Medical Laboratory

NTQF Level III

Learning Guide 24

Unit of Competence: Collect and Process Medical Samples
Module Title: Collect and Process Medical Samples
LG Code: HLT MLT3 LO3-024
TTLM Code: HLT MLT3 TTLM 0919v1

LO3-Collect and handle sample

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described in number 5 to 11.
3. Read the information written in all Information Sheets. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
4. Accomplish all Self-check according to learning session separately
5. Ask from your teacher the key to correction (key answers) or you can request your teacher to correct your work. (You are to get the key answer only after you finished answering the Self-checks).
6. If you earned a satisfactory evaluation proceed to next Information Sheet. However, if your rating is unsatisfactory, see your teacher for further instructions or go back to pervious Learning Activity.
7. Submit your accomplished Self-check. This will form part of your training portfolio.
8. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
9. Accomplish the all Self-checks.
10. After you accomplish self check proceed to operation sheet if available.
11. If you perform operation procedure correctly proceeds to LAP. test if available

Information sheet-1	Collect and handle sample

Learning out comes (objectives): At the end of this module the trainee will be able to:-

- Locate Sampling points and services at the site
- Remove Security devices, such as locks and covers
- Modify the procedures if the required samples cannot be collected
- Select and using the required *sampling tools and equipment*
- Follow Sampling procedures closely
- Record Labeling information
- Collect the desired type and quantity of samples
- Record factors that may impact on sample integrity
- Maintain Sample integrity and confidentiality
- Deliver Samples/Items to each laboratory department

3.1. Locating Sampling points and services at the site

3.1.1. The laboratory work area

The clinical laboratory is a complex operation that must smoothly integrate all three phases of the testing process: pre-analysis, analysis, and post-analysis.

- Pre-analysis refers to all the activities that take place before testing, such as test ordering and sample collection
- Analysis stage -the analysis stage consists of the laboratory activities that actually produce a result, such as running a sample on an automated analyzer.
- Post-analysis comprises patient reporting and result interpretation.

