

# UMKC Diagnostic Radiology Residency Manual and Curriculum

(Revised 6,25,14)



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## **UMKC Radiology Residency Welcome letter**

Dear Resident,

Welcome to the University of Missouri-Kansas City (UMKC) and the profession of Diagnostic Radiology. This manual will help orient you to the UMKC affiliated hospitals. It will serve as a reference for FAQs about university, departmental and hospital policies. Review the manual in order to become familiar with how the program functions.

Please **be sure to review the curriculum, including core competency based goals and objectives, at the beginning of each rotation**. This will help you know what is expected of you. Familiarize yourself with the curricula at the beginning of each rotation.

As your program director, my job is to assure that we comply with all regulations necessary to maintain accreditation of your residency. I oversee the Resident Education committee and another faculty oversees the Milestones committee, both of which include the Chief Residents and the Associate Program Directors. These committees organize and oversee the educational program of the residency.

However, our job began with your application. We supervise the recruitment of the best residents possible and **are proud we recruited you!** It is also our duty to be sure we provide you with a top notch residency experience, and I know that all of you will be zealous on your various rotations.

I, the Chief residents and the associate program directors are your advocates at all times. We will help guide you through training so that you will leave UMKC achieving the fellowship of your choice and be prepared for any type of future practice as a radiologist.

Sincerely,



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## **UMKC Radiology Residency Educational Program**

The University of Missouri-Kansas City (UMKC) Diagnostic Radiology Residency Program is a categorical program accredited by the Accreditation Council of Graduate Medical Education (ACGME). The program integrates 1 year of clinical training and 4 years of diagnostic radiology, which fulfills requirements to prepare residents for specialty certification by the American Board of Radiology (ABR) and complies with various guidelines recommended by the ABR and ACGME.

The **principal goal of the diagnostic radiology residency program** is to meet or surpass the requirements of the ACGME Radiology Residency Review Committee in training competent, caring radiologists who possess the knowledge, skills and competencies necessary to:

- Pass the core American Board of Radiology (ABR) exam.
- Begin preparing for the ABR Certifying exam to be completed after fellowship.
- Pursue a fellowship, enter private practice or begin an academic career.
- Practice radiology according to the standards set by the ABR, American College of Radiology (ACR) and other professional organizations.
- Participate in life-long learning and quality improvement.

*These goals are accomplished by:*

- Achieving ACGME milestones in radiology residency training.
- Providing supervised graduated exposure to varied case material.
- Delivering an educational program that consists of clinical teaching and performance feedback that is supplemented with conferences, case discussions, ACR syllabi, journal clubs/articles, morbidity and mortality conferences, business and research training.
- Providing teaching and experiences that enable residents to master the 6 ACGME core competencies, meet specialty milestones and gain confidence in image interpretation, consultation, and performance of procedures expected of a practicing diagnostic radiologist.
- Resident participation in scholarly activity through medical student teaching; presentations at departmental and interdisciplinary conferences, regional or national meetings; peer-reviewed publications or presentations of original research; and membership in professional & scientific societies.
- Active participation in quality improvement activities.

## **ACGME Program Requirements:**

The UMKC Diagnostic Radiology residency is fully accredited by the Accreditation Council for Graduate medical Education (ACGME), and therefore is guided by the ACGME Program Requirements. Compliance is monitored by the Residency Review Committee (RRC) for diagnostic radiology. Our last RRC visit was Feb 2009, and we were accredited and commended with a 5 year cycle. We were reaccredited in 2014.

The ACGME program requirements for radiology may be reviewed at <http://www.acgme.org>

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## **ACGME RESIDENT CASE LOG AND OTHER CASE LOGS:**

The ACGME requires radiology residents PGY2+ to maintain a case log on the ACGME, ADS website, which will be reviewed at the biannual evaluations with the program director. Numbers of exams in which the resident participated in the interpretation are printed in a monthly report from SLH, TMC, CMH and the breast imaging center, based on specific CPT codes mandated by the ACGME.

