DIAGNOSTIC SERVICES OF MANITOBA
SERVICES DE DIAGNOSTIC DU MANITOBA

Clinical Microbiology

Sample Collection Manual

Document History:

Title: Clinical Microbiology Sample Collection Manual **Site(s): All DSM Laboratories**

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Section:	**Clinical Microbiology**	**Subsection:**	**General**

Approved by: Dr. M. Alfa **Written By:** Clinical Microbiology QI/Standards Committee

Signature:

Date: 27-MAY-2011 Date: 21-JUL-2008

1. Annual Review:

#	Reviewed by:	Date:	Approval:	Date:
1	Shirley Hoban	18-MAY-2010	Dr. M. Alfa	28-MAY-2010
2	Clinical Microbiology Discipline Committee	19-APR-2011	Dr. M. Alfa	27-MAY-2011
3				
4				
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2. Summary of Revisions:

#	Details of Revisions:	Date:	Approval:	Date:
1	New document		Dr. M. Alfa	21-JUL-2008
2	• Added transport time table • Changed weight tables – blood culture draws • Changed bone marrow collection to equal joint Haem/Micro policy • Added collect information for STRA • Changed information on vaginal swab to reflect current protocol • Added a MRSA and VRE screens • Added collection of vag/rectal for GBS screen	18-MAY-2010	Dr. M. Alfa	18-MAY-2010
3	• Added specified specimen volume for sputum cultures for AFB • Added comment to indicate if patient is symptomatic or asymptomatic when submitting urine for bacterial culture • Added UriSwab® to Appendix II • Added information re: use of Isolator® and BacT/Alert MP® culture bottles to blood culture section • Added comment re: requirement for separate swab/ test requested to 1.0, 14.0 & 17.0 • Added information re: UriSwab® for sample collection – midstream urine	09-MAY-2011	Dr. M. Alfa	27-MAY-2011

3. Date Archived:

Forward

Information contained in this manual has been derived from various references and represents "best practice" in regards Clinical Microbiology sample collection and transport. The guidelines were developed to provide for the optimal recovery of pathogenic microorganisms in samples submitted for microbiologic examination.

It should be noted that in certain geographic locations that the referenced transport times cannot be achieved. Every effort should be made to try to work within geographic transport limitations to endeavor to transport Clinical Microbiology samples in as timely a fashion as possible to the processing laboratory.

SAMPLE COLLECTION

Table of Contents

(Created September 20, 2006)

1.0

Specimen Abscess (aspirate or swab)

Collection Instructions

1. Remove surface exudate if present by wiping an open abscess with sterile saline or 70% alcohol.
2. Sample the leading edge of an open abscess. Sample must be acquired using aseptic technique.
3. A closed abscess should be aspirated with a needle and syringe after sterilizing skin with an iodine, chlorhexidine preparation or isopropyl alcohol wipes.
4. Follow protocols outlined by your health care facility for this sample type. Sampling of skin surface area can introduce colonizing bacteria not involved in the infectious process.

Device and/or minimal volume

Aspirate: anaerobic transport system, always submit as much sample as possible.

Swab: place in transport medium which will maintain anaerobe viability.

Storage/Transport

Local: Swab - transport as soon as possible, hold sample at room temperature
Aspirate - ≤ 24 hrs, hold at room temperature
Courier/local storage: Swab or abscess fluid - ≤ 24 hrs at room temperature

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Aspirate if possible; an aspirate is always superior to a swab specimen. Swab samples are suboptimal for bacterial culture (aerobic or anaerobic) because of low specimen collection volume and exposure to oxygen (anaerobes). If abscess is open, ensure all pus and cellular debris is removed, then swab deep into the lesion and firmly sample the lesions advancing edge.
If aspirate is obtained, do not submit sample in needle and syringe; inject sample into appropriate transport container.
Indicate antimicrobic therapy on ordering requisition.

If requests are being made for more than one test on a swab taken from a specific site, i.e. bacterial culture aerobes, bacterial culture anaerobes and fungus culture, please ensure that a separate swab sample is submitted for each test requested. Failure to provide separate swabs will result in sub optimal microbiology culture results.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References

A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC

Manual of Clinical Microbiology, 9th Edition. Patrick R. Murray, Editor, 2007. American Society for Microbiology, Washington, DC

2.0

Specimen Bartholin Cyst Fluid - Culture

Collection Instructions

1. Disinfect skin with chlorhexidine preparation
2. Using a sterile needle and syringe, aspirate fluid from ducts
3. Transfer sample into anaerobic transport system

Device and/or minimal volume

Anaerobic transport system

Storage/Transport

Local - ≤ 2 hrs at room temperature
Courier/local storage - ≤ 24 hrs at room temperature

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Do not submit sample in needle and syringe for culture.
Indicate antimicrobic therapy on ordering requisition.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

3.0

Specimen Bite Wound

Collection Instructions

1. Remove surface exudate by wiping with sterile saline or 70% alcohol. Sample must be acquired using aseptic technique.
2. Sample the leading edge of infected wound.
3. Follow protocols outlined by your health care facility for this sample type. Sampling of skin surface area can introduce colonizing bacteria not involved in the infectious process.

Device and/or minimal volume

Swab: place in transport medium which will maintain anaerobe viability.

Tissue/Aspirated fluid: Anaerobic transport system required if transport time to laboratory >2 hrs or if small piece of tissue collected. If tissue sent without anaerobic transport system, add 1 mL sterile saline.

Storage/Transport

Local transport: Swab - transport as soon as possible, hold sample at room temperature
Courier/local storage: Swab, tissue or aspirated fluid - ≤ 24 hrs at room temperature

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Do not culture animal bite wounds ≤ 12 hrs old as agents are usually not recovered unless bites are on the face or hand or there is evidence of infection. Indicate type of bite wound, i.e. human or animal, on the ordering requisition.
Tissue or aspirated fluid are the preferred specimens for culture.
Indicate antimicrobic therapy on ordering requisition.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

4.0

Specimen Blood Culture

Collection Instructions

1. Disinfect rubber stopper on the culture bottle using 70% isopropyl alcohol, wait one minute.
2. Disinfect palpated venipuncture site using a chlorhexidine/70% alcohol swab by using a back and forth friction rub to cleanse the skin, cleanse for 15 seconds over a 4 cm x 4 cm area.
3. Allow to dry (do not repalpate vein).
4. Collect blood using needle and syringe or safety butterfly. **Note:** Bottle adaptors must be used with butterfly collections.

Device and/or minimal volume (see comments re: requests culture of fungus (fungemia), Legionella, Bartonella or AFB (Mycobacteria)

Volumes

Adult:

30 mL - aerobic (10 mL) and anaerobic (10 mL) from one peripheral site, aerobic (10 mL) from second peripheral site.

