LABMD 853: Laboratory Medicine

Course Director: Frederick Nolte, PhD
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Course Coordinator: Linda McCarson
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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
This comprehensive elective exposes students to the all aspects of laboratory medicine including chemistry, microbiology, hematology, immunology, transfusion medicine and molecular diagnostics. The students will participate in laboratory rotations, laboratory rounds, conferences and small group sessions with attending faculty, residents, fellows and clinical laboratory staff. The overall objectives of the rotation are for the student to gain an appreciation of the role of laboratory measurements in the diagnosis and management of patients and to understand the preanalytical, analytical and post-analytic factors that influence laboratory results.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Identify the important preanalytical, analytical and post-analytical variables that influence laboratory results. (MK4, PC2, PL2)
2. Discuss the basic principles and test methods used in the clinical chemistry, microbiology, transfusion medicine, hematology and immunology laboratories. (MK5, PC2, PL2)
3. Describe the relationship of clinical laboratory results to diagnosis and patient management. (MK8, PL3, SL2)

INSTRUCTIONAL METHODOLOGIES AND ROTATION ACTIVITIES: Students on this rotation will be expected to learn and achieve the educational goals and objectives through the attending following methodologies and activities:
1. Lectures (Laboratory Medicine Core Lecture Series for Pathology residents; Thursdays, 8-9 am; CH 204)
2. Lab (Rotations through the different Clinical Laboratory sections as described above)
3. Conference (Clinical Pathology On-call Conference; Mondays 8:30-9:30 am; CH 204)
4. Seminars (Pathology Journal Club; 2nd Wednesday, 8-9 am and Grand Rounds; 1st Wednesday, 8-9 am; CH 204)
5. Small groups (daily with faculty at various times)
6. Independent study (assigned reading and review with faculty)

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Students present clinical problem or case in which the laboratory results were particularly important in diagnosis or management that they encountered during the laboratory rotations. Cases selected depend upon the students' interest.

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods.
1. E*Value Clinical Performance Evaluation.
2. Direct observation.
3. Oral presentation.
4. A mid-point evaluation form will be completed half way through the rotation in order for the student to be assessed on their performance.

Will students be expected to participate in call? ☐ YES ☒ NO

PATH 856: Forensic & Medical Autopsy Pathology

Course Director: Angelina Phillips, MD
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Course Coordinator: Linda McCarson
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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
This course offers insight into forensic pathology and medicolegal death investigation as well as the workup and certification of in-hospital deaths. The student will be involved in the performance of autopsies, including the performance of external examinations, disposition of fluid/tissue samples for ancillary studies, and basic dissection of the internal organs. This course offers an excellent opportunity for review of normal anatomy and exposes the student to common pathologies and traumas. Contact Dr. Angelina Phillips via e-mail one week prior to the start of the rotation.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Identify factors that qualify a death for a forensic autopsy. (MK3, SL1)
2. Work on an interdisciplinary team and communicate effectively (CS1, PR1, IP1)
3. Explain the complete details of how an autopsy is performed. (MK1, MK3, MK4, CS1)
4. Perform uncomplicated autopsy organ dissection. (MK1, MK3, MK4, PC7)
5. Properly complete the cause and manner of death section on a death certificate. (MK4, CS5)

INSTRUCTIONAL METHODOLOGIES AND ROTATION ACTIVITIES: Students on this rotation will be expected to learn and achieve the educational goals and objectives through the following methodologies and activities:
1. Attendance and participation in weekly autopsy conferences.
2. Rotation specific didactics.
3. Pre-case and post-case discussions with attending pathologist, residents, and /or forensic fellow.
4. Active participation in autopsy casework.
5. Student presentation of a 15-minute autopsy/forensic topic at the end of the rotation.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Natural diseases including hypertension, atherosclerosis, pneumonia, and/or cancer
2. Various forms of trauma including motor vehicle accidents, burns, gunshot wounds, and/or sharp force injuries
3. Illicit and prescription drug overdoses

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. E*Value Clinical Performance Evaluation.
2. Attending physicians, forensic fellow, and pathology residents will provide on-site verbal evaluation/feedback about daily service work.
3. Attending physicians, forensic fellow, and pathology residents will provide on-site verbal feedback of the 15- minute student presentation at the end of the rotation.
4. A mid-point evaluation form will be completed half way through the rotation in order for the student to be assessed on their performance.

Will students be expected to participate in call? ☒ YES ☐ NO
One weekend day during rotation.

