RAD 851: Diagnostic Radiology

Course Director: Jeanne Hill, MD
Email: hillj@musc.edu

Course Coordinator: Angie Maguire
Telephone #: 843-792-2473
Email: maguiran@musc.edu

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Block 1	0	**Block 3**	8	**Block 5**	8	**Block 7**	8	**Block 9**	0
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Block 2	8	**Block 4**	8	**Block 6**	0	**Block 8**	8	**Block 10**	0
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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
This course is designed to provide students with a better understanding of the central role of diagnostic radiology in the evaluation and management of patients through participation in reading room readouts, lectures, case conferences/presentations, online assignments, interactive labs, and observation of the various imaging modalities and procedures. Students will tailor their experience to their clinical interests by spending one week in four of the following areas: Body, Cardiac, Chest, IR, MSK, Nuclear Medicine, Neuroradiology, Pediatrics, or Ultrasound.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Describe the fundamental role of the radiologist as consultant and the value of imaging to provide timely, accurate, and actionable diagnostic information regarding a patient's medical condition. (MK5, MK8, IP1, IP2, IP3, SL2)
2. Discuss the indications and appropriateness of imaging studies for common clinical problems and utilize evidence-based resources (ACR Appropriateness Criteria) to determine imaging appropriateness for less common clinical problems. (MK5, MK8, PC3, PL3)
3. Describe the risks of medical imaging: radiation induced cancer, contrast nephropathy, contrast reactions, and MRI safety. (MK5, MK8, PC6)
4. Describe how common procedures and imaging are performed. (MK5, PC1)
5. Apply basic interpretive skills to evaluate imaging studies (plain films and CT), including study identification, recognition of normal radiographic and cross-sectional anatomy and common, potentially life-threatening pathology. (MK1, MK3, PC1, PC2)

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. Clinical exposure: Students will participate in clinical services interacting with and observing residents and faculty daily.
2. Lectures/conferences: Resident-led lectures, faculty-led case presentations, resident conferences, and Grand Rounds.
3. Three interactive labs: Hands on ultrasound scanning with ultrasound guided vascular access, paracentesis and biopsy simulation, a 4D imaging lab, and an interactive introduction to interventional radiology tubes, lines and drains.
4. Reading assignments: Each student will receive a copy of Herring's *Learning Radiology*, Goodman's *Felson's Principles of Chest Roentgenology* and accompanying web resources.
5. Online materials: Aquifer CORE cases, AHRQ's Web M&M scenarios, and Radiographic Anatomy review.
6. Formal presentation of an Evidence Based Imaging case including differential diagnostic considerations, appropriate imaging workup, complications, cost, and radiation dose.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Normal and abnormal imaging studies and procedures on current MUSC patients
2. Broad spectrum of pathology, acute, chronic, medical, and surgical diseases in patients of all ages

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Mid-point feedback and end of rotation E*Value Clinical Performance Evaluation.
2. Direct observation of the student's clinical work by the resident and attending physicians.
3. Student participation and performance in case conferences, Evidence Based Imaging Presentation and interactive workshops.
4. Performance on two quizzes based on online assignments, textbook, and material presented in lectures and case conferences.

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

RAD 854: Pediatric Radiology

Course Director: Jeanne Hill, MD
Email: hillj@musc.edu

Course Coordinator: Angie Maguire
Telephone #: 843-792-2473
Email: maguiran@musc.edu