Pediatric:

Weight	Required Blood Volume	Number of bottles
<4 kg	0.5–1 mL	1 pediatric
4 - <9 kg (<20 lbs)	2-4 mL	1 pediatric
9-27 kg (20-60 lbs)	10 mL	3 pediatric or 1 adult aerobic
28 kg (61+ lbs)	30 mL	2 adult aerobic and 1 adult anaerobic

Acute febrile episode:

30 mL from 2 separate peripheral sites, all within 10 minutes, prior to antimicrobials

Non-acute disease (antimicrobial will not be started or changed immediately):

30-50 mL from 2 or 3 separate peripheral sites, all within 24 hours at intervals no closer than 3 hours (collect 30 mL as described above and then aerobic [10 mL] and anaerobic [10 mL] from a third peripheral site).

Endocarditis (acute):

50 mL from 3 separate peripheral sites; within 1-2 hours before antimicrobials if possible (collect 30 mL as described above and then aerobic [10 mL] and anaerobic [10 mL] from a third peripheral site).

Fever of unknown origin:

30-50 mL from separate peripheral sites ≥1 hour apart during 24 hour period (collect 30 mL as described above and then aerobic [10 mL] and anaerobic [10 mL] from a third peripheral site). If negative at 24-48 hours, obtain 30-50 mL more blood.

Pediatric:

Collect immediately, rarely necessary to document continuous bacteremia with hours between cultures. Collect blood volume based upon patient weight not age.

Storage/Transport

Local: as soon as possible, hold at room temperature.
Courier/local storage: ≤ 24 hrs, hold at room temperature

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments

Do not incubate blood culture prior to submitting to lab. If blood cultures are drawn from lines, an accompanying peripheral blood culture is essential because of the higher contamination rate associated with line collections.
Indicate antimicrobic therapy on ordering requisition.
If fungemia (fungal infection – excludes yeast) is suspected, blood cultures must be drawn using an Isolator® (lysis centrifugation) tube. Contact the Clinical Microbiology laboratory prior to ordering.
If *Legionella* or *Bartonella* infection is suspected, blood cultures must be drawn using an Isolator®, Contact the Clinical Microbiology laboratory prior to ordering.
If AFB (Mycobacteria) is suspected the blood cultures must be drawn in BacT/Alert MP® bottles. Contact the Clinical Microbiology laboratory prior to ordering.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References

A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

Manual of Clinical Microbiology, 8th Edition. Murray, P.R., Baron, E.J., Jorgensen, J.H., Pfaller M.A. & Yolken, R.H. 2003. American Society for Microbiology, Washington, D.C.

Cumitech IC Blood Cultures IV, 2006. Baron E.J., Weinstein M.P., Dunne W.M., Yagupsky P., Welch D.F. & Wilson D.M. American Society of Microbiology, Washington, D.C.

Manual of Clinical Microbiology, 9th Edition. Patrick R. Murray, Editor, 2007. American Society for Microbiology, Washington, DC

Procedure for Collection of Diagnostic Blood Specimen by Venipuncture. CLSI Approved Standards, 6th Edition. H3-A6, Vol. 27, No. 26

5.0

Specimen Bone Marrow

Collection Instructions

1. Prepare puncture site as per surgical incision.
2. Sample must be acquired using aseptic technique.
3. Follow protocols outlined by your health care facility for this sample type.

Device and/or minimal volume

If sample is set up for requested tests at the patient bedside, culture as follows:

Bacterial culture Aseptically inoculate 0.5–2 mL into a pediatric blood culture bottle.

AFB (Mycobacteria) Aseptically inoculate 0.5 mL into a BacT MP® bottle plus 2-3 drops onto a Lowenstein-Jensen agar slant.

Fungal culture Aseptically inoculate 2-3 drops onto a SABHI agar slant.

If sample cannot be inoculated onto appropriate culture media at the patient bedside, submit as much volume as possible in a sterile, screw capped specimen container.

Storage/Transport

Local: as soon as possible
Courier/local storage: ≤ 24 hrs at room temperature

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Routine bacterial culture of bone marrow is rarely useful.
Indicate antimicrobic therapy or antifungal therapy on ordering requisition.
Sample inoculation should be performed at the patient bedside.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References

A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

Manual of Clinical Microbiology, 9th Edition. Patrick R. Murray, Editor, 2007. American Society for Microbiology, Washington, DC

Bone Marrow Collection – Aspirate and Biopsy Samples DSM #140-50-17

6.0

Specimen Bronchial Brushing - Culture

Collection Instructions

Follow procedure outlined by your health care facility.

Device and/or minimal volume

Submit aseptically handled brush in sterile screw capped container with 1.0 mL sterile saline.

Storage/Transport

Local: ≤ 2 hrs, store at room temperature
Courier/local storage: ≤ 48 hrs (≤ 24 hrs optimal), store at 4^{o}C

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Indicate recent antimicrobic therapy or antifungal therapy on ordering requisition.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References

A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

Manual of Clinical Microbiology, 9th Edition. Patrick R. Murray, Editor, 2007. American Society for Microbiology, Washington, DC

7.0

Specimen Bronchial Washing - Culture

Collection Instructions

Follow procedure outlined by your health care facility.

Device and/or minimal volume

Sterile screw capped container, minimum volume at > 1 mL.
Always submit as much sample as possible.

Storage/Transport

Local: ≤ 2 hrs, store at 4°C
Courier/local storage: ≤ 24 hrs, store at 4°C

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Increased volume of sample facilitates the isolation of pathogenic fungi and Mycobacteria.
Indicate antimicrobic therapy or antifungal therapy on ordering requisition.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

8.0

Specimen Broncho-Alveolar Lavage (BAL) - Culture

Collection Instructions

Follow procedure outlined by your health care facility.

Device and/or minimal volume

Sterile screw capped container. 40-80 mL is required for quantitative analysis.

Storage/Transport

Local: ≤ 2 hrs, store at 4°C
Courier/local storage: ≤ 24 hrs, store at 4°C

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Increased volume of sample facilitates the isolation of pathogenic fungi and mycobacteria.
Indicate antimicrobic therapy or antifungal therapy on ordering requisition.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

9.0

Specimen Burn (tissue or exudate swab)

Collection Instructions

1. Clean and debride the wound prior to specimen collection.
2. Add several drops of sterile saline to prevent sample from drying if specimen cannot be delivered immediately to the lab.

Device and/or minimal volume

Tissue (after debridement): Place punch biopsy in sterile screw capped container.

Swab of exudate: Place swab in transport medium.

