Microbiology

Nursing Station Manual	**Title: Eyes**
Section: Microbiology	Original Preparation Date: November 2002
Written / Issued by: Laboratory Manager	Revision Date: 12/06/2012
Approved by: Laboratory Director	Review Date:

Eyes:

1.0. Collection Procedure: Swab in transport medium (Amies).

Eye specimens should be collected before topical antibiotics or anaesthetics are applied.

1.1. Take a swab of pus or purulent discharge from the lower inverted eyelid, being careful not to touch the surrounding skin with the swab.

1.2. Place the swab in the transport medium.

1.3. Label the outside of the transport medium with the patient's name, date and time of collection and indicate that it is from an eye, indicating left or right eye.

1.4. Complete a Microbiology Requisition. Indicate clinical diagnosis, medication and special requests, if any.

2.0. Procedural Note:

2.1. If same day transport to the lab is not possible, store the inoculated swab at room temperature. DO NOT REFRIGERATE.

2.2. Do not use the same swab for both eyes. Use a separate swab, slide, and requisition for each, and label all of them either left or right.

2.3. Where possible, specify the type of eye specimen ie. lid, conjunctiva

References:

1. Clinical Microbiology Procedures Handbook, Editor-in-Chief, Henry Isenberg, ASM Press 1992.
2. Manual of Clinical Microbiology, 7th Edition, ASM Press, 1999.
3. Specimen Management in Clinical Microbiology, J. Michael Miler, ASM Press, 1996.

ursing Station Manual	**Title: Ears**
Section: Microbiology	Original Preparation Date: November 2002
Written / Issued by: Laboratory Manager	Revision Date: 12/06/2012
Approved by: Laboratory Director	Review Date:

Ears:

1.0. Collection Procedure: Swab in transport medium (Amies).

1.1. Cleanse the external ear canal with saline before taking the swab. This will help prevent contamination of the swab with normal skin flora.

1.2. Gently swab the ear canal, collecting any fluid present.

1.3. Place the swab in the transport medium.

1.4. Label the outside of the transport medium and the slide with the patient's name, date and time of collection and indicate that it is from left or right ear.

1.5. Complete a Microbiology Requisition. Indicate clinical diagnosis, medication and special requests, if any.

0. Procedural Note:

2.1. If same day transport to the lab is not possible, store the inoculated swab at room temperature. DO NOT REFRIGERATE.

References:

1. Clinical Microbiology Procedures Handbook, Editor-in-Chief, Henry Isenberg, ASM Press 1992.
2. Manual of Clinical Microbiology, 7th Edition, ASM Press, 1999.

ursing Station Manual	**Title: Sputum**
Section: Microbiology	Original Preparation Date: November 2002
Written / Issued by: Laboratory Manager	Revision Date: 12/06/2012
Approved by: Laboratory Director	Review Date:

Sputum:

1.0. Collection Procedure: Sterile specimen container.

1.1. Whenever possible, have the patient collect a first morning sample. Have the patient rinse his or her mouth out before collecting the specimen. This will help minimize contamination of the specimen with normal oral flora. The patient should cough deeply and immediately expectorate the specimen into a sterile container. Avoid holding the specimen in the mouth. Saliva is not acceptable.

1.2. Label the container with the patient's name, date and time of collection, and indicate that it is a sputum sample.

1.3. Complete a Microbiology Requisition. Indicate clinical diagnosis, medication and special requests, if any.

1.4. Only one (1) sputum specimen per patient per day will be cultured.

.0. Procedural Note:

2.1. If same day transport to the lab is not possible, store the specimen refrigerated.

2.2. Specimen Assessment:

All specimens will be evaluated microscopically for quality and rejected if greater than 25 epithelial cells per low power field are seen.

References:

1. Clinical Microbiology Procedures Handbook, Editor-in-Chief, Henry Isenberg, ASM Press 1992.
2. Manual of Clinical Microbiology, 7th Edition, ASM Press, 1999.

Nursing Station Manual	Title: Nasal Swabs
Section: Microbiology	Original Preparation Date: November 2002
Written / Issued by: Laboratory Manager	Revision Date: 12/06/2012
Approved by: Laboratory Director	Review Date:

Nasal Swabs*:

1.0. Introduction:

1.1. Routine: Nasal swabs are not recommended as a routine type of specimen.

1.2. Special Request: Nasal swabs are used mainly to detect carriers of certain organisms (i.e. Staphylococcal). Please note special request on Requisition.

2.0. Collection Procedure: Swab in transport medium (Amies).

2.1. In an adult, the swab should be inserted approximately 1 inch into the nostril. Gently rotate the swab against the nasal mucosa and remove.

2.2. Place swab in transport medium.

2.3. Label the outside of the transport medium with the patient's name, date and time of collection, and indicate that it is a nasal swab.

2.4. Complete a Microbiology Requisition. Indicate clinical diagnosis, medication and special requests, if any.

3.0. Procedural Note:

3.1. If same day transport to the lab is not possible, store the inoculated swab at room temperature. DO NOT REFRIGERATE.

* **Nasopharyngeal Collections** are required for:

1) Neisseria meningitidis
2) Corynebacterium diphtheriae
3) Bordetella pertussis
4) Influenza testing (site specific)

Contact the Laboratory for special instructions.

References:

1. Clinical Microbiology Procedures Handbook, Editor-in-Chief, Henry Isenberg, ASM Press 1992.
2. Manual of Clinical Microbiology, 7th Edition, ASM Press, 1999.

Nursing Station Manual	**Title: Throats**
Section: Microbiology	Original Preparation Date: November 2002
Written / Issued by: Laboratory Manager	Revision Date: 12/06/2012
Approved by: Laboratory Director	Review Date:

Throats:

1.0. Introduction:

1.1. Routine:

Throat swab specimens will be routinely cultured for Group A streptococcus only. Presence or absence of Group A Streptococcus will be reported.

1.2. Non-Routine:
(Note specific request on the requisition or contact the laboratory directly).

Special requests for Neisseria gonorrhoeae will be processed on site.

Special requests for Corynebacterium diphtheriae and Francisella tularensis will be referred to the Public Health Laboratory (Thunder Bay) by this laboratory.

2.0. Collection Procedure: Swab in transport medium (Amies).

2.1. The culture should be obtained under direct visualization by vigorously swabbing both tonsillar areas, the posterior pharynx, and any areas of inflammation, ulceration, exudation, or capsule formation. The tongue should be depressed to minimize contamination of the swab with oral flora.