Other resident logs must be kept up to date and are reviewed at biannual evaluations as follows (Residents are given a excel worksheets on a thumb drive):

- Interventional cases – including outcomes
- Thyroid treatments – including specific mCi of radiopharmaceutical used
- Interdisciplinary conference attendance log
- Introduction to research series attendance log (75%+ required)
- Personal and Professional Development seminars (4+ required)
- Work hours – Recorded daily in New Innovations

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## **Instructions: How to obtain CPT code numbers for the ADS/ACGME website**

ACGME requires PGY2+ residents to track certain CPT code numbers of cases (specific codes listed below). The source of these reports include TMC/SLH/CMH/KCVA and the breast center.

TMC, CMH, KCVA and SLH: Residents assigned to CMH, TMC, KCVA and SLH will receive a report at the end of the month with their case numbers. Each resident will be given log in information and instructions on how to enter the data by the program coordinator. Residents should log onto the ADS system and enter their individual data. Help can be obtained via Ms. Urquhart at 932-2237.

Mammography: Residents assigned to mammography will NOT receive a report in their box each month, but may request a report as follows:

For the 3 or 4 months you do mammo, you must all do the steps listed below. YOU will be responsible for getting your mammo numbers. You WILL NOT be getting an automatic report as with the others from TMC and SLH.

1. During your mammography month, **enter your initials into Magview for the studies with which you are involved.**
2. **At the end of the month, ask the office manager, to print a list of your studies.** You will have to give her your initials.
3. **The printed list will give the total studies which can then be entered into the ACGME website.**
  - *If there are 2 residents during the month, you can only enter one set of initials at a time.* So, I suggest you enter the senior resident and the junior resident can use similar numbers at the end of the month subtracting any days out.

Residents will have the opportunity to read up to 1000 studies per month. So even with 2 residents on per month, there are plenty of studies to be read.

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**Below are the codes that the ACGME has required you track:**

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**CPT Codes for Procedures Categories**

**Chest x-ray** 71010, 71015, 71020, 71021, 71022, 71023, 71030, 71034, 71035

**CT abd/pel** 72192, 72193, 72194, 74150, 74160, 74170

**CTA/MRA** 71275, 71555, 72191, 72198, 74175, 74185, 70544

**Image guided bx/drainage** 75989, 76942, 77012

**Mammography** 77055, 77056, 77057, G0202, G0204, G0206

**MRI body** 71550, 71551, 71552, 72195, 72196, 72197, 74181, 74182, 74183

**MRI brain** 70551, 70552, 70553

**MRI knee** 73721, 73722, 73723

**PET** 78491, 78492, 78608, 78609, 78811, 78812, 78813, 78814, 78815, 78816

**US abd/pel** 76700, 76705, 76770, 76775, 76830, 76856, 76857

**CTA/MRA** 70545, 70546, 70496, 70547, 70548, 70549, 70498, 73725, 73706

**MRI spine** 72141, 72142, 72146, 72147, 72148, 72149, 72156, 72157, 72158

## **Core Competencies:**

In 2001, the ACGME adopted 6 core competencies to the program requirements for all accredited residencies in every specialty and in 2002, all residency programs were responsible for implementing a teaching and evaluation plan for these 6 competencies.

**Patient Care** Provide patient care through safe, efficient, appropriately utilized, quality-controlled diagnostic and/or interventional radiology techniques and effectively communicate results to the referring physician and/or other appropriate individuals in a timely manner. Completion of BLS and ACLS is part of this competency.

**Medical knowledge** Engage in continuous learning using up to date evidence and apply appropriate state of the art diagnostic and/or interventional radiology techniques to meet the imaging needs of patients, referring physicians and the health care system.

**Practice Based Learning and Improvement** that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence and improvements in patient care. In addition, residents must participate in evaluation of their personal practice utilizing scientific evidence, "best practices" and self-assessment programs in order to optimize patient care through lifelong learning.

**Interpersonal and Communication skills** Residents must master effective communication with patients, colleagues, referring physicians and other members of the health care team concerning imaging appropriateness, informed consent, safety issues and results of imaging tests or procedures. This communication must result in effective information exchange and teaming with patients, their families and other health care professionals.

**Professionalism**, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Moreover, residents must commit to high standards of professional conduct, demonstrating altruism, compassion, honesty and integrity. Follow principles of ethics and confidentiality and consider religious, ethnic, gender, educational and other differences in interacting with patients and other members of the health care team (Completion of modules in ethics, Medical-Legal Issues and HIPAA training are part of this competency).