Storage/Transport

Local: Transport as soon as possible to laboratory (≤ 15 minutes)
Courier/local storage: ≤ 24 hrs, store at room temperature

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments A 3-4 mm punch biopsy is optimal if quantitative cultures are ordered.
Surface cultures of burn wounds may be misleading.
Indicate antimicrobic therapy on ordering requisition.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

10.0

Specimen Catheter (intravenous or intra-arterial)

Collection Instructions

1. Cleanse skin around site with 70% alcohol.
2. Aseptically remove catheter and clip the 5 cm distal tip of the catheter into a sterile screw capped transport container.

Device and/or minimal volume

Place sample in sterile screw capped container.

Storage/Transport

Local: Transport as soon as possible to prevent drying, hold at 4°C
Courier/local storage: ≤ 24 hrs, store at 4°C

Rejection Criteria

Wound drainage tips and foley catheter tips are not suitable for culture and will be rejected.
Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Acceptable IV catheter types for semiquantitative culture: Central, CVP, Hickman, Broviac, peripheral, arterial, umbilical, hyperalimentation and Swan Ganz.
Indicate antimicrobic therapy on ordering requisition.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References

A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

Manual of Clinical Microbiology, 9th Edition. Patrick R. Murray, Editor, 2007. American Society for Microbiology, Washington, DC

11.0

Specimen Cerebrospinal Fluid (CSF)

Collection Instructions

1. Sample must be acquired using aseptic technique.
2. Follow protocols outlined by your health care facility for this sample type.
3. Submit the second or third tube collected for microbiologic examination.

Device and/or minimum volume

Bacteria: ≥ 1 mL
Fungi: ≥ 2 mL
AFB: ≥ 2 mL
Virus: ≥ 1 mL

Submit in sterile screw capped container.

Storage/Transport

Local: Transport as soon as possible (≤15 minutes), hold at room temperature
Courier/local storage: ≤ 24 hrs at room temperature

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Avoid the use of larger capacity sterile containers (≥ 90 mL) as small samples are difficult to retrieve.
Samples being submitted for viral cultures only should be held/stored at 4°C.
Do no submit samples for microbiologic investigation on ice. Tube #1 is sub-optimal for microbiologic investigation.
Indicate antimicrobic therapy or antifungal therapy on ordering requisition.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

12.0

Specimen Cervical Swab – Culture for *N. gonorrhoeae*

Collection Instructions

1. Visualize the cervix using a speculum without lubricant.
2. Remove mucus and secretions from the cervix with a sterile swab, discard the swab.
3. Sample the endocervical canal with a newly obtained sterile dacron or rayon swab.

Device and/or minimal volume

Swab transport medium.

Storage/Transport

Local: ≤ 2 hrs at room temperature
Courier/local storage: ≤ 24 hrs at room temperature

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Do not use calcium alginate or cotton swabs as they may be inhibitory to *N. gonorrhoeae*.
Transport as soon as possible to the lab. Viability of *N. gonorrhoeae* held in transport medium decreases substantially after prolonged storage.
Direct inoculation of patient sample to appropriate bacteriologic media at the bedside (if available) has been shown to increase the sensitivity of culture.
Non-culture techniques for the detection of *N. gonorrhoeae*, i.e. molecular, are done by Cadham Provincial Laboratory, refer to Appendix I.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

13.0

Specimen Corneal Scrapings

Collection Instructions

1. Sample must be acquired using aseptic technique.
2. Follow protocols outlined by your health care facility for this sample type.

Device and/or minimal volume

Direct culture at bedside using blood agar, chocolate agar and a medium for fungal culture. Slides of sample should also be prepared.
Submit plates in sample biobag. Submit slide(s) in slide holder.

Storage/Transport

Local: Transport as soon as possible, store plates at room temperature
Courier/local storage: ≤ 24 hrs, store plates and slide at room temperature

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Anesthetics may be inhibitory to some etiologic agents, a conjunctival sample may be collected prior to collecting corneal scrapings.
Indicate antimicrobic therapy or antifungal therapy on ordering requisition.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References

A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

Manual of Clinical Microbiology, 9th Edition. Patrick R. Murray, Editor, 2007. American Society for Microbiology, Washington, DC

14.0

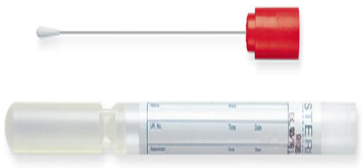
Specimen Decubitus Ulcer

Collection Instructions

1. Cleanse surface with sterile saline.
2. If an aspirate or biopsy of the lesion cannot be taken, vigorously swab the base of the lesion.

Device and/or minimal volume

Tissue biopsy: submit in sterile screw capped container
Aspirate: submit in sterile screw capped transport container which will maintain anaerobe viability
Swab: submit in transport medium suitable for aerobe and anaerobic cultures



Storage/Transport

Local: Biopsy or aspirate - transport as soon as possible, hold at room temperature
Courier/local storage: All sample types - ≤ 24 hrs, store at room temperature

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments A swab sample taken from a decubitus ulcer provides little to no useful clinical information. A tissue biopsy or aspirate is the preferred sample.
Indicate antimicrobic therapy on ordering requisition.
If requests are being made for more than one test on a swab taken from a specific site, i.e. bacterial culture aerobes, bacterial culture anaerobes and fungus culture, please ensure that a separate swab sample is submitted for each test requested. Failure to provide separate swabs will result in sub optimal microbiology culture results.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References

A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

Manual of Clinical Microbiology, 9th Edition. Patrick R. Murray, Editor, 2007. American Society for Microbiology, Washington, DC

15.0

Specimen Dental Culture (gingival, peridontal, periapical, Vincent's stomatitis [trench mouth])

Collection Instructions

1. Carefully cleanse gingival margin and supragingival tooth surface to remove saliva, debris and plaque.
2. Using a peridontal scaler, remove subgingival lesion material and place in transport system.
3. Prepare a smear for staining.

Device and/or minimal volume

Anaerobic transport system.

Storage/Transport

Local: Transport as soon as possible (≤ 2 hrs), hold at room temperature
Courier/local storage: ≤ 24 hrs at room temperature

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Indicate antimicrobic therapy or antifungal therapy on ordering requisition.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References

A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

Manual of Clinical Microbiology, 9th Edition. Patrick R. Murray, Editor, 2007. American Society for Microbiology, Washington, DC

16.0

Specimen Device Culture (orthopedic hardware, heart valve, etc)

Collection Instructions

1. Sample must be acquired using aseptic technique.
2. Follow protocols outlined by your health care facility for this sample type.

Device and/or minimal volume

Sterile screw capped specimen container.