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Block 1B		Block 3B		Block 5B		Block 7B		Block 9B	2
Block 2	2	**Block 4**	2	**Block 6**	0	**Block 8**	2	**Block 10**	0
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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
This course is designed to provide students with a better understanding of the central role of diagnostic radiology in the evaluation and management of pediatric patients through participation in reading room readouts, clinical rounds, lectures, case conferences/ presentations, online assignments, interactive labs, and observation of the various imaging modalities and procedures. Students will spend the entire rotation in the Pediatric reading room.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Describe the fundamental role of the radiologist as consultant and the value of imaging to provide timely, accurate, and actionable diagnostic information regarding a patient's medical condition. (MK5, MK8, IP1, IP2, IP3, SL2)
2. Discuss the indications and appropriateness of imaging studies for common clinical problems and utilize evidence based resources (ACR Appropriateness Criteria) to determine imaging appropriateness for less common clinical problems. (MK5, MK8, PC3, PL3)
3. Describe the risks of medical imaging: radiation induced cancer, contrast nephropathy, contrast reactions and MRI safety. (MK5, MK8, PC6)
4. Describe how common procedures and imaging are performed. (MK5, PC1)
5. Apply basic interpretive skills to evaluate imaging studies (plain films, CT, US) including study identification, recognition of normal radiographic and cross-sectional anatomy, and common, potentially life-threatening pathology. (MK1, MK3, PC1, PC2)

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. Clinical exposure: Students will participate in clinical services interacting with and observing residents and faculty daily.
2. Lectures/conferences: Resident-led lectures, faculty-led case presentations, resident conferences, and Grand Rounds.
3. Three interactive labs: Hands on ultrasound scanning with ultrasound guided vascular access, paracentesis and biopsy simulation, a 4D imaging lab, and an interactive introduction to interventional radiology tubes, lines and drains.
4. Reading assignments: Each student will receive a copy of Donnelly's *Pediatric Imaging: The Fundamentals* and accompanying web resources.
5. Online materials: Online Pediatric Radiology Curriculum, AHRQ's Web M&M scenarios, and Radiographic Anatomy review.
6. Formal presentations of Evidence Based Imaging cases including differential diagnostic considerations, appropriate imaging workup, complications, cost, and radiation dose.
7. Teaching file cases: Students will be required to complete in Horizon Study Share one teaching file case per week and present each to the course director. One of these cases will also be presented to all other Radiology Elective students in Case of the Day.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Normal and abnormal imaging studies and procedures on current MUSC inpatients and outpatient
2. Wide variety of clinical conditions including acute and chronic, medical and surgical diseases in pediatric patients

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Mid-point feedback and end of rotation E*Value Clinical Performance Evaluation.
2. Direct observation of the student's clinical work by the resident and attending physicians.
3. Student participation in case conferences, Evidence Based Imaging Presentation and interactive workshops.
4. Quiz performance based on online assignments, textbook, and material presented in resident and case conferences.
5. Evaluation of Case of the Day and Evidence Based Imaging presentations.
5. Evaluation of teaching file cases to Course Director and final case presentation to the class.

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

RAD 856: Interventional Radiology

Course Director: Andre Uflacker, MD
Email: uflackera@musc.edu

Course Coordinator: Angie Maguire
Telephone #: 843-792-2473
Email: maguiran@musc.edu

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Block 2	2	**Block 4**	2	**Block 6**	0	**Block 8**	2	**Block 10**	0
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Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION: Students will learn about the role of Vascular and Interventional Radiology in patient care, including inpatient and outpatient scenarios and gain insight into the services it provides by observing and participating in consultations, pre-procedural planning, image guided procedures, and post procedural follow up. Students will attend VIR conferences, Vascular Surgery conferences, general radiology lectures, case conferences and presentations, and complete on-line assignments. Students will spend the entire rotation in the IR procedure area and reading rooms.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Describe the fundamental role of the interventional radiologist as a clinician and consultant and the value of image guided procedures to provide safe minimally invasive procedures to aid in the treatment regarding a patient's medical condition. (MK8, SL2, PC3)
2. Discuss indications, contraindications, and appropriateness of imaging studies and image-guided procedures for common clinical problems and utilize evidence-based resources to determine imaging appropriateness for less common clinical problems. (MK5, PC6, PL2, PR2, IP3)
3. Describe the risks and benefits of the various image guided procedures offered by our service as well as alternative strategies available to the patient regarding their specific medical condition. (MK5, CS4, PC5, PR1)
4. Describe how common procedures are performed, pre-procedure workup and post-procedural follow-up. (MK5, PC7)
5. Apply interpretive skills to evaluate images obtained during procedures, (fluoroscopic and CT), including study identification, recognition of radiographic and cross-sectional anatomy, and common, potentially life-threatening pathology. (MK5, PC2, 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. Clinical exposure: Students will participate in clinical services interacting with and observing residents and faculty daily.
2. Lectures/conferences: Resident-led lectures, faculty-led case presentations, resident conferences, and Grand Rounds.
3. Three interactive labs: Hands-on ultrasound scanning with ultrasound guided vascular access, paracentesis and biopsy simulation, a 4D imaging lab, and an interactive introduction to interventional radiology tubes, lines and drains.
4. Reading assignments: Each student will receive a copy of Herring's *Learning Radiology*, VIR Hand Book, and accompanying web resources.
5. Online materials: Aquifer CORE cases, AHRQ's Web M&M scenarios, and Radiographic Anatomy review.
6. Formal presentations of Evidence Based Imaging cases including differential diagnostic considerations, appropriate imaging workup, complications, cost, and radiation dose.
7. Teaching file cases: Students will be required to complete in Horizon Study Share one teaching file case per week.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Normal and abnormal imaging studies and procedures on current MUSC patients
2. Wide variety of clinical conditions including acute and chronic, medical and surgical
3. Inpatient consultations pre and post procedure.

