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Lab : ٧

Sample Collection & transport

General consideration for proper sample collection

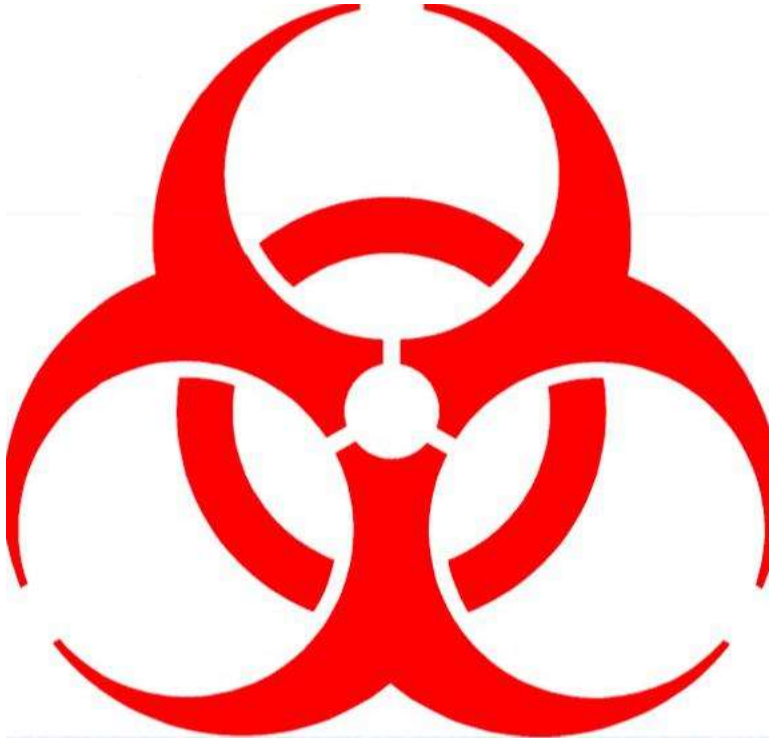
- Every laboratory should provide proper guidelines for collection of samples.
- All diagnostic information depends on quality of sample received.
- If sample collection, transport, media are not proper, it will give false results.

- Collect sample before administering antimicrobial agents when possible.
- Collect sample with as little contamination from indigenous microbiota as possible to ensure that the sample will be representative of the infected site.
- Use sterile equipment and aseptic technique to collect specimens to prevent introduction of microorganisms during invasive procedures.
- Clearly label the specimen container with the patient's name and identification number. Always include date and time of collection.

- Collect an adequate amount of specimen. Inadequate amounts of specimen may yield false-negative results.
- Identify the specimen source and/or specific site correctly so that proper culture media will be selected during processing the laboratory.
- Collect specimens in sturdy, sterile, screw-cap, leak proof containers with lids that do not create an aerosol when opened.
- Collect sample after proper preparation of area by spirit and povidone iodine.

Label high risk specimens:

- Sputum with suspected Tuberculosis
- Fecal samples suspected with Cholera, Typhoid.
- Serum when suspected with HIV/ HBV/ HCV, infections



Rejection criteria

- Leaking/broken container.
- Insufficient amount.
- Improper labeling.
- More time lag between collection and transport.
- Improper transport media.
- Improper transport temperature.
- Hemolyzed sample

Collection of different samples

- Blood
- Urine
- Stool
- Rectal swab
- CSF

Collection of blood

- Take proper precaution (gloves).
- Avoid contamination.
- Palpate vein.
- Apply disinfectant.
- Use sterile needle and syringe.
- Collect appropriate amount of blood depending on the test.
- Infuse it into tube with anti-coagulants.

Collection of blood blood for serology

- Follow the same precautions and method for collections of blood.
- Collect blood into plain vacutte (test tube).
- It will coagulate .
- Centrifuge it at ١٥٠٠-٢٠٠٠ rpm for ٥ mins.
- Thus serum will be separated.

Collection of urine

- Allow first few ml of urine to drain.
- Take mid stream clean catch urine this will prevent contamination.
- Collect it into wide, sterile, leak proof container.
- Transport it directly to the laboratory after proper labeling.
- If delay in transport, preserve it at ٤-٦ degree centigrade

Collection of stool

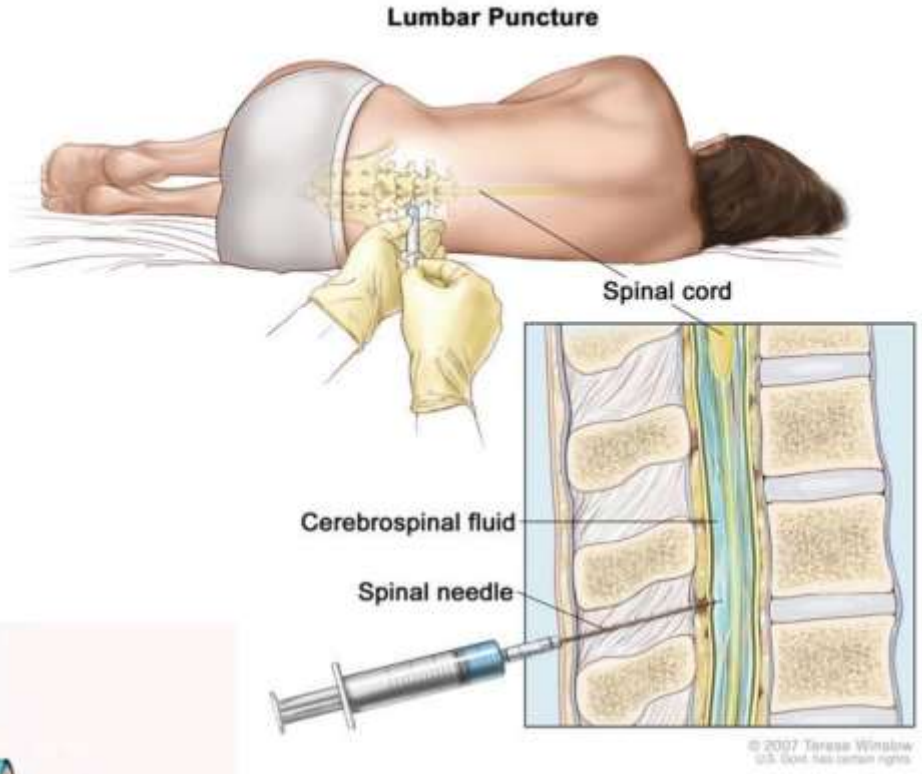
- Collect it into wide mouth, clean, sterile, leak proof container
- Label properly
- Min ٥ gms is needed if solid stool and ٢ ml if liquid stool.
- It should not be contaminated with urine.
- If not possible to collect it as in children, elderly, debilitated patients, collect rectal swab.
- Do not refrigerate stool.
- If delay in transport preserve it into ١٠٪ formalin or buffered glycerol saline.

Collection of rectal swab

- Take sterile swab.
- Apply it in anal canal.
- Rotate it for ١٠ seconds.
- Avoid contact with skin.
- Seal it directly into swab container to prevent contamination.
- Transport immediately to lab , if not possible, preserve at ٤-٦ degree centigrade.

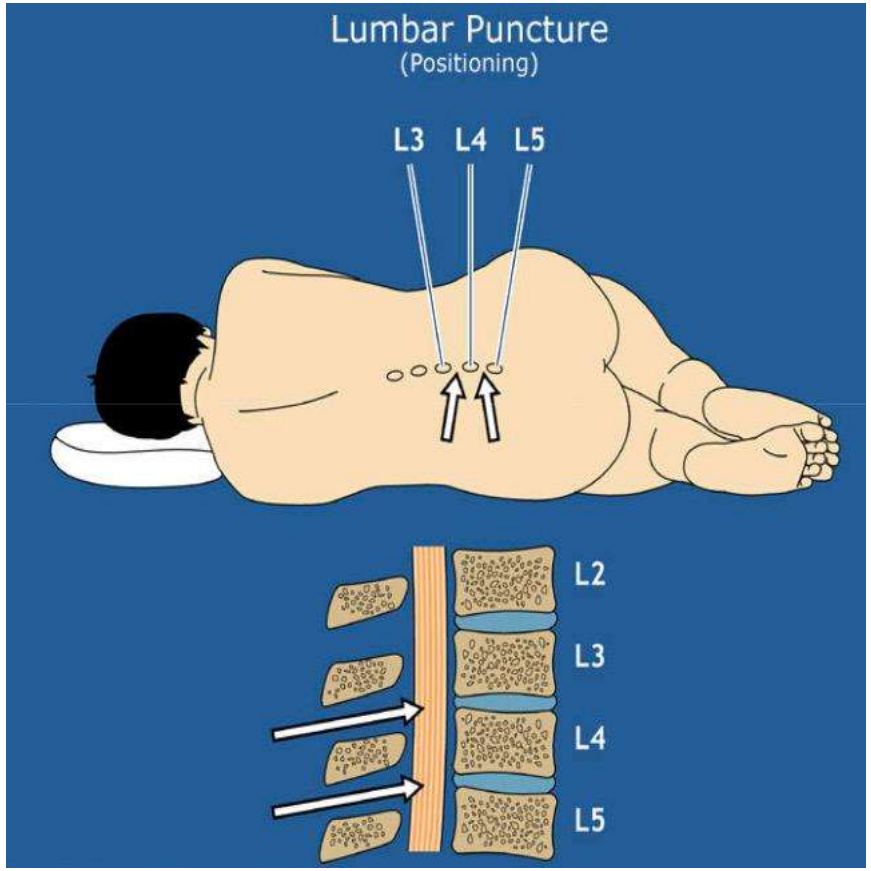
Collection of cerebrospinal fluid (CSF)

- Collect only ٣-٥ ml into a labeled sterile container.
- Removal of large volume of CSF lead to headache.
- The fluid to be collected at the rate of ٤-٥ drops per second.
- Do not refrigerate CSF. If delay is anticipated leave at room temperature.



Collection of cerebrospinal fluid (CSF)

If sudden removal of fluid is allowed may draw down cerebellum into the Foramen magnum and compress the Medulla of the Brain.



Transportation of samples

- Stool, CSF and sputum should be transported at room temperature, not in refrigerator.

- Urine , swabs, skin samples ,water & food samples are transported a sap at room temp, but if it is not possible, preserve them in refrigerator.