

DEPARTMENT OF CLINICAL LABORATORY SCIENCES

SCHOOL OF HEALTH PROFESSIONS
STONY BROOK UNIVERSITY
STONY BROOK, NEW YORK 11794-8205

MICROBIOLOGY COMPETENCY EVALUATION FORM

STUDENT NAME: _____ CLINICAL AFFILIATE: _____

Section: _____ Duration: _____ Supervisor/Instructor: _____

Instructions:

1. The student must complete all pertinent objectives/checklist items in order to complete the rotation within each section. If the items are not applicable, indicate "n/a."
2. The evaluator(s) must document the student's acceptable performance in meeting the established tasks in the **Laboratory Safety and Infection Control, Quality Control and Microbiology Procedures and Protocols categories** by putting the date the task was performed. The evaluator(s) must document the student's acceptable performance in meeting the established tasks in the **Microbiology Test Skills and Affective Skills category** by checking the appropriate column (1 = none of the time, 2 = some of the time, 3 = most of the time, 4 = all of the time). NA = None Applicable, may also be used.
3. The instructor and student must sign this form after it has been completed at the end of the clinical rotation.
4. **Please note** that grades of **2 or 1** may result in remediation for the student and need to be brought to the attention of the Clinical Coordinator and the student.

| LABORATORY SAFETY AND INFECTION CONTROL | DATE PERFORMED | EVALUATOR SIGNATURE |
|---|----------------|---------------------|
| 1. IDENTIFIES LOCATION OF SAFETY DEVICES | | |
| A. Fire Extinguishers | | |
| B. Fire Alarms | | |
| C. Fire Blankets | | |
| D. Eye Washes | | |
| E. Emergency Exits | | |
| F. Safety Showers | | |
| G. First Aid Kit | | |
| H. Incident Reports | | |
| 2. REVIEWS DEPARTMENT'S PROTOCOL FOR HANDLING PATIENT SPECIMENS | | |

| QUALITY CONTROL | DATE PERFORMED | EVALUATOR SIGNATURE |
|---|----------------|---------------------|
| PERFORMS APPROPRIATE QC PROCEDURES ACCORDING TO PROTOCOL: | | |
| A. Reagents (latex agglutination for microbial antigens, microbial typing sera) | | |
| B. Media | | |
| C. Biochemicals | | |
| D. Automated and non-automated commercial identification systems | | |
| E. Antimicrobial susceptibility testing | | |
| F. Refrigerators | | |
| G. Incubators (aerobic, anaerobic, and CO ₂) | | |
| H. Freezers | | |
| I. Heating Block | | |
| J. Water Bath | | |
| K. Centrifuges | | |
| L. Biological Safety Hood | | |

| MICROBIOLOGY PROCEDURES AND PROTOCOLS | DATE PERFORMED | EVALUATOR SIGNATURE |
|--|----------------|---------------------|
| 1. Identifies location of the Clinical Microbiology Procedure Manual | | |
| 2. Reviews protocol for the use of the Laboratory Information System. Demonstrates ability to enter, review and retrieve data. | | |
| 3. Reviews protocol for the collection and transport of clinical specimens | | |
| 4. Reviews protocol for rejection of specimens | | |
| 5. Reviews protocol for infection control in the laboratory | | |
| 6. Reviews protocol for processing and interpretation of: | | |
| a. Blood culture specimens | | |
| b. CSF specimens | | |
| c. Body fluids other than CSF specimens | | |
| d. Upper respiratory tract specimens | | |
| e. Lower respiratory tract specimens | | |
| f. Genital specimens | | |
| g. Fecal specimens | | |
| h. Urine specimens | | |
| i. Wound specimens | | |
| j. Tissue specimens | | |
| k. Skin specimens | | |
| l. Hair specimens | | |
| m. Nail specimens | | |
| 7. Reviews protocol for the operation and/or use of automated and non-automated commercial microbial identification systems. | | |
| 8. Reviews protocol for the use of biochemical and serological tests in the identification of microbes. | | |
| 9. Reviews protocol for antimicrobial susceptibility testing | | |
| 10. Reviews protocol for febrile agglutinin test | | |
| 11. Reviews protocol for cold agglutinin test | | |
| 12. Reviews protocol for operation and maintenance of nephelometer | | |
| 13. Reviews protocol for operation and maintenance of ELISA/EIA plate reader | | |
| 14. Reviews protocol for operation and maintenance of fluorescent microscope | | |
| COMMENTS: | | |

