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## Specimen: type, collection, and preparation

### What is Specimen Collection?

Collecting specimens is the process of acquiring tissues or fluids for laboratory analysis. Some of the samples collected may include serum samples, virology swab samples, biopsy and necropsy tissue, cerebrospinal fluid, whole blood for PCR, and urine samples. Medical assistants collect these samples and then place them in specific containers.

#### 1- BLOOD SPECIMEN

Blood specimen is a small sample of blood collected for analysis, and often used in medical diagnosis to assess various health parameters such as complete blood count, chemistry and disease markers.

-This sample is typically extracted through venipuncture or finger stick technique.

It contains a wealth of information that can aid in diagnosing and monitoring various medical conditions.



#### 2- URINE SPECIMEN

It offers a noninvasive means of assessing various aspects of health and

are instrumental in diagnosing conditions ranging from kidney diseases to metabolic disorders.

- Proper collection, handling and analysis are essential to ensure the reliability and accuracy of test results.

### 3- STOOL SPECIMEN

It is collected to diagnose gastrointestinal Conditions or infections.

### 4- RESPIRATORY SPECIMEN

Respiratory specimens are samples collected from the respiratory tract for diagnostic testing:

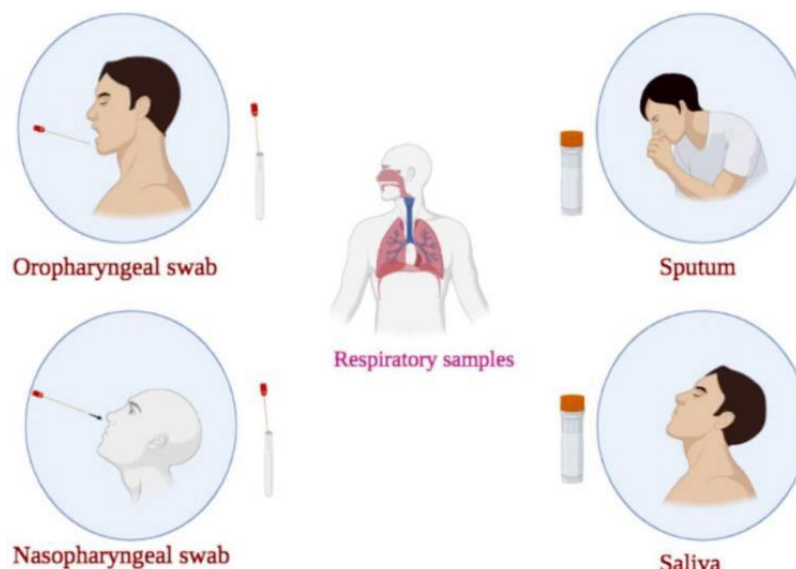
- Upper respiratory specimen

a) Throat swab: it is a diagnostic test that evaluates for the presence of bacterial or fungal infection in throat. A sample from the throat is collected by swabbing the throat.

b) Nasopharyngeal swab: it is collected by swabbing the back of the nose and throat for respiratory secretions.

- Lower respiratory specimen

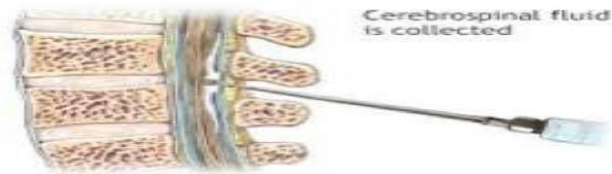
By sputum: It is mucus and other material coughed up from the lungs.



### 5- CSF AND OTHER FLUIDS

Cerebrospinal fluid: It is a clear, colorless fluid that surrounds the brain and spinal cord.

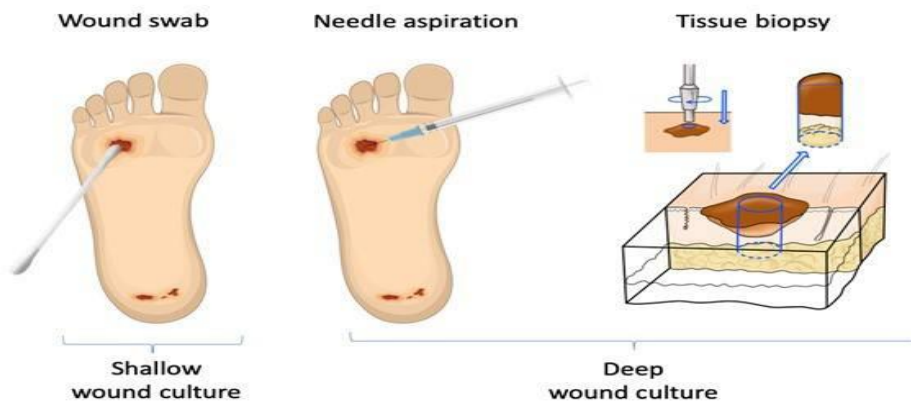
It is obtained through lumbar puncture to diagnose disease conditions like Meningitis, Encephalitis, and certain neurological disorders.



## 6- WOUND SPECIMEN

A wound specimen refers to a sample collected from an injury or opened sore for diagnostic examination.

- Tissue biopsy - Removal of a small piece of tissue from the wound for microscopic analysis.
- Swab culture - Swabbing the wound to collect microbial sample for culture and identification of Bacteria.
- Fluid aspiration - Extracting fluid from wound, for useful analyzing the presence of Infection and other abnormalities.



## 7- GENITAL SPECIMEN

- Urethral swab: It is often done to diagnose or screen the infections such as STDs.
- Cervical swab: It is a sample taken from cervix for various purposes such as pap smear to screen for cervical cancer or to test for STDs.

## 8- EAR SPECIMEN

Collecting an ear specimen typically involves swabbing the ear canal to obtain a sample for laboratory analysis. This is done to identify the presence of bacteria or fungi causing ear infections.

## 9- CONJUCTIVAL SPECIMEN

It refers to a sample taken from the conjunctiva (the mucus membrane that covers the front of the eye). It is often done to diagnose eye infections.



### Specimen Preparation

While most collections don't require much prep, there are some guidelines that must be followed. These include reviewing the appropriate information, such as the indicated specimen type, the volume, the procedure, the collection materials, patient prep, and storage instructions.

### Specimen collection steps

Here are some of the general guidelines you should follow when collecting specimens from a patient:

- 1- Verify the patient's identity. Some examples of acceptable identifiers the patient's name, date of birth, and hospital number.
- 2- Acquire a sample from the patient. Treat all biological material as potentially hazardous and follow your facility's guidelines.
- 3- Process the specimen as required by your facility or employer.
- 4- Store the specimen. Appropriate storage is critical to maintaining

the integrity of the specimen and, therefore, the test results.

### **Necessary Equipment for Specimen Collection**

Typically, the suggested supplies for specimen collection include but are not limited to the following items:

Gloves

Hand sanitizer

Specimen container

Body material sample

Incubator

Refrigerator or freezer

### **Potential Risks or Complications of Specimen Collection**

Specimen collection is often safe and relatively painless for patients. Although there may be pain associated with blood draws, it should not be significant or cause any lasting damage.

### **Preparing the Patient**

Provide the patient with appropriate collection instructions and information on fasting, diet, and medication restrictions when indicated for the specific test.