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Mid-point feedback and end of rotation E*Value Clinical Performance Evaluation.
2. Direct observation of the student's clinical work by the residents, fellows and attending physicians.
3. Student participation in case conferences, Evidence Based Imaging Presentation and interactive workshops.
4. Quiz performance based on online assignments, textbook, and material presented in resident and case conferences.
5. Evaluation of teaching file cases to Course Director and final case presentation to the class.

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

RAD 857: Neuroradiology

Course Director: Milad Yazdani, MD
Email: yazdani@musc.edu

Course Coordinator: Angie Maguire
Telephone #: 843-792-2473
Email: maguiran@musc.edu

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Block 2A		Block 4A		Block 6A		Block 8A		Block 10A	2
Block 2B		Block 4B		Block 6B		Block 8B		Block 10B	2

Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION: This course is designed to provide students with a better understanding of the central role of diagnostic radiology and more specifically neuroradiology in the evaluation and management of patients through participation in reading room readouts, lectures, case conferences/ presentations, online assignments, interactive labs, and observation of the various imaging modalities and procedures. Students will spend the entire rotation in the Neuroradiology reading room.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Describe the fundamental role of the radiologist as consultant and the value of imaging to provide timely, accurate, and actionable diagnostic information regarding a patient's medical condition. (MK5, MK8, CS4, SL2)
2. Discuss the indications and appropriateness of imaging studies for common clinical problems and utilize evidence-based resources (ACR Appropriateness Criteria) to determine imaging appropriateness for less common clinical problems. (MK5, MK8, PC1, PC2, CS1, CS4, PR1, PR2, PL2, PL3, SL2)
3. Describe the risks of medical imaging: radiation induced cancer, contrast nephropathy, contrast reactions and MRI safety. (MK2, PC1, PC6, CS4, PR2, PL3)
4. Describe how common neuroradiologic procedures and imaging are performed. (PC1, PC3, PC5, PC6, PC7, CS2, CS5, PR2, PR3, IP3)
5. Apply basic interpretive skills to evaluate common imaging studies, (CT and MR)-inducing study identification, recognition of normal radiographic and cross-sectional anatomy, and common, potentially life-threatening pathology. (MK1, MK3, MK4, PC2, CS4, CS5, PD2, PL5, IP4)