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1 = None of the Time 2 = Some of the time 3 = Most of the time 4 = All of the time

| MICROBIOLOGY TEST SKILLS | 1 | 2 | 3 | 4 | EVALUATOR SIGNATURE |
|--|---|---|---|---|---------------------|
| 1. Disposes of hazardous waste according to protocol | | | | | |
| 2. Decontaminates work area and spills according to protocol | | | | | |
| 3. Uses gloves appropriately | | | | | |
| 4. Uses the Biological Safety Hood according to protocol | | | | | |
| 5. Labels all media and biochemicals legibly and accurately | | | | | |
| 6. Organizes workload appropriately | | | | | |
| 7. Records and enters test results accurately and in a timely manner | | | | | |
| 8. Uses all micropipettors appropriately | | | | | |
| 9. Labels tubes/slides/plates legibly and accurately | | | | | |
| 10. Prepares dilutions according to protocol | | | | | |

| MICROBIOLOGY TEST SKILLS (CONT'D.) | 1 | 2 | 3 | 4 | EVALUATOR SIGNATURE |
|--|---|---|---|---|------------------------|
| Bacteriology - Minimum # of Procedures = 10 | | | | | |
| <u>Stains and Biochemicals:</u> | | | | | |
| 1. Performs and interprets the Gram stain according to protocol | | | | | |
| 2. Performs and interprets the catalase test according to protocol | | | | | |
| 3. Performs and interprets the slide and tube coagulase test according to protocol | | | | | |
| 4. Performs and interprets the oxidase test according to protocol | | | | | |
| 5. Performs and interprets the wet mount according to protocol | | | | | |
| 6. Performs and interprets the urease test according to protocol | | | | | |
| 7. Performs and interprets the motility test according to protocol | | | | | |
| 8. Performs and interprets the spore stain according to protocol | | | | | |
| 9. Performs and interprets the Dnase test according to protocol | | | | | |
| | | | | | |
| <u>Serological:</u> | | | | | |
| 1. Performs streptococcal grouping according to protocol | | | | | |
| 2. Performs serotyping of <u>Salmonella</u> and <u>Shigella</u> according to protocol | | | | | |
| 3. Performs serotyping of <u>Neisseria meningitidis</u> according to protocol | | | | | |
| 4. Performs serotyping of <u>Haemophilus influenzae</u> according to protocol | | | | | |
| 5. Performs bacterial antigen test | | | | | |
| 6. Performs cryptococcal antigen test (usually performed in Bacteriology) according to protocol | | | | | |
| | | | | | |
| <u>Identification of the Principle Bacteria Encountered in Clinical Laboratory</u> | | | | | |
| Using identification protocol, including both automated and non-automated techniques, identify the following groups of bacteria: | | | | | |
| 1. <u>Staphylococcus</u> spp. | | | | | |
| 2. <u>Streptococcus</u> spp. | | | | | |
| 3. Enterobacteriaceae | | | | | |
| 4. Gram negative fermentating rods other than Enterobacteriaceae | | | | | |
| 5. Non-fermenting Gram negative bacilli | | | | | |
| 6. <u>Vibrionaceae</u> | | | | | |
| 7. <u>Campylobacter</u> spp. | | | | | |
| 8. MRSA | | | | | |
| 9. VRE | | | | | |
| 10. <u>Neisseria</u> spp. | | | | | |
| 11. <u>Haemophilus</u> spp. | | | | | |
| 12. <u>Gardnerella vaginalis</u> | | | | | |
| 13. <u>Clostridium</u> spp. | | | | | |
| 14. <u>Bacteroides</u> spp. | | | | | |
| 15. Prevotella spp. | | | | | |
| 16. Porphyomonas spp. | | | | | |
| 17. Fusobacterium spp. | | | | | |
| 18. <u>Peptococcus niger</u> | | | | | |
| 19. <u>Peptostreptococcus</u> spp. | | | | | |
| | | | | | |
| <u>Antimicrobial Susceptibility Testing:</u> | | | | | |
| 1. Using the Bauer-Kirby disc diffusion technique, perform, read and interpret antimicrobial susceptibility tests on aerobic and facultative anaerobic bacteria commonly isolated in the clinical laboratory | | | | | |
| 2. Performs, reads and interprets MICs on aerobic and facultative anaerobic bacteria commonly isolated in the clinical laboratory | | | | | |

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| MICROBIOLOGY TEST SKILLS (CONT'D.) | 1 | 2 | 3 | 4 | EVALUATOR SIGNATURE |
|--|---|---|---|---|------------------------|
| Mycology - Minimum # of Procedures = 5 | | | | | |
| <u>Stains and Biochemicals</u> | | | | | |
| 1. Performs and reads the lactophenol cotton blue stain according to protocol | | | | | |
| 2. Performs and reads the 10% KOH preparation with and without calcofluor white according to protocol | | | | | |
| 3. Performs and reads the india ink preparation according to protocol | | | | | |
| 4. Performs and reads the modified Kinyoun acid-fast stain according to protocol | | | | | |
| 5. Performs and interprets the germ tube test according to protocol | | | | | |
| 6. Performs and interprets the Trichophyton agars according to protocol | | | | | |
| 7. Inoculates and interprets the Christensen's urea agar test according to protocol | | | | | |
| 8. Performs, reads and interprets the casein hydrolysis test according to protocol | | | | | |
| 9. Performs, reads and interprets the tyrosine hydrolysis test according to protocol | | | | | |
| 10. Performs, reads and interprets the exanthine hydrolysis test according to protocol | | | | | |
| 11. Performs, reads and interprets the starch hydrolysis test according to protocol | | | | | |
| | | | | | |
| <u>Techniques</u> | | | | | |
| 1. Performs, reads and interprets the Dalmau technique according to protocol | | | | | |
| 2. Performs, reads and interprets the teased preparation according to protocol | | | | | |
| 3. Performs, reads and interprets the scotch tape preparation according to protocol | | | | | |
| 4. Performs, reads and interprets the slide culture according to protocol | | | | | |
| 5. Performs, reads and interprets the hair perforation test according to protocol | | | | | |
| | | | | | |
| <u>Identification of the commonly isolated Yeasts in the Clinical Laboratory</u> | | | | | |
| Using identification protocol, including both automated and non-automated techniques, identify the following yeasts: | | | | | |
| 1. <u>Candida albicans</u> | | | | | |
| 2. <u>Candida tropicalis</u> | | | | | |
| 3. <u>Candida guilliermondii</u> | | | | | |
| 4. <u>Candida parapsilosis</u> | | | | | |
| 5. <u>Candida kefyr</u> | | | | | |
| 6. <u>Candida krusei</u> | | | | | |
| 7. <u>Toroulopsis glabrata</u> | | | | | |
| 8. <u>Trichosporon</u> spp. | | | | | |
| 9. <u>Cryptococcus neoformans</u> | | | | | |
| 10. <u>Saccharomyces</u> spp. | | | | | |
| 11. <u>Geotrichum</u> spp. | | | | | |
| | | | | | |
| <u>Identification of the Commonly Isolated Filamentous Fungi (Molds) in the Clinical Laboratory</u> | | | | | |
| Using identification protocol, identify the following molds: | | | | | |
| 1. <u>Aspergillus</u> (to include <u>A. fumigatus</u>) | | | | | |
| 2. <u>Rhizopus</u> | | | | | |
| 3. <u>Mucor</u> | | | | | |
| 4. <u>Absidia</u> | | | | | |
| 5. <u>Cunninghamella</u> | | | | | |
| 6. <u>Syncephalastrum</u> | | | | | |
| 7. <u>Aureobasidium</u> | | | | | |
| 8. <u>Penicillium</u> | | | | | |
| 9. <u>Paecilomyces</u> | | | | | |
| 10. <u>Scopulariopsis</u> | | | | | |
| 11. <u>Acremonium</u> | | | | | |
| 12. <u>Fusarium</u> | | | | | |
| 13. <u>Philalophora</u> | | | | | |

