

ARE YOU SENDING A PROPER SAMPLE FOR MICROBIOLOGICAL TESTS: PART II

Dr Gitali Bhagawati
Department of Microbiology

Objectives

- To emphasize that obtaining a relevant microbiology report begins *with the patient* and not at the door of the microbiology laboratory.
- To accentuate the importance of *proper collection and transport of specimens*.
- To give stress on importance of *timely communication* between the Microbiology laboratory and those collecting specimens.
- To describe *common pitfalls* in specimen collection and transport.

PROVISIONAL DIAGNOSIS: organism suspected



**TEST SELECTION:
select test/tests to confirm/rule out infection**



Communication with microbiologist



SAMPLE COLLECTION
At appropriate time -from app. Site, in appropriate container, -using proper technique



Labelling and Filling Requisition form



Transport and Storage

COLLECTION OF PUS SAMPLE

Pus

- **Container for collection: small screw-capped sterile universal containers, firmly stoppered tube or sealed capillary tube.**
- **In burns wound, diabetic foot, necrotic material after wound debridement.**
- **Before collection of sample, thoroughly remove surface commensals and any local antiseptic.**



Pus or exudate should be avoided on a swab because:

- Swab desiccates the specimen and traps the bacteria.
- On delay, exudate may dry into the cotton wool.
- Inhibitory substances may be present in cotton which decrease chances of recovery of delicate organisms like *H. influenzae*. Neisseria & Pneumococcus.
- Swabs may get contaminated with surface colonizers and commensal flora.

PUS

- *If it is decided to compromise and send a swab,*
 1. Thoroughly wash the wound
 2. Keep the swab in wound for 1-2 min & rotate gently at 360 ° so that swab soaks completely.
 3. load the swab well with the material
 4. two swabs should be taken from the depth of the lesion, one for microscopy , another for culture
 5. When collecting pus specimens obtain as much material as possible to increase the rate of isolation.





Wound Swab: Surface contaminants

Culture report will suggest **ONLY SURFACE CONTAMINATION** if wound swab sample is taken

- prior to wound cleansing and
- before removal of devitalized superficial debris

COLLECTION OF CEREBROSPINAL FLUID and Other body fluids

CSF for culture

Amount: 3-5 ml

- For isolation of Mycobacteria CSF amount required is about **10 ml**
- Processing with too less specimen: FALSE NEGATIVE RESULT

Container: NEW DISPOSABLE STERILE SCREW CAP CONTAINER

(STERILIZED CONTAINERS kept in the Lumbar puncture kit ARE NOT ACCEPTABLE)



CSF transportation

- CSF transportation to lab. Should not be delayed. Delay may result in death of delicate organisms, such as meningococci and disintegration of leucocytes.
- It should not be kept in refrigerator, which tends to kill *H. influenzae*.
- If delay for hours, keep the specimen in incubator at 37° C



Specimen: Body Fluids other than CSF (ascitic fluid, pleural fluid, synovial fluid etc.)

- Sample must be acquired using aseptic technique.
- Device and/or minimal volume
 - Sterile screw capped transport container. Volume as follows:
 - Bacterial Culture ≥ 1 mL
 - Fungal Culture ≥ 10 mL
 - AFB Culture ≥ 10 mL
- Storage/Transport
 - Local: Transport as soon as possible, hold at room temperature
 - Local storage: ≤ 24 hrs at room temperature
- Comments: **Always submit as much fluid as possible, do not submit a swab dipped in fluid.**



Specimen: Tissue

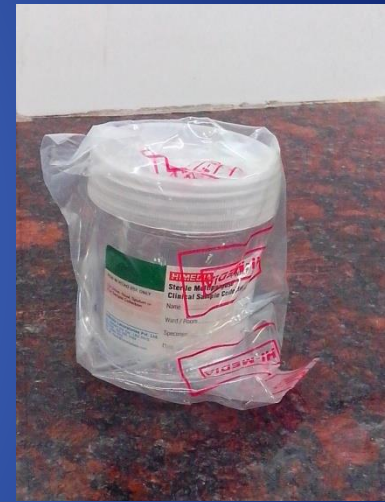
- Sample must be acquired using aseptic technique.
- Device
 - Wide mouthed , sterile screw capped plastic container.
 - Small amount of **sterile saline** may be added to keep the specimen moist.

Storage/Transport

- **Local:** Transport as soon as possible, hold at room temperature

Rejection Criteria:

Tissue in formalin is not used for culture



COLLECTION OF GENITAL TRACT SPECIMENS

High vaginal swab

- Swab: Plain cotton swab
- **Two swabs** should be collected- one for making film, other for seeding cultures.

Indication: in suspected cases of

- Vaginitis, Vaginosis

Instructions for collection:

The swab is inserted into the upper part of vagina and rotated there to collect exudate from upper as well as lower vaginal wall.

Comment: HVS is unsuitable in suspected cases of gonorrhoea, because gonococci tend to die off in acidic vaginal secretion.

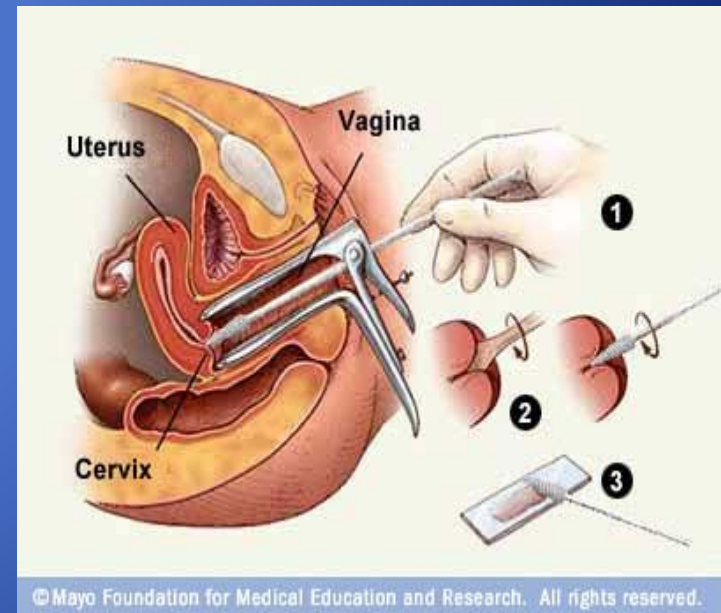


Endocervical swab

Indication: in suspected cases of cervical and uterine infections (e.g. gonorrhoea)

Instructions for collection:

- Vaginal speculum is used to provide a clear sight of the cervix
- A swab is rubbed in and around the introitus of the cervix
- **Withdraw the swab without contaminating with the commensals of vagina**
- Send the swab as soon as possible



Will be continued