Storage/Transport

Local: ≤ 2 hrs at room temperature, ≤ 24 hrs at 4°C
Courier/local storage: ≤ 24 hrs at 4°C

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

17.0

Specimen Ear (inner and outer)

Collection Instructions

1. Inner ear: Sample must be acquired using aseptic technique. Follow protocols outlined by your health care facility for this sample type.
2. Outer ear: Use a moistened swab to remove any debris or crust from the ear canal. Obtain sample by firmly rotating swab in the outer canal.

Device and/or minimal volume

Fluid sample: Submit in sterile screw capped container. Always submit as much sample as possible.
Swab: Submit in transport medium.

Storage/Transport

Local: Fluid or swab – transport as soon as possible (≤ 2 hrs), store at room temperature
Courier/local storage: Fluid or swab – ≤ 24 hrs, store fluid at room temperature, store swab at 4^{o}C

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Tympanocentesis should be reserved for complicated, recurrent or chronic persistent otitis media.
For otitis externa, vigorous swabbing is required after debris or crust has been removed since surface swabbing may miss pathogens.
Indicate antimicrobic therapy on ordering requisition.
If requests are being made for more than one test on a swab taken from a specific site, i.e. bacterial culture aerobes, bacterial culture anaerobes and fungus culture, please ensure that a separate swab sample is submitted for each test requested. Failure to provide separate swabs will result in sub optimal microbiology culture results.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References

A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

Manual of Clinical Microbiology, 9th Edition. Patrick R. Murray, Editor, 2007. American Society for Microbiology, Washington, DC

18.0

Specimen Esophageal Brushing

Collection Instructions

Follow protocols outlined by your health care facility for this sample type.

Device and/or minimal volume

Place brush in sterile screw capped specimen container to which approximately 2 mL of sterile normal saline has been added.

Storage/Transport

Local: ≤ 2 hrs, store at room temperature
Courier/local storage: ≤ 48 hrs (≤ 24 hrs optimal), store at 4^{o}C

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Indicate any recent antifungal therapy on ordering requisition.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References Clinical Laboratories of Hawaii: LLP & Pan Pacific Pathologists Inc. Cytology Specimen Collection Manual

19.0

Specimen Eye (conjunctiva)

Collection Instructions

1. Sample eye using swab pre-moistened with sterile saline.
2. Roll swab over conjunctiva.

Device and/or minimal volume

Submit swab in transport medium.

Storage/Transport

Local: ≤ 2 hrs, hold at room temperature
Courier/local storage: ≤ 24 hrs, hold at room temperature

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments If possible, sample both conjunctivae even if only one is infected. The uninfected eye can serve as a control to compare to the agents isolated from the infected eye.
Indicate antimicrobic therapy on ordering requisition.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References

A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

Manual of Clinical Microbiology, 9th Edition. Patrick R. Murray, Editor, 2007. American Society for Microbiology, Washington, DC

20.0

Specimen Eye/Corneal Scraping – *Acanthamoeba* Culture

Collection Instructions

1. Instill 2 drops of local anesthetic into the conjunctival sac and/or onto the corneal epithelium.
2. Using a sterile spatula, scrape ulcers or lesions and inoculate a pre-prepared non-nutrient agar plate coated with a bacterial overlay of *E. coli*.

Device and/or minimal volume

Direct inoculum of non-nutrient agar coated with a bacterial overlay of *E. coli*.
If a direct inoculum is not available, place scrapings in Page's saline and transport immediately to the laboratory.

Storage/Transport

Local: ≤ 15 minutes at room temperature (Page's saline)
Courier/local storage: ≤ 4 hrs at room temperature (inoculated plate)

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Collection of samples for *Acanthamoeba* Culture requires prior consultation with the laboratory. Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

21.0 Feces (stool)

21.1

Specimen Feces (stool) – Routine culture (*Salmonella*, *Shigella*, *Campylobacter* and *E. coli* O157:H7)

Collection Instructions

1. Sample should be passed directly into a clean, sterile container. Avoid contaminating sample with urine.
2. Transport the sample promptly to the laboratory (≤ 1 hour). If transport is delayed, transfer a portion of the sample to an enteric pathogen transport medium such as Cairy Blair or transfer a portion of the sample to a swab transport system such as Copan M40 or Amies. The swab must have a visible amount of specimen.

Device and/or minimal volume

Clean/sterile, leak-proof screw capped container or a transport system; ≥ 5 gm (≥ 5 mL).
Delayed transport: Use swab transport system or transport medium for stool sample which has been formulated to maintain viability of enteric pathogens.

Storage/Transport

Local transport, unpreserved sample: ≤ 1 hr at room temperature, ≤ 24 hrs at 4°C
Local transport, sample in transport medium: ≤ 24 hrs at 4°C or room temperature
Courier/local storage, unpreserved sample: ≤ 24 hrs at 4°C
Courier/local storage, sample in transport medium: ≤ 48 hrs at 4°C or room temperature

Rejection Criteria

Routine stool cultures for enteric pathogens are not performed on samples taken from patients who have been hospitalized for > 72 hrs unless there are extenuating circumstances.
Samples submitted in enteric transport medium must have appropriate sample to preservative ratio.
Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Rectal swabs for routine pathogens are not recommended except in infants.
If enteric pathogen other than stated above is suspected, please indicate on ordering requisition.
Bloody or liquid stools collected within 6 days of onset from patients with abdominal cramps have the highest yield for culture positive *E. coli* O157. Toxin assay is better than culture alone for the diagnosis of toxin mediated diarrhoeal disease.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References

A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

Manual of Clinical Microbiology, 9th Edition. Patrick R. Murray, Editor, 2007. American Society for Microbiology, Washington, DC

21.2

Specimen Feces (stool) – *C. difficile* Toxin Assay

Collection Instructions

1. Pass liquid or soft stool into a sterile container. Avoid contaminating sample with urine.

Device and/or minimal volume

Sterile/clean, leak-proof screw capped container. Volume: ≥ 5 mL

Storage/Transport

Local: ≤ 1 hr at room temperature, ≤ 24 hrs at 4°C
Courier/local storage: ≤ 3 days at 4°C, longer if stored at -70°C

Rejection Criteria

Formed stool will not be tested unless there is an indication that the patient has toxic megacolon.
Samples on infants (≤1 year of age) will not be tested.
No more than 3 consecutive negative stools will be tested on a single patient.
Formed stool (no diagnosis of toxin megacolon) will not be processed – stool sample must be liquid, i.e. take the shape of the container.
Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments *C. difficile* toxin assays should not be used to determine test of cure.
Freezing at -20°C or above results in rapid loss of cytotoxin activity.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References

A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

Manual of Clinical Microbiology, 9th Edition. Patrick R. Murray, Editor, 2007. American Society for Microbiology, Washington, DC

21.3

Specimen Feces (stool) – Ova & Parasites

Collection Instructions

1. Pass stool sample directly into a clean dry container at room temperature. Avoid contaminating sample with urine.
2. If sample cannot be examined within ≤ 30 minutes (liquid), ≤ 1 hr at room temperature (semisolid) or ≤ 24 hrs at 4°C (solid), transfer to appropriate transport medium, i.e. sodium acetate formaldehyde solution (SAF).
3. Mix well and allow to fix at room temperature for 30 minutes.