| MICROBIOLOGY TEST SKILLS (CONT'D.) | 1 | 2 | 3 | 4 | EVALUATOR SIGNATURE |
|--|---|---|---|---|------------------------|
| Mycology - Minimum # of Procedures = 5 | | | | | |
| 14. <u>Fonsecaea</u> | | | | | |
| 15. <u>Cladosporium</u> | | | | | |
| 16. <u>Wangiella</u> | | | | | |
| 17. <u>Exophiala</u> | | | | | |
| 18. <u>Pseudallescheria</u> | | | | | |
| 19. <u>Microsporum</u> spp. | | | | | |
| 20. <u>Trichophyton</u> spp. | | | | | |
| 21. <u>Epidermophyton floccosum</u> | | | | | |
| 22. <u>Sporothrix schenckii</u> | | | | | |
| | | | | | |
| <u>Identification of the Commonly Isolated Aerobic Actinomycetes in the Clinical Laboratory</u> | | | | | |
| 1. <u>Nocardia asteroides</u> | | | | | |
| 2. <u>Nocardia brasiliensis</u> | | | | | |
| 3. <u>Nocardia otitidiscaviarum</u> | | | | | |
| 4. <u>Streptomyces anulatus (griseus)</u> | | | | | |
| | | | | | |
| Parasitology - Minimum # of Procedures = 5 | | | | | |
| <u>Techniques</u> | | | | | |
| 1. Makes wet mount preparations of fecal samples according to protocol | | | | | |
| 2. Concentrates fecal samples by the formalin ethyl-acetate concentration procedure according to protocol | | | | | |
| 3. Concentrates fecal samples by the zinc sulfate flotation method according to protocol | | | | | |
| 4. Prepares polyvinyl alcohol (PVA) fixed fecal smears according to protocol | | | | | |
| 5. Makes wet mount preparations from the string obtained from the "string test" according to protocol | | | | | |
| 6. Prepares thin blood smears according to protocol | | | | | |
| 7. Prepares thick blood smears according to protocol | | | | | |
| | | | | | |
| <u>Stains</u> | | | | | |
| 1. Performs and reads wet mounts of fecal samples stained with D'Antoni's or Doebell and O'Connor's iodine solution according to protocol | | | | | |
| 2. Performs and reads trichrome stained PVA fixed fecal smears according to protocol | | | | | |
| 3. Performs and reads the modified trichrome stained (for microsporidia) fecal smears according to protocol | | | | | |
| 4. Performs and reads the Kinyoun carbolfuchsin acid-fast stained fecal smears according to protocol | | | | | |
| 5. Performs and reads the rhodamine-auramine O stained fecal smears according to protocol | | | | | |
| 6. Performs and reads Giemsa stained thin and thick blood smears according to protocol | | | | | |
| | | | | | |
| <u>Identify the following more commonly seen Parasites using Iodine Stained Wet Mount Preparations, Trichrome Stained Slides and Acid-Fast Stained Slides:</u> | | | | | |
| A. Intestinal Parasites: | | | | | |
| Amebae: | | | | | |
| <u>Entamoeba histolytica</u> | | | | | |
| <u>Entamoeba hartmanii</u> | | | | | |
| <u>Entamoeba coli</u> | | | | | |
| <u>Endolimax nana</u> | | | | | |

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| Parasitology (Cont'd) | 1 | 2 | 3 | 4 | EVALUATOR SIGNATURE |
|-------------------------------------|---|---|---|---|------------------------|
| A. Intestinal Parasites: | | | | | |
| <u>Iodamoeba butschlii</u> | | | | | |
| <u>Blastocystis hominus</u> | | | | | |
| Flagellates: | | | | | |
| <u>Dientamoeba fragalis</u> | | | | | |
| <u>Giardia duodenalis (lamblia)</u> | | | | | |
| <u>Chilomastix mesnili</u> | | | | | |
| Ciliates: | | | | | |
| <u>Balantidium coli</u> | | | | | |
| Microsporidia | | | | | |
| Coccidia: | | | | | |
| <u>Isospora belli</u> | | | | | |
| <u>Cryptosporidium spp.</u> | | | | | |
| Blood and tissue protozoa: | | | | | |
| <u>Plasmodium:</u> | | | | | |
| <u>vivax</u> | | | | | |
| <u>malariae</u> | | | | | |
| <u>falciparum</u> | | | | | |
| <u>ovale</u> | | | | | |
| <u>Babesia spp.</u> | | | | | |
| <u>Trypanosoma spp. (african)</u> | | | | | |
| <u>Trypanosoma cruzi</u> | | | | | |
| <u>Toxoplasma gondii</u> | | | | | |
| <u>Leishmania spp.</u> | | | | | |
| Intestinal nematodes: | | | | | |
| <u>Enterobius vermicularis</u> | | | | | |
| <u>Ascaris lumbricoides</u> | | | | | |
| Hookworm | | | | | |
| <u>Trichuris trichiura</u> | | | | | |
| <u>Strongyloides stercoralis</u> | | | | | |
| Cestodes: | | | | | |
| <u>Taenia saginata</u> | | | | | |
| <u>Hymenolepis nana</u> | | | | | |
| <u>Hymenolepis diminuta</u> | | | | | |
| <u>Diphylobothrium latum</u> | | | | | |
| <u>Dipylidium caninum</u> | | | | | |
| Trematodes: | | | | | |
| <u>Clonorchis sinensis</u> | | | | | |
| <u>Fasciola hepatica</u> | | | | | |
| <u>Paragonimus weestermanii</u> | | | | | |
| <u>Fasciolepis buski</u> | | | | | |
| <u>Schistosoma mansoni</u> | | | | | |
| <u>Schistosoma haematobium</u> | | | | | |
| Filarial nematodes: | | | | | |
| <u>Wuchereria bancrofti</u> | | | | | |
| <u>Brugia malayi</u> | | | | | |
| <u>Loa loa</u> | | | | | |
| <u>Mansonella ozzardi</u> | | | | | |
| <u>Mansonella streptocerca</u> | | | | | |

= None of the Time 2 = Some of the time 3 = Most of the time 4 = All of the time

| Parasitology (Cont'd) | 1 | 2 | 3 | 4 | EVALUATOR SIGNATURE |
|--|---|---|---|---|---------------------|
| <u>Mansonella perstans</u> | | | | | |
| <u>Onchocerca volvulus</u> | | | | | |
| Ectoparasites: | | | | | |
| <u>Pediculus humanus</u> var. <u>corporis</u> | | | | | |
| <u>Pediculus humanus</u> var. <u>capitis</u> | | | | | |
| <u>Phthirus pubis</u> | | | | | |
| <u>Demacentor</u> spp. | | | | | |
| <u>Ixodes</u> spp. | | | | | |
| | | | | | |
| Immunology/Serology - Minimum # of Procedures = 5 | | | | | |
| 1. Performs test, including all appropriate quality control, according to protocol and correctly records and interprets the results for: | | | | | |
| a. non-treponemal antibody tests (e.g. RPR, VDRL) | | | | | |
| b. treponemal antibody tests (FTA-ABS, MHA-TP) | | | | | |
| c. heterophile antibodies (e.g. Mono-Diff, Mono-Spot, Mono-Test) | | | | | |
| d. antinuclear antibodies | | | | | |
| e. streptococcal antibodies | | | | | |
| f. rheumatoid factor | | | | | |
| g. C-reactive protein | | | | | |
| h. Lyme antibodies | | | | | |
| i. Viral antibodies/antigens: | | | | | |
| 1. Epstein-Barr | | | | | |
| 2. Cytomegalovirus | | | | | |
| 3. Rubella | | | | | |
| 4. Hepatitis A | | | | | |
| 5. Hepatitis B | | | | | |
| 6. Hepatitis C | | | | | |
| 7. HIV-1 | | | | | |
| COMMENTS: | | | | | |

| AFFECTIVE SKILLS | 1 | 2 | 3 | 4 | EVALUATOR SIGNATURE |
|--|---|---|---|---|---------------------|
| 1. Arrives at the laboratory at the designated time | | | | | |
| 2. Wears the required uniform | | | | | |
| 3. Presents a neat and clean professional appearance | | | | | |
| 4. Begins work promptly on arrival | | | | | |
| 5. Completes all assigned work | | | | | |
| 6. When confronted with an error, understands the error, repeats the test and avoids making the same error again. | | | | | |
| 7. Makes optimum use of available time by seeking assignments, offering assistance to others and reading relevant instructional aids | | | | | |
| 8. Accepts criticism without resentment and attempts to improve | | | | | |
| 9. Is respectful of others' feelings | | | | | |
| 10. Exhibits a genuine interest in clinical laboratory sciences | | | | | |
| 11. Adheres to patient confidentiality | | | | | |
| COMMENTS: | | | | | |

NOTE: PLEASE RECORD ANY LATENESS AND/OR ABSENCES ON THE ATTENDANCE SHEET

NOTE: MID-ROTATION PERFORMANCE

A mid-rotation performance evaluation has been included in order to allow the student to recognize and improve on laboratory tests before the student's rotation is finished. Please indicate below, and inform the student of any area he/she may need to improve.

LABORATORY TEST(S) NEEDING IMPROVEMENT: (Please indicate date of comment and add your initials to any comments)

LABORATORY TEST(S) - PROGRESS REPORT: (Please indicate date of comment)

Signature of Person

Completing Form:_____ Title:_____ Date:_____

Student Signature:_____ Date:_____

Micro clinical evaluation log blank.cln
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