Microbiology Collection Manual

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Collecting

Microbiology Collection Manual
Introduction

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1. Introduction

Welcome to the Eastern Health Public Health and Microbiology (PHML) collection manual, a guide to services provided for all health care providers of Newfoundland and Labrador. PHML provides seven day per week availability for diagnosing infectious diseases caused by bacteria, fungi, parasites and viruses.

Appropriate collection of specimens is critical to quality microbiology results. Performance and interpretation depends directly on the method, site and timing of specimen collection. Poorly collected specimens may lead to inappropriate microbiological testing, which may prompt unnecessary antimicrobial therapy or inappropriate discontinuation of therapy.

This manual provides guidance for quality collection. The following general guidelines apply to collection:

- Microbes die very quickly during transportation, due to loss of nutrition and harsh environmental conditions.
- Sharply collected specimens are superior to bluntly collected specimens, since they bypass contaminated surfaces.
- Larger volume specimens are superior to smaller volume specimens, since they contain greater numbers of bacteria.
- Information on the requisition is used to select testing performed on the specimen, therefore complete information including specific pathogens suspected, provides a better diagnosis.
- When testing requests are ordered through Meditech (LIS), it is necessary provide all pertinent information in the comment field.
- The skin, gut, mouth and genital tract contains normal bacterial flora, the isolation of which do not require treatment. Well collected specimens can distinguish normal flora from pathogenic microbes. When a dirty boundary is crossed to collect a clean sample, such as during blood culture or lumbar puncture, fastidious cleaning of the skin is required.
- Indwelling foreign bodies such as urinary catheters, chest tubes, endotracheal tubes and others are contaminated with bacteria within hours of placement, and therefore submitting culture from these sites will be difficult to interpret and distinguish contamination from pathogenic bacteria.
- Speaking with the microbiologist-on-call (MOC) or the lab staff prior to collection can assist in the appropriate collection and transportation of specimens, and in the ordering and interpretation of test results.

Communicating with the Microbiology Laboratory

The Eastern Health PHML division laboratory currently has five sites, two located in St. John's, and one in Carbonear, Clarenville and Burin. The sites in St. John's serve as a central reference and tertiary care lab for the entire province. Every effort is made to have Microbiology procedures standardized across the province to optimize microbial identification and susceptibility testing for inpatients and outpatients.. PHML receives bacteriology, parasitology, virology and mycology requests. This includes reference identification and susceptibility testing services. Requests or concerns regarding microbiologic testing should be directed to the Microbiologist-On-Call.

The MOC can be reached through Hospital Locating 709 777 6000

Other services offered by the PHML include surveillance, water and food testing and outbreak investigation in the community.

2. Hours of Operation

Patient samples may be dropped off at the main laboratory office at Health Sciences Center. Outpatients may drop specimens at collection sites in their region for transport to the laboratory office.

Specimen Drop-off:

DAY	TIME	DROP OFF AREA
Monday to Friday	0800 – 1600hr	• Lab Office Wicket • Place blood culture flasks in holding incubator Room 1501 – lab stat specimen area
Monday to Friday	1600 – 0800hr	• Place all samples in basket at Lab STAT Specimen Drop Off Desk - Room 1501 • Place blood culture flasks in holding incubator Room 1501 – Lab stat specimen area
Saturday & Sunday and Stat Holidays	0800 - 1500hr	• Place all samples in basket at Lab STAT Specimen Drop Off Desk - Room 1501 • Place blood culture flasks in holding incubator Room 1501 – lab stat specimen area

Microbiology Laboratory Testing Hours:
Monday to Friday 0800 – 1800hr
Saturday and Sunday and Holidays 0800-1500hr

A Technologist on call is available to process STAT requests outside the operational hours listed above. Prior consultation with the MOC is required to process any after-hours request. Organ harvest testing is always approved.

3. Labeling Specifications

All samples submitted to the Microbiology Laboratory must be adequately labeled. **Any mislabelled specimen cannot be processed**, since legal identification cannot be achieved, and processing the specimen may place the laboratory at liability for harm to the patient. Mislabelled specimens are automatically rejected with a notification to the submitting health care worker. Verbal identification of mislabelled specimens in not considered adequate identification, and even if collecting staff visit the lab in person, a mislabelled specimen may be rejected. Adequacy of labelling is determined by the discretion of the microbiology laboratory.

In instances when it has been determined that a specimen is a “precious sample” Mislabelled or unlabelled samples may be properly labelled by an attending physician or nurse. Precious samples are any specimens obtained by invasive procedures including but not limited to needle aspirates, sterile body fluids, tissues, any surgically acquired specimens, bronchoalveolar lavage samples and suprapubic urine taps. A Verification form for precious specimens must be filled out in the Microbiology Laboratory located in room 1530. The attending Physician or Nurse must ensure that the sample is properly labelled. A consultation with the MOC will be required when determining if a specimen is deemed “precious”.

Requisitions accompanying the sample must provide the same patient identifier information as on the sample container as well as additional information as outlined below. It is the legal responsibility of the collecting **physician** to provide all of the information requested on the requisition, and rejection due to lack of information is the ordering physician’s responsibility. The more detail that is provided, the lab can provide better service for the patient.

An adequately labeled specimen container **must** contain the following:

- Patient Identifier Information
  - Patient’s full first and last name (as it appears on the MCP or other health care card)
  - Patient’s health care number (MCP)
  - Other identifier such as other outside province health care number, Department of National Defence number is acceptable, only if accompanied by date of birth
  - Information may be applied to the container using an addressograph label provided it contains the required information.
- Date and time of sample collection

An adequately labeled requisition **must** contain the following:

- Patient Identifier Information

- Patient's full first and last name (as it appears on the MCP or other health care card)
- Patient's health care number (MCP)
- Other identifier such as other outside province health care number, Department of National Defence number is acceptable, only if accompanied by date of birth
- Information may be applied to the container using an addressograph label provided it contains the required information.

- Ordering Physician's first and last name (use of a name/address/phone number stamp is advised for non-hospital based physicians).

- Specimen information – source /site and collection comments

- Test(s) Requested

Other information requested (diagnosis, antibiotics in use, and collection comments) allows the Laboratory to perform the most appropriate processing of the sample submitted.

An adequate order in Meditech (LIS) **must** contain the following:

- Proper and adequate ordering of culture or tests requested.

- Include any pertinent information regarding patient diagnosis in comment field of order.

- Ensure that all prompts are acknowledged when ordering.

- Order must be accurate and pertinent to the specimen submitted for culture or sensitivity.

4. Rejection Policy

The microbiology laboratory reserves the right to reject any specimen which will not contribute useful diagnostic information or is a risk to the patient. Specimens for microbiological culture should be collected as soon as possible after the onset of symptoms and before beginning antimicrobial therapy. Obviously contaminated, inappropriately collected, inappropriately transported, repetitive, non-sterile containers or leaking specimens are automatically rejected. Rejection is at the discretion of the MOC in partnership with the ordering physician. Poor specimen quality may lead to inappropriate antimicrobial therapy or misdiagnosis.

Swabs, transport media, specimen collection containers and agar media used for direct inoculation all have expiry dates.. Collection of specimens using expired collection devices may lead to poor or inaccurate culture and test results. These collection devices contain transport media that is designed to keep organisms viable on route to the Microbiology Laboratory. If expired collecting devices are used, the quality of the culture or result will be compromised.

The following specific specimens are rejected:

- Multiple specimens from the same source/site on the same day
- Any formed stool *Salmonella typhi* carriage is requested. A formed stool is any stool sample which does not assume the shape of its container.
- Stool bacterial culture on inpatients after more than three days of admission.
- Stool parasitology without a history of travel. Exceptions may be discussed with the MOC.
- Stool *C. difficile* PCR repeats earlier than seven days from the last collection and test
- Expectorated sputum for bacterial culture unless ordered by a respirologist or discussed with the MOC
- Endotracheal aspirates with greater than 10 epithelial cells/low power field OR less than 25 WBC/low power field. An exception would be endotracheal aspirates from cystic fibrosis patients.
- Swabs with greater than 10 epithelial cells/low power field and less than 25 WBC/low power field. Intra-operative collection is an exception..

- Swabs are inferior to fluid and tissue and are discouraged. Processing of swabs may be cancelled if the there is a risk to the patient by reporting an erroneous result.

- Specimens received in inappropriate containers will be rejected

- **Transportation of Specimens**

From collection to receipt by the laboratory, it is critically important to protect the specimen from any factors that will compromise it.

For example, a long transportation delay or extreme temperatures during shipment can lead to false results. For this reason, every effort should be made to ensure specimens are transported as quickly as possible and kept at an ideal temperature during transport. This varies depending on the specimen.

Generally, the sooner a specimen reaches the laboratory the better the recovery of pathogens and the lower the risk of normal flora overgrowth that may mask the pathogen of interest.

5. Expected Rejection Times

Name of Test	Rejection Time	Specimen Rejection Criteria	Specimen Container	Specimen Holding Conditions	Hospital Site
Autopsy	72 hours	None	Sterile Container, Swab in Transport Media or Blood or Fluid collected in Blood Culture Bottle	4°C	HSC
Agalactiae (Strep Culture)	48 hours	Mislabelled or unlabelled specimens will not be processed	Swab in transport media	4 C	HSC
Bartholin's Gland	48 hours	Mislabelled or unlabelled specimens will not be processed	Sterile container or swab in transport media	Room temperature	HSC
Bile	NONE	• None, "Precious Sample". Mislabelled or unlabelled samples must have a "Verification for Precious Specimens Form" completed in the Microbiology Laboratory ROOM 1530 before sample can be processed.	Sterile container	4°C	HSC
Bite Wound	72 hours	Mislabelled or unlabelled specimens will not be processed	Swab in transport media	4°C	HSC
Blood Culture	NONE	Mislabelled or unlabelled specimens will not be processed	• BACTEC Peds Plus/F bottle • BACTEC Plus Aerobic/F bottle • BACTEC Lytic/10/Anaerobic F bottle	35°C	HSC
Blood Culture (sterile body fluid flask)	NONE	NONE – "Precious Sample"	• BACTEC Plus Aerobic/F bottle • BACTEC Lytic/10/A Anaerobic bottle	35°C	HSC
Blood Culture (stem cells)	NONE	NONE – "Precious Sample"	BACTEC Peds Plus/F bottle	35°C	HSC
Blood Culture Blood Bank Transfusion Reactions (Fresh Frozen Plasma or Concentrated RBC's)	NONE	When transfusion bags are received in Microbiology as an "Open System" (When air has been introduced into the transfusion unit and contents have leaked into specimen transport bag) these samples will not be processed due to contamination.	BACTEC Peds Plus/F bottle	4°C	HSC
Blood Culture (endocarditis)	NONE	NONE – "Precious Sample"	BACTEC Plus Aerobic/F bottle BACTEC Lytic/10/A Anaerobic bottle	35 C	HSC
Bone Culture other than Donor Bone	NONE	NONE – "Precious Sample"	Sterile Plastic Specimen Container	4 C	HSC
Bone Marrow	None	• None "Precious Sample". Mislabelled or unlabelled samples must have a "Verification for Precious Specimens Form" completed in the Microbiology Laboratory-ROOM 1530 before sample can be processed	Sterile container	4°C	HSC

Breast Milk	72 hours	Mislabelled or unlabelled specimens will not be processed	Sterile container	4°C	HSC
Bronchoalveolar Lavage/ Bronchoscopy Aspirates/Washings/ Bronchial Brushes	None	ET tube tips are not processed. These samples are collected invasively and are considered “precious”. If mislabelled, a verification form for precious specimens must be completed in the Microbiology Laboratory before sample is processed.	Sterile container	4°C	HSC
Catheter Tips	NONE	NONE - “Precious Sample”	Sterile Specimen container	4 C	HSC
					HSC
Cervical Swabs	24 hours	Mislabelled or unlabelled specimens will not be processed	Swab in transport media	Room temperature	HSC
Corneal Scrapings	None	None “Precious Sample”	Sterile Container or pre-inoculated plates	35 °C for inoculated media -ROOM TEMPERATURE FOR ACTUAL SPECIMEN.	HSC
Cryptococcal Antigen	24 hours (test performed on cerebral spinal fluid and serum) 2-8°C for up to one week or at < or equal to -20°C for longer period of time.	Mislabelled or unlabelled specimens will not be processed	• SST – Serum BD VacutainerCollector blood tube • For lumbar puncture – sterile plastic tube For shunt samples – sterile plastic specimen bottle	ROOM TEMPERATURE – cerebral spinal fluid samples 4 C - blood/serum	HSC
CSF – Cerebral Spinal Fluid.	NONE	None “Precious Sample”	For lumbar puncture -Sterile plastic tube. For shunt samples-sterile plastic specimen bottle	ROOM TEMPERATURE	HSC
Donor Bone/Skin	None	None “Precious Sample”	Sterile glass tube containing enrichment thioglycollate broth (These tube are provided by the Microbiology Laboratory on request)	Hold at room temperature or store at 35C	HSC
Ear Swab	48 hours	Only culture if tympanic membrane rupture has occured. Mislabelled or unlabelled specimens will not be processed	Swab in transport media	4°C	HSC
Eye/Conjunctiva/Lid Swabs	48 hours	Routine culture of eyes will not be performed if samples are mislabelled or unlabelled. Any collections involving invasive techniques are considered “Precious samples”. These include Intra-ocular aqueous and vitreous fluids. These improperly labelled specimens will require a verification form for “Precious Specimens” to be completed in the Microbiology Laboratory before they are processed.	Swab in transport container. Media may be inoculated by ophthalmologist and sent directly to the Laboratory. Sterile specimen container for eye fluid collection	For Specimen in transport media. 4°C, inoculated media 35 °C	HSC

Fungal Stain (Pneunocystis carnii)	24-48 hours	Mislabelled or unlabelled specimens will not be processed. If sample is a “Precious Sample” a Verificstion Form for Precious Specimens must be completed in the Microbiology Laboratory before processed.	Specimen in sterile specimen container	4 C	HSC
Fungus Culture	28 days	Mislabelled or unlabelled specimens will not be processed. If sample is a “Precious Sample” a Verification Form for Precious Specimens must be completed in the Microbiology Laboratory (ROOM 1530) before processed.	Swab in transport media. Specimen in sterile specimen container.	4 C	HSC
Helminth (WORM) and Arthropod (ECTO PARASITE) ID	24 hours	Mislabelled or unlabelled specimen will not be processed PLEASE NOTE: Dried out worms/ worm segments (helminths) may not be identifiable. - Always use saline and DO NOT add SAF preservative or formalin.	Helminths - Specimen in sterile specimen container with sterile saline. Ecto-parasites (Athropods) – collect in a dry sterile specimen container. - do not add formalin but may be submitted in 70% alcohol	ROOM TEMPERATURE	HSC
Intra-uterine device (IUD) For Actinomyces	72 hours	None	Sterile container	4°C	HSC
Lacrimal (tear) specimens	72 hours	None	Sterile container or swab in transport media	4°C	HSC
Lung Biopsy	None	None “Precious Sample”	Sterile container	4°C	HSC
Mouth Swab	48 hours	Only gram stain will be performed on specific requests for Vincent’s angina for fusiform bacteria and spirochetes. Requests for yeast culture or gram stain from mouth swabs for the presence of Yeast will not be processed. Mucosal candidiasis is a clinical diagnosis. Samples with inadequate labeling will be rejected.	Swab in transport media	4°C	HSC
MRSA Screen	48	Mislabelled or unlabelled specimens will not be processed.	Swab in transport media.	4 C	HSC
Nose (anterior nares)	48 hours	Only cultured for Staphylococcus aureus carriage Mislabelled or unlabelled specimens will not be processed	Swab in transport media	4°C	HSC
Paranasal sinuses including antral washings	None	None “Precious Sample”	Sterile specimen container	4°C	HSC
Pinworm	48 hours	• Mislabelled or unlabelled specimens will not be processed • Stool samples requesting pinworm examination will be rejected. (90 % of pinworm ova are found on the perianal skin).	Pinworm Collector Kit (Pinworm Paddle)	ROOM TEMPERATURE	HSC
Penis (Superficial Wound)	24 hours – Sterile swab for GC	Mislabelled or unlabelled specimens will not be processed	Sterile swab in transport media (A urethral collection would be specimen of	Room temperature for GC .	HSC

		Sterile swab in transport is not cultured after 24 hours if GC culture is requested If sterile swab is found in refrigerator, specimen is unsuitable for GC culture.	choice for Neisseria gonorrhoeae isolation) COBAS transport for Chlamydia / GC (Please submit urine specimen – first 20 ml. void)	4 C for superficial wound culture	
Prostatic fluid for diagnosis of prostattis	None	None “Precious Sample”	Sterile container	4°C	HSC
Prosthetic devices	None	None “Precious Sample”	Sterile container	4°C	HSC
Rotavirus Antigen					
Semen	48 hours	None	Sterile container	Room temperature	HSC
Skin Biopsy	None	None “Precious Sample”	Sterile Container (a small amount of sterile saline should be added to keep it Moist	4°C	HSC
Sputum and tracheal aspirate (Endotracheal aspirates)	48 hours	ET tube tip is not processed. Mislabelled or unlabelled samples will not be processed. Endotracheal aspirates which contain more than 10 squamous epithelial cells and less than 25 WBC per low power field will not be processed for bacterial culture. This will not apply to requests for viral , mycobacterial or fungal detection. Specimens from Cystic fibrosis patients or when requested by a respirology specialist will always be processed. Specific circumstancesmay justify sputum culture and can be discussed with the MOC on a case by case basis.	Sterile container	4°C	HSC
Stem Cell Culture	None	None “Precious Sample”	BACTEC Peds Plus/F blood culture flask	Sample is delivered directly from the Stem Cell Laboratory to Microbiology for processing. May be placed in 35° C Walk-in incubator in Microbiology if processing is delayed.	HSC