The laboratory work area

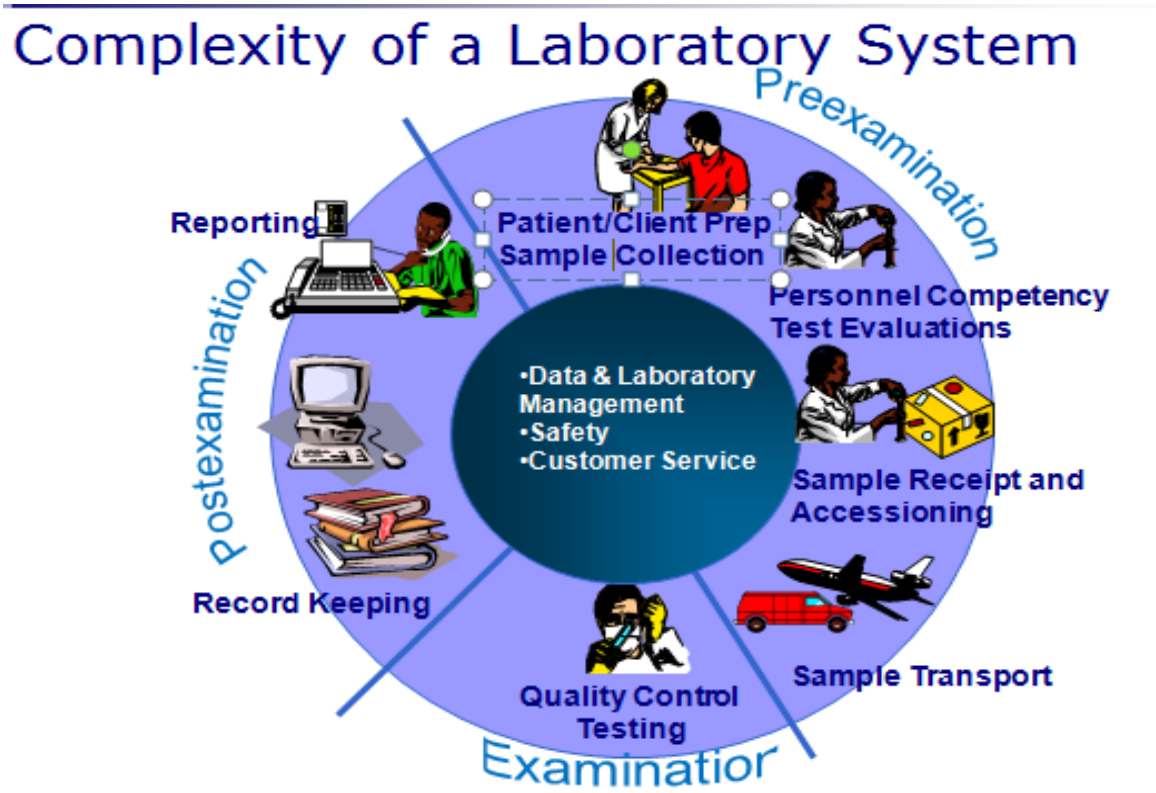

Fig.3.1. Complexity of a laboratory system

3.1.2. Transporting specimens from wards or OPD clinics

- When hand-carrying, place the specimens upright in racks in a closed container
- The racks and carrying container should be made of plastic so that they can be easily disinfected and washed between uses.
- The request forms should be placed in a plastic bag that can be sealed (grip type).
- During the hot season, an insulated container should be used to transport the specimens.

3.1.3. Transporting specimens between laboratories

- Make sure the specimen container is tightly closed and the cap is not leaking
- Wrap each specimen insufficient absorbent material to absorb it if the containers break.
- Place it individually or with others in a carton or strong plastic bag.
- Make sure there insufficient packing material around the specimens to prevent them moving in the container or bag.
- Pack the container or bag of specimens with the sealed plastic bag containing the request forms in a suitable insulated container which will with stands hock and weight pressure.
- Insert a freezer pack(s) or ice cubes around the container of specimens
- Label the outer container 'Biological specimens
  - ✓ Infectious substance, preferably using the biohazard symbol shown

- The words ‘KEEP COOL’
- Should also be importantly displayed on the container.
- Fix a clearly written delivery address label to the outer container.
- Cover the labels with clear adhesive tape.

Self-Check-1	Written Test

Answer the Following Questions (2 point each):

1. Laboratory activities that take place before testing, such as test ordering and sample collection
   A. Post-analysis
   B. Analysis
   C. Pre-analysis
   D. None
2. Quality control testing and sample test running is categorized at _____phase of laboratory activity.

A. Post-analysis
B. Pre-analysis
C. Analysis
D. None

Note: Satisfactory rating - 4 points Unsatisfactory below -4 points

You can ask you teacher for the copy of the correct answers

Answer Sheet

Score _____
Rating _____

Name: _____ Date: _____

Short Answer Question

1._____

2._____

Information sheet-2	Removing Security devices, such as locks and covers

3.2. Removing Security devices, such as locks and covers

3.2.1. It is important to establish a means to protect against loss of data. For paper based systems, this will involve using safe materials for recording and storing the records properly. For computerized systems, scheduled or regular backup processes become very important.

It is of utmost importance to safeguard a patient's privacy and, in this regard, security measures must be taken to protect the confidentiality of laboratory data. Laboratory

directors are responsible for putting policies and procedures in place to ensure confidentiality of patient information is protected.

Self-Check-2	Written Test

Answer the Following Questions (5point):

1. How can you protect the security of patient clinical data/patient test result?

Note: Satisfactory rating – 5 points Unsatisfactory below -5 points

You can ask you teacher for the copy of the correct answers

Answer Sheet

Score _____
Rating _____

Name: _____ Date: _____

1. _____
   _____
   _____
   _____
   _____

Information sheet-3	

3.3. Modifying the procedures if the required samples cannot be collected

When the patient is Infant rectal swab is collected. These should only be used for infants or acutely ill patient when a stool is not available for culture. Rectal swabs are also submitted for the detection of Neisseria Gonorrhae or anal carriage of streptococcus pyogens.

