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Subject:	MICROBIOLOGY SPECIMEN COLLECTION AND TRANSPORT				
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MICROBIOLOGY SPECIMEN COLLECTION AND TRANSPORT

Specimen collection and transportation are critical considerations because the quality of the test result is often affected by the nature of the specimen and its condition on arrival in the laboratory.

The following are general considerations regarding the collection of material for culture. Specific instructions for the handling of a variety of specimens will be given in subsequent pages.

1. Whenever possible, specimens should be obtained before antimicrobial agents have been administered.
2. The material should be collected where the suspected organisms is most likely to be found, with as little external contamination as possible.
3. Another factor contributing to the successful isolation of the causative agent is the stage of the disease at which the specimen is collected for culture.
4. Specimens should be of sufficient quantity to permit complete examination and should be placed in sterile containers or specific transport containers to promote survival of pathogenic bacteria, eliminate leakage of specimen, and allow safe handling during transport and processing.
5. Provisions for prompt delivery of the specimen to the microbiology laboratory must be made if the results of analysis are to be valid.
6. While not a function of specimen collection, the laboratory should be given sufficient clinical information and exact source of the specimen to guide the microbiologist in selection of suitable media and appropriate techniques for optimal recovery of pathogens. Likewise the limitations and potentials of the microbiology laboratory must be appreciated and it must be remembered that a negative report does not necessarily invalidate the diagnosis. Close cooperation and frequent consultation must occur

among the clinician, nurse and microbiologist for optimal services to both the patient and physician.

7. **Swabs** are suboptimal and should be utilized as a last resort if no other means of collection is available. Swabs should be submitted for each type of culture requested. Use the dual swab red top culturette for aerobe cultures. Use the blue top culturette x2 for anaerobe culture.
 - a. **Anaerobes** – to culture for anaerobes from a deep wound or body site use the blue top anaerobic transport swab x2.
 - b. **Aerobe** cultures and smear - send the dual swab culturette transport.
 - c. Swabs should not be used for fungus cultures and should not be used for mycobacterium cultures.
8. Swabs may be used to collect surface lesion material for mycobacterium, such as *Mycobacterium marinum*, but fluid or tissue is preferable.

Collection & Transport Guidelines for Microbiology Specimen

Surgical Site Infections		
Diagnostic Test	Optimal Specimen	Transport Device
Misc culture & smear	Tissue (3-4mm ² per culture) or aspirate (0.5ml per culture)	Sterile container*
Misc anaerobe culture		Sterile container
AFB culture/smear		Sterile container
Fungus culture/smear		Sterile container
Skin and Soft Tissue Infections		
Diagnostic Test	Optimal Specimen	Transport Device
Misc culture & smear	Tissue (3-4mm ² per culture) or aspirate (0.5ml per culture)	Sterile container*
Misc anaerobe culture		Sterile container
AFB culture/smear		Sterile container
Fungus culture/smear		Sterile container
Intra-abdominal Infections (peritonitis, intraperitoneal abscess, hepatic/splenic abscess, pancreatitis, biliary tract infections)		
Diagnostic Test	Optimal Specimen	Transport Device
Misc culture & smear	Tissue (3-4mm ² per culture) or aspirate (0.5ml per culture)	Sterile container*
Misc anaerobe culture		Sterile container
AFB culture/smear		Sterile container
Fungus culture/smear		Sterile container

Sterile Abdominal Fluids (peritoneal, ascities, pancreatic, PD fluid)		
Diagnostic Test	Optimal Specimen	Transport Device
Fluid culture & smear	50ml of fluid	Sterile container/bag
Fluid anaerobe culture		
AFB culture/smear		
Fungus culture/smear		
Trauma Associated Cutaneous Infections		
Diagnostic Test	Optimal Specimen	Transport Device
Misc culture&smear	Tissue (3-4mm ² per culture) or aspirate (0.5ml per culture)	Sterile container
Misc anaerobe culture		Sterile container
AFB culture/smear		Sterile container
Fungus culture/smear		Sterile container
Bone Infections		
Diagnostic Test	Optimal Specimen	Transport Device
Misc culture & smear	Intact bone, shavings or excised necrotic tissue (3-4mm ² per culture)	Sterile container*
Misc anaerobe culture		
AFB culture/smear		
Fungus culture/smear		
Burn Wound Infections		
Diagnostic Test	Optimal Specimen	Transport Device
Misc culture & smear	Tissue (3-4mm ² per culture) or aspirate (0.5ml per culture)	Sterile container*
Misc anaerobe culture		Sterile container
AFB culture/smear		Sterile container
Fungus culture/smear		Sterile container
Joint Infections		
Diagnostic Test	Optimal Specimen	Transport Device
Fluid culture & smear	Synovial fluid; at least 0.5ml per culture , if possible	Sterile container
Fluid anaerobe culture		
AFB culture/smear		
Fungus culture/smear		

Prosthetic Joint Infections		
Diagnostic Test	Optimal Specimen	Transport Device
Misc culture & smear	Tissue (3-4mm ² per culture), synovial fluid or removed prosthesis with attached tissue	Sterile container*
Misc anaerobe culture		
AFB culture/smear		
Fungus culture/smear		
Interventional Radiology & Surgical Drains		
Diagnostic Test	Optimal Specimen	Transport Device
Misc culture & smear	Drainage; 0.5 ml per culture , if possible	Sterile container*
Misc anaerobe culture		Anaerobic transport device
AFB culture/smear		Sterile container
Fungus culture/smear		Sterile container
Pelvic Inflammatory Disease & Endometritis		
Diagnostic Test	Optimal Specimen	Transport Device
Misc culture & smear	Endometrium, tubo-ovarian abscess and/or fallopian tube contents (0.5ml per culture)	Sterile container
Misc anaerobe culture		
AFB culture/smear		
Fungus culture/smear		
Subdural Empyema, Epidural Abscess, Suppurative Intracranial Thrombophlebitis		
Diagnostic Test	Optimal Specimen	Transport Device
Misc culture & smear	Aspirate of purulent material (0.5ml per culture)	Sterile container
Misc anaerobe culture		
AFB culture/smear		
Fungus culture/smear		
Focal Infection of Brain Parenchyma		
Diagnostic Test	Optimal Specimen	Transport Device
Misc culture & smear	Aspirate of abscess contents (0.5ml per culture) or Tissue (3-4 mm ² per culture)	Sterile container*
Misc anaerobe culture		
AFB culture/smear		
Fungus culture/smear		

Vascular Catheters		
Diagnostic Test	Optimal Specimen	Transport Device
Misc culture & smear	5 cm of the distal catheter tip	Sterile container
Misc anaerobe culture		
AFB culture/smear		
Fungus culture/smear		
CNS Shunt Infections		
Diagnostic Test	Optimal Specimen	Transport Device
Fluid culture & smear	≥ 1 ml CSF	Sterile container
Fluid anaerobe culture		
AFB culture/smear	≥ 5ml CSF	
Fungus culture/smear	≥ 5ml CSF	
Cryptococcal Antigen	0.5- 1 ml CSF	
HSV by PCR	0.1 mL CSF	
Infective Endocarditis		
Diagnostic Test	Optimal Specimen	Transport Device
Blood culture	20-30 ml blood per set	Inoculated blood culture vials (preferably 2 sets collected sequentially over a short time interval)
AFB/Fungus	1-5 mL per bottle	Mycolytic blood culture vial
Infected (mycotic) Aneurysms & Vascular Grafts		
Diagnostic Test	Optimal Specimen	Transport Device
Misc culture & smear	lesion, biopsy or resected graft material	Sterile container*
Misc anaerobe culture		
AFB culture/smear		
Fungus culture/smear		

Pericarditis/Myocarditis		
Diagnostic Test	Optimal Specimen	Transport Device
Fluid culture & smear	50ml Pericardial fluid or pericardial biopsy	Sterile container/bag
Fluid anaerobe culture		
AFB culture/smear		
Fungus culture/smear		

Meningitis/Encephalitis		
Diagnostic Test	Optimal Specimen	Transport Device
Fluid culture & smear	0.5-1 ml CSF	3 or 4 Sterile tubes by lumbar puncture
Fluid anaerobe culture		
AFB culture/smear	>5 ml CSF	
Fungus culture/smear	>5 ml CSF	
Cryptococcal Antigen	0.5- 1 ml CSF	
HSV by PCR	0.1 mL CSF	

Infections of the Pleural Space (pleural fluid, thoracentesis fluid,etc)		
Diagnostic Test	Optimal Specimen	Transport Device
Fluid culture & smear	50ml Pleural Fluid and/or pleural biopsy	Sterile container/bag
Fluid anaerobe culture		
AFB culture/smear		
Fungus culture/smear		

Tissue (3-4mm² per culture)

3mm² 4mm²

If sending a swab, submit the following:

Culture Type	Type of swab
Aerobe Culture (Miscellaneous Culture & Smear)	1 Red swab
Anaerobe Culture (Miscellaneous Anaerobe Culture)	2 Blue swabs
Acid Fast (TB) Culture & Smear	1 Red swab
Fungus Culture & Smear	1 Red swab

Reference:

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