

## Bacterial sample collection.

### Sample types

-we should determined the infected area.

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- 1-Throat swab
- 2-Ear swab
- 3-Nasal swab
- 4-Nasal secretion
- 5-Sputum sample ✓
- 6-Biopsy sample
- 7-Peritoneal fluid sample
- 8-Vaginal swab (high or cervical)
- 9-Semenal ,prostatic, urethral discharge
- 10-Stool sample ✓
- 11-Urin sample ✓
- 12-Blood sample ✓
- 13-Wound swab ✓
- 14-Skin swab
- 15-Cerebro spinal fluid sample (CSF)

**Not;** we should know type of sample (infected area),suspect type of pathogens determine type of media that will be use for cultivating .we must make direct examination of sample immediately if we need.

**Method;** we use the collection media as swab media to collect some swabs as the student like (ear, nasal, skin, mouth) swab.

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### Sterilization

organisms exist in **Sterilization method:** is the complete removal or eradicate of all micro- or above materials and tools including vegetative bacteria, bacterial spores, viruses , fungi and protozoa.

There are many techniques used to sterilize materials and laboratory tools , these are:

**A-physical sterilization methods:**

**1-Heat:**

**a-dry heat:**

1-incineration: by using of flame ,**ex;** flaming of loop, needle, slides.

2- hot air: by using of oven at 160-180 c for 90-120 min, **ex;** powder material (heat resistant), soccer scissors forceps and other related tools, glass wares like Petri-dishes and pipettes....etc,

**b-moist heat:**

1-steem under pressure: by using of Auto clave in 121c at 15 par for 15-20 min, used for media and all heat resistant materials and fluid.

2-steem: by using Arnold sterilization system at 100c for 15min in three flowing days this method called fractional sterilization use for sugar solution and all materials destroy above 100c.

**c-boiling:** heating of item to 100c,by this way killed only vegetative cells.

**d-pasteurization:** usage of liquid material at 63c for 30 min or 72c for 20 min **ex:** milk and other protein materials.

**2- Radiation:**

Using of Gamma, X , ultra violet (U.V) and Beta rays ,use for sterilizing plastic tools, surgical rooms....etc.

**B-chemical sterilization methods :** by using ethyl , methyl and isopropyl alcohol **ex:** 75% of ethanol used for cleaning & sterilizing surface and hands, skin antiseptic before injection or venepuncture. Also use of 2-5% phenol for cleaning floor and surface of tables ,bench .... etc.

Other chemicals ;aldehydes ,halogens and others

**C-mechanicals sterilization methods:** by using specific filters (bacteriological filter) ex: Seitz , Berkfeld, membrane filters and others, used for sterilizing liquids have heat sensitive materials like biological fluids (serum) and solution of enzyme ,vitamin and antibiotic.

Not ;these filter have specific pores (0.45) prevent passing of microbial cells charge of filter and microbial cells and liquid nature is very important .

**Methods:** culture of swap sample from tables directly and after cleaning with ethanol (75%)using of nutrient agar.