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. Clinical exposure: Students will participate in clinical services interacting with and observing residents and faculty daily.
2. Lectures/conferences: Resident led-lectures, faculty-led case presentations, resident conferences, and Grand Rounds.
3. Three interactive labs: Hands on ultrasound scanning with ultrasound guided vascular access, paracentesis and biopsy simulation, a 4D imaging lab, and an interactive introduction to interventional radiology tubes, lines and drains.
4. Reading assignments: Each student will receive a copy of Herring's *Learning Radiology*, Goodman's *Felson's Principles of Chest Roentgenology* and accompanying web resources.
5. Online materials: Aquifer CORE cases, AHRQ's Web M&M scenarios, and Radiographic Anatomy review.
6. Formal presentations of Evidence Based Imaging cases including differential diagnostic considerations, appropriate imaging workup, complications, cost, and radiation dose.
7. Teaching file cases: Students will be required to complete in Horizon Study Share one teaching file case per week.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Normal and abnormal imaging studies and procedures on current MUSC patients
2. Wide variety of clinical conditions including acute and chronic, medical and surgical diseases in patients of all ages

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Mid-point feedback and end of rotation E*Value Clinical Performance Evaluation.
2. Direct observation of the student's clinical work by the resident and attending physicians.
3. Student participation in case conferences, Evidence Based Imaging Presentation and interactive workshops.
4. Quiz performance based on online assignments, textbook, and material presented in resident and case conferences.
5. Evaluation of teaching file cases to Course Director and final case presentation to the class.

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

RAD 858: Ultrasound Radiology

Course Director: Susan Ackerman, MD
Email: ackerman@musc.edu

Course Coordinator: Angie Maguire
Telephone #: 843-792-2473
Email: maguiran@musc.edu

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Block 1A		Block 3A		Block 5A		Block 7A		Block 9A	2
Block 1B		Block 3B		Block 5B		Block 7B		Block 9B	2
Block 2	2	**Block 4**	2	**Block 6**	0	**Block 8**	2	**Block 10**	0
Block 2A		Block 4A		Block 6A		Block 8A		Block 10A	2
Block 2B		Block 4B		Block 6B		Block 8B		Block 10B	2

Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION:
This course is designed to provide students with a better understanding of the central role of diagnostic radiology in the evaluation and management of patients through participation in reading room readouts, lectures, case conferences/ presentations, online assignments, interactive labs, and observation of the ultrasound interpretation and procedures. This course is designed to introduce participants to the role of ultrasound in patient care including the appropriateness criteria for the use of diagnostic ultrasound and ultrasound guided procedures.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Describe the fundamental role of the radiologist as consultant and the value of imaging to provide timely, accurate, and actionable diagnostic information regarding a patient's medical condition. (MK5, PC2)
2. Discuss the indications and appropriateness of imaging studies for common clinical problems and utilize evidence based resources to determine imaging appropriateness for less common clinical problems. (SL2, PL2)
3. Describe the risks of medical imaging: radiation induced cancer, contrast nephropathy, contrast reactions and MRI safety. (MK5, PC6)
4. Describe how common procedures and imaging are performed. (MK5, CS4)
5. Apply basic interpretive skills to evaluate imaging studies, (plain films, US, CT) – including study identification, recognition of normal radiographic and cross-sectional anatomy and common, potentially life-threatening pathology. (MK5, PC6)

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. Clinical exposure: Students will participate in clinical services interacting with and observing residents and faculty daily.
2. Lectures/conferences: Resident-led lectures, faculty-led case presentations, resident conferences, and Grand Rounds.
3. Three interactive labs: Hands on ultrasound scanning with ultrasound guided vascular access, paracentesis and biopsy simulation, a 4D imaging lab, and an interactive introduction to interventional radiology tubes, lines and drains.
4. Reading assignments: Each student will receive a copy of Herring's *Learning Radiology* and accompanying web resources.
5. Online materials: Aquifer CORE cases, AHRQ's Web M&M scenarios, and Radiographic Anatomy review.
6. Formal presentation of an Evidence Based Imaging case including differential diagnostic considerations, appropriate imaging workup, complications, cost, and radiation dose.
7. Teaching file cases: Students will be required to complete in Horizon Study Share one teaching file case per week.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Normal and abnormal imaging studies and procedures on current MUSC patients
2. Wide variety of clinical conditions including acute and chronic, medical and surgical diseases in patients of all ages

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. Mid-point feedback and end of rotation E*Value Clinical Performance Evaluation.
2. Direct observation of the student's clinical work by the resident and attending physicians.
3. Student participation in case conferences, Evidence Based Imaging Presentation and interactive workshops.
4. Quiz performance based on online assignments, textbook, and material presented in resident and case conferences.
5. Evaluation of teaching file cases to Course Director and final case presentation to the class.