2.2. Place swab in transport medium.

2.3. Label the outside of the transport medium with the patient's name, date and time of collection, and indicate that it is a throat swab.

2.4. Complete a Microbiology Requisition. Indicate clinical diagnosis, medication and special requests, if any.

3.0. Procedural Note:

3.1. If same day transport to the lab is not possible, store the inoculated swab at room temperature. DO NOT REFRIGERATE.

References:

1. Clinical Microbiology Procedures Handbook, Editor-in-Chief, Henry Isenberg, ASM Press 1992.
2. Manual of Clinical Microbiology, 7th Edition, ASM Press, 1999.

Nursing Station Manual	Title: Microbiology Test Requisition (Appendix A)
Section: Microbiology	Original Preparation Date: November 2002
Written / Issued by: Laboratory Manager	Revision Date: 12/06/2012
Approved by: Laboratory Director	Review Date:

Microbiology Test Requisition – Appendix A:

1 Meno Ya Win Way
P.O. Box 909
Sioux Lookout, ON
P8T 1B4
807-737-3030 x4800

SIOUX LOOKOUT Meno Ya Win HEALTH CENTRE

MICROBIOLOGY REQUISITION

PATIENT LOCATION:

☐ ER ☐ North Pod ☐ South Pod
☐ Maternity ☐ Prenatal Clinic
☐ **Nursing Station** _____
☐ Appt Clinic – PHCU ☐ HAC
☐ Ext Care ☐ Com Care
☐ Other _____

Addressograph

Gender: Male ○ Female ○

Prenatal: YES ○ NO ○

Physician:

Clinical Diagnosis:

Antibiotic Therapy: Y / N

If "Yes", please specify:

Date Collected:	**Time Collected:**	**Collected by:**

Type of Specimen (Source):

☐ Throat	☐ Stool	☐ Vag -BV, Yeast Or Trich
☐ Blood Culture	☐ CSF	☐ Vag /Anorectal -GrpB Strep
☐ Ear	☐ Nasal -MRSA	☐ Quick Strep
☐ Eye	☐ Rectal -MRSA/VRE	☐ Other _____

☐ Urine	☐ Wound – Site (please specify): _____
Catheter: Y / N	Comments:
If "Yes", please specify:	

AF: 30 SLMHC – Laboratory Department

Revision: Nov06; Nov10

Nursing Station Manual	**Title: MRSA/VRE Surveillance**
Section: Microbiology	Original Preparation Date: November 2002
Written / Issued by: Laboratory Manager	Revision Date: 12/06/2012
Approved by: Laboratory Director	Review Date:

MRSA / VRE Surveillance:

1.0. Introduction:

MRSA and VRE are becoming an increased problem in health care facilities across Canada. Each hospital must develop a system to determine which patients require screening and/or isolation, based on their individual situations and the resources available.

2.0. Scope:

A minimum tentative screening standard has been proposed:

2.1. patients transferring from a high risk hospital (hospital ward or nursing home).

2.2. patients who have been admitted to a high risk hospital (hospital ward or nursing home) in the last 6 months.

2.3. patients who have a history of being positive for VRE/MRSA

2.4. patients who are "contacts" of VRE/MRSA positive patients

3.0. Specimens:

3.1. Specimens must be clearly marked as MRSA or VRE screening.

3.2. Transfer from another facility - considered to be high risk:

	MRSA	VRE
Nares	x	
Urine (if catheter)	x	
Open or Draining Wounds	x	
Rectum*	x	x
Invasive Device Site	x	x

Nursing Station Manual	Title: MRSA/VRE Surveillance
Section: Microbiology	Original Preparation Date: November 2002
Written / Issued by: Laboratory Manager	Revision Date: 12/06/2012
Approved by: Laboratory Director	Review Date:

MRSA / VRE Surveillance (continued):

3.3. Positive History:

	MRSA	VRE
Nares	x	
Urine (if catheter)	x	x
Open or draining Wounds	x	x
Rectum*	x	x
Invasive device site	x	x

*Rectal swabs must be invasive. Invasive rectal swabs should not be obtained from neutropenic patients - stool specimens should be obtained. A single rectal swab will suffice for both MRSA / VRE Screening.

4.0. Turnaround Time:

After receipt by the testing laboratory, turnaround time for a presumptive report is as follows:
MRSA - 48 hours
VRE - 72 hours

5.0. Collection:

5.1. MRSA:

5.1.1. Nasal: Insert a sterile swab into the nose until resistance is met at the level of the turbinates (approximately 2.5 cm). Rotate the swab against the nasal mucosa. Repeat the process on the other side using the same swab. Place swab in transport media.

5.1.2. Rectal: Pass the tip of a sterile swab approximately 2.5 cm beyond the anal sphincter. Carefully rotate the swab to sample the anal crypts, and withdraw it. Place the swab in transport media.

5.1.3. Urine: Send sample in a sterile container.

5.1.4. Wound or Tube Sites: Swab site and submit sample in transport media.

5.2. VRE:

Nursing Station Manual	**Title: MRSA/VRE Surveillance**
Section: Microbiology	Original Preparation Date: November 2002
Written / Issued by: Laboratory Manager	Revision Date: 12/06/2012
Approved by: Laboratory Director	Review Date:

MRSA / VRE Surveillance (continued):

5.2.1. **Rectal:** Pass the tip of a sterile swab approximately 2.5 cm beyond the anal sphincter. Carefully rotate the swab to sample the anal crypts, and withdraw it. Place the swab in transport media.

5.2.2. **Wound or Tube Sites:** Swab site and submit sample in transport media.

6.0. Follow-Up Testing:

6.1. Once a patient has been positive for VRE or MRSA, follow-up testing may be required to discontinue isolation or determine the effectiveness of treatment.

Surveillance cultures are invalidated by the use of any antimicrobial to which the MRSA or VRE organism are sensitive. It is recommended that patients be off of antimicrobial treatment for one week before re-testing is initiated. Care must be exercised to avoid the use of such antimicrobials in the culturing time frame if possible. If not, culturing should be stopped and restarted.

6.2. MRSA:

Untreated / No Eradication / No Decolonization Therapy
- no need for follow-up testing

Treated or Eradication / Decolonization Therapy or to Discontinue Isolation
Insure the patient is off antimicrobials for one (1) week prior to follow up testing. The patient should be considered positive for the duration of the hospitalization, or until discontinued by Infection Control, based on five (5) consecutive negative surveillance cultures taken one or two weeks apart.