Device and/or minimal volume

Ova and Parasite transport container with preservative (SAF).
Add adequate volume of stool to ensure fill line on container is reached to achieve appropriate fixative to stool ratio.

Storage/Transport

Non-preserved:	liquid	≤ 30 minutes at room temperature
	semi-solid	≤ 1 hr at room temperature
	solid	≤ 24 hrs at 4°C

Preserved: Indefinite, hold at room temperature

Rejection Criteria

Samples submitted containing bismuth, barium, magnesia, mineral oil or gallbladder dye will be rejected as these substances interfere with the detection of intestinal parasites.
Samples contaminated with urine will be rejected.
Samples submitted from patients who have been hospitalized for > 72 hours will not be processed.
Samples with insufficient volume to achieve appropriate fixative to sample ratio will not be processed.
Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Ensure correct sample to preservative ratio has been applied.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

22.0

Specimen Fluids (Includes all aseptically obtained fluids such as: abdominal, amniotic, ascites, bile, joint, paracentesis, pericardial, peritoneal, pleural, synovial, continuous ambulatory peritoneal dialysis fluid (CAPD) and thoracentesis)

Collection Instructions

1. Sample must be acquired using aseptic technique.
2. Follow protocols outlined by your health care facility for this sample type.

Device and/or minimal volume

Sterile screw capped transport container. Volume as follows:

Bacterial Culture	≥ 1 mL
Fungal Culture	≥ 10 mL
AFB (Mycobacteria) Culture	≥ 10 mL

Storage/Transport

Local: Transport as soon as possible, hold at room temperature
Courier/local storage: ≤ 24 hrs at room temperature

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Always submit as much fluid as possible, do not submit a swab dipped in fluid.
If anaerobes are suspected, sample should be transported in anaerobic transport system.
Indicate antimicrobic therapy or antifungal therapy on ordering requisition.
Where local protocol allows, the CAPD bag may be submitted to the testing laboratory.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

23.0

Specimen Gastric Biopsy – *H. pylori*

Collection Instructions

Follow protocols outlined by your health care facility for this sample type.

Device and/or minimal volume

Sterile screw capped specimen container.
Modified Cary Blair transport medium (picture not available).
Rapid Urease medium (picture not available).

Storage/Transport

Local: Transport as soon as possible, hold at room temperature
Courier/local storage: ≤ 24 hrs at room temperature

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Delays in transport will result in the death of *H. pylori* and will lead to false negative lab results, add 1 mL of sterile phosphate buffered saline to the sample if local transport is delayed to prevent drying.
Do not place sample in formalin.
Submission of biopsies to an off site reference lab for *H. pylori* culture is best achieved by using an anaerobic transport medium. If sample is being forwarded to an off site reference lab for rapid urease determination, use a commercial rapid urease medium to transport the sample.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References

Clinical Microbiology Procedures Handbook, 2nd Edition, 2004. Henry D. Isenberg, American Society for Microbiology. Washington, DC

PML Microbiologicals Technical Data Sheet #796 REV.2, 2001

24.0

Specimen Gastric Wash or Lavage - Mycobacteria

Collection Instructions

1. Collect first thing in the morning before patient eats.
2. Follow protocols outlined by your health care facility for this sample type.

Device and/or minimal volume

Sterile screw capped, leak-proof container.

Storage/Transport

Local: Transport to lab as soon as possible (≤ 15 minutes), hold at 4°C
Courier/local storage: ≤ 24 hrs at 4°C

*If delay is more than 4 hours add 100 mg of sodium carbonate to neutralize acidity.

Rejection Criteria

Gastric wash is inappropriate for routine bacterial culture.
Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Failure to transport the sample within the defined time frames may lead to the death of AFB (Mycobacteria) as the organisms die rapidly in non-neutralized samples.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References

A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

Clinical Microbiology Procedures Handbook, 2nd Edition, 2004. Henry D. Isenberg, American Society for Microbiology

25.0

Specimen Hair (Dermatophyte Culture)

Collection Instructions

1. Using forceps collect at least 10-12 affected hairs with the base of the shaft intact. Place hairs in a sterile container and submit.
   or
2. Using a new soft bristle toothbrush, rub affected area to collect hair and scale; submit brush.

Device and/or minimal volume

Sterile (or clean) screw capped container; minimum of 10 hairs.

Storage/Transport

Local: ≤ 24 hrs, store at room temperature
Courier/local storage: ≤ 48 hrs, store at room temperature

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Collect scalp scales, if present, along with scrapings of active borders. Indicate any recent antifungal therapy.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References

A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

Brush Culture Method for Diagnosing Tinea Capitis, 1992; 90; 416-418. Thomas W. Hubbard, John M. deTriguet. Pediatrics (Official Journal of the Ameican Academy of Pediatrics)

26.0

Specimen Nail (Dermatophyte Culture)

Collection Instructions

1. Wipe the nail using 70% alcohol using gauze, not cotton.
2. Clip a portion of the area or collect material by scraping deeply enough to obtain recently invaded nail tissue.
3. Place material in sterile container.

Device and/or minimal volume

Sterile (or clean) screw capped container. Obtain enough scrapings to cover the head of a thumb tack.

Storage/Transport

Local: ≤ 24 hrs, store at room temperature
Courier/local storage: ≤ 48 hrs, store at room temperature

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Indicate any recent antifungal therapy.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References

A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

Medically Important Fungi, 4th Edition, 2002. Davise H. Larone

27.0

Specimen Nasal Swab

Collection Instructions

1. Insert the swab, pre-moistened with saline, ≈ 2 cm into the nares.
2. Rotate the swab against the nasal mucosa.

Device and/or minimal volume

Submit swab in transport medium.

Storage/Transport

Local: ≤ 2 hrs, store at room temperature
Courier/local storage: ≤ 48 hrs (≤ 24 hrs optimal), store at 4°C

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Anterior nose cultures are reserved for identifying staphylococci carriers or for nasal lesions only. Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References

A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

Manual of Clinical Microbiology, 9th Edition. Patrick R. Murray, Editor, 2007. American Society for Microbiology, Washington, DC

28.0

Specimen Nasopharyngeal Aspirate

Collection Instructions

Follow protocols outlined by your health care facility for this sample type.

Device and/or minimal volume

Sterile screw capped specimen container.

Storage/Transport

Local: ≤ 2 hrs, store at room temperature
Courier/local storage: ≤ 48 hrs (≤ 24 hrs optimal), store at 4^{o}C

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Nasopharyngeal aspirates are reserved primarily for the detection of *Bordetella pertussis*.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References

A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

29.0

Specimen Nasopharyngeal Swab

Collection Instructions

1. Gently insert a nasal pharyngeal swab into the posterior nasopharynx via the nose.
2. Rotate the swab slowly 5 seconds to absorb secretions.
3. Place swab in transport medium.

Device and/or minimal volume

Submit swab in transport medium.
Dry nasopharyngeal swabs are acceptable for PCR for Bordetella

Storage/Transport

Local: ≤ 2 hrs, store at room temperature
Courier/local storage: ≤ 48 hrs (≤ 24 hrs optimal), store at 4^{o}C

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Nasopharyngeal swabs are predominantly submitted for Bordetella. If an alternate etiologic agent, i.e. *C. diphtheriae*, is suspected, please indicate on requisition.
If transport media is unavailable, a dry swab is acceptable for PCR for Bordetella.
Samples being submitted for PCR for Bordetella should be obtained using a Dacron or rayon swab (not cotton or calcium alginate swab).
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

30.0

Specimen Pinworm Examination

Collection Instructions

1. Gently press the sticky side of a pinworm paddle or clear scotch tape (hold tape with forceps or place over butt end of test tube or tongue depressor) against several areas of the perianal region while spreading open the perianal folds.
2. Place paddle in the transport container and tighten the cap or place the scotch tape, sticky side down, onto a clear microscope slide. Place slide in transport container.

Device and/or minimal volume

Pinworm paddle kit.
Clear scotch tape, glass slide(s) and sterile screw capped specimen container.

Storage/Transport

Local: ≤ 24 hrs at room temperature
Courier/local storage: ≤ 24 hrs at room temperature

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Sample collection is best performed in the morning prior to defecation.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

Dewitt Health Care Network, Dewitt Army Hospital, Fort Belvoir, Va, 2006

31.0

Specimen Skin Scraping (Dermatophyte Culture)

Collection Instructions

1. Cleanse the affected area with 70% alcohol.
2. Gently scrape the surface of the skin at the active margin of the lesion, **do not draw blood**.
3. Place sample in a clean container or on black glassine paper (if available) then into a clean container.

Device and/or minimal volume

Sterile screw capped container. Obtain enough scrapings to cover the head of a thumb tack.

Storage/Transport

Local: ≤ 24 hrs, store at room temperature
Courier/local storage: ≤ 48 hrs, store at 4^{o}C

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Indicate any recent antifungal therapy on ordering requisition.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References

A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

Medical Mycology, K. J. Kwon, John E. Bennett

32.0 Sputum

32.1

Specimen Sputum (expectorated)

Collection Instructions

1. Sample should be collected under the direct supervision of a nurse or physician.
2. Have the patient rinse or gargle with water to remove superficial flora.
3. Instruct patient to cough deeply to produce lower respiratory secretions.
4. Collect in sterile container.

Device and/or minimal volume

Sterile screw capped container, no preservatives.

Storage/Transport

Local: ≤ 2 hrs, store at room temperature
Courier/local storage: ≤ 48 hrs (≤ 24 hrs optimal), store at 4^{o}C

Rejection Criteria

Samples will be screened microscopically by laboratory to detect unsuitable samples, i.e. saliva.
Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Respiratory therapists should collect a specimen via suction from pediatric patients unable to produce a sputum sample.
Sputum for acid fast bacilli (AFB – Mycobacteria) culture should be collected on 3 consecutive mornings for diagnosis. For test of non-infectivity (*M. tuberculosis*) consult Infection Control.
Optimal volume for AFB (Mycobacteria) culture is 5-10 mL, minimum volume at 3 mL.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References

A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

Clinical Microbiology Procedures Handbook 3rd. Ed, 2010, Lynne S. Garcia Ed. American Society for Microbiology Washington, DC

32.2

Specimen Sputum – Induced

Collection Instructions

1. Have the patient rinse the mouth with water after brushing the gums and tongue.
2. Using a nebulizer, have the patient inhale ≈ 25 mL of a 3-10% sterile saline solution.
3. Collect induced specimen in a sterile container.

Device and/or minimal volume

Sterile screw capped container, no preservatives.

Storage/Transport

Local: ≤ 2 hrs, store at room temperature
Courier/local storage: ≤ 48 hrs (≤ 24 hrs optimal), store at 4°C

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Indicate antimicrobic therapy on ordering requisition.
The optimum volume for samples on which AFB (Mycobacteria) culture is requested is 5-10 mL, minimum volume at 3 mL.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

33.0

Specimen Surveillance Culture for Antimicrobic Resistant Organisms - MRSA (Methicillin Resistant *S. aureus*) and VRE (Vancomycin Resistant Enterococcus)

Nasal swab: MRSA
Wound swab: MRSA
Rectal swab: VRE

Collection Instructions

A. Nasal Swab
   1. Insert the swab, pre-moistened with saline, approximately 2 cm into the nares.
   2. Rotate the swab against the nasal mucosa. **Note:** Both nares should be sampled using the same swab.

B. Wound Swab - Follow sample collection procedure recommended by Infection Prevention and Control.

C. Rectal Swab
   1. Insert the swab into the rectum (through anal sphincter), gently rotate

Device and/or minimal volume

Submit swab in transport media.

Storage/Transport

Local: ≤ 2 hrs, store at room temperature
Courier/local storage: ≤ 48 hrs (≤ 24 hrs optimal), store at 4°C

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Samples other than rectal swabs are inappropriate for VRE surveillance.
The rectal swab should be visibly soiled.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References

A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

Manual of Clinical Microbiology, 9th Edition. Patrick R. Murray, Editor, 2007. American Society for Microbiology, Washington, DC

34.0

Specimen Throat Swab

Collection Instructions

1. Depress the tongue with a tongue depressor.
2. Sample the posterior pharynx, tonsils and inflamed areas.

Device and/or minimal volume

Submit swab in transport medium for culture.
Submit dry swab in sterile container for antigen detection.

Storage/Transport

Local: ≤ 2 hrs, store at room temperature
Courier/local storage: ≤ 48 hrs (≤ 24 hrs optimal), store at 4°C

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Throat cultures are contraindicated for patients with an inflamed epiglottis. For specific etiologic agents, i.e. *C. diphtheriae*, please provide information to performing laboratory.
Throat swabs for *N. gonorrhoeae* should be transported to the laboratory as soon as possible. Ideally throat swabs samples being submitted for Group A Streptococcal antigen on pediatric patients should be submitted using both a dry swab and a swab in transport medium to allow for culture confirmation of negative Group A Streptococcal antigen test results.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

35.0

Specimen Tissue/Biopsy Sample

Collection Instructions

1. Sample must be acquired using aseptic technique.
2. Follow protocols outlined by your health care facility for this sample type.
3. For small samples add several drops of sterile saline to keep moist. Do not allow tissue to dry out.

Device and/or minimal volume

Anaerobic transport system or sterile screw capped specimen container. Do not add preservative. Always submit as much tissue as possible.

Storage/Transport

Local: Transport as soon as possible to laboratory (≤ 15 minutes)
Courier/local storage: ≤ 24 hrs, store at room temperature

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Always submit as much tissue as possible.
Never submit a swab that has been simply rubbed over the surface of the tissue.
Some *Legionella* may be inhibited by saline.
Indicate antimicrobic therapy or antifungal therapy on ordering requisition.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References

A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

Manual of Clinical Microbiology, 9th Edition. Patrick R. Murray, Editor, 2007. American Society for Microbiology, Washington, DC

36.0

Specimen Tracheal Secretion

Collection Instructions

1. Follow protocols outlined by your health care facility for this sample type.
2. Place aspirate in a trap or sterile container.

Device and/or minimal volume

Sterile trap or sterile screw capped specimen container.

Storage/Transport

Local: ≤ 2 hrs, store at room temperature
Courier/local storage: ≤ 48 hrs (≤ 24 hrs optimal), store at 4^{o}C

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Increased volume of sample facilitates the isolation of fungi and mycobacteria.
Indicate antimicrobic therapy on ordering requisition.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

37.0

Specimen Urethral Swab (male) – Culture for *N. gonorrhoeae*

Collection Instructions

1. Insert urogenital swab 2-4 cm into the urethral lumen.
2. Rotate the swab, leave in place for at least 2 seconds to facilitate absorption.

Device and/or minimal volume

Submit swab in transport medium.

Storage/Transport

Local: Transport as soon as possible (≤ 2 hrs), store at room temperature
Courier/local storage: ≤ 24 hrs at room temperature

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Transport as soon as possible to the lab. Non-culture techniques for the detection of *N. gonorrhoeae*, i.e. molecular, are done by Cadham Provincial Laboratory, refer to Appendix I.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

38.0 Urine

38.1

Specimen Urine – Indwelling Catheter

Collection Instructions

1. Disinfect the catheter collection port with 70% alcohol.
2. Use a needle and syringe to aseptically collect 5-10 mL of urine.
3. Transfer sample to sterile container.

Device and/or minimal volume

Sterile, leak-proof screw capped container. Minimum volume ≥ 1 mL

Storage/Transport

Local: unpreserved – ≤ 2 hrs at room temperature, ≤ 24 hrs at 4°C
preserved – follow manufacturer's recommendations

Courier/local storage: unpreserved – ≤ 24 hrs at 4°C
preserved – follow manufacturer's recommendations

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Urinary catheter tips are inappropriate for culture and will be rejected. Patients with indwelling catheters always have bacteria in their bladders. Do not collect urine from these patients unless they are symptomatic.
If indicated storage and transport cannot be followed, the urine sample may be sent in a urine transport system containing boric acid as a preservative. Preserved samples can be stored at room temperature.
Indicate if patient is symptomatic or asymptomatic on ordering requisition when submitting a urine sample for bacterial culture.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References

A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

Manual of Clinical Microbiology, 9th Edition. Patrick R. Murray, Editor, 2007. American Society for Microbiology, Washington, DC

38.2

Specimen Urine – Midstream

Collection Instructions

A. Female
   1. While holding the labia apart, begin voiding.
   2. After several milliliters have been passed, collect a midstream portion (without stopping the flow) into a sterile transport container, or if using a UriSwab, move the UriSwab® sponge into the urine stream. Ensure that the sponge is wet.

B. Male
   1. Retract the foreskin (if uncircumcised)
   2. Begin voiding.
   3. After several milliliters have been passed, collect a midstream portion (without stopping the flow) into a sterile transport container, or if using a UriSwab®, move the sponge into the urine stream. Ensure that the sponge is wet.

Device and/or minimal volume

Sterile, leak-proof screw capped container. Minimum volume ≥ 1 mL
UriSwab® urine transport container.

Storage/Transport

Local: unpreserved – ≤ 2 hrs at room temperature, ≤ 24 hrs at 4°C
preserved – follow manufacturer's recommendations

Courier/local storage: unpreserved – ≤ 24 hrs at 4°C
preserved – follow manufacturer's recommendations

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Increased volume of sample facilitates the isolation of fungi and AFB (Mycobacteria), pooling of urine is not recommended. Sample volume of at least 40 mL is optimal for AFB (Mycobacteria) culture. A volume of ≥ 1 mL is required for fungal culture.
Urine samples for Chlamydia and *N. gonorrhoeae* are done by the Cadham Provincial Laboratory, refer to Appendix I.
Indicate antimicrobic therapy on ordering requisition.
If indicated storage and transport cannot be followed, the urine sample may be sent using a urine transport system containing boric acid as a preservative. Preserved samples can be stored at room temperature.

Indicate if patient is symptomatic or asymptomatic on ordering requisition when submitting a urine sample for bacterial culture.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References

A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

Manual of Clinical Microbiology, 9th Edition. Patrick R. Murray, Editor, 2007. American Society for Microbiology, Washington, DC

38.3

Specimen Urine – Straight Catheter

Collection Instructions

1. Thoroughly cleanse the urethral area with soap and water or wipes.
2. Rinse the area with wet gauze pads.
3. Aseptically insert a catheter into the bladder.
4. After allowing approximately 15 mL to pass, collect urine in a sterile container.

Device and/or minimal volume

Sterile, leak-proof screw capped container. Minimum volume ≥ 1 mL

Storage/Transport

Local: unpreserved – ≤ 2 hrs at room temperature, ≤ 24 hrs at 4°C
preserved – follow manufacturer's recommendations

Courier/local storage: unpreserved – ≤ 24 hrs at 4°C
preserved – follow manufacturer's recommendations

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Increased volumes are required for fungi and AFB (Mycobacteria).
Indicate antimicrobic therapy on ordering requisition.
If indicated storage and transport cannot be followed, the urine sample may be sent using a urine transport system containing boric acid as a preservative. Preserved samples can be stored at room temperature.
Indicate if patient is symptomatic or asymptomatic on ordering requisition when submitting a urine sample for bacterial culture.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

38.4

Specimen Urine – *Schistosoma* spp.

