

The image features a laboratory flask on the right side, partially filled with a blue liquid. Below the flask is a white beaker containing a white, powdery substance. A dark blue horizontal bar is positioned at the top of the image. The text "Specimen Collection" is centered in the lower half of the image, overlaid on a light gray background.

Specimen Collection



▶ Specimen

- ▶ Any substance which is taken from body of a person for testing in the laboratory is called specimen

- ▶ The laboratory diagnosis of an infectious disease begins with the collection of clinical
- ▶ specimens.

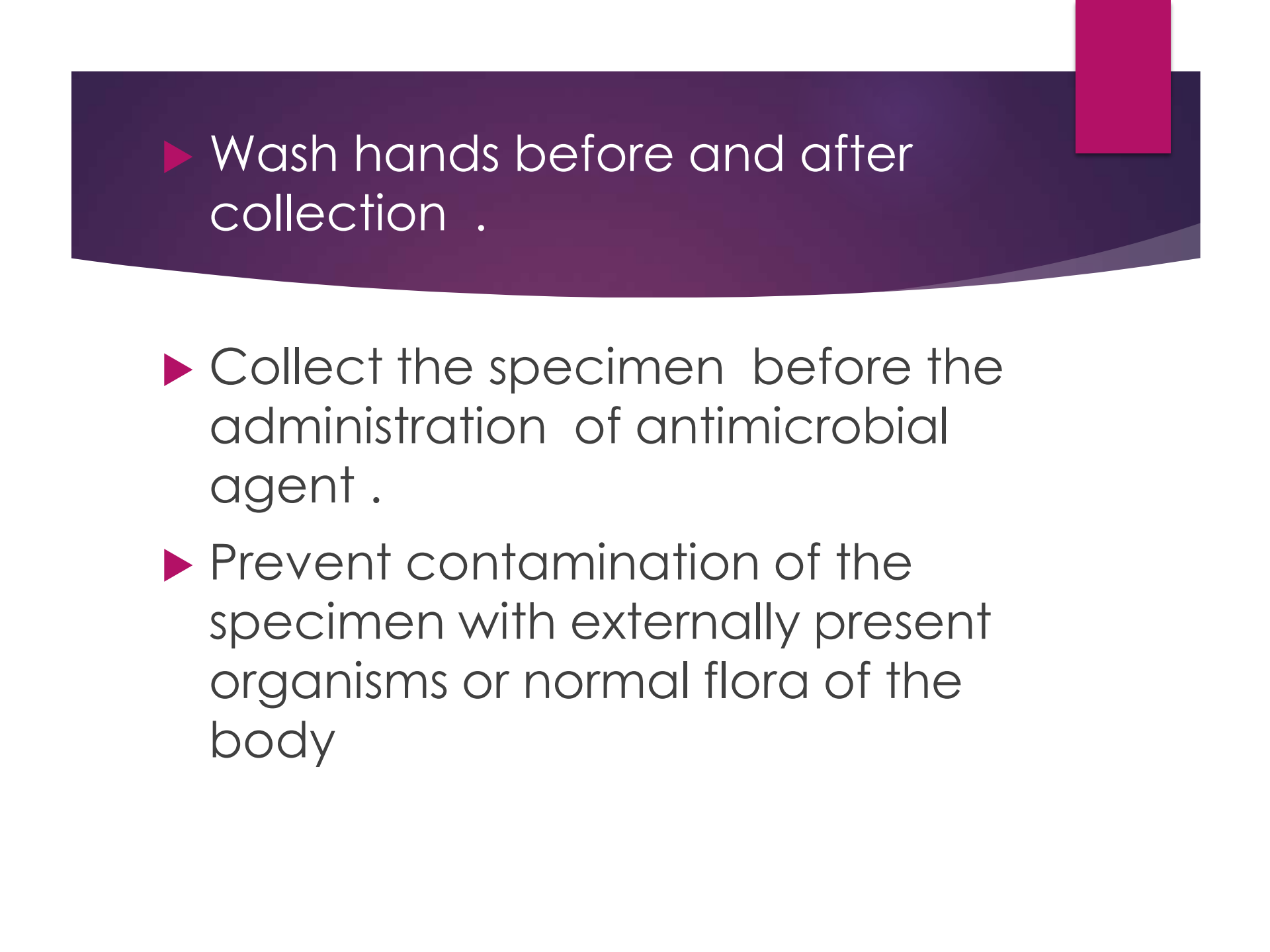


Proper collection of an appropriate clinical is the first step in obtaining an accurate laboratory diagnosis of an infectious disease