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

RAD 861: Breast Radiology

Course Director: Rebecca Leddy, MD
Email: leddyr@musc.edu

Course Coordinator: Angie Maguire
Telephone #: 843-792-2473
Email: maguiran@musc.edu

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Block 1A	0	Block 3A	1	Block 5A	1	Block 7A	1	Block 9A	1
Block 1B	0	Block 3B	0	Block 5B	0	Block 7B	0	Block 9B	0
Block 2		**Block 4**		**Block 6**		**Block 8**		**Block 10**	
Block 2A	1	Block 4A	1	Block 6A	0	Block 8A	1	Block 10A	1
Block 2B	0	Block 4B	0	Block 6B	0	Block 8B	0	Block 10B	1

Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION: This course is designed to provide students with an understanding of diagnostic radiology as it pertains to breast imaging radiology and management of clinical breast disease. Students will participate in reading room readouts, lectures, case conferences/presentations, online assignments, and observation of the various imaging modalities and procedures in breast imaging. Students will attend breast radiology pathology concordance conference and breast tumor board. Students will spend the entire rotation in the breast imaging reading room and Hollings Cancer Center Mammography/Breast Imaging Suite. *This is a 2-week course, but is offered as a 4-week course upon request. If interested in the 4-week course, please contact the Course Coordinator.*

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation, students should be able to do the following:
1. Describe the fundamental role of radiologist as consultant and the value of imaging to provide timely, accurate, and actionable diagnostic information in screening for breast cancer, evaluation of breast conditions, and a patient's medical condition. (MK5, PC2, CS4, SL2)
2. Discuss the indications and appropriateness of imaging studies for common clinical breast problems and utilize evidence based resources (ACR Appropriateness Criteria) to determine imaging appropriateness (MK8, PL1, PL6, PR2, SL3)
3. Describe the various imaging modalities that may be used to diagnose breast conditions. Differentiate between screening and diagnostic mammogram, the appropriate utilization of breast ultrasound and breast MRI. (MK5, PL2, SL2)
4. Describe how common procedures and imaging are performed. (MK5, CS3, PC7)
5. Apply basic interpretative skills to evaluate imaging studies including study identification and recognition of utilization. Identify various features of normal/abnormal breast tissue on imaging modalities such as mammograms, ultrasound, MRI, etc. (MK4, PC2, PL4)
6. Discuss the multidisciplinary collaboration to evaluating and managing breast cancer patients. (PC4, PR1, IP2, IP3, IP4)

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. Students will participate in clinical services interacting with and observing residents, fellows, and faculty daily
2. Lectures/conferences: Resident-led lectures, faculty-led case presentations, resident conferences, radiology pathology concordance conference, Hollings Cancer Center breast tumor board, and Grand Rounds
3. Three interactive labs: Hands-on ultrasound scanning with ultrasound guided vascular access, paracentesis and biopsy simulation, a 4D imaging lab, and an interactive introduction to interventional radiology tubes, lines and drains
4. Reading assignments: Breast Imaging-Reporting and Data System (BIRADS) mammography section available in the reading room, JACR journal screening mammogram recommendations 2010, ACR appropriateness criteria screening mammogram and palpable breast masses, and accompanying web resources. Each student will receive a copy of Herring's *Learning Radiology* and Goodman's *Felson's Principles of Chest Roentgenology*
5. Online Materials: Aquifer CORE cases, AHRQ's Web M&M scenarios, and Radiographic Anatomy review
6. Formal presentations of Evidence Based Imaging cases including differential diagnostic considerations, appropriate imaging workup, complications, cost, and radiation dose.
7. Teaching file cases: Students will be required to complete in Horizon Study Share one teaching file case per week.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Normal and abnormal imaging studies and procedures on current MUSC patients
2. Broad spectrum of pathology, acute, chronic, medical, and surgical diseases pertaining to breast care

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. A Mid-point direct feedback provided and end of rotation E*Value Clinical Performance Evaluation
2. Direct observation of the student's clinical work by the resident, fellow, and attending physicians
3. Student participation in case conferences, Evidence Based Imaging Presentation and interactive workshops.
4. Quiz performance based on online assignments, textbook, and material presented in resident and case conferences.
5. Evaluation of teaching file cases to Course Director and final case presentation to the class.