6.3. VRE:

VRE colonization may persist indefinitely.

Insure the patient is off antimicrobials for one (1) week prior to follow up testing. The patient should be considered positive for the duration of the hospitalization, or until determined negative by Infection Control, based on five (5) consecutive negative surveillance cultures taken one or two weeks apart.

6.4. Environmental Swabs:

Environmental swabs for VRE may be considered in outbreak situations, depending on the individual circumstances and resources available to the health care facility.

6.5. VRE that Might be Referred for Typing:

In order that it can be determined whether or not VRE isolates require referral for typing, all isolates should be held for a minimum of two weeks or until notified otherwise. See criteria for submission.

Nursing Station Manual	Title: MRSA/VRE Surveillance
Section: Microbiology	Original Preparation Date: November 2002
Written / Issued by: Laboratory Manager	Revision Date: 12/06/2012
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MRSA / VRE Surveillance (continued):

7.0. Criteria for the Submission of MRSA / VRE Isolates for PHL Typing:

7.1. Typing will be done only on outbreak related isolates from patients and environmental sources which have been investigated by a health unit/infection control officer/coordinator of outbreak investigation and deemed to be epidemiologically linked.

7.2. All isolates must be submitted as pure cultures on trypticase soy agar slants (or equivalent).

7.3. All isolates should be submitted in one shipment (if possible).
Note: Accurate interpretation of results requires that all isolates from an outbreak be tested on the same gel (if possible).

7.4. Each shipment of cultures should include completed Reference Bacteriology Requisition (ie. one requisition for each patient) and, for each outbreak, a letter from the requesting health unit/infection control officer/coordinator of the outbreak investigation providing the following information:

i) a brief explanation of the epidemiological need for PFGE analysis;

ii) the demographics of the outbreak;

iii) the results of antimicrobial susceptibility testing reported by local diagnostic laboratories if available, and

iv) the availability of stored *S. aureus* / VRE isolates related to any previous problems with *S. aureus* / VRE in the same facility.

References:

1. Clinical Microbiology Procedures Handbook. Editor-in-Chief, Henry Isenberg, ASM Press 1992.
2. Manual of Clinical Microbiology, 7th Edition, ASM Press, 1999.
3. QMP-LS Survey B-9704, Committee Comments, pg. 318.
4. QMP-LS Survey B-9711, Committee Comments, pg. 364.
5. Public Health Specimen Collections – Requisition Instructions

Nursing Station Manual	Title: **Stool**
Section: Microbiology	Original Preparation Date: November 2002
Written / Issued by: Laboratory Manager	Revision Date: 12/06/2012
Approved by: Laboratory Director	Review Date:

Stool:

1.0. Introduction:

Routine: Routine examination of stool specimens includes culture for *Salmonella* spp., *Shigella* spp., *Campylobacter* spp., *Escherichia* coli O157:H7 and *Yersinia enterocolitica* only.

Specific examination for other potential causes of gastroenteritis, such as *Aeromonas* spp., *Plesiomonas shigelloides* and *Vibrio* spp., will only be performed when a history of travel or consumption of seafood is provided or in the investigation of an outbreak where standard procedures have failed to find the cause.

2.0. Scope:

2.1. Collection Frequency: One stool per day to a maximum of two stools per patient will be accepted for routine culture. [Patients must deliver stool specimens to the local Laboratory promptly (they should not be held at home)]. Collect specimen in such a manner as to prevent contamination by urine or water from the toilet. (Use a chamber pot or plastic bag).

2.2. Recommendation: Stool samples should be collected early in the patient's illness, if possible, prior to treatment.

2.3. Do not routinely perform stool cultures for patients whose length of stay in the hospital was >3 days and admitting diagnosis was not gastroenteritis. Consider Clostridium difficile especially if patients are passing >5 stools with liquid or soft consistency per 24 hours.

3.0. Collection Procedure: Cary-Blair (pink) enteric transport media.

3.1. Samples should be submitted in the Cary-Blair (pink) enteric transport media supplied by the lab.

3.2. Inside these containers is a small scoop. One scoopful of freshly passed stool is sufficient. DO NOT FILL THE CONTAINER.

3.3. Label the container with the patient's name, date and time of collection.

3.4. Complete a Microbiology Requisition. Indicate clinical diagnosis, medication and special requests, if any.

4.0. Procedural Note:

4.1. If same day transport to the lab is not possible, store the Cary-Blair (pink) enteric transport media at room temperature. DO NOT REFRIGERATE.

References:

1. Clinical Microbiology Procedures Handbook, Editor-in-Chief, Henry Isenberg, ASM Press 1992.
2. Manual of Clinical Microbiology, 7th Edition, ASM Press, 1999.

Nursing Station Manual	Title: Urethra
Section: Microbiology	Original Preparation Date: November 2002
Written / Issued by: Laboratory Manager	Revision Date: 12/06/2012
Approved by: Laboratory Director	Review Date:

Urethra:

1.0. Introduction:

1.1. Neisseria gonorrhoae: Routinely tested for Neisseria gonorrhoeae only.

1.2. Chlamydia: Send a separate Chlamydia swab in Chlamydia transport media. The Laboratory will send these specimens directly to the Public Health Laboratory, Thunder Bay.

1.3. Alternatively, a urine specimen for Chlamydia and GC collected in a PHL transport kit can be sent to PHL for analysis. Refer to section 03 GSCI: 06 of this manual.

2.0. Collection Procedure: Swab in transport medium (Amies). It is recommended to have a direct smear accompany the specimen.

2.1. Cleanse the urethral opening prior to inserting the swab.

2.2. Gently insert the swab 2-4 cm, rotate and withdraw.

2.3. Place the swab in the transport media.

2.4. Label the outside of the transport medium with the patient's name, date and time of collection, and indicate that it is from a urethra.

2.5. Complete a Microbiology Requisition. Indicate clinical diagnosis, medication and special requests, if any.

3.0. Procedural Note:

3.1. If same day transport to the lab is not possible, store the inoculated swab at room temperature. DO NOT REFRIGERATE.

References:

1. Clinical Microbiology Procedures Handbook, Editor-in-Chief, Henry Isenberg, ASM Press 1992.
2. Manual of Clinical Microbiology, 7th Edition, ASM Press, 1999.