In infants and children, microanalysis techniques allow sampling of capillary blood through micropipettes or capillary tubes. This technique is used when the patient is an infant/child or has severe burns and/or has absolutely no useable veins to draw from.

Self-Check-3	Written Test

Answer the Following Questions (5 point each):

1. At what condition collection of stool specimen is modified?

Note: Satisfactory rating - 5 points Unsatisfactory below -5 points

You can ask you teacher for the copy of the correct answers

Answer Sheet

Score _____
Rating _____

Name: _____ Date: _____

1. _____
   _____
   _____
   _____
   _____

Information sheet-4	Selecting and using the required *sampling tools and equipment*

3.4. Selecting and using the required *sampling tools and equipment*

3.4.1. Containers for stool specimen

The following types of container are suitable for the collection of stool specimen

- ✓ waxed cardboard box
- ✓ empty tin with a lid

- ✓ light plastic box
- ✓ Glass jar specially designed for stool collection, with a spoon attached to stopper.

3.4.2. Urine specimen container.

Urine use clean, dry, wide-mouthed Erlenmeyer flasks of 250-ml capacity or clean wide mouthed bottles.

Urine sample collected for bacteriological culture requires sterile containers.

3.4.3. Materials and reagents for collection of blood::

- For disinfecting the skin:
  - ✓ cotton wool
  - ✓ 70% ethanol or tincture of Iodine
- For the vein puncture
  - ✓ gloves
  - ✓ a tourniquet of soft rubber tubing 2-3mm bore
  - ✓ needles, 30–40mm,20guage,19guage.20guage and medium level

- Bottles and test-tubes for collecting blood specimens
  - ✓ Without anticoagulant

    The best type of test-tube to use for blood specimens is one that can be centrifuged: this avoids excessive handling of the specimen. Use clean dry test-tubes of 5–20 ml capacity, depending on requirements.
  - ✓ With anticoagulant for hematological tests
  - ✓ EDTA1 dipotassium salt

    Put 0.5 ml of EDTA dipotassium salt, 10% solution into each of a series of 5-ml bottles (or use 0.2 ml in 2-ml bottles). Place the open bottles in an incubator at 37 °C or leave them to dry at room temperature, if no incubator is available. Now days there is already
- EDTA Coated anticoagulated test tubes are available which is Use these bottles for:
  - ✓ Blood cell counts
  - ✓ Hemoglobin estimation.
  - ✓ Heparinized tubes:
- Heparin is an expensive anticoagulant that is not very stable in hot climates. Heparinized tubes are usually obtained commercially or prepared by central laboratories and are already marked to show the level to which the blood should be added.
- Trisodium citrate. Trisodium citrate, 3.8% solution is used for the determination of the erythrocyte sedimentation rate. Use 1 ml of trisodium citrate solution per 4 ml of Blood. Important: Never carry out a blood cell count on citrated blood.
- Sodium fluoride (NaF) is the anticoagulant normally used for biochemical tests.

Use 10 mg of sodium fluoride powder per 10 ml of blood, or 2 mg per 2 ml of blood.
Use for: — blood glucose estimation — blood urea estimation (certain techniques).
Warning: Sodium fluoride is a poison. Precautions to be taken when using anticoagulants Mix as soon as the blood is collected by inverting the bottle several times gently and evenly. Do not shake.

- ✓ ● Use clean bottles. Dry before adding anticoagulant. Warning: Traces of detergent will dissolve the erythrocytes. Ensure that the bottles are rinsed thoroughly before drying.
- ✓ ● Store bottles containing anticoagulants in a dry place. EDTA dipotassium salt solution and sodium fluoride are stable at room temperature but trisodium citrate solution and heparin must be kept in the refrigerator.
- ✓ ● Use the correct proportions. Use bottles and tubes with a graduation mark, or stick on a label so that its upper edge corresponds to the required amount of blood.

3.4.4. Materials and reagents for collection of skin puncture for Microfilaria:

- Microscope
- Microscope slides
- Cover slips
- Pasteur pipette
- Needle (for intramuscular or subcutaneous injection), 22-gauge
- Scalpel or razor blade
- Sodium chloride, 0.85% solution
- 70% Ethanol.