GENERAL RULES FOR COLLECTION AND TRANSPORTATION OF SPECIMENS


General rules for collection and transportation of specimens



▶ Wash hands before and after collection .


▶ Collect the specimen before the administration of antimicrobial agent .

▶ Prevent contamination of the specimen with externally present organisms or normal flora of the body

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- ▶ **Collect the specimen at the appropriate phase of disease .**
 - ▶ **Collect the specimen from the actual infection site.**
 - ▶ **Collect adequate quantity for the desired tests.**
 - ▶ **Collect the specimen in a sterile and appropriate container**



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- ▶ **Close the container tightly so that its contents do not leak during transportation.**
 - ▶ **Ensure that the outside of the specimen container is clean and uncontaminated .**
 - ▶ **Label the container and complete the requisition form.**
 - ▶ **Immediately transport the specimen to the laboratory.**

Specimen Collection




TYPES OF SPECIMEN COLLECTION



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- ▶ Saliva,
 - ▶ sputum
 - ▶ urine,
 - ▶ faeces,
 - ▶ Blood culture(Prepare the skin for vein puncture by cleansing it with 70-95% alcohol and 2% tincture of iodine , about 5-10 ml of blood is drawn by vein puncture and transferred to blood culture bottle containing 5ml of broth culture





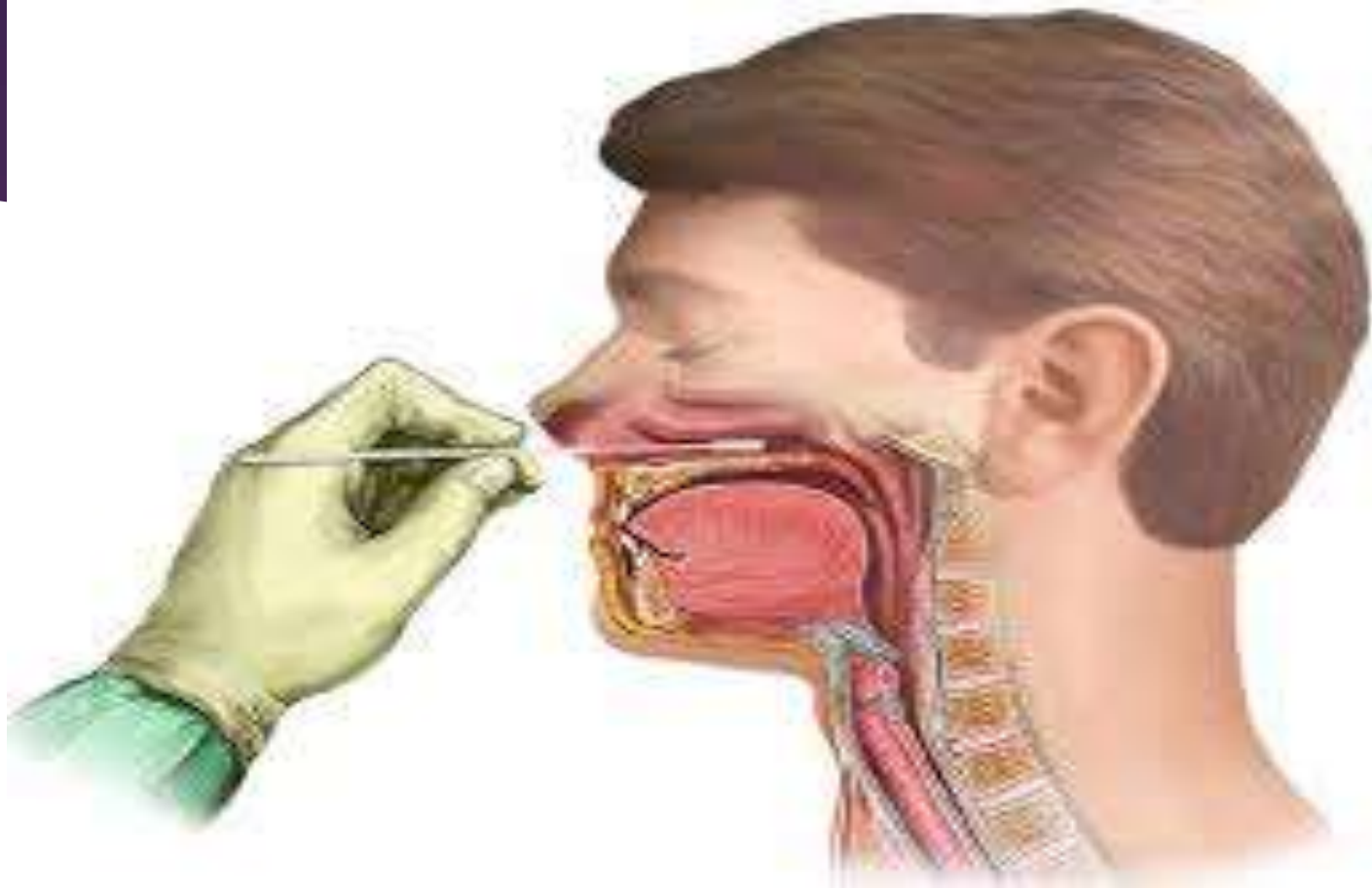
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- ▶ **Washing:** - with physiological saline like throat washing and bronchial washing for patients cannot produce sputum.
 - ▶ **Aspiration:-** Abscess, pustule, ulcer, wound pus, and soon as possible to the laboratory containers., in pleural fluid can be collected by aspiration from lesions by a sterilized syringe and needle.

Swabs: swab is a cotton- wool or synthetic fiber mounted on a thin wire or stick. The swabs either touched or rubbed on the surface of infection and kept in a sterile container. It is suitable for taking specimens from the sites having mucous membrane such as nose throat, eye, ear, wound, ulcer and other lesions






Biopsies: organ tissue collect in the same way of aspiration , the surgeon is advised to obtain several small tissue samples and any purulent exudates.





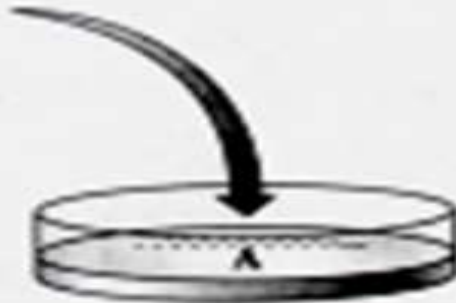
INOCULATION TECHNIQUES

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- ▶ In microbiology, streaking is a technique used to isolate a pure strain from a single species of microorganism, often bacteria.
 - ▶ Samples can then be taken from the resulting colonies and a microbiological culture can be grown on a new plate so that the organism can be identified, studied, or tested.

Streak – plate technique (Streaking method)



1. Inoculum



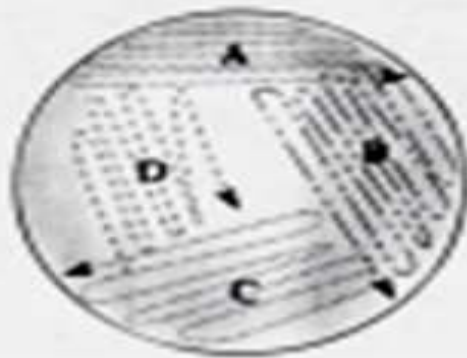
2. Lightly streak one loopful of organisms onto the medium.