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

RAD 862: Musculoskeletal Imaging

Course Director: Russell Chapin, MD
Email: chapinrw@musc.edu

Course Coordinator: Angie Maguire
Telephone #: 843-792-2473
Email: maguiran@musc.edu

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Block 2B		Block 4B		Block 6B		Block 8B		Block 10B	1

Does this rotation accept visiting students? ☒ YES ☐ NO

COURSE DESCRIPTION: This course is designed to provide students with an understanding of diagnostic radiology as it pertains to musculoskeletal (MSK) radiology and the management of sports-related, degenerative, rheumatologic and orthopedic oncologic disease. Students will participate in reading room readouts, lectures, case conferences/presentations, online assignments, and observation of the various imaging modalities and procedures in musculoskeletal imaging. Students will attend orthopedic tumor board. Students will spend the entire rotation in the MSK imaging reading in Rutledge Tower.

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Describe the fundamental role of radiologist as consultant to referring physicians including: orthopedic surgeons, sports medicine and primary care doctors, orthopedic oncologists and rheumatologists and the value of imaging to provide timely, accurate, and actionable diagnostic information regarding patient condition. (MK5, PC2, CS4, SL2)
2. Discuss the indications and appropriateness of imaging studies for common musculoskeletal problems and utilize evidence based resources (ACR Appropriateness Criteria) to determine imaging appropriateness (MK8, SL3, PL1, PL6, PR2)
3. Describe the various imaging modalities that may be used to evaluate and diagnose MSK-related conditions and determine the most appropriate imaging modality (xray, CT, MRI or ultrasound) for clinical work-up. (MK5, PL2, SL2)
4. Describe how common procedures and imaging are performed. (MK5, CS3, PC7)
5. Apply basic interpretative skills to evaluate imaging studies including study identification and recognition of utilization. Identify various features of degenerative, traumatic, rheumatologic or oncologic pathology on imaging modalities such as xray, CT, MRI and ultrasound. (MK4, PC2, PL4)
6. Discuss the multidisciplinary collaboration toward evaluating/managing orthopedic oncologic patients. (PC4, PR1, IP2, IP3, IP4)

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. Students will participate in clinical services interacting with and observing residents, fellows, and faculty daily
2. Lectures/conferences: Resident-led lectures, faculty-led case presentations, resident conferences, Orthopedic Oncologic tumor board, and Grand Rounds
3. Three interactive labs: Hands-on ultrasound scanning with ultrasound guided vascular access, paracentesis and biopsy simulation, a 4D imaging lab, and an interactive introduction to interventional radiology tubes, lines and drains
4. Reading assignments: Selected Journal Articles (Radiographics, Skeletal Radiology, Radiology, Journal of Ultrasound in Medicine), Fundamentals of Skeletal Radiology available in the library or reading room. Each student will receive a copy of Herring's *Learning Radiology* and Goodman's *Felson's Principles of Chest Roentgenology*.
5. Online Materials: Aquifer CORE cases, AHRQ's Web M&M scenarios, and Radiographic Anatomy review
6. Formal presentations of Evidence Based Imaging cases including differential diagnostic considerations, appropriate imaging workup, complications, cost, and radiation dose.
7. Teaching file cases: Students will be required to complete in Horizon Study Share one teaching file case per week.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Degenerative and inflammatory arthritis (clinical presentation, laboratory and imaging work-up) of current MUSC patients.
2. Broad spectrum of pathology, acute, chronic, medical, and surgical diseases pertaining to MSK-related pathology.