PATH 860: Cytopathology

Course Director: Jack Yang, MD
Email: yanja@musc.edu

Course Coordinator: Linda McCarson
Telephone #: 843-792-2711
Email: mccarsli@musc.edu

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Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION:
This course will introduce students to Cytopathology. Students will learn basic preparatory techniques and be involved in evaluation of gynecologic and non-gynecologic preparations. Students will have the opportunity to participate in the entire cytologic diagnostic process, including taking patients' medical history, examination of targeted lesions (physically and radiologically), specimen preparation, and final cytologic diagnosis. The course includes didactic lectures and participation of daily cytology sign-out sessions. Students will also have the opportunity to attend pathology resident seminars and cytologic-histological correlation conference. Course materials/reference textbooks include *The Art & Science of Cytopathology*, *The Bethesda System for Reporting Cervical Cytology*, and *Cytology-Diagnostic Principles and Clinical Correlates*. (All three books are available online in MUSC library website.) Students will meet with Dr. Yang in CH303F at 8:45 am on the first day of rotation. **NOTE**: Students pursuing pathology as a career may request to take the course for four weeks.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Describe the entire diagnostic process in cytopathology (MK1, MK3, MK4, PC1, PC2, CS1, CS3, PR1, PR3, PL1, SL1)
2. Demonstrate effective use of medical vocabulary and written language to communicate with clinicians/patients. (MK1, PR3, CS1, CS3)
3. Identify the elements of the pathologic basis of diseases. (MK1, MK3, MK4, MK5, PC1, PL1, SL1)
4. Correlate clinical symptoms with underlying pathophysiologic mechanisms. (MK1, MK5, PL1, SL1)

INSTRUCTIONAL METHODOLOGIES AND ROTATION ACTIVITIES: Students on this rotation will be expected to achieve the educational goals and objectives through the following methodologies and activities:
1. Participation in Cytopathology sign-out (pap smears and fluid analysis) and rapid on-site evaluation of fine needle aspiration specimens.
2. Attend histo/cyto correlation conference and general pathology lectures
3. Identify topic of interest and give a short cytopathology-related oral presentation (applies to students enrolled in 4-week elective).

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Thyroid nodule
2. Mediastinal lymphadenopathy
3. Hematuria
4. Pap smear

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. E*Value Clinical Performance Evaluation.
2. Direct observation by faculty and residents during patient care and review of clinical/didactic activities.
3. Direct observation and Question/Answer sessions.
4. Direct observation by residents and attending of student day-to-day activities on the team.
5. Short quiz on a topic related to Cytopathology.
6. A mid-point evaluation form will be completed half way through any 4-week rotation in order for the student to be assessed on their performance.

Will students be expected to participate in call? ☐ YES ☒ NO

PATH 862: Surgical Pathology

Course Director: Cindy Welsh, MD
Email: welshct@musc.edu

Course Coordinator: Linda McCarson
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Email: mccarsli@musc.edu

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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
This course will introduce students to surgical pathology. Students will be exposed to gross examination of surgical specimens, frozen section examination, and microscopic pathology. The course will have an emphasis in surgical pathology on topics that are of interest to the student in their ultimate career path. The student will be expected to choose a clinical case that occurs during their four-week rotation to present as a short (5-min) PowerPoint presentation at the last Friday morning resident's conference or in another conference time (arranged and approved by the course director) prior to leaving the elective. The student will also be expected to attend the morning lectures and conferences that occur Monday-Friday at 8:00 am. Time off from the rotation for interviews, etc., requires negotiation beforehand with the course director and follows COM policy.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Describe the scope of pathology and what surgical pathologists do. (MK5)
2. Discuss the indications for and the methodology of intraoperative consultation (frozen section). (MK5, IP3, PC2)
3. Describe the dissection techniques for common surgical specimens. (MK3, PC7)
4. Identify the gross and microscopic features of common neoplasms. (MK3, PC2)
5. Present a patient case with an emphasis on pathology and review of the pertinent literature. (MK8, CS4, PL3)

INSTRUCTIONAL METHODOLOGIES AND ROTATION ACTIVITIES: Students on this rotation will be expected to learn and achieve the educational goals and objectives through the following methodologies and activities:
1. Attendance of general pathology lectures.
2. Attendance at least one tumor board during this course to see the interaction of pathologists and clinicians.
3. Participation in surgical pathology, including gross examination of specimens, evaluation of frozen sections and microscopic evaluation of surgical specimens.
4. Choose a topic of interest and give a 5-minute oral presentation with review of the pertinent literature.
5. Present a patient case selected during the four week rotation with an emphasis on pathology.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Frozen section intraoperative consultations
2. Major oncology resections with follow through to appropriate tumor board discussions
3. Surgical biopsy specimens

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. E*Value Clinical Performance Evaluation.
2. Evaluation of medical knowledge by attending physician on surgical pathology sign-out.
3. Observation and evaluation of skills in the frozen section.
4. Observation of interpersonal communicative skills and professionalism.
5. Quality of oral presentation by selective director.

Will students be expected to participate in call? ☐ YES ☒ NO

PATH 865: Dermatopathology

Course Director: John Metcalf, MD
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Course Coordinator: Linda McCarson
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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
The student will participate in the daily readouts of skin pathology specimens and in self-study of teaching sets. The student will also participate in the daily teaching conferences in the Department of Dermatology including the Clinicopathologic Conference and the Dermatopathology Conference.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Communicate the terminology of dermatopathology. (CS5, PL3)
2. Identify the basic pathologic changes that occur in the skin. (MK1, PL3)
3. Analyze skin specimens. (MK4, PL1)
4. Identify the pathologic features of common inflammatory diseases and neoplasms of the skin. (MK4, PL3)
5. Integrate clinical and pathological features of skin diseases. (PC2, PR1, MK3, CS1, PL3)

INSTRUCTIONAL METHODOLOGIES AND ROTATION ACTIVITIES: Students on this rotation will be expected to learn and achieve the educational goals and objectives through the following methodologies and activities:
1. Lectures
2. Rounds/discussions
3. Lab
4. Conferences

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Basal Cell Carcinoma
2. Squamous Cell Carcinoma
3. Actinic Keratosis
4. Seborrheic Keratosis
5. Melanocytic nevi
6. Psoriasis
7. Eczematous Dermatitis
8. Lichenoid Dermatitis

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. E*Value Clinical Performance Evaluation.
2. Medical knowledge, interpersonal communication skills at Dermatopathology sign-out.
3. Medical knowledge, professionalism in Dermatopathology.

Will students be expected to participate in call? ☐ YES ☒ NO

PATH 870: Pathology as a Career

Course Director: G. Fred Worsham, MD
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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
The student will rotate with a senior pathologist on various rotations including surgical pathology, cytopathology, autopsy pathology, and clinical pathology. This course is designed for students who are considering a career in pathology. Please contact Ms. Lissa Spigner via email one week prior to start of rotation (lissaspigner@gmail.com) to make arrangements for the first day of rotation.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Describe the breadth of pathology as a specialty. (MK2, MK3, MK4, MK5, MK8)
2. Explain a pathologist's role as a consultant in clinical medicine. (MK4, MK5, PC1, PC2, CS1)
3. Discuss basic pathology procedures. (PC7)
4. Describe the role of laboratory direction. (MK4, MK5, PC1, PC2, CS1, PR1, PR2)

INSTRUCTIONAL METHODOLOGIES AND ROTATION ACTIVITIES: Students on this rotation will be expected to learn and achieve the educational goals and objectives through the following methodologies and activities:
1. Rotate on non-GYN cytopathology service including fine needle aspiration biopsy with “wet reads.”
2. Rotate on surgical pathology services, observe frozen sections, and understand the intra-operative role of pathologists.
3. Observe autopsies.
4. Rotate on clinical pathology service, including laboratory planning meetings, blood bank consultation, and clinical chemistry test interpretation.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Accompany pathologists in the performance of bone marrow procedures and fine needle aspiration biopsy procedures
2. Evaluate surgical biopsy and resection specimens from patients with a wide variety of malignant and inflammatory disease processes

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. E*Value Clinical Performance Evaluation.
2. Attending physicians will provide direct observation and verbal evaluation/feedback.
3. A mid-point evaluation form will be completed halfway through the rotation in order for the student to be assessed on their performance.

Will students be expected to participate in call? ☐ YES ☒ NO

PATH 871: Hematopathology & Medicine

Course Director: Kathryn Lindsey, MD
Email: lindseyk@musc.edu

Course Coordinator: Linda McCarson
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Email: mccarsli@musc.edu

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Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION:
In this course, students will participate in the laboratory evaluation and diagnosis of malignant and nonmalignant hematologic disorders. Students will be involved in the morphologic, histochemical and immunohistochemical, immunophenotypic, cytogenetic, and molecular analyses of peripheral blood smear, bone marrow aspirate and biopsies, and lymph node biopsies. Correlation of these data with the clinical history and physical findings will be emphasized.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Describe how to use a multidisciplinary, integrated approach to the diagnosis of hematologic disorders utilizing morphology, flow cytometry, classical cytogenetics and molecular analysis. (MK5, PC2, PR1, CS3, PL3, SL2)
2. Discuss how to diagnose acute and chronic leukemias and determine cell lineage, to distinguish myeloproliferative and myelodysplastic disorders from reactive processes and be familiar with the protean manifestations of plasma cell dyscraias. (MK5, PC2, PR1, CS3 PL3, SL2)
3. Distinguish myeloproliferative/myelodysplastic disorders from reactive processes. (MK5, PC2, PR1, CS3, P3L, SL2)

INSTRUCTIONAL METHODOLOGIES AND ROTATION ACTIVITIES: Students on this rotation will be expected to learn and achieve the educational goals and objectives through the following methodologies and activities:
1. Lectures
2. Rounds/discussions
3. Lab

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. N/A

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. E*Value Clinical Performance Evaluation.
2. Students will be quizzed regarding concepts and principles in response to routine questions about pathologic diagnosis of case slide being reviewed.
3. Students will be evaluated on their ability to document patient information through synthesis of clinical data and additional laboratory tests.
4. Students will be evaluated on their ability to present clear, concise and well organized case presentations.
5. Students will be evaluated for their skill, initiative and capability as a member of the medical team on service in their diligence in completing assignments in a reliable and conscientious manner.
6. Students will be evaluated in their ability to investigate and evaluate their diagnostic and consultative practice, appraise and assimilate scientific evidence and improve their patient care practices.
7. A mid-point evaluation form will be completed half way through the rotation in order for the student to be assessed on their performance.

Will students be expected to participate in call? ☐ YES ☒ NO