

SPECIMEN COLLECTION

VIROLOGY SPECIMEN COLLECTION

Autopsy and Biopsy Specimens (Culture only)	Place approximately 1 g of tissue in the Microtest (M4) microbe transport tube (blue or red cap or equivalent). Cap vial tightly.
Blood (Culture and Antigenemia Assay)	Collect 1 lavender (EDTA) or yellow (ACD) top tube: 10 mL per test (5 mL per test (5 mL from infants and children).
Bone Marrow (Culture)	Collect 0.3 mL of aspirate or core biopsy of approximately 1.5 X 0.3 cm size. Place in the Microtest (M4) microtube transport tube (blue or red cap or equivalent). Cap tightly.
Bronchoalveolar lavage (Culture)	Wedge bronchoscope into subsegmental bronchus; insert four 50 mL boluses of sterile saline into the suction port with immediate return suction after the insertion of each sample. Submit 5-10 mL in a sterile container.
CSF, joint, pericardial, peritoneal, and pleural fluids (Culture only)	Collect 2 mL or more, if possible, (1 mL from infants and children). Place in a sterile container.
Endocervical Swab (Culture or DNA Probe)	<p>Use a dacron/ rayon swab to remove mucus and exudate from the endocervix. Insert the swab into the endocervix, rotate, and remove. Discard. Insert a second swab into the cervical os to collect cells from the transitional zone. Rotate the swab for 10-20 seconds in firm contact with endocervical surfaces. Withdraw the swab without touching any vaginal surfaces.</p> <p>CULTURE: Place the swab in the Microtest (M4) microbe transport tube (blue or red cap or equivalent), break off the excess, and cap tightly.</p> <p>DNA PROBE FOR <i>C. TRACHOMATIS</i> AND/OR <i>N. GONORRHOEAE</i>: Place the swab in the Gen-Probe^(R) transport tube. Break the swab shaft at the scoreline to fit the tube and cap tube tightly.</p>
Endourethral Swab (Culture or DNA Probe)	<p>Patient should not have urinated for at least one hour. Insert a small wire-shafted dacron swab 2-4 cm into the endourethra. Gently rotate the swab. Wait 1-2 seconds. Withdraw the swab.</p> <p>CULTURE: Place the swab in the Microtest (M4) microbe transport tube (blue or red cap or equivalent), break off the excess, and cap tightly.</p> <p>DNA PROBE FOR <i>C. TRACHOMATIS</i> AND/OR <i>N. GONORRHOEAE</i>: Place the swab in the Gen-Probe^(R) transport tube. Break the swab shaft at the scoreline to fit the tube and cap tube tightly.</p>
EYE (Conjunctival) Swab (Culture or DNA Probe)	<p>Using a small wire-shafted dacron swab (or male collection kit), thoroughly swab the inner surface of the lower eye lid and collect mucous membrane cells.</p> <p>CULTURE: Place the swab in the Microtest (M4) microbe transport tube (blue or red cap or equivalent), break off the excess, and cap tightly.</p> <p>DNA PROBE FOR <i>C. TRACHOMATIS</i> AND/OR <i>N. GONORRHOEAE</i>: Place the swab in the Gen-Probe^(R) transport tube. Break the swab shaft at the scoreline to fit the tube and cap tube tightly.</p>
Nasal aspirate (Culture, DIF, or EIA)	Use a suction apparatus or 5 cc syringe attached to a number 8 French catheter threaded 1-2 cm into the anterior nares to remove mucus, cells, and nasal fluid. Expel the aspirate into a sterile container.

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Virology Testing

Nasal Wash (Culture, DIF, or EIA)

Use a sterile disposable pediatric ear syringe bulb containing 3-5 mL of sterile physiologic saline. For a child or infant, place the patient on his side. Gently press the upper nostril closed with finger pressure. Insert the tip of the syringe bulb into the lower nostril. Inject the saline into the open nostril and immediately aspirate the saline back into the bulb with a squeeze-release reaction. For an adult, have the patient close the epiglottis and tilt the head back. Instill the saline into each nostril. Collect the saline into a sterile container as the patient brings his head forward.

Nasal Turbinate Swab (Culture, DIF, or EIA)

Vigorously rotate 2 dacron swabs against the nasal turbinate bilaterally.
CULTURE:
Place the 2 swabs into a Microtest (M4) microbe transport tube (blue or red cap or equivalent), break off the excess, and cap tightly.
DIF or EIA:
Place the swabs in a Microtest (M4) microbe transport tube (blue or red cap or equivalent) or tube of normal saline, break off excess, and cap tightly.

Nasopharyngeal swab (Culture, DIF, or EIA)

Insert a small wire-shafted dacron swab through either nostril to the posterior pharyngeal area. Hold the swab in place 5-10 seconds. Rotate gently and withdraw.
CULTURE:
Place the 2 swabs into a Microtest (M4) microbe transport tube (blue or red cap or equivalent), break off the excess, and cap tightly.
DIF or EIA:
Place the swab in a Microtest (M4) microbe transport tube (blue or red cap or equivalent) or tube of normal saline, break off excess, and cap the tube tightly.

Rectal swab (Culture only)

Insert a dacron swab into the anal orifice 3-5 cm past the anal sphincter. Rotate the swab, and withdraw. Place the swab in the Microtest (M4) microbe transport tube (blue or red cap or equivalent), break off the excess and cap tightly.

Stool (Culture or EIA)

Insert a dacron swab into the rectum to obtain fecal material or insert swab into stool. Place the swab in the Microtest (M4) microbe transport tube (blue or red cap or equivalent), break off the excess and cap tightly.
EIA: Submit stool in a stool container - do not place stool into VCT.

Sputum (Culture only)

Collect expectorate in response to a deep cough and place in a sterile container.

Throat swab (Culture only)

Using a dacron swab, rub the tonsil area and the back of the pharynx. Place the swab in the Microtest (M4) microbe transport tube (blue or red cap or equivalent), break off the excess and cap tightly.

Throat wash (Culture only)

Have the patient gargle with 3-5 mL of sterile physiologic saline. Collect the saline in a sterile container.

Urine (Viral culture only)

Have the patient collect a clean voided specimen into a sterile container. First morning urine is preferred.

Vesicle (Culture and DIF)

Rupture the vesicle. Using a dacron swab, rub the fluid and cells from the base of the vesicle.
Culture and/or DIF:
Place the swab in the Microtest (M4) microbe transport tube (blue or red cap or equivalent), break off the excess and cap tightly. Sample several early stage cutaneous lesions if possible. Do not use local disinfection until after specimen collection.

Note: Specimens for viral or chlamydial culture which are to be held for more than 24 hours before submission must be frozen in VCT at -70° C or lower for preservation. Specimens can be frozen on dry ice if an ultralow freezer is not available. **DO NOT FREEZE SPECIMENS IN A REGULAR REFRIGERATOR FREEZER AND DO NOT FREEZE UNLESS THE SPECIMEN IS IN VCT.** Do not freeze specimens which are to be submitted within 24 hours.

Guide for Submission of Virology Specimens

DISEASE OR SYNDROME	POSSIBLE ETIOLOGY	RECOMMENDED SPECIMENS	TESTS AVAILABLE	
			CODE	DESCRIPTION
Aseptic meningitis Encephalitis	Enterovirus	Autopsy or biopsy specimens in VCT; CSF; stool (if enterovirus suspected); throat washing or throat swab in VCT	760	Enterovirus culture
	Coxsackie virus A		841	Herpes Simplex virus Culture
	Coxsackie virus B		2725	Herpes Simplex virus Culture, Progressive
	Echovirus		7184	HSV and VZV Culture only
	Enterovirus 71			
Cystitis (acute hemorrhagic)	Poliovirus	Urine		
	Herpes simplex virus			
	Influenza virus (postinfectious)			
	Varicella-zoster virus (postinfectious)			
Congenital and neonatal infections	Adenovirus	Blood in lavender or yellow-top tube	759	Adenovirus Culture
	Cytomegalovirus (CMV)		6465	Cytomegalovirus Antigenemia Assay
			6987	CMV Antigenemia Assay, Progressive
	Cytomegalovirus (CMV)		842	Cytomegalovirus Culture
	Enterovirus	Blood in lavender or yellow-top tube; biopsy tissue in VCT; CSF; stool; throat swab in VCT	760	Enterovirus Culture
Diarrhea Gastroenteritis	Herpes simplex virus	Blood in lavender or yellow-top tube; brain biopsy; CSF; throat swab in VCT; vesicle fluid or swab in VCT.	841	Herpes simplex virus Culture
			2725	Herpes simplex virus Culture, Progressive
Eye disease	Adenovirus (children)	Stool	759	Adenovirus Culture
	Echovirus		760	Enterovirus Culture (includes Echovirus)
	Rotavirus (infants, young children, and the elderly order Test Code 932, Rotavirus EIA)		932	Rotavirus EIA
			2710	Rotavirus Rapid EIA
	Adenovirus	Conjunctival or corneal swab in in VCT	759	Adenovirus Culture
	Cytomegalovirus (CMV)		842	Cytomegalovirus Culture
	Enterovirus type 70		760	Enterovirus Culture
	Herpes simplex virus		841	Herpes simplex virus Culture
	Varicella-zoster virus		2725	Herpes simplex virus Culture, Progressive
			7184	HSV and VZV Culture only

DISEASE OR SYNDROME	POSSIBLE ETIOLOGY	RECOMMENDED SPECIMENS	TESTS AVAILABLE	
			CODE	DESCRIPTION
Exanthem (rash or vesicles)	Coxsackie virus A Echovirus Herpes simplex virus	Nonvesicular rash; throat swab in vial of VCT; stool	760	Enterovirus Culture (includes Echovirus and some Coxsackie viruses)
			841 2725	Herpes simplex virus Culture Herpes simplex virus Culture, Progressive
	Varicella-zoster virus	Vesicular rash; vesicular fluid and basal epithelial cells from vesicle in VCT	314 18852	HSV and VZV Direct IF with Culture HSV and VZV Direct IF
Genital infections: cervicitis, vulvovaginitis or genital lesions	Herpes simplex virus	Endocervical or endourethral swab in VCT; vesicle fluid or swabs in VCT	841 2725	Herpes simplex virus Culture Herpes simplex virus Culture, Progressive
Myocarditis Pericarditis	Coxsackie virus B Echovirus	Pericardial fluid; stool; throat swab in VCT; NOTE: Virus is rarely isolated from pericardial fluid. In this case, antibody titers may provide more diagnostic information.	760	Enterovirus Culture
Respiratory disease	Adenovirus Cytomegalovirus (CMV) (immunodeficient patients) Enterovirus Herpes simplex virus Influenza virus Parainfluenza virus Respiratory syncytial virus (infants and young children)	Nasal turbinate specimen in VCT; nasopharyngeal wash or aspirate; sputum; throat swab in VCT	759 842 760 841 766 2714 5398 3318 1986 2713 2711	Adenovirus Culture Cytomegalovirus Culture Enterovirus Culture Herpes simplex virus Culture Influenza virus Culture with Typing Influenza virus Types A&B Direct IF Parainfluenza Virus Direct IF Parainfluenza virus Culture Respiratory Syncytial virus Direct IF Respiratory Syncytial virus Rapid EIA Respiratory Syncytial virus Panel
Urinary tract infection	Adenovirus Cytomegalovirus (CMV)	Urine	759 842	Adenovirus Culture Cytomegalovirus Culture