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. A Mid-point direct feedback provided and end of rotation E*Value Clinical Performance Evaluation
2. Direct observation of the student's clinical work by the resident, fellow, and attending physicians
3. Student participation in case conferences, Evidence Based Imaging Presentation and interactive workshops.
4. Quiz performance based on online assignments, textbook, and material presented in resident and case conferences.
5. Evaluation of teaching file cases to Course Director and final case presentation to the class.

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

RAD 865: Radiologic & Pathologic Correlation

Course Director: Jeanne G. Hill, MD, and Laura Spruill, MD
E-mail: hillj@musc.edu; spruill@musc.edu

Course Coordinator: Angie Maguire
Telephone #: (843) 792-2473
E-mail: maguiran@musc.edu

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Block 1	2	**Block 3**	2	**Block 5**	2	**Block 7**	2	**Block 9**	2
Block 1A		Block 3A		Block 5A		Block 7A		Block 9A	
Block 1B		Block 3B		Block 5B		Block 7B		Block 9B	
Block 2	2	**Block 4**	2	**Block 6**	2	**Block 8**	2	**Block 10**	2
Block 2A		Block 4A		Block 6A		Block 8A		Block 10A	
Block 2B		Block 4B		Block 6B		Block 8B		Block 10B	

Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION:
In this elective, the student will attend a variety of clinical tumor boards, participate in 2 Surgical procedures and 2 Image guided procedures to obtain pathologic specimens, identify and direct the collection of current clinical cases which demonstrate outstanding correlation of imaging and pathology. Case documentation will include review of patient history, physical exam findings, imaging, gross and microscopic pathology findings, diagnosis, and discussion. Cases will be uploaded by the student into an internet based teaching file to be subsequently used by medical students, residents, and faculty in the departments of radiology and pathology. At least 2 cases should include complete information and thorough discussion of the radiologic and pathologic features of a disorder/disease process suitable for submission for publication as a case report. **For students to enroll in this course, it is required to previously have taken a Radiology selective or elective.** *(This course may be able to accommodate a third student upon request if approved. Please contact the Course Coordinator to inquire.)*

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Identify potential radiologic-pathologic correlation cases from hospital information systems. (PC1, PL2)
2. Identify optimal images from multiple imaging modalities displaying radiologic pathologic correlation. (MK1, MK4, MK5, MK8)
3. Describe the advantages of multidisciplinary care as demonstrated by tumor boards. (PC6, CS1, CS4, SL2, IP1, IP2, IP3, IP4)
4. Describe the pertinent imaging characteristics of a variety of pathologic disorders. (MK4, MK5, MK8)
5. Describe the gross appearance of pathologic specimens. (MK4)
6. Describe the optimal sectioning of gross specimens for radiologic pathologic correlation. (MK4, IP2)
7. Perform a focused literature search. (MK8, PC3, PL2, PL3)
8. Read and analyze scientific literature. (MK5, MK8, PL3)
9. Prepare a potentially publishable scientific case report and present to clinical colleagues. (PC1, PC2, CS1, PL3, IP3)

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. Review of Online Teaching Materials.
2. Attendance in a broad spectrum of Tumor Boards (including Pediatric, Thoracic, Breast, GI, and Head and Neck).
3. Participation in 2 Surgical procedures and 2 Image guided procedures to obtain pathologic specimens.
4. Review of patient histories, imaging, and pathology.
5. Review of current scientific literature, with supervision, feedback, and approval.
6. After instruction in the teaching file software, development of radiologic and pathologic teaching file cases to be presented at the end of the rotation in the Radiology 851 Case of the Day Conference and Pathology Rad/Path Conference.

PATIENT ENCOUNTERS: Students will be expected to review and summarize the work-up of patients with the following specified conditions:
1. A wide variety of clinical conditions including acute and chronic, medical and surgical diseases in patients of all ages.

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods:
1. A Mid-point direct feedback provided and end of rotation E*Value Clinical Performance Evaluation.
2. Faculty evaluation of Teaching File Cases and Presentations.
3. Faculty evaluation of Literature Search and Case Report.