3. Flame and cool loop.



4. Cross-streak from the edge of area A into area B. Flame and cool loop before next cross-streak.



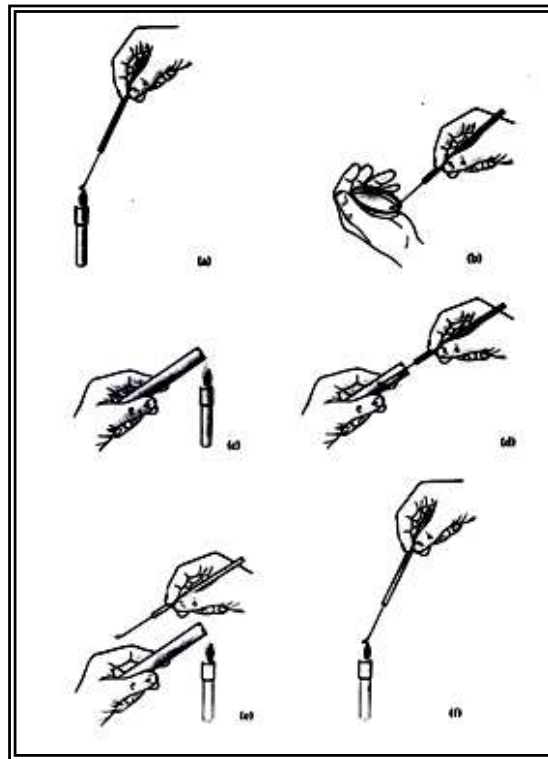
▶ **Lawn culture:**

Bacterial lawn is a term used by microbiologists to describe the appearance of bacterial colonies when all the individual colonies on a petridish agar plate merge to form a field or mat of bacteria. Bacterial lawns find use in screens for antibiotic resistance . Bacterial lawns can be produced manually by evenly spreading a high amount of bacteria onto an agar plate using a sterile cotton swab. Alternatively an automated machine can be used such as a spiral plater where the plate is rotated and the sample is spread evenly using an automated dispenser.

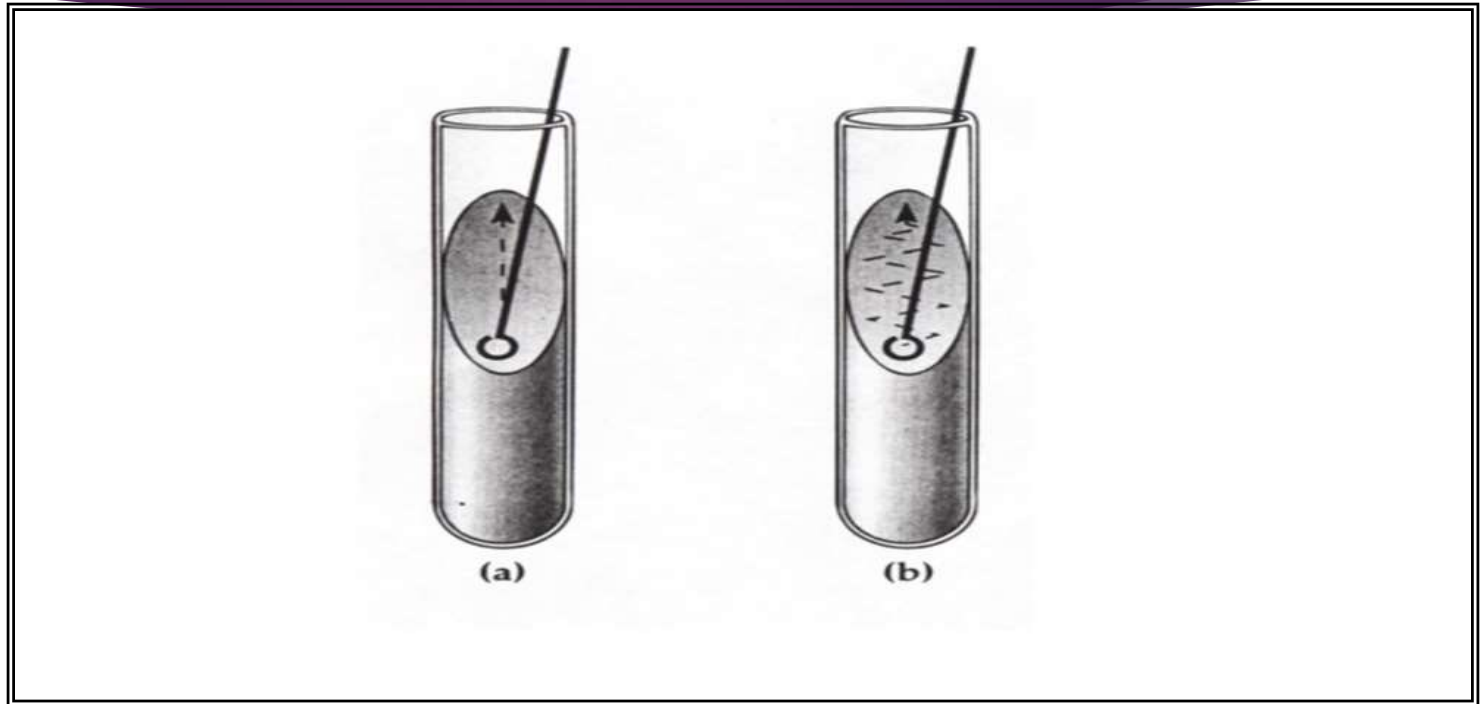
▶ **Stab culture**

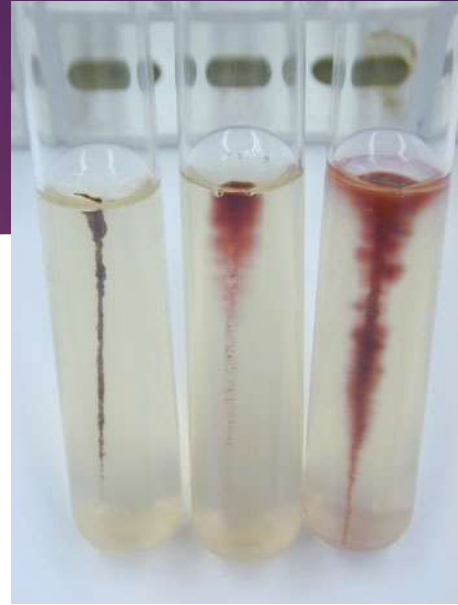
By using needle the growth (inoculums) stabbed or immersed in the agar tube media for demonstration of gelatin liquefaction and for the maintenance of the stock culture.

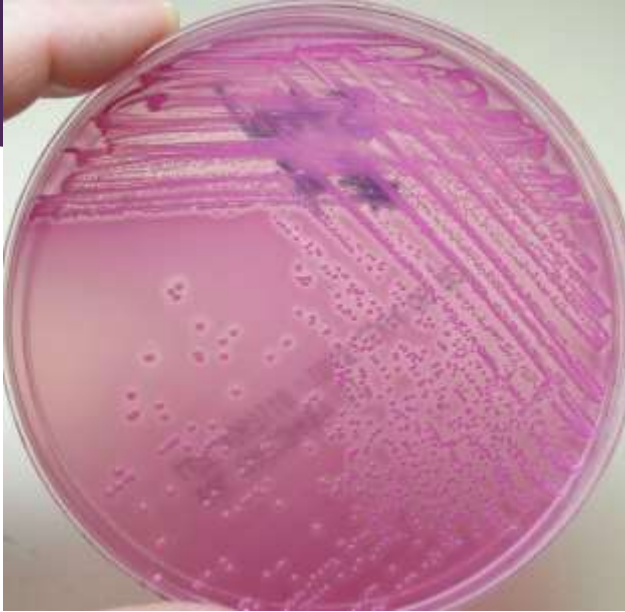
1-From plate to broth:



2- From plate to slant agar: (Stroke culture)







Mac Conkey's medium



TCBS