

SWAB TEST

Swab test is carried out when there is a recurrent or persistent Infection in a specific area of body parts to examine microbial infection, thus there are several types of swab:

- 1- Abscess (pus) swab
- 2- Throat (Tonsillar) swab
- 3- wounds and burns swab
- 4- Vaginal or cervical swab
- 5- Urethral swab
- 6- Nasal swab
- 7- Ear swab
- 8- Eye swab
- 9- Other swab

Conditions of swab collection:

- 1- Swab sampling must be done under medical safety precautions including wearing sterile gloves, and mask, using a sterile swab (A bit of cotton fixed on a wooden stick).
- 2- Swab collection depends on location, therefore ear, nose, eyes, tonsils and vagina are swabbed directly, while wounds and burns swabs taken after disinfecting wounded area of skin and dried with sterile cotton.
- 3- Medications or antibiotics should be considered while swab collection because it affect bacterial growth.
- 4- Technician or bacteriologist must have well understanding of the normal flora of the body for example, *Staph. aureus* bacteria is a normal flora of nasal cavity, but their presence or isolated from abscesses on the skin surface are considered pathogenic.
- 5- Deliver all specimens to the laboratory as soon as possible after collection. Specimens for bacterial culture should be transported in transport media at room temperature. If test is delayed this may allow the increase of fungi and Candida growth and misleading results will obtained.

Swab test procedure include:

A) Swab culture:

First and foremost after collection, swab is cultured on a proper culture media (Blood agar and MacConkey agar) by inoculating a pool on petrey dish then streaking from inoculation area for both media, and incubate at 37° C for 24 hours. Yielded culture of growing colonies is examined for shape, color and other morphological characters for diagnosing pathogenic microorganisms and antibiotic sensitivity test is done after that on Muller-Hinton agar for determining sensitive and resistant antibiotics.

B) Direct Examination:

This step is conducted after culturing swab for screening microorganisms that present on swab by preparing smear on a slides, which is carried out by different methods depending on suspected microorganisms and swab types as follows:

- 1- Vaginal swab: Two smears are prepared for this swab:
 - First; Wet film** by using Normal slain mixed with swab material and cover slipped, for observing parasites, yeasts, RBCs, Pus cells and epithelial cells.
 - Second smear:** Is **stained film** which is left to dry then it is stained with Gran stain technique used for spotting Gram (+) and Gram (-) bacteria especially gram (-), intracellular, diplococci *Neisseria gonorrhoeae* which causing Gonorrhoea.
- 2- Nasopharyngeal and tonsillar Swabs: A dry film is prepared and stained according to type of microorganisms such as:
 - A) Albert stain:** In case of investigating on *Corynebacterium diphtheria* (whooping cough) where showing Chinese resembles.
 - B) Ziehl-Neelsen's stain** (Acid fast stain) in case of pulmonary tuberculosis (*Mycobacterium tuberculosis*).
 - C) Gram's stain:** in case of investigating ordinary bacteria.