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

RAD 874: Diagnostic Radiology FLX

Course Director: Jeanne Hill, MD
Email: hillj@musc.edu

Course Coordinator: Angie Maguire
Telephone #: 843-792-2473
Email: maguiran@musc.edu

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Block 1A		Block 3A		Block 5A		Block 7A		Block 9A	
Block 1B		Block 3B		Block 5B		Block 7B		Block 9B	
Block 2		**Block 4**		**Block 6**	20	**Block 8**		**Block 10**	
Block 2A		Block 4A		Block 6A		Block 8A		Block 10A	
Block 2B		Block 4B		Block 6B		Block 8B		Block 10B	

Does this rotation accept visiting students? ☐ YES ☒ NO

COURSE DESCRIPTION:
This course, a combination of online and in-person activities, is designed to provide students with a better understanding of the central role of diagnostic radiology in the evaluation and management of patients through participation in reading room readouts, online lectures, case conferences/presentations, online assignments, and observation of the various Imaging modalities and procedures while affording some flexibility for residency interviews. Students will tailor the experience to their clinical interests by selecting 3-4 subspecialties (Body, Cardiac, Chest, IR, MSK, Nuclear Medicine, Neuroradiology, Pediatrics, and Ultrasound). If 4 subspecialties are selected, the student will spend 3 days in each; if 3 subspecialties are selected, the student will spend 4 days in each. **Students may NOT enroll in both this course and RAD 851 during their fourth year.**

LEARNING GOALS & OBJECTIVES: At the completion of this clinical rotation students should be able to do the following:
1. Describe the fundamental role of the radiologist as consultant and the value of imaging to provide timely, accurate, and actionable diagnostic information regarding a patient's medical condition. (MK5, MK8, IP1, IP2, IP3, SL2)
2. Discuss the indications and appropriateness of imaging studies for common clinical problems and utilize evidence-based resources (ACR Appropriateness Criteria) to determine imaging appropriateness for less common clinical problems. (MK5, MK8, PC3, PL3)
3. Describe the risks of medical imaging: radiation induced cancer, contrast nephropathy, contrast reactions, and MRI safety. (MK5, MK8, PC6)
4. Describe how common procedures and imaging are performed. (MK5, PC1)
5. Apply basic interpretive skills to evaluate imaging studies (plain films and CT), including study identification, recognition of normal radiographic and cross-sectional anatomy, and common, potentially life-threatening pathology. (MK1, MK3, PC1, PC2)

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. Clinical exposure: Students will participate in clinical services interacting with and observing residents and faculty at least 12 days of their 4 week rotation, 2 of which **MUST** be the **first** and **last** days of the rotation.
2. Online Aquifer CORE Cases and lectures
3. Conferences: Faculty-led case presentations, multidisciplinary conferences such as Tumor Board
4. Reading assignments: Each student will receive a copy of Herring's *Learning Radiology*, Goodman's *Felson's Principles of Chest Roentgenology* and accompanying web resources
5. Online materials: Additionally, AHRQ's Web M&M scenarios, and Radiographic Anatomy review
6. Completion of online assignment in which students will assess clinical scenarios and answer questions about differential diagnostic considerations, appropriate imaging workup according to the ACR Appropriateness Criteria, potential complications, cost, and relative radiation dose of the workup.

PATIENT ENCOUNTERS: Students will be expected to work-up patients with these specified conditions:
1. Normal and abnormal imaging studies and procedures on current MUSC patients
2. Broad spectrum of pathology, acute, chronic, medical, and surgical diseases in patients of all ages

EVALUATION / FEEDBACK METHODS: Students will be evaluated using the following methods.
1. E*Value Clinical Performance Evaluation.
2. A mid-point evaluation form will be completed halfway through the rotation in order for the student to be assessed on their performance.
3. Performance during case conference presentations.
4. CORE case completion.
5. Performance on Appropriate Imaging online assignment.
6. Performance on a pre- and post-test based on CORE cases, online assignments, textbook, and material presented in lectures and case conferences.

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