Nursing Station Manual	**Title: Vagina/Anorectal Swab for Group B Streptococci**
Section: Microbiology	Original Preparation Date: November 2002
Written / Issued by: Laboratory Manager	Revision Date: 12/06/2012
Approved by: Laboratory Director	Review Date:

Vaginal / Anorectal Swab for Group B Streptococci:

1.0. Introduction:

Routine: A swab obtained from the combined introital (vaginal) and anorectal areas should be collected at 35 – 37 weeks' gestation for anogenital GBS colonization. Cervical and vaginal swabs are not recommended for this type of culture but will be processed if received in the laboratory.

2.0. Collection Procedure: Swab in transport medium (Amies).

2.1. Wipe away excessive amount of secretion or discharge.

2.2. Collect a single swab of the distal vaginal and anorectum.

2.3. Place the swab in transport media.

2.4. Label the outside of the transport medium with the patient's name, date and time of collection.

2.5. Complete a Microbiology Requisition. Indicate clinical diagnosis, medication and special requests, if any.

3.0. Procedural Note:

3.1. If same day transport to the lab is not possible, store the inoculated swab at room temperature. DO NOT REFRIGERATE.

References:

1. Prevention of Perinatal Group B Streptococci Disease: A Public Perspective, U.S. Department of Health and Human Services, CDC, 1996.
2. Statement on the Prevention of Early Onset Group B Streptococcal Infections in the Newborn, S.O.G.C., No. 61, June 1997.
3. Manual of Clinical Microbiology, 7th Edition, ASM Press 1999.

Nursing Station Manual	Title: Vagina
Section: Microbiology	Original Preparation Date: November 2002
Written / Issued by: Laboratory Manager	Revision Date: 12/06/2012
Approved by: Laboratory Director	Review Date:

Vagina*:

1.0. Introduction:

Routine: Vaginal specimens will be examined only for Trichomonas vaginalis, yeast and clue cells. Vaginal specimens will not routinely be set up for culture and sensitivity (C&S).

2.0. Collection Procedure: Swab in transport medium (Amies).

2.1. Wipe away excessive amount of secretion or discharge.

2.2. Obtain secretions from the mucosal membrane of the vaginal vault with a sterile swab.

2.3. Place the swab in transport medium.

2.4. Label the outside of the transport medium with patient's name, date and time of collection.

2.5. Complete a Microbiology Requisition. Indicate clinical diagnosis, medication and special requests, if any.

2.6. *Culture: Not routinely done for vaginal specimens.

3.0. Procedural Note:

3.1. *Culture is done **only if indicated** and requested in the following circumstances:

3.1.1. Pregnancy for Streptococcus agalactiae (Group B Strep); send a single vaginal anorectal swab for culture (see next page for further details).

3.1.2. Toxic Shock Syndrome for Staphylococcus aureus

3.1.3. Sexual assault of children for Neisseria gonorrhoeae

3.2. Note: If same day transport to the lab is optimal, store the inoculated swab at room temperature. DO NOT REFRIGERATE.

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Section: Microbiology	Original Preparation Date: November 2002
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Vagina* (continued):

3.3 Vaginal specimens from children cannot be examined using adult criteria. There are no criteria for bacterial vaginosis for prepubertal patients. Doing a Gram stain only or doing a Gram stain and a wet preparation for this population is an inadequate practice.

- Culture should be performed looking for the major accepted pathogens such as Group A streptococcus, Staphylococcus aureus and Haemophilus influenzae;
- In cases of suspected sexual abuse, specific guidelines are available and include performing cultures for Neisseria gonorrhoeae and Chlamydia trachomatis;
- Reporting of other organisms should be based on microscopic findings, relative amount of growth on culture and consultation with the physician.

Unfortunately, there is insufficient published data to allow the committee (QMP-LS Bacteriology) to make a specific recommendation on the significance of the isolation of Candida species from vaginal swabs obtained from pre-pubertal females.

References:

1. Clinical Microbiology Procedures Handbook, Editor-in-Chief, Henry Isenberg, ASM Press 1992.
2. Manual of Clinical Microbiology, 7th Edition, ASM Press, 1999.
3. QMP-LS Committee Comments – 0702.
4. QMP-LS Committee Comments – BACT-0704, 2007-05-28.

Nursing Station Manual	**Title: Endocervix**
Section: Microbiology	Original Preparation Date: November 2002
Written / Issued by: Laboratory Manager	Revision Date: 12/06/2012
Approved by: Laboratory Director	Review Date:

Endocervix:

1.0. Introduction:

1.1. Neisseria Gonorrhoeae: Culture for Neisseria gonorrhoeae only. Gram Stain will not be performed.

1.2. Chlamydia trachomatis: Send a separate Chlamydia swab in Chlamydia transport medium. The Laboratory will send these requests directly to Public Health Laboratory, Thunder Bay.

1.3. Alternatively a urine specimen for Chlamydia and GC collected in a PHL transport kit can be sent to PHL for analysis. Refer to section 03 GSCI: 06 of this manual.

2.0. Collection Procedure: Swab in transport medium (Amies).

2.1. Use a speculum with no lubricant. Wipe the cervix clean of vaginal secretions and mucous before swabbing.

2.2. Under direct vision, gently compress the cervix with the blades of speculum and use a rotating motion with the swab to obtain exudate from endocervical glands.

2.3. Place the swab into the transport medium.

2.4. Label the outside of the transport medium with the patient's name, date and time of collection, and indicate that it is from a cervix.

2.5. Complete a Microbiology Requisition. Indicate clinical diagnosis, medication and special requests, if any. DO NOT SEND A SLIDE.

3.0. Procedural Note:

3.1. If same day transport to the lab is not possible, store the inoculated swab at room temperature. DO NOT REFRIGERATE.

References:

1. Clinical Microbiology Procedures Handbook, Editor-in-Chief, Henry Isenberg, ASM Press 1992.
2. Manual of Clinical Microbiology, 7th Edition, ASM Press, 1999.

Nursing Station Manual	**Title: Skin Lesions or Wounds**
Section: Microbiology	Original Preparation Date: November 2002
Written / Issued by: Laboratory Manager	Revision Date: 12/06/2012
Approved by: Laboratory Director	Review Date:

Skin Lesions or Wounds:

1.0. Introduction:

1.1. Routine: Routine processing of skin lesions or wounds consists of aerobic work-up only.

1.2. Special Request: Anaerobic work-up may require a special anaerobic transport medium that can be obtained from your laboratory. See the section titled "Specimens Requiring Anaerobic Culture" for a list of specimens and collection protocols.