• Stool Culture/Ova and Parasite/Clostridium difficile Toxin	48 hours	All formed stools except when S. typhi (typhoid fever) requested Patient hospitalized for 3 days or more Refer for C. difficile toxin testing. Patient has been hospitalized for 3 days or more. Because infectious diarrhea caused by abnormal bacterial pathogens is extremely unlikely to be acquired in hospital, culture examination will not be performed. If the sample is diarrheal a C. difficile cytotoxin assay will be performed. If a nosocomial outbreak is occurring please contact the Infection Control Officer. If there are unusual circumstances warranting a culture or ova and parasite exam please contact the MOC. Ova and parasite requests on patients without recent foreign travel will not be processed. Multiple samples collected over 3 days are suitable for ova and parasite requests since parasites and their ova are shed intermittently over several days. Mislabelled or unlabelled samples will not be processed.	Enteric Pathogens Bacterial culture requests – use CARY BLAIR TRANSPORT if delay in transport > 24 hours. - Sterile specimen container if sent within 24 hours. -Ova and Parasite requests – use SAF Transport (sodium acetate-acetic acid – formaldehyde) Clostridium difficile Toxin – sterile 90 ml. specimen container.	4°C – Bacterial. Enteric pathogen bacterial culture – 4 C Ova and Parasite 4 C Clostridium difficile Toxin - • Room Temperature for 2 Days .or 5 Days 2-8°C	HSC
Sterile Body Fluids	None	None “Precious Sample”	Sterile container	4°C	HSC
Upper Genital Tract	48 hours	Mislabelled or unlabelled samples will not be processed.	Sterile Container, Swab in transport media	Room temperature	HSC
Throat Swab	48 hours	Mislabelled or unlabelled samples will not be processed.	Swab in transport container	4°C	HSC
Tissue	None if collected invasively and not a debridement	None “Precious Sample”	Sterile container	4°C	HSC
Urine Urine for Chlamydia trachomatis DNA / Neisseria gonorrhoeae	24 hours 48 hours	Mislabelled or unlabelled samples will not be processed. Same as above	Sterile container COBAS PCR collection tube (urine collected in sterile specimen container and transferred to COBAS tube)	4°C 2-30 C (12 Months)	HSC HSC – Transported to Public Health Laboratory for testing
Wet Prep – Trichomonas	24 hours	Mislabelled or unlabelled samples will not be processed	Swab in transport media	ROOM TEMPERATIRE	
Wounds (Superficial) – Wound	72 hours	If STD is requested and sample is greater than 24 hours old please reject if not in COBAS transport.	Sterile Container or Swab in transport media	4°C (Hold at room temperature	HSC

swab/Abscess swabs/Drainage		Mislabelled or unlabelled samples will not be processed.		if STD is requested and if not collect in COBAS transport	
Vaginal Swab in adults (12 years or older)	48 hours	Mislabelled or unlabelled samples will not be processed.	Swab in transport media	4°C	HSC
Vaginal Swab (12 years old and less)	48 hours	Mislabelled or unlabelled samples will not be processed	Swab in transport media	4 C	HSC
Vancomycin Resistant Enterococcus Screen (VRE)	48 hours	Mislabelled or unlabelled samples will nort be processed	Swab in transport media	4 C	HSC

8. Expected Turn – Around Times

- Laboratory “Turn-Around Time” begins with accessioning of specimens and ends with final reporting to healthcare professionals.
- . The process of culturing samples can take from one day up to twenty-eight days depending on the request.
- There are several factors that affect Microbiology turn-around times:
    1. Slow growing cultures may require extended incubation times,
    2. Cultures that grow multiple colony types may require several “sub-cultures” to isolate potential pathogens. This involves additional incubation time.
    3. Occasionally we isolate bacteria that are nutritionally dependent and require certain supplements to grow.

Processing Stat Cultures

- A critical test in the Microbiology Laboratory is the Gram Stain. When a specimen is collected invasively the physician will require the Gram Stain to be performed STAT.
- Turn-Around times for Cerebral Spinal Fluids (CSF), operating room specimens invasively collected or any samples that doctors request as STAT must have gram stains performed within one hour from specimen accession. A verbal report of any unusual findings must be called to the nurse or attending physician within one hour and documentation must be made in the laboratory Meditech system.
- PLEASE NOTE: Any patients that are being screened for organ donation must have all procedures ordered as STAT. This includes a STAT urine gram stain and urine culture, STAT tracheal aspirate gram stain and culture and blood cultures from two collection sites or stabs ordered as STAT.

Microbiology Turn-Around Times	
Procedure / Culture Type	**Turn-Around Times (Hrs)**
Autopsy Culture	72
Agalactiae (Strep) Culture	72
Bartholin’s Gland	48
Bile	72
Bite Wound	48
Blood Culture	120 (5 days)
Blood Culture (sterile body fluid-flask)	168 (7 days)
Blood Culture (stem cells)	336 (14 days)
Blood Culture (transfusion reactions)	168 (7 days)
Blood Culture (endocarditits)	504 (21 days)
Bone Culture other than Donor Bone	168 (7 days)
Bone Marrow	168 (7 days)
Bordetella pertussis	168 (7 days)
Breast Milk	48

Microbiology Turn-Around Times	
Procedure / Culture Type	**Turn-Around Times (Hrs)**
Broncho-alveolar Lavages, washings, Brushes and Aspirates	48
Catheter Tips	72
Cervical for STD (not COBAS transport)	72
Cervical for culture	48
Corneal Scrapings	48
Cryptococcal Antigen	24
C.S.F.	48
Donor Bone / Donor Skin	168 (7 days)
Ear Culture (membrame rupture)	48
Eye/ Conjunctival / Lid	48
Fungal Stain (Pneunocystis carnii)	48
Fungus Culture	672 (28 days)
Helminth (WORM)and Arthropod (ECTO PARASITE) ID	24
I.U.D.	24
Lacrimal (tear) Culture	48
Lung Biopsy (Tissue)	168 (7 days)
Mouth	24
MRSA Screen	24 (If screen is negative) 48 (If screen is positive)
Nose	48
Para-nasal Sinuses (Antral washes)	48
Pinworm	24
Penis (superficial wound)	48
Penis for STD (not in COBAS transport)	72
Prostatic Fluids	48
Rotavirus Antigen	24
Semen	48
Skin Biopsy	168 (7 days)
Sputum / Tracheal Aspirate	48
Stem Cell Culture	336 (14 days)
Stool Culture	72
Stool – Clostridium difficile Toxin	24
Stool – Ova and Parasite Examination	24
Sterile Body Fluids	48
Throat	24
Tissue Transfusion Reaction Culture	168 (7 days) 168 (7 days)
Urine	48
Wet Prep – Trichomonas	24
Wounds – Superficial and Deep	48
Vaginal – 12 years old – Adult	24
Vaginal – 12 years old and less (Culture)	48
VRE (Vancomycin Resistant Enterococcus) Screen	24 (if screen is negative) 48 (if screen is positive)

9. Procedure by Specimen Type or Test

1.0 Aspirate (Pus)	
Collection Device Specimen	Sterile 90ml screw capped container
Recommended Collection Guidelines	• An aspirate is collected with a sterile needle under sterile conditions • Please submit the largest volume possible
Collection Procedure	1. Clean the needle puncture site with appropriate solution 2. Aseptically perform percutaneous aspiration to obtain fluid. 3. Expel any air bubbles from the syringe. 4. Inject fluid into a sterile container. 5. Do not overfill, as this may lead to greater chances of specimen leakage. 6. Label specimen/requisition according to required labelling specifications.
Specimen Handling and Transportation	• Deliver to Laboratory immediately after collection • Store at 4° C • Ensure container does not leak and lid is not cross threaded
Lab Procedure	• Bacterial culture routine, Fungal, Mycobacterial and Viral on request • Aspirates are cultured both aerobically and anaerobically • Swabs of aspirates are cultured only for aerobic bacteria • When collecting aspirates avoid transferring them to E-swab tubes and submitting them for processing. This is an improper collection technique. E-swabs should not be used for aspirate or fluid collection unless the swab from the E-swab is used directly for sampling. Recovery of potential pathogens may be limited sending body fluids or aspirates collected using swabs.
Rejection Criteria	• Mislabelled or unlabelled specimen/requisition • More than 24 hours transportation
Expected Turn Around Time	• Gram stain 1 hour • Preliminary bacterial culture 24 hours • Final bacterial culture 48 hours
Testing Site	All regional sites
Last Updated	March 2017

Blood Culture – Bacteria and Yeast	
Source	Blood
Specimen Collection Device	**Neonates:** 1 BACTEC Peds/F plus bottle **Pediatrics:** 1 set of BACTEC Peds plus / F bottles * (1 set = 1 BACTEC Peds plus / F bottle from one venipuncture site **PLUS** 1 BACTEC Peds Plus/F bottle from another venipuncture site) **NOTE:** If 2 vials cannot be collected, 1 vial is acceptable **Adults:** 1 set of blood culture bottles * (1 set = 1 BACTEC Plus+ Aerobic/F bottle **and** 1 BACTEC Lytic/10/Anaerobic F bottle from one venipuncture site **PLUS** 1 BACTEC Plus+ Aerobic/F bottle from another venipuncture site) For all suspected **Risk Group 3 bacterial pathogens** (*Bacillus anthracis, Brucella spp, Chlamydia psittaci, Coxiella burnetii, Francisella tularensis, Mycobacterium spp, Burkholderia mallei/pseudomallei, Yersinia pestis*), contact the Microbiologist at 777-XXXX, pager 570-9494

<table>
<tr><td></td><td>Please note that pathogenic yeasts are recovered almost exclusively from aerobic bottles only as are strict aerobes such as Pseudomonas and Stenotrophomonas.</td></tr>
<tr><td>Clinical History</td><td>• Provide clinical history and suspected diagnosis
• Indicate endocarditis on requisition if suspected
• Please state current antimicrobial therapy – dose, route of administration and when started</td></tr>
<tr><td>Recommended Collection Guidelines including Blood Volume Requirements</td><td>Timing and number of sets to collect:
a. Acute febrile episode
• Collect prior to antimicrobial therapy
• 1 set within 10 minutes (before antimicrobials)
b. Non-acute disease
• Collect prior to antimicrobial therapy whenever possible
• 1 set within 10 minutes (before antimicrobials whenever possible)
c. Endocarditis, acute
• 2 sets prior to antimicrobials, if possible
d. Endocarditis, subacute
• 2 sets ≥ 1 hour apart within 24 hours. If negative at 24 hours, obtain 2 or 3 more sets

Blood volumes suggested for cultures from infants and Children.
<table><tr><th>Wt of Patient</th><th>total blood volume</th><th colspan="2">Recommended volume of blood for culture (ml)</th><th>Total vol for culture</th><th>% of total blood volume</th></tr><tr><th>Kg</th><th>ml</th><th>Culture 1</th><th>Culture 2</th><th>ml</th><th>%</th></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>
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Blood volumes suggested for cultures from Adults
<table><tr><th>Wt of Patient</th><th>total blood volume</th><th colspan="2">Recommended volume of blood for culture (ml)</th><th>Total vol for culture</th><th>% of total blood volume</th></tr><tr><th>Kg</th><th>ml</th><th>Culture 1</th><th>Culture 2</th><th>ml</th><th>%</th></tr><tr><td></td><td></td><td>1 AER and 1 ANAER.</td><td></td><td></td><td></td></tr><tr><td>ADULTS >40.0</td><td></td><td>8-10 PER FLASK</td><td>1 AER 8-10</td><td>24-30</td><td></td></tr></table>
Blood Volume Requirements per vial:
• Neonate: 1 - 1.5 mL of blood
• Pediatric: 1 - 5 mL of blood
• Adult: 8 - 10 mL of blood</td></tr>
<tr><td>Collection Procedure</td><td>• Site of collection should be peripheral if possible, not including peripheral venous or arterial lines unless drawn at the time of insertion
• For difficult collections fill the aerobic vial before the anaerobic vial. Any remaining blood should be inoculated into the anaerobic vial once the proper volume is collected in the aerobic vial.

1. Site should be prepared using antiseptic swab.
2. Blood culture vial should be disinfected using 70% alcohol to swab the septum. Do not use iodine.
3. Perform venipuncture using butterfly needle procedure, allowing the blood to flow into the vial to the volume recommended.
4. Label specimen(s)/requisition according to required labelling specifications
5. Label bottles and requisition with site(s) of collection.
• Do not obscure BACTEC vial barcode or sequence numbers</td></tr>
<tr><td>Specimen Handling and Storage</td><td>• Deliver to the Microbiology laboratory as soon as possible after collection or place in Blood Culture holding Incubator located in in ROOM 1501 across from the laboratory STAT specimen drop off bench.
• Do not refrigerate</td></tr>
<tr><td>Rejection Criteria</td><td>• Mislabelled or unlabelled specimen(s)/requisition</td></tr>
<tr><td>Testing Site</td><td>Microbiology Laboratory, HSC Site</td></tr>
</table>

Last Updated	March 2017

3.0 Blood Culture – Fungi/ Mycobacteria

Source	Blood
Specimen Collection Device	**BD Bactec Myco/F Lytic Blood Culture Flask**
Clinical History	• **Provide clinical history and suspected diagnosis.** • **Indicate any recent exposures to known carriers.** • **Please state current antifungal or TB therapy if applicable – dose, route of administration and when started.** • **If Malassezia furfur is requested for fungal this must be included on the requisition or in comments when ordered in the MEDITEC laboratory system. Diagnosis of this fungus is made from skin scrapings and not blood.** • **All Mycobacterial isolates will be referred to the Public Health Laboratories for identification.**
Recommended Collection Guidelines	**Timing and number of sets to collect:** **a. Acute febrile episode** • Collect prior to antimicrobial therapy • 1 set within 10 minutes (before antimicrobials) **b. Non-acute disease** • Collect prior to antimicrobial therapy whenever possible • 1 set within 10 minutes (before antimicrobials whenever possible) **c. Endocarditis, acute** • 2 sets prior to antimicrobials, if possible **d. Endocarditis, subacute** • 2 sets ≥ 1 hour apart within 24 hours. If negative at 24 hours, obtain 2 or 3 more sets
Collection Procedure	• Site of collection should be peripheral if possible, not including peripheral venous or arterial lines unless drawn at the time of insertion • Minimum volume requirements: ADULT 3 mls. PEDIATRIC 1 ml. 1. Swab the venipuncture site concentrically, starting at the center, with 4% chlorhexidine glucosate. After the disinfectant has dried, remove with an alcohol swab. . 2. The venipuncture site must not be palpated after preparation. Perform venipuncture using butterfly needle procedure, allowing the blood to flow into the vial to the volume recommended. (See recommended guidelines above) 3. Label specimen(s)/requisition according to required labelling specifications. Also after specimen is properly labelled a request may be directly ordered in the MEDITEC computer system. Please include any pertinent information that may help the identification process. 4. If more than one culture is requested, the specimens should be obtained from separate venipuncture sites. 5. Disinfect the septum of the collection bottle with alcohol. Strict aseptic technique is essential.
Specimen Handling & Storage Requirements	• Deliver to the laboratory as soon as possible after collection, or place in Blood Culture Incubator located in room 1501 across from lab stat specimen drop off bench. • <u>Do not refrigerate.</u>
Rejection Criteria	• Mislabelled or unlabelled specimen(s)/requisition
Testing Site	• Microbiology Laboratory, HSC Site • Newfoundland and Labrador Public Health Laboratories. – For Referrals.
Source	Blood

4.0 Bone Marrow Culture – Bacteria / Fungi / Parasites / Viruses

<table>
<tr><td>Source</td><td>Bone Marrow</td></tr>
<tr><td>Specimen Collection Device</td><td><u>ROUTINE BACTERIA CULTURE:</u>
<u>Collect in 90 ml. Sterile specimen container.</u>

<u>ROUTINE FUNGI</u>:
Collect in a Sodium Citrate tube (blue top)

For other organisms, sample is referred
<table><tr><th>Test</th><th>Testing Site</th></tr><tr><td>Mycobacteria</td><td rowspan="4">NL Public Health Labratory</td></tr><tr><td>Dimorphic Fungi</td></tr><tr><td>Parasites</td></tr><tr><td>Viral</td></tr></table></td></tr>
<tr><td>Collection Procedure</td><td>1…Follow established procedures for Bone Marrow aspiration.
2…Label specimen/requisition according to required labelling specifications.
• Upon receipt in the Microbiology laboratory a gram stain will be performed and a portion of the sample will be inoculated into a BACTEC Peds Plus/F blood culture bottle .This bottle will then be placed in our BACTEC automated system for processing. This will require a seven day incubation period.</td></tr>
<tr><td>Specimen Handling and Storage</td><td>• Deliver to laboratory as soon as possible after collection
• <u>Do not refrigerate</u></td></tr>
<tr><td>Rejection Criteria</td><td>Any mislabelled or unlabelled specimens must have averification form for PreciousSpecimens completed in the Microbiology laboratory before being processed.. This is considered a “precious” sample.</td></tr>
<tr><td>Testing Site</td><td>Microbiology Laboratory, HSC Site</td></tr>
<tr><td>Last Updated</td><td>March 2017</td></tr>
</table>

4.0 Donor Bone/ Donor Skin

Source	Donor Bone / Donor Skin
Specimen Collection Device	Sterile glass test tube containing thioglycollate enrichment broth. (This culture media is supplied by the Microbiology Laboratory ROOM 1530) .
Collection Procedure	• Donor Bone / Skin from the Transplant Bank may be requested for surgical implantation in the Operating Room by a surgeon. • Before implanting into the patient a small portion is placed in a sterile tube containing enriched culture broth. • A Microbiology requisition is completed with all pertinent information. The donor bone/skin sample specimen is labelled according to labelling specifications. This is then sent to the Microbiology laboratory for a sterility check. • The sample is cultured for 7 days. If growth appears, the organism must be identified and a preliminary verbal report must be made to the “Organ Procurment office”. Obtain the person’s name who received the verbal report, and also the date and time call was made. All this information must be documented on the requisition and entered into the MEDITECH laboratory information system.
Specimen Handling and Storage	• Deliver to laboratory as soon as possible • Store samples at room temperature or place in blood culture holding incubator located across from lab stat specimen drop off ROOM 1501
Rejection Criteria	None – these samples are considered “Precious “specimens. Please complete a Precious sample disclaimer form located in the Microbiology Laboratory in ROOM 1530 before sample can be processed.
Testing Site	Microbiology Laboratory, HSC site.