3.4.5. Containers for collection of Sputum specimens

- Sputum containers
- Slides
- Burning spirit
- Lead pencil

Self-Check-4	Written Test

Answer the Following Questions (2 point each):

1. List types of container and reagents which are suitable for the collection of stool specimen
2. List types of container which are suitable for the collection of Urine specimen
3. List types of container and materials which are suitable for the collection of sputum specimen
4. List types of container and reagents which are suitable for the collection of blood specimen

Note: Satisfactory rating - 4 points Unsatisfactory below -4 points

You can ask you teacher for the copy of the correct answers

Answer Sheet

Score _____
Rating _____

Name: _____ Date: _____

1._____
2._____
3._____
4._____

Operation sheet-1	Selecting and using the required *sampling tools and equipment*

Purpose: The purpose of this activity is to enable trainees to practice the skills necessary to perform Identifying equipment to obtain a representative Sample

N	Materials		Reagent
	• TTLM • Reagent bottles • Screwed cupped container • Packing paper • Test tubes (different size) • Diamond pencils • Lead pencils • Adhesive plaster	• Leak proof sample container • Wooden applicator stick • Microscope slide • Slide cover sip • Wool cotton • Filter paper • Surgical blade	Laboratory reagents to obtain representative samples, Eg. Sample preservatives, anticoagulants, sample diluting solutions…

	• Nonabsorbent cotton • Test tubes holder	• Cotton tip applicator stick	

Ser. No	Steps/Tasks	Needs improveme	Competentl y performed	Proficiently Performed	Remark
	Get ready				
1.	Wearing gown				
2.	Washing your hand with soap and water				

3.	Wearing glove				
4.	Cleaning the working area				
5.	Ensure presence of full pack first aid kit				
6.	Confirming the working area fit for purpose(i.e. safe to work)				
7.	Observe & identify materials for sampling				
8.	Identify Sample containers for different sample types				
9.	Cross cheek the information on request form with that of Sample container label				
10.	Identify sample information is complete				
11.	Review procedures for sample representativeness				
12.	Worn out your gown and gloves before leaving Laboratory				
13.	Assure that materials are placed in their appropriate place				
14.	Discarded waste produce appropriately & wash your hands before leaving laboratory				

Information sheet-5	Follow Sampling procedures closely

3.5. Follow Sampling procedures closely

3.5.1. Definition of terminologies

- Representative Sample/specimen: Representative Specimen is a part which its integrity is maintained & taken to determine the character of the whole

Purpose of representative sample

The representative specimen is of utmost importance if the laboratory results are to be relevant to the clinical situation of a patient. When materials collected for the purpose of monitoring and control of treatment of patients, or to obtain correct epidemiological figure.

- Conditions to be considered to obtain a representative sample

✓ The physiological state of the patient (e.g. the reference ranges of certain indicators vary with age and sex)

✓ The appropriate preparation of patients for specimen collection (e.g. blood for the measurement of fasting glucose and lipids should be taken in the morning from a patient who has fasted for 12 hours, (because their concentrations are elevated after a meal)

✓ The appropriate tools for specimen collection (e.g. blood for cell counting should be collected in tubes containing EDTA dipotassium salt to avoid plasma coagulation and platelet aggregation)

✓ The appropriate site for specimen collection (e.g. the concentration of glucose is different in arterial and venous blood. for the diagnosis of certain bacterial and parasitic disease needs taking sample from specific area of body parts) Example, mycobacterium leprae, Oncoserca Microfilaria.