**Systems-Based practice**, as manifested by actions that demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents should understand how the components of the local and national healthcare system function interdependently and how changes to improve the system involve group and individual efforts. Optimize coordination of patient care both within one's own practice and within the healthcare system. Consult with other healthcare professionals, and educate healthcare consumers, regarding the most appropriate utilization of imaging resource.

See article explaining systems based practice projects and how to conduct one later in this manual.



**Core curriculum Milestones:**

During your training you will demonstrate graded levels of competence in the core competencies based on the ACGME radiology milestones. Core competency formative evaluations will occur monthly and will be considered during assessment of resident milestone assessments that will occur at least biannually during your training.

We assess resident performance throughout the program and use assessment results to improve performance. We assess competence in all 6 areas and provide regular, timely feedback to residents. Samples of our teaching and evaluation activities by competency follows.

The milestones may be reviewed on the UMKC website by clicking on milestones under residency at URL: <http://med.umkc.edu/radiology/>

## Pillars of professional practice



**Acquire skills & knowledge through scholarly training & lifelong learning**

**Place patient's interests above one's own**

**Self-regulate through ethics behavior and self-discipline**

### Methods of teaching and assessing core competencies:

<u>Patient Care</u>	<u>Interpersonal/Communication skills</u>	<u>Practice Based Learning &amp; Improvement</u>
<b>Learning Methods</b>		
On line and lectures on patient care, radiation safety	Curriculum in radiology reporting (3 online modules)	Clinical teaching-you teach others (lower level residents, & med student lectures)
Online module on fluoroscopic techniques	Performance feedback from faculty, patients, peers, technologists	Clinical experiences – you identify knowledge gaps, find the information
Performance feedback on clinical & radiology rotations	Departmental/interdepartmental conference and presentations	Performance feedback – biannual program director and annual self-assessment
Interdepartmental conferences, lectures and discussions, including M&M	Individual or group scholarly projects with local and national oral presentations	Participate in M&M and research/journal club
HIPPA and other mandatory hospital training, AFIP, ACLS	Biannual report scoring and feed back	Participation in societies & health care organizations
<b>Evaluation Methods</b>		
360° Evaluations (faculty, technologist, patient,	360° Evaluations (faculty, technologist, patient, education	360° Evaluations (faculty, technologist, patient,

education committee); biannual program director, annual self-assessment, yearly peer review)	committee, biannual program director/self assessment evaluation)	education committee, biannual program director/self assessment, yearly peer review)
Documentation of completion of safety and fluoroscopic techniques modules	Focused observations and evaluations – <i>professional dress &amp; demeanor, presentation skills</i>	Documentation in portfolio of scholarly activity, presentation at conferences
Documentation of competency in dictation skills and proper referral	Yearly resident peer evaluation	Focused observation and evaluation – evaluate and impact patient care practices
Documentation of competency in core IR, US and fluoro procedures	On line communication modules (Reporting/Teaching)	Documentation IR and thyroid patient outcome logs
Participation and preparation of M&M conferences	Documentation of 75% pass rate on reporting curriculum	Documentation of participation in ABR exams
Maintenance of licensure status	Compliance with institutional, departmental program policies	Participation/presentation at Journal club
Documentation of error rates in prelim & final reports	Documentation of passage of ABR core exam	Evaluation of UMKC faculty and peer review
Documentation of IR case log with patient outcomes	Documentation and scoring of radiology reports	Participation in in-service exam

<u>Medical Knowledge</u>	<u>Professionalism</u>	<u>Systems Based Practice</u>
<b>Learning Methods</b>		
Radiology departmental lectures & discussions	Completion of professionalism training as R1	R1 review “How to do a System Based Practice Project (SBPP)”
Clinical experiences & daily PACS station teaching	Completion of Pediatric professionalism training as R3	Annual self assessment & choice of SBPP
Performance feedback by faculty at the end of each rotation	Performance feedback during each rotation (clinical and radiology)	Performance feedback, biannual program director review
Monthly review of goals & objectives on each rotation	Punctual attendance at conferences	Departmental/hospital QI/QA & M&M participation
Various learning activity - AIRP, ACLS, reading assignments, review of cases & teaching files	Role modeling professional behavior – dress, phone etiquette (compliance with hospital/departmental policies)	Individual or group SBPP projects – presentation at local or national radiology societies meetings
<b>Evaluation Methods</b>		
360° Evaluations (faculty,	360° Evaluations (monthly	360° Evaluations (faculty,