Collection Instructions

1. Collect a midday urine specimen in a sterile container.
2. In patients with hematuria, eggs are associated with the last voided portion of the specimen containing mucous and blood.

Device and/or minimal volume

Sterile, leak-proof screw capped specimen container. The entire midday urine should be collected.

Storage/Transport

Local: ≤ 2 hrs at room temperature
Courier/local storage: ≤ 2 hrs at room temperature

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Parasites detected in urine include *Schistosoma haematobium* as well as *Strongyloides stercoralis*, *Trichomonas vaginalis* and *W. bancrofti*.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

39.0

Specimen Vaginal Swab

Collection Instructions

1. Wipe away old secretion or discharge.
2. Obtain secretions from the mucosal membrane or the vaginal vault with a sterile swab.

Device and/or minimal volume

Submit swab in transport medium.

Storage/Transport

Courier/local storage: ≤ 24 hrs, store at room temperature

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Gram stain is the recommended test for bacterial vaginosis; culture is inaccurate and misleading and is not routinely performed. Vaginal swabs are assessed by Gram smear for bacterial vaginosis and yeast. If culture is required please specify reason for culture on ordering requisition.
If infection with *Trichomonas vaginalis* is suspect, submit a separate swab (ideally not in transport medium) for Trichomonas antigen testing.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References

A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

Manual of Clinical Microbiology, 9th Edition. Patrick R. Murray, Editor, 2007. American Society for Microbiology, Washington, DC

40.0

Specimen Vaginal Rectal Swab for Group B Streptococcus

Collection Instructions

1. Insert the swab into the distal vagina.
2. Insert same swab into rectum through anal sphincter, gently rotate.

Device and/or minimal volume

Submit swab in transport medium.

Storage/Transport

Local: ≤ 2 hrs, store at room temperature
Courier/local storage: ≤ 48 hrs (≤ 24 hrs optimal), store at 4^{o}C

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments A vaginal swab alone is sub-optimal for the detection of Group B Streptococcus carriage.
The rectal swab should be visibly soiled.
Collect specimen at 35-37 weeks gestation.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References

A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

Manual of Clinical Microbiology, 9th Edition. Patrick R. Murray, Editor, 2007. American Society for Microbiology, Washington, DC

Clinical Microbiology Procedures Handbook. Lynne A. Garcia Ed. 2nd Edition update 2007. American Society for Microbiology, Washington DC

41.0

Specimen Vitreous Fluid

Collection Instructions

1. Prepare eye for needle aspiration.
2. Follow protocols outlined by your health care facility for this sample type.

Device and/or minimal volume

Sterile screw capped specimen tube or direct inoculation of small amount of fluid onto bacteriologic and fungal media.

Storage/Transport

Local: ≤ 15 minutes at room temperature
Courier/local storage: ≤ 24 hrs at room temperature

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments Anesthetics may be inhibitory to some etiologic agents.
Indicate antimicrobic therapy or antifungal therapy on ordering requisition.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References Manual of Clinical Microbiology, 9th Edition. Patrick R. Murray, Editor, 2007. American Society for Microbiology, Washington, DC

42.0

Specimen Wound

Collection Instructions

1. Remove surface exudate by wiping with sterile saline or 70% alcohol.
2. Sample must be acquired using aseptic technique.
3. Follow protocols outlined by your health care facility for this sample type. Sampling of surface area can introduce colonizing bacteria not involved in the infectious process.

Device and/or minimal volume

Submit swab in transport medium which will maintain anaerobe viability.

Storage/Transport

Local: Transport as soon as possible, hold sample at room temperature
Courier/local storage: ≤ 24 hrs at room temperature

Rejection Criteria

Patient request requisition and sample must have appropriate patient identifiers (refer to Diagnostic Services of Manitoba Sample Acceptance Policy).

Comments If abscess is open, swab deep into the lesion and firmly sample the lesions advancing edge.
Indicate antimicrobic therapy on ordering requisition.
If requests are being made for more than one test on a swab taken from a specific site, i.e. bacterial culture aerobes, bacterial culture anaerobes and fungus culture, please ensure that a separate swab sample is submitted for each test requested. Failure to provide separate swabs will result in sub optimal microbiology culture results.
Accurate patient identification must be made prior to sample collection. Patient identification should be done in accordance with the site policy.

References A Guide to Specimen Management in Clinical Microbiology, 2nd Edition, 1999. J. Michael Miller Ed., American Society for Microbiology. Washington, DC.

APPENDIX I

1.0 Tests Performed at Cadham Provincial Laboratory

For tests offered by Cadham Provincial Laboratory, please refer to the Cadham Provincial Laboratory Guide to Services website.

APPENDIX II

1.0 DSM Clinical Microbiology Specimen Acceptance Transport Time Guidelines

Specimens transported locally should be received in the processing laboratory within 24 hours and those transported from distant locations should be received within 48 hours. Specimens transported and received beyond 48 hours in transit are compromised but in some instances will be processed and a disclaimer will be included in those reported as negative (as outlined in the following table).

	Specimen Transit time			
Specimen Type	**<1 Day Ideal**	**>1 to <2 Days Acceptable**	**>2 to <4 days Suboptimal***	**>4 days Unacceptable (exceptions below)**
Stool:				
• for culture (MUST be in enteric transport media)	√	√	√*	√*
• for Parasitology (sterile container in fixative)	√	√	√	√
• for *Clostridium difficile* toxin testing (sterile container or in enteric transport media)	√	√	√*	√*
Mycobacteriology (all specimen types)	√	√	√	√
Mycology (all specimen types)	√	√	√	√
Vaginal Swab:				
• *Trichomonas antigen*	√	√	√*	√*
• Bacterial vaginosis, yeast (done by microscopy)	√	√	√*	√*
Nasopharyngeal swab/aspirate for *Bordetella pertussis* PCR	√	√	√*	√*
MRSA/VRE Surveillance [if submitted to DSM lab]	√	√	√*	√*
Throat Swab for Rapid Group A *Streptococcus* Antigen	√	√	√*	√*
Urine: Dip Slide, UriSwab®	√	√	√	√
ALL OTHER SPECIMENS	√	√	√*	X

* The specimen will be processed but results may be compromised because of the prolonged transit time (a comment to this effect will be added to all negative reports).

X Specimen will not be accepted as the transport time was excessive and culture results would not be accurate and could be misleading.

√ Specimen will be accepted and processed as per the relevant protocol.