

LABORATORY COLLECTION MANUAL	MISCELLANEOUS CULTURE SPECIMEN COLLECTION (JOINT, PLEURAL or PERITONEAL FLUIDS, BONE, BODY CAVITY SPECIMENS, IV CATHETER TIP)
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I. GENERAL PRINCIPLE

Miscellaneous culture is a term defined by the payor of services and includes joint or synovial fluid; pleural or thoracentesis fluid; peritoneal, ascites or paracentesis fluid; pericardial fluid; bone; IV catheter tips; and specimens taken from the body cavity during surgery, such as peritoneum, appendix, gallbladder and bile.

The one feature these diverse culture types share is the fact that they are taken from a normally sterile body site. Infection of a normally sterile site often results in severe morbidity and mortality; therefore any microorganism found where no normal flora exists must be considered significant. Proper collection technique can not be over emphasized, as recovering low numbers of commensal organisms from a sterile site presents an interpretative problem for the physician in selecting a course of treatment for the patient.

II. SPECIMEN COLLECTION

A. General considerations

1. Swabs are the least desirable sample and their use is discouraged. A good direct smear can not be made and the sample size may not be sufficient to ensure recovery of a small number of organisms. The number of infecting organisms in a specimen is often quite low, so the larger the sample size submitted for culture, the better the chance of organism recovery.
2. Specimens obtained by needle and syringe aspiration should be transferred to a sterile tube, bottle or anaerobic transport vial. Only if the specimen quality or volume will be compromised by transfer, may the needle be removed from the syringe and replaced with a sterile cap before transport to the lab.
3. Fluid specimens should be injected into sterile tubes without preservative or serum separator. A wide array of blood collection tubes now contain additives that have not been approved for transport of cultures and should not be used.
4. Occasionally, some fluids will form clots. Addition of anticoagulants is not recommended. If the possibility exists that the fluid might clot, aerobic and anaerobic blood culture bottles should be inoculated at the time of collection with 10 ml of fluid. Smears should be made at the time of collection and submitted with the bottles.
5. In general, acceptable containers for collection and transport of specimens for culture must be sterile, properly sealed, and easily opened.

B. Sterile body fluid - (pleural, pericardial, peritoneal, or synovial/joint fluid):

1. Cleanse the needle puncture site with alcohol, followed by an iodine solution.
2. The physician will aseptically perform percutaneous aspiration to obtain fluid.

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3. Expel any air bubbles from the syringe and immediately transfer specimens to the appropriate container for transport. An anaerobic collection device must be used if culture for anaerobes is requested.

C. Bone

1. Pieces of bone are obtained at surgery.
2. Submit in a sterile container WITHOUT FORMALIN. Specimen may be kept moist with sterile normal saline.

D. Body cavity specimens

1. Specimens from the thoracic or abdominal cavities are obtained in surgery.
2. Tissue will yield the best results. It should be placed in a sterile screw top container and covered with a small amount of sterile normal saline if transport will be delayed. DO NOT USE FORMALIN.
3. Aspirates are the next best specimen and should be transferred to a sterile container. Do not submit syringes unless volume is very small.
4. Swabs of the internal mucosa, when biopsy or aspiration is not possible, are acceptable.

E. IV catheters

1. At the time of catheter removal from the patient, a 2-inch section of the distal tip should be submitted to the lab.
2. Aseptically clip the end off, directly into a sterile, wide mouth, screw top container.

III. TRANSPORT

- A. Transport of these types of specimens should be accomplished as soon as possible. Prolonged contact of a single inadvertent contaminating organism with such good growth media as these fluids, can result in an increased colony count that would be difficult to ignore.
- B. If the specimen must be transported in the syringe, REMOVE THE NEEDLE, expel any air bubbles and recap with a sterile syringe cap. Discard the needle into a sharps container.
- C. If glass tubes or blood culture bottles are used, handle with care to avoid breakage.
- D. Follow the procedure for proper handling of any swab (squeeze the sponge to moisten the swab, invert the anaerobic culturette, etc.)

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- E. IV catheter tips should be transported immediately to the laboratory to prevent excessive drying.
- F. As always, transport specimens to the lab in a biohazard bag.

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APPROVED BY: Martin F. Belli, M.D. DATE: 6-96

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APPROVED BY: Martin F. Belli, M.D. DATE: 4-99, 5-2000, 11-2001, 2-2006

See original policy in the Laboratory for all documented annual reviews.

REFERENCES

Clinical Microbiology Procedures Handbook, 1992, Isenberg, American Society for Microbiology.

Manual of Clinical Microbiology, 1991, 5th edition, Balows, Hausler, American Society for Microbiology.