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Subject:	SPECIMEN COLLECTION FOR CULTURE OF BACTERIAL PATHOGENS QUICK REFERENCE				
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SPECIMEN COLLECTION FOR CULTURE OF BACTERIAL PATHOGENS QUICK REFERENCE

Send a separate specimen for each procedure request to ensure sufficient quantity for culture.

SPECIMEN	TRANSPORT SYSTEM	SPECIMEN VOLUME	OTHER CONSIDERATIONS
Blood-routine bacterial culture	Blood culture bottle with nutrient medium	Adults: 8-10 ml/bottle Children: 1-3 ml/bottle Neonates: 1-3 ml/bottle	Disinfect skin with 70% alcohol followed by 2% iodine; collect 2-3 cultures in a 24 hr period unless patient is in septic shock or antibiotics will be started immediately; blood collections should be separated by 30-60 minutes. *Notify Microbiology is "HACEK" organisms are suspected. Incubation of 21 days is required.
Blood-intracellular bacteria Mycobacteria or Fungus (physician should request Brucella, Francisella, Neisseria)	Myc/F Lytic Bactec Bottle Reference Lab for Brucella and Francisella	As with routine blood cultures	As with routine blood cultures; release of intracellular bacteria may improve their recovery.
Blood-Leptospira physician should request	Reference Lab Call MCL	1-5 ml	Useful only during the first week of illness; afterward, urine should be collected.
Cerebrospinal fluid	Sterile, screw-capped tube	Bacterial culture: 1-5 ml For mycobacterial culture: as large a volume as possible	Specimen must be collected aseptically; deliver immediately to lab; do not expose to heat or refrigeration.

Other normally sterile fluids (e.g. abdominal, chest, synovial, pericardial)	Sterile screw-capped tube	As large a volume as possible; pathogens may be in small numbers per ml of fluid	Collect specimen with a needle & syringe; do not inject an "air bubble" into the culture bottle-this will inhibit the growth of anaerobes.
Catheter (venous, arterial)	Sterile screw-capped tube or specimen cup	N/A	Disinfect the entry site with alcohol; aseptically remove the catheter; place into sterile screw-cap container. No foley cath tips.
Respiratory - throat	Swab immersed in transport medium	N/A	Swab area of inflammation; collect exudate if present; avoid contact with saliva, this can inhibit the recovery of group A streptococci.
Respiratory-epiglottis	Collect blood for culture See above for blood culture	Swabbing the epiglottis can precipitate complete airway closure collect blood cultures for specific diagnosis.	
Respiratory-sinus	Sterile, anaerobic tube	1-5 ml	Specimens must be collected with needle and syringe. Culture of nasopharynx or oropharynx has no predictive value culture for specific diagnosis.
Respiratory-lower airways	Sterile, screw-capped bottle or anaerobic tube only for specimens collected by avoiding upper tract flora such as transtracheal aspirate, protected bronchoalveolar lavage, or brush. Specimens can be processed for aerobic and anaerobic bacteria if properly transported.	Bacteria: 1-2 ml Mycobacteria: 5-10ml minimum of (3) early morning specimens- on 3 separate consecutive days.	Expectorated sputum: Have the patient rinse mouth with sterile water, cough deeply & expectorate lower airway secretions directly into sterile cup. Avoid contamination with saliva. Bronchoscopy specimen: BAL-sterile bronchoscopy container. Brush-sterile container with 1-2 ccs sterile saline. If Legionella sp. is suspected, transport in 1-

Respiratory-lower airways (cont'd)			2 cc of sterile water. Saline and anesthetics can inhibit the growth of Legionella sp. Anaerobic cultures can be performed. Transtracheal aspirate or direct lung aspirate: Sterile screw-capped bottle.
Ear	Capped, needle-less syringe or sterile, screw-capped tube	Whatever fluid is collected	Aspirate specimen with sterile syringe. Culture of external ear has no predictive value for otitis media.
Eye	Transport to lab immediately in culturette	If fluid, whatever volume can be collected in sterile tube 2 swabs: 1 for Direct Gram Stain, 1 for culture	For infections on the surface of the eye. Specimens are collected with a swab or corneal scrapings for deep-seated infections or aspiration if aqueous or vitreous fluid is performed. All specimens should be sent to the laboratory immediately after collection. Delays will result in significant loss of organisms.
Exudates (transudates, drainage, ulcers)	Swab or aspirate in anaerobic transport system	Bacteria: 1-5 ml Mycobacteria: 3-5 ml	Avoid contamination with surface material. Such specimens are generally unsuitable for anaerobic culture.
Wounds (abscess, pus)	Aspirate in anaerobic tube	1-5 ml of pus	Specimens should be collected with a sterile needle and syringe. Use culturette to collect specimen at base of wound. Swabbed specimens should be avoided.
Tissues or specimens collected during surgery	Sterile screw-capped tube or anaerobic tube port-a-cul	Representative sample from center and border of lesion	Place aseptically into appropriate sterile tube. An adequate quantity of specimen must be collected to recover small numbers of organisms.

Tissues or specimens collected during surgery (cont'd)			Decubitus ulcers should not be cultured.
Urine-midstream	Sterile screw-capped urine container	Bacteria: 1-10 ml Mycobacteria: > 10 ml early morning specimen	Avoid contamination of the specimen with bacteria in the urethra or vagina. Discard the first portion of the voided specimen. Organisms grow rapidly in urine so transport immediately to the laboratory, hold in a bacteriostatic preservative, or refrigerate.
Urine-catheterized	Sterile urine container	Bacteria: 1-10 ml Mycobacteria: > 10 ml early morning specimen	First portion of collected specimen is contaminated with urethral bacteria. Transport rapidly to the laboratory.
Urine-suprapubic aspirate	Sterile anaerobic tube	Bacteria: 1-10 ml Mycobacteria: > 10 ml early morning specimen	Only valid method available for anaerobic culture. Useful also for collection of specimens from children or adults unable to void an uncontaminated specimen.
Genital culture for routine, perinatal, post-natal or STD other than GC Group B Strep	Anaerobic transport system if endocervical specimen is collected by aspiration. Specialized transport system for some viruses or Mycoplasma: 2 swabs in transport media	N/A	Most genital pathogens are extremely labile (e.g. <u>N.gonorrhoeae</u> .) The area of inflammation or exudate should be sampled. Avoid collection of normal flora because they may inhibit or grow faster than pathogens.
Wet Prep for yeast, trichomonas, & clue cells	Swab in <1cc saline	N/A	Transport rapidly to lab.
GC culture	Send specimen immediately to lab on culturette	N/A	Same as genitals.
Feces (stool)	Orange top: test for Bacteria only Green top: test for O&P only	Bacteria: only one specimen collection per day accepted. Ova &	Rapid transport to the laboratory required. Specimen is unsuitable

Feces (stool) cont'd	Fresh stool: O&P or bacteria	Parasite: (3) separate collections from 3 different days. Pinworm: clear scotch tape or early morning feces before bath or defecation or pinworm paddle collection container.	for anaerobic culture. Swabs are sub-optimal specimens.
Schlichter Test (Serum Bactericidal) Consultation from Infectious Disease doctor is required.	N/A	Red top serum collection tube.	

References:

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Murray, Patrick R. (Editor in Chief), editors Baron, Ellen Jo, Tenover, James H., Landry, Marie Louise, Tenover, Michael A., 2007. Manual of Clinical Microbiology. American Society for Microbiology, Washington, D.C.