technologist, patient, education committee, program director, self-assessment, peer review)	faculty, technologist, quarterly patient, education committee, biannual program director/self assessment evaluation)	technologist, patient, education committee, program director, self-assessment, peer review)
Documentation of satisfactory performance on ACR In-training exam or remediation of deficiencies	Documentation of completion of online professionalism module (R1) & compliance with hospital professionalism training	Documentation of review of "How to do a System Based Practice Project (SBPP)" in R1 year Attendance records
Documentation of passing score on ABR core exam or remediation	Documentation of completion of pediatric professionalism training (R3)	Documentation of annual self assessment, and PD progress on SBPP
Documentation of satisfactory performance on ACR in service exam or remediation of deficiencies	Documentation of punctual conference attendance	Participation in evaluation of faculty, department and residency program
Documentation and feed back on discrepancies in preliminary reports	Resident peer evaluation of professionalism and feedback at PACS station by faculty	Documentation of attendance and participation in M&M, QI/QA conferences

## **Patient care & Radiation safety**

Matriculating residents should complete the following activities at or prior to radiology orientation. Place certificates of completion in your portfolios.

Go to the Cleveland Clinic website address:

[www.cchs.net/onlinelearning/cometvs10/pedrad/default.htm](http://www.cchs.net/onlinelearning/cometvs10/pedrad/default.htm)

If you do not have an account, click '**new user registration**' to get started. Be sure to **save your user name and password. You will use this site again in the future.**

Once you get to the welcome page, click on **section Junior Radiology Resident curriculum**, then click on **ACGME competencies**. Under ACGME competencies, there are two modules entitled (1) **patient care and (2), radiation safety**. Complete modules, print certificates and bring to orientation.

Sincerely,  
Radiology Program Director, UMKC Radiology

## Systems-Based Practice Project (SBPP) Guidelines

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All residents are required to complete a SBPP during resident training. The program director will approve any reasonable proposal that will enable the resident to achieve the learning objectives for this activity. A written updated description of the SBPP must be placed in the resident portfolio annually, and will be reviewed by the program director. Once the project is completed, the final description will be placed in the resident portfolio where it will remain, which will indicate the resident has met this program requirement. At the conclusion of the project, the resident will prepare and present a 10-minute summary for Research Conference.

Competency: As a diagnostic radiology resident (per the RRC), you are competent in systems-based practice when you:

1. Understand how the components of the local and national healthcare system function interdependently and how changes to improve the system involve group and individual efforts.
2. Optimize coordination of patient care both within your own practice and within the healthcare system.
3. Consult with other healthcare professionals, and educate healthcare consumers, regarding the most appropriate utilization of imaging resources.

Learning Objectives: This self-directed systems-based practice project is designed to enable the resident to:

1. Increase individual knowledge of health care systems.
2. Gain experience in writing research proposals, conduct studies & report results.
3. Document participation in analysis of a systems-based problem.

Proposal Format: The project proposal should be no more than 3 pages, typewritten using 1" margins and a font no smaller than 10-point and include the following sections.

1. Problem Statement: What problem or need does your project address? Describe your interest in researching the topic as well as the importance of the effort. What is the existing knowledge? The basis for your project may be as simple as personal conversations or email correspondence. Include any preliminary data you have collected.
2. Specific Aims/Hypotheses: What do you intend to accomplish (anticipated outcomes)? State the hypotheses to be tested or your research questions. These will serve as the measure of your project's success.
3. Method: Describe the project's experimental design and methods. How will you collect, analyze, and interpret data? Identify potential difficulties and limitations and explain how you will overcome or mitigate them. Specify your timeline for the project. Will you need IRB and/or other approvals?
4. Resources: Describe the roles and qualifications of all persons who will participate in the process. Identify other resources will you need – facilities, major equipment, support services, etc. For example, will you need help with IRB approval or statistical analysis?
5. References: Document all sources used to develