## UPMC HANOVER LABORATORY

| Subject: Body Fluid Culture | |
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**PURPOSE:**

This document describes the processing and interpretation of body fluid cultures.

**SCOPE:**

This policy applies to UPMC Hanover Hospital laboratory.

**POLICY:**

This procedure applies to routine bacterial isolation.

Requests for culture of body fluids for fungus, Legionella, Mycobacteria, Nocardia or other unusual organisms will be sent to a reference lab for processing and set up.

**SPECIMEN:**

- Joint/synovial
- Pleural
  - Thoracentesis
  - Empyema
- Pericardial
- Culdocentesis
- Hepatic/Subhepatic
- Pancreatic
- Renal cyst
- Peritoneal or Ascites fluid (to be put in blood culture bottles if >5ml)
- Peritoneal lavage
- Paracentesis
- Amniotic fluid
- Dialysis fluid

**MATERIALS:**

- Aerobic and anaerobic blood culture bottles
- 5% Sheep blood agar plates (BAP)
- Chocolate agar plates (CHOC)
- MacConkey agar plates (MAC)
- PEA agar plates
- Anaerobic agar plates (if anaerobic culture ordered)
- Gram stain reagents
- Cytospin slides and holder

**PROCEDURE:**

**NOTE: All manipulations of culture specimens must be performed in the BSC (biosafety cabinet).**

**Procedure: Fluids in Blood Culture bottles**

Peritoneal fluid, ascites fluid or dialysate fluid are set up in Blood culture bottles depending on volume. Other fluids with adequate volume may be considered.

1. On receipt of the specimen, select and confirm the specimen to print labels.
2. Label aerobic and anaerobic bottles.

3. Label Cytospin Gram stain slide with patient name, culture number, source and date.
4. Prepare Cytospin slides following “Cytospin Procedure for Body Fluids”.
5. Disinfect the tops of the blood culture bottles with alcohol. Allow to air dry.
6. Inoculate 5 to 10 (optimal volume) into each of the bottles.
7. Load bottles into Bactec.

**NOTE:** Change incubation time from 5 days to 3 days unless otherwise instructed by physician.

**Procedure: All Other Fluids (or inadequate volume for blood culture bottles)**

1. On receipt of the specimen, select and confirm the specimen to print labels.
2. Label BAP, CHOC, MAC, and PEA plates. Add anaerobic plates if anaerobic culture is ordered.
3. Label Cytospin Gram stain slide with patient name, culture number, source and date.
4. Prepare Cytospin slides following “Cytospin Procedure for Body Fluids”.
5. Transfer specimens 3 ml or greater to a labeled sterile conical centrifuge tube.
6. Spin specimen at 1500 xg for 10 minutes.
7. Pour off supernatant.
8. Using sediment, inoculate media and streak for isolation.

   **NOTE: Specimens less than 3 ml**: Prepare Cytospin slide and inoculate directly to plates.
9. Incubate plates in the CO2 incubator.

**CULTURE INTERPRETATION:**

Follow blood culture procedure for processing of body fluids in blood culture bottles.

**NOTE:** Positive body fluids in blood culture bottles are not treated as “STAT”.

1. Examine plates for growth at 18 – 24 hours.
2. If no visible growth is observed reincubate. Issue a preliminary report of “No growth to date”.
3. Reevaluate plates at 48 and 72 hours.
4. Correlate any growth with the Gram stain.
5. Identify all organisms using bench testing if possible. Do not perform complete identification if the organism is a probable contaminant.
6. Perform identification and susceptibilities on pure cultures.
7. Note presence of mixed flora. Do not perform full identification and susceptibility testing unless requested by the physician.
8. **Anaerobic culture growth**: Perform Gram stain and Rapid ANA. Forward to reference lab for susceptibility testing if requested by provider.

**REFERENCES:**

UPMC LSC. Processing Sterile Body Fluids (except Blood,CSF,and Urine) 2023.

UPMC Shadyside. Processing and Interpretation of Sterile Body Fluids (except Urine and Spinal Fluid) and Tissues. 12/4/2023.

Leber, Amy L. Clinical Microbiology Handbook. American Society of Microbiology. 2016.