	•

6.0 Bronchoscopy Specimens – Bacterial, Viral, Fungal Mycobacterial Culture	
Source	Bronchoscopy Specimens: • Bronchoalveolar lavage (BAL) • Bronchoscopy aspirates • Bronchial washings • Bronchial Brush (Only bacterial and fungal culture performed on these samples). All bronchoscopy specimens submitted for bacterial culture are also processed for fungal and mycobacterial culture.
Testing Requests	• Bacterial culture – C&S • Mycobacterial culture – TB, AFB • Fungal culture • Viral NAT – specify i.e. HSV (Herpes), CMV (Cytomegalovirus) Influenza and other respiratory viruses. • Pneumocystis carinii (PCP) stain
Collection Container	Sterile 90ml screw capped container
Collection Procedure	Physician collected using a bronchoscope Label specimen/requisition according to required labelling specifications
Specimen Handling and Storage	• Deliver to the Laboratory as soon as possible after collection; if delay, store at 4 degrees
Testing Site	• Bacterial/Fungal culture and PCP stain :…Microbiology Laboratory, HSC Site • Mycobacterial culture:.....Miller Site. • Viral NAT:……Miller Site
Rejection Criteria	Mislabelled or unlabelled specimens must have a Verification for Precious Specimens form completed in the Microbiology Laboratory located in ROOM 1530 before the sample is processed. These samples are considered “precious”. •
Last Updated	March 2017

7.0 Cerebrospinal Fluid Culture	
Test Name	Cerebrospinal Fluid Culture
Source	Cerebrospinal Fluid
Specimen Collection Device	Sterile 15 mL tube • Use separate tube (i.e. Tube#5) if HSV/Enterovirus required • When collecting CSF shunt samples please submit in sterile specimen container.. Collect using an aseptic technique

Collection Procedure	1. Clean the puncture site with antiseptic solution before needle insertion to prevent introduction of infection. 2. Insert needle with stylet at the L3-L4, L4-L5, or L5-S1 interspace. 3. When the subarachnoid space is reached, remove the stylet and spinal fluid will appear in the needle hub. 4. Slowly drain CSF into sterile leak proof plastic containers. • Four tubes are generally required for Microbiology, Hematology, and Chemistry testing. Generally it is preferable to submit the second or most turbid tube to Microbiology. The last tube collected should generally go to Hematology for cell count. • Submit a sufficient volume of fluid. See suggested volumes below. For small volume draws, please indicate priority of test request. 5. Label specimen/requisition according to required labelling specifications • When a shunt sample is requested, aseptically sample the CSF directly from the ventricular drain and place in a sterile 90 ml. plastic container for culture and other requests..
Specimen Handling and Storage	• Deliver to the Laboratory as soon as possible • **Specimen must be received in the Laboratory within 1 hour of collection for optimal recovery of organisms** • Do not refrigerate • 4 tubes are usually collected: • Tube 1:…Haematology • Tube 2:…Chemistry • Tube 3:…Microbiology • Tube 4:…Haematology • Indicate order of collection on tube when labelling. • Submit a minimum of 1 mL CSF per sterile screw-cap tube • Suggested minimum volumes for culture: • BACTERIAL:……..1 mL • FUNGAL:……. 2 mL • VIRAL culture/PCR:…2 - 5 mL • MYCOBACTERIAL:…..2 mL
Turn Around Time	Gram stains are processed and phoned within 1 hour of receipt
Testing Site	• Bacterial and Fungal culture:……..Microbiology Laboratory, HSC Site • Mycobacterial culture:……Miller Site. • Viral NAT:……Miller Site
Rejection Criteria	• C.S.F samples are “precious samples” • Mislabelled or unlabelled specimens/requisitions must have Verification for Precious Specimens .Form completed in the Microbiology Laboratory located in ROOM 1530 before the sample is processed.

8.0 Throat – Beta haemolytic Streptococcus Group A Culture

Source	Throat
Specimen Collection Device	Swab transport media
Collection Procedure	1. Depress tongue gently with tongue depressor. 2. Extend sterile swab between the tonsillar pillars and behind the uvula. Avoid touching the cheeks, tongue, uvula or lips. 3. Sweep the swab back and forth across the posterior pharynx, tonsillar areas, and any inflamed or ulcerated areas to obtain sample. 4. Carefully place swab back into the collection device without contaminating it. 5. Label specimen/requisition according to required labelling specifications
Specimen Handling and Storage	• Deliver to the Laboratory as soon as possible after collection; if delay, store at 4 degrees C
Rejection Criteria	• Mislabelled or unlabelled specimen/requisition • Dry swab received
Testing Site	Microbiology Laboratory, HSC Site

Last Updated	March 2017

9.0 Deep Ear – Bacterial Culture

Test Name	Deep Ear Culture - Bacterial
Source	Middle Ear Fluid or tissue
Specimen Collection Device	Sterile 15 ml screw capped container or swab transport
Clinical History	Provide relevant clinical history and antibiotic therapy
Collection Procedure	**TYMPANOCENTESIS FLUID:** • This fluid is submitted primarily to diagnose middle ear infections. This should only be collected by a trained healthcare provider. 1. Clean the external canal with mild detergent. 2. Using a syringe aspiration technique, obtain the fluid from the ear drum. • NOTE: If the eardrum is ruptured, carefully collect exudate by inserting a sterile swab through an auditory speculum 3. Carefully place swab back into the collection device without contaminating it. 4. Label specimen/requisition according to required labelling specifications • Ensure labelling clearly indicates 'middle ear fluid'
Specimen Handling and Storage	• Deliver to the Laboratory as soon as possible after collection; do not refrigerate
Additional Comments	Deep ear specimens are cultured both aerobically and anaerobically
Rejection Criteria	• Mislabelled or unlabelled specimen/requisition • Dry swab received • Swab of external ear, except with history of membrane rupture, will **not** be processed. Otitis externa caused by Staphylococcus aureus or Pseudomonas aeruginosa can be empirically treated with topical antibiotics. Swabs of the ear canal do not represent bacterial growth behind the tympanic membrane unless it has ruptured.
Testing Site	Microbiology Laboratory, HSC Site
Last Updated	March 2017

10.0 Deep Wound (Intraoperative /Interventional Abscess) Culture – Bacteria / Yeast / Parasites

Test Name	Wounds Deep (Tissue Samples) – Intraoperative / Interventional Abscess Culture
Specimen Collection Device	Sterile 90ml screw capped container or sterile 15ml screw capped tube. For other organisms, the sample is referred: **Test** / **Testing Site** Mycobacteria – Miller Site Viral – Miller Site Parasites (see Collection Guidelines below) – Miller Site
Clinical History	**Please provide clinical history:** • Presence of local symptoms and signs of infection • Is the infection acute or chronic? - If chronic, is sinus tract or fistula present? • Are there any local predisposing factors, e.g. skin ulcer, traumatic injury, surgical wound site, presence of foreign body? • Presence of systemic symptoms/signs e.g. fevers, chills, rigors? • State current antibiotics, if any – name, dose, route and when started

	• Are there any underlying conditions, which may predispose to more severe infection, e.g. diabetes, steroid or other immunosuppressive therapy, malignancy, HIV • If there is a request for parasites please provide travel history.
Recommended Collection Guidelines	• The submission of swabs for anaerobic culture is suboptimal; tissue and fluid specimens are preferred • If **yeast culture** is required, please indicate clearly on requisition to ensure proper processing • Some parasites may be identified from direct tissue biopsies. If **parasitology exam** is required, please provide a separate portion of the specimen in one sterile container. The Laboratory will add a suitable fixative (SAF) and will refer the fixed sample to the NL Public Health Laboratory.
Collection Procedure	• These samples are usually collected in the Operating Room or in Radiology • Ensure labelling clearly indicates deep wound, anatomical site and specimen type • Label specimen/requisition according to required labelling specifications.
Specimen Handling and Storage	• Deliver to the Laboratory as soon as possible after collection; if delay, store at 4 degrees C
Additional Comments	Deep specimens are cultured both aerobically and anaerobically
Rejection Criteria	• None – these samples are considered “Precious” specimens. If the sample is not labelled or improperly labelled a verification form for precious samples must be completed in the Microbiology Laboratory (Room 1530) by the attending nurse or physician and the sample relabelled before the specimen is processed.
Testing Site	Microbiology Laboratory, HSC Site
Last Update	March 2017

11.0 Deep Wound (Intraoperative /Interventional Abscess) Culture – Fungi

Test Name	Wound (Deep) – Intraoperative / Interventional Abscess
Specimen Collection Device	Sterile 90ml screw capped container or sterile 15ml screw capped tube
Clinical History	**Please provide clinical history:** • Presence of local symptoms and signs of infection • Is the infection acute or chronic? - If chronic, is sinus tract or fistula present? • Are there any local predisposing factors, e.g. skin ulcer, traumatic injury, surgical wound site, presence of foreign body? • Presence of systemic symptoms/signs e.g. fevers, chills, rigors? • State current antibiotics, if any – name, dose, route and when started • Are there any underlying conditions, which may predispose to more severe infection, e.g. diabetes, steroid or other immunosuppressive therapy, malignancy, HIV • Include travel history
Recommended Collection Guidelines	• The submission of swabs for anaerobic culture is suboptimal; tissue and fluid specimens are preferred • If **yeast culture** is required, please indicate clearly on requisition to ensure proper processing
Collection Procedure	• These samples are usually collected in the Operating Room or in Radiology • Label specimen/requisition according to required labelling specifications. • Ensure labelling clearly indicates deep wound, anatomical site and specimen type
Specimen Handling and Storage	• Deliver to the Laboratory as soon as possible after collection; if delay, store at 4 degrees C
Rejection Criteria	• None – these samples are considered “Precious” specimens • If the sample is deemed as a precious specimen and is not labelled or improperly labelled a Verification Form for Precious Specimens must be completed in the Microbiology Laboratory (Room 1530) by the attending nurse or physician and the sample relabelled before the specimen is processed.
Testing Site	Microbiology Laboratory, HSC Site
Last Updated	March 2017

2.0 Drainage Fluid Culture

Test Name	Drainage Fluid Culture (Jackson Pratt drainage, , Chest Tube drainage, Peritoneal Dialysis Catheter samples (Peritoneal Effluents), T tube line drainage or any sample collected from any tube that enters a body cavity through the skin and remains in place. Venous lines would be an exception.)
Specimen Collection Device	Sterile 15mL tube or sterile 90ml screw capped container
Clinical History	**State current antibiotic therapy and when this was started**
Recommended Collection Guidelines	• The submission of swabs for culture is suboptimal; actual fluid specimen is preferred. The larger the volume of sample submitted the better the yield of potential pathogens. • If **yeast culture** is required, please indicate clearly on requisition to ensure proper processing • When the sample is submitted please indicate if collected from a new day old insertion or an old insertion. The Microbiology Laboratory processes these two samples differently.
Collection Procedure	1…Aseptically obtain drainage fluid. 2…Place into a sterile 15mL tube. 3…Do not overfill, as this may lead to greater chances of specimen leakage 4…Label specimen/requisition according to required labelling specifications. Describe and provide any additional information about the specimen that may help in diagnosis and identification.
Specimen Handling & Storage Requirements	• Deliver to the Laboratory as soon as possible after collection; if delay, store at 4 degrees C • Ensure container does not leak and lid is not cross threaded
Additional Comments	Drainage fluids are cultured aerobically only when the sample submitted is collected from an old line insertion, greater than a day old.. Samples collected from a newly inserted line will be cultured aerobically and anaerobically. Identification will be completed on all growth.
Rejection Criteria	• Mislabelled or unlabelled specimen/requisition
Testing Site	Microbiology Laboratory, HSC Site
Last Updated	March 2017

13.0 Ear Culture

Source	External ear, pinna, drainage. For drainage; see Deep Ear Culture.
Specimen Collection Device	Swab transport media
Clinical History	• Provide relevant clinical history and recent or current antimicrobial therapy • If culture for **filamentous fungi/mould** is required, please indicate clearly on requisition to ensure proper processing
Collection Procedure	1. Use a swab moistened with sterile saline to remove any superficial debris. 2. Gently roll and rotate swab over the surface of the affected area, allowing fluid/discharge to collect on swab. 3. Carefully place swab back into the collection device without contaminating it. 4. Label specimen/requisition according to required labelling specifications. • Indicate right or left side. Indicate site, i.e. external pinna or external ear canal. Specify culture type (i.e. bacterial, fungal).
Specimen Handling and Storage	• Deliver to the Laboratory as soon as possible after collection; if delay, store at 4 degrees C
Rejection Criteria	• Swabs of ear canal will not be processed unless there is a history of a ruptured membrane • Mislabelled or unlabelled specimen/requisition • Dry swab received
Additional Comments	Otitis externa caused by Staphylococcus aureus or Pseudomonas aeruginosa can be empirically treated with topical antibiotics. Swabs of the ear canal do not represent bacterial growth behind the tympanic membrane unless the membrane has ruptured.
Testing Site	Microbiology Laboratory, HSC Site

Last Updated	March 2017

14.0 ETT (Endotracheal Tube) Suction Culture

Source	Endotracheal aspiration
Specimen Collection Device	Sterile 90ml screw capped container
Clinical History	**PROVIDE CLINICAL HISTORY AND CURRENT ANTIMICROBIAL THERAPY**
Collection Procedure	1. Aspirate specimen into a sterile container. 2. Label specimen/requisition according to required labelling specifications.
Specimen Handling and Storage	• Deliver to the Laboratory as soon as possible after collection; if delay, store at 4 degrees C. • Ensure container does not leak and lid is not cross threaded
Additional Comments	Tracheostomy is followed by colonization within 24 hours of insertion of the tube. Results must be correlated with clinical findings such as fever or infiltrate on chest X-ray. Swabs of Tracheostomy sites are cultured as ETT Suction cultures (culturing for repiratory pathogens)
Rejection Criteria	• Mislabelled or unlabelled specimen/requisition • Leaking specimens • Samples heavily contaminated with saliva (> 10 epithelial cells per low power microscopic field) or contain < 25 WBC per low microscopic field are not appropriate for culture and will be rejected. • When more than one specimen is received on the same day, only one will be processed
Testing Site	Microbiology Laboratory, HSC Site
Last Updated	March 2017

15.0 Eye – Neisseria gonorrhoeae Culture

Source	Eye
Specimen Collection Device	Swab transport media
Collection Procedure	Obtain swab for culture before topical agents are applied 1. Swab the inferior tarsal conjunctiva (inside surface of the eyelid) and the fornix of the eye. 2. Carefully place swab back into the collection device without contaminating it. 3. Specify *Neisseria gonorrhoeae* on requisition. 4. Label specimen/requisition according to required labelling specifications
Specimen Handling and Storage	• Deliver to the Laboratory as soon as possible after collection. • Do not refrigerate • Deliver to Microbiology Laboratory within 24 hours.
Additional Comments	When identifying the sample do not use the term “eye”; be specific e.g. lid margin, conjunctiva, etc.
Rejection Criteria	• Mislabelled or unlabelled specimen/requisition • Dry swab received • Conjuctival samples collected using COBAS PCR transport for Neisseria gonorrhoeae will not be routinely processed. Transport not suitable
Testing Site	Microbiology Laboratory, HSC Site
Last Updated	March 2017

16.0 Eye – Bacterial (other than N. gonorrhoeae), Fungal Culture

Source	Eye, Conjunctiva, Cornea, Intra-ocular/Vitreous/Aqueous Other organisms are referred; see below **Test** / **Testing Site** Acanthamoebae…….corneal scrapings required – Miller Site Chlamydia culture submitted in UTM viral transport – Miller Site Viral……fluid submitted in UTM Viral Transport Medium – Miller Site
Specimen Collection Device	**For conjunctiva/sclera specimens:** Swab - clear Transport Media **For corneal scrapings:** Direct bedside media inoculation preferred (Obtain from Microbiology Laboratory 777-6936 **For intra-ocular/vitreous/aqueous fluid:** sterile 15ml.tube
Clinical History	Provide relevant clinical history and recent or current antimicrobial therapy
Recommended Clinical Guidelines	• Obtain specimen for culture **before** topical agents are applied • Organisms are more readily detected in scrapings than from a swab • If culture for **filamentous fungi/mould** is required, please indicate clearly on requisition to ensure proper processing
Collection Procedure	**CONJUNCTIVAL/SCLERAL SWAB:** 1. Swab the inferior tarsal conjunctiva (inside surface of the eyelid, i.e. mucosal surface) and the fornix of the eye. 2. Carefully place swab back into the collection device without contaminating it. 3. Label specimen/requisition according to required labelling specifications • Indicate specimen source (i.e. OS or OD, and 'conjunctival/scleral swab') **CORNEAL SCRAPINGS:** • Scrapings should be taken by an ophthalmologist or trained physician 1. Collect scrapings aseptically. 2. Label specimen/requisition according to required labelling specifications. • Indicate specimen source (i.e. OS or OD, and 'corneal scraping') For Acanthamoebae requests it is recommended that approximately 1 ml. of sterile saline added to the corneal scrapings and then forwarded to Public Heallth Laboratory for testing. Cerebral Spinal Fluid and tissue, including brain, lung, or skin may also be submitted for testing.. These samples should also be submitted with I ml. of sterile saline. **INTRA-OCULAR/VITREOUS FLUID:** • Fluid should be taken by an ophthalmologist or trained physician 1. Collect fluid aseptically. 2. Label specimen/requisition according to required labelling specifications. • Indicate specimen source (i.e. OS or OD, and 'intraocular/vitreous fluid')
Specimen Handling and Storage	• Deliver to the Laboratory as soon as possible after collection. • Do not refrigerate
Rejection Criteria	• Mislabelled or unlabelled specimen/requisition • Dry swab received • Non-sterile container
Testing Site	Microbiology Laboratory, HSC Site
Last Updated	March 2017

17.0 Foreign Device – Intrauterine Device (IUD) – Gram Stain for Actinomycetes

Source	IUD
Specimen Collection Device	Sterile screw capped container
Recommended Collection Guidelines	Swab of IUD is unacceptable for culture
Clinical Relevant Details	Please indicate the following information: • Duration of time IUD has been in • Clinical symptoms and signs, if present
Collection Procedure	1. Removal of an IUD usually can be accomplished by grasping the string with a ring forceps and exerting firm, steady traction (usually during the menstrual period). If strings cannot be seen, they can often be extracted from the cervical canal by rotating two cotton-tipped applicators or a Pap smear cytobrush in the endocervical canal (Zuber and Mayeaux 2004). 2. If IUD strings cannot be identified or extracted from the endocervical canal, patients are often referred for hysteroscopic removal due to risk of perforation. 3. Once the IUD is extracted, carefully place it in the above-specified specimen collection device, avoiding further contamination with any other surfaces or materials. 4. Label specimen/requisition according to required labelling specifications.
Specimen Handling and Storage	• Deliver to the Laboratory as soon as possible after collection. • Do not refrigerate
Additional Comments	Acute infections caused by IUDs often occur within 20 days post-insertion (Zuber and Mayeaux 2004)
Rejection Criteria	• Mislabelled or unlabelled specimen/requisition • Non-sterile container
Testing Site	Microbiology Laboratory, HSC Site

18.0 Foreign Device – Central Line Catheter Tip Culture

Acceptable Catheter Tips	Internal jugular line tip, CVP tip, Swan-Ganz tip, Hickman catheter tip, Dialysis line tip, Subclavian tip, Sideport tip, PICC line tip, Perm-a-catheter tip, Port-a-cath tip, Central Line tips, Femoral Line tips, intraventricular Drain tips and Pulmonary Artery tips,.
Unacceptable Catheter Tips	Arterial line tip, Foley catheter tip, peripheral IV catheter tip, T-tube tip, G-tube tip, chest tube tip, Jackson-Pratt tip, Penrose tip, sump drain tip, Tenchkoff catheter tip or Endotracheal tube tips.
Specimen Collection Device	Sterile 90ml screw capped container
Clinical History	**Tips should only be submitted if infection is suspected. The following information should be provided:** • Presence of local symptoms/signs, e.g. cellulitis over/surrounding the catheter insertion site • Presence of systemic symptoms/signs e.g. fevers, chills, rigors. How long has the catheter been in situ? • State current antibiotics, if any – name, dose, route and when started
Recommended Clinical Guidelines	Central line catheter tips are only cultured if there is clinical evidence of line–related bacteremia. Two sets of blood cultures, one set taken through the catheter (before it is removed) and the second set taken from a peripheral site must be submitted with the catheter tip. Note: 1 set = one BACTEC Plus+Aerobic/F bottle **and** one BACTEC Lytic/10/Anaerobic F bottle.
Collection Procedure	1. Clean around the catheter insertion site with 70% alcohol, prior to removal of the catheter. 2. Collect distal 5-7 cm (2-3 in) of the line tip. If catheter tips are submitted < 5 cm. (< 2 in.), the colony count of the catheter tip culture should be interpreted with this in mind and may be falsely low. Please submit tips greater than 5 cm. to avoid this. 3. Label specimen/requisition according to required labelling specifications. • Ensure requisition clearly indicates anatomical site and specimen type

Specimen Handling and Storage	• Deliver tip to the Laboratory as soon as possible after collection; if delay, store at 4 degrees C • Deliver Blood Cultures to the laboratory as soon as possible after collection, place in Blood Culture Incubator. Do not refrigerate
Additional Comments	Catheter tips are cultured aerobically only
Rejection Criteria	• Mislabelled or unlabelled specimen/requisition • Non-sterile container • Tips submitted without the accompanying Blood Culture sets (see Recommended Clinical Guidelines) will not be processed. • Tips that are not Central line tips will be rejected for culture as per Microbiology Specimen Rejection policy. Central line tips must be accompanied with recent blood culture collections or catheter tip culture will not be performed.
Testing Site	Microbiology Laboratory, HSC Site
Last Updated	March 2017

19.0 Foreign Device (other than IUD and Central Line Catheter Tip) Culture

Test Name	Foreign Device Culture (Mechanical Heart Valves, Orthopaedic pins, screws or rods, heart pacemaker wires or leads)
Specimen Collection Device	Sterile 90ml screw capped container
Recommended Collection Guidelines	Swab of foreign device is suboptimal for culture
Clinical Relevant Details	Please indicate the following information: • Duration of time the foreign device has been implanted. • Clinical symptoms and signs, if present
Collection Procedure	1…Aseptically remove foreign device 2…Carefully place it in the above-specified specimen collection device, avoiding further contamination with any other surfaces or materials. 3…Label specimen/requisition according to required labelling specifications.
Specimen Handling and Storage	• Deliver to the Laboratory as soon as possible after collection; if delay, store at 4 degrees C
Additional Comments	Foreign devices are cultured aerobically unless otherwise indicated based on clinical presentation
Rejection Criteria	• Mislabelled or unlabelled specimen/requisition. These samples are considered “Precious”. Please complete a “Verification Form for Precious Specimens located in Microbiology lab. Room 1530 before sample is processed for culture. • Non-sterile container
Testing Site	Microbiology Laboratory, HSC Site
Last Updated	March 2017

20.0 Genital – Endocervical – Bacterial Culture

Test Name	Endocervix– Bacterial Culture
Source	Endocervix
Specimen Collection Device	Swab transport media **NOTE:** for processing for either Neisseria gonorrhea / Chlamydia trachomatis DNA, please submit a urine sample using a COBAS PCR Urine Sample Kit or a cervical sample collected using a COBAS PCR Female Swab Sample Kit. • **Complete culture in adults** (female: 12-59) is **ONLY** performed when relevant clinical diagnosis and/or specific relevant infectious agent/disease is provided
Clinical History	**Provide relevant clinical information, e.g.:**

	• intra/post partum, • post surgery, • abortion, • genital cancer, • local radiotherapy, • amnionitis, • PROM, • pessary in place, • toxic shock syndrome
Collection Procedure	**ENDOCERVIX:** 1. Moisten speculum with warm water. Do not use any other lubricant. 2. Remove cervical mucus, preferably with cotton ball held in ring forceps. 3. Insert collection swab into cervical canal, move from side to side. 4. Allow several seconds for absorption of organisms into the swab. 5. Carefully place swab back into the collection device without contaminating it. 6. Label specimen/requisition according to required labelling specifications URINE 1. Patient should avoid voiding for at least 1 hour prior to specimen collection. 2. The first portion of a voided urine (first part of stream) must be collected into a sterile, plastic, preservative free specimen collection container by the patient or healthcare provider. 3. Upon receipt in the Microbiology Laboratory the urine sample will be transferred to a COBAS PCR transport tube. The healthcare provider may also do this using a COBAS PCR Urine Sample Kit before being sent to the laboratory.
Specimen Handling & Storage Requirements	• Deliver to the Laboratory as soon as possible after collection, if delay, store at 4 degrees C. • When submitting swab for Neisseiria gonorrhoeae culture other than COBAS PCR transport please store at room temperature for no longer than 24 hours • Urine collected in COBAS PCR transport may be stored at 2-30 C for 12 months..
Rejection Criteria	• Mislabelled or unlabelled specimen/requisition • Dry swab
Testing Site	Microbiology Laboratory, HSC Site
Last Updated	March 2017

21.0 Genital – Bacterial Vaginosis (BV) Screen

Companion Test Component	• Samples collected from females (12 to 55 years) will be evaluated for both candidiasis and Bacterial vaginosis. • Samples collected from females older than 55 years will be examined for candidiasis only • Vaginal swabs collected from females less than 12 years old will be cultured and gram stain performed.
Source	Vagina
Specimen Collection Device	Swab transport media **NOTE:** • Direct smear will be made in the laboratory from swab submitted • If *Trichomonas vaginalis* or yeast infection is suspected, please indicate this additional request on requisition and refer to its respective section for further details: "Vagina – *Trichomonas vaginalis*"
Collection Procedure	1. Use a speculum without lubricant. 2. Collect secretions from the mucosa high in the vaginal canal. 3. Carefully place swab back into the collection device without contaminating it. 4. Label specimen/requisition according to required labelling specifications.
Specimen Handling and Storage	• Deliver to the Laboratory as soon as possible after collection. • Do not refrigerate if Trichomonas examination is requested.
Rejection Criteria	• Mislabelled or unlabelled specimen/requisition • Dry swab received • Swabs greater than 24 hours old are aged for Trichomonas examination. • Refrigerated swabs are unsuitable for Trichomonas requests.

Testing Site	Microbiology Laboratory, HSC Site
Last Updated	March 2017

22.0 Genital – Male Urethral – Bacterial Culture

Source	Male urethra
Specimen Collection Device	Swab transport media **NOTE:** for processing for either Neisseria gonorrhea / Chlamydia trachomatis DNA, please submit a urine sample using a COBAS PCR Urine Sample Kit. • Direct smear will be made in the laboratory from swab submitted • **Complete culture in adults** (male: 14-60 years old) and children less than 14 years old is **ONLY** performed when relevant clinical diagnosis is provided.
Cllinical History	**Provide relevant clinical information, e.g.:** • post-surgery, • genital cancer, • local radiotherapy,
Collection Procedure	**MALE URETHRA:** 1. Place swab carefully into urethra and gently rotate the swab. 2. Obtain specimen from the anterior urethra. 3. Carefully place swab back into the collection device without contaminating it. 4. Label specimen/requisition according to required labelling specifications MALE URINE (FIRST 20 ml. VOID) 1. Patient should avoid voiding for at least 1 hour prior to specimen collection. 2. The first portion of a voided urine (first part of stream) must be collected into a sterile, plastic, preservative free specimen collection container by the patient or healthcare provider. 3. Upon receipt in the Microbiology Laboratory the urine sample will be transferred to a COBAS PCR transport tube. The healthcare provider may also do this using a COBAS PCR Urine Sample Kit before being sent to the laboratory.
Specimen Handling and Storage	• Deliver to the Laboratory as soon as possible after collection. • Do not refrigerate • Urine collected in COBAS PCR transport may be stored at 2-30 C for 12 months..
Rejection Criteria	• Mislabelled or unlabelled specimen/requisition • Dry swab
Testing Site	Microbiology Laboratory, HSC Site – Bacterial Culture Miller Center _- Chlamydia trachomatis and Neisseria gonorrhoeae (CT/NG) DNA
Last Updated	March 2017

23.0 Genital – External Genitalia – Bacterial / Yeast Culture

Source	Vulva, Labia, Penis, Scrotum, Foreskin, Bartholin Cyst and Episiotomy swabs.
Specimen Collection Device	Swab transport media
Clinical History	Please provide relevant clinical history, working diagnosis and current antimicrobial therapy, if applicable
Collection Procedure	**For surface skin, rashes, or lesions:** 1. Clean the surface with sterile saline. • If lesion present, remove any overlying crust • If vesicle or pustule present, unroof prior to collecting 2. Gently roll swab over the surface of the area approximately 5 times, focusing where there is evidence of pus or inflamed tissue. • Where ulcer(s) or vesicle(s)/pustule(s) present, vigorously rub the base using the supplied Dacron swab

	3. Carefully place swab back into the collection device without contaminating it. 4. Label specimen/requisition according to required labelling specifications. • Ensure labelling clearly indicates anatomical site and 'superficial'
Specimen Handling and Storage	• Deliver to the Laboratory as soon as possible after collection. • Do not refrigerate
Rejection Criteria	• Mislabelled or unlabelled specimen/requisition • Dry swab received
Testing Site	Microbiology Laboratory, HSC Site
Last Updated	March 2017

24.0 Genital – Trichomonas vaginalis Examination

Source	Vagina
Specimen Collection Device	Swab transport media
Collection Procedure	1…Use a speculum without lubricant. 2…Collect secretions from the mucosa high in the vaginal canal. 3…Carefully place swab back into the collection device without contaminating it. 4…Label specimen/requisition according to required labelling specifications. 5…Trichomonas organisms are extremely labile, therefore prompt delivery to the laboratory is recommended.
Specimen Handling and Storage	• Deliver to the Laboratory promptly • **Do not refrigerate**
Rejection Criteria	• Mislabelled or unlabelled specimen/requisition • Dry swab received • If received greater than 24 hours after collection in the mIcrobiology Laboratory, swab is unsuitable for Trichomonas examination and reported to doctor as aged.
Testing Site	Microbiology Laboratory, HSC Site
Last Updated	March 2017

25.0 Genital – Vagina – Bacterial Culture (Children less than 12 years of age)

Source	Vagina
Specimen Collection Device	Swab transport media
Clinical History	Routine vaginal culture is performed on children. In general, vaginal cultures on adults are of limited clinical value and are not routinely performed. Special considerations may be discussed with the MOC. Please Provide Relevant Clinical Information • intra/post partum, • post surgery, • abortion, • genital cancer, • local radiotherapy, • amnionitis, • PROM, • pessary in place, • toxic shock syndrome

Collection Procedure	1. Use a speculum without lubricant. 2. Collect secretions from the mucosa high in the vaginal canal (adults) or as per pediatric collection guidelines (children). 3. Carefully place swab back into the collection device without contaminating it. 4. Label specimen/requisition according to required labelling specifications.
Specimen Handling & Storage Requirements	• Deliver to the Laboratory as soon as possible after collection; if delay, store at 4 degrees
Rejection Criteria	• Mislabelled or unlabelled specimen/requisition • Dry swab received
Testing Site	Microbiology Laboratory, HSC Site
Last Updated	March 2017

26.0 Genital – Vagina – Gram Stain for Candidiasis

Companion Test Component	• Samples collected from females (12 to 55 years) will be evaluated for both candidiasis and Bacterial vaginosis. • Samples collected from females older than 55 years will be examined for candidiasis only • If the patient is older than 55 years and has a vaginal gram stain consistent with a diagnosis of bacterial vaginosis a comment is reported to the physician stating this. Scoring for bacterial vaginosis has only been validated for women of childbearing age or on hormone replacement.
Source	Vagina
Specimen Collection Device	Swab transport media **NOTE:** Direct smear will be made in the laboratory from swab submitted
Collection Procedure	1. Use a speculum without lubricant. 2. Collect secretions from the mucosa high in the vaginal canal. Vaginal exudate or areas of erythema may also be sampled for yeast culture. 3. Carefully place swab back into the collection device without contaminating it. 4. Label specimen/requisition according to required labelling specifications.
Specimen Handling and Storage	• Deliver to the Laboratory as soon as possible after collection; if delay, store at 4 degrees C. • Keep in mind that Trichomonas screening is not performed on refrigerated or aged swabs greater than 24 hours old. • Direct smears should be made within 24 hours.
Rejection Criteria	• Mislabelled or unlabelled specimen/requisition • Dry swab received
Testing Site	Microbiology Laboratory, HSC Site
Last Updated	March 2017

27.0 Intraocular Fluid, Conjunctival /Scleral Swab, Corneal Scrapings - Culture

Source	Eye, Conjunctiva, Cornea, Intra-ocular/Vitreous/Aqueous For other organisms see the following:

	<table><tr><th>Test</th><th>Testing Site</th></tr><tr><td>Acanthamoebae…….corneal scrapings required</td><td>Miller Site</td></tr><tr><td>Chlamydia culture (submit UTM viral transport tube)</td><td>Miller Site</td></tr><tr><td>Viral……fluid submitted in UTM Viral Transport Medium</td><td>Miller Site</td></tr></table>
Specimen Collection Device	**For conjunctiva/sclera specimens:** Swab Transport Media **For corneal scrapings:** Direct bedside media inoculation preferred (Obtain from Microbiology Laboratory 777-6936) **For intra-ocular/vitreous or aqueous fluid:** Sterile 10mL tube
Clinical History	Provide relevant clinical history and recent or current antimicrobial therapy
Recommended Clinical Guidelines	• Obtain specimen for culture **before** topical agents are applied • Organisms are more readily detected in scrapings than from a swab • If culture for **filamentous fungi/mould** is required, please indicate clearly on requisition to ensure proper processing
Collection Procedure	**CONJUNCTIVAL/SCLERAL SWAB:** 1…Swab the inferior tarsal conjunctiva (inside surface of the eyelid, i.e. mucosal surface) and the fornix of the eye. 2…Carefully place swab back into the collection device without contaminating it. 3….Label specimen/requisition according to required labelling specifications. • Indicate specimen source (i.e. OS or OD, and 'conjunctival/scleral swab') **CORNEAL SCRAPINGS:** • Scrapings should be taken by an ophthalmologist or trained physician 1…Collect scrapings aseptically. 2…Label specimen/requisition according to required labelling specifications. • Indicate specimen source (i.e. OS or OD, and 'corneal scraping') **INTRA-OCULAR/VITREOUS FLUID:** • Fluid should be taken by an ophthalmologist or trained physician 1…Collect fluid aseptically. 2…Label specimen/requisition according to required labelling specifications • Indicate specimen source (i.e. OS or OD, and 'intraocular/vitreous fluid')
Specimen Handling and Storage	• Deliver to the Laboratory as soon as possible after collection; if delay store at 4 degrees C. • Do not refrigerate. • When culture media is directly inoculated insure that media plates are delivered directly to the Microbiology Laboratory for incubation. Plates may be temporalily stored in the blood culture holding incubator located in room 1501 across from the Laboratory Stat Specimen Drop-off bench.
Rejection Criteria	• Mislabelled or unlabelled specimen/requisition • Dry swab received • Non-sterile container • If sample was collected during an invasive procedure,the specimen is deemed as "PRECIOUS" and mislabelled or unlabelled samples /requisitions must have a Verification Form for Precious Specimens completed in the Microbiology Laboratory ROOM 1530 before sample is processed.
Testing Site	Microbiology Laboratory, HSC Site
Last Updated	March 2017

28.0 Sterile Body Fluid – Bacterial Culture

Source	Fluids including Joint (Hip, Knee, Elbow), Pericardial, Peritoneal, Pleural, Amniotic, Ascitic, Invasive Abdominal Collections, Gallbladder Fluid, Hydrocele, Pancreatic, Paracentesis, Synovial, Thoracentesis and Ventricular Fluid.
Specimen Collection Device	Sterile 10mL tube or 90 ml sterile screw capped container • If additional fluid available, submit BACTEC Plus+ Aerobic/F bottle. If anaerobic culture required, add BACTEC Lytic/10 Anaerobic/F bottle • PLEASE NOTE THAT THE LARGER THE VOLUME OF FLUID SUBMITTED FOR PROCESSING THE LARGER THE YIELD OF POTENTIEL PATHOGENS. • SMALL VOLUME = SMALL OR NEGATIVE YIELD

	• When collecting aspirates or body fluids avoid transferring them to E-swab tubes and sending them for processing. This is an improper collection technique. E-swabs should not be used for aspirate or fluid collection unless the swab from the E-swab is used directly for sampling. Submitting body fluid swabs may lead to poor pathogen recovery.
Clinical History	**State current antibiotic therapy and when this was started** **Please provide clinical history and state specimen source:** **If joint fluid:** • History of trauma, previous surgery or recent infection? • Is there a prosthetic implant or foreign body in situ? • State symptoms and signs, and their duration **If pericardial fluid:** • History of TB or previous surgery? • State symptoms and signs, and their duration **If peritoneal fluid:** • History of TB, surgery or malignancy? • Does patient undergo peritoneal dialysis? • State symptoms and signs, and their duration **If pleural fluid:** • History of pneumonia, TB, surgery or malignancy? • State symptoms and signs, and their duration
Recommended Collection Guidelines	If **filamentous fungus/mould** culture is required, please indicate on requisition to ensure proper processing
Collection Procedure	• Clean the needle puncture site with antiseptic swab. • The physician will aseptically perform percutaneous aspiration to obtain pleural, pericardial, peritoneal, or synovial fluids. • Expel any air bubbles from the syringe. • Inject fluid into a sterile 10 mL tube. • Do not overfill, as this may lead to greater chances of specimen leakage • **If extra fluid is available**, BACTEC bottles may be inoculated for culture. Prior to inoculation of the bottles, the center tabs from the caps must be removed and the septum swabbed with 70% isopropyl alcohol (iodine i.e. Betadine or acetone compounds must <u>not</u> be used because of damage caused to the septum). • Inject 3-5 ml of fluid into a BACTEC Plus+ Aerobic/F bottle and 3-5 mL into a BACTEC Lytic/10 Anaerobic/F bottle. NOTE: BACTEC blood culture bottles are suitable only for culture of sterile body fluids (joint, pericardial, peritoneal, and pleural). • **If fluid is of very small quantity** and only routine C&S is required, a sterile swab may be used to collect specimen. Place inoculated swab into swab transport media. • Label specimen/requisition according to required labelling specifications. • Do not obscure BACTEC vial barcode or sequence numbers • Swabs are cultured only for aerobic bacteria.
Specimen Handling and Storage	• Deliver to the Laboratory as soon as possible after collection. Place Blood Culture bottles in the Blood Culture Incubator. • Ensure container does not leak and lid is not cross threaded • Do not refrigerate
Testing Site	Microbiology Laboratory, HSC Site
Last Updated	March 2017

29.0 Neisseria gonorrhoeae / Chlamydia trachomatis DNA – Urine: Female or Male Patient

Source	Urine

Specimen Collection Device	COBAS PCR Urine Sample Kit
Collection Procedure	1…Prior to sample collection, the patient should not have urinated for at least one hour. 2…Have the patient urinate the first 25 to 50 ml of urine into a standard urine collection container 3…If your clinic has the COBAS PCR Urine Sample Kits, transfer the urine into the PCR tube using the disposable pipette provided as soon as possible and within a few hours. 4…While transferring, ensure that the fluid level is between the two black lines on the tube label. The correct volume is important for reliable testing . 5 Tighten the cap 6. **Invert the tube 5 times to mix** **7….Transport to the Laboratory**
Specimen Handling and Storage	• Deliver to the Laboratory as soon as possible after collection. • Do not refrigerate
Additional Comments	The preferred specimen to detect *N.gonorrhoeae* is a morning first-catch urine (first 20 ml. void)
Rejection Criteria	• Mislabelled or unlabelled specimen/requisition • Dry swab received
Testing Site	Microbiology Laboratory, HSC Site. Sample will be referred to the NL Public Health Laboratory for testing
Last Updated	March 2017

30.0 Nose Culture – S. aureus Culture / MRSA Screen

Test Name	Nose Culture
Source	Nasopharynx
Specimen Collection Device	Swab transport media
Clinical History	Please indicate processing for MRSA or staphylococcus (MSSA) carriage
Collection Procedure	1. Insert a sterile swab into the nose until resistance is met at the level of the turbinates (approximately 2 cm into the nose). 2. Rotate the swab against the nasal mucosa. 3. Repeat the process on the other side. 4. Carefully place swab back into the collection device without contaminating it. 5. Label specimen/requisition according to required labelling specifications.
Specimen Handling and Storage	• Deliver to the Laboratory as soon as possible after collection; if delay, store at 4 degrees CC
Additional Comments	• Nasal swabs are routinely processed for S. aureus only. Testing for other organisms (i.e. C. diphtheriae) will be done only if relevant clinical information is provided. • Nasal swab cultures are not indicated for the diagnosis of sinusitis. If an infection of the nasal vestibule is present or nasal diphtheria suspected, please indicate and provide clinical information.
Rejection Criteria	• Mislabelled or unlabelled specimen/requisition • Dry swab received
Last Updated	March 2017

31.0 Oral Smear – Gram Stain for Vincent's Angina

Test Name	Oral swab – Vincent's Angina
Source	Oral, Gingiva
Specimen Collection Device	Swab transport media
Collection Procedure	1…Have the patient rinse mouth with sterile saline. 2….Wipe gingival lesion with dry sterile gauze. 3…Swab or scrape areas of exudation or ulceration. 4…Carefully place swab back into the collection device without contaminating it. 5…Label specimen/requisition according to required labelling specifications. • Clearly indicate on requisition '**Vincent's angina**'
Specimen Handling and Storage	• Deliver to the Laboratory as soon as possible after collection; if delay, store at 4 degrees C.
Rejection Criteria	• Mislabelled or unlabelled specimen/requisition • Dry swab received
Testing Site	Microbiology Laboratory, HSC Site
Last Updated	March 2017

33.0 Periodontal, Mandible and Dental Abscess – Gram Stain for Actinomycetes

IMPORTANT NOTICE	**Only Gram stain will be performed to identify the presence/absence of Actinomycetes**

Source	Periodontal, mandible and dental abscess swabs (PLEASE NOTE: When aspirates are collected from dental abscesses, full aspirate culture is performed).
Specimen Collection Device	Swab transport media
Collection Procedure	1. Rinse mouth with sterile saline 2. Wipe lesion with dry sterile gauze 3. Swab or scrape areas of exudate or ulceration 4. Carefully place swab back into transport medium 5. Label specimen/requisition according to required labelling specifications
Specimen Handling and Storage	• Deliver to the Laboratory as soon as possible after collection; if delay store at 4 degrees C.
Rejection Criteria	• Mislabelled or unlabelled specimen/requisition • Dry swab received
Testing Site	Microbiology Laboratory, HSC Site
Last Updated	March 2017

34.0 Ova and Parasites – Ecto Parasites

Test Name	Ova & Parasites
Specimen Collection Device	Sterile 90ml screw capped sterile container.
Clinical History	**Please provide:** • Clinical and travel history • Specimen source • Please provide any information on previous parasitic infestations. • Medication history.
Collection Procedure	**PARASITE (ECTOPARASITE) COLLECTION:** Acceptable specimens: Hair, skin scrapings, whole insect (i.e. lice, fleas, mites or ticks), urine for *Schistosoma hematobium* 1. Collect into a dry sterile container. • Specimen may also be submitted in 70% alcohol • DO NOT add formalin • For Schistosoma hematobium collect urine in sterile plastic specimen container. 2. Close the lid tightly. 3. Wash your hands well with soap and water. 4. Label specimen/requisition according to required labelling specifications.
Specimen Handling and Storage	• Deliver to the Laboratory as soon as possible after collection. • **Do not refrigerate**
Rejection Criteria	Mislabelled or unlabelled specimen/requisition
Testing Site	Microbiology Laboratory, HSC Site

35.0 Ova and Parasites (O&P) – Microscopic Examination

Request Requirement	Stool specimens from a patient without a history of foreign travel will **not** be examined for parasites. Outstanding exceptions may be discussed with the Microbiologist 777-2089.
Source	Stool
Specimen Collection Device	SAF fixative transport system **Please note** – SAF (sodium acetate-acetic acid-formaldehyde) **is poisonous. Keep away from children. If accidentally ingested, contact Poison Information Centre at: 722-1110 or 1-866-727-1110**
Clinical History	**History for Ova & Parasite microscopy:** • History of travel to an area outside Canada or USA - State when and where

	• Lived in an area outside Canada or USA– state location. • Please include history of any previous parasitic infestations. • Medication history. **NB: "Diarrhea" is NOT adequate history for performing microscopy**
Recommended Clinical Guidelines	• Parasite shedding in stool is variable and hence a minimum of 2 stool specimens, taken at 2 to 3 day intervals may be needed for optimal recovery • Stools from inpatients hospitalized for > 3 days are not recommended for O&P examination. Consider *Clostridium difficile* toxin testing.
Collection Procedure	1. Refer to O&P Collection Instruction Sheet • **Please note: DO NOT** contaminate the external surface of the collection container as this may present a hazard to laboratory staff 2. Label specimen/requisition according to required labelling specifications.
Specimen Handling and Storage	Proper collection and handling of stool specimens is essential. Specimens that are **old, inadequate in amount, poorly preserved** are of limited value and may lead to inaccurate results.
Additional Comments	• For O&P microscopy, DO NOT use **mineral oil, bismuth, antacids, non-absorbable antidiarrheal medication, antimalarial agents or antibiotics (metronidazole, tetracycline)** prior to collection of specimens. These may compromise the detection of parasites. **Barium sulphate** (used in Barium enemas) and **gallbladder dyes** may also interfere with detection of parasites • Specimens should **NOT** be submitted for at **least 2 weeks after these agents have been used** • Specimen may be kept at room temperature or refrigerated until transported to the laboratory • Please submit specimen together with the requisition and travel/medication history.
Rejection Criteria	• Mislabelled or unlabelled specimen/requisition • Specimens which are NOT in SAF preservative • Multiple specimens collected on the same day. All samples will be pooled and processed. • Formed stools • Leaking specimens • Specimens with barium or oil noted in stool
Testing Site	Microbiology Laboratory, HSC Site
Last Updated	March 2017

36.0 Ova and Parasites – Pinworm Examination

Cautionary Note	Pinworm (Enterobius vermicularis) eggs are very infectious, aseptic technique must be followed during sample collection. Wear disposable gloves during collection and follow proper hand washing techniques.
Source	Perianal
Specimen Collection Device	Pinworm paddle collection device (plastic vial containing a sticky sided paddle)
Clinical History	**Please provide a clinical history.** Pinworm infection is found worldwide and is more common in temperate areas such as Canada. The female pinworm comes out of the anus at night to lay eggs on the perianal skin. Diagnosis is made by microscopic detection of these eggs. **Symptoms of pinworm infection may include:** • Anal itching (mainly at nights) • Insomnia, which in children may present as developmental abnormalities and/or psychiatric manifestations, e.g. attention-deficit disorder • Rarely – genitourinary involvement in girls • Close contact of patient with pinworm infection. Pinworm eggs can contaminate hands, bedclothes, floors, curtains and door knobs. Hence, close contacts may easily become infected by ingesting eggs. • History of previous infestation.
Collection Procedure	1. Refer to Pinworm Collection Instructions. If perianal area is soiled with feces, please gently wipe away with DRY tissue before collection. Gross fecal contamination of the paddle will obscure detection of the pinworm ova. 2. Label specimen/requisition according to required labelling specifiations 3. Ensure specimen is collected early in the morning before the patient stands,bathes or uses the washroom.

Specimen Handling and Storage	• Deliver to the Laboratory as soon as possible after collection. • Do not refrigerate • Initially, only 1 pinworm paddle should be submitted. Since migration of the female worm may be sporadic, additional samples may need to be submitted for examination.
Rejection Criteria	• Mislabelled or unlabelled specimen/requisition • Stool specimens requesting pinworm examination will be rejected. 90% of the pinworm eggs are found on the perianal skin thus a pinworm paddle slide is the required collection method. • When Pinworm Paddle Collection devices are not available sometimes scotch tape is used toperform the collection. These samples will not be processed in the Microbiology Laboratory.
Testing Site	Microbiology Laboratory, HSC Site
Last Updated	March 2017

37.0 Ova and Parasites – Worm / Worm Segment Identification

Cautionary Note	Eggs contained within the worm or its segments are very infectious. Care must be taken in handling these specimens; wear disposable gloves and follow proper hand washing techniques.
Specimen Collection Device	Sterile 90ml screw capped container
Clinical History	**Please provide a clinical and travel history:** • Travel history within and outside Canada/USA – State when and where • Lived in an area outside Canada or USA within the last 2 years – state location • Immunosuppression (e.g. steroid therapy, chemotherapy, immunosuppressive therapy, cancer, post-transplant, AIDS) • Consumption of undercooked/raw meat or fish • Close contact with pets or farm animals • Prior parasite infections • Presence of eosinophilia, anemia • Bloody diarrhea or blood in stool, abdominal pain, bloating. • Medication history.
Collection Procedure	1. Place worm/worm segments into a sterile container with saline (to prevent worm from drying out). Do not add formalin or SAF preservative. 2. Label specimen/requisition according to required labelling specifications.
Specimen Handling and Storage	• Deliver to the Laboratory as soon as possible after collection. • **Do not refrigerate**
Rejection Criteria	• Mislabelled or unlabelled specimen/requisition • Dried out worms/worm segments may not be identifiable and repeat submission in saline will be requested.
Testing Site	Microbiology Laboratory, HSC Site
Last Updated	March 2017

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38.0 Rectal / Stool – Vancomycin Resistant Enterococcus (VRE) Screen

Request Limitations	This test is no longer automatically performed on inpatient samples but only when specifically requested
Specimen Collection Device	For Rectal: Swab transport media

	For Stool: Sterile 90ml screw capped container
Clinical History	Please provide information on previous positive VRE results and any clinical history with each specimen.
Recommended Collection Guidelines	VRE screen specimens should be obtained for surveillance only. Obtain specimens in the morning prior to bathing.
Collection Procedure	**RECTAL:** 1. Pre-moisten swab with transport media. 2. Pass the tip of swab approximately 2 cm beyond the anal sphincter. 3. Carefully rotate the swab to sample the anal crypts. Fecal matter should be visible on swab. 4. Carefully place swab back into the collection device without contaminating it. 5. Label specimen/requisition according to required labelling specifications. **FECES:** 7. If necessary, pass urine into toilet prior to collecting stool specimen. **NOTE:** THE STOOL SPECIMEN MUST NOT COME IN CONTACT WITH WATER OR URINE. 8. Collect the stool specimen in a wide-mouthed container. Alternatively a large plastic bag or plastic food wrap may be placed over the toilet opening (but under the toilet seat) and the stool specimen passed onto the plastic wrap. 9. With a clean plastic spoon, transfer stool specimen into a sterile 60 mL container. Fill at half to ¾ of the entire container's volume. • Do not overfill, as this may lead to greater chances of specimen leakage 10. Label specimen/requisition according to required labelling specifications. Culture Request may be ordered directly into laboratory LIS computer system.
Specimen Handling and Storage	• Deliver to the Laboratory as soon as possible after collection; if delay, store at 4 degrees C • Ensure container does not leak and lid is not cross threaded.
Additional Comments	Positive VRE results are reported to Infection Control and the ordering physician
Rejection Criteria	• Mislabelled or unlabelled specimen/requisition • Dry swab received • Leaking specimens
Testing Site	Microbiology Laboratory, HSC Site
Last Updated	March 2017

38.0 Clostridium Difficile Toxin

Request Limitations	• If more than one sample is collected within 24 hours only the first sample will be tested. • Please insure stools reach the Health Sciences Microbiology Laboratory within 2 days at room temperature, within 5 days at 2 – 8 C or after uninterrupted freezing at -30 C. • Positive test results are phoned to attending physician / doctor's office and the technologist will document the date, time and name of person the report was released to. Documentation is recorded in the MEDITEC laboratory information system.
Specimen Collection Device	Sterile 90 ML. screw capped specimen container or CARY Blair based transport media.
Clinical History	Please provide patients clinical history and medications past and present. Clostridium Difficile produces a toxin that causes severe diarrhea and other intestinal diseases such as Pseudomembramous colitis.
Recommended Collection Guidelines	• Stool specimens should be unpreserved. Test may be performed on samples in Cary Blair Transport but unpreserved stool in preferred.
Collection Procedure	**THE STOOL SPECIMEN MUST NOT COME IN CONTACT WITH WATER OR URINE** 1. If necessary, pass urine into toilet prior to collecting stool specimen. 2. Collect the stool specimen in a wide-mouthed container. Alternatively a large plastic bag or plastic food wrap may be placed over the toilet opening (but under the toilet seat) and the stool specimen passed onto the plastic wrap. 3. With a clean plastic spoon, transfer stool specimen into the container. • Fill half to ¾ of the entire container's volume if possible (when using the 90ml container) • Fill to the indicated fill line when using the Enteric Transport medium (NOT TO BE USED FOR CLOSTRIDIUM DIFFICILE TOXIN REQUESTS) • Do not overfill, as this may lead to greater chances of specimen leakage • DO NOT contaminate the external surface of the collection container as this may present a hazard to laboratory staff 4. Label specimen/requisition according to required labelling specifications.
Specimen Handling and Storage	• Stool samples may be stored 2 days at room temperature or 5 days at 2-8 C
Rejection Criteria	• Formed stool samples with no indication of C.difficile associated diarrhea will not be tested.
Testing Site	Microbiology Laboratory - HSC Site
Last Updated	March 2017

39.0 Rectal / Perianal Swab – Group B streptococci or *Neisseria gonorrhoeae* Culture

Source	Rectal/ perianal
Specimen Collection Device	Swab transport media
Clinical History	Please provide clinical history and clearly indicate
Collection Procedure	• Submitted for the screening for *Streptococcus agalactiae* (Group B strep. species), or *Neisseria gonorrhoeae* • Rectal/anal swabs are not acceptable for the culture of bacterial agents of diarrhoea and will **not** be processed for such. • Vaginal / rectal swabs are specimen of choice for prenatal Group B strep screening. 1. Pre-moisten swab with transport media. 2. Swab perineal areas surrounding the anal orifice. 3. Then, pass the tip of a sterile swab approximately 2 cm beyond the anal sphincter. 4. Carefully rotate the swab to sample the anal crypts and withdraw the swab. 5. Carefully place swab back into the collection device without contaminating it. 6. Label specimen/requisition according to required labelling specifications
Specimen Handling and Storage	• Deliver to the Laboratory as soon as possible after collection; if delay, store at 4 degrees C • If screening for Neisserria gonorrhoeae please leave swab at room temperature and deliver sample within 24 hours.
Rejection Criteria	• Mislabelled or unlabelled specimen/requisition • Dry swab received •
Testing Site	Microbiology Laboratory, HSC Site
Last Updated	March 2017

40.0 Sputum – Bacterial or Fungal Culture

IMPORTANT NOTICE	**EXPECTORATED SPUTUM, EXCEPT FROM CYSTIC FIBROSIS PATIENTS, IS NO LONGER BEING PROCESSED FOR ROUTINE BACTERIAL OF FUNGAL CULTURE UNLESS REQUESTED BY A RESPIROLOGIST.** Results of bacterial or fungal culture of expectorated sputum do not accurately correlate with microbiological diagnosis of respiratory infection, because of contaminating upper airway flora.
Source	- Endotracheal aspirations, bronchoscopic samplings, cystic fibrosis patients. -Specific requests may justify sputum culture and can be discussed with the MOC on a case by case basis. – Sputum collected on patients recently admitted to ICU, with failure of antibiotic therapy, cavitation, severe structural lung disease, or the specific suspicion of an unconventional pathogen such as *Legionella*, *C. psittaci*, or *B. pertussis*. -
Specimen Collection Device	Sterile screw capped container
Clinical History	Please provide a clinical history**:** • Does the patient have cystic fibrosis? • Has the patient had any antibiotics in the last 3 months? If yes, state which antibiotic(s). • Provide patients employment history • Is the patient suspected of having a lower respiratory tract infection? If so, please state the symptons and signs, and their duration.

	• Is the patient currently on antibiotics? • Is there any underlying respiratory diseases? (bronchiectasis, cystic fibrosis, copd, asthma or a malignancy) • Is the patient immunocompromised? (HIV, post-transplant, steroid therapy, immunosuppressive therapy, neutropenia or receiving chemotherapy) If culture for **filamentous fungi/mould** is required, please indicate clearly on requisition to ensure proper processing. For all suspected **Risk Group 3 fungal pathogens** (*Coccidioides immitis, Histoplasma capsulatum, Blastomyces dermatitidis, Paracoccidioides braziliensis, Penicillium marneffei*), contact the Microbiologist at 777-2089, pager 570-9494
Recommended Collection Guidelines	• 1 specimen in a 5-day period (community) • 1 specimen in a 2–day period (hospital)
Collection Procedure	**EXPECTORATED SPUTUM:** 1. If possible, have the patient rinse mouth and gargle with water prior to sputum collection. 2. Instruct patient NOT to expectorate saliva or postnasal discharge into the container. 3. Collect specimen resulting from deep cough in sterile plastic container. • DO NOT overfill with specimen • DO NOT contaminate the external surface of the collection container as this may present a hazard to laboratory staff 4. Label specimen/requisition according to required labelling specifications. **INDUCED SPUTUM:** 1. Using a wet toothbrush, brush the buccal mucosa, tongue, and gums prior to the procedure. 2. Rinse the patient's mouth thoroughly with water. 3. Using an ultrasonic nebulizer, have the patient inhale nebulized hypertonic saline. 4. Collect the induced sputum in a sterile plastic container. • DO NOT overfill with specimen • DO NOT contaminate the external surface of the collection container as this may present a hazard to laboratory staff 5. Label specimen/requisition according to required labelling specifications.
Specimen Handling and Storage	• Deliver to the Laboratory as soon as possible after collection; if delay, store at 4 degrees C. • Ensure container does not leak and lid is not cross threaded
Rejection Criteria	• Mislabelled or unlabelled specimen/requisition • Leaking specimens • Sputum samples heavily contaminated with saliva are not appropriate for culture • When more than one specimen is received on the same day, only one will be processed • PLEAE NOTE: WHEN SPUTUM CULTURE IS NOT PERFORMED DUE TO REJECTION CRITERIA, FUNGAL CULTURE WILL ALSO BE REJECTED. IF T.B. IS REQUESTED ON THE SAME SPECIMEN IT WILL BE PROCESSED.
Testing Site	Microbiology Laboratory, HSC Site
Last Updated	March 2017

41.0 Sputum – Mycobacterial (TB) Culture

Sample Processing	Sample will not be screened for quality but will be referred to the NL Public Health Laboratory for processing. Refer to PHL website for proper collection technique.
Source	Sputum samples collected over three consecutive days
Specimen Collection Device	Sterile 90ml screw capped container

	For all suspected **Risk Group 3 fungal pathogens** (*Coccidioides immitis, Histoplasma capsulatum, Blastomyces dermatitidis, Paracoccidioides braziliensis, Penicillium marneffei,* contact the Microbiologist at 777-2089, pager 570-9494
Clinical History	Please provide clinical history**:** • Has the person been in contact with an individual diagnosed with TB? • Is there any underlying respiratory disease, e.g. bronchiectasis, cystic fibrosis, COPD, asthma, malignancy? • Is the patient immunocompromised, e.g. steroid therapy, immunosuppressive therapy, chemotherapy, neutropenia, malignancy, post-transplant, HIV? • Provide patients work history.
Collection Procedure	**EXPECTORATED SPUTUM:** 1. If possible, have the patient rinse mouth and gargle with water prior to sputum collection. 2. Instruct patient NOT to expectorate saliva or postnasal discharge into the container. 3. Collect specimen resulting from deep cough in sterile plastic container. • DO NOT overfill with specimen • DO NOT contaminate the external surface of the collection container as this may present a hazard to laboratory staff 4. Label specimen/requisition according to required labelling specifications. **INDUCED SPUTUM:** 1. Using a wet toothbrush, brush the buccal mucosa, tongue, and gums prior to the procedure. 2. Rinse the patient's mouth thoroughly with water. 3. Using an ultrasonic nebulizer, have the patient inhale nebulized hypertonic saline. 4. Collect the induced sputum in a sterile plastic container. • DO NOT overfill with specimen • DO NOT contaminate the external surface of the collection container as this may present a hazard to laboratory staff 5. Label specimen/requisition according to required labelling specifications.
Specimen Handling and Storage	• Submit to laboratory as soon as possible after collection. • Ensure container does not leak and lid is not cross threaded • Refrigerate if transport time > 2 hours
Rejection Criteria	• Mislabelled or unlabelled specimen/requisition • Leaking specimens • Sputum samples heavily contaminated with saliva are not appropriate for culture • When more than one specimen is received on the same day, only one will be processed
Testing Site	Miller Site
Last Updated	March 2017

41.0A Stem Cells for Culture

Sample Processing	• Stem cell culture will be incubated for 14 days in BACTEC FX automated system for sterility check. • There will be PRE and POST samples (before freezing and after thawing) cultured for sterility.
Source	Stem Cell Aphresesis collected from patient (4 NORTH A – ONCOLOGY) which is sent to stem cell laboratory for cryo-preserving
Specimen Collection Device	BD BACTEC Peds Plus/F Blood Culture Flask
Clinical History	• Human stem cells are cells that can divide and differentiate into diverse specialized cell types which can self-renew to produce more stem cells.

	• Stem cell therapy treats patients diagnosed with leukemia through bone marrow transplants. • Research continues on stem cell therapy. Diseases including various cancers, Parkinson's disease, spinal cord injuries, Amyotrophic lateral sclerosis, multiple sclerosis, muscle damage and even diabetes is ongoing and may benefit from stem cell research.
Collection Procedure	• Stem cells from a patient are obtained through apheresis technique and sent to the Stem Cell Laboratory • 1.0 ml of cryo-perserved stem cells is aseptically inoculated into a BACTEC PED bottle and the stem cell culture is incubated for 14 days in a BACTEC FX automated blood culture system. • The medical laboratory technologist working in the stem cell laboratory will request the stem cell culture in the MEDITEC laboratory information system. • A Microbiology requisition must accompany the stem cell culture when delivered to the Microbiology laboratory. Ensure that the information on the requisition matches the order in the MEDITEC system. • If the BACTEC FX indicates that the stem cell culture bottle has positive growth a technologist will remove the flask from the machine, perform a gram stain and inoculate culture media. When the gram stain is complete the technologist must phone the stem cell laboratory (EXTENSION – 2542) with a preliminary verbal report. Document the full name of the person who received the report and also the date and time called on the requisition. The technologist must enter this information into the MEDITEC laboratory system and then complete the culture work-up. • After 14 days if the culture flask remains negative, the bottle is removed from the BACTEC FX and the report is finalized as no growth after 14 days of incubation. The stem cells will have passed the sterility check.
Specimen Handling and Storage	• Deliver to the Microbiology Laboratory (ROOM 1530) as soon as possible • DO NOT REFRIGERATE
Rejection Criteria	NONE
Testing Site	HSC – Microbiology Laboratory
Last Updated	March 2017

42.0 Sterile Body Fluids – Bacterial Culture

Sample Status	Fluids collected from normally sterile body sites are treated as STAT specimens. Significant microscopic findings will be phoned to the appropriate individual.
Source	Fluid - Joint, Pericardial, Peritoneal, Pleural or any invasively collected sterile body fluid.
Specimen Collection Device	Sterile 15mL tube or sterile 90ml screw capped sterile bottle. • If additional fluid available, submit BACTEC Plus bottle. If anaerobic culture required, add BACTEC lytic anaerobic bottle
Clinical History	**State current antibiotic therapy and when this was started** **Please provide clinical history and state specimen source:** **If joint fluid:** • History of trauma, previous surgery or recent infection? • Is there a prosthetic implant or foreign body in situ? • State symptoms and signs, and their duration **If pericardial fluid:** • History of TB or previous surgery? • State symptoms and signs, and their duration

	If peritoneal fluid: • History of TB, surgery or malignancy? • Does patient undergo peritoneal dialysis? • State symptoms and signs, and their duration **If pleural fluid:** • History of pneumonia, TB, surgery or malignancy? • State symptoms and signs, and their duration
Recommended Collection Guidelines	If **filamentous fungus/mould** culture is required, please indicate on requisition to ensure proper processing
Collection Procedures	• Clean the needle puncture site with alcohol and disinfect it with a 10% solution of povidone-iodine. Iodine should remain on the skin for at least 60 seconds prior to aspiration. • The physician will aseptically perform percutaneous aspiration to obtain pleural, pericardial, peritoneal, or synovial fluids. • Expel any air bubbles from the syringe. • Inject fluid into a sterile 10 mL tube. • Do not overfill, as this may lead to greater chances of specimen leakage • **If extra fluid is available**, BACTEC bottles may be inoculated for culture. Prior to inoculation of the vials, the center tabs from the caps must be removed and the septum swabbed with 70% isopropyl alcohol (iodine i.e. Betadine or acetone compounds must not be used because of damage caused to the septum). • Inject 3-5 mL of fluid into a BACTEC Plus+ Aerobic/F bottle and 3-5 mL into a BACTEC Lytic/10 Anaerobic/F. NOTE: BACTEC blood culture bottles are suitable only for culture of sterile body fluids (joint, pericardial, peritoneal, and pleural). • **If fluid is of very small quantity** and only routine C&S is required, a sterile swab may be used to collect specimen. Place inoculated swab into transport media. • Label specimen/requisition according to required labelling specifications. • Do not obscure BACTEC bottle barcode or sequence numbers • PLEASE NOTE: The larger the volume of specimen submitted the better the yield of potential pathogens.
Specimen Handling and Storage	• Deliver to the Microbiology Laboratory as soon as possible after collection or place in Blood Culture holding Incubator located in ROOM 1501 across from laboratory stat specimen drop off bench. • Ensure container does not leak and lid is not cross threaded • Do not refrigerate
Rejection Criteria	All invasively collected sterile fluids are considered “Precious Samples”. Mislabelled or unlabelled specimens will require a Verification form for Precious specimens completed before being processed.
Testing Site	Microbiology Laboratory, HSC Site
Last Updated	March 2017

43.0 Stool – Enteric Pathogen Culture (Salmonela, Shigella, Campylobacter, E. coli 0157:H7 and E.coli 0104:H7)

Test Name	Gastrointestinal Culture
Source	Stool (colostomy or ileostomy collection may be processed)
Specimen Collection Device	Sterile 90mL screw capped container or Enteric Transport (Stool Culture Medium – Cary Blair Medium) • Use Enteric transport system when a delay in transport of > 24 hours is expected • For C.difficile – submit sample in **dry** sterile 90ml container, stool collected in CARY BLAIR transport may be used but not preferred. (Do **not** use transport medium for requests to be sent to Public Health Laboratories for testing)

	<table><tr><th>Test</th><th>Testing Site</th></tr><tr><td>Enterovirus</td><td>Miller site</td></tr><tr><td>Norovirus</td><td>Miller site</td></tr><tr><td>E.coli Shiga-toxin antigen</td><td>Miller site</td></tr></table>
Recommended Collection Guidelines	• Do not collect stool with recent bismuth/mineral oil use • Stools from inpatients hospitalized for > 3 days are not recommended for stool culture. Consider *Clostridium difficile* toxin testing. • Do **not** submit solid formed stool
Collection Procedure	**PLEASE PROVIDE CLINICAL AND TRAVEL HISTORY WITH EACH SPECIMEN** **THE STOOL SPECIMEN MUST NOT COME IN CONTACT WITH WATER OR URINE** 5. If necessary, pass urine into toilet prior to collecting stool specimen. 6. Collect the stool specimen in a wide-mouthed container. Alternatively a large plastic bag or plastic food wrap may be placed over the toilet opening (but under the toilet seat) and the stool specimen passed onto the plastic wrap. 7. With a clean plastic spoon, transfer stool specimen into the container. • Fill half to ¾ of the entire container's volume if possible (when using the 90ml container) • Fill to the indicated fill line when using the Enteric Transport medium • Do not overfill, as this may lead to greater chances of specimen leakage • DO NOT contaminate the external surface of the collection container as this may present a hazard to laboratory staff 8. Label specimen/requisition according to required labelling specifications.
Specimen Handling and Storage	• Deliver to the laboratory as soon as possible after collection • Ensure container does not leak and lid is not cross threaded • Refrigerate after collection
Additional Comments	• All positive stool culture results are reported to the regional public health office, the ordering physician and infection control, if applicable • Consult Microbiologist for additional requests
Rejection Criteria	• Mislabelled or unlabelled specimen/requisition • Stool with barium • Formed stool • Multiple specimens on the same day. Only one sample will be processed. • Leaking specimens
Testing Site	Microbiology Laboratory, HSC Site
Last Updated	March 2017

44.0 Stool – Bacterial Pathogen Culture *Vibrio* sps, Aeromonas and Yersinia

Source	Stool
Specimen Collection Device	Sterile 90ml screw capped container or Enteric Transport ((Stool Culture Medium – Cary Blair Medium) • Use Enteric transport system when a delay in transport of > 24 hours is expected
Recommended Collection Guidelines	• Do not collect stool with recent bismuth/mineral oil use • Stools from inpatients hospitalized for > 3 days are not recommended for stool culture. Consider *Clostridium difficile* toxin testing. • Do not submit solid formed stool • Not routinely performed .Only performed using selective media and when clinical request is indicated

Collection Procedure	**PLEASE PROVIDE CLINICAL AND TRAVEL HISTORY WITH EACH SPECIMEN** **THE STOOL SPECIMEN MUST NOT COME IN CONTACT WITH WATER OR URINE** 9. If necessary, pass urine into toilet prior to collecting stool specimen. 10. Collect the stool specimen in a wide-mouthed container. Alternatively a large plastic bag or plastic food wrap may be placed over the toilet opening (but under the toilet seat) and the stool specimen passed onto the plastic wrap. 11. With a clean plastic spoon, transfer stool specimen into the container. • Fill half to ¾ of the entire container's volume if possible (when using the 90ml container) • Fill to the indicated fill line when using the Enteric Transport medium • Do not overfill, as this may lead to greater chances of specimen leakage • DO NOT contaminate the external surface of the collection container as this may present a hazard to laboratory staff 12. Label specimen/requisition according to required labelling specifications.
Specimen Handling and Storage	• Submit to laboratory as soon as possible after collection; if delay, store at 4 degrees C. • Ensure container does not leak and lid is not cross threaded
Additional Comments	• All positive stool culture results are reported to the regional public health office, the ordering physician and infection control, if applicable
Rejection Criteria	• Mislabelled or unlabelled specimen/requisition • Stool with barium • Formed stool • Multiple specimens on the same day. Only one sample will be processed • Leaking specimens
Testing Site	Microbiology Laboratory, HSC Site
Last Updated	March 2017

45.0 Superficial Wound – Bacterial Culture

IMPORTANT NOTICE	**Specimens containing more than 10 squamous epithelial cells and less than 25 white blood cells per low power microscopic field will not be processed for culture.**
Collection Device	Swab transport media or sterile 90ml screw capped container. For other tests, sample is referred Test: Mycobacterium — Testing Site: Miller Site Test: Viruses — Testing Site: Miller Site
Specimen Sources	Superficial samples in this category of processing include the following: ➢ Abscess swabs ➢ Abdominal drainage swabs ➢ Catheter line exit swabs ➢ Skin swabs ➢ Wound swabs ➢ Penial swabs. ➢ Gastrostomy swabs ➢ Pilonidial Sinus ➢ Umbilical Swabs
Relevant Clinical Details	Please provide relevant clinical history: • Presence of local symptoms/signs, e.g. cellulitis • Is the infection superficial or deep? • **If deep infection is suspected, please send tissue or aspirate of pus from the site of infection. These samples are superior specimens compared to superficial swabs.**

	• Are there any local predisposing factors, e.g. skin ulcer, traumatic injury, surgical wound site, presence of foreign body? • Presence of systemic symptoms/signs e.g. fevers, chills, rigors? • State current antibiotic therapy • Are there any underlying conditions which may predispose to more severe infection, e.g. diabetes, steroid or other immunosuppressive therapy, malignancy or HIV.
Collection Procedure	For routine culture of sores, rashes, and surface wounds: 1. Remove superficial debris by thorough irrigation and cleansing with sterile saline 2. If wound is relatively dry, collect with 2 sterile swabs moistened with sterile saline 3. Gently roll the swab over the surface of the wound approximately 5 times, focusing on the area where there is evidence of pus or inflamed tissue. The margin of the wound is generally the best area to sample 4. Carefully place the swab back into the collection device without contaminating it. 5. Label the specimen/requisition according to the required labeling specifications. Ensure label/requisition clearly indicates “superficial wound” and anatomical site/source
Specimen Handling and Storage	• Submit to the Laboratory as soon as possible after collection or store at 4 C.
Additional Comments	• Superficial swab specimens are cultured aerobically only • Tips of drainage devices that have been indwelling in patients are **not** suitable for culture. Please submit fluid samples preferentially collected at the time of device placement.
Rejection Criteria	• Mislabelled or unlabelled specimen/requisition. See Microbiology Laboratory Sample Labeling Specifications • Samples revealing more than 10 squamous epithelial or less than 25 white blood cells per low power microscopic field will not be processed. • Dry swabs will not be processed • Drain containers (Jackson-Pratt, Sump etc) or portions of tubing (Penrose drain, chest tube tip, etc) will not be processed. (SEE DRAINAGE CULTURE SECTION 12.0)
Testing Site	Microbiology Laboratory, HSC Site
Last Updated	March 2017

46.0 Throat – Beta haemolytic Streptococcus Group A Culture

Source	Throat
Specimen Collection Device	Swab transport media
Collection Procedure	1…Depress tongue gently with tongue depressor. 2…Extend sterile swab between the tonsillar pillars and behind the uvula. Avoid touching the cheeks tongue, uvula or lips. 3…Sweep the swab back and forth across the posterior pharynx, tonsillar areas, and any inflamed or ulcerated areas to obtain sample. 4…Carefully place swab back into the collection device without contaminating it. 5…Label specimen/requisition according to required labelling specifications.
Specimen Handling & Storage Requirements	• Deliver to the Laboratory as soon as possible after collection; if delay, store at 4 C.
Rejection Criteria	• Mislabelled or unlabelled specimen/requisition • Dry swab received
Testing Site	Microbiology Laboratory, HSC Site
Last Updated	March 2017

47.0 Throat – *Neisseria gonorrhoeae* Culture

Source	Throat
Specimen Collection Device	Swab transport media
Collection Procedure	**PLEASE PROVIDE CLINICAL HISTORY AND CURRENT ANTIMICROBIAL THERAPY** 1. Depress tongue gently with tongue depressor. 2. Extend sterile swab between the tonsillar pillars and behind the uvula. Avoid touching the cheeks, tongue, uvula or lips. 3. Sweep the swab back and forth across the posterior pharynx, tonsillar areas, and any inflamed or ulcerated areas to obtain sample. 4. Carefully place swab back into the collection device without contaminating it. 5. **Specify *Neisseria gonorrhoeae* on requisition.** 6. Label specimen/requisition according to required labelling specifications.
Specimen Handling and Storage	• Deliver to the Laboratory as soon as possible after collection and within 24 hours after collection. • **Do not refrigerate**
Rejection Criteria	• Mislabelled or unlabelled specimen/requisition • Dry swab received
Testing Site	Microbiology Laboratory, HSC Site
Last Updated	March 2017

49.0 Tissue Samples – Bacterial / Yeast Culture

Specimen Collection Device and Sample Processing	• Sterile 90ml screw capped container • Tissue samples from normally sterile sites are processed as STAT specimens. Significant microscopic findings are phoned to the appropriate individuals. These samples are collected invasively and are considered "Precious". • Please indicate on the requisition or in the computer order when Yeast is requested.
Recommended Collection Guidelines	Excised tissue is always superior to a swab or fluid. Please submit an adequate size sample. When sampling fine needle biopsies this is impossible especially when several requests may be made on a single tiny specimen. Physician may be contacted to prioritise requests.
Clinical History	**Please provide clinical history:** • Presence of local symptoms and signs of infection • Is the infection acute or chronic? - If chronic, is sinus tract or fistula present? • Are there any local predisposing factors, e.g. skin ulcer, traumatic injury, surgical wound site, presence of foreign body? • Presence of systemic symptoms/signs e.g. fevers, chills, rigors? • State current antibiotics, if any – name, dose, route and when started Are there any underlying conditions, which may predispose to more severe infection, e.g. diabetes, steroid or other immunosuppressive therapy, malignancy, HIV
Collection Procedure	1. Collect tissue specimens under aseptic conditions. Choose sites that show necrosis or abnormality. 2. Avoiding any contamination while placing sample into container. 3. Label specimen container/requisition according to required labelling specifications. When multiple tissue specimens are collected from different sites ,ensure <u>each</u> container and its corresponding requisition are accurately labelled. 4. When orders are directly entered in the MEDITECH Laboratory Information System ensure order is accurate with any pertinent information included in the comment section..

Specimen Handling and Storage	• Please stamp the requisition to indicate “collected in the OR” if applicable. • Deliver to the Laboratory as soon as possible after collection; if delay, store at 4 C. Any tissue samples collected during an invasive procedures are considered STAT specimens.
Additional Comments	Delay in transport of the sample to the Laboratory will compromise the recovery of fastidious organisms
Rejection Criteria	• Mislabelled or unlabelled specimen/requisition • Specimen submitted in unsterile container • Specimen submitted in formalin
Testing Site	Microbiology Laboratory, HSC Site
Last Updated	March 2017

50.0 Tissue Samples – Filamentous Fungi / Mould Culture

Specimen Collection Device	Sterile 90mL screw capped container For all suspected **Risk Group 3 fungal pathogens** (*Coccidioides immitis, Histoplasma capsulatum or Blastomyces dermatitidis, Paracoccidioides braziliensis, Penicillium marneffei*), contact the Microbiologist at 777-2089, pager 570-9494
Recommended Collection Guidelines	Excised tissue is always superior to a swab or fluid
Clinical History	**Please provide clinical history and travel history** • Presence of local symptoms and signs of infection • Is the infection acute or chronic? - If chronic, is sinus tract or fistula present? • Are there any local predisposing factors, e.g. skin ulcer, traumatic injury, surgical wound site, presence of foreign body? • Presence of systemic symptoms/signs e.g. fevers, chills, rigors? • State current antifungal therapy, if any – name, dose, route and when started. • Are there any underlying conditions, which may predispose to more severe infection, e.g. diabetes, steroid or other immunosuppressive therapy, malignancy, HIV • A work history may be a helpful aid in identification of a fungus or mold.
Collection Procedure	1. Collect tissue specimens under aseptic conditions. 2. Avoiding any contamination, place specimen in container. 3. Add a small volume of sterile saline to keep tissue moist. 4. Label specimen container/requisition according to required labelling specifications. • When multiple tissue specimens are collected, ensure <u>each</u> container and its corresponding requisition are accurately labelled.
Specimen Handling and Storage	• Deliver to the Laboratory as soon as possible after collection; if delay, store at 4 C. • Ensure container does not leak and lid is not cross threaded
Rejection Criteria	• Mislabelled or unlabelled specimen/requisition • Specimen submitted in unsterile container • Specimen submitted in formalin
Testing Site	Microbiology Laboratory, HSC Site
Last Updated	March 2017

51.0 Urine – (Midstream Urine (MSU), Ileal Conduit) – Bacterial Culture

IMPORTANT NOTICE	**URINES SUBMITTED FOR CULTURE AFTER MORE THAN 24 HOURS TRANSPORT OR STORAGE WILL NOT BE PROCESSED.**
Source	Urine
Specimen Collection Device	90 ml. sterile specimen container
Clinical History	**Please provide clinical history and current antimicrobial therapy:** • Indicate *specimen type*, i.e. MSU, or ILEAL CONDUIT. • Is the patient suspected of having a urinary tract infection? ▪ If so, state symptoms, signs and their duration. • What is the *current antibiotic therapy*, if any? When was it started? • State any *predisposing conditions* for developing urinary tract infection, e.g. diabetes, pregnancy, malignancy, renal tract abnormalities including prostatic enlargement in males, recent genitourinary surgery. • Renal transplant? If yes, please indicate when the transplant was performed. The first 3 months in adults and the first 6 months in children are the most critical if a urinary tract infection develops.
Recommended Collection Guidelines	A specimen should be collected **at least 4 hours** after urine was last voided. This is important in cases of urethro-cystitis to ensure sufficient bacteria will have accumulated in the bladder at the time of collection, to be easily detected in the laboratory.

Collection Procedure	**Midstream urine (MSU) collection**
	1. Collect MSU according to instructions:
	  ▪ Female
	  ▪ Male
	2. Label specimen/requisition according to required labelling specifications.
	  • **Specify 'MSU collection**
	Ileal Conduit specimens
	Specimens are easily contaminated with bowel flora; therefore it may be difficult to differentiate a true polymicrobial urinary tract infection from contamination.
	1. Place the urine specimen into a sterile container
	2. Label specimen/requisition according to required labelling specifications.
	  • **Specify 'Ileal conduit collection'.**

Specimen Handling and Storage	• Urines submitted in sterile containers should be refrigerated at 4 C
Rejection Criteria	• Specimens older than 24 hours • Specimens leaking in transit • Mislabelled or unlabelled specimen/requisition • Pooled 24-hour urine collection
Testing Site	Microbiology Laboratory, HSC Site
Last Updated	March 2017

52.0 Urine – (Catheter) – Bacterial Culture

IMPORTANT NOTICE	**URINES SUBMITTED FOR CULTURE AFTER MORE THAN 24 HOURS TRANSPORT OR STORAGE WILL NOT BE PROCESSED.**
Source	Catheter Urine – In/Out, Cystoscopy, Intermittent, Indwelling (Foley Catheter, Suprapubic catheter).

Specimen Collection Device	Sterile container
Clinical History	**Please provide clinical history and current antimicrobial therapy:** • Is the patient suspected of having a urinary tract infection? ▪ If so, please state symptoms, signs and their duration • State what type of catheter specimen it is, i.e. in/out, intermittent, indwelling • If indwelling catheter, state how long it has been in situ • What is the *current antibiotic therapy*, if any? When was it started? • State any *predisposing conditions* for developing urinary tract infection, e.g. diabetes, pregnancy, renal tract abnormalities including prostatic enlargement in males, recent genitourinary surgery, malignancy • Renal transplant? If yes, please indicate when the transplant was performed. The first 3 months in adults and the first 6 months in children are the most critical if a urinary tract infection develops.
Collection Procedure	• In/out catheter urine specimens are useful when a midstream urine cannot be obtained or when results from a midstream urine are equivocal and a diagnosis is required. • In/out catheter urine specimens are distinguished from intermittent catheter samples in that the former are collected by health care professionals. Intermittent catheter urine specimens refer to specimens obtained by the patient through periodic self catheterization. **IN/OUT CATHETER URINE COLLECTIONS:** 1. Clean the patient's urethral opening (and in females, the vaginal vestibule) with soap and carefully rinse the area with water. 2. Using sterile technique, pass a catheter into the bladder. 3. Collect the initial 15-30 ml of urine, and discard it. 4. Collect the next 30 ml in a sterile container. 5. Label specimen/requisition according to required labelling specifications. 6. Specify correct source on requisition **INDWELLING CATHETER URINE COLLECTIONS:** 1. Clean the catheter collection port with a 70% alcohol wipe. 2. Using sterile technique, puncture the collection port with a needle attached to a syringe. • DO NOT COLLECT URINE FROM COLLECTION BAG 3. Aspirate the urine, and place it in a sterile container. 4. Label specimen/requisition according to required labelling specifications. 5. Specify correct source on requisition.
Specimen Handling and Storage	• Deliver to the Laboratory as soon as possible after collection. • Urines must be refrigerated.
Rejection Criteria	• Specimens older than 24 hours • Specimens leaking in transit • Mislabelled or unlabelled specimen/requisition • Pooled 24-hour urine collection
Testing Site	Microbiology Laboratory, HSC Site
Last Updated	March 2017

53.0 Urine (Invasive Collection) – Bacterial Culture

IMPORTANT NOTICE	**URINES SUBMITTED FOR CULTURE AFTER MORE THAN 24 HOURS TRANSPORT OR STORAGE WILL NOT BE PROCESSED.**
Source	Urine from: • Suprapubic urine / bladder aspirate • Nephrostomy – New Insertion (same day insertion) • Ureterostomy
Specimen Collection Device	Sterile 90ml screw capped container

Clinical History	**Please provide clinical history and current antimicrobial therapy:** • Indicate specimen type. When a Nephrostomy sample is submitted please indicate if specimen is collected from a new day old insertion or if it is an old insertion. The Microbiology laboratory processes these two samples differently. • Is the patient suspected of having a urinary tract infection? • If so, state symptoms, signs and their duration. • What is the current antibiotic therapy, if any? When was it started? • State any predisposing conditions for developing urinary tract infection, e.g. diabetes, pregnancy, malignancy, renal tract abnormalities including prostatic enlargement in males, recent genitourinary surgery. • Renal transplant? If yes, please indicate when the transplant was performed. The first 3 months in adults and the first 6 months in children are the most critical if a urinary tract infection develops.
Collection Procedure	1…Place the urine specimen into a sterile container. Do not overfill the container. 2…Label specimen/requisition according to required labelling specifications. • **Specify collection method**
Specimen Handling and Storage	• Deliver to the Laboratory as soon as possible after collection. • Ensure container does not leak and lid is not cross threaded • Sample must be refrigerated.
Additional Comments	Anaerobic culture only performed on request and after consultation with the MOC
Rejection Criteria	• Specimens older than 24 hours • Specimens leaking in transit • Mislabelled or unlabelled specimen/requisition • Pooled 24-hour urine collection
Testing Site	Microbiology Laboratory, HSC Site
Last Updated	March 2017

54.0 Urine – Schistosoma

Source	Urine
Specimen Collection Device	Sterile 90 ml screw capped container
Collection Procedure	Collect the last portion of a random urine voided between 1200-1500h. This is the time period of peak egg excretion. In patients with hematuria, eggs are associated with the terminal (last voided) portion of the specimen containing mucus and blood.
Specimen Handling & Storage Requirements	• Deliver to the Laboratory as soon as possible after collection. • Ensure container does not leak and lid is not cross threaded • Do not refrigerate • Please include patient's travel history with request.
Rejection Criteria	• Mislabelled or unlabelled specimen/requisition • Specimen leaking in transit
Testing Site	Microbiology Laboratory, HSC Site
Last Updated	March 2017

55.0 Vaginal / Rectal – Group B Streptococcus (GBS) Screen

Source	Vaginal/Rectal
Specimen Collection Device	Swab transport media

Clinical History	**PLEASE PROVIDE CLINICAL HISTORY AND ANY RECENT ANTIMICROBIAL THERAPY**
Recommended Collection Guideline	The current guidelines recommend prenatal screening for Group B Streptococcal colonization of all pregnant women at 35-37 weeks gestation. The recommended specimen is a single vaginal/rectal swab. Cervical or vaginal swabs are suboptimal for GBS screening.
Collection Procedure	1. Insert swab initially in lower vagina (vaginal introitus) and, then, in the rectum (i.e. insert swab through the anal sphincter). 2. Carefully place swab back into the collection device without contaminating it. 3. Label specimen/requisition according to required labelling specifications. • Indicate penicillin allergy on requisition as susceptibility testing will be performed based on this information
Specimen Handling and Storage	• Deliver to the Laboratory as soon as possible after collection; if delay, store at 4 degrees C.
Additional Comments	• If symptoms of **sepsis or amnionitis** are present, also submit amniotic fluid, blood or urine for culture • For **symptomatic neonates**, collect blood, CSF and respiratory secretions to diagnose GBS disease. Swabbing asymptomatic neonates (i.e. axilla, throat, etc) is not sensitive or specific for the diagnosis of invasive GBS disease
Rejection Criteria	• Mislabelled or unlabelled specimen/requisition • Dry swab
Testing Site	Microbiology Laboratory, HSC Site
Last Updated	March 2017

56.0 Vitreous / Aqueous Fluid – Culture

Source	Eye, Conjunctiva, Cornea, Intra-ocular/Vitreous
Specimen Collection Device	• **For conjunctiva/sclera specimens:** Swab - clear Transport Media **For corneal scrapings:** Direct bedside media inoculation preferred (Obtain from Microbiology Laboratory – ROOM 1530) **For intra-ocular/vitreous fluid:** Sterile 10mL tube • When Chlamydia trachomatis or viruses are requested please submit sample in UTM viral transport .
Clinical History	Provide relevant clinical history and recent or current antimicrobial therapy
Recommended Clinical Guidelines	• Obtain specimen for culture **before** topical agents are applied • Organisms are more readily detected in scrapings than from a swab • If culture for **filamentous fungi/mould** is required, please indicate clearly on requisition to ensure proper processing
Collection Procedure	**CONJUNCTIVAL/SCLERAL SWAB:** 1…Swab the inferior tarsal conjunctiva (inside surface of the eyelid, i.e. mucosal surface) and the fornix of the eye. 2…Carefully place swab back into the collection device without contaminating it. 3…Label specimen/requisition according to required labelling specifications. • Indicate specimen source (i.e. OS or OD, and 'conjunctival/scleral swab')

	CORNEAL SCRAPINGS: • Scrapings should be taken by an ophthalmologist or trained physician 1…Collect scrapings aseptically. 2…Label specimen/requisition according to required labelling specifications. • Indicate specimen source (i.e. OS or OD, and 'corneal scraping') **INTRA-OCULAR/VITREOUS FLUID:** • Fluid should be taken by an ophthalmologist or trained physician 1…Collect fluid aseptically. 2…Label specimen/requisition according to required labelling specifications. Indicate specimen source (i.e. OS or OD, and 'intraocular/vitreous fluid')
Specimen Handling and Storage	• Deliver to the Laboratory as soon as possible after collection • Do not refrigerate
Rejection Criteria	• Mislabelled or unlabelled specimen/requisition • Dry swab received • Non-sterile container Any eye specimens collected during invasive procedures are considered "precious. If specimen or requisition is unlabelled or mislabelled a Verification Form For Precious Specimens must be completed in the Microbiology Laboratory (ROOM 1530) before processing.
Testing Site	Microbiology Laboratory, HSC Site for culture For other organisms, sample is referred:. **Test** / **Testing Site** Acanthoamoebae – Miller Site Chlamydia culture – Miller Site Viral – Miller Site
Last Updated	March 2017

57.0 Antigen Test – Cryptococcal Latex Antigen Test

Specimens	Serum	SST vacutainer tube
	Cerebral Spinal Fluid (CSF)	15 ml sterile screw capped tube
Clinical History	Cryptococcus is a systemic infection caused by the yeast *Cryptococcus neoformans*. Inhalation of the yeast may lead to a lung infection followed by disseminated disease. Patients often present with devastating debilitation, especially those who are immunocompromised.	
Recommended Collection	• Serum : asceptically collect venous blood into a serum separator vacutainer tube (SST) • Blood Cultures may also be collected to isolate Cryptococcus neoformans. • CSF: - collect sample using established asepiic collection guidelines. ➢ Label specimen container/requisition according to required labelling specifications ➢ . ➢ Positive test results are phoned to attending physician / doctor's office and the technologist will document the date, time and name of person the report was released to. Documentation is recorded in the MEDITEC laboratory information system.	

Specimen Handling and Storage	• Ensure that container does not leak and lid is not cross threaded • Submit sample to the Laboratory as soon as possible
Additional Comments	*Cryptococcus neoformans* has an unusual affinity for the central nervous system – rapid and early detection is essential
Rejection Criteria	• Mislabelled or unlabelled serum sample/requisition • CSF – these samples are considered "precious" samples (ie. not easily recollected) and mislabelled samples will be processed following the completion of a Verification Form For Precious Specimens that is to be completed in the Microbiology Laboratory (ROOM 1530).
Testing Site	Microbiology Laboratory, HSC Site
Last Updated	March 2017

58.0 Antigen Test – Rotavirus Antigen Test

Specimen	Stool
Collection Device	Dry, clean, screw capped container free of detergent residue.
Clinical History	Causes acute gastroenteritis, especially in children 6 to 24 months of age. In adults, it can cause severe illness as well as asymptomatic illness. The incubation period is usually one to three days followed by gastroenteritis lasting from five to eight days. Rotavirus antigen reaches a maximum level in stool shortly after the onset of illness (days three to five) and then declines over time.
Recommended Collection	• Dry container is required • Label sample container/requisition according to label specifications.
Specimen Handling and Storage	• Submit to the Laboratory as soon as possible after collection. If necessary, the sample may be stored for up to 24 hours at 2 - 8°C prior to submission.
Additional Comments	• Stools containing high levels of blood may not provide accurate results • The test does not define the presence of rotavirus associated gastroenteritis, but only the presence of the antigen in the stool. • Positive test results are phoned to attending physician / doctor's office and the technologist will document the date, time and name of person the report was released to. Documentation is recorded in the MEDITEC laboratory information system.
Rejection Criteria	• Stool swabs will not be processed • Meconium stool will not be tested. Kit not validated for this source. • Mislabelled or unlabelled specimen/requisition
Testing Site	Microbiology Laboratory, HSC Site
Last Updated	March 2017

Appendix

1.0 Patient Instructions for Pinworm Collection

1. Label the container with the following patient identifier information:
   - Patient's full first and last name as it appears on the health care card (eg MCP or hospital card)
   - Patient's health care number, for example MCP, OHIP, DND number - if the number is other than MCP number, please provide birth date.
   - Date and time of specimen collection

2. Enter the same patient identifier information in the appropriate areas of the requisition. Include the ordering Physician's name (use of a name/address/phone number stamp is advised) and relevant clinical history

   - **Incorrectly or incompletely labelled specimens will not be processed.**
   - **Occasionally samples are sent to the Microbiology Laboratory collected using scotch tape instead of a Pinworm paddle collection bottle, these samples will not be processed in the laboratory and are unacceptable.**

3. The ideal time to do this procedure is early in the morning before going to the bathroom and before patient stands up in the morning. Eggs become dislodged when patient stands.

4. Remove the cap from the container. Attached to this cap is a paddle with a side coated with a non-toxic sticky material. **Do not** touch the sticky side with your fingers

5. Using moderate pressure, press the sticky side against the skin surrounding the anus

6. Place the cap and paddle back into the container and tighten the cap

7. **Wash your hands well with soap and water**

8. Place the container into the zip locked part of the plastic biohazard bag

9. Put the requisition in the pouch part of the same bag. **Do not** put the requisition in with the container

10. Deliver the bag containing the container/requisition to the Laboratory.

2.0 Instructions for Sputum Sample

Collection Container

- If your doctor did not give you a bottle, go to the blood collection lab and get a sterile bottle.

Collecting the Sputum Sample

- Collect the sample in the morning when you get up and before you eat breakfast.
- Do not use mouthwash or gargle before you collect the sample.
- Cough deeply and then spit the sample into the bottle.
- The sample should be thick and contain mucous – not saliva (spit)

Handling the Sample

- Put the cover tightly on the bottle.
- Write your name, MCP number and the date of collection on the label on the bottle.

NOTE: The sample will not be tested if it is not properly labeled.

- Take the sample to the lab within 2 hours.
- If the sample cannot be taken to the lab right away, place it into a plastic baggie and put it in the refrigerator.

3.0 Collecting Stool (Bowel Movement) Samples for: Culture, Clostridium difficile toxin, Rotavirus and/or Ova and Parasites

Collection Container (Depending on the tests ordered, you may have one or more of the following containers:

The following tests require 2 samples collected on consecutive days:

- C&S – bottles labeled Enteric Pathogen Transport, containing pink liquid.
- C.difficile – empty dry bottles.
- Ova & Parasites – bottles labeled SAF (Sodium Acetate; Acetic Acid; Formaldehyde) containing a clear liquid preservative.

The following test requires ONLY 1 sample collected:

- Rotavirus – 1 empty, dry bottle.

CAUTION:

- The SAF solution is poisonous; keep out of children's reach.
- If swallowed, drink lots of milk or water and **IMMEDIATELY** call the 24 hour Poison Information Centre at **1-866-727-1110**.

Before you Collect the Sample

- DO NOT use a laxative before colleting the stool sample.
- Empty your bladder (pee) completely so that the stool sample is not contaminated with urine.

How to Collect the Sample

- Collect the stool sample into a clean and dry disposable container such as a clean plastic ice cream tub, or onto plastic wrap placed under the toilet seat.
- DO NOT let toilet water touch the stool sample.
- DO NOT send stool samples in diapers. Remove the stool sample from the diaper using a disposable plastic spoon.

Adding the Stool to the Container

Deposit the stool into the container(s) following the steps in the order below:

- Put stool into all the containers you were given.
- Include parts of the stool that are bloody or slimy (mucous/pus).
- In the dry bottle, add stool to 1/3 of the bottle, cap tightly.
- In the bottle labeled Enteric Pathogen Transport (pink fluid) add stool until the liquid level reaches the fill line, cap tightly.
- In the container labeled SAF (clear fluid) add stool until liquid level reaches the fill line. DO NOT overfill. Put the cap tightly and shake the container until the stool and the SAF are well mixed.

After Collecting the Sample

- Wash hands thoroughly.
- Label bottle(s) with:
  - First and Last name AND
  - MCP (Healthcare) number
  - Date and time of specimen collection
- Put the bottle(s) into a biohazard bag and refrigerate.
- Take the specimen(s) to the lab along with the physician requisition as soon as possible (within 24 hours after collection).

4.0 Collecting a Mid-stream Urine Sample for Urinalysis and C&S

Collection Container

- If your doctor did not give you a container go to the blood collection lab to get the sterile bottle and towelettes ("wet wipes").

Collecting the Sample

- Before collecting the urine sample, wash your hands with soap and water.
- Open the package and take out the towellette ("wet wipes")
- Women – Separate the folds of the urinary opening with your fingers and clean the area with the towelette using a downward stroke. Throw away the towelette.
- Men – Clean the head of the penis with the towelette. If you are not circumcised, pull back the foreskin to clean and hold back while urinating ("peeing"). Throw away the towelette.
- Remove the cap from the bottle. Do not touch the inside of the cap or the bottle.
- Urinate ("pee") a small amount into the toilet and stop.
- Urinate into the bottle until the bottle is half full. Finish peeing in the toilet.
- Put the cap tightly on the bottle, keeping it upright to prevent leaking.

Taking the Sample to the Lab

- Write your name and MCP number on the bottle.

NOTE – Testing will not be performed if the sample is not properly labeled.

- Take the sample to the lab as soon as possible after collection.
- If you cannot get the sample to the lab right away, put it into a plastic baggie and store it in the refrigerator.

5.0 Collecting a Mid-stream Urine Sample for Urinalysis and C&S Using a BD Vacutainer Urine Collection Cup

Collection Container

- Blue Capped BD Vacutainer Urine Collection Cup and two cleansing towelettes (“Wet Wipes”).
- If your doctor’s office did not provide you with your collection container and cleansing towlettes the blood collection staff at the Laboratory or clinic will.
- CAUTION: DO NOT REMOVE the label from the top of the BD Vacutainer Urine Collection Cup. There is a needle under the label. BE CAREFUL.

Collecting the Sample

I - MIDSTREAM COLLECTION

Female Cleansing Instructions:

1. Stand squatting over the toilet. Separate the folds of skin around the urinary opening.
2. Cleanse the area around the opening with the first cleansing towelette.
3. Repeat cleansing using second towelette.
4. Unscrew the blue cap from the collection cup and place cover with “straw” facing upwards on a counter or sink. Be careful not to touch the inside of the cap or straw. Urinate and discard the first portion of urine in the toilet.
5. As you continue to urinate, bring the collection cup into the midstream to collect the urine sample Continue to be careful as not to touch the inside or lip of the cup.
6. Fill the cup keeping in mind that small volumes may not be processed. Urinate the remainder of urine into the toilet.
7. Replace the blue cap onto the BD Vacutainer collection cup.
8. Return the sample to the healthcare worker to be properly labeled with all pertinent information. i.e. Patient”s full name, health care number and collection date and time.

Male Cleansing Instructions:

1. Proper cleansing is of the utmost importance when collecting a Mid-stream urine for culture.
2. Cleanse the end of the penis with the first towlette beginning at the urethral opening and working away from it. Ensure that the foreskin of an uncircumcised male is retracted fully to allow proper cleansing.
3. Repeat the cleansing process again with the second towlette. Unscrew the blue cap from the collection cup and place cover with “straw” facing upwards on a counter or sink. Be careful not to touch the inside of the cap or straw.
4. Urinate the first portion of urine in the toilet. Continue to urinate bringing the collection cup into the midstream to collect the urine sample.
5. Do not touch the inside or lip of the cup.
6. Urinate remainder of urine into the toilet. Replace the blue cap onto the BD Vacutainer collection cup.
7. Return the sample to the healthcare worker to be properly labeled with all pertinent information, i.e. Patient’s full name , health care number and collection date and time.

II- ROUTINE URINALYSIS COLLECTION

1. Wash hands thoroughly with soap and water. Unscrew the blue cap of the BD Vacutainer collection cup.
2. Place the blue cap on a counter or sink with “straw” facing upwards. Do not touch inside of cap or straw. This will contaminate the collection. FOLLOW MID-STREAM CLEAN CATCH DIRECTIONS ABOVE IF INSTRUCTED.
3. Urinate into the collection cup without touching the inside or lip of the cup.
4. Replace the blue cap on the collection cup and return the sample to the healthcare worker to be properly labeled with patient name , healthcare number, collection date and time.