

Diagnostic Radiology medical student elective experience

Diagnostic imaging is a central element of patient care, across the breadth of medical specialties. The majority of deans and academic radiology department chairs of US and Canadian medical schools have cited an increase in exposure to radiology as an important goal for undergraduate medical education. In existing curricula, emphasis is typically placed on interpretation. However, the key non-interpretive skills – patient imaging safety, appropriateness, and communication in regard to imaging studies and their results – are finding increased representation among expectations and assessment recommendations for medical graduates.

The 4-week Diagnostic Radiology (DR) Elective is a strongly participation-driven course, comprised of multiple synchronous and asynchronous learning experiences. These include daily group-based case conferences, additional interactive group-learning activities, and reading station experiences designed to provide high value for radiology and non-radiology bound students alike. The structured learning experiences within the DR elective are designed to help students establish and build on skills of radiological consultation, and in doing so, to contribute to the core goal of Advanced Clinical Management that defines the LSI Part 3 Academic Program.

The conferences of the 4-week elective will begin with an introduction to non-interpretive skills – basic imaging physics, safety issue, and appropriateness – as central elements of the radiological consultation, and as critical considerations for patient-centeredness within radiology. The remainder of the first 2 weeks of the elective is dedicated to the core imaging subspecialties: cardiothoracic, musculoskeletal, abdominal, and neurological imaging. During the third week of the elective, students will be introduced to special imaging applications, in the way of subspecialties that focus on specific populations of patients and/or specific modalities: women’s imaging, nuclear medicine, pediatric imaging, and interventional radiology. The fourth and final week of the elective will include the culminating assessments of the course, which are detailed below. In the remaining time during the fourth week, students will have “flex” time during which they may elect to work with attending physicians from imaging specialties that are of greatest interest, or where more exposure is desired.

Learning Activities:

- Rotation case conferences and group-based learning (2-4 hours daily, mornings, M-F).
- Readout sessions – review of imaging cases with trainee and attending staff working directly from the PACS station (2 hours daily, afternoons, first three weeks of rotation).

Assessments and Feedback:

- The elective places a strong emphasis on participation and contribution to conferences, and on pre-conference preparation through recommended topic-based readings. Quality and depth of participation figure prominently into grade determination.
- Summative written, practical, and oral examinations will occur during the final week of the rotation unless extenuating circumstances exist, in which case special arrangements must be made with the course director as early as possible.
 - Written Examination – comprehensive computer-based multiple-choice examination (75 questions), administered through the AMSER-endorsed American College of Radiology (AC) Radiology STARS platform, covering interpretive and non-interpretive skills content.
 - Practical Examination – computer-based short-answer examination, administered along with the written examination, covering interpretive skills in the form of 20-25 commonly encountered imaging cases.

- Oral Examination – OSCE-type oral examination, administered by the course director, covering non-interpretive skills, in the form of 3-4 commonly encountered scenarios requiring application of skills in communication with patients, family members, and other care providers.

Grading:

- The final grade for the elective is based on a point system (100 possible points):
 - Participation – 30
 - Final Presentation and Write-up – 30
 - Oral Examination – 10
 - Written Examination – 20
 - Practical Examination – 10

Grading Scheme (based on points earned, out of a possible 100):

- Honors 90-100
- Letter of Commendation 80-89
- Satisfactory 70-79
- Unsatisfactory < 70

A total of three optional quizzes will be distributed during the elective. Points earned through accurate, timely completion of the quizzes will supplement those from the final written and practical examinations. Quizzes are open-book, with group-based collaboration encouraged.