

## Sample Collection And transport

- Pathology Microbiology tests can be performed on many different types of samples (also called specimens). Most commonly these are blood, urine, saliva, sputum, faeces , semen and other bodily fluids, CSF , as well as tissue .
- Most of the common tests can be collected without an appointment. However, some specialized tests involve complicated collection procedures and must be performed by someone who is specially trained or performed under a doctor's supervision .
- Once the sample is taken it will be sent to the testing laboratory. Sometimes it has to reach the lab within a certain time frame to ensure it is valid for testing. Some samples need to be transported under strict conditions to preserve their validity .

### 1- Sputum Sample .

Sputum is formed in the lungs and lower airways. It is often used to investigate the cause of a respiratory tract (chest) infection .

- **The best time to collect sputum is when you wake up in the morning.** However, if you are coughing up sputum all day, you can collect it at any time. You need to cough up sputum from as far down the lungs as you can. It is important you don't mistake saliva for sputum. Whereas, sputum is usually thick and opaque in consistency, saliva is clear and colorless. Examining saliva will not reveal the cause of a chest infection.

- **The sample is fine stored at room temperature but if you can't deliver it in a couple of hours you need to keep it in the fridge.**

1) Color :- grey , yellow , green , colorless .

2) Consistency : include :-

a - Mucoid , as in chronic bronchitis

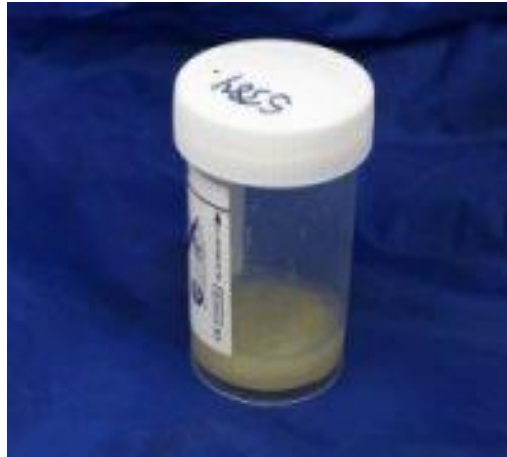
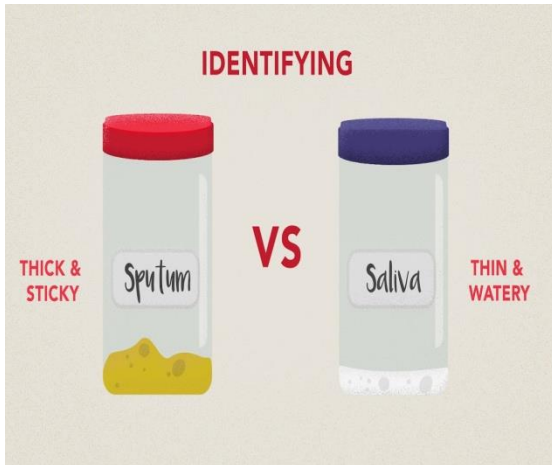
b - Mucor - purulent , as in bronchitis

c - purulent , as in bronchitis and lung abscess

Note :- Any of the above may contain blood .

3 ) Staining method : include Gram stain and Ziel-Nielson stain.

4 ) Culture : On Blood agar , MacConkey agar , Chocolate agar .

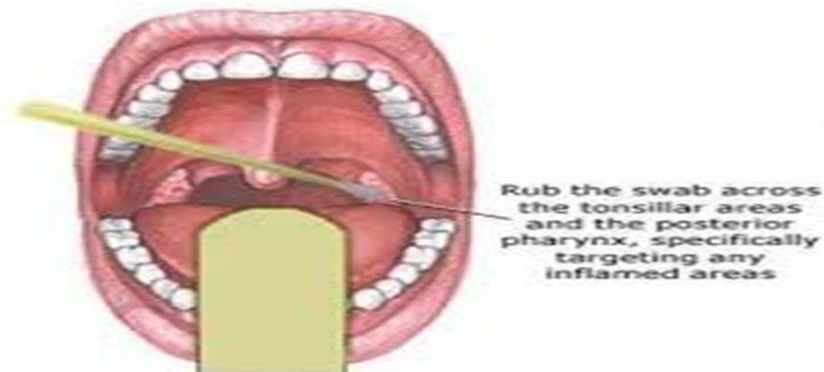


## 2- Throat swabs .

Respiratory Viral Nose and Throat Swab Procedure .

Each tonsillar area is swabbed by using a tongue depressor culture on On Blood agar , Macconkey agar , Chocolate agar .

Note :- Most sore throats are due to viral infection .



(Throat swab)


## Lec.9

### 3- Pus swabs .

- 1 ) Pus examination sample include : Wound swabs , Ear swabs , Eye swabs , Vaginal swabs and Urethral discharge .
- 2 ) Sample collected by using sterile swabs or in liquid sample could be collected by using a sterile syringe .
- 3 ) Culture : On Blood agar , Macconkey agar , Chocolate agar .



### Practical Approach to Collections of Swabs



The swab should be moved across the wound surface in a zigzag motion , at the same time as being rotated between the fingers . Downward pressure to release fluid from the wound surface has been advocated, but this may be painful for the patient.

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### 4- Stool Specimen

- 1 - Macroscopic examination .
- 2 - Microscopic examination .
- 3 - Culture : On Blood agar , Macconkey agar , Chocolate agar , S.S. agar , Eosin Methylene Blue agar (EMB) , XLD agar, Enriched Tetrathionate broth .



(Screw Cap)

## Lec.9

### 5- Blood specimen

1- inoculums 20 ml of blood in adults , 10 ml for children , 5 ml for infant .

2- Culture : on Brine Hart Infusion broth (BHI) incubation for 24 hr.

3- Subculture : On Blood agar , Macconkey agar , Chocolate agar.

Routine Subculture should be performed every 2 days for one week , then discarded if it is negative .



### Urine specimen

1 ) Serial containers (Screw Cap) .

2 ) Mid - steam specimen .

3 ) Macroscopic examination .

4 ) Microscopic examination : Wet smear , Gram stain .

5 ) Culture : On Blood agar , Macconkey agar , Chocolate agar .

