productive workstation using elements developed from each module.

What will you need?

Laboratory Accreditation
Preparedness Checklist

What will you do?

- Participate in the classroom's discussion
- Integrate key concepts from earlier activities



15 minutes









Activity: What Would You Do?

Purpose

To integrate the module's lessons and apply them to the case scenario.

What will you need?

Handout: Case Study Scenarios

What will you do?

Divide into groups of 4-5

- Select a spokesperson for your group
- Formulate specific action steps to address the scenario from the Handout.
- The group's spokesperson presents the proposed steps during the 2 minute class report.



5 minutes

What Would You Do?

After hours, a clinician obtained a venipuncture specimen from a small child. The clinician left the specimen in the laboratory without notifying the laboratory staff on call. The following morning you receive a call from the clinician who asks for the laboratory result. You find no documentation of a result or the receipt of this specimen. After searching, you find the specimen in the refrigerator grossly hemolyzed.

- How will you handle this situation?
- What steps will you take to prevent a reoccurrence of this situation?

What Would You Do?

On Thursday, a patient submits 3 specimens collected during the previous week for AFB testing. None of the specimens are acceptable. You overhear the patient angrily yelling in the reception room that he did what he was told to do. After you clarify the procedure to the patient for recollection, you discover that during the patient's first visit, he was only given the cups with no further explanation.

How will you handle this situation?

Tasks

- Determine appropriate tests based on test request and assign test responsibility
- Enforce good specimen handling and processing practices
- Review specimen log for completeness
- Ensure adherence to specimen referral requirements
- Track specimen referral status and review referral reports to ensure timely return of test results