MICROBIOLOGY

SPECIMEN COLLECTION MANUAL

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MICROBIOLOGY LABORATORY - GENERAL INFORMATION

HOURS OF OPERATION

Weekdays	08:30-22:00
Weekends and Statutory Holidays	08:00-16:00

The microbiology laboratory will receive specimens 24 hours/7 days a week, but only select specimens will be planted during the overnight shift.
For STAT Service after hours for Critical Specimens, please page the on call technologist through locating ext. 5431

Critical Specimens:

- CSF
- Sterile Body Fluids e.g. vitreous/aqueous specimens, pleural fluid, joint fluid
- Operative specimens e.g. tissue, brain abscess

LOCATION

Cardinal Carter Wing, 2nd floor - Room 2-044

CONTACT INFORMATION

Laboratory	416-864-5381
Head, Division of Microbiology	416-864-6060 ext. 2946 (Dr. Larissa Matukas)
Clinical Microbiologist	416-864-6060 ext. 3140 (Dr. Ramzi Fattouh)
Medical Microbiologist	**416-530-6000 ext. 6270 (Dr. Yan Chen)**
Medical Microbiologist	**416-530-6000 ext. 4005 (Dr. Greg German)**
Manager	416-864-5381
Operations Leader	416-864-5381
Technical Specialist	416-864-5381
Technologist on call through locating	416-864-5431

REFERRAL OF SPECIMENS FOR TESTING TO EXTERNAL LABORATORIES

All specimens referred to external laboratories for microbiological testing must have the approval and participation of the Microbiology Laboratory.

ABBREVIATIONS/ACRONYMS

ABBREVIATIONS/ACRONYMS	DESCRIPTION
C&S	Culture and Susceptibility
CSF	Cerebral Spinal Fluid
CVP	Central Venous Pressure
EDTA	Ethylenediaminetetraacetic acid
ESBL	Extended Spectrum Beta-Lactamase
ETT	Endotracheal Tube
FAB	Fastidious Anaerobic Broth
HIS	Hospital Information System
HIV	Human Immunodeficiency Virus
HSC	Hospital for Sick Children
IV	Intravenous
LGV	Lymphogranuloma Venereum
LPF	Low Power Field
MRSA	Methicillin Resistant *Staphylococcus aureus*
NML	National Microbiology Laboratory
OR	Operating Room
PCP	*Pneumocystis carinii* pneumonia
PCR	Polymerase Chain Reaction
PHOL	Public Health Ontario Laboratory
RT	Room Temperature
SAF	Sodium acetate-Acetic acid-Formalin
SBE	Subacute Bacterial Endocarditis
SMH	St. Michael's Hospital
STD	Sexually Transmitted Disease
TB	Tuberculosis
VRE	Vancomycin Resistant Enterococci

SPECIMEN COLLECTION CONTAINERS/KITS SUPPLIED BY MICROBIOLOGY LABORATORY

The following specimen collection containers/kits can be obtained from the Microbiology Laboratory:

COLLECTION CONTAINER/KIT	USAGE
M40 Transystem (Bacteriology transport swab)*	Collection of specimen for aerobic and anaerobic bacterial culture
eSwab Transport System (Bacteriology transport swab)**	Collection of specimen for aerobic and anaerobic bacterial culture
Pediatric (PF) blood culture bottle	Collection of pediatric blood culture specimen or sterile fluid
Roche cobas PCR Media Dual Swab Sample Kit	**Collection of throat/pharyngeal, rectal, female vaginal or endocervical specimens for the detection of Chlamydia and Neisseria gonorrhoeae by PCR testing.**
Copan Universal Transport Media (UTM) for: Chlamydia/Mycoplasma/Ureaplasma/Viral culture	Collection of specimen for Chlamydia/Mycoplasma/Ureaplasma/ Viral culture
Universal Transport Media (UTM) for: Influenza and COVID-19	Collection of nasopharyngeal swab for influenza and COVID-19 testing
Bordetella pertussis kit	Collection of specimen for whooping cough
SAF container	Collection of stool for ova and parasites
Cary Blair enteric transport	Collection of stool for bacterial culture
Pinworm paddle kits	Collection of specimen for detection of pinworm
Diamond's media	Collection of specimen for Trichomonas culture
Eye culture media for bedside inoculation	Collection of eye specimens for bacterial culture and Acantamoeba
Black paper for fungus	Collection of nail/skin scrapings for fungal culture

* M40 Transystem (Bacteriology transport swab) for out-patient locations is no longer available through SMH Logistic department (stores).
** eSwab Transport System (Bacteriology transport swab) In-patients and out-patient locations must order their supply through SMH Logistic department (stores).

Please see Appendix A for examples of specimen collection containers and kits.

Note: Aerobic plus (BACTEC Plus Aerobic/F), Anaerobic lytic (BACTEC Lytic 10 Anaerobic/F) and blood culture bottles are ordered and supplied through SMH Logistic department (stores).

The expiry date on all specimen containers/kits MUST be checked before use. Use of expired transport containers/kits may impair the sensitivity/specificity of the test and will result in the rejection of the specimen.

SPECIMEN COLLECTION – GENERAL INFORMATION

Specimens for microbiology analysis are likely to contain living organisms whose detection depends on rapid, professional specimen management. Understanding this simple concept should motivate specimen collectors to do the following:

1. Select the correct anatomic site from which to obtain the specimen.

2. Send tissue or fluids to the laboratory rather than swabs wherever possible.

3. Collect the specimen using the proper technique and supplies. Please see Appendix A for examples of different specimen collection containers and kits. All specimens should be collected in accordance with Routine Practices and Transmission Based Precautions. All specimens are considered potentially infectious and should be handled as such. Dispose of any biohazardous waste as appropriate, i.e. needles in sharps container, biohazardous waste in biohazard bins

4. Read collection instructions carefully. Improper specimen collection will result in the rejection of the specimen.

5. The clinician, nurse, or phlebotomist must identify the patient and ensure consent has been obtained from the patient prior to collecting the specimen. The person collecting the specimen must correctly identify the patient using two unique identifiers. Each specimen shall be labelled at the time and point of collection and in the presence of the patient with the patient's full name (or unique code number, in the case of anonymous testing) and one other unique identifier, such as the Medical Record Number or Date of Birth. Time and date must be added for time sensitive specimens.
   Common time sensitive Microbiologic tests that require the date and time of collection are:
   - Molecular tests
   - Viral Load
   - Viral Culture
   - Chlamydia Culture
   - Legionella Culture
   - Bacterial Culture and Sensitivity
   - Mycoplasma culture/PCR

6. Package the specimen in the appropriate container designed to avoid leakage, which might pose a safety hazard and will result in the rejection of the specimen. Containers often contain special transport media designed to promote survival of the causative organism.

7. Place each specimen in a specimen transport bag with a pouch at the back of the bag. The specimen should be placed in the resealable portion of the bag and the requisition or specimen label should be placed in the pouch.

SPECIMEN COLLECTION – GENERAL INFORMATION (continued)

8. Provide complete order information through Soarian or using paper requisitions, ensuring that all required information (e.g. whom the specimen is collected by, source and site of specimen, antibiotics given and clinical details) is provided. Soarian should be used to order specimens on in-patient units and Emergency Department. Paper requisitions are generally used in out-patient areas.

9. Transport the specimen to the laboratory expeditiously or make sure that if it is stored, storage is brief, properly done, and at a temperature that will not damage the suspected organism.

10. Specimens are routinely cultured to encompass retrieval of the widest range of potential pathogens recovered on routine bacteriological media. Organisms which require special nutrients/conditions must be specifically requested. Such organisms include:
    - Parasites
    - *Mycobacterium tuberculosis* (TB)
    - Viruses
    - Fungus
    - Chlamydia
    - *B. pertussis* (Whooping Cough)
    - Mycoplasma/Ureaplasma
    - Unusual bacterial pathogens such as *Legionella*, *Helicobacter*, *Bartonella*, *Leptospira*, *Vibrio*, *Diphtheria*, etc.

11. Samples for Molecular Diagnostics, including polymerase Chain Reaction (PCR) and Viral Load have special documentation and transportation instructions. This manual should be consulted before collecting a specimen for PCR or Viral Load.

12. For blood specimen collection instructions please refer to St. Michael's - Peripheral Venipuncture to Draw Blood Samples Policy.

13. All Biomedical waste should be properly disposed of. Please refer to St. Michael's - Procedure for Disposal of Biomedical Waste.

14. For specimens that require testing performed by PHOL, please refer to Ontario Public Health's Testing Directory Index for more information.

15. For tests not listed in this manual, please consult the Medical Microbiologist on call via locating.

CRITERIA FOR CULTURE OF ANAEROBES

Anaerobes must be requested, if they are suspected.

The following specimens are appropriate specimens for the culture of anaerobes:

- Surgical specimens/biopsies
- Aseptically taken needle aspirates
- Protected bronchial brushings
- Normally sterile fluid (e.g. joint fluid)

The following specimens are unacceptable for the culture of anaerobes:

- Throat swabs
- Nasopharyngeal swabs
- Expectorated sputum/ETT
- Bronchial washings
- Voided urine
- Vaginal or cervical swabs (with the exception of post-partum specimens for *Clostridia*)
- Feces (except for *C. difficile*)
- Gastric and small bowel contents
- Ileostomy/colostomy effluents
- Large bowel contents, except for specific agents such as *C. difficile*
- Surface swabs from decubitus ulcers, peri-rectal abscesses, foot ulcers, exposed wounds, eschars, pilonidal sinuses
- Any material adjacent to a mucous membrane that has not been adequately decontaminated.

REFERENCE

Jousimies-Somer, HR, Summanen, P Citron, DM et al: Anaerobic Bacteriology Manual, Sixth Edition. 2002. Star Publishing Company. Belmont, California, USA

SPECIMEN IDENTIFICATION AND INFORMATION POLICY

The Specimen Identification and Information Policy must be followed at all times.

All specimens shall be uniquely labeled and accompanied by an electronic or paper requisition to which they are traceable.

Each specimen shall be labeled at the time and point of collection and in the presence of the patient with the patient's full name (or unique code number, in the case of anonymous testing) and one other unique identifier, such as the Medical Record Number or Date of Birth and the individual collecting the specimen.

Specimens lacking proper identification and the date and time (where applicable) of collection or an accompanying requisition **shall not be processed,** except if the specimen would be difficult or impossible to recollect or irretrievable.

ORDERING, IDENTIFYING AND LABELLING SPECIMENS USING SOARIAN

1. Orders must be entered into Soarian after the specimen has been collected (generally, very close to the time of collection).

2. Specimen type and site information must be provided to enable the appropriate culture tests to be performed.

3. Any relevant clinical information (travel history, symptoms) or antibiotics given should be provided.

4. Four labels will print with each order:

    a) Bar code label: Provides the patient's name, age, gender, unit location position, MRN #, order#, lab test and collection container type
    b) HIS label: Hospital Information system label: This is not being used at this time. It can be discarded.
    c) Collected by Date and Time label: Used to sign name of person collecting the specimen and record date and time of specimen collection. This MUST be completed and placed in the outer pocket of the specimen bag.
    d) Summary label: A summary of all tests ordered. This should not be sent to the laboratory.

5. Labels should be placed vertically and firmly attached to the body of the specimen containers. Labels should not be placed on the lid or cover any part of the lid.

6. The label should not cover up any existing barcode labels or expiry dates e.g. Blood culture bottles

7. Unused labels must be discarded in a secure container for shredding.

8. If additional tests are required on a specimen already received in the laboratory, the clinical unit must call the laboratory to request the additional test. Performance of add-on requests will depend on the availability and the suitability of the specimens. HIV tests cannot be added verbally.

ORDERING, IDENTIFYING AND LABELLING SPECIMENS USING PAPER REQUISITIONS

1. All requisitions shall contain the following information:
    a) Patient's full name
    b) Patient date of birth
    c) Gender of patient
    d) Patient location (Ward or Clinic)
    e) Encounter number
    f) Physician's name
    g) Specimen type and specific anatomic culture site
    h) Date and time of specimen collection
    i) Test(s) requested
    j) Clinical diagnosis, special culture request and relevant patient history
    k) Antimicrobial agents, if any, that the patient is receiving.

2. Each specimen should have a label firmly attached to the body of the container. Labels should not be placed on the lid or cover any part of the lid. All labels should contain the following information
    a) Patient' full name
    b) Patient's date of birth
    c) Gender of patient
    d) Medical record number
    e) Location
    f) Laboratory number
    g) Culture site if multiple specimens collected.
    h) Collection Date and Time

    Note: The minimum requirement for processing of any specimen must include the patient's name (or code identifier) and at least one other unique identifier. Expiry dates and existing bar code labels e.g. blood culture bottle should not be obscured by the patient label.

3. If additional tests are required on a specimen already received in the laboratory, a new requisition must be generated and sent to the laboratory with the indication that this is for an add-on test. Performance of add-on requests will depend on the availability and the suitability of the specimen.

CONSENT FORMS FOR HIV TESTING

- HIV antibody testing is the only test performed in Microbiology that requires consent in addition to the general consent obtained on admission.
- Consent forms are available at the nursing station. Obtain a supply from the print shop.
- Completed consent forms are placed in the patient's chart.
- Consent is indicated on the requisition by either a physician signature or by stating that consent has been obtained.

SPECIMEN TRANSPORT

- All specimens must be transported in specimen transport bags. These are clear bags with a pouch in the back and are labeled as a biohazard. **Only one specimen should be placed in each bag.**

- Either the requisition or the Specimen Collection Label must accompany Microbiology specimens and should be placed in the pouch in the back of the specimen transport bags.

- Routine and Transmission Based Precautions must be followed when transporting specimens.

- STAT specimens must be immediately transported to the laboratory upon collection.

  The following specimens are always considered STAT:
  - HIV viral load
  - Hepatitis B DNA
  - Hepatitis C RNA
  - CSF from patients with suspected meningitis.
  - Source patient and exposed health care worker (baseline work up) in needle stick injuries

- All other specimens must be promptly transported to the laboratory, preferably within 2 hours of collection.

- If transport is delayed the specimen can be stored under the conditions specified in the specimen collection table.

- All specimens should arrive in the laboratory within 24 hours of collection.

- Specimens are delivered to the Microbiology Laboratory during hours of operation (see page 2 for receiving hours)

- After hours, routine specimens are stored in Microbiology receiving fridge or incubator. STAT specimens, blood cultures, sterile fluids and tissues are received by the technician on duty (24 hours coverage).

SPECIMEN REJECTION

The following specimens will be rejected:

- Unlabeled specimens
- Mismatched specimen (name on requisition does not match name on specimen)
- Grossly leaking specimens
- Specimen broken in transit
- Specimens received in inappropriate collection containers
- Specimens improperly collected
- Specimens not stored properly before delivery to the laboratory
- No collection date and time provided on time sensitive specimens
- Specimens delayed in transit including:
  - >24 hours for *Clostridium difficile*
  - >24 hours for urine
  - >4 hours for HBV-DNA and HCV-RNA
  - >24 hours for HIV viral loads
  - >48 hours for other specimens
- Inappropriate specimen for the test(s) requested e.g. Stool sample for pinworm diagnosis instead of pinworm paddle/scotch tape preparation.
- Inappropriate specimens for culture including:
  - Foley catheter tips
  - Tracheal swabs
  - Penis swabs
  - Axilla/groin swabs for MRSA screen
- Insufficient quantity of specimen to perform test(s) requested.
- Replaceable swabs with no site information
- Specimens received in expired transport kits.
- PHOL serology tests with no virus/test stated

COLLECTION INSTRUCTIONS

Instructions for patients who are requested to collect their own specimens are in Appendices B-L. All other specimens are to be collected by physicians, nurses, or other authorized personnel.

Specimens should be collected and stored as indicated in the following tables:

Table 1.1 Bacterial Culture & Susceptibility Testing

Specimen Type	Collection Guidelines	Container/ Minimum volume	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments	TAT for Negative Report
SKIN AND SOFT TISSUE INFECTIONS – Levine's Technique is recommended. See Appendix L								
Abscess (General)	Remove surface exudates by cleaning with Sterile saline and sterile gauze. Allow surface to dry before taking specimen. Aspirate abscess fluid and dispense into sterile screw cap container.	Sterile Container	< 2hr; RT	Refrigerator	48hrs/source	SMH	Tissue or fluid is always superior to a swab specimen. If swab is used, place in M40 transystem/ eSwab Transport System Dry swabs not in transport medium will not be processed unless they are received in the laboratory within 1 hour of specimen collection.	4 days
(Open)	Aspirate if possible or pass a swab deep into lesion using Levine's Technique. See Appendix L	Sterile Container/ M40 transystem/ eSwab Transport System	< 2hr; RT	Refrigerator	1/48hrs/source	SMH		4 days
(Closed)	Aspirate if possible or pass a swab deep into lesion using Levine's Technique. See Appendix L.	Sterile Container/ M40 transystem/ eSwab Transport System	< 2hr; RT	Refrigerator	1/48hrs/source	SMH		4 days
Bite Wound	Treat as an abscess							Swab – 48hours Tissue/ Fluids – 4 days

Specimen Type	Collection Guidelines	Container/ Minimum volume	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments	TAT for Negative Report
SKIN AND SOFT TISSUE INFECTIONS – Levine's Technique is recommended. See Appendix L								
Cellulitis	Remove surface exudates by cleaning with Sterile saline or 0.5% chlorhexidine in 70% alcohol. Allow surface to dry before taking specimen. Aspirate the area of maximum inflammation with a fine needle and syringe. Draw a small amount of sterile saline into the syringe and aspirate into a sterile screw-cap tube.	Sterile Container	≤ 15 minutes	Refrigerator	1/48hrs/source	SMH	The longer the transport, the less likely it is that a pathogen will be isolated. Yield is only 25%-35%.	4 days
Drain Fluid	Cultures of drain fluid tend to be colonized and do not provide useful information about infecting agents. At the time of sterile insertion of the drain a specimen may be collected and sent for culture.	Sterile Container	<2hr; RT	Refrigerator	1/48hrs/source	SMH	Swab of drainage fluid is inappropriate for culture	2-4 days depending on site
Erysipelas	Punch biopsy of leading edge of inflammation	Sterile Container	<2hr; RT	Refrigerator	1/week/source	SMH		4 days
Exit Site Swab for C&S	Use Levine's Technique. See Appendix L.	M40 transystem/ eSwab Transport System	<2hr; RT	Refrigerator	1/week/source	SMH	Surface cultures are not usually meaningful.	48 hours

Specimen Type	Collection Guidelines	Container/ Minimum volume	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments	TAT for Negative Report
SKIN AND SOFT TISSUE INFECTIONS – Levine's Technique is recommended. See Appendix L								
Exit Site Swab for Surveillance	Using a swab moistened with sterile, non-bacteriostatic saline, swab around the site. For surveillance the site must not be cleaned prior to collection.	M40 transystem/ eSwab Transport System	<2hr; RT	Refrigerator	1/week/source	SMH	DO NOT use Levine's Technique	24-48 hours
Fistula	See Abscess							4 days
Wound Swab	Use Levine's Technique. See Appendix L	M40 transystem/ eSwab Transport System	<2hr; RT	Refrigerator	1/48hrs/source	SMH		48 hours - 4 days (if anaerobes requested)
Decubitus Ulcer	1. Cleanse surface with sterile saline. 2. If biopsy sample is not available vigorously swab base of lesion. 3. Place swab in swab transport	M40 transystem/ eSwab Transport System	<2hr; RT	Refrigerator	48hrs/source	SMH	Swabs from decubitus ulcers provide little clinical information. Tissue biopsy samples or needle aspirates are specimen of choice.	4 days (for Tissue/ Fluids)

Specimen Type	Collection Guidelines	Container/ Minimum Volume	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments	TAT for Negative Report
BLOOD CULTURES								
Blood Cultures	Disinfection of culture bottle; Remove plastic flip-top and disinfect the rubber septum with 70% alcohol Disinfection of venipuncture site: 1. Clean the skin using wipe containing 0.5 % chlorohexidine gluconate and 70 % isopropyl alcohol. 2. Allow the skin to dry. Do not palpate vein at this point. 3. Collect blood. 4. After taking blood, clean the skin with a second wipe. This wipe may be 70% alcohol. For additional collection instructions, refer to: St. Michael's - Peripheral Venipuncture to Draw Blood Samples Policy	Inject 10 mL of blood into each of an: Aerobic plus (blue -BACTEC Plus Aerobic/F) Anaerobic lytic (maroon - BACTEC LYTIC 10 Anaerobic/F This constitutes a blood culture set.	<2hr; RT	RT	3 sets in 24hr	SMH	Single blood cultures should never be drawn from adults. Blood should be obtained from veins, not arteries. Blood drawn from intravascular devices are associated with a higher contamination rate and therefore should be paired with a blood sample collected by venipuncture. Acute sepsis 2-3 sets from separate sites, all within 10 minutes. (before antimicrobials) Endocarditis, acute: 3 sets from 3 sites over 1-2 h Endocarditis, subacute: 3 sets from 3 sites taken >15 min. apart; if negative at 24 h, obtain 3 more cultures. Clearly label requisition "Bacterial Endocarditis" or place order in Soarian as Blood Culture - SBE Fever of unknown origin: 2-3 sets from separate sites >1h apart; if negative at 24hr obtain 2-3 more sets.	5 days (Routine) 10 days (SBE, HACEK, or Yeast)

Specimen Type	Collection Guidelines	Container/ Minimum Volume	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments	TAT for Negative Report
IV TIPS								
Intravenous Catheter/Tips	1. Cleanse skin around catheter site with 0.5% chlorhexidine in 70% alcohol. 2. Aseptically remove catheter and aseptically clip the 5-cm distal tip of catheter directly into sterile container. (NB with Swan Ganz Catheters consider sending two specimens, one from the tip and one from just under the skin). 3. Transport directly to the microbiology laboratory to prevent drying.	Sterile Container	<2hr; RT	Refrigerator	None	SMH	Acceptable I.V. catheters for semi-quantitative culture: central, CVP, Hickman, Broviac, peripheral, arterial, umbilical, hyperalimentation, Swan-Ganz Not acceptable for culture: foley, peritoneal drain tips, chest tube tips	48 hours

Specimen Type	Collection Guidelines	Container/ Minimum Volume	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments	TAT for Negative Report
CSF								
Lumbar puncture	Collected by physician or authorized personnel. For collection instructions, refer to: St. Michael's - CSF Collection Guidelines	Sterile screw – cap tube on tray. Bacteria: >1 mL Fungi: >2 mL AFB: >3 mL Virus: >1 mL	<15 min RT	Room temperature	None	SMH	Obtain blood culture also. If only 1 tube of CSF is collected, submit it to microbiology laboratory first; otherwise, generally submit tube #2. Specimen must be transported to the laboratory immediately. If after laboratory hours and meningitis is suspected call technologist on call through locating. If the volume is inadequate, please prioritize the testing on requisition or in order comments section of Soarian.	4 days
Ventricular shunt fluid	Collected by physician or authorized personnel	Sterile Container /Volume as for CSF	<15 min RT	Room temperature	None	SMH	Correct labeling of shunt fluid is important because organisms considered "contaminants" from lumbar punctures may be significant pathogens in ventricular shunt infections.	14 days

Specimen Type	Collection Guidelines	Container/ Minimum Volume	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments	TAT for Negative Report
EAR								
Inner Ear	Collected by authorized personnel.	Sterile screw-cap tube/ Sterile Container	<2hr; RT	Refrigerator	1/day/ same source	SMH	Anaerobes must be requested.	48 hours 4 days (if anaerobes requested)
Outer Ear	1. Use swab moistened with sterile, non-bacteriostatic saline to remove any debris or crust from ear canal. 2. Obtain sample by firmly rotating swab in outer canal.	M40 transystem/ eSwab Transport System	<2hr; RT	Refrigerator	1/day/ same source	SMH	For otitis externa, vigorous swabbing is required because surface swabbing may miss streptococcal cellulitis	48 hours 4 days (if anaerobes requested
EYE								
Conjunctiva	1. Pre-moisten swab with sterile non-bacteriostatic saline. 2. Roll swab over conjunctiva 3. Medium may be inoculated at time of collection or swab placed in transport. 4. Smear may be prepared at time of collection, by collecting another swab. Roll swab over 1-2 cm area in the center of the slide.	Direct culture inoculation: CHOC. or M40 transystem/ eSwab Transport System	Plates: <15 min RT Swab: <2hr; RT	Incubator Refrigerator	None	SMH		2 days

Specimen Type	Collection Guidelines	Container/ Minimum Volume	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments	TAT for Negative Report
EYE								
Corneal scrapings	1. Specimen collected by ophthalmologist. 2. Using sterile spatula, scrape ulcers or lesions, and inoculate scraping directly onto medium. **Note:** Prepare smears last or use separate spatula for smear preparation. 3. Prepare smears by rubbing material from spatula onto 1-2 cm area in the center of the slide.	Direct culture inoculations:, CHOC, SAB-G, FAB If virus or Chlamydia suspected inoculate appropriate transport media If acanthamoeba is suspected inoculate sample in container with sterile saline provided.	< 15 min RT	Incubator There is an incubator in the Microbiology Receiving Area: 2CC 2-044.	None	C+S, fungal SMH --- Viral, Chlamydia Acanthamoeba PHOL	The Copan UTM must be used for Chlamydia, Mycoplasma, and Viral culture. The specimen must be received by PHOL within 3 days of collection.	14 days C&S + fungal --- PHOL testing, please refer to PHOL website
Vitreous fluid Aspirate	Collected by physician or authorized personnel.	Capped syringe. **Do not send syringe with needle attached.**	<15 min RT	Refrigerator	1/day	SMH		14 days

Specimen Type	Collection Guidelines	Container/ Minimum Volume	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments	TAT for Negative Report
FAECES								
Routine culture	Pass directly into clean, dry container. Transfer approx. 2 grams of feces to Enteric transport system. Mix thoroughly. Tighten lid firmly. Urine or toilet water must never be mixed with the specimen. See Appendix H.	Enteric transport (Cary-Blair) >2 grams Add stool until liquid in container reaches the fill line.	<24hr; RT	Refrigerator	1/day to a max of 2 over 2-3 day	SMH	Do not routinely perform stool cultures for patients whose length of stay was > 3 days and admitting diagnosis was not gastroenteritis. However, consider *C. difficile*. Exceptions to the 3 day rule include specimens from patients involved in outbreaks, possible food poisoning, and immunocompromised patients (e.g. HIV). This must be clearly indicated on the order. Organisms routinely cultured*: Salmonella, Shigella, Campylobacter,* and *E.coli* O157. Other organisms must be specifically requested. Specimens >48 hours in transit will not be processed Specimens without preservative will not be processed unless the specimen is received in the laboratory within 2 hours of collection.	3 days
C. difficile toxin assay	Pass liquid or soft stool directly into a clean, dry container; soft stool is defined as stool assuming the shape of its container. See Appendix J.	Sterile Container >5 mL	<2 hr; RT	Refrigerator	7 days	SMH	Testing on formed or hard stool is not performed. A negative toxin test does not mean that the patient is not colonized with *Clostridium difficile*. Please contact the microbiologist.	24 hours

Specimen Type	Collection Guidelines	Container/ Minimum Volume	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments	TAT for Negative Report
FAECES								
Rectal swabs for Pediatric Enteric Pathogens	1. Carefully insert a sterile swab in beyond anal sphincter. 2. Gently rotate swab and sample the anal crypts. 3. Remove swab and place in swab transport. 4. Feces should be visible on swab for detection of diarrheal pathogens	M40 transystem/ eSwab Transport System	<2 hr; RT	Refrigerator	1/day	SMH	Swabs for routine enteric pathogens are not recommended except for infants. May be used to detect *Neisseria gonorrhoeae*	3 days
Rectal swabs (rectal carriage) MRSA, VRE, ESBL, CPE, Streptococcus pyogenes (Group A Streptococci)	1. Using a sterile swab sample the sides of the rectum and peri-anal area. 2. Insert swab into swab transport	M40 transystem/ eSwab Transport System	<2hr; RT	Refrigerator	1/week	SMH	Clearly identify test required on requisition.	MRSA, CPE & Grp A 24 hours --- VRE 48 hours
Shiga Toxin	Pass directly into clean, dry container. Transfer approx. 2 grams of feces to enteric transport system. Mix thoroughly. Tighten lid firmly. Urine or toilet water must never be mixed with the specimen.	Enteric transport (Cary-Blair) >2 grams Add stool until liquid in container reaches the fill line.	<24hr; RT	Refrigerator	1/day	PHOL	EIA testing performed by PHOL	Please refer to PHOL website

Specimen Type	Collection Guidelines	Container/ Minimum Volume	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments	TAT for Negative Report
FLUIDS								
Abdominal , Ascites, bile, joint, pleural, paracentesis, thoracentesis, synovial	1. Disinfect surface. 2. Obtain specimen with a sterile syringe. 3. Expel fluid into a sterile container. 4. Always submit as much fluid as possible; **Never submit a swab dipped in fluid**	Sterile Container	<15 min RT	Refrigerator	None	SMH	Anaerobes must be specifically requested	4 days --- 14 days (peri-prosthetic specimen)

Specimen Type	Collection Guidelines	Container/ Minimum Volume	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments	TAT for Negative Report
GENITAL: FEMALE OR MALE								
Lesion suspicious for Syphilis	Collected by physician or authorized personnel. Prepare a slide with the specimen. Air dry. **DO NOT FIX.** **Appropriate specimens are genital and eye** **Rectal specimens will be rejected**	Slide				PHOL	To detect *T. pallidum* *T. pallidum* cannot be cultured. If smears show signs of gross contamination with blood, they are unacceptable and the sample will not be tested. Due to the low sensitivity of the test, a blood sample should always be tested when syphilis is suspected	Please refer to PHOL website
Rectal Swab for *Neisseria gonorrhoeae*	1. Carefully insert a sterile swab in. beyond anal sphincter. 2. Gently rotate swab and sample the anal crypts. 3. Remove swab and place in swab transport.	M40 transystem/ eSwab Transport System	<2 hr; RT	Refrigerator	1/day	SMH		3 days
Lesion/Ulcer /aspirate suspicious for H. ducreyi (Chancroid)	Collected by physician or authorized personnel. Clean ulcers before collection using gauze soaked in saline. Swab the cleaned ulcer base with a cotton swab moistened with sterile saline. Insert swab into M40 transport system.	CHL(C) kit/Chlamydia trachomatis culture kit Aspirates should be placed in a Sterile Container	<2 hr; RT	Refrigerator Aspirates should be shipped frozen	Once only	NML via PHOL	*H.ducreyi* testing is done by PCR. Specimens submitted for *Haemophilus ducreyi* PCR are shipped every Wednesday to the NML for testing. TAT is up to 28 days	Please refer to PHOL/ NML websites

Specimen Type	Collection Guidelines	Container/ Minimum Volume	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments	TAT for Negative Report
FEMALE GENITAL SPECIMENS								
Amniotic fluid for bacterial culture	Collected by physician or authorized personnel	Sterile Container	<2hr; RT	Refrigerator	None	SMH		7 days
Bartholin's gland	Collected by physician or authorized personnel 1. Disinfect skin 2. Aspirate fluid from duct.	Sterile Container	<2hr; RT	Refrigerator	1/day	SMH	Anaerobes must be specifically requested.	3 days
Cervical Swab	1. Visualize the cervix using a speculum without lubricant. 2. Remove mucus and/or secretions from cervix with swab, and discard swab 3. Firmly yet gently, sample endocervical canal with sterile swab. 4. Insert swab into swab transport.	M40 transystem/ eSwab Transport System	<2hr; RT	Refrigerator	1/day	SMH	Cultured only for Neisseria gonorrhoeae. The Copan (UTM) must be used for Chlamydia, Mycoplasma, Ureaplasma and Viral culture. The specimen must be received by PHOL within 3 days of collection.	3 days
Cul-de-sac fluid	Collected by physician or authorized personnel. Submit aspirate or fluid	Sterile Container	<2hr; RT	Refrigerator	1/day	SMH		7 days
Endometrial tissue/ secretions	Collected by physician or authorized personnel. Requires protected catheter	Sterile Container or transport tube from protected catheter.	<2hr; RT	Refrigerator	1/day	SMH		7 days
Products of conception	Submit portion of tissue in sterile container	Sterile Container	<2hr; RT	Refrigerator	1/day	SMH	Lochia is an inappropriate specimen for culture.	7 days

Specimen Type	Collection Guidelines	Container/ Minimum Volume	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments	TAT for Negative Report
FEMALE GENITAL SPECIMENS								
Vaginal Swab	1. Wipe away excessive amounts of secretion or discharge. 2. Obtain secretions from mucosal membrane of vaginal vault with a sterile swab. 3. Insert swab into swab transport system.	M40 transystem/ eSwab Transport System	<2hr; RT	Refrigerator	1/day	SMH	Microscopic examination only for bacterial vaginosis, yeast and Trichomonas. NOTE: Specimen not appropriate for culture of N*eisseria gonorrhoeae*. Trichomonas culture is recommended. Collect a second vaginal specimen and place swab in trichomonas culture medium. This medium is available from the Microbiology laboratory 2-044CC.	24 hours
Vaginal/ rectal Pre-natal screen	1. Use one swab 2. Swab vagina first and then rectum.	M40 transystem/ eSwab Transport System	<2hr; RT	Refrigerator	1/day	SMH	Pre-natal screen for group B streptococci. Done at 35 –38 weeks	3 days
Intrauterine device	Collected by physician or authorized personnel. Place entire device into sterile container	Sterile Container	<2hr; RT	Refrigerator	1/day	SMH		24 hours

Specimen Type	Collection Guidelines	Container/ Minimum Volume	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments	TAT for Negative Report
MALE GENITAL CULTURES								
Urethral swab	1. Insert a small calcium alginate swab 2-4 cm. into urethral lumen, rotate swab, and leave in place for at least 2 seconds. 2. Insert swab in swab transport system.	M40 transystem/ eSwab Transport System	<2hr; RT	Refrigerator	1/day	SMH	Cultured only for *Neisseria gonorrhoeae*.	3 days
Semen	Collected by physician or authorized personnel	Sterile Container	<2hr; RT	Refrigerator	1/day	SMH	Cultured for *Neisseria gonorrhoeae* and urinary tract pathogens. More relevant results may be obtained by also culturing urine specimens obtained immediately before and after Massage.	3 days
Pilonidal cyst	See abscess							4 days

Specimen Type	Collection Guidelines	Container/ Minimum Volume	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments	TAT for Negative Report
LOWER RESPIRATORY TRACT SPECIMENS FOR BACTERIAL CULTURE								
Bronchoalveolar Lavage (quantitative)	Collect washing in a sputum trap	Sterile Container >40 mL	<2hr; RT	Refrigerator	1/day	SMH	A total of 40-80 ml. of fluid is needed for quantitative analysis of BAL fluid. BAL must be clearly marked on requisition For the quantitative culture of bacteria only	48 hours
Endotracheal aspirate	Collect aspirate in a sputum trap	Sterile Container	<2hr; RT	Refrigerator	1/day	SMH	Register as ETT	48 hours
Bronchial Brush	Place brush in sterile container with 1 ml of sterile non-bacteriostatic saline.	Sterile Container with 1 mL of sterile, non-bacteriostatic saline.	< 2hr; RT	N/A	1/day	SMH	Must be processed within 2 hours Bronchial brushings must be clearly marked on the requisition. These specimens can be cultured for bacteria only due to specimen constraints.	4 days
Bronchial washings	Collected by physician or authorized personnel	Sterile Container Bacteria: >1 mL Fungus: >1 mL AFB: >1 mL	<2hr; RT	Refrigerator	none	SMH	**No quantitative information provided.**	48 hours

Specimen Type	Collection Guidelines	Container/ Minimum Volume	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments	TAT for Negative Report
LOWER RESPIRATORY TRACT SPECIMENS FOR BACTERIAL CULTURE								
Sputum, expectorated	Collected by physician or authorized personnel 1. Have patient rinse or gargle with water to remove excess oral flora. 2. Instruct patient to cough deeply to produce a lower respiratory specimen. 3. Collect in a sterile container. See Appendix E	Sterile Container >1 mL	<2hr; RT	Refrigerator	1/day	SMH	For pediatric patients unable to produce a sputum specimen authorized personnel should collect a specimen via suction. Register as "Sputum"	48 hours
Sputum, Induced	Follow sputum induction policy. **Indicate on requisition that sputum is induced**.	Sterile Container >2 mL	<2hr; RT	Refrigerator	2 per admission	SMH	Specimens of unacceptable quality (> 25 squamous epithelial cells/LPF and <25 polymorphs/LPF) will not be processed. Induced sputum for PCP: See Table 3.1.	48 hours

Specimen Type	Collection Guidelines	Container/ Minimum Volume	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments	TAT for Negative Report
UPPER RESPIRATORY TRACT SPECIMENS								
Nasal Swab for *S. aureus* and MRSA	1. Drop 2 drops of non-bacteriostatic saline onto a sterile swab. 2. Insert swab deep in the anterior nares. Sample front, sides and back of nares for 5 seconds. 3. The same swab may be used for both sides 4. Insert swab into swab transport system.	M40 transystem/ eSwab Transport System	<2hr; RT	Refrigerator	1/day	SMH	If other organisms are requested the medical Microbiologist must be consulted.	24 hours
Nasopharyngeal Swab for Pertussis	Collected by physician or authorized personnel. 1. Insert flexible wire nasopharyngeal swab into one nostril 2. Press the swab tip on the mucosal surface of the mid-inferior turbinate 3. Rotate the swab slowly for 5 seconds to absorb secretions. 4. Withdraw swab and insert into Pertussis transport medium. 5. Cut excess wire with scissors	Pertussis transport media	<2hr; RT	Refrigerator	1/day	PHOL	Pertussis transport kits are available from the Microbiology laboratory room 2044 CC. PCR testing performed Viral, *Chlamydia*, and *Mycoplasma* tests require separate collection and transport kits.	Please refer to PHOL website

Specimen Type	Collection Guidelines	Container/ Minimum Volume	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments	TAT for Negative Report
Upper Respiratory Tract Specimens								
Throat Swab culture; **A**- Routine **B**- *C.diphtheriae* **C**- *N.gonorrhoeae*	Collected by physician or authorized personnel. 1. Depress tongue with a tongue depressor. 2. Sample poster pharynx, tonsils and inflamed areas with a sterile swab. 3. Insert swab into swab transport system.	M40 transystem/ eSwab Transport System	<2hr; RT	Refrigerator	1/day	**A,C:**SMH **B:** PHOL	**Throat swab cultures are contraindicated in patients with epiglotitis.** **A-** Beta hemolytic streptococci are the only organisms routinely sought. **B, C-** Requests for *Neisseria gonorrhoeae* and *C. diphtheriae* must be specifically requested If C+S for diphtheria requested please submit a second throat swab for referral to PHOL and notify Microbiologist. This specimen must be received by PHOL within 3 days of collection.	**A:** 24 hours **B:** Please refer to PHOL website **C:** 3 days Vincent's 24h Yeast 48 hours

Specimen Type	Collection Guidelines	Container/ Minimum Volume	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments	TAT for Negative Report
TISSUE								
Tissue	1. Collected by physician or authorized personnel. 2. Submit in sterile container. 3. For small samples, add several drops of sterile non-bacteriostatic saline to keep moist 4. Do not allow tissue to dry out.	Sterile Container	< 15 min RT	Refrigerator	none	SMH	Always submit as much tissue as possible. Never submit a swab that has simply been rubbed over the surface.	4 days 7 days (for gastric biopsy or for Helicobacter) 14 days (for periprosthetic)

Specimen Type	Collection Guidelines	Container/ Minimum Volume	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments	TAT for Negative Report
URINE FOR BACTERIAL CULTURE								
Female midstream	1. While holding the labia apart, begin voiding. 2. After several milliliters have passed, collect a midstream portion without stopping the flow of urine. 3. A sterile wide mouth container is used to collect the specimen. 4. Tighten lid of container See Appendix B.	40-60 mL Sterile Container	<30 min; RT	Refrigerator	1/48 hrs	SMH	**DO NOT LEAVE SPECIMEN AT ROOM TEMPERATURE.** Leaking specimens will not be processed. If the specimen is for low grade bacteriuria this must be indicated in Soarian order or on the requisition.	24 hours
Male midstream	1. While holding the foreskin retracted, begin voiding. 2. After several milliliters have passed, collect a midstream portion without stopping the flow of urine. 3. A sterile wide mouth container is used to collect the specimen. 4. Tighten lid of container See Appendix C	40-60 mL Sterile Container	<30min; RT	Refrigerator	1/48 hrs	SMH	**DO NOT LEAVE SPECIMEN AT ROOM TEMPERATURE.** Leaking specimens will not be processed	24 hours

Specimen Type	Collection Guidelines	Container/ Minimum Volume	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments	TAT for Negative Report
URINE FOR BACTERIAL/ CULTURE								
In/Out catheter	Collected by physician or authorized personnel	Sterile Container	<30 min; RT	Refrigerator	1/day	SMH	**DO NOT LEAVE SPECIMEN AT ROOM TEMPERATURE.** Leaking specimens will not be processed. Please indicate on requisition in/out catheter as these specimens are processed differently from midstream urines or indwelling catheters.	48 hours
Indwelling catheter	Collected by physician or authorized personnel. The specimen is obtained by aseptic puncture of the catheter tubing with a needle and syringe. Transfer specimen to a sterile container	Sterile Container	<30 min; RT	Refrigerator	1/day	SMH	**DO NOT LEAVE SPECIMEN AT ROOM TEMPERATURE. SPECIMENS FROM THE FOLEY BAG ARE UNACCEPTABLE.** Leaking specimens will not be processed. Please indicate indwelling catheter (foley). Patients with chronic indwelling catheters always have bacteria in their bladders. Do not collect urine from these patients unless they are symptomatic.	24 hours

Specimen Type	Collection Guidelines	Container/ Minimum Volume	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments	TAT for Negative Report
URINE FOR BACTERIAL/ CULTURE								
Cystoscopic/ Bladder/ Kidney, Ureter	Collected by physician or authorized personnel. Place collected specimen in sterile container.	Sterile Container >1 mL	<30 min; RT	Refrigerator	None	SMH	**DO NOT LEAVE SPECIMEN AT ROOM TEMPERATURE.** Please indicate on requisition the type of the specimen (cystoscopic, bladder, kidney, or ureter)	48 hours
Suprapubic Aspirate	Collected by physician or authorized personnel. Urine is aspirated through the bladder using a sterile needle and syringe. The urine is transferred to a clean, sterile container	Sterile Container >1 mL	<30 min RT	Refrigerator	1/day	SMH	**DO NOT LEAVE SPECIMEN AT ROOM TEMPERATURE.** Please indicate on requisition suprapubic aspirate. Anaerobic culture is only done on request.	48 hours

Specimen Type	Collection Guidelines	Container/ Minimum Volume	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments	TAT for Negative Report
URINE FOR BACTERIAL/ CULTURE								
Segmented Urine Cultures	Collected by physician or authorized personnel. Three urine specimens plus prostatic secretions are collected and designated as follows: VB1 = first voided urine representing the urethra VB2 = midstream urine representing the bladder VB3 = first voided urine after prostatic massage representing the prostate EPS= expressed prostatic secretions	Separate Sterile Container for each specimen.	<30 min. RT	Refrigerator	1/day	SMH	**DO NOT LEAVE SPECIMEN AT ROOM TEMPERATURE.** Clearly label each specimen with the source of the specimen. For the proper interpretation of results all specimens must be submitted.	48 hours

NOTE: The Turn-around time (TAT) for any positive culture varies depending on the complexity of the culture. Cultures are reviewed daily and updated as required. Cultures are complete once report has a "Final" status.

Table 1.2 Bacterial Serology

Please refer to testing location's website for Turn-Around-Times.

Disease/ Organism	Specimen collected	Device	Minimum Volume	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments
Botulism toxin detection	Clotted blood	Red or gold top tube	20 - 30 mL	<3 hr RT	Refrigerator		Botulism Reference Lab., Ottawa	Collect blood before giving anti-toxin. Consult with Microbiologist.
Brucellosis	Clotted blood	Red or gold top tube	5 mL	<3 hr RT	Refrigerator	1/week	PHOL	Acute and convalescent specimen required.
Cat Scratch Fever (Bacillary angiomatosis, Bartonella)	Clotted blood	Red or gold top tube	5 mL	< 3 hr RT	Refrigerator	1/week	PHOL	Acute and convalescent specimen required
Diphtheria antitoxin	Clotted blood	Red or gold top tube	5 mL	<3 hr RT	Refrigerator	1/week	PHOL	Restricted to immunocompromised patients. Consult with a Microbiologist.
Helicobacter pylori	Clotted blood	Red or gold top tube	5 mL	<3 hr RT	Refrigerator	1/week	PHOL (Orillia)	
Legionella antigen/antibodies (See Table 4.0)								
Lyme disease (Borrelia burgdorferi)	Clotted blood	Red or gold top tube	5 mL	<3 hr RT	Refrigerator	1/week	PHOL NML (European Lyme)	Acute and convalescent specimen required. Clinical history and recent travel history must be provided. CSF testing for Lyme disease by PCR requires approval on the Microbiologist and is performed at the National Microbiology Laboratory. Please refer to: Molecular detection of Borrelia burgdorferi sensu lato PHOL only tests for NA Lyme. European Lyme must be specifically requested to send to NML.

Disease/ Organism	Specimen collected	Device	Minimum Volume	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments
Lymphogranuloma venereum (LGV)	Clotted blood	Red or gold top tube	5 mL	< 3hr; RT	Refrigerator		NML	Specimen referred by PHOL to NML, Winnipeg, Man. **Clinical History must be provided.**
Pneumococcal antibody	Clotted blood	Red or gold top tube	5 mL	< 3hr; RT	Refrigerator	1/week	McGill University	Must have both a pre and a post sample.
Syphilis Serology	Clotted blood	Red or gold top tube	5 mL	< 3hr; RT	Refrigerator		PHOL	Positive syphilis screen is automatically tested by confirmation procedures.
Syphilis (VDRL)	CSF	Sterile Container	>1 mL in sterile tube	< 3hr; RT	Refrigerator		PHOL	Detects a non-treponemal antibody. Interpret in conjunction with clinical findings.
Tetanus toxin antibodies	Clotted blood	Red or gold top tube	5 mL	< 3hr; RT	Refrigerator		PHOL	Restricted to immunocompromised patients. Consult with a Microbiologist.
Tularemia	Clotted blood	Red or gold top tube	5 mL	< 3hr; RT	Refrigerator		PHOL	Acute and convalescent sera required.
Typhoid fever							PHOL	Serology for typhoid fever is no longer available. Please submit bone marrow, blood, and stool for culture.
Yersinia	Clotted blood	Red or gold top tube	5 mL	< 3hr;RT	Refrigerator		PHOL	

Table 1.3 Bacterial PCR

Please refer to testing location's website for Turn-Around-Times.

Disease/ Organism	Collection Guidelines	Container	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments
Cat Scratch Fever (bacillary angiomatosis,Bartonella)	Tissue: lymph node biopsy Fluid: lymph node aspirate CSF minimal volume: 0.5 mL	Sterile Container	2hr; RT	Refrigerator	Once	NML via PHOL HSC	Consult Microbiologist before submitting specimens.
Bordetella pertussis	Nasopharyngeal aspirate Auger suction	Sterile Container	< 2hr; RT	Refrigerator	Once	PHOL	PCR done at PHOL.
	Nasopharyngeal swab Tracheal aspirate Throat swab	Pertussis kit					
Whipple's disease (*T. whipplei*)	Tissue: lymph node Small bowel biopsy	Sterile Container	< 2hr; RT	Refrigerator	Once	NML	Consult Microbiologist before submitting specimens. Specimen referred to the National Microbiology Laboratory, Winnipeg. Tissue is the optimal specimen to submit
	CSF	Sterile Container					
	Blood	EDTA tube					

Table 2.1 Chlamydia Culture

Please refer to testing location's website for Turn-Around-Times

Specimen Type	Collection Guidelines	Devices and/or Min. Vol.	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments
CONJUNCTIVAL SCRAPINGS	Collected by physician or authorized personnel. 1. Scrape conjunctivae using a sterile disposable spatula. 2. Scrapings should be placed in Multitrans system. If the volume of scrapings is small, remove some culture media before adding scrapings. 3. Slides from corneal scrapings are no longer accepted	Copan UTM for Chlamydia, Mycoplasm, Ureaplasma and Viral Culture	< 2hr; RT	Refrigerator	None	PHOL	Specimen must be processed within 48 hours of collection. Transport medium is available from the Microbiology laboratory room 2044 C.C.
CONJUNCTIVAL SWAB	Collected by physician or authorized personnel. 1. Aseptically remove cap from Multitrans System, collect specimen as you would do for bacterial culture, then insert swab in medium. 2. Break swab shaft evenly at the scored line. 3. Replace cap on vial closing tightly.	Copan UTM for Chlamydia, Mycoplasm, Ureaplasma and Viral Culture	< 2hr; RT	Refrigerator	None	PHOL	Specimen must be processed within 48 hours of collection. Transport medium is available from the Microbiology laboratory room 2044 C.C.
ENDOCERVICAL SWAB	Collected by physician or authorized personnel. 1. Aseptically remove cap from Multitrans System, collect specimen as you would do for bacterial culture, then and insert swab in medium 2. Break swab shaft evenly at scored line. 3. Replace cap to vial and closely tightly.	Copan UTM for Chlamydia, Mycoplasm, Ureaplasma and Viral Culture	< 2hr; RT	Refrigerator	None	PHOL	Specimen must be processed within 48 hours of collection. Transport media is available from the Microbiology laboratory room 2044C.C.

Specimen Type	Collection Guidelines	Devices and/or Min. Vol.	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments
FLUIDS AND ASPIRATES Epididymis, Fallopian tube, Lymph node aspirate	Collected by physician or authorized personnel. 1. Fluids <1 ml and aspirates should be mixed with an equal volume of liquid from the Multitrans system. 2. Fluids > or =1 ml can be sent in a sterile empty container.	Copan UTM for Chlamydia, Mycoplasm, Ureaplasma and Viral Culture	< 2hr; RT	Refrigerator	None	PHOL	Specimen must be processed within 48 hours of collection. Transport media is available from the Microbiology laboratory room 2044 C.C.
RECTAL SWAB	Collected by physician or authorized personnel 1. Insert swab into rectum a roll against surface to collect cellular material. 2. Aseptically remove cap from transport vial. 3. Collect specimen 4. Insert swab into Multitrans System. 5. Break swab shaft evenly at the scored line. 6. Replace cap to vial and close tightly.	Copan UTM for Chlamydia, Mycoplasm, Ureaplasma and Viral Culture	< 2hr; RT	Refrigerator	None	PHOL	Specimen must be processed within 48 hours of collection. Transport media is available from the Microbiology laboratory room 2044 C.C. If C. trachomatis is isolated at the PHOL, it is sent to NML for LGV typing.
RESPIRATORY SPECIMENS Sputum, BAL, Bronchial wash, Nasopharyngeal swab, Lung tissue, Throat swab	Collected by physician or authorized personnel. Bronchial washes should be placed in a dry sterile container. Swabs should be placed in Multitrans System.	Dry Sterile Container or Copan UTM for Chlamydia, Mycoplasm, Ureaplasma and Viral Culture	< 2hr; RT	Refrigerator.	none	PHOL	Specimen must be processed within 48 hours of collection. Transport media is available from the Microbiology laboratory room 2004 C.C. ***C. pneumoniae* is no longer cultured. It is done by PCR only. See PCR for Chlamydia.**

Specimen Type	Collection Guidelines	Devices and/or Min. Vol.	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments
NASOPHARYNGEAL ASPIRATE or auger suction for *C. trachomatis* and *C. pneumoniae*	Place in a dry sterile container	Dry Sterile Container		Refrigerator	None	PHOL	For neonates and infants only.
TISSUE	Collected by physician or authorized personnel. 1. Place into transport media or dry sterile container.	Dry sterile container or Copan UTM for Chlamydia, Mycoplasm, Ureaplasma and Viral Culture	< 2hr; RT	Refrigerator	None	PHOL	Specimen must be processed within 48 hours of collection. Transport media is available from the Microbiology laboratory room 2044 C.C.
URETHRAL SWAB	Collected by physician or authorized personnel. 1.Patient should not urinate for 1 hour or more prior to sample collection. 2. Aseptically remove cap from Multitrans System, collect specimen as you would do for bacterial culture, then and insert swab in medium 3. Break swab shaft evenly at the scored line. 4. Replace cap to vial and close tightly.	Copan UTM for Chlamydia, Mycoplasm, Ureaplasma and Viral Culture	< 2hr; RT	Refrigerator	None	PHOL	Specimen must be processed within 48 hours of collection.

Table 2.2 Chlamydia Serology

Please refer to testing location's website for Turn-Around-Times.

Disease/ organism	Specimen collected	Minimum Volume	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments
C. trachomatis antibodies	5-10 mL clotted blood	Red or gold top tube	< 2hr; RT	Refrigerator		NML	Testing available only for Lymphogranuloma venereum. This is sent to the National Laboratory in Winnipeg. Isolation and direct detection recommended for other samples. Clinical information, including symptoms, history and immune status (if known) is required.
C. psittaci antibodies	5-10 mL clotted blood Collect convalescent specimen 5-10 days after acute specimen collected.	Red or gold top tube	< 2hr; RT	Refrigerator		NML	Available using microimmunofluorescence (MIFA). Acute and Convalescent preferred
C. pneumoniae antibodies	**This test is no longer available.**						

Table 2.3 Chlamydia PCR

Please refer to testing location's website for Turn-Around-Times

Specimen Type	Collection Guidelines	Devices and/or Min. Vol.	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments
VAGINAL/ CERVICAL/ RECTAL/ PHARYNGEAL (THROAT) SWAB	**Individual collection guidelines for each specimen type available.** **See Appendix G**	**Roche cobas PCR Media Dual Swab Sample Kit**	< 24hr; RT	2-30°C	1/week	PHOL	**If patient is under 12 years of age, please consult with the Medical Microbiologist.**
URINE Male, Female	Patient must not urinate 1 hour before specimen collection. 1. Collect 20-30 mL of first void urine by urinating approximately 2-3 seconds into a sterile container. 2. Check graduations on sterile container to ensure correct volume of urine is collected. See Appendix D.	Sterile Container	< 24hr; RT	Refrigerator	1/week	PHOL	**NOTE: Specimens will be rejected if there is greater than 50 mL of urine.** Unsuitable specimens: NAAT testing has not been validated for adolescents (less than 16 years), and medico-legal specimens (pre-pubertal children, sexual abuse in per-pubertal and pre-pubertal children, sexual assault and legal cases). Culture is the method of choice in these cases.

Specimen Type	Collection Guidelines	Devices and/or Min. Vol.	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments
RESPIRATORY SPECIMENS Nasopharyngeal swab (optimal specimen), Throat swab BAL, Lung tissue	Testing for *C.pneumoniae* NAAT 1. Aseptically remove cap from UTM, collect specimen as you would do for bacterial culture, then and insert swab in medium 2. Break swab shaft evenly at scored line. 3. Replace cap to vial and close tightly. BAL: Mix 1-2 mL of BAL into Copan UTM or place in a dry sterile container. Close tightly. **Send specimens STAT to the laboratory.**	Copan UTM or Dry Sterile Container	<15 min RT	Refrigerator	1/day	PHOL	Sputum and nasal swabs are unacceptable specimens and will not be tested by NAAT (Nucleic Acid Amplification Testing). Specimens must be stored and transported at 2-8^0 C to the PHOL Laboratory within 48 hours of collection.

Table 3.0 Fungus Culture

Specimen Type	Collection Guidelines	Devices and/or Min. Vol.	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments	TAT for Negative Report
GENERAL							Swabs are inappropriate specimens for fungus culture and will be rejected.	
BLOOD	Yeast: May be performed on the same sample submitted for C+S.	Blood culture bottles	< 2hr; RT	Room Temperature	3/day	SMH	If submitting blood culture bottles for yeast, please order in Soarian as Blood Culture – yeast or indicate on the requisition that yeast is required. Blood cultures for yeast are kept for 5 days only. Dimorphic fungi may grow in blood culture bottles after prolonged incubation. Please contact microbiology if these organisms are suspected.	10 days
	Dimorphic and filamentous fungi: Collect green top tube of blood Dimorphic fungi include Histoplasmosis, Blastomycosis and Coccidiomycosis Filamentous fungi include Fusarium, Scedosporium and Aspergillus	Green top vacutainer tube containing heparin. 5-10 mL	< 2hr; RT	Room Temperature	3/day	PHOL		Please refer to PHOL website
BONE MARROW	Collected by a physician or authorized personnel. Place 3-5 mL of bone marrow aspirate into a green vacutainer tube	Green top vacutainer tube containing heparin. 3-5 mL	< 2hr; RT	Refrigerator	1/day	PHOL		Please refer to PHOL website

Specimen Type	Collection Guidelines	Devices and/or Min. Vol.	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments	TAT for Negative Report
CSF	Collected by a physician or authorized personnel. Collected as for C+S, Table 1.1	Sterile tube	<15 min RT	Room temperature	1/day	SMH	May be done on the same sample submitted for C+S. but increase the sample size submitted. See Table 1.1: CSF A KOH direct exam is included if volume of specimen permits	4 weeks
FLUIDS Pleural, Ascites, Joint, Transudate, Exudates	Collected by physician or authorized personnel. Collected as for C+S, Table 1.1	Sterile Container	<15 min RT	Refrigerator	1/day	SMH	May be done on the same sample submitted for C+S. but increase sample size submitted. A KOH direct exam is included if volume of specimen permits	4 weeks
HAIR	Collected by physician or authorized personnel. 1. Infected hairs can be plucked with surgical forceps. 2.Hairs are placed onto black paper. 3. Fold the paper and place into transport bag.	Black paper	< 2hr; RT	Room temperature	1/day	SMH	Cultured for Dermatophytes	3 weeks
NAIL	Collected by physician or authorized personnel. 1. Area to be sampled should be cleaned with 70 % alcohol to remove surface bacterial contaminants. 2. Scrape away the superficial portions with the side of a surgical blade before collecting deeper sample. 3. Nail scrapings are collected onto black paper. 4. Fold the paper and place into transport bag.	Black paper	< 2hr; RT	Room temperature	1/day	SMH	Cultured for Dermatophytes	3 weeks

Specimen Type	Collection Guidelines	Devices and/or Min. Vol.	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments	TAT for Negative Report
SKIN SCRAPINGS	Collected by physician or authorized personnel. 1. Clean area with 70 % alcohol. 2. The active, peripheral edge of a lesion is scraped with a scalpel and the scales are collected on to black paper. 3. Fold paper and place into transport bag.	Black paper	< 2hr; RT	Room temperature	1/day	SMH	Cultured for Dermatophytes	3 weeks
RESPIRATORY SPECIMENS Sputum, ETT Bronchial washing, BAL	Collected as for C+S Sputum: early morning from deep cough or induced sputum. BAL, bronchial washings and induced sputa are collected as outlined in the section for C&S.	Sterile Container	< 2hr; RT	Refrigerator	1/day	SMH	May be done on the same sample submitted for C+S but increase sample size submitted. **A KOH will be done on bronchial washings.**	4 weeks
STOOL	Inappropriate specimen for fungus culture. Colonization with yeast is very common in both healthy individuals and compromised patients.							
TISSUE	Collected by physician or authorized personnel. Collected same as C+S.	Sterile Container	<15 min RT	Refrigerator	None	SMH	A KOH direct exam is included if volume of specimen permits	4 weeks
URINE	Collected as C+S.	Sterile Container	<30 min. RT	Refrigerator	1/day	SMH	May be done on the same sample as C+S. Only yeast are routinely sought. If filamentous fungus culture is required this must be indicated on the order.	Yeast – 48 hours Fungus – 4 weeks
ORAL CAVITY SWABS	Swab white plaques in oral cavity	M40 transystem /eSwab Transport System	<30 min. RT	Refrigerator	1/day/source	SMH	To diagnose thrush in immunocompromised patients.	48 hours

Table 3.1 Fungus Serology and Antigen Detection

Specimen Type	Collection Guidelines	Devices and/or Min. Vol.	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments	TAT for Negative Report
Antibodies to Histoplasmosis, Blastomycosis, Coccidioidomycosis and Aspergillus	Clotted blood required	Red/gold top Tube 5 mL	Room Temperature	Refrigerator		PHOL		Please refer to PHOL website
Antigen testing for Histoplasmosis, Blastomycosis and Aspergillus	Clotted blood required	Red/gold top Tube 5 mL	Room Temperature	Refrigerator		Miravista Laboratory USA	**This test requires the approval of a Microbiologist.**	Please refer to testing location website
Antigen testing for Histoplasmosis, Blastomycosis and Aspergillus	Urine, BAL, CSF, other sterile fluids	Sterile Container	Room Temperature	Refrigerator		Miravista Laboratory USA	**This test requires the approval of a Microbiologist**.	Please refer to testing location website
Galactomannan (Aspergillus Antigen detection)	Clotted blood or BAL	Red/gold top Tube 5 mL	Room Temperature	Refrigerator		Hospital Maisonneuve: Rosemont, Montreal	**This test requires the approval of a Microbiologist.**	Please refer to testing location website
RESPIRATORY SPECIMENS FOR PCP Sputum, Bronchial washing, BAL	Sputum: must be an induced sputum. Follow the sputum induction policy. BAL, bronchial washings collected same as C+S. Endotracheal aspirates will be examined for PCP.	Sterile Container	<2 hr; RT	Refrigerator	1/day	SMH	**Induced sputum must be clearly indicated on the requisition, otherwise specimens will be rejected.** BAL, bronchial washings are the preferred sample for the diagnosis of PCP.	24 hours
Aspergillus Precipitans	Clotted blood	Red or Gold top tube		Refrigerator	1/day	PHOL	5 Serotypes tested	

Table 4.0 Legionella Culture / Antigen Detection Serology

Please refer to testing location's website for Turn-Around-Times.

Specimen Type	Collection Guidelines	Devices and/or Min. Vol.	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments
RESPIRATORY SPECIMENS BAL, Bronchial wash, Lung tissue, Pleural fluid, Sputum	Collected by physician or authorized personnel. Collected same as C+S.	Sterile Container	<2 hr; RT	Refrigerator	None	PHOL	Sputum specimens are not optimal. Testing for Legionella is done by PCR. All positives are cultured. Cultures grown are identified to the genus, species and serogroup levels.
Legionella Antigen / Serology							
Specimen Type	**Collection Guidelines**	**Devices and/or Min. Vol.**	**Transport**	**Storage**	**Replica Limits**	**Location of Testing**	**Additional instructions and comments**
URINE FOR ANTIGEN DETECTION	Collect as C+S. Collect early A.M. and deliver promptly to the laboratory for the same day send-out. Must be received in the laboratory by 9 A.M.	Sterile Container >5 mL	<30 min RT	Refrigerator	1/day	PHOL	Detection of soluble antigens for *L pneumophila* serogroup 1 only.
BLOOD FOR ANTIBODIES	Paired clotted blood. Acute and convalescent specimen required. Collect 5-10 mL clotted blood. Collect convalescent specimen 5-10 days later.	Red or Gold (SST) top tube.	<2 hr; RT	Refrigerator	1/week	PHOL	

Table 5.0 Mycobacterial Diagnostic Tests

Please refer to testing location's website for Turn-Around-Times

Specimen Type	Collection Guidelines	Devices and/or Min. Vol.	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments
GENERAL INFO	Swabs are inappropriate specimens for TB culture and will be rejected. Specimens are referred to PHOL where a smear is prepared from a concentrated specimen. PCR is performed on smear positive specimens (once per patient) to identify *M. tuberculosis* complex. PCR cannot be performed on bloody specimens or urines. **If the specimen is smear negative or a non-respiratory specimen and PCR is requested, the ordering physician is requested to call customer service at PHOL for approval 416-235-6556.**						
ABSCESS CONTENTS/PUS	Aspirated material collected same as C+S.	Sterile container	< 2hr; RT	Refrigerator	1/day	PHOL	
BLOOD/BONE MARROW ASPIRATE	10 mL of heparinized blood.	Green top tube	< 2hr; RT	Refrigerator	1/day	PHOL	
RESPIRATORY SPECIMENS Bronchial washings/BAL	Collected as for bacterial culture.	Sterile Container	< 2hr; RT	Refrigerator	1/day	PHOL	Avoid contaminating bronchoscope with tap water. Saprophytic mycobacteria may produce false –positive culture or smear results. Bronchial brushings cannot usually be sent for Mycobacterial culture due to the small volume.
CSF	Collected as for bacterial culture.	Sterile tube >3 mL required for adequate culture	< 2hr; RT	Room Temperature	1/day	PHOL	
FLUIDS Pleural, Peritoneal, Pericardial, Synovial	Collected as for bacterial culture.	Sterile Container > 3 mL required for adequate culture	< 2hr; RT	Refrigerator	1/day	PHOL	

Specimen Type	Collection Guidelines	Devices and/or Min. Vol.	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments
SPUTUM Expectorated or induced	**Expectorated:** Collected as for bacterial culture. Do not have patient rinse mouth with tap water which may contain environmental mycobacteria. 3 deep coughed sputum specimens, at least 8 hours apart, including at least 1 early morning specimen is acceptable. See Appendix F **Induced:** Follow the sputum induction policy. Indicate that specimen is induced.	Sterile Container	< 2hr; RT	Refrigerator	1/day	PHOL	Induction is a high risk procedure. Follow the sputum induction policy. **Induced sputum must be clearly indicated.**
STOOL	Transfer > 1 gram of stool from bedpan into sterile container.	Sterile Container >1 gram	< 2hr; RT	Refrigerator	1/day	PHOL	**Only acceptable from immunocompromised patients. Stool in Bacterial Transport Media will be rejected. Direct examination not performed.**
TISSUE Lymph node, Biopsy material	Collect as for bacterial culture Do not wrap specimen in gauze. Minute amounts of biopsy material may be immersed in a small amount of sterile saline.	Sterile Container	< 2hr; RT	Refrigerator	1/day	PHOL	Specimens submitted in formalin are unacceptable for smear and culture.
URINE	Collect first morning (minimum 40 ml) obtained by catheterization or midstream clean catch. Collect first morning specimen on 3 consecutive days.	Sterile Container	< 2hr; RT	Refrigerator	1/day	PHOL	Unacceptable specimens: 24 hour pooled specimens, urine from catheter bag, specimens of <40 ml unless larger volume is not obtainable. Urine specimens should only be tested if renal TB is suspected, not as routine screening. **Direct examination not performed at SMH but a concentrated smear will be performed at PHOL**

Specimen Type	Collection Guidelines	Devices and/or Min. Vol.	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments
WOUND	Swabs are acceptable only if biopsy or aspirate is not obtainable. If used, they must be placed in M40 Transystem.	M40 transystem/ eSwab Transport System	< 2hr; RT	Refrigerator	1/day	PHOL	Negative results are not reliable **Direct examination not performed.** **Note on requisition or order entry comment section on Soarian of Mycobacterium request.**

For Quantiferon TB (QFT), refer to <u>Appendix P</u>.

Table 6.1 Mycoplasma/Ureaplasma Culture

Please refer to testing location's website for Turn-Around-Times.

Specimen Type	Collection Guidelines	Devices and/or Min. Vol.	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments
RESPIRATORY SPECIMENS Sputum, Endotracheal aspirate	Culture no longer available. See Table 6.2 for Mycoplasma PCR						
Nasopharyngeal swab	Culture no longer available. See Table 6.2 for Mycoplasma PCR						
Bronchial washing, BAL, Lung tissue	Culture no longer available. See Table 6.2 for Mycoplasma PCR						
GENITAL SPECIMENS	1. Aseptically remove cap from transport vial, collect specimen, then insert swab in UTM. 2. Break swab shaft evenly at the scored line and replace cap to vial closing tightly.	Copan UTM	< 2hr; RT	Refrigerator	1/day	PHOL	Semen and rectal swabs will be rejected.
URINE	Submit in dry sterile container	Dry Sterile Container	< 2hr; RT	Refrigerator	1/day	PHOL	
Body Fluid, CSF, Biopsies, Products of Conception	Submit in dry sterile container	Dry Sterile Container	< 2hr; RT	Refrigerator	1/day	PHOL	The yield is very low on CSF and is not recommended. Requires consultation with a Medical Microbiologist.

Table 6.2 Mycoplasma PCR

Please refer to testing location's website for Turn-Around-Times.

Specimen Type	Collection Guidelines	Devices and/or Min. Vol.	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments
RESPIRATORYSPECIMENS							
Throat swab, Nasopharyngeal swab	1. Aseptically remove cap from Copan UTM, collect specimen as you would do for bacterial culture, then insert swab in medium 2. Break swab shaft evenly at the scored line and replace cap to vial closing tightly.	Copan UTM	< 2hr; RT	Refrigerator	1/day	PHOL	PCR is automatically done on requests for Mycoplasma culture and requests for Chlamydia culture from these sites.
Lower respiratory Secretions i.e. BAL, BW, Sputum, ETT, lung tissue	Collect same as C+S. Mix with an equal volume of Copan UTM	Dry Sterile Container	< 2hr; RT	Refrigerator	1/day	PHOL	

Table 7.1 Parasite Examination

Please refer to testing location's website for Turn-Around-Times.

Specimen Type	Collection Guidelines	Devices and/or Min. Vol.	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments
ABSCESS/ PUS Liver, Lungs	Collected by physician or authorized personnel. **NOTE: 2 type of containers** 1. Aspirate in 2 portions. Place each portion into a sterile container. 2. Label samples as 1st and 2nd and indicate the time taken. 3. Place a portion of the 2nd sample immediately into an SAF container. 4. **SEND STAT TO THE LABORATORY.**	Sterile Container SAF container (Please send both)	<15 min; RT	Room temperature		PHOL	Sample must be immediately delivered to laboratory if amoeba is to remain viable.
BLOOD	10 ml of EDTA anti-coagulated blood	Lavender top tube	<15 min; RT	Room temperature		PHOL	NOTE: MALARIA TESTING PERFORMED IN THE CORE LABORATORY
BILE ASPIRATE	Collected by physician or authorized personnel. **NOTE: 2 types of containers** 1. Collect specimen and place into sterile container. 2. Add 5- 10 mL bile to an SAF container.	Sterile Container SAF container	<15 min; RT	Refrigerator		PHOL	
BONE MARROW	Collected by physician or authorized personnel.	Unpreserved specimen in saline	<15 min; RT	Room temperature	1/day	PHOL	
CSF	Collected by physician or authorized personnel. Collect into sterile tube.	Sterile tube >1 mL	<15 min; RT	Room temperature	none	PHOL	
CORNEAL ULCER for Acanthamoeba	Corneal scrapings material is collected by physician or authorized personnel. 1. Place collected corneal scrapings into the container with sterile saline provided in the eye kit. 2. Place patient's addressograph label onto the container.	Sterile container with sterile saline.	<15 min; RT	Incubator (35^0C)	none	PHOL	Container with sterile saline is available from the Microbiology laboratory Room 2044 CC

Specimen Type	Collection Guidelines	Devices and/or Min. Vol.	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments
CONTACT LENS for Acanthamoeba	Place contact lens into a sterile container. Opened solutions.	Sterile Container	<2 hr; RT	Refrigerator	none	PHOL	
DUODENAL DRAINAGE	Collected by physician or authorized personnel. 1. Collect 2-3 mL of duodenal drainage and immediately place into a small tube containing 8 mL of SAF. 2. Mix well	Small tube containing SAF	<2 hr; RT	Refrigerator	1/day	PHOL	
FAECES Ova and Parasites General	1. The initial collection prior to transfer to the SAF container should be directly into any clean, dry, wide mouthed container. 2. Using applicator or tongue depressor stick transfer enough faeces from the collecting container to a SAF container so that the SAF fluid reaches the fill line. 3. Using the applicator stick mix the specimen until it is homogenous. 4. Tighten lid securely. After the lid is tightly secured it may be shaken to further mix the contents. 5. SAF container must be labelled, with the patient's full name, and the **date collected.** 6. Submit 1 specimen per day for 3 days. See Appendix I	SAF container		Room temperature	1/day	PHOL	Unacceptable specimens: 1.Specimens contaminated with urine or water. 2.Specimens containing bismuth, barium, magnesium, mineral oil or gallbladder dye 3.More than one specimen per day is not acceptable and consecutive daily specimens are not ideal 4. Specimens not received in SAF
E. histolytica/E. dispar Differentiation	Collect stool as per Ova and Parasites General. **Do not put in SAF.** Place 1 gram in a sterile container.	Sterile Container	<24 hr Should be refrigerated	Refrigerator	1	PHOL	Specific antigen detection using the ELISA methodology is used to differentiate pathogenic *E. histolytica* from non-pathogenic *E. dispar*.

Specimen Type	Collection Guidelines	Devices and/or Min. Vol.	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments
STOOL for Microsporidium	Performed on same specimen submitted for O+P (see faeces above) Examination is routinely performed on: All specimens when requested All patients with AIDS All patients from the HIV and Infectious Disease clinics. All patients indicated as being immunocompromised.	SAF container		Room temperature	1/second day	PHOL	.
STOOL for Cryptosporidium Cyclospora	Performed on same specimen submitted for O+P (see faeces above) These parasites are routinely looked for in all specimens.	SAF container		Room temperature	1/second day	PHOL	
SCOTCH TAPE for pinworm (Pinworm paddle)	Specimens are best obtained upon waking and before bowel movement or bath. 1. Remove cap in which is inserted an optically clear poly-styrene paddle with one side coated with a non-toxic mildly adhesive material. This side is marked " sticky side" **DO NOT TOUCH THIS SURFACE WITH THE FINGERS.** 2. Press the sticky surface against several areas of perianal region while spreading open the perianal folds. Use moderate pressure. 3. Return cap with paddle to transport container and tighten cap. 4. Label with patients name. 5. Wash hands after collection. Collect on three consecutive days See Appendix K	Pinworm Paddle		Room temperature	1/day for 3 days.	PHOL	Faeces should not be submitted for the diagnosis of pinworm.

Specimen Type	Collection Guidelines	Devices and/or Min. Vol.	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments
SPUTUM	Deep cough of expectorated sputum is collected and immediately transferred into an SAF container so that there is approximately 1 part sputum to 3 parts SAF. Mix well	SAF container		Room temperature		PHOL	
TISSUE Liver, Spleen, Lymph node, etc.	Physician or authorized personnel should submit fresh tissue in sterile container. If tissue is small a few drops of sterile non-bacteriostatic saline should be added to prevent drying. Send immediately to the laboratory.	Sterile Container	<15 min RT	Refrigerator	None	PHOL	Clinical information required. Include travel history.
MUSCLE BIOPSY	Collected by physician or authorized personnel. Place biopsy into a sterile container. If tissue is small a few drops of non-bacteriostatic sterile saline may be added to prevent drying. Send immediately to the laboratory	Sterile Container	<15 min RT	Refrigerator	None	PHOL	Clinical information required. Include travel history
URINE for Schistosoma	1. Collect terminal 15-30 mL of midstream urine between 1200 and 1400 hours into a sterile container. 2. Indicate on requisition the time of specimen collection. 3. Three specimens on consecutive days are recommended.	Sterile Container	<15 min RT	Examined immediately upon receipt	1/day	PHOL	Not available on evenings and weekends
WORMS	1. Rinse debris from worm or proglottid and place in sterile container. 2. Add a small amount of saline or water.	Sterile Container		RT		PHOL	

Specimen Type	Collection Guidelines	Devices and/or Min. Vol.	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments
ARTHROPODS, TICKS, FLEAS	1. Place specimen in any dry, clean container 2. A history of the patient's travel should be obtained and included in the submission.	Dry container		Room temperature	none	PHOL	
SCABIES	1. Physician will add a small amount of mineral oil to the suspected area or distal end of a burrow and scrape with a scalpel or needle. 2. The adult mite can be seen as a white speck when the end of the burrow is opened. 3. The adult can be removed with a needle. 3. The scraping with the oil or adult mite is placed in a screw capped container with 70% alcohol.	Screw capped sterile container with 70% alcohol (obtain from Microbiology Laboratory) or sterile container.				PHOL	Must submit several clearly visible scrapings.
Toxoplasmosis	Physician or authorized personnel should submit fresh tissue in sterile container. If tissue is small a few drops of sterile non-bacteriostatic saline should be added to prevent drying. Send immediately to the laboratory.	Sterile container	<15 min RT	Refrigerator	none	PHOL	Clinical information required. Include travel history
VAGINAL SWAB for Trichomonas	1. Collect discharge material with sterile swab or speculum. 2. Place swab in to tube of Diamond's medium. 3. Recap the tube leaving swab in the Diamond's medium.	Tube containing Diamonds Medium	< 2hr; RT	Incubator in the Microbiology Receiving Area 2 CC Room 2-044.	1/day	SMH	Culture for Trichomonas is the most sensitive method. Trichomonas is also looked for in gram stains of vaginal swabs however this is not a very sensitive method. Diamond's medium is available from the Microbiology laboratory room 2044 C.C. **TAT for Negative Report:** 5 days

Table 7.2 Parasite Serology/PCR

Please refer to testing location's website for Turn-Around-Times.

Disease/ organism	Test	Specimen	Collection Device	Storage	Location of Testing	Additional Instructions and Comments
AMOEBIASIS	Serology	5 mL clotted blood	Red or Gold (SST) top tube	Refrigerator	PHOL	
CYSTICERCOSIS	Serology	5 mL clotted blood	Red or Gold (SST) top tube	Refrigerator	National Reference Centre for Parasitology, Montreal	Referred by PHOL to National Centre for Parasitology , Montreal
ECHINOCOCCUS	Serology	5 mL of clotted blood	Red or Gold (SST) top tube	Refrigerator	National Reference Centre for Parasitology, Montreal	Referred by PHOL to National Centre for Parasitology , Montreal
ENTAMOEBA HISTOLYTICA ANTIGEN DETECTION	ELISA for differentiation of *E.histolytica* and *E.dispar*	1 gram of unpreserved stool submitted within 24 hours of collection.	Sterile Container	Refrigerator	PHOL	This test is a follow-up to microscopic diagnosis in order to differentiate the two cryptic species. Diagnosis of infection should still be made on based on microscopy of SAF preserved stool specimens. **Do not submit specimens for this test if:** **1. The patient has not first been recently diagnosed as *E.histolytica/dispar* positive by microscopic examination.** **2. The patient is currently under treatment or has recently been treated for E. histolytica.** **3. The patient becomes symptomatic after treatment, first, submit an SAF preserved stool specimen for microscopic diagnosis.**
ENTAMOEBA HISTOLYTICA ANTIBODY DETECTION	Serology	5 mL clotted blood	Red or Gold (SST) top tube	Refrigerator	PHOL	
FILIRIASIS	Serology	5 mL clotted blood	Red or Gold (SST) top tube	Refrigerator	National Reference Centre for Parasitology, Montreal	Referred by PHOL to National Centre for Parasitology , Montreal

Disease/ organism	Test	Specimen	Collection Device	Storage	Location of Testing	Additional Instructions and Comments
LEISHMANIASIS	Serology	5 mL clotted blood	Red or Gold (SST) top tube	Refrigerator	National Reference Centre for Parasitology, Montreal	Referred by PHOL to National Centre for Parasitology , Montreal
SCHISTOSOMIASIS	Serology	5 mL clotted blood	Red or Gold (SST) top tube	Refrigerator	National Reference Centre for Parasitology, Montreal	Referred by PHOL to National Centre for Parasitology , Montreal
STRONGYLOIDIASIS	Serology	5 mL clotted blood	Red or Gold (SST) top tube	Refrigerator	National Reference Centre for Parasitology, Montreal	Referred by PHOL to National Centre for Parasitology , Montreal
TOXOCARA	Serology	5 mL clotted blood	Red or Gold (SST) top tube	Refrigerator	PHOL	Please specify immunity or diagnosis
TOXOPLASMA	Serology	5 mL clotted blood	Red or Gold (SST) top	Refrigerator	PHOL	Please indicate immunity or diagnosis. No longer available for CSF or Vitreous Fluid. A negative result is not meaningful from those two sites.
Toxoplasma **PCR**	PCR	CSF: 1 mL minimum Amniotic fluid: 5 ml. Vitreous fluid: any amount Blood in EDTA x2 Tissue in dry sterile container	Sterile Container		National Reference Centre for Parasitology, Montreal	Must be received in Montreal within 48 hours of collection. Requires consultation with a Microbiologist.
TRYPANOSOMIASIS (African and American)	Serology	5 mL clotted blood	Red or Gold (SST) top tube	Refrigerator	PHOL	Referred by PHOL to National Centre for Parasitology , Montreal Specify travel history.

Table 8.1 Virus Culture

Please refer to testing location's website for Turn-Around-Times.

Specimen Type	Collection Guidelines	Devices and/or Min. Vol.	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments
GENERAL	In general, specimens for virus isolation should be collected within 4 days after onset of illness, because virus shedding decreases rapidly after that time. With only rare exceptions, virus cultures collected >7 days after onset of illness are not worthwhile	Sterile fluids, BAL, Pleural, urine and stool should be placed in a sterile container. All swabs should be placed in Copan UTM.	Transport to the laboratory as soon as possible	See specimen specific instructions below			To ensure proper evaluation the following information should accompany the specimen: 1. Date of onset of illness 2. Date and time specimen was collected 3. Admitting diagnosis 4. Source and site of specimen SUSPECTED VIRUS MUST BE SPECIFIED
NASO-PHARYNGEAL SWAB FOR INFLUENZA	Collected by physician or authorized personnel.	Copan UTM with Nasopharyngeal swab included	Transport to the laboratory as soon as possible.	Refrigerator	1 per patient	SMH/ PHOL	PCR testing for Influenza done at SMH. Culture and PCR done at PHOL
NASO-PHARYNGEAL SWAB, THROAT AND CONJUCTIVAL SWABS	Collected by physician or authorized personnel.	Copan UTM	Transport to the laboratory as soon as possible.	Refrigerator		PHOL	SUSPECTED VIRUS MUST BE SPECIFIED
BAL, BW, SPUTUM, ETT	Collected by physician or authorized personnel.	Dry sterile container	Transport to the laboratory as soon as possible.	Refrigerator		PHOL	SUSPECTED VIRUS MUST BE SPECIFIED

Specimen Type	Collection Guidelines	Devices and/or Min. Vol.	Transport	Storage	Testing Limits	Location of Testing	Additional Instructions and Comments
BONE MARROW	Collected by physician or authorized personnel.	Dry Sterile Container	Submit at room temperature	Room temperature	1/day	PHOL	If only a small amount of bone marrow is aspirated, it can be mixed with a small amount of Copan UTM.
CSF	Collected by physician or authorized personnel. Collected same as C+S (see Table 1.1)	Sterile screw cap tube 1 mL	<15 min RT	Room Temperature	1/day	PHOL	Rates of virus recovery from CSF are generally low. Nucleic Acid amplification techniques are now the standard of care when a diagnosis of encephalitis or enteroviral meningitis is suspected. Please list the suspected pathogens.
OTHER FLUIDS/TISSUES i.e. pleural, pericardial, autopsy specimen	Collected by physician or authorized personnel.	Dry Sterile Container	Transport to the laboratory as soon as possible.	Refrigerator	1/day	PHOL	SUSPECTED VIRUS MUST BE SPECIFIED
STOOL	Collect in sterile container.	Sterile Container	Laboratory within 24 hours	Refrigerator	1/week	PHOL	Detection of Rotavirus and Norwalk virus requires a fresh undiluted stool sample collected early in the course of the disease. If Enterovirus suspected please specify.
EYE	Corneal Scrapings	Copan UTM	Transport to the laboratory as soon as possible.	Refrigerator		PHOL	If Adenovirus is suspected, please specify

Table 8.2 Viral Serology, Antigen Detection and PCR

Please refer to testing location's website for Turn-Around-Times

Disease/ organism	Test	Specimen	Collection Device	Storage	Location of Testing	Additional Instructions and Comments
ADENOVIRUS GROUP	PCR	5 mL EDTA blood (2 tubes)	Lavender top tube	Room temperature	HSC	
		10 mL urine	Sterile container	Refrigerator		
		Nasopharyngeal Swab and Throat swab	Copan UTM	Refrigerator	HSC	
		BAL and BW	Dry sterile container			
SARS CoV	PCR	10 mL EDTA blood	Lavender top tube	Room temperature	PHOL	**MUST CONSULT MICROBIOLOGIST AND THE INFECTION CONTROL PRACTITIONER ON CALL BEFORE SUBMITTING SPECIMENS TORONTO PUBLIC HEALTH MUST BE NOTIFIED**.
		10 mL urine Stool Respiratory specimens	Sterile Container	Refrigerator		
MERS CoV					PHOL	**MUST CONSULT MICROBIOLOGIST AND THE INFECTION CONTROL PRACTITIONER ON CALL BEFORE SUBMITTING SPECIMENS TORONTO PUBLIC HEALTH MUST BE NOTIFIED**

Disease/ organism	Test	Specimen	Collection Device	Storage	Location of Testing	Additional Instructions and Comments
CREUTZFELDT JAKOB DISEASE (CJD)	CSF for 14-3-3 protein .	CSF	2-3 mL in a Sterile Container	Freezer	National Microbiology Laboratory Winnipeg	**ADVANCED NOTIFICATION PRIOR TO SPECIMEN COLLECTION OF HIGH/LOW INFECTIVITY SPECIMES FOR ?CJD PATIENTS SHOULD BE PROVIDED TO INFECTION PREVENTION & CONTROL AND THE MEDICAL MICROBIOLOGIST ON CALL.** **PLEASE REFER TO IPAC POLICY FOR CJD** **- Minimize staff involved in collection of specimens** **- Use single-use instruments** **- Wear appropriate single-use PPE** **- High or Low Infectivity tissues ?CJD patient should be sent to the laboratory in a sealed, leak-proof, puncture-resistant container that is clearly labeled as "risk for CJD".** **- After collection, all single-use instruments and PPE should be sealed in a leak-proof, puncture-resistant container labeled "Biohazardous" and incinerated.** **- Specimens should be hand-delivered to the laboratory. Do not leave specimens unattended.** **DO NOT USE THE PNEUMATIC TUBE SYSTEM.** Consult Microbiologist before submitting specimens. Infection Prevention and Control must be notified prior to testing for CJD. Samples with visible blood or xanthochromia are unsuitable for testing. Post–mortem samples will not be processed. Send specimen STAT to the laboratory as specimen must be frozen immediately.

Disease/ organism	Test	Specimen	Collection Device	Storage	Location of Testing	Additional Instructions and Comments
CMV	PCR QUALITATIVE	Please refer to Herpes Virus Group (PCR)				
	PCR QUANTITATIVE	CSF	Sterile Container	Room temperature	Mt. Sinai Hospital (HSC)	Please notify the microbiology laboratory so that shipment can be arranged promptly
		5 mL EDTA blood	Lavender top tube	Room temperature		
	Serology IgG and IgM antibodies	5 mL clotted blood	Red or Gold (SST) top tube	Refrigerator	PHOL	IgG antibodies for immunity IgM antibodies diagnosis Please indicate on requisition immunity or diagnosis
ENTERO-VIRUS GROUP	Reverse Transcription - PCR	1 mL CSF	Sterile tube	Refrigerator	HSC	Diagnosis of aseptic meningitis. Must be reviewed by a microbiologist or have an ID consult prior to sending to HSC. For EV-D68 testing, please contact Microbiologist. Information is provided by following this link https://www.publichealthontario.ca/en/BrowseByTopic/InfectiousDiseases/Pages/Enterovirus-D68.aspx#how
	Serology					Test no longer available
Epstein Barr Virus (EBV)	PCR QUALITATIVE	Please Refer to Herpes Virus Group (PCR)				
	PCR QUANTITATIVE	CSF	Sterile Container	Room temperature	Mt. Sinai Hospital (HSC)	Test used for the monitoring of EBV lymphoproliferative disease. Please notify the microbiology laboratory so that shipment can be arranged promptly
		5 mL EDTA blood	Lavender top tube	Room temperature		
	Serology Antibodies	5-10 mL clotted blood	Red or Gold (SST) top tube	Refrigerator	PHOL	Antibody pattern interpretation required
HEPATITIS A	Immunity: HAV IgG Diagnosis: HAV IgM	5-10 mL clotted blood	Red or Gold (SST) top tube	Refrigerator	PHOL	IgG antibodies to assess immunity. IgM antibodies to assess acute disease. PLEASE INDICATE ON REQUISITION IMMUNITY OR DIAGNOSIS. If HAV IgG and HAV IgM are both requested a reason must be provided.

Disease/ organism	Test	Specimen	Collection Device	Storage	Location of Testing	Additional Instructions and Comments
HEPATITIS B (surface antigen) (core total) (core IgM) (e antigen) (e antibody) (surface antibody)	Diagnosis Acute: HBsAg Anti- HBc (total) Anti HBc (IgM) HBeAg HBe Ab Diagnosis Chronic: HBsAg Immunity: Anti- HBs	5-10 mL clotted blood, depending on the number of requests	Red or Gold (SST) top tube	Refrigerator	<u>SMH</u> HBs Ag Anti- HBc (total) Anti-Hbs <u>PHOL</u> Anti-HBc (IgM) HBeAg Anti - HBe	HBsAg used to assess acute or chronic disease Anti-HBc (total) used to assess acute or past disease Anti-HBc IgM used to assess acute disease. Anti-HBc (total) is used to assess acute or past disease. It must be reactive for IgM testing to be performed. Anti –HBs is used to assess immunity. Please indicate on requisition acute/chronic diagnosis or immunity. Note: If only “Hepatitis B” is indicated on the requisition only HBsAg will be performed. HBeAg and Anti-HBe aids in the assessment of infectivity of HBs Ag positive patients. The laboratory will submit HBsAg reactive specimens for HBeAg and anti-HBe testing.
HEPATITIS B (viral load)	Quantitative DNA PCR	10 mL of clotted blood. **NOTE SPECIMEN MUST BE SEPARATED AND FROZEN WITHIN 4 HOURS OF COLLECTION SEND STAT Collect Monday - Friday**	2 Red or Gold (SST) top tubes	Processed immediately upon receipt	PHOL	**SPECIMEN MUST BE SENT AS STAT** **Clinical information needed:** **LFT results, treatment information.** **Physician must fill out PHOL requisition. See Appendix N or fill out Hepatitis B section of PHOL form:** http://www.publichealthontario.ca/en/eRepository/PHL_hepatitis_PCR_requisition.pdf **Sample will be held for 2 weeks pending receipt of PHOL requisition, then discarded.** Useful for monitoring drug therapy for chronic hepatitis. Not useful for diagnosis.

Disease/ organism	Test	Specimen	Collection Device	Storage	Location of Testing	Additional Instructions and Comments
HEPATITIS C	HCV antibody	10 mL of clotted blood	Red or Gold (SST) top tube	Refrigerator	PHOL	The detection of antibodies cannot be used to differentiate between a previous infection (chronic) and an acute infection.
	Quantitative RNA PCR Genotyping (done on same sample as PCR)	10 mL of clotted blood **NOTE: SPECIMEN MUST BE SEPARATED AND FROZEN WITHIN 4 HOURS OF COLLECTION. SEND STAT Collect Monday - Friday**	2 Red or Gold (SST) top tubes	Processed immediately upon receipt	PHOL	**SPECIMEN MUST BE SENT AS A STAT TEST WILL ONLY BE PERFORMED ON PATIENTS BEING CONSIDERED FOR OR CURRENTLY UNDERGOING TREATMENT FOR HEPATITIS C AND WHEN THE HEPATITIS C ANTIBODY IS INDETERMINANT.** **Physician must fill out the PHOL requisition. See Appendix N or fill out Hepatitis C section of PHOL form:** http://www.publichealthontario.ca/en/eRepository/PHL_hepatitis_PCR_requisition.pdf **Sample will be held for 2 weeks pending receipt of PHOL requisition, and then discarded.** **Clinical information needed:** **Liver Function Tests** **IV drug user: yes or no** **Treatment: yes or no.** Quantitative is used to assess HCV viral load pre –treatment and response to treatment at 3 months and the end of treatment. Genotyping to determine genotype. Done pre-treatment automatically. It will only be done once.
HEPATITIS D	HDV (Delta hepatitis) ONLY PERFORMED ON HBsAg Reactive Specimens	5 mL of clotted blood	Red or Gold (SST) top tube	Refrigerator	NML	This test is processed only when HBs Ag is reactive. HDV is a deficient virus and multiplies only in the presence of HBV.
HEPATITIS E	HEV antibody	5 mL clotted blood	Red or Gold (SST) top tube	Refrigerator	NML	Relevant clinical details including travel history and liver function tests are required before test is performed.

Disease/ organism	Test	Specimen	Collection Device	Storage	Location of Testing	Additional Instructions and Comments
HERPES VIRUS GROUP	PCR: includes HSV-1, HSV-2, VZV , CMV, EBV, HHV6A and HHV-6b, HHV7 and HHV8	0.5- 1 mL CSF (0.25 mL minimum)	Sterile tube	Refrigerator or freezer. See comments.	SMH Mt.Sinai Hospital/HSC	**Please specify the requested virus(s) from the Herpes Virus Group** **For the diagnosis of HSV encephalitis CSF specimen is sufficient.** **Patient must have an Infectious Diseases Consultation, Neurological Consultation or other service related specialist.** Do NOT collect in heparin. EDTA tubes can be stored for 24h in the fridge. For >24h storage, tubes must be centrifuged, plasma separated and frozen at -70 to -80°C. CSF tubes and lesion swabs can be stored for 48h in the fridge. For >48h storage, freeze at -70 to -80°C.
		5 mL EDTA blood	Lavender top tube			
		Lesion swab Tissue, fluid, urine (CMV only)	Copan UTM Clean sterile container			
HERPES SIMPLEX	HSV antibodies IgG	5 mL of clotted blood	Red or Gold (SST) top tube	Refrigerator	PHOL	Acute and convalescent specimens required. IgM has been discontinued.
HIV 1&2	HIV Antibodies	5 mL of clotted blood	Red or Gold (SST) top tube	Refrigerator	PHOL	EIA screen and P24 Antigen performed, if reactive supplemental EIA, Western Blot performed. CSF will no longer be tested for HIV **The name of the physician should be on the requisition otherwise specimen will be rejected.** **CONSENT MUST BE OBTAINED.** **CONSENT FORM REMAINS WITH CHART.** **Test cannot be added on verbally**

Disease/ organism	Test	Specimen	Collection device	Storage	Location of Testing	Additional Instructions and Comments
HIV Viral Load Genotyping	PCR Quantitative HIV	2 x 5 mL EDTA blood **Must send as a STAT.** **Plasma must be removed from cells within 24 hours of collection.** **Collect Monday – Friday HIV Viral Load requisition must be used.**	2 Lavender top tubes or 1 pink top tube	Processed immediately upon receipt.	PHOL	Testing only available for patients known to be HIV positive. Used to monitor therapy. **PHOL HIV Viral Load requisition must be completed in order for testing to be performed. See Appendix O. This information is necessary for the interpretation of results.** **Health Insurance Number, Patient Name, CD4, current therapy and name of physician ordering test are mandatory.** **If genotyping is required, attach the HIV Genotyping requisition. See Appendix M.**
HIV 1, 2 PCR (HIV proviral DNA)	PCR Qualitative used to assess in the diagnosis of HIV infection. **Notify the microbiology laboratory before collection.**	HIV 1: 5 mL clotted blood and 2 x 5 mL EDTA HIV 2: 2 x 5 mL EDTA **Must send as STAT.** **Collect Monday – Thursday** **Please collect early morning.**	Red or Gold (SST) top tube and 2 Lavender top tubes 2 Lavender top tubes	Refrigerator	PHOL NLHRS	Useful to assist in the diagnosis of HIV infection under specific conditions: - Diagnosis of HIV in infants born to HIV infected mother; - The resolution of HIV antibody indeterminate cases; - The diagnosis of HIV infection in individuals who are likely to be in the pre-antibody seroconversion window. HIV PCR on CSF has been discontinued. **DO NOT COLLECT ON FRIDAY**
HTLV	Antibody detection	5 mL of clotted blood	Red or Gold (SST) top tube	Refrigerator	PHOL	Testing on CSF has been discontinued.
	PCR	10 mL of blood in EDTA	2 Lavender top tubes	Room temperature	NML	Testing is only done when serology is indeterminant. **DO NOT COLLECT ON FRIDAY.**
HTLV Proviral Load		10 mL of blood in EDTA	2 Lavender top tubes	Room temperature	NLHRS (Ottawa)	NLHRS is National Laboratory for HIV Reference Service. Testing is only done when serology is indeterminant. **DO NOT COLLECT ON FRIDAY.**

Disease/ organism	Test	Specimen	Collection device	Storage	Location of Testing	Additional Instructions and Comments
INFECTIOUS MONO-NUCLEOSIS	Heterophile antibody detection (Monospot)	5 mL of clotted blood	Red or Gold (SST) top tube	Refrigerator	SMH	**TAT for Negative Report:** 24 hours
INFLUENZA TYPE A and B SEROLOGY						Test no longer available
MEASLES	Diagnosis: IgM antibody Immunity: IgG antibody	For diagnosis IgM testing collect 5 mL of clotted blood 4-28 days after onset of symptoms. A follow-up specimen collected 7-10 days later may be required for diagnosis. Immunity: 5 mL of clotted blood.	Red or Gold (SST) top tube	Refrigerator	PHOL	**Please specify on requisition whether test is for immunity or diagnosis.**
	PCR	Nasopharyngeal, throat or conjunctival Swab in viral transport.	Copan UTM	Refrigerator	NML	PCR and culture can be done on the same specimen.
		Urine, CSF	Sterile container			
MUMPS	Diagnosis: IgM antibody Immunity: IgG antibody	5 mL of clotted blood.	Red or Gold (SST) top tube	Refrigerator	PHOL	**Please specify on requisition whether test is for immunity or diagnosis.**
	PCR	Throat or Buccal swab	Copan UTM	Refrigerator	PHOL	
		Urine 50 mL CSF 1 mL	Sterile container			
PAPILLOMA VIRUS						Cytology done at SMH. Culture and PCR available from Gamma Dynacare and Life labs.

Disease/ organism	Test	Specimen	Collection device	Storage	Location of Testing	Additional Instructions and Comments
PARVOVIRUS B 19	IgG and IgM Antibodies	5 mL of clotted blood	Red or Gold top tube	Refrigerator	PHOL	Ig M is only performed if clinical information is provided
	PCR	2 x 5 mL EDTA 5 mL of clotted blood	2 Lavender tobbed tubes Red or Gold (SST) top tube	Room temperature	HSC	Please send as a STAT specimen so that the transfer to HSC can be arranged. **Please notify the Microbiology Laboratory before collecting specimen. Approval from Medical Microbiologist required.** **Do not send amniotic fluid on Fridays.**
		Amniotic fluid 200 µL	Sterile container	Refrigerator	McGill University	
POLYOMA VIRUS	BK Virus PCR	5 mL of EDTA blood Collect: Monday – Friday	Lavender top tube	Refrigerator or freezer, see comments	SMH	Do NOT collect in heparin. EDTA tubes can be stored for 24h in the fridge. For >24h storage, tubes must be centrifuged, plasma separated and frozen at -70 to -80°C. CSF tubes can be stored for 48h in the fridge. For >48h storage, freeze at -70 to -80°C.
	JC Virus	0.5-1 mL CSF (minimum 0.25 mL)	Sterile container			
RABIES	Antibody detection	5 mL of clotted blood	Red or Gold (SST) top tube	Refrigerator	PHOL	Test is for the presence of antibody only.
RUBELLA	Diagnosis: IgM antibody	For diagnosis IgM testing, collect 5 ml of clotted blood 4-28 days after onset of symptoms. A follow up specimen collected 7-10 days after may be required for diagnosis.	Red or Gold (SST) top tube	Refrigerator	Diagnosis IgM: PHOL	**Please specify on requisition whether test is for immunity or diagnosis.**
	Immunity: IgG antibody	Immunity: 5 mL of clotted blood			Immunity IgG: SMH	
TORCH SCREEN	Toxoplasmosis, Rubella, Cytomegalovirus and Herpes Simplex	5 mL of clotted blood	Red or Gold (SST) top tube	Refrigerator	PHOL	Neonatal screen detects IgG and IgM antibodies.

Disease/ organism	Test	Specimen	Collection device	Storage	Location of Testing	Additional Instructions and Comments
VARICELLA ZOSTER (VZV)	Diagnosis: IgM antibody Immunity: IgG antibody	5 mL of clotted blood	Red or Gold (SST) top tube	Refrigerator	PHOL	**Please specify on requisition whether test is for immunity of diagnosis.** **If STAT required for specific patient (i.e. exposed pregnant woman), a phone call to the Microbiology lab must be made to flag specimen as STAT.**
	PCR The test done includes VZV, HHV-7, HHV6A and HHV-6b	Please refer to Herpes Virus Group (PCR)				
WEST NILE VIRUS	Antibody detection	5 mL of clotted blood	Red or Gold (SST) top tube	Refrigerator	PHOL	Single sample after onset of symptoms may be sufficient. If negative, send a second specimen 10-14 days after onset of symptoms. IgM only available. CSF is not ideal for detection of West Nile Virus. Blood is preferred.
		2 mL of CSF	Sterile tube			
	PCR	1 mL of CSF	Sterile container	Refrigerator	PHOL	Please send as a STAT specimen so that arrangements can be made to transfer specimen.
ZIKA VIRUS	PCR IgM antibody	2-5 mL of clotted blood For additional specimen types, please refer to: Public Health Ontario - Zika Testing	Gold (SST) top tube	Refrigerator	PCR: PHOL Serology: NML	For detailed testing and collection instructions, please refer to Public Health Ontario - Zika Testing. A Mandatory Information Intake Form for Zika Virus Testing must also be submitted with the specimen.

Table 8.3 Specimen Guide for Common Viral Syndromes

Clinical syndrome	Associated virus	Resp	Lesion	Urine	CSF	Faeces	Tissue	Blood	Other
Aseptic meningitis/ Encephalitis	Arbovirus (West Nile)				X		X		
	HSV				X		X	PCR	
	Enterovirus	X			X	X	X		
Neonatal infection	CMV	X					X		
	Enterovirus	X		X	X		X		
	HSV	X	X		X	X	X		
Gastroenteritis	Norwalk					X			
	Rotavirus					X			
	Enterovirus					X			
Genital	CMV		X						
	HSV		X						
Ocular	Adenovirus							Serology	Conj.swab
	CMV							Antigenemia	Conj swab
	Enterovirus								Conj.swab
	HSV								Conj.swab
Rash: Maculopapular	Adenovirus						X	Serology	
	Enterovirus						X		
	Measles						X	Measles IgM	
	Rubella						X	Rubella IgM	
Rash: Vesicular	Enterovirus		X				X		
	HSV		X				X		
	Varicella-zoster		X				X	VZV IgM	
Respiratory	CMV	X					X		
	Coronavirus (SARS)	X				X		PCR	NP swab, Notify MOH
	Enterovirus	X					X		
	HSV	X					X		
	Influenza	X							NP swab
	Metapneumovirus	X							Np swab
	Parainfluenza	X							NP swab
	RSV	X							NP swab
Urinary	CMV			X					
	Mumps			X					

Table 9.0 Requirements for Pediatric Specimen Collection

Specimen volume pediatric specimens
The volumes of specimen available for testing will vary according to the age and size of the child. Limited volumes are especially pertinent to the collection of blood, urine, CSF, other sterile fluids and tissue samples submitted for culture

Specimen Type	Collection	Additional instructions and comments
Blood for culture Peripheral	As for adults. Withdraw a volume of 1-2 mL and inoculate the sample into a pediatric blood culture bottle. For older children, up to 4 ml. of blood may be collected.	The volume obtained for blood culture from children should be based on the weight of the child. A general guideline is as follow: <1 kg 1-2 mL (pediatric bottle) 1.1 – 2 kg 2-3 mL (pediatric bottle) 2.1-12.7 kg 3-5 mL (pediatric bottle) 12.8-36 kg 5-10 mL (single aerobic adult bottle. Please label requisition with the age of the patient and include the weight.)
CSF Lumbar puncture	As for adults	Limitations to the volume of fluid Retrievable
Ventricular shunts	As for adults	Correct labeling of shunt fluid is important because organisms considered "contaminants" from patients without shunts may be significant pathogens in ventricular shunt infections
Dermatologic specimens Bacterial and viral cultures Pustule or vesicular lesions Skin Scrapings	Disinfect surface and allow to dry. Unroof the pustule. Aspirate fluid for culture and then insert swab and rotate vigorously to collect fluid and cells Bacterial culture: submit swab in M40 transystem/eSwab Transport System. Viral: Viral pathogens are best retrieved from the base of the lesion. Submit swab in Multi- Microbe Medium (M4) blue top blue	Multi- Microbe Medium is available from the Microbiology laboratory. See Mycology Section for Adults
Specimens for detection of scabies	Disinfect the area and allow it to dry. Apply a single drop of mineral oil to the papule and abrade the infested area with a sterile scalpel. Transfer skin scrapings to a sterile container.	
Feces for Ova and parasites	As for adults	The volume of preservatives present in commercial O+P transport kits should be adjusted to retain the recommended stool to fixative ratio 1:3
Pinworms	As for adults	

Specimen type	Collection	Additional instructions and comments
Feces for Bacterial and viral cultures	As for adults. A rectal swab showing feces is suitable for bacterial or viral cultures. Virus culture: submit swab in Copan UTM. Feces in dry sterile container	Lining a diaper with plastic wrap may facilitate retrieval of feces for testing
Feces for *Clostridium difficile* toxin	As for adults.	Toxin-producing strains of C. difficile may be normal in some infants <2 years of age. Interpret positive toxin result for individuals in this age group with caution.
Genital specimens	Use a small–tipped swab with a flexible smooth wire. The specimen of choice for a prepubertal female is a vaginal swab or washing. Collect a urethral swab from prepubertal males	STDs in prepubertal girls involve the vagina as opposed to the cervix. Specimens from adolescents (≥12 years of age) are the same as those collected from adults.
Ear specimens	Needle aspiration of fluid (tympanocentesis) is the recommended method for obtaining a specimen. A purulent discharge from a ruptured membrane can be collected for culture by using a sterile swab.	A swab specimen of the ear canal is unsuitable for diagnosis of acute otitis media.
Respiratory specimens Bronchoalveolar lavage (BAL)	As for adults	Specimens from unsheathed catheters may contain contaminating oropharyngeal flora. For infants and younger children <10 mL is often retrieved.
Protected brush	As for adults	
Nasal specimens	Insert a swab at least 1cm. into the opening of the anterior nares.	Used primarily for surveillance for methicillin resistant Staphylococcus.
Nasopharyngeal swab for Bordetella pertussis and viral culture	Insert the swab into the nasopharyngeal cavity to the point of resistance and then gently rotate it. Place swab into appropriate transport medium and send to the laboratory immediately. Bordetella: Bordetella transport small white topped vial. Virus: Copan UTM	Bordetella and Copan UTM are available from the Microbiology Laboratory, Room 2044 CC.
Throat swab	As for adults	In school aged children , the major pathogen of bacterial pharyngitis is group A Streptococcus.
Sputum	As for adults	Since children are often unable to produce sputum, tracheal aspirates are often collected in pediatric populations.
Specimens for detection of virus	Specimens of choice are similar to others mentioned in this table	Note: All swabs collected for virus must be in Copan UTM. Medium available from the Microbiology Laboratory, Room 2044 CC.
Specimens for detection of Chlamydia culture	Conjunctival and or nasopharyngeal swabs are appropriate swabs for screening neonates. Note: Vaginal or urethral swabs are required for chlamydial culture for the determination of sexual abuse. Do not submit specimens for PCR testing.	Note: all swabs for Chlamydia culture must be in Copan UTM Medium available from the Microbiology Laboratory, Room 2044 CC. Chlamydia culture is required for the determination of sexual abuse. Vaginal and urethral swabs are appropriate for culture.

REFERENCES

1. Miller, J. Michael. Specimen Management in Clinical Microbiology. Washington, DC. USA. 2nd edition. 1999.

2. Ontario Agency for Health Protection and Promotion. (2017). *Specimen Collection, Handling and Transportation*. Retrieved June 1, 2017, from Public Health Ontario: http://www.publichealthontario.ca/en/ServicesAndTools/LaboratoryServices/Pages/Specimen-Collection.aspx

APPENDICES

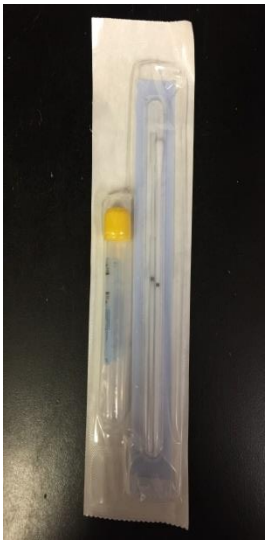
APPENDIX A

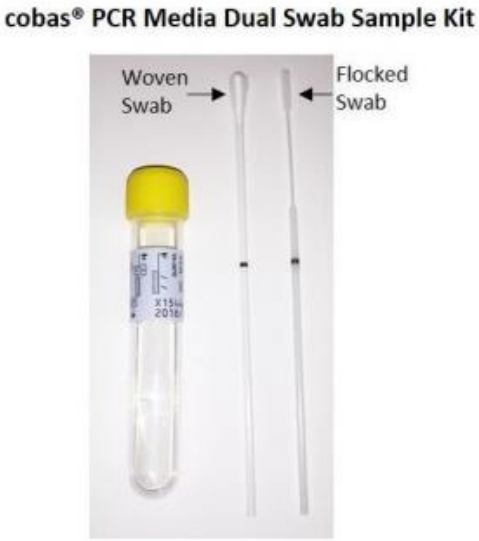
EXAMPLES OF SPECIMEN COLLECTION CONTAINERS AND KITS

M40 Transystem (Bacteriology transport swab) Collection of specimen for aerobic and anaerobic bacterial culture:

COPAN eSwab for collection of specimen for aerobic and anaerobic bacterial culture:

Roche cobas PCR Media Dual Swab Sample Kit





APPENDIX A

EXAMPLES OF SPECIMEN COLLECTION CONTAINERS AND KITS

COPAN UTM for:

Chlamydia/Mycoplasma/Ureaplasma/Viral culture:
NOTE: PACKAGE WILL HAVE A PINK LABEL AFFIXED FOR VIRAL CULTURE

VALIDATED UTM for: Influenza and COVID-19
NOTE: PACKAGE WILL HAVE A YELLOW LABEL AFFIXED FOR RESPIRATORY VIRUS SPECIMENS

APPENDIX A

EXAMPLES OF SPECIMEN COLLECTION CONTAINERS AND KITS

BLOOD CULTURE BOTTLES

BACTEC Plus Aerobic/F (Aerobic Plus) and BACTEC Lytic/10 Anaerobic/F (Anaerobic Lytic)

BACTEC Peds Plus™/F (PEDS Plus)

STERILE CONTAINERS

STOOL CONTAINERS

SAF container for stool collection for Ova and Parasites

Cary Blair enteric transport media for stool pathogen culture

APPENDIX B

COLLECTION OF A CLEAN CATCH URINE - FEMALE

MATERIALS SUPPLIED

Sterile container
Biohazard transport bag
Requisition completed by physician or clinic

MATERIALS NEEDED BUT NOT SUPPLIED

Towelette or wipe

GENERAL INFORMATION

Early morning urine specimens are preferred, although urines collected at other times of the day are also acceptable.
Note: 30 to 60 mL of midstream urine is recommended for routine microbiology culture of urine specimens.

COLLECTION PROCEDURE

1. Wash and dry hands thoroughly.
2. Wash the urogenital area with towelette or wipe. Wipe from front to back between the folds of skin.
3. Sit comfortably on the toilet and swing one knee to the side as far as possible.
4. Unscrew and remove the cap of the container. Use the marks on the container for guidance on the correct volume to be collected (30 to 60 mL).
5. Hold the container with your fingers on the outside; do not touch the rim. Pass a small amount of urine into the toilet. Midway through urination, collect urine into the container to fill it approximately half full (approximately 5 seconds), then finish voiding into the toilet. Urine should be collected without stopping the flow of urine.
6. Screw cap tightly on the container.
7. Wash and dry hands thoroughly.
8. Write the patient's full name along with the date and time of collection on the specimen container label.
9. Place collected specimen inside the biohazard transport bag. Close the seal.
10. Place requisition in pouch on the side of the biohazard transport bag.
11. Refrigerate the specimen if delivery to the laboratory is delayed >30 minutes.

Deliver to the Microbiology laboratory within 24 hours of collection.
The Microbiology Laboratory will receive specimens 24 hours/7 days a week.

Microbiology Laboratory: **St. Michael's Hospital, Cardinal Carter wing, 2nd floor – Room 2-044**
Telephone #: **416-864-5381**

APPENDIX C

COLLECTION OF A CLEAN CATCH URINE - MALE

MATERIALS SUPPLIED

Sterile container
Biohazard transport bag
Requisition completed by physician or clinic

GENERAL INFORMATION

Early morning urine specimens are preferred, although urines collected at other times of the day are also acceptable.
Note: 30 to 60 mL of midstream urine is recommended for routine microbiology culture of urine specimens.

COLLECTION PROCEDURE

1. Wash and dry hands thoroughly.
2. Unscrew and remove the top from the container. Use the marks on the container for guidance on the correct volume to be collected (30 to 60 mL).
3. Hold the container with your fingers on the outside; do not touch the rim.
4. While holding the foreskin retracted (if uncircumcised) begin voiding.
5. Pass a small amount of urine into the toilet and then without stopping the flow, pass enough urine into the container to fill it approximately half full (approximately 5 seconds). Finish voiding into the toilet.
6. Screw cap tightly on the container.
7. Wash and dry hands thoroughly.
8. Write the patient's name along with the date and time of collection on the specimen container label.
9. Place the collected specimen inside the biohazard transport bag. Close the seal.
10. Place requisition in pouch on the side of the biohazard transport bag.
11. Refrigerate the specimen if delivery to the laboratory is delayed >30 minutes.

Deliver to the Microbiology laboratory within 24 hours of collection.
The microbiology laboratory will receive specimens 24 hours/7 days a week.

Microbiology Laboratory: **St. Michael's Hospital, Cardinal Carter wing, 2nd floor – Room 2-044**
Telephone #: **416-864-5381**

APPENDIX D

COLLECTION OF URINE SPECIMEN FOR *Chlamydia* AND *Neisseria gonorrhoeae* PCR TESTING

MATERIALS SUPPLIED

Sterile container marked with level of amount of urine required i.e. 20-30 mL
Biohazard transport bag
Requisition completed by physician or clinic

COLLECTION GUIDELINES

****Patient must not have urinated 1 hour prior to collecting specimen****
****Collect 20 to 30 mL of first voided urine****

COLLECTION PROCEDURE

1. Unscrew cap of the container.
2. Hold the container with your fingers on the outside; do not touch the rim. Use the marks on the container for guidance on the correct volume to be collected (20 to 30 mL).
3. Void the first part of the urine stream into container (approximately 3 seconds) until urine reaches the 20-30 mL graduations. Check graduations on the container to ensure correct amount is collected. **DO NOT overfill.**
4. Screw cap tightly on the container.
5. Wash and dry hands thoroughly.
6. Attach patient's demographic label on the specimen. Alternatively, label the specimen with the patient's full name and date of birth.
7. Write the date and time of collection on the specimen.
8. Place specimen inside the biohazard transport bag. Close the seal.
9. Place completed requisition in pouch on the side of the biohazard bag.
10. Refrigerate the specimen if delivery to the laboratory is delayed > 30 minutes.

Deliver specimen to the Microbiology laboratory within 24 hours of collection.
The microbiology laboratory will receive specimens 24 hours/7 days a week.

Microbiology Laboratory: **St. Michael's Hospital, Cardinal Carter wing, 2nd floor – Room 2-044**
Telephone #: **416-864-5381**

APPENDIX E

COLLECTION INSTRUCTIONS OF SPUTUM FOR CULTURE

MATERIALS SUPPLIED

Labeled sterile container x 3
Biohazard transport bag x 3
Requisition completed by physician or clinic

GENERAL INFORMATION

Sputum is material brought up from the lungs. Saliva and mucus from the nose and throat are not useful for laboratory tests.

The best time to collect a sputum sample is in the early morning because secretions have accumulated overnight, however samples taken at other times of the day are acceptable.

Drink plenty of fluids the night before to increase the production of sputum. If your doctor has asked you to restrict your fluid intake, follow his/ her directions.

It is recommended that you take a hot, steamy bath or shower before collecting sputum. The hot steam will loosen up the secretions in your lungs.

COLLECTION PROCEDURE

1. Wash and dry hands thoroughly.
2. Remove dentures if present.
3. Rinse mouth with water (if specimen is for culture only).
   Note: If collecting specimen for <u>both</u> culture and TB, <u>DO NOT</u> brush teeth or rinse mouth before collection.
4. Open the lid of the sample container.
5. Take several deep breaths and exhale.
6. Cough deeply and expectorate the sputum (~one teaspoonful in volume) into a sterile container.
7. Be careful not to contaminate the inside of the container with hands and not to contaminate the outside of container with sputum.
8. Close and tighten the lid of container.
9. Wash hands thoroughly after collection.
10. Write the patient's full name, the date and time that the specimen was collected on the container.
11. Place specimen inside the biohazard transport bag. Put the completed requisition in the side pouch of the bag.
12. Store specimen in the fridge. Do not freeze.

Deliver the specimen to Microbiology Laboratory within 24 hours of collection.
The Microbiology Laboratory will receive specimens 24 hours/7 days a week.

Microbiology Laboratory: St. Michael's Hospital, Cardinal Carter wing, 2nd floor – Room 2-044
Telephone #: 416-864-5381

APPENDIX F

COLLECTION OF SPUTUM SPECIMEN FOR TB

MATERIALS SUPPLIED

Labelled sterile container x 3
Biohazard transport bag x 3
Requisition completed by physician or clinic

GENERAL INFORMATION

Sputum is material brought up from the lungs. Saliva and mucus from the nose and throat are not useful for laboratory tests.

The best time to collect a sputum sample is in the early morning because secretions have accumulated overnight.

Drink plenty of fluids the night before to increase the production of sputum. If your doctor has asked you to restrict your fluid intake, follow his or her directions.

It is recommended that you take a hot, steamy bath or shower before collecting sputum. The hot steam will loosen up the secretions in your lungs.

COLLECTION PROCEDURE

Note: Patients should have three spontaneous sputa taken at least 8 hours apart. One of these specimens must be an early morning specimen.

1. Wash and dry hands thoroughly.
2. Remove dentures if present.
3. Early morning sputum is preferred. Do not brush your teeth or rinse your mouth before collection.
4. Open the lid of the specimen container.
5. Take several deep breaths and exhale.
6. Cough deeply and expectorate the sputum (~one teaspoonful in volume) into a sterile container.
7. Be careful not to contaminate the inside of the container with hands and not to contaminate the outside of container with sputum.
8. Close and tighten the lid of container.
9. Wash hands thoroughly after collection.
10. Write the patient's full name, the date and time that the specimen was collected on the container.
11. Place specimen in the biohazard transport bag.
12. Place the completed requisition in the side pouch of the biohazard transport bag.
13. Store container in the fridge. Do not freeze.

Once you have collected all three samples, deliver them to Microbiology laboratory.
The Microbiology laboratory will receive specimens 24 hours/7 days a week.

Microbiology Laboratory: St. Michael's Hospital, Cardinal Carter wing, 2nd floor – Room 2-044
Telephone #: 416-864-5381

APPENDIX G

COLLECTION OF SPECIMEN FOR CHLAMYDIA and/or *Neisseria gonorrhoeae* PCR TESTING USING ROCHE COBAS PCR MEDIA DUAL SWAB SAMPLE KIT

NOTE: **This swab kit is used for collection of throat/pharyngeal, rectal, female vaginal and endocervical swabs only.**

Throat/pharyngeal and rectal testing is recommended in cases of unprotected sexual exposure at oral and anal sites only for the following groups:

- **gay, bisexual, men who have sex with men, including trans women**
- **Sex workers and their contacts**
- **Patients who are known contacts of those infected with chlamydia or *Neisseria gonorrhoeae***
- **Patients with signs and symptoms of rectal or pharyngeal infection**

MATERIAL SUPPLIED

Roche cobas PCR Media Dual Swab Sample Kit:

- **Woven Swab – Female vaginal, rectal and throat/pharyngeal collections only**
- **Flocked Swab – Female endocervical collections only**
- **Transport Tube**

Biohazard transport bag

Requisition completed by Physician or clinic

cobas® PCR Media Dual Swab Sample Kit

COLLECTION PROCEDURE

(A) Clinical or Patient collected throat/pharyngeal specimen

When removing the swab from the specimen collection kit, do not touch the soft tip or lay down the swab on a surface as it will become contaminated.

NOTE: Do not pre-wet the swab in any liquid before collection of any specimens.

1. **Open the kit and DISCARD the flocked swab (see diagram).**
2. **Insert the woven swab into the mouth, ensuring contact of swab with bilateral tonsils (the tonsils on both sides of the mouth, unless the tonsils have been removed) and the back of the throat.**
3. **Withdraw the swab without touching the inside of the cheeks or tongue.**
4. **Remove the cap from the swab transport tube and place the specimen collection swab into the transport tube.**
5. **Carefully break the swab shaft at the scoreline before submerging the swab into the liquid. Discard the top portion of the swab.**
6. **Recap the swab specimen transport tube tightly.**
7. **Wash and dry hands thoroughly.**
8. **Attach patient's demographic label on the specimen. Alternatively, label the specimen with the patient's full name and date of birth.**
9. **Write the date and time of collection on the specimen.**
10. **Place the specimen inside the biohazard transport bag. Close the seal.**
11. **Place completed requisition in pouch on the side of the biohazard bag.**
12. **After collection, store specimen transport tube at 2 to 30ºC.**

APPENDIX G

COLLECTION OF SPECIMEN FOR CHLAMYDIA and/or *Neisseria gonorrhoeae* PCR TESTING USING ROCHE COBAS PCR MEDIA DUAL SWAB SAMPLE KIT

COLLECTION PROCEDURE (continued)

(B) Clinical or Patient collected Rectal specimen

When removing the swab from the specimen collection kit, do not touch the soft tip or lay down the swab on a surface as it will become contaminated.

NOTE: Do not pre-wet the swab in any liquid before collection of any specimens.

1. **Open the kit and DISCARD the flocked swab (see diagram).**
2. **Carefully insert the woven swab into the rectum, about 1-2 inches (3-5 cm) past the anal margin (the outside of the anus) and gently rotate the swab for 5-10 seconds.**
3. **Withdraw the swab without touching the skin.**
4. **Remove the cap from the specimen transport tube and place the specimen collection swab into the transport tube.**
5. **Carefully break the swab shaft at the scoreline before submerging the swab into the liquid. Discard the top portion of the swab.**
6. **Recap the swab specimen transport tube tightly.**
7. **Wash and dry hands thoroughly.**
8. **Attach patient's demographic label on the specimen. Alternatively, label the specimen with the patient's full name and date of birth.**
9. **Write the date and time of collection on the specimen.**
10. **Place the specimen inside the biohazard transport bag. Close the seal.**
11. **Place completed requisition in pouch on the side of the biohazard bag.**
12. **After collection, store specimen transport tube at 2 to 30ºC.**

(C) Clinical or Patient collected vaginal specimen

When removing the swab from the specimen collection kit, do not touch the soft tip or lay down the swab on a surface as it will become contaminated.

NOTE: Do not pre-wet the swab in any liquid before collection of any specimens.

1. **Open the kit and DISCARD the flocked swab (see diagram).**
2. **To collect specimen, hold the woven swab with the scoreline above your hand and insert the collection swab into the vagina about 2 inches (5 cm) inside the opening of the vagina.**
3. **Gently rotate swab for 30 seconds, making sure the swab touches the walls of the vagina.**
4. **Withdraw the swab without touching the skin.**
5. **Remove the cap from the specimen transport tube and place the specimen collection swab into the transport tube.**
6. **Carefully break the swab shaft at the scoreline before submerging the swab into the liquid. Discard the top portion of the swab.**
7. **Recap the swab specimen transport tube tightly.**
8. **Wash and dry hands thoroughly.**
9. **Attach patient's demographic label on the specimen. Alternatively, label the specimen with the patient's full name and date of birth.**
10. **Write the date and time of collection on the specimen.**

APPENDIX G

COLLECTION OF SPECIMEN FOR CHLAMYDIA and/or *Neisseria gonorrhoeae* PCR TESTING USING ROCHE COBAS PCR MEDIA DUAL SWAB SAMPLE KIT

(C) Clinical or Patient collected vaginal specimen (continued)

11. **Place the specimen inside the biohazard transport bag. Close the seal.**
12. **Place completed requisition in pouch on the side of the biohazard bag.**
13. **After collection, store specimen transport tube at 2 to 30ºC.**

(D) Clinician-collected endocervical specimen

When removing the swabs from the specimen collection kit, do not touch the soft tip or lay down the swab on a surface as it will become contaminated.

NOTE: Do not pre-wet the swab in any liquid before collection of any specimens.

1. **Clean: using woven swab, remove excess mucus from the cervical os and surrounding mucosa. Discard the swab after cleaning.**
2. **To collect specimen, hold the flocked swab with the scoreline above your hand and insert swab into the endocervical canal.**
3. **Gently rotate swab 5 times in one direction in the endocervical canal. Do not over-rotate.**
4. **Carefully withdraw the swab, avoiding any contact with the vaginal mucosa.**
5. **Remove the cap from the specimen transport tube and lower the swab into the tube until the visible scoreline on the swab shaft is aligned with the tube rim.**
6. **The bud of the swab should not be submerged into the liquid prior to breaking the shaft. Carefully break the swab shaft at the scoreline. Discard the top portion of the swab.**
7. **Recap the swab specimen transport tube tightly.**
8. **Wash and dry hands thoroughly.**
9. **Attach patient's demographic label on the specimen. Alternatively, label the specimen with the patient's full name and date of birth.**
10. **Write the date and time of collection on the specimen.**
11. **Place the specimen inside the biohazard transport bag. Close the seal.**
12. **Place completed requisition in pouch on the side of the biohazard bag.**
13. **After collection, store specimen transport tube at 2 to 30ºC.**

Deliver the specimen to the Microbiology laboratory within 48 hours of collection.
The Microbiology laboratory will receive specimens 24 hours/7 days a week.

Microbiology Laboratory: St. Michael's Hospital, Cardinal Carter wing, 2nd floor – Room 2-044
Telephone #: 416-864-5381

APPENDIX H

COLLECTION OF STOOL FOR BACTERIAL CULTURE

MATERIALS SUPPLIED

Stool culture Transport Medium (Cary Blair Medium) x2
Biohazard transport bag x2
Wooden spatula x2
Requisition completed by physician or clinic

MATERIALS NEEDED BUT NOT SUPPLIED

Clean wide mouthed container/clean paper

COLLECTION GUIDELINES

****Do not use laxatives before collection of stool specimen****
****Collect 1 stool per day to a maximum of 2 stools over 2-3 days****

COLLECTION PROCEDURE

1. Pass stool into a wide mouthed container or onto clean paper.
2. Using the spoon attached to the lid of the container or the wooden spatula provided, transfer a quantity of the stool specimen, especially from any area bloody or slimy, into the container until the liquid reaches the **"FILL LINE"** on the outside of the container.
   IMPORTANT: Mix the specimen well with the fluid in the container.
3. Replace the lid on the container and tighten securely.
4. Shake until well mixed.
5. Wash and dry hands thoroughly.
6. Write the patient's full name, date and time the specimen was collected on container label.
7. Place specimen inside the biohazard transport bag (one specimen per bag).
8. Place the completed requisition in the side pouch of biohazard transport bag.
9. Keep collected specimen at room temperature.

Deliver specimen to the Microbiology laboratory within 48 hours of collection.

Microbiology Laboratory: **St. Michael's Hospital, Cardinal Carter wing, 2nd floor – Room 2-044**
Telephone #: **416-864-5381**

APPENDIX I

COLLECTION OF STOOL FOR OVA AND PARASITES

MATERIALS SUPPLIED

Sterile transport container with SAF fixative for Ova & Parasites x3
Biohazard transport bag x3
Wooden Spatula x3
Requisition completed by physician or clinic with Information on symptoms, travel, etc. (use a separate sheet of paper if necessary).

MATERIALS NEEDED BUT NOT SUPPLIED

Clean wide container

COLLECTION GUIDELINES

****Collect 1 specimen/day. Addition specimens should be 2 days apart****

****A maximum of 3 specimens should be collected****

****Do not take any medicines (laxatives, anti-diarrhea drugs) containing mineral oil, barium, bismuth, kaolin, magnesium, antibiotics, etc., for at least 5 – 7 days prior to collection****

COLLECTION PROCEDURE

1. Pass stool into a wide-mouthed container or onto clean paper.
   NOTE: DO NOT MIX STOOL WITH URINE OR WATER FROM TOILET BOWL.
2. Using the spoon attached to the lid of the container or the wooden spatula provided, transfer a quantity of stool specimen into the container until the liquid reaches the **"FILL LINE"** on the outside of the container.
   IMPORTANT: Mix the specimen well with the fluid in the container.
3. Replace the lid on the container and tighten securely.
4. Shake until mixed well.
5. Wash and dry hands thoroughly.
6. Write patient's full name, date and time the specimen was collected on container label.
7. Place specimen in the biohazard transport bag (one specimen/bag).
8. Place the completed requisition in side pouch of biohazard transport bag.
9. Keep collected specimen at room temperature.

After collection, all 3 specimens can be delivered to the Microbiology Laboratory at the same time.

Microbiology Laboratory: St. Michael's Hospital, Cardinal Carter wing, 2nd floor – Room 2-044
Telephone #: 416-864-5381

APPENDIX J

COLLECTION OF STOOL FOR *C.difficile* TESTING

MATERIALS SUPPLIED

Sterile specimen container
Biohazard transport bag
Plastic pipette
Requisition completed by physician or clinic

MATERIALS NEEDED BUT NOT SUPPLIED

A clean dry container

COLLECTION GUIDELINES

Collect 1 loose watery or soft stool specimen

REJECTION CRITERIA

Testing on formed or hard stool is NOT performed

COLLECTION PROCEDURE

1. Pass loose watery or soft stool directly into a clean dry container. Soft stool is defined as stool assuming the shape of its container.
2. Open the lid of the specimen container.
3. Using the plastic pipette, transfer 5 – 10 mL (~1 – 2 teaspoon in volume) of specimen to sterile specimen container.
4. Discard pipette into garbage.
5. Screw cap tightly on the specimen container.
6. Wash your hands thoroughly.
7. Write the patient's full name, date and time of collection on the specimen container label.
8. Place collected specimen inside the biohazard transport bag.
9. Place the completed requisition into pouch on the side of the biohazard bag.
10. Collected specimen must be stored in the refrigerator.

Deliver specimens to the Microbiology laboratory within 24 hours of collection.
The Microbiology laboratory will receive specimens 24 hours/7 days a week.

Microbiology Laboratory: St. Michael's Hospital, Cardinal Carter wing, 2nd floor – Room 2-044
Telephone #: 416-864-5381

APPENDIX K

COLLECTION OF SPECIMEN FOR DETECTION OF PINWORM

Materials supplied:
Sterile container with sticky paddle attached
Pinworm specimen collection kit
Biohazard transport bag
Requisition completed by physician or clinic

Collection guidelines:
****Collect 1 specimen/day for 3 consecutive days****
****Pinworm eggs are deposited on the skin, about the anal opening. Specimen must be collected in the morning before bathing or using the toilet. The anal area should not be wiped or washed before specimen is taken****

Collection Procedure:

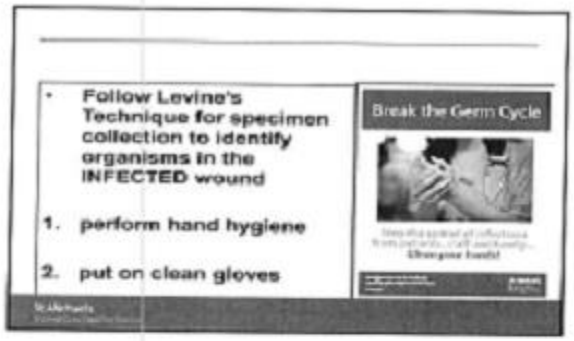
1. Remove cap in which is inserted a paddle with one side coated with a non-toxic mildly adhesive material. **This side is marked "STICKY SIDE". Do not touch this surface with the fingers.**
2. Spread buttock of patient apart. Using moderate pressure press the sticky side of the paddle against the skin around the anal opening of the patient.
3. Replace paddle into container without touching the container.
4. Wash your hands carefully as the eggs are easily transmitted.
5. Screw cap on tightly.
6. Write the patient's full name and date of collection on specimen container.
7. Place collected specimen inside the biohazard transport bag.
8. Place the completed requisition into side pouch of biohazard transport bag.
9. Specimen may be left at room temperature after collection.

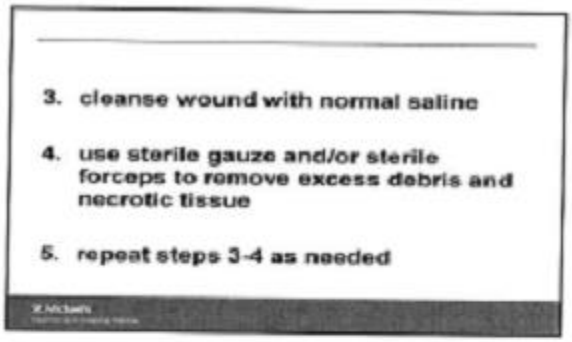
Deliver specimen to the Microbiology laboratory.
The microbiology laboratory will receive specimens 24 hours/7 days a week.

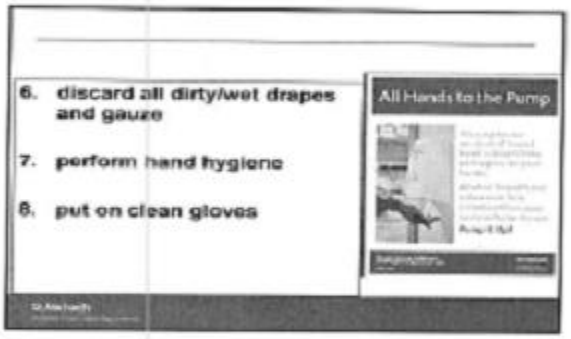
Microbiology Laboratory: St. Michael's Hospital, Cardinal Carter wing, 2nd floor – Room 2-044
Telephone #: 416-864-5381

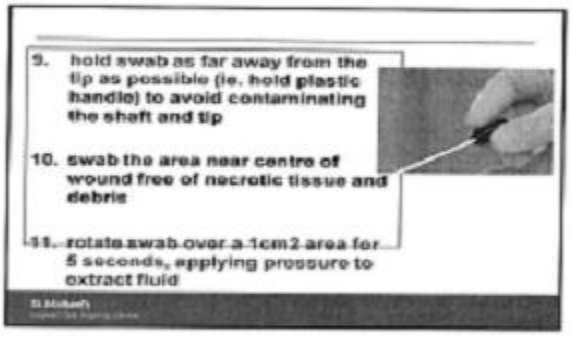
APPENDIX L

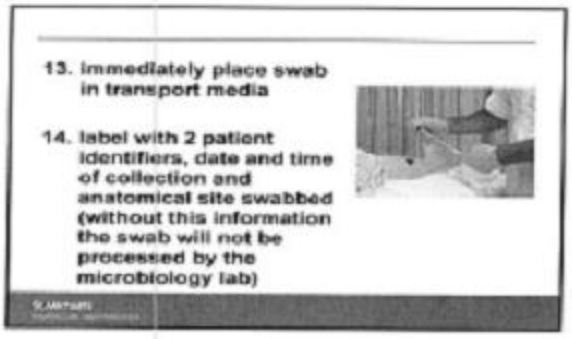
LEVINE'S TECHNIQUE FOR INFECTED WOUNDS











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APPENDIX M

HIV DRUG RESISTANCE TESTING GENOTYPING REQUEST FORM

Public Health Ontario | Santé publique Ontario

Public Health Ontario Laboratory HIV Genotyping, Resistance, Tropism, and HLA-B*57:01 Abacavir Hypersensitivity Testing Requisition

DRUG RESISTANCE

☐ **HIV Drug Resistance Testing**

☐ **Integrase Resistance Testing**

☐ **gp-41 Resistance Testing**
(when necessary)

Criteria for HIV Drug Resistance Testing:

- Naïve patient considering starting antiretroviral treatment.
- Patients experiencing virological failure as defined by two consecutive viral load tests at least one month apart, demonstrating either a failure to suppress viral load to 250 copies per/mL within 16 weeks after initiating therapy or virological rebound after a formerly successful regimen without complicating factors such as vaccination or opportunistic infection.
- Pregnant women close to delivery.

Note: **It is not necessary to submit new specimen**. Specimens which were submitted for HIV Viral Load testing will be considered for eligibility upon receiving this request.*

TROPISM

☐ **V3 Genotyping (Tropism/CCR5)**

Criteria for eligibility for V3 Genotyping – Consideration for treatment with a CCR5 inhibitor & viral load >500 copies/mL.
Note: It is not necessary to submit a new specimen. Specimens which were submitted for HIV Viral Load testing will be considered upon receiving this request.

☐ **Proviral HIV DNA Tropism (V3)**

For Proviral HIV DNA Tropism (V3) testing submit 5 mL EDTA whole blood shipped on ice packs (4°C) within 24 hours.
Indicate on the line below the specimen collection date.

_____ Day _____ Month _____ Year

☐ **HLA-B*57:01 Abacavir Hypersensitivity Testing**

For HLA-B*57:01 testing submit 5 mL EDTA whole blood shipped on ice packs (4°C) within 24 hours.
Indicate on the line below the specimen collection date.

_____ Day _____ Month _____ Year

PATIENT INFO	PHYSICIAN INFO
Patient Identifier/ HIV VL Specimen No. _____	Physician: _____
Patient Name/ Patient's Initials _____ Last Name _____ First Name	Address: _____
_____ Patient's Initials	_____
Patient Date of Birth _____ Day _____ Month _____ Year	_____
Most recent CD4 Count: _____ Date: _____ (YYYY/MM/DD)	Tel. No. _____
	Signature: _____

Does patient meet the criteria for "virologic failure"? ___(Y/N) Is a change of ART under consideration? ___(Y/N)

HIV Drug Resistance Testing and Tropism Testing are performed at the B.C. Centre for Excellence after the required HIV Viral Load Test has been completed at an Ontario Viral Load Testing Site. The HIV Viral Load laboratory will determine if the volume is sufficient to submit for testing and will contact the requesting caregiver to make alternate arrangements if the volume is not sufficient.

The test results are likely to take between 3-6 weeks. The test results will be forwarded to you as soon as they are received by Public Health Ontario Laboratories.

RETURN THE COMPLETED REQUISITION FORM TO TORONTO PHO LABORATORY OR FAX TO 416-235-6194.
FOR INQUIRIES YOU MAY CALL PHOL CUSTOMER SERVICE HOTLINE 1-877-604-4567

F-C-HV-142-006

The personal health information is collected under the authority of the Personal Health Information Protection Act, s.36 (1)(c)(iii) for the purpose of clinical laboratory testing. If you have questions about the collection of this personal health information please contact the PHOL Manager of Customer Service at 416-235-6556 or toll free 1-877-604-4567.

Ontario Agency for Health Protection and Promotion / Agence de protection et de promotion de la santé

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APPENDIX N

PHOL LAB INFORMATION FORM – HEPATITIS C/HEPATITIS B (PAGE 1 of 3)

Public Health Ontario | Santé publique Ontario

PUBLIC HEALTH ONTARIO LABORATORY (PHOL) HEPATITIS PCR REQUISITION

HEPATITIS C RNA AND/OR HEPATITIS B DNA VIRAL LOAD

1. For HCV RNA, complete **page 2** of this form and submit minimum 2.5 ml frozen serum or EDTA plasma or if patient qualifies, 4 appropriately collected and submitted Dried Blood Spots (DBS)

2. For HBV DNA, complete **page 3** of this form and submit minimum 2.5 ml frozen serum or EDTA plasma

3. For both HCV RNA and HBV DNA, complete **pages 2 and 3** of this form and submit with minimum **5.0 ml** frozen serum or EDTA plasma

Ensure that the following has been completed before submitting to PHOL:

☐ 2.5 ml frozen serum or EDTA plasma is provided *(if both HCV and HBV DNA requested, submit 5.0 ml frozen serum or EDTA plasma)*

☐ Sender and Patient information is complete and contains:

- Patient name, HIN, Date of Birth, and Address
- Ordering physician/laboratory name, and complete mailing address

☐ Specimen is labeled with 2 unique identifiers that (must) match the Requisition

For further information:

1. Test information sheets and this form are available at www.publichealthontario.ca/testdirectory
2. Public Health Ontario Laboratory Customer Service Centre 416-235-6556 or toll free 1-877-604-4567

Ontario Agency for Health Protection and Promotion / Agence de protection et de promotion de la santé

F-C-HE-036-010 Page 1 of 3

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APPENDIX N

PHOL LAB INFORMATION FORM – HEPATITIS C/HEPATITIS B (PAGE 2 of 3)

PHOL Use Only: Date Received: _____ PHOL No. _____

Public Health Ontario | Santé publique Ontario

HEPATITIS C (HCV) RNA TEST REQUISITION

Minimum 2.5 mL serum or EDTA plasma removed from clot within 6 hours of collection and submitted frozen or minimum of 4 appropriately collected Dried Blood Spots (DBS) to PHOL.

Submitter

Courier Code

Provide Return Address:

Name
Address
City & Province
Postal Code

Clinician Initial / Surname and OHIP / CPSO Number

Tel: _____ Fax: _____

cc Doctor Information

Name: _____ Tel: _____
Lab/Clinic Name: _____ Fax: _____
CPSO #: _____
Address: _____ Postal Code: _____

Patient Information

Health No. | Sex | Date of Birth: yyyy / mm / dd
Medical Record No.
Patient's Last Name *(per OHIP card)* | First Name *(per OHIP card)*
Patient Address
Postal Code | Patient Phone No.
Submitter Lab No.

Specimen Details

Date Collected: yyyy / mm / dd

Type of Specimen:
☐ Serum
☐ EDTA Plasma
☐ DBS

☐ **Diagnostic:** To be used only in patients who are HIV positive, immunocompromised, infant of HCV positive mother, patient with anti-HCV indeterminate result and 8-10 weeks post exposure. Please specify under " Other relevant and clinical information" below the clinical reason this test is being requested for diagnosis of HCV infection.

☐ **Pre-Treatment:** Genotyping and Baseline viral load

☐ **On Treatment:**
☐**4 weeks** ☐ **8 weeks** ☐ **12 weeks** ☐**Other** **Specify # of weeks ____**

☐ **Post Treatment:** _____ weeks/months
(2 samples less than the detection limit (<15 IU/mL) and 6 months apart are required to confirm successful treatment. No follow up required unless there is a new exposure).

☐ **HCV DRUG RESISTANCE TESTING (Criteria for Eligibility: HCV VL ≥ 10,000 (1 x 10E+4) IU/mL)**

☐**Test on previously tested HCV VL/GENO sample. PHL Lab no.: _____**
☐**Test on new sample. (Submit 2.5 mL frozen serum or EDTA plasma)**

Other relevant and clinical information

_____
_____
_____

This form is available at: http://www.publichealthontario.ca/Requisitions

The personal health information is collected under the authority of the Personal Health Information Protection Act, (1)(c)(iii) for the purpose of clinical laboratory testing. If you have questions about the collection of this personal health information please contact the PHOL Manager of Customer Service at 416-235-6556 or toll free 1-877-604-4567 (03/2016)

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APPENDIX N

PHOL LAB INFORMATION FORM – HEPATITIS C/HEPATITIS B (PAGE 3 of 3)

PHOL Use Only: **Date Received:** _____ **PHOL No.** _____

Public Health Ontario | Santé publique Ontario

HEPATITIS B (HBV) DNA TEST REQUISITION

Minimum volume 2.5 mL serum or EDTA plasma removed from clot within 6 hours of collection and submitted frozen to PHOL.

Submitter

Courier Code

Provide Return Address:

Name
Address
City & Province
Postal Code

Clinician Initial / Surname and OHIP / CPSO Number

Tel:_____ Fax:_____

cc Doctor Information

Name:_____ Tel:_____
Lab/Clinic Name:_____ Fax:_____
CPSO #:_____
Address:_____ Postal Code:_____

Patient Information

Health No. | Sex | Date of Birth: yyyy / mm / dd

Medical Record No.

Patient's Last Name *(per OHIP card)* | First Name *(per OHIP card)*

Patient Address

Postal Code | Patient Phone No.

Submitter Lab No.

Specimen Details

Date Collected: yyyy / mm / dd

Type of Specimen:
☐ Serum
☐ EDTA Plasma

☐ **Pre-Treatment**

☐ **On-Treatment:** _____ months (routine monitoring)

☐ **Query Viral Breakthrough:**
(Provide viral load and dates for last two treatment samples)

1. _____ (Viral Load) _____ (Date Reported)

2. _____ (Viral Load) _____ (Date Reported)

☐ **Post-Treatment:**_____ weeks/months

Other relevant and clinical information

_____

_____

_____

This form is available at: http://www.publichealthontario.ca/Requisitions

The personal health information is collected under the authority of the Personal Health Information Protection Act, (1)(c)(iii) for the purpose of clinical laboratory testing. If you have questions about the collection of this personal health information please contact the PHOL Manager of Customer Service at 416-235-6556 or toll free 1-877-604-4567 (12/2012)

F-C-HE-036-010 Page 3 of 3

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APPENDIX O

REQUISITION FOR HIV VIRAL LOAD MONITORING

Public Health Ontario | Santé publique Ontario

For laboratory use only
Date received: yyyy / mm / dd PHOL No.:

HIV Viral Load Test Requisition

ALL Sections of this form must be completed at every visit

1 - Ordering Physician Information

This is not a diagnostic test. Test results are provided for prognostic purposes only.

Name
Address
City & Province
Postal Code

OHIP / CPSO Number:

Physician Signature: | Date Ordered: yyyy / mm / dd

Telephone: (###) ###-#### | Fax: (###) ###-####

2 - Patient Information

Health No.: | Medical Record No.:

Surname:

First Name:

Date of Birth: yyyy / mm / dd | Sex: ◯ M ◯ F | Pregnant: ◯ No ◯ Yes

Address: | Postal Code:

Submitter Lab No. | Year of HIV diagnosis: yyyy / mm / dd

cc Doctor Name: | Telephone: (###) ###-#### | Fax: (###) ###-####

Lab/Clinic Name: | Address: | Postal Code:

CPSO Number:

3 - Treatment Information

This information is essential for the interpretation of test results and for the evaluation of the program.

☐ Baseline ☐ Follow-up **Most recent CD4+ T-cell count:** Result: cells/mm³ % Date Performed: yyyy / mm / dd

Generic (Trade)	Abbr.	Generic (Trade)	Abbr.	Generic (Trade)	Abbr.
☐ No therapy		☐ Elvitegravir/Cobicistat/Emtricitabine/ Tenofovir AF (Genvoya)	GEN	☐ Saquinavir (Invirase)	SQV (HGC)
☐ Abacavir (Ziagen)	ABC	☐ Enfuvirtide (Fuzeon)	ENF	☐ Stavudine (Zerit)	d4T
☐ Abacavir/Lamivudine (Kivexa)	ABC+3TC	☐ Etravirine (Intelence)	ETR	☐ Tenofovir (Viread)	TDF
☐ Abacavir/Lamivudine/Zidovudine (Trizivir)	ABC+3TC +AZT	☐ Fosamprenavir (Telzir)	fAPV	☐ Tenofovir AF/Emtricitabine (Descovy)	TAF/FTC
☐ Atazanir (Reyataz)	ATV	☐ Indinavir (Crixivan)	IDV	☐ Tenofovir AF/Emtricitabine/ Cobicistat/Darunavir (Symtuza)	TAF/FTC/ DRV/cobi
☐ Bictegravir/Tenofovir AF/ Emtricitabine (Biktarvy)	TAF-FTC-Bic	☐ Lamivudube (3TC)	3TC	☐ Tenofovir DF/Emtricitabine (Truvada)	ECF-TAF
☐ Darunavir (Prezista)	DRV	☐ Lamivudine/Zidovudine (combivir)	CBV	☐ Tenofovir DF/Emtricitabine/Efavirenz (Atripla)	TDF/FTC/ EFV
☐ Darunavir/cobicistat (Prezcobix)	DRV/cobi	☐ Lopinavir/Ritonavir (Kaletra)	LPV/r	☐ Tenofovir DF/Emtricitabine/Rilpivirine (Complera)	TDF/FTC/ RPV
☐ Didanosine (Videx)	ddI-EC	☐ Maraviroc (Celsentri)	MVC	☐ Tenofovir DF/Emtricitabine/ Cobicistat/Elvitegravir (Stribild)	STR
☐ Dolutegravir (Tivicay)	DTG	☐ Nelfinavir (Viracept)	NFV	☐ Tenofovir DF/lamivudine/Doravirine (Delstrigo)	TDF/3TC/ DOR
☐ Dolutegravir/abacavir/lamivudine (Triumeq)	DTG+ABC +3TC	☐ Nevirapine (Viramune)	NVP	☐ Tipranavir (Aptivus)	IDV
☐ Dolutegravir/lamivudine (Dovato)	DTG/3TC	☐ Raltegravir (Isentress)	RGV	☐ Zidovudine (Retrovir)	3TC
☐ Dolutegravir/Riplivirine (Juluca)	DTG+RPV	☐ Rilpivirine (Edurant)	RPV	☐ Other	
☐ Doravirine (Pifeltro)	DOR	☐ Rilpivirine/Tenofovir AF/Emtricitabine (Odefsey)	TAF/FTC/ RPV		
☐ Efavirenz (Sustiva)	EFV	☐ Ritonavir (Norvir)	RTV		

4 - Comments:

5 - Collection Information- Must be completed with **each** sample submitted.

Collected: yyyy / mm / dd hr min ◯ am ◯ pm Initials | Plasma separated: hr min ◯ am ◯ pm Initials

Received: yyyy / mm / dd hr min ◯ am ◯ pm Initials | Frozen (< -20°C): hr min ◯ am ◯ pm Initials

F-C-HV-139-006

The personal health information is collected under the authority of the Personal Health Information Protection Act, 2004, s.36 (1)(c)(iii) for the purposes specified in the Ontario Agency for Health Protection and Promotion Act, 2007, s.1 and will be used for surveillance and other public health purposes. If you have questions about the collection of this personal health information please contact the PHOL Manager of Customer Service at 416-235-6556 or toll free 1-877-604-4567.

Version 4.0

Ontario Agency for Health Protection and Promotion / Agence de protection et de promotion de la santé

Uncontrolled When Printed

APPENDIX P

REQUISITION FOR TB QUANTIFERON (PAGE 1 of 3)

Note: Requisition must be filled out in full, including specimen collection date and time.

SickKids
THE HOSPITAL FOR SICK CHILDREN

MICROBIOLOGY LABORATORY
555 University Avenue
Room 3676, Atrium
Toronto, ON, M5G 1X8, Canada
Tel: 416-813-6000
Fax: 416-813-5993

Patient Last Name:
First Name:
Date of Birth (DD/MM/YYYY):
Gender: ☐ *Male* ☐ *Female*
For Canada Only
Provincial Health Card #: *Version:*
Issuing Province:

QUANTIFERON TB (QFT)

Referred-in Client Requisition

Testing Requested by Public Health Unit:
☐ TPH Pilot - iPHIS ID: _____

Mailing Address:

Referring Physician
Hospital *(specify)*: _____
Doctor's Office: _____
Referring Laboratory: _____
Referring Lab Accession #: _____

Telephone Number: _____
Fax Number: _____

Specimen Collection Information

Date (DD/MM/YYYY): _____ **Time** (HH:MM): _____ **Collected By:** _____

Shipping Instructions

All specimens that DO NOT MEET the transport requirements will be **REJECTED**.

Optimal Collection Time / Storage / Transportation / Receipt of Samples

Blood Collection Tube: 6mL Lithium - heparin tube (green top/white label).

- Tubes should be between room temperature (17–25°C) at the time of blood filling.
- Only a Lithium - heparin anticoagulant is acceptable.

Blood collection: Collect a minimum volume of 5 mL of blood into a **single** Lithium - heparin tube.

- Gently mix by inverting several times to dissolve the heparin.
- Blood must first be held at room temperature (17–25°C) for a minimum of 15 minutes and a maximum of 3 hours before being placed in the refrigerator (2–8°C).
- Specimen may be held in the refrigerator for a further 16 to 48 hours before shipping.

Shipping to SickKids Microbiology:

- Ship on ice packs.
- Total time from collection to receipt in SickKids Microbiology laboratory **cannot** exceed 50 hours.

Specimen Shipping & Receipt / Handling at SickKids:

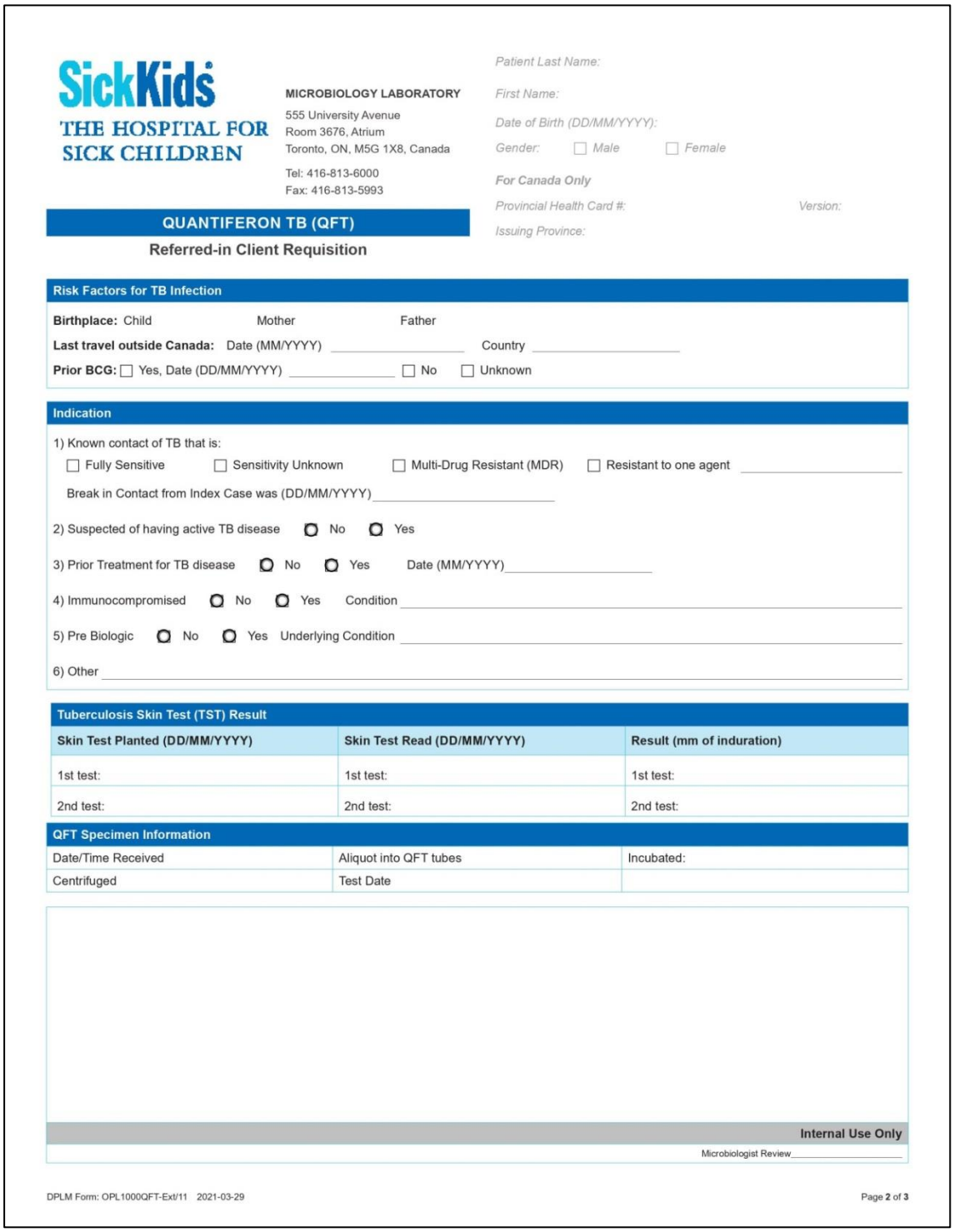
- *Specimens should be shipped Monday to Friday and received at SickKids by 5pm.*
  - *Deliver to: Microbiology Laboratory, room 3676, 3rd floor Atrium.*
  - *Specimens will be transferred to QFT – Plus Blood Collection Tubes on receipt.*
- *After hours: Deliver specimens to the Rapid Response Laboratory room 3642.*

DPLM Form: OPL1000QFT-Ext/11 2021-03-29 Page 1 of 3

APPENDIX P

REQUISITION FOR TB QUANTIFERON (PAGE 2 of 3)

Note: Requisition must be filled out in full, including specimen collection date and time.



SickKids
THE HOSPITAL FOR SICK CHILDREN

MICROBIOLOGY LABORATORY
555 University Avenue
Room 3676, Atrium
Toronto, ON, M5G 1X8, Canada
Tel: 416-813-6000
Fax: 416-813-5993

Patient Last Name:
First Name:
Date of Birth (DD/MM/YYYY):
Gender: ☐ Male ☐ Female
For Canada Only
Provincial Health Card #: Version:
Issuing Province:

QUANTIFERON TB (QFT)
Referred-in Client Requisition

Risk Factors for TB Infection

Birthplace: Child Mother Father
Last travel outside Canada: Date (MM/YYYY) _____ Country _____
Prior BCG: ☐ Yes, Date (DD/MM/YYYY) _____ ☐ No ☐ Unknown

Indication

1) Known contact of TB that is:
☐ Fully Sensitive ☐ Sensitivity Unknown ☐ Multi-Drug Resistant (MDR) ☐ Resistant to one agent _____
Break in Contact from Index Case was (DD/MM/YYYY) _____
2) Suspected of having active TB disease ○ No ○ Yes
3) Prior Treatment for TB disease ○ No ○ Yes Date (MM/YYYY) _____
4) Immunocompromised ○ No ○ Yes Condition _____
5) Pre Biologic ○ No ○ Yes Underlying Condition _____
6) Other _____

Tuberculosis Skin Test (TST) Result

Skin Test Planted (DD/MM/YYYY)	Skin Test Read (DD/MM/YYYY)	Result (mm of induration)
1st test:	1st test:	1st test:
2nd test:	2nd test:	2nd test:

QFT Specimen Information

Date/Time Received	Aliquot into QFT tubes	Incubated:
Centrifuged	Test Date	

Internal Use Only
Microbiologist Review_____

DPLM Form: OPL1000QFT-Ext/11 2021-03-29 Page 2 of 3

APPENDIX P

REQUISITION FOR TB QUANTIFERON (PAGE 3 of 3)

Note: Requisition must be filled out in full, including specimen collection date and time.

SickKids
THE HOSPITAL FOR SICK CHILDREN

MICROBIOLOGY LABORATORY
555 University Avenue
Room 3676, Atrium
Toronto, ON, M5G 1X8, Canada
Tel: 416-813-6000
Fax: 416-813-5993

Patient Last Name:
First Name:
Date of Birth (DD/MM/YYYY):
Gender: ☐ Male ☐ Female
For Canada Only
Provincial Health Card #: Version:
Issuing Province:

QUANTIFERON TB (QFT)
Referred-in Client Requisition

BILLING FORM

The hospital, referring laboratory, or a patient/guardian will be billed for the services rendered.

- Invoices are sent upon completion of each test/service.
- Contact SickKids' Laboratory at 416-813-7200 with billing inquiries.

How to complete the Billing Form: *(Completion of Billing Form NOT required for patients with an Ontario Health Card Number.)*

- **Referring Physician completes the appropriate section below to specify billing method.**
- **Send requisition and completed "Billing Form" with specimen.**

Option 1: Complete to have the Healthcare Provider billed:

Your Referring Laboratory's Reference #: _____

Billing address of hospital, referring laboratory:

Name:_____
Address: _____
City:_____Prov/State: _____
Postal/Zip Code: _____ Country: _____
Contact Name: _____
Contact Telephone #: _____

Option 2: Interm Federal Health Program (IFHP)

Submit a copy of the Interim Federal Health Certificate (Refugee Protection Claimant Document) with the photo and UCI# visible for coverage to be confirmed.

UCI# _____

ICD code *(lab use only)*:_____

Option 3: Complete to have Patient/Guardian billed directly:

If you elect to have patient/guardian billed:

- *Patient/Guardian billing information below must be complete; otherwise, the healthcare provider will be billed.*
- *Please advise the patient/guardian to expect a bill from our laboratory.*
- *Provide us with patient's valid credit card information.*
- *Unfortunately, we cannot accept personal checks.*
- ***In this case, the patient/guardian is solely responsible for the charges.***

Relation to patient (check one): ☐ Patient ☐ Guardian/Parent

Method of Payment (check one): ☐ American Express ☐ MasterCard ☐ Visa

Name as it appears on credit card: _____

Credit card # : _____

Expiry date on credit card: _____

CVC#- found on back of card (Required): _____

DPLM Form: OPL1000QFT-Ext/11 2021-03-29 Page 3 of 3

APPENDIX Q
REQUISITION FOR MICROBIOLOGY

ST. MICHAEL'S
UNITY HEALTH TORONTO
30 Bond Street, Toronto, ON M5B 1W8

6 6 0 6 0

Clear Form

DATE AND LOCATION | CHART NUMBER

PATIENT'S NAME

DATE OF BIRTH

ADDRESS

HEALTH NUMBER

MOST RESPONSIBLE PHYSICIAN

PHYSICIAN ORDERING TEST

NOTE: ALL DATA ARE REQUIRED FOR FULL DIAGNOSIS. FAILURE TO SUPPLY WILL DELAY REPORT.

MICROBIOLOGY REQUISITION

LAB NUMBER

COLLECTION DATE TIME

SPECIMEN TYPE

SOURCE

TEST(S) REQUESTED

RELEVANT CLINICAL INFORMATION

CURRENT ANTIMICROBIALS

ANTIBIOTIC LEVEL

ANTIBIOTIC	DOSE	ROUTE OF ADMINISTRATION	TIME LAST DOSE GIVEN	TIME BLOOD TAKEN
		I.M. ☐ I.V. ☐		

Form No. 66060 R1 Rev. 09/2007