✓ Laboratory personnel Should collect specimens from actual infection site with little external contamination by using aseptic technique and sterile container, should collect specimens from right site: this helps

- To prevent contamination of specimen &
- To protect the patient from infection
- To actual diagnoses of the disease

✓ Sites of Infection where the Specimen is Likely to become Contaminated

✓ During Collection

- Sample from lower respiratory tract can be contaminated from Oro-pharynx
- Sample from bladder can be contaminated from urethra
- Sample from cervix can be contaminated from vagina

- ✓ Volume of specimens: Collecting & processing too little specimen will give us lower sensitivity. Collecting adequate volume:
  - Enhance recovery of the pathogen.
  - Enable to perform all procedures required or to permit complete examination.
  - For example;

  for sputum: 5 -10 ml for mycobacterium examination.
  - For blood: for serological tests: the minimum volume is 2 - 3 ml.
  -For culture: the minimum volume is 10 – 20 ml (adult) & 1-5ml (infant).
  - for CSF: 5 – 10 ml - for urine: the minimum volume for urinalysis is 15 ml
- Time of collection: To ensure that the most useful specimen is obtained, sample should always be collected at the appropriate time. Random collection should be limited to emergency situations .For example sputum specimens for the detection of tubercle bacilli should be collected in the early morning, while urine for the diagnosis of schistosomiasis and other conditions should be collected as a “terminal” urine specimen. For chemical and Microscopic examination early morning collected Urine is best sample. Blood specimen to diagnoses malaria parasite in the blood, the time of collection should be when the patient’s temperature begins to rise (when the patient is at febrile stage).

Self-Check-5	Written Test

Answer the Following Questions (2 point each):

1. _____Specimen is a part which its integrity is maintained & taken to determine the character of the whole.

A. Representative Sample/specimen
B. Representative Sample/specimen
C. Whole specimen
D. None

2. Collection of specimens from right site of infection helps for:-
   A. To prevent contamination of specimen
   B. To protect the patient from infection
   C. To actual diagnoses of the disease
   D. None
3. At what time the Blood specimen collected to diagnoses malaria parasite in the blood specimen?_____

Note: Satisfactory rating - 6 points Unsatisfactory below -6 points

You can ask you teacher for the copy of the correct answers

Answer Sheet

Score _____
Rating _____

Name: _____ Date: _____

1._____
2._____
3._____


Federal TVET Agency

Information sheet-6	Record Labeling information

3.6. Record Labeling information

3.6.1. Reporting and recording test results

Laboratory staff should provide as much relevant information as possible to assist those requesting tests to interpret the results of tests correctly and use the information in the best possible way to benefit patients and the community. Reports should be clearly and neatly written (particularly figures).

- Standardization in reporting test results

  Standardization in the presentation of reports and use of units is important because it helps in the interpretation and comparison of results, contributes to the efficiency of a laboratory service, and is of value when patients are referred from one health unit or hospital to another.

  The use of SI units in the reporting of test results are important

- Recording results in the laboratory

In district laboratories, records of test results can be kept by retaining carbon copies of reports, using work sheets, or recording test results in registers (Laboratory test result registration Book). Whichever system is used it must be reliable and enable patients' results to be found quickly. Test records are also required when preparing work reports and estimating the workload of the laboratory. If carbon copies or work sheets are used these must be dated and filed systematically each day. If registers are used, backing cards which are headed and ruled can be placed behind pages to avoid having to rule and head each page separately. The cards must be heavily ruled with a marker pen so that the lines can be seen clearly. Separate registers, each with its own cards, can be prepared to record the results of hematological, microbiological, clinical chemistry, urine and faecal tests. In smaller district laboratories the registers can also be used to record daily quality control information, e.g. reading of a hemoglobin control. Daily checks on the performance of equipment, e.g. temperature readings should be recorded in a quality control (QC) book or on separate sheets as part of equipment control procedures.

3.6.2. Definitions of terms

Labeling: -putting information on sample container for sample identification.

- Sample Labeling

This achieved when specimens are correctly labeled. All specimens should be labeled at the time of collection with at least two patient identifiers.

- ✓ The patient's name (full last name, then full first name or initial) or a unique ID code is always required.
- ✓ The second patient identifier may be one of the following:
- ✓ Date of birth (month/date/year)
- ✓ Other unique patient identifier that is also on the test requisition, e.g. hospital or office ID code or file number

NOTE: Location-based identifiers are NOT acceptable, e.g. hospital room number

- Each specimen must have a securely affixed label with the following information:
  - ✓ Patient name(written exactly as written on the request)
  - ✓ Unique identification number
  - ✓ Patient demographic information
  - ✓ Specimen collection date
  - ✓ Specimen collection location
  - ✓ Diagnostic test results

If the label is hand-written, use a ballpoint pen–do not use a felt tip pen. If glass slides are submitted, use a pencil for labeling the frosted end–two identifiers are preferred although patient's name alone is acceptable

When using an electronically generated test requisition, place the label lengthwise on the tube. When submitting a specimen in a container other than the tube used to draw the sample (e.g., transfer vials), also indicate specimen type on the label (e.g., serum, plasma, urine, etc.). When submitting specimens for microbiological testing (e.g.cultures, bacterial antigen, microscopic examination), the nature and anatomic source of the sample and the specific organism (s) to be detected, if any, should be specified.

Note: during Labeling:

- ✓ Make sure that container label & the requisition match
- ✓ Label should be on the container not on the lid, since the lid can be mistakenly placed on a different container. Ensure the labels on the containers are adherent under refrigerated conditions.

Self-Check-6	Written Test

Answer the Following Questions (2 point each):

1. Mention at least two patient identifiers when you labeled at the time of specimen collection

2. _____is putting information on sample container for sample identification.

Note: Satisfactory rating - 6 points Unsatisfactory below -6 points

You can ask you teacher for the copy of the correct answers

Answer Sheet

Score _____
Rating _____

Name: _____ Date: _____

1._____
_____
_____
_____
_____

2._____

Information sheet-7	Collect the desired type and quantity of samples

3.7. Collect the desired type and quantity of samples

Quantity of Samples

The amount of the sample needed depends upon many factors. Each lab is different in the amount of blood or other body fluid or tissue required to perform the analysis. Generally speaking, if the blood is run using modern automated analyzers, the amount of blood may be 10 ml or less for each test. If the tests are run individually, or if the tests are complicated, larger quantities of blood may be needed.

The quantity of the sample usually dictates the method of collection or collection procedure. The overall goal is to get the required amount of blood with only one vein puncture. Multiple vein punctures are avoided if possible, even when gathering large amounts of blood. A single glass or disposable plastic needle and syringe may be used to obtain a small sample of 10-20 ml of whole blood. This amount is usually sufficient to perform one or two tests. However, for a series of tests, more blood is needed.

In order to avoid multiple vein punctures, it is usually best to use an evacuated blood tube system such as the "Vacutainer" or "Corvac" collection systems. These systems are very popular for drawing multiple samples of blood. They use blood tubes with a rubber stopper and a vacuum inside the tube. These tubes are manufactured in a variety of sizes and with a variety of additives in the evacuated tubes. Color-coded tubes indicate the different additives in the tube. The vacuum in the tube causes just the correct volume of blood to be drawn into the tube. The tubes are consecutively used to draw blood from one vein puncture site, thereby negating the use of multiple punctures. This, of course, is under ideal conditions. We assume that correct technique is being used. We also assume that the patient's vein will support multiple samples being drawn at one time from one location. These tubes hold 2-20ml of blood in each tube. In infants and children, microanalysis techniques allow sampling of capillary blood through micropipettes or capillary tubes. This technique is used when the patient is an infant/child or has severe burns and/or has absolutely no useable veins to draw from. This technique is time-consuming and very expensive. Therefore, if possible, the multiple-sample technique is preferred. Micro-pipettes hold from 30 µl to 50 µl of serum or plasma.

- ✓ Volume of specimens: Collecting & processing too little specimen will give us lower sensitivity. Collecting adequate volume:
  - Enhance recovery of the pathogen.
  - Enable to perform all procedures required or to permit complete examination.
  - For example;

For sputum: 5 -10 ml for mycobacterium examination.
- For blood: for serological tests: the minimum volume is 2 - 3 ml.
-For culture: the minimum volume is 10 – 20 ml (adult) & 1-5ml (infant).
- For CSF: 5 – 10 ml - for urine: the minimum volume for urinalysis is 15 ml

Self-Check-7	Written Test

Say true or false (2 point each):

1. If the blood is run using modern automated analyzers the amount of sample needed is less than manual method.
2. The volume/quantity of specimen is changed depending on technique we use.

Note: Satisfactory rating - 4 points Unsatisfactory below -4 points

You can ask you teacher for the copy of the correct answers

Answer Sheet

Score _____
Rating _____

Name: _____ Date: _____

1._____
2._____

Information sheet-8	Record factors that may impact on sample integrity

3.8. Record factors that may impact on sample integrity

3.8.1. Definitions of Terms

Sample register or Log

The laboratory should keep a register (log) of all incoming samples. A master register may be kept, or each specialty laboratory may keep its own sample register. Assign the sample a laboratory identification number write the number on the sample and the requisition form. If computers are used for reports, enter the information into the computer.

The register should include:

- Date and time of collection
- Tests to be performed.
- Date and time the sample was received in the laboratory
- Sample type
- Patient name and demographics, as required
- Laboratory assigned identification (e.g. number 276_01_06_2009) The laboratory needs a system to allow for tracking a sample throughout the laboratory from the time it is received until results are reported. This can be done manually by careful keeping of records as follows. Confirm receipt of samples and include date and time. Label samples appropriately and keep with the test requisition until laboratory identification is assigned. Track aliquots they should be traceable to the original sample. If computers are available, maintain a database for tracking. The following information about each sample should be entered into the database:
- Identification number
- Patient information
- Collection date and time
- Type of sample (e.g. urine, throat, cerebrospinal fluid for culture)
- Tests to be performed
- Name of ordering physician (or other health care provider)
- Location of patient (e.g. ward, clinic, outpatient)
- Diagnostic test results
- Time and date results are reported.

Self-Check-8	Written Test

- Answer the following questions (2 point each):

1. What is the information about each sample should be entered into the database when electronic recording of patients take place?
   A. Identification number
   B. Patient information
   C. Collection date and time
   D. Type of sample
   E. All

2. What the necessary information that the laboratory register/Log book should contain?

Note: Satisfactory rating - 4 points Unsatisfactory below -4 points

You can ask you teacher for the copy of the correct answers

Answer Sheet

Score _____
Rating _____

Name: _____ Date: _____

1._____
2._____
_____
_____
_____

Information sheet-9	Maintain Sample integrity and confidentiality

3.9. Maintain Sample integrity and confidentiality

3.9.1. Collection Site Security

The collection site must be secure to prevent unauthorized access to specimens, collection supplies, and collection site records. A permanent site that is used solely for specimen collections must be secured at all times. At facilities that are not dedicated specimen collection sites, the area of the site used for specimen collections must be secured during the time a specimen is collected.

A collector must

- Prohibit unauthorized personnel from entering the collection site during the collection;
- Perform only one specimen collection at a time;
- Restrict access to collection supplies before and during the collection;
- Ensure that only the collector and the donor are allowed to handle the unsealed specimen;

- Ensure that chain of specimen is maintained and documented throughout the collection procedure
- Ensure that specimens are transported to the test facility in a sealed and secure shipping container to eliminate the possibility of damage during shipment and to prevent undetected tampering

3.9.2. Sample integrity:

It is the specific specimen requirements. Which should include information such as

- specimen volume
- collection containers
- transport containers
- transport temperature

If additional information is needed for the interpretation of the test results or there are specific instructions for patient preparation, they are listed along with specimen requirements. It is critical that an adequate specimen volume is submitted for analysis. The volume requested in one order should be enough for initial analysis as well as for any confirmatory tests that must be performed. If an inadequate specimen is submitted, we may not be able to perform the initial test or required confirmatory procedures.
If repeat or confirmatory tests cannot be performed, the report will indicate that the specimen quantity submitted was “QNS” (Quantity Not Sufficient) for additional testing.
When serum or plasma is to be submitted for analysis, it is good practice to collect a volume of blood that is 2 to2.5 times the volume of serum or plasma needed for the test. As an example, if 4 ml of serum or plasma is needed for a test, collect 8 to 10 ml of blood.
If you have confirmed that the specimen collected has no feature of specimen rejection criteria and believed that integrity of the specimen is maintained correctly, it will be recorded on specimen accession list record format.

Specimen accession list

Accession list is a record of all the specimens received by the laboratory for analysis and is prepared by the laboratory at the time of specimen receipt. It is records of the patient's identity including name, age, sex, location in the hospital/ medical facility, name of referring physician, investigations requested, date and time of receipt of specimen and condition of the specimen at receipt. The laboratory assigns a unique laboratory number to register each specimen received, which can be used to trace the specimen in the laboratory. The test results and remarks if any are also entered in the accession list. In laboratories handling a very large number of specimens, the accession list may be computer generated and the condition of specimen at receipt may not be recorded unless it has been rejected.

Self-Check-9	Written Test

Answer the following questions (5point):

1. What are requirements that is used to monitor Sample integrity

Note: Satisfactory rating - 5 points Unsatisfactory below -5 points

You can ask you teacher for the copy of the correct answers

Answer Sheet

Score _____
Rating _____

Name: _____ Date: _____

1._____
2._____

Information sheet-10	Delivering Samples/Items to each laboratory department

3.10. Delivering Samples/Items to each laboratory department

- Specimen transportation is required when:
  - ✓ Specimens are to be sent to referral laboratory
  - ✓ For teaching purpose.
  - ✓ For Quality assurance.
  - ✓ Unavailability of trained personnel around the collection site.
  - ✓ Specimens are collected in the field.
  - ✓ Lack of time to examine within the recommended time due to laboratory workload
- Transporting specimens from wards or OPD clinics
  - ✓ When hand-carrying, place the specimens upright in racks in a closed container
  - ✓ The racks and carrying container should be made of plastic so that they can be easily disinfected and washed between uses.
  - ✓ The request forms should be placed in a plastic bag that can be sealed (grip type).
  - ✓ During the hot season, an insulated container should be used to transport the specimens.
- Transporting specimens between laboratories

✓ Make sure the specimen container is tightly closed and the cap is not leaking
✓ Wrap each specimen insufficient absorbent material to absorb it if the containers break.
✓ Place it individually or with others in a carton or strong plastic bag.

- ✓ Make sure there insufficient packing material around the specimens to prevent them moving in the container or bag.
- ✓ Pack the container or bag of specimens with the sealed plastic bag containing the request forms in a suitable insulated container which will with stand shock and weight pressure.
- ✓ Insert a freezer pack(s) or ice cubes around the container of specimens
- ✓ Label the outer container 'Biological specimens
  – Infectious substance, preferably using the biohazard symbol shown
- ✓ The words 'KEEP COOL' should also be importantly displayed on the container.
- ✓ Fix a clearly written delivery address label to the outer container.
- ✓ Cover the labels with clear adhesive tape.

Self-Check-10	Written Test

Answer the following questions (2 point each):

1. _____ is a record of all the specimens received by the laboratory for analysis and is prepared by the laboratory at the time of specimen receipt.

A. Accession list
B. Specimen rejection record format
C. Equipment inventory record
D. Test Requisition format

2. Which of the following information should not be located on accession list record?

A. Investigations requested
B. Date and time of receipt of specimen
C. condition of the specimen at receipt
D. Patient marital status

2. One of the following couldn't be the specific specimen requirements to maintain sample integrity?

A. specimen volume
B. collection containers
C. transport containers and transport temperature
D. None

Note: Satisfactory rating - 4 points Unsatisfactory below -4 points

You can ask you teacher for the copy of the correct answers

Answer Sheet

Score _____
Rating _____

Name: _____ Date: _____

1._____
2._____

LAP test	Select and using the required *sampling tools and equipment*

Task-1. Select the required *sampling tools and equipment used for blood collection*
Task-2. Select the required *sampling tools and equipment used for Urine collection*
Task-3. Select the required *sampling tools and equipment used for Sputum collection*
Task-4. Select the required *sampling tools and equipment used for stool collection*

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