2.0. Collection Procedure: Swab in transport medium (Amies).

2.1. When swabbing skin lesions or wounds, the surface of the lesion should be thoroughly cleansed before swabbing to remove as much of the normal skin flora as possible.

2.2. The outside of the transport medium should be inoculated deep within the lesion to obtain as much exudate as possible.

2.3. Place the swab into the transport medium.

2.4. Label the swab with the patient's name, date and time of collection and indicate specifically where the swab was taken.

2.5. Complete a Microbiology Requisition. Indicate clinical diagnosis, medication and special requests, if any.

3.0. Procedural Note:

3.1. If same day transport to the lab is not possible, store the inoculated swab at room temperature. DO NOT REFRIGERATE.

References:

1. Clinical Microbiology Procedures Handbook, Editor-in-Chief, Henry Isenberg, ASM Press 1992.
2. Manual of Clinical Microbiology, 7th Edition, ASM Press, 1999.

ursing Station Manual	**Title: Urines**
Section: Microbiology	Original Preparation Date: November 2002
Written / Issued by: Laboratory Manager	Revision Date: 12/06/2012
Approved by: Laboratory Director	Review Date:

Urines:

1.0. Introduction:

Collect a midstream urine specimen in a sterile container. Be sure to instruct the patient on cleansing the genitalia prior to specimen collection, as follows:

2.0. Midstream Urine Specimen Collection Procedure:

2.1. Procedure for Females:

2.1.1. Hands should be washed and dried thoroughly.

2.1.2. Remove lid from container and set lid aside. Do not touch the inner surfaces.

2.1.3. Squatting over the toilet, separate the skin of the vulva and using the towelette provided, wash the area from front to back with soap and water. Discard the towelette in the wastebasket, not in the toilet. When possible, showering or bathing prior to collection is the preferred method for cleansing.

2.1.4. Continuing to hold the skin folds apart, pass a small amount of urine into the toilet then urinate into the container. Require 3 ml.

2.1.5. Replace the lid securely on the container and label with the patient's name, date and time of collection.

2.1.6. Complete a Microbiology Requisition. Indicate clinical diagnosis, medication and special requests, if any.

2.1.7. Hands should be washed and dried thoroughly.

2.1.8. Return the container to the Laboratory or refrigerate immediately.

2.2. Procedure for Males:

2.2.1. Hands should be washed and dried thoroughly.

2.2.2. Remove lid from container and set lid aside.

2.2.3. Using the towelette provided, wash the tip of the penis with soap and water. Discard the towelette in the waste basket, not in the toilet. When possible, showering or bathing is the preferred method for cleansing. In circumcised men, cleansing does not improve detection of bacteriuria.

2.2.4. Pass a small amount of urine into the toilet - then urinate into the container.

ursing Station Manual	Title: Urines
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Urines (continued):

2.2.5. Replace the lid securely on the container and label with the patient's name, date and time of collection.

2.2.6. Complete a Microbiology Requisition. Indicate clinical diagnosis, medication and special requests, if any.

2.2.7. Hands should be washed and dried thoroughly.

2.2.8. Return the container to the Laboratory or refrigerate immediately.

2.3. Catheter Urine:

2.3.1. INDWELLING - refer to nursing manual for complete instructions.

2.3.2. STRAIGHT *(i.e. not indwelling)* - also increased risk of infection. Usually taken by physician. Not recommended as a routine due to possible introduction of bacteria increasing the risk of infection.

2.4. Urine from Ileal Conduit:

Collect only after external device has been removed - refer to nursing manual for complete instructions.

2.5. Suprapubic Aspiration - Averts Contamination:

Preferred method for infants and adults where interpretation of results in unclear.

2.6. Foley Catheter Tips - unacceptable

3.0. Procedural Notes:

3.1. Timing of Collection:

3.1.1. Early morning is preferred.

3.1.2. Do not force fluids in order to encourage voiding.

3.1.3. Three (3) consecutive early morning specimens preferred in asymptomatic patients.

3.2. Amount of Urine - require at least 3 ml urine in transport tube.

ursing Station Manual	Title: Urines
Section: Microbiology	Original Preparation Date: November 2002
Written / Issued by: Laboratory Manager	Revision Date: 12/06/2012
Approved by: Laboratory Director	Review Date:

Urines (continued):

3.3. Transport:

3.3.1. All Urines must be transported to the Laboratory using the N.C.S. urine culture tubes which contain a preservative.

3.3.2. Time allowed if no preservative used:
- Room Temp - 2 hours
- 24 hours refrigerated

3.3.3. Request repeat when collection time and/or collection method not recorded. If this information is not available, record this on report of results.

3.4. Pediatric Urine Collection:

When using Pediatric Urine Collection bags, very careful and thorough perineal cleansing must be done to avoid contaminating the specimen with fecal flora.

References:

1. Clinical Microbiology Procedures Handbook, Editor-in-Chief, Henry Isenberg, ASM Press 1992.
2. Manual of Clinical Microbiology, 7th Edition, ASM Press, 1999.

Nursing Station Manual	Title: **Blood Cultures**
Section: Microbiology	Original Preparation Date: November 2002
Written / Issued by: Laboratory Manager	Revision Date: 12/06/2012
Approved by: Laboratory Director	Review Date:

Blood Cultures:

1.0. Introduction:

Blood should be obtained for culture prior to the administration of systemic antimicrobial therapy from any patient sufficiently ill to be hospitalized when there is fever (≥38°C) or hypothermia (≤36°C): leucocytosis (≥10,000/L) especially with a left shift, granulocytopenia (≤1000 mature polymorphonuclear leukocytes/L). Antimicrobial therapy may result in delayed or no microbial growth.

2.0. Scope:

A blood culture is defined as the blood withdrawn from a single venipuncture, whether that blood is inoculated into one or multiple bottles or tubes.

Recommendation: We recommend the following protocols, depending on condition:

2.1. Routine: Two (2) sets (40 ml of blood) per patient are recommended to achieve optimum yield of organisms.

Adult (>=14 yrs) draw: One (1) aerobic bottle with 10 ml of blood and one (1) anaerobic bottle with 10 ml of blood.

Neonates: One (1) pediatric bottle with 1 – 2 ml of blood.

Infants (1month – 2 yrs): One (1) pediatric bottle with 2 – 3 ml of blood.

Children: One (1) pediatric bottle with 3 – 5 ml of blood.

Adolescent: One (1) aerobic bottle with 5 or more ml of blood and one (1) anaerobic bottle with 5 or more ml of blood. As age increases so should the volume of blood.

Blood cultures may be collected serially (separated by a time interval of 30 minutes) or simultaneously (separate site, separate venipuncture, not separated by a significant time interval).

2.2. Suspect Endocarditis: (Bacteremia lower magnitude)

2.2.1. Acute: Three (3) samples from three (3) separate sites during first twelve (12) hours of evaluation and commence therapy.

1st culture: One (1) aerobic bottle with 10 ml of blood and one (1) anaerobic bottle with 10 ml of blood.

2nd culture: One (1) aerobic bottle with 10 ml of blood.

3rd culture: One (1) aerobic bottle with 10 ml of blood.

Collect the blood cultures serially in that the second set is taken 30 – 60 minutes after the first set and a third set is taken within the next twelve (12) hours. If immediate antibiotic therapy must be instituted, two (2) sets of blood cultures can be taken simultaneously followed with a third set taken one (1) hour after antibiotics have been started.

ursing Station Manual	**Title: Blood Cultures**
Section: Microbiology	Original Preparation Date: November 2002
Written / Issued by: Laboratory Manager	Revision Date: 12/06/2012
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Blood Cultures (continued):

3.0. Collection Procedure:

Avoid drawing blood through indwelling intravenous or intra-arterial catheters unless blood cannot be obtained through venipuncture.

Media in use:

1) Bactec Standard / 10 Aerobic/F culture media
2) Bactec Lytic / 10 Anaerobic/F culture media
3) Bactec Peds Plus/F*

Use sterile technique to reduce the chance of contamination.

Universal precautions should be followed in handling all items contaminated with blood and other body fluids.

3.1. Inspect all blood culture bottles and discard any bottles or vials showing evidence of contamination, damage or deterioration. On rare occasion, glass bottle-neck may be cracked and may break with handling. Ensure that the blood culture bottles are hand-marked with min. and max. draw lines.

3.2. Select a site for the venipuncture. Make sure you have all equipment ready before you begin. Inquire if the patient has a history of adverse reactions to iodine/chlorohexidine.

3.3. Before applying the tourniquet, remove the protective caps from the blood culture bottles and swab the rubber stoppers with 70% alcohol and let dry. **(Do not use Chlorohexidene on the blood culture bottles).**

3.4. After applying the tourniquet and palpating the vein, swab the venipuncture site with a Chlorohexidine swab. Once disinfected the site should not be touched again. Let dry completely, and then perform the venipuncture. * Alcohol swabs must be used on children < 1 month old.

3.5. 8-10ml* of blood is required for each adult blood culture bottle and 1 – 3 ml** for each pediatric blood culture bottle.

The recommended method of collection is to use a safety lock blood collection set or a needle and a syringe.

3.5.1. Mark the bottle at desired fill level using the 5 ml graduation marks on the vial label.

3.5.2. Perform the venipuncture

3.5.3. Collect blood to the desired fill level on the first vial.

lursing Station Manual	**Title: Blood Cultures**
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Blood Cultures (continued):

3.5.4. Collect blood to the desired fill level on the second vial (if necessary). Repeat collection with second vial.

3.5.5. Remove needle from the site. Cover the puncture site with a sterile swab and apply pressure.

The direct draw method is not recommended.

3.7. After collecting the specimen, label the bottles with the patient's name, date and time of collection. **Do not write or place labels over the bar code on the bottle.**

3.8. Complete a Blood Culture Microbiology requisition. Indicate clinical diagnosis, medication and special requests, if any.

One requisition is required for each blood culture collection.

4.0. Procedural Notes:

4.1. Blood cultures should be delivered to the laboratory within two (2) hours of collection; however, immediate delivery is ideal.

4.2. If same day transport to the Lab is not possible from a referring site, store the blood culture bottle at room temperature. **DO NOT REFRIGERATE OR INCUBATE.**

References:

1. Clinical Microbiology Procedures Handbook, Editor-in-Chief, Henry Isenberg, ASM Press 1992.
2. Cumitech 1B, Blood cultures III, ASM Press 1997.
3. Manual of Clinical Microbiology, 7th Edition, ASM Press, 1999

Nursing Station Manual	**Title: Retention of Specimen**
Section: Microbiology	Original Preparation Date: November 2002
Written / Issued by: Laboratory Manager	Revision Date: 12/06/2012
Approved by: Laboratory Director	Review Date:

Retention of Specimens:

1.0. Retention of Specimens:

1.1. To assist the ordering physician in obtaining the most appropriate investigation and to facilitate additional studies, specimens and microbiology isolates are retained for a minimum of seven (7) days after reporting.

1.2. Blood culture isolates are retained for a minimum of two (2) weeks after reporting.

1.3. Blood culture isolates referred out to Public Health Laboratory are retained indefinitely.

1.4. Please contact the testing laboratory ASAP, if additional studies are required. The laboratory will inform you whether or not an additional sample is required.

References:

1. Cumitech 1B, Blood Cultures III, ASM Press, 1997
2. C.A.P. "Guidelines for the Retention of Laboratory Records and Materials". Published M.L.O. 1993.

ursing Station Manual	Title: **Blood Tests – Patient Information**
Section: Patient Instructions	Original Preparation Date: January 2006
Written / Issued by: Laboratory Manager	Revision Date: 12/06/2012
Approved by: Laboratory Director	Review Date:

Blood Tests – Patient Information

1.0. Lipid (Chol, Trig, HDL)

- Recommended not to eat or drink (except water) for 9-12 hours prior to testing.
- Blood collection in the morning is recommended.

2.0 Fasting Blood Glucose

- Do not eat or drink (except water) for at least 9-12 hours before this test.
- Blood collection in the morning is recommended.

3.0. PC – You must have your blood taken exactly 2 hours from the beginning of a meal.

- Eat a substantial meal and note the time of your first mouthful. The meal is ideally completed within 20-25 minutes.
- After completing the meal, do not eat or drink anything until after you have had your blood taken.
- Come to the laboratory 5-10 minutes early.

4.0. Glucose Tolerance Testing (75 gram loads, non-pregnant, gestational etc)

- The test should only be performed on patients suspected of being diabetic, who cannot be diagnosed based on two random or fasting blood glucose determinations (see diagnostic criteria).
- The GTT should be administered only to patients who are otherwise healthy and ambulatory, and are not known to be taking drugs that elevate the blood glucose.
- When the GTT is administered, it should be performed in the morning after at least three days of unrestricted diet and physical activity.
- The subject should have fasted for at least eight hours but not more than sixteen hours, with water permitted during this period.
- The subject should remain seated and not smoke during the test.
- The patient must be informed that they are required to stay for the duration of the test.

5.0. 50 gram glucose Gestational Screen in Pregnancy

The test screens pregnant women for gestational diabetes. It is usually performed between 24-28 weeks gestation. It is a screening test only; confirmation is by the Gestational Glucose Tolerance Test.

On the day of the test the patient should eat normally unless instructed otherwise by the physician. The patient does not need to be fasting. Inform the patient she will be required to stay for a little more than one hour.

Nursing Station Manual	Title: Collection of Stool for Occult Blood Test (Hemoccult)
Section: Patient Instructions	Original Preparation Date: January 2006
Written / Issued by: Laboratory Manager	Revision Date: 12/06/2012
Approved by: Laboratory Director	Review Date:

Collection of Stool for Occult Blood Test (Hemoccult):

Collection of Stool for Occult Blood Test (Hemoccult)

Patient Instructions:

The following collection instructions are intended to help you collect the correct specimen for the test your clinician has requested. First read the instructions carefully, make sure you are prepared, and then follow each of the steps to ensure proper collection.

Note:
The occult blood test looks for very small amounts of blood in your stool. If you are bleeding from a condition such as hemorrhoids or menstruation that could contaminate your stool with blood, then it is advised that you should not be tested while the bleeding is active. Collect stool 3 days after menstrual cycle.

Diet and Drug Restriction:

- Avoid Aspirin or other non-steroidal anti-inflammatory drugs for 7 days prior to and during testing period. (eg, Ibuprofen, Naproxen)
- Avoid 72 hours prior to and during the test period:
  - Vitamin C in excess of 250 mg per day
  - Red meat (beef, lamb, liver) including processed meats
  - Raw broccoli, cauliflower, horseradish, parsnips, radishes, turnips and melons
- If you have any questions regarding your regular medication, discuss them with your pharmacist or clinician.

Instructions:

- Remove slide(s) from envelope and write your full name on each section in the space provided. Write the date and time of collection on each slide just prior to collection of the specimen. If you have your paperwork, note the date and time on your requisition.
- Urinate into the toilet if you feel the need. Wash and dry hands.
- Lift the toilet seat. Place sheet of plastic wrap (Saran wrap) over the toilet bowl, leaving a slight dip in the centre. Place the toilet seat down. Pass some stool onto the plastic wrap. Do not let urine or water touch the stool specimen.
- Open front of section 1.
- Using the wooden stick supplied, collect a small sample of stool and apply inside Box A.
- Collect a second sample from a different part of stool with opposite end of stick and apply a thin smear covering Box B.
- Repeat these steps for the next 2 days using sections 2 & 3.
- After completing the last slide, return the kit to the laboratory.

Bring samples to laboratory as soon as possible. Stable for 14 days.
After the specimen collection, you may resume your normal diet

lursing Station Manual	Title: **Collection of Stool for Culture, Parasitology, Clostridium Difficile or Viral Culture**
Section: Patient Instructions	Original Preparation Date: January 2006
Written / Issued by: Laboratory Manager	Revision Date: 12/06/2012
Approved by: Laboratory Director	Review Date:

Collection of Stool for Culture, Parasitology,Clostridium Difficile or Viral Culture:

Collection of Stool for Culture, Parasitology,Clostridium Difficile or Viral Culture

Patient Instructions:

The following collection instructions are intended to help you collect the correct sample for the test your clinician has requested. Read all the instructions carefully, make sure you are prepared, and then follow the steps to ensure proper collection.

Avoid barium, oil, magnesium before a stool collection, unless your clinician has advised they are o.k. You may also be told to avoid certain foods during the test period.

Complete the information requested on the container label. Make sure you indicated your full name, and the date and time you collected the specimen. If you have your requisition, note the date and time on your paperwork.

Specimen Collection:

- Wash and dry your hands, thoroughly.
- Pass urine into the toilet if you feel the need. Flush toilet.
- Lift the toilet seat. Place sheet of plastic wrap (eg. Saran wrap) over the toilet bowl, leaving a small dip in the centre.
- Place the toilet seat down.
- Pass the stool onto the plastic wrap. Do not let urine or water touch stool.
- Wait at least 24 hours between collections.
- Deliver specimen to the lab as soon as possible after collection.

Stool Culture:
To the container "Enteric Pathogen Transport" (white lid, pink fluid) add stool to the "Fill Line". Replace the cap and tighten firmly. After replacing the cap, gently shake the container until the specimen is well mixed with the liquid. Store at room temperature.

Parasitology:
To the "SAF" fixative container (yellow lid, clear fluid) add 2-3 spoonfuls of stool until the liquid reached the "Fill Line". Replace the cap and tighten firmly. After replacing the cap, gently shake the container until the specimen is well mixed with the liquid. Keep at room temperature.
SAF fixative is poisonous. Toxic by inhalation and if swallowed. Irritating the eyes, respiratory system and skin. May cause sensitization by inhalation and by skin contact. Risk of serious damage to eyes.

Clostridium Difficile:
To the empty container (orange lid), add 2-3 spoonfuls of stool. Replace the cap and tighten firmly. Store at refrigerator temperature.

Viral Culture: To the Viral TM vial add 1 spoon full of stool. Replace cap and mix well; store at refrigerator temperature.

Remember to wash your hands thoroughly after collecting any specimen.
All specimens should be transported to the Laboratory in plastic bags.
The paperwork should be kept separate from the specimens.
Leaking specimens will not be accepted, but additional containers will be provided to repeat any collections.

Nursing Station Manual	Title: Stool For C&S / O&P (Infants)
Section: Patient Instructions	Original Preparation Date: January 2006
Written / Issued by: Laboratory Manager	Revision Date: 12/06/2012
Approved by: Laboratory Director	Review Date:

Stool for C&S / O&P (Infants):

Stool for C&S / O&P (Infants)

Infant Collection Instructions:

Stool Collection from an Infant for C&S, O&P, C.Dif or WBC

Your doctor has requested an analysis of stool (bowel movement) from your infant. In order to produce a meaningful laboratory test result, you must follow these instructions. **Read them over completely, then follow each of the steps.** A stool collection kit (2 containers in a plastic bag) and a "U-Bag" will be given to you.

1. Line the diaper with plastic wrap. Apply the U-Bag (included) to the infant as instructed on the accompanying sheet. This will prevent contamination of the stool specimen with urine.

2. Within 30 minutes after the infant has a bowel movement, remove some of the stool from the plastic wrap using the spoon attached to the cap of the vials, place blood or slimy/whitish (mucous) areas of the stool into each of the containers provided by the laboratory. Do not overfill the containers.
   - To the **"Clean Vial"** container **(empty)**: Add stool to the **"Fill Line"** and replace the cap.
   - To the "Saf Fixative" container **(with liquid)**: Add 2-3 spoonfuls of stool until the liquid reaches the "Fill Line" and replace the cap.

   Caution: The liquid in the container is **Poison**. It is a preservative. Do not discard or pour into the empty container.
   ***You may no remove the U-Bag from your child and discard its contents.**

3. Tighten the caps. Shake the "Saf Fixative" container until the specimen is well mixed.

4. Write the **Date** and **Time** of collection on each of the containers, keep at room temperature, and bring to the laboratory **immediately after** collection. Delays may interfere with your test results.

5. You may be required to collect ____more collection kits. Your next collection kit will be given to you when you return to the laboratory. **Wait at least 24 hours between collections.**

Notes:
- Stool specimens for C&S and/or O&P testing from infants cannot be collected directly from the diaper. The detergents, perfumes and urine from the diaper will interfere with the test results.
- Ensure the containers are closed tightly and labeled with the child's name and date of birth before inserting them back into the ziplock bag provided.

Nursing Station Manual	Title: **Sputum**
Section: Patient Instructions	Original Preparation Date: January 2006
Written / Issued by: Laboratory Manager	Revision Date: 12/06/2012
Approved by: Laboratory Director	Review Date:

Sputum:

Sputum

Patient Instructions:

Your doctor has requested the test(s) marked [✓]. Sputum is material brought up from the lungs after a deep cough. It is not saliva. In order to produce a meaningful laboratory test result, you must follow these instructions.

[ ] **TB / AFB x 3 days in a row:** Upon rising each morning, immediately collect sputum in one of the "TB" containers provided. After each collection, **Date and refrigerate the container**. Bring all 3 containers to the laboratory on the last day of collection.

[ ] **Cytology x 3 days in a row:** Upon rising each morning, immediately collect all the sputum produced for one hour into one of the **"Cytology"** containers provided. After each addition, gently shake to mix the sputum with the preservative in the container. After each collection, date and refrigerate the container. Bring all 3 containers to the laboratory on the last day of collection.

[ ] **C&S x ___ days:** Upon rising or at any time, collect sputum in the **"C&S"** container provided. Write the Time of collection on the container, keep at room temperature, and **bring to the laboratory within one hour of collection**. Repeat collection for the number of days shown.

Collection Tip: When a combination of these tests is requested, collect daily specimens in the order given above.

Nursing Station Manual	Title: **Pinworm Collection Procedure**
Section: Patient Instructions	Original Preparation Date: January 2006
Written / Issued by: Laboratory Manager	Revision Date: 12/06/2012
Approved by: Laboratory Director	Review Date:

Pinworm Collection Procedure:

Intended Use:

A collection and transport system used for microscopic exams for pinworms (*Enterobius vermicularis*).

Storage:

Storage collection kits at room temperature. Kits do not have an expiration date.

Collection of Specimens:

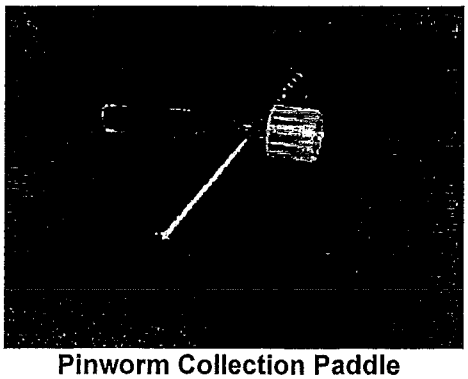
Pinworms migrate through the rectum and deposit their eggs on the perianal skin on or around the anus during the night while the patient sleeps.

1. Specimens are best obtain an hour or two after the patient goes to sleep or just after waking and before a bath or bowel movement.
2. Gently press the paddle's sticky side against several areas of the perianal region while spreading open the perianal folds.
3. Place the paddle back into the transport tube and tighten cap.
4. Wash your hands.
5. The parasite eggs deteriorate rapidly if exposed to heat.
6. Multiple specimens may be necessary.

Transport and Labeling:

Label the transport container and return the specimen with the completed requisition form to the laboratory as soon as possible.

If you have any questions, please contact the Laboratory.



Pinworm Collection Paddle

SIOUX LOOKOUT
MenoYa Win
HEALTH CENTRE

82 – 7th Avenue
P.O. Box 909
Sioux Lookout, ON
P8T 1B4

MICROBIOLOGY

PATIENT LOCATION:

- ☐ ER ☐ B-Ward ☐ 5th Nursing Floor
- ☐ Maternity ☐ Appointment Clinic
- ☐ Nursing Station _____
- ☐ FNFPHS
- ☐ ECU
- ☐ Other _____

Addressograph

Gender: Male ○ Female ○

Prenatal: YES ○ NO ○

Physician:

Clinical Diagnosis:

Antibiotic Therapy: Y / N

If "Yes", please specify:

Date Collected:	**Time Collected:**	**Collected by:**

Type of Specimen (Source):

- ☐ Throat
- ☐ Blood Culture
- ☐ Ear
- ☐ Eye
- ☐ Stool
- ☐ CSF
- ☐ Nasal (MRSA)
- ☐ Rectal (MRSA/VRE)
- ☐ Vag (BV, Yeast Or Trichomonas)
- ☐ Vag /Anorectal (GroupB Strep)
- ☐ Other _____

- ☐ Urine

Catheter: Y / N

If "Yes", please specify:

- ☐ Wound – Site (please specify): _____

Comments: