



# SPECIMEN COLLECTION

## Key Terms

Specimen collection

Peripheral smear

Throat swab

Venipuncture

Single voided urine

Wound swab

Blood culture

Urine culture

Stool specimen

## SPECIMEN COLLECTION

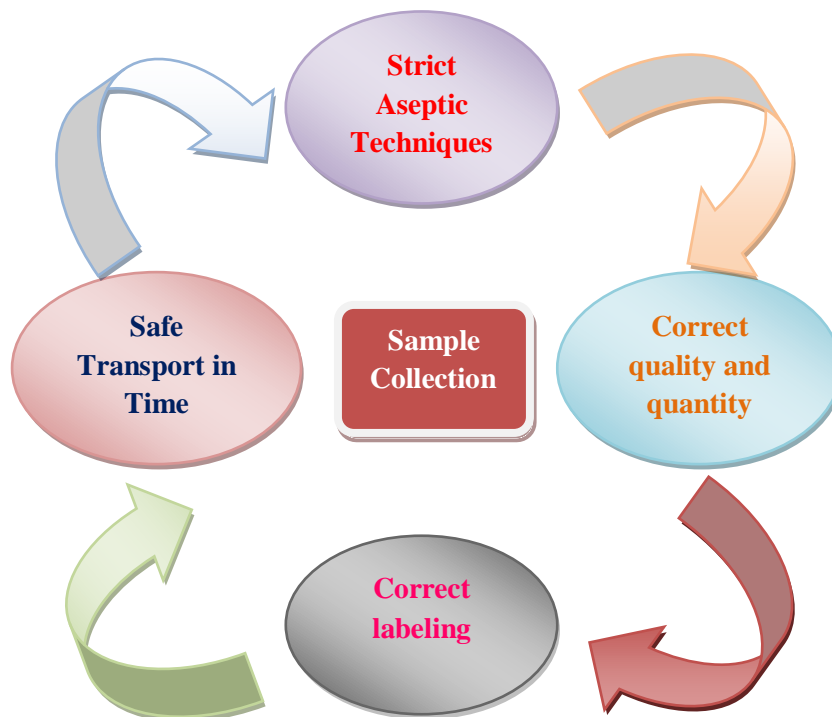
### INTRODUCTION:

Prompt and Correct Collection of Specimens can directly affect a Client's Diagnosis, Treatment and Recovery. Most often, the Nurse is the Sole Responsible Person for the collection of specimens. Even for the test that are not the nurse's responsibility, the nurse may have to schedule the test, prepare the client, assist the physician in performing the test, and give after care to the client. In certain instances, the nurse may have to teach the client. How to perform the test at home e.g., blood glucose test.

### DEFINITION:

A specimen may be defined as a small quantity of a substance or object which shows the kind and quality of the whole (sample).

### PRINCIPLES OF SAMPLE COLLECTION:



- Label specimen tubes or bottles with the client's name, age, sex, date, time, inpatient no and other data if needed before collecting the specimen.
- Always perform hand hygiene before and after collecting any specimen.
- always observe body substance precautions when collecting specimens
- Collect the sample according to the hospital/agent policy and procedure.
- Clean the area involved for sample collection
- Maintain the sterile technique if needed for sample or culture.
- Transport the specimen to laboratory immediately
- Be sure specimen is accompanied by specimen former or errand staff
- Record the collection and forwarding of the sample to laboratory on the client's record.

#### **PURPOSES:**

- For examination purpose.
- To aid the Physician in diagnosing & treating the diagnosis.
- To screen the prognosis of the condition.
- To check the response to the treatment provided.

## **COLLECTING SPECIMEN**

### **A. PERFORMING VENIPUNCTURE**

#### **DEFINITION :**

Venipuncture is using a needle to withdraw blood from a vein, often from the inside surface of the forearm near the elbow.

#### **PURPOSE:**

1. To examine the condition of client and assess the present treatment
2. To diagnose disease

#### **EQUIPMENT'S REQUIRED:**

1. Gloves
2. Antiseptics :
  - Alcohol prep pads
  - Povidine-iodine swab (or alternative antiseptic such as chlorhexidine) for blood culture.
  - Non-alcohol-based antiseptic for blood alcohol collections.
3. Gauze pads
4. Adhesive bandages / other bandage material
5. Tourniquet
6. Mackintosh
7. Vacutainer , blood collection tubes
8. Sample needle
9. Tube holder
10. Sharps container
11. Permanent marker or indelible ink pen
12. Watch



Picture 1: Collection of Specimen (Blood Sample)

#### PROCEDURE:

#### S.NO NURSING ACTION

- Identify the patient.

#### RATIONALE

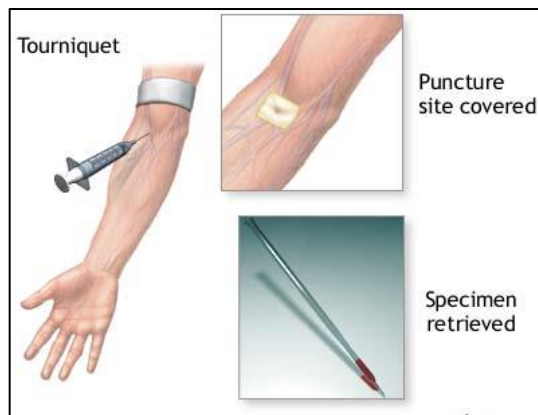
This information must match the requisition.

- Outpatient are called into the phlebotomy area and asked their name and date of birth.
- Inpatient is identified by asking their name and date of birth.
- Reassure the client that the minimum amount of blood required for testing will be drawn. To perform once properly without any unnecessary venipuncture
- Assemble the necessary equipment appropriate to the client's physical characteristics. Organization facilitates accurate skill performance
- Explain to the client about the purpose and the procedure. Providing explanation fosters his/her cooperation and allays anxiety
- Perform hand hygiene and put on gloves if available. To prevent the infection of spreading.
- Positioning
  - ✚ Make the client to be seated comfortably or supine position.
  - ✚ Assist the client with the arm extended to form a straight-line from shoulder to wrist.
  - ✚ Place a protective sheet under the arm.
  - To make the position safe and comfortable is helpful to success venipuncture at one try.
  - To prevent the spread of blood.
  - To assure the Doctor's order with the correct client and to make the procedure comfortable.
- Check the client's requisition form, blood collection tubes and make the sample-needle ready.
- Select the appropriate vein for venipuncture. The larger median cubital, basilic and cephalic veins are most frequently used, but other may be

necessary and will become more prominent if the client closes his/her fist tightly.

#### Applying the tourniquet:

- Apply the tourniquet 3-4 inches (8 - 10 cm) above the collection site. Never leave the tourniquet on for over 1 minute.
- If a tourniquet is used for preliminary vein selection, release it and reapply after two minutes.
- To prevent the venipuncture site from touching the tourniquet and keep clear vision.
- Tightening of more than 1 minute may bring erroneous results due to the change of some blood composition.



Picture 2: Application of Tourniquet

#### Selection of the vein:

- Feel the vein using the tip of the finger and detect the direction, depth and size of vein.
- Massage the arm from wrist to elbow. If the vein is not prominent, try the other arm.

To assure venipuncture at one try.

#### Disinfect the selected site:

- Clean the puncture site by making a

To prevent the infection from venipuncture site

- Disinfectant has the effect on

smooth circular pass over the site with the alcohol swab, moving in an outward spiral from the zone of penetration.

- Allow the skin to dry before proceeding.
- Do not touch the puncture site after cleaning.

After blood is drawn the desired amount, Release the tourniquet and ask the client to open his/her fist.

- Place dry gauze over the puncture site and remove the needle.
- Immediately apply slight pressure. Ask the client to apply pressure for at least 2 minutes.
- When bleeding stops, apply a fresh bandage or gauze with tape.

Transfer blood drawn into appropriate blood specimen bottles or tubes as soon as possible.

2) The container or tube containing an additive should be gently inverted 5-8 times or shaking the specimen container.



Picture 3 : Vacutainers

Dispose the needle as a unit into an appropriate sharps container.

Label all tubes or specimen bottles with client name, age, sex, inpatient no., date and time.

drying

- To prevent the site from contaminating

To avoid making ecchymosis

The normal coagulation time is 2-5 minutes.

Delay could cause improper coagulation.

- Do not shake or mix vigorously

To prevent the spread of infection.

To prevent the blood tubes or bottles from mislabeling.

Send the blood specimen to the laboratory, Immediately after sample acknowledgment.	To avoid misdealing and taking erroneous results.
Replace equipments and disinfects materials if needed.	To prepare for the next procedure and prevent the spread of infection.
Put off gloves and perform hand hygiene.	To prevent the spread of infection.

**CONTRA-INDICATIONS:**

- Extensive scarring or healed burn areas should be avoided.
- Specimens should not be obtained from the arm on the same side as a mastectomy.
- Avoid areas of hematoma.
- If an I.V. is in place, samples may be obtained below but NEVER above the I.V. site.
- Do not obtain specimens from an arm having a cannula, fistula, or vascular graft.
- Allow 10-15 minutes after a transfusion is completed before obtaining a blood sample.

**SAFETY:**

- Observe universal safety precautions. Observe all applicable isolation procedures.
- Needles are never recapped, removed, broken or bent after phlebotomy procedure.
- Gloves are to be discarded in the appropriate container immediately after the procedure.
- Contaminated surfaces must be cleaned with disinfectant solution.
- In the case of an accidental needle-stick, immediately wash the area with an antibacterial soap, express blood from the wound, and contact your supervisor.

**If a blood sample is not available,**

- Reposition the needle.
- Loosen the tourniquet
- A patient should never be stuck more than twice unsuccessfully by a same staff. The supervisor or a senior staff should be called to assess the client.



## ASSISTING IN OBTAINING BLOOD FOR CULTURE

### DEFINITION:

Analysis of blood to find out the presence & type of micro organisms.

### PURPOSE:

- To identify s disease-causing organisms
- To detect the right antibiotics to kill the particularmicroorganism

### EQUIPMENTS REQUIRED:

- Sterilized syringes (20 mL)
- Sterilized needles
- Tourniquet
- Blood culture bottles (areobic&anaerobic)
- Disinfectant : Povidon-iodine or spirit swabs
- Dry gauze
- Sterile gloves if available
- Adhesive tape or bandages
- SharpsDisposal Container
- Mackintosh
- Steel Tray
- Permanent marker or indelible ink pen



**Picture 4: collection of blood sample(Blood culture sample)**

**PROCEDURE:****S.NO NURSING ACTION**

- Identify the patient.
- Reassure the client that the minimum amount of Blood required for testing will be drawn.
- Assemble the necessary equipment appropriate to the client's physical characteristics.
- Explain to the client about the purpose and the procedure
- Label all tubes or specimen bottles with client name, age, sex, inpatient no., date and time.
- Perform hand hygiene and put on gloves if Available.
- Protect the bed with a pad under the client's arm.
- Place the arm with proper position and disinfect around the injection site approximate 2-3 inches
- While puncturing:
- Assist the person who is drawing blood
  - Confirm the amount
  - After obtaining sufficient blood specimen, receive and place the

**RATIONALE**

- This information must match the requisition
- To perform once properly without any unnecessary collecting of blood
- Organization facilitates accurate skill performance
- Providing explanation fosters his/her cooperation and allays anxiety
- To prevent the blood tubes or bottles from misdealing.
- To prevent the infection of spreading.
- To prevent the bed of escaping or wetting the Disinfectant and blood.
- To prevent unnecessary injury and protect of entering organisms from the skin surfaces
- Sometimes the blood may be placed into two or more tubes or bottles.
- To secure the sterilized condition of container

specimen into the specimen

Container with strict sterile technique.

- Close the container promptly and tightly

After puncturing:

- Place a sterile gauze pad and folded into a compress tightly over the site
- Secure firmly with tape
- Check the stop of bleeding a few minutes later

To make sure all bleeding has stopped

Dispose of the syringe and needle as a unit into an appropriate sharps container.

To prevent the spread of infection

Send the specimen to the laboratory

To avoid misdealing and taking

Immediately along with the laboratory order Form.

erroneous results

Replace equipments and disinfects materials if Needed.

To prepare for the next procedure and prevent the spread of infection

Put off gloves and perform hand hygiene.

To prevent the spread of infection

Document the procedure in the designated place and mark it off on the Kardex.

To avoid duplication

Documentation provides coordination of care

## COLLECTING BLOOD FOR PERIPHERAL SMEAR

### DEFINITION:

Obtaining a small sample of blood by skin puncture for peripheral smear.

### PURPOSES:

- To detect malarial parasites,
- To detect blood cell abnormalities.

### ARTICLES REQUIRED:

- Disposable lancet
- Pipette and tubing

- Slides
- Cotton swabs / alcohol prep pads
- Alcohol
- Disposable gloves
- Laboratory forms

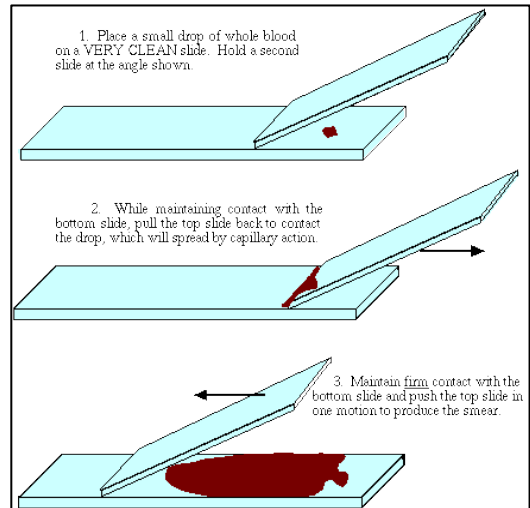
### PROCEDURE:

#### S.NO NURSING ACTION

#### RATIONALE

Check the physician's order and nursing care plan.	Obtains specific instructions and information.
Identify the patient.	Ensures that right procedure is performed for right patient.
Give explanation to patient about the procedure.	Obtains patient's co-operation and consent.
Wash hands and put on gloves.	Protects health care workers from possible exposure to blood.
Cleanse site (ball of finger) with alcohol and dry with sterile cotton swab.	If any alcohol remains, it will alter red cell morphology. Blood will not collect into a compact drop, but will run down the finger if it is not dry.
Prick the skin sharply and quickly with sterile, disposable lancet.	Pricking the skin sharply and quickly minimizes pain during procedure and helps to obtain a flowing sample.
Release pressure on the finger; wipe off the first drop of blood.	Epithelial and endothelial cells may be found in the first drop of blood and may render the count inadequate.
Allow the blood to flow freely with an adequate puncture.	Pressing out the blood dilutes it with tissue fluid.

Obtain the blood sample, fill the pipette and make blood smears on the slides.



**Picture 5: Collection of Sample  
(Peripheral smear)**

- a. Thin smear
  - Put a drop of fresh blood on the middle of the slide.
  - Use another slide end to allow the drop of blood to spread along the slide.
  - Push the spreader quickly from the center to the left of the slide drawing the blood behind it.
  - Leave the film to dry. Do not blow on it.
- b. Tick smear
  - Put three drops of fresh blood on the left hand quarter of the slide.
  - With the corner of another slide mix the blood and smear

it in a round form about 1 cm in diameter.

- Leave the film to dry. Do not blow on it or shake the slide.

Apply pressure over the puncture site, with a dry cotton ball until bleeding stops.

When the film is dry, label the slide wrap it and dispatch to laboratory.

Remove gloves, wash hands and dispose of articles in approved containers.

### PROTOCOL FOR SAMPLE COLLECTION OF BLOOD

S.NO	TEST	SAMPLE TYPE	VOLUME REQUIRE D	CONTAIN ER	RELATED INSTRUCTI ON	NORMAL VALUES
1.	Blood glucose	serum	3 ml clotted	Plain red top	FBS (Fasting) RBS (Random)	70-110 mg% Less than 200 mg/ dl
2.	BUN (blood urea nitrogen)	serum	3 ml clotted	Plain red top		8-25 mg%
3.	Creatinine	serum	3 ml clotted	Plain red top		0.6-1.5 mg%
4.	Total protein	serum	3 ml clotted	Plain red top		Albumin 3.5 – 5 mg%
5.	AST (Asparatatea minotransfer ase)	serum	3 ml clotted	Plain red top		10-40 units/ml
6.	Bilirubin	serum	3 ml	Plain red		Total 1 mg/100

			<b>clotted</b>	<b>top</b>		<b>ml</b> <b>Direct 0.4</b> <b>mg/100 ml</b> <b>Indirect 0.4</b> <b>mg/100 ml</b>
7.	<b>Cholesterol</b>	<b>serum</b>	<b>3 ml</b> <b>clotted</b>	<b>Plain red</b> <b>top</b>		<b>120-220</b> <b>mg/100 ml</b>
8.	<b>Triglyceride</b> <b>s</b>	<b>serum</b>	<b>3 ml</b> <b>clotted</b>	<b>Plain red</b> <b>top</b>		<b>40-150 mg/100</b> <b>ml</b>
9.	<b>Lipid profile</b> <b>Total lipids</b> <b>HDL,LDL,</b> <b>VLDL</b>	<b>serum</b>	<b>3 ml</b> <b>clotted</b>	<b>Plain red</b> <b>top</b>		<b>Normal HDL</b> <b>cholesterol-</b> <b>more than 45</b> <b>mg/dl LDL</b> <b>cholesterol-</b> <b>upto 130 mg/dl</b> <b>VLDL</b> <b>cholesterol-7-</b> <b>33 mg/dl</b>
10.	<b>Triglyceride</b> <b>s</b>	<b>serum</b>	<b>3 ml</b> <b>clotted</b>	<b>Plain red</b> <b>top</b>		<b>35-150 mg/dl</b>
11.	<b>LDH (Lactic</b> <b>dehydrogen</b> <b>ase)</b>	<b>serum</b>	<b>3 ml</b> <b>clotted</b>	<b>Plain red</b> <b>top</b>		<b>50-150 U/L</b>
12.	<b>Blood gases</b> <b>arterial O2</b> <b>Saturation</b> <b>PO2,</b> <b>PCO2,pH</b>	<b>Arterial</b> <b>hepariniz</b> <b>ed blood</b>	<b>1 ml</b> <b>clotted</b>	<b>Syringe</b>	<b>PCO2 above</b> <b>500 mm Hg</b> <b>while on</b> <b>100% O2</b>	<b>O2 saturation</b> <b>96-100%</b> <b>PO2=75-100</b> <b>mm Hg</b> <b>PCO2= 35-45</b> <b>mm Hg</b> <b>Ph=7.35-7.45</b>

13.	<b>Electrolytes</b>  Na K Mg Cl Urea Uric acid	<b>Serum clotted</b>	<b>3 ml clotted</b>	<b>Red TOP</b>		<b>Sodium 135- 145 mEq/L Potassium 3.5- 5mEq/L Magnesium 1.5-2 mEq /L Chloride 98- 110 mEq/L Urea 10-50 mg/dl Uric Acid 2-6 mg/dl</b>
14.	<b>P.T (prothrombin time)</b>	<b>Citrated</b>		<b>Blue top</b>	<b>Mix well avoid hemolysis send to lab in minutes</b>	<b>Less than 2 seconds deviation from control</b>
15.	<b>PTT (partial prothrombin time)</b>	<b>Citrated</b>		<b>Blue top</b>		<b>25-37 seconds</b>
16.	<b>Bleeding time</b>	<b>Finger prick</b>		<b>Capillary tube and blotting paper</b>		<b>3-7 minutes</b>
17.	<b>WBC</b>	<b>EDTA</b>	<b>3 ml clotted</b>	<b>Purple top</b>		<b>Total (4000- 11000/100 ml) Differential Neutrophils</b>



						<b>60-70%</b> <b>Lymphocytes-</b> <b>25-35%</b> <b>Monocytes-5-</b> <b>10%</b> <b>Eosinophils-1-</b> <b>4%</b> <b>Basophils-upto</b> <b>1 %</b>
18.	<b>RBC</b>	<b>EDTA</b>	<b>3 ml clotted</b>	<b>Purple top</b>		<b>Male 4.5-</b> <b>6.5x10 power</b> <b>of 6/<math>\mu</math>l</b> <b>Female 3.8-4.8</b> <b>x 10<sup>6</sup>/<math>\mu</math>l</b>
19.	<b>Hemoglobin</b>	<b>EDTA</b>	<b>3 ml clotted</b>	<b>Purple top</b>		<b>Male 13-18</b> <b>gm%</b> <b>Female 12-16</b> <b>gm%</b>
20.	<b>Platelets</b>	<b>EDTA</b>	<b>3 ml clotted</b>	<b>Purple top</b>		<b>150-400 x</b> <b>10<sup>3</sup>/<math>\mu</math>l</b>
21.	<b>Hematocrit</b>	<b>EDTA</b>	<b>2 ml</b>	<b>Blue top</b>		<b>Male 45-52%</b> <b>Female 37-</b> <b>48%</b>
22.	<b>ESR(Erythr ocyte sedimentatio n rate)</b>	<b>EDTA with anticoagu lant</b>	<b>2 ml</b>	<b>Blue top</b>		<b>Male less than</b> <b>15 mm/hr</b> <b>Female less</b> <b>than 20 mm/hr</b>
23.	<b>Calcium</b>	<b>Serum clotted</b>	<b>4-6 ml</b>	<b>Red top</b>	<b>No tourniquet</b>	<b>8-10 MG/DL</b>

24.	<b>CPK (Creatinine phosphokinase)</b>	<b>Serum</b>	<b>3 ml</b>	<b>Red top</b>		<b>Male 15- 105U/L Female 10-80 U/L</b>
25.	<b>Thyroid hormone</b>	<b>Serum</b>	<b>5 ml</b>	<b>Red top</b>		<b>TSH-.3-5.4 μU/ml T3 – 110-230 ng/dl T4 – 5-12 μg/dl</b>
26.	<b>PCV (Packed cell volume)</b>	<b>EDTA with anticoagulant</b>	<b>2 ml</b>	<b>Blue top</b>		<b>Male -40-54% Female -37- 47%</b>

### COLLECTING URINE SPECIMEN

#### DEFINITION:

Urinalysis, in which the components of urine are identified, is part of every client assessment at the beginning and during an illness.

#### PURPOSE:

1. To diagnose illness
2. To monitor the disease process
3. To evaluate the efficacy of treatment

#### S.NO NURSING ACTION

Label specimen containers or bottles before the client voids.

Note on the specimen label if the female client is menstruating at that time.

#### RATIONALE

One of the tests routinely performed is a test for blood in the urine. If the female client is menstruating at the time a urine specimen is taken, a false-positive

To avoid contamination and necessity of collecting another specimen, soap and water cleansing of the genitals immediately preceding the collection of the specimen is supported.

Maintain body substances precautions when collecting all types of urine specimen.

Wake a client in the morning to obtain a routine specimen

Be sure to document the procedure in the designated place and mark it off on the Kardex.

reading for blood will be obtained.

Bacteria are normally present on the labia or penis and the perineum and in the anal area.

To maintain safety

If all specimens are collected at the same time, the laboratory can establish a baseline. And also this voided specimen usually represents that was collecting in the bladder all night.

To avoid duplication.

### COLLECTING A SINGLE VOIDED SPECIMEN

#### EQUIPMENTS REQUIRED:

- Clean container with lid or cover (1): wide-mouthed container is recommended
- Bedpan or urinal
- Disposable gloves
- Toilet paper as required

#### PROCEDURE:

##### S.NO NURSING ACTION

Explain the procedure

Assemble equipments and check the specimen form with client's name, date and content of urinalysis

##### RATIONALE

Providing information fosters his/her cooperation

Organization facilitates accurate skill performance ensure that the specimen collecting is correct

Label the bottle or container with the date, Client's name, department identification, and Dr's name.	Ensure correct identification and avoid mistakes
Perform hand hygiene and put on gloves	To prevent the spread of infection
Instruct the client to void in a clean receptacle.	To prevent cross-contamination
Remove the specimen immediately after the client has voided	Substances in urine decompose when exposed to air. Decomposition may alter the test results
Pour about 10-20 mL of urine into the labeled specimen bottle or container and cover the bottle or container	Ensure the client voids enough amount of the urine for the required tests <ul style="list-style-type: none"> <li>● Covering the bottle retards decomposition and it prevents added contamination.</li> </ul>
Dispose of used equipment or clean them.	To prevent the spread of infection
Remove gloves and perform hand hygiene.	
Send the specimen bottle or container to the laboratory immediately.	Organisms grow quickly at room temperature
Document the procedure in the designated place and mark it off on the Kardex.	To avoid duplication Documentation provides coordination of care

### COLLECTING A 24-HOUR URINE SPECIMEN

#### DEFINITION:

Collection of a 24-hour urine specimen is defined as the collection of all the urine voided in 24 hours, without any spillage of wastage.

#### PURPOSE:

1. To detect kidney and cardiac diseases or conditions
2. To measure total urine component

**EQUIPMENTS REQUIRED:**

- Bedpan or urinal
- 24 hours collection bottle with lid or cover
- Clean measuring jar
- Disposable gloves
- Paper issues
- Ballpoint pen

**PROCEDURE:****S.NO NURSING ACTION**

Explain the procedure

Assemble equipments and check the specimen form with client's name, date and content of urinalysis

Label the bottle or container with the date, Client's name, department identification, and Dr's name.

Instruct the client:

- Before beginning a 24 hour urine collection, ask the client to void completely.
- Document the starting time of a-24 hour urine collection on the specimen form and nursing record.
- Instruct the client to collect all the urine into a large container for the next 24 hours.
- In the exact 24 hours later, ask the client to void and pour into the large container. Measure total amount of

**RATIONALE**

Providing information fosters his/her cooperation

Organization facilitates accurate skill Performance ensure that the specimen collecting is correct

Ensure correct identification and avoid mistakes

To measure urinal component and assess the function of kidney and cardiac function accuracy

The entire collected urine should be stored in a covered container in a cool place.

urine and record it on the specimen form and nursing record.

- Document the time when finished the collection

Sending the specimen:

- Perform hand hygiene and put on gloves if available.
- Mix the urine thoroughly
- Collect some urine as required or all the urine in a clean bottle with lid.
- Transfer it to the laboratory immediately

Dispose of used equipment or clean them. Remove gloves and perform hand hygiene.

Document the procedure in the designated place and mark it off on the Kardex.

To prevent the contamination

Ensure the client voids enough amount of the urine for the required tests

- Covering the bottle retards decomposition and it prevents added contamination.
- Substances in urine decompose when exposed to air. Decomposition may alter the test results.

To prevent the spread of infection

To avoid duplication

- Documentation provides coordination of care

## COLLECTING A URINE SPECIMEN FROM A RETENTION CATHETER

### EQUIPMENTS REQUIRED:

2. Disposable gloves
3. Container with label as required
4. Spirit swabs or disinfectant swabs
5. 10-20-mL syringe with 21-25-gauge needle
6. Clamp or rubber band
7. Ballpoint pen

**PROCEDURE:****S.NO NURSING ACTION**

Assemble equipments. Label the container.

Explain the procedure to the client

Perform hand hygiene and put on gloves if Available.

Clamp the tubing:

- Clamp the drainage tubing or bend the tubing
- Allow adequate time for urine collection

Cleanse the aspiration port with a disinfectant swab (e.g., Betadine swab)

Withdrawing the urine:

- 1) Insert the needle into the aspiration port
- 2) Withdraw sufficient amount of urine gently into the syringe

Transfer the urine to the labeled specimen container

Unclamp the catheter

Prepare and pour urine to the container for

**RATIONALE**

Organization facilitates accurate skill performance

Providing information fosters his/her cooperation

To prevent the spread of infection

Collecting urine from the tubing guarantees Fresh urine.

- Long-time clamp can lead back flow of urine and is able to cause urinary tract infection

Disinfecting the port prevents organisms from entering the catheter

This technique for uncontaminated urine specimen, preventing contamination of the client's bladder

Careful labeling and transfer prevents contamination or confusion of the urine specimen

- Appropriate container brings accurate results of Urinalysis.

The catheter must be unclamped to allow free urinary flow and to prevent urinary stasis

Proper packaging ensures that the

transport

Dispose of used equipment's and disinfect if needed. Remove gloves and perform hand hygiene

Send the container to the laboratory

Immediately

Document the procedure in the designated place And mark it off on the Kardex.

specimen is

not an infection risk

To prevent the spread of infection

Organisms grow quickly at room temperature

To avoid duplication

- Documentation provides coordination of care



**Watch out**

**You should not clamp longer than 15 minutes**

## COLLECTING A URINE CULTURE

### DEFINITION:

Collecting a urine culture is a process that it obtains specimen urine with sterile technique

### PURPOSE:

1. To collect uncontaminated urine specimen for culture and sensitivity test
2. To detect the microorganisms causes urinary tract infection (UTI)
3. To diagnose and treat with specific antibiotic

### EQUIPMENTS REQUIRED:

- Sterile gloves
- Sterile culture bottle with label as required
- Sterile kidney tray or sterile container with wide mouthed if needed
- Bed pan if needed
- Paper tissues if needed
- Ballpoint pen



**PROCEDURE:****S.NO NURSING ACTION**

Assemble equipments and check the specimen form with client's name, date and content of urinalysis

Label the bottle or container with the date, client's name, department identification, and Dr's name.

Explain the procedure to the client

Instruct the client:

- Instruct the client to clean perineum with soap and water
- Open sterilized container and leave the cover facing inside up
- Instruct the client to void into sterile kidney tray or sterilized container with wide mouth
- If the client is needed bed-rest and needs to pass urine more, put bed pan after you collected sufficient amount of sterile specimen.

Remove the specimen immediately after the Client has voided. Obtain 30-50mL at midstream point of voiding

**RATIONALE**

Organization facilitates accurate skill performance

- Ensure that the specimen collecting is correct

Ensure correct identification and avoid mistakes

Providing information fosters his/her cooperation

To prevent the contamination of specimen from perineum area

- The cover should be kept the state sterilized
- To secure the specimen kept in sterilized container surely

Substances in urine decompose when exposed to air. Decomposition may alter the test results

- Ensure the client voids enough amount of the

urine for the required tests

- Emphasize first and last portions

	of voiding to be discarded
Close the container securely without touching inside of cover or cap.	Covering the bottle retards decomposition and it prevents added contamination
Dispose of used equipment or clean them.	To prevent the spread of infection
Remove gloves and perform hand hygiene.	
Send the specimen bottle or container to the laboratory immediately with the specimen form.	Organisms grow quickly at room temperature
Document the procedure in the designated place and mark it off on the Kardex.	To avoid duplication Documentation provides coordination of care

### COLLECTING A STOOL SPECIMEN

#### DEFINITION:

Collection of stool specimen deters a process which is aimed at doing chemical bacteriological or Parasitological analysis of fecal specimen

#### PURPOSE:

1. To identify specific pathogens
2. To determine presence of ova and parasites
3. To determine presence of blood and fat
4. To examine for stool characteristics such as color, consistency and odor

#### EQUIPMENTS REQUIRED:

- Disposable gloves
- Clean bedpan with cover
- Closed specimen container as ordered
- Label as required
- Wooden tongue depressor
- Kidney tray or plastic bag for dirt

**PROCEDURE:****S.NO NURSING ACTION**

1. Assemble equipment's. Label the container.

2. Explanation:

- Explain the procedure to the client
- Ask the client to tell you when he/she feels the urge to have a bowel movement

Perform hand hygiene and put on gloves if available.

4. Placing bedpan:

- Close door and put curtains/ a screen.
- Give the bedpan when the client is ready.
- Allow the client to pass feces
- Instruct not to contaminate specimen with urine

5. Collecting a stool specimen:

- Remove the bedpan and assist the client to clean if needed
- Use the tongue depressor to transfer

**RATIONALE**

Organization facilitates accurate skill performance

- Careful labeling ensures accuracy of the report and alerts the laboratory personnel to the presence of a contaminated specimen Providing information fosters his/her cooperation

- Most of clients cannot pass on command

To prevent the spread of infection

To provide privacy

- You are most likely to obtain a usable specimen at this time.
- To gain accurate results

a portion of the feces to the container without any touching

- Take a portion of feces from three different areas of the stool specimen
- Cover the container

Remove and discard gloves. Perform hand hygiene

To prevent the spread of infection

Send the container immediately to the laboratory

Stools should be examined when fresh.

- Examinations for parasites, ova, and organisms must be made when the stool is warm.

Document the procedure in the designated place and mark it off on the Kardex.

To avoid duplication

- Documentation provides coordination of care

### Watch out

Collect stool specimen with clean wooden tongue depressor or spatula for routine stool test. Collect stool specimen with sterile wooden tongue depressor or spatula for culture

## COLLECTING A SPUTUM CULTURE

### DEFINITION:

Collection of coughed out sputum for culture is a process to identify respiratory pathogens.

### PURPOSE:

1. To detect abnormalities
2. To diagnose disease condition

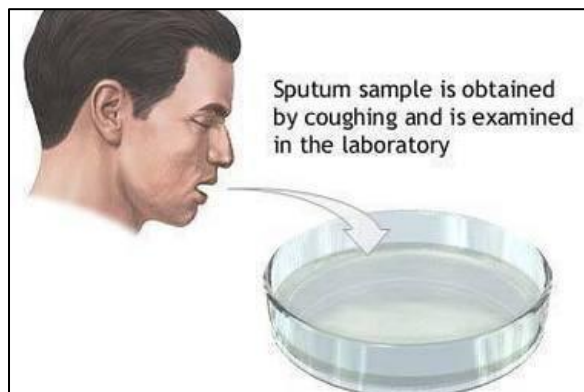
3. To detect the microorganisms causes respiratory tract infections
4. To treat with specific antibiotics

### EQUIPMENTS REQUIRED:

- Sterile gloves
- Sterile covered sputum container
- Label as required
- Kidney tray
- Paper tissues as required
- Ballpoint pen

### PREPARATION OF THE CLIENT:

- Give specimen container on the previous evening with instruction how to treat
- Instruct to raise sputum from lungs by coughing, not to collect only saliva.
- Instruct the client to collect the sputum in the morning
- Instruct the client not to use any antiseptic mouth washes to rinse his/her mouth before collecting specimen.



**Picture 6: Collection of specimen (Sputum Culture)**

### PROCEDURE:

#### S.NO NURSING ACTION

- Assemble equipment's. Label the

#### RATIONALE

Organization facilitates accurate skill

container.

- Explain the procedure to the client
- Perform hand hygiene and put on gloves if available.

Instruct the client:

- Instruct the client to collect specimen early morning before brushing teeth
- Instruct the client to remove and place lid facing upward.
- Instruct the client to cough deeply and expectorate directly into specimen container Instruct the client to expectorate until you collect at least 10mL of sputum
- Close the container immediately when sputum was collected.
- Instruct the client to wipe around mouth if needed. Discard it properly
- Remove and discard gloves.

performance

- Careful labeling ensures accuracy of the report and alerts the laboratory personnel to the presence of a contaminated specimen

Providing information fosters his/her cooperation

To prevent the spread of infection. The sputum specimen is considered highly Contaminated, so you should treat it with caution.

To obtain overnight accumulated secretions

- To maintain the inside of lid as well as inside of container
- A sputum specimen should be from the lungs and bronchi. It should be sputum rather than mucous
- To obtain accurate results
- To prevent contamination
- Paper tissues used by any client are considered contaminated
- To prevent contamination of other

- Perform hand hygiene
- Send specimen to the laboratory immediately.
- Document the procedure in the designated place and mark it off on the Kardex.
- objects, including the label
- To prevent the increase of organisms
- To avoid duplication
- Documentation provides coordination of care

### COLLECTING A THROAT SWAB FOR CULTURE

#### DEFINITION:

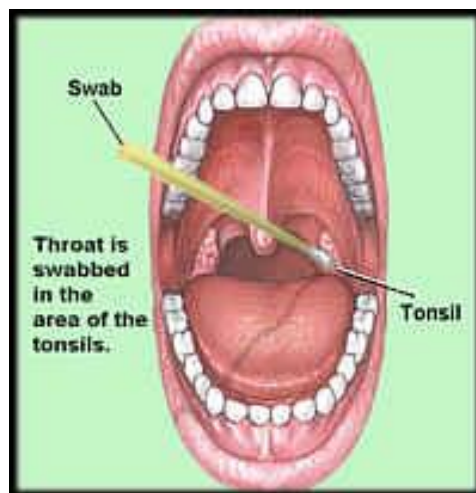
Collecting the exudates from throat or tonsil for laboratory test.

#### PURPOSE

- To identify the pathogenic organisms.

#### ARTICLES:

- Tongue depressor to hold the tongue down.
- Cotton tipped applications in sterile packed test tube to collect the specimen for transportation to the lab.
- Clean, dry, gauze pieces
- Disposable gloves



**Picture 7: Collection of Specimen (Throat Swab)****PROCEDURE****S.NO NURSING ACTION****RATIONALE**

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• Check the physician's order</li> </ul>  |  |
| <ul style="list-style-type: none"> <li>• Identify the patient</li> </ul>   |  |
| <ul style="list-style-type: none"> <li>• Explain to patient the procedure and instruct him how he/she must co-operative.</li> </ul>  | <p>Knowledge of the procedure facilitates co-operation</p>   |
| <ul style="list-style-type: none"> <li>• Wash hands and put on gloves</li> </ul>   | <p>Protects the health care worker from contamination with saliva.</p>   |
| <ul style="list-style-type: none"> <li>• Instruct the patient to open his mouth and hold the tongue down with a tongue depressor. If gag reflex is active in patient, make him to sit upright and if health permits, instruct patient to open mouth, extend tongue and say "Ah" .</li> </ul> | <p>Sitting position and extension of tongue helps to expose the pharynx. Saying "Ah" relaxes throat muscles.</p> |
| <ul style="list-style-type: none"> <li>• Carefully yet firmly rub the swab or cotton applicator over areas of exudates or over the tonsil and posterior pharynx,</li> </ul>  | <p>Firm rubbing will aid in obtaining an adequate sample.</p>  |
| <ul style="list-style-type: none"> <li>• Avoiding the cheeks, teeth and gums.</li> </ul>   |  |
| <ul style="list-style-type: none"> <li>• Insert swab or application into the sterile packet, or test tube.</li> </ul>  | <p>Keeping the applicator directly in the packet will avoid contamination.</p>                                   |
| <ul style="list-style-type: none"> <li>• Send specimen to the laboratory immediately without delay.</li> </ul>   |  |



- Clean and replace the reusable articles
- Remove gloves and discard wash hands
- Record in appropriate patient record.

### COLLECTING A WOUND SWAB FOR CULTURE

#### DEFINITION:

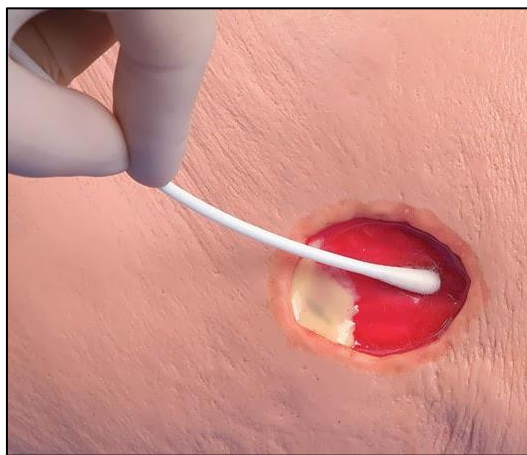
Collection of wound exudates/discharges for laboratory examination.

#### PURPOSE:

- To identify aerobic and anaerobic organisms present in the wound.

#### ARTICLES:

- Cotton applicators
- Culture tube or container for transporting the specimen
- Disposable gloves



**Picture 8: Collection of Specimen (Wound Swab)**

#### PROCEDURE:

**S.NO NURSING ACTION****RATIONALE**

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>• Check the physician's order</li> </ul>   |  |
| <ul style="list-style-type: none"> <li>• Identify the patient</li> </ul>  | <p>Ensures that the right procedure is done on right position.</p> |
| <ul style="list-style-type: none"> <li>• Explain the procedure to patient</li> </ul>  | <p>Allays anxiety and promotes the patient co-operation.</p>       |
| <ul style="list-style-type: none"> <li>• Screen the bed and provide privacy.</li> </ul>   | <p>Reduces anxiety.</p>  |
| <ul style="list-style-type: none"> <li>• Wash hands and wear gloves</li> </ul>  | <p>Reduces the transmission of microorganisms.</p>                 |
| <ul style="list-style-type: none"> <li>• Expose the wound area</li> </ul>   |  |
| <ul style="list-style-type: none"> <li>• Using the cotton-tipped applicators, swab and collect as much exudates as possible from the center of the lesion.</li> </ul>   | <p>Swabbing the surrounding skin will alter the findings.</p>      |
| <ul style="list-style-type: none"> <li>• Place the swab immediately in appropriate transport culture tube and send to laboratory labeled clearly, specifying the anatomic part from where the specimen was obtained.</li> </ul> | <p>Clear labeling aids in accurate reporting of the test.</p>      |
| <ul style="list-style-type: none"> <li>• Record information in the patient's chart</li> </ul>   |  |

**DOCUMENTATION:**

- Document the sample collection in nurse's notes.
- Document the findings during the sample collection (venepuncture, blood culture, collection of urine sample, etc.,)
- Report if any abnormal findings to the physician.



**PATIENT FAMILY EDUCATION:**

Educate the patient and family regarding,

- the significance of sample collection.
- the education regarding collection of specimens like venipuncture, blood culture, urine specimens, wound and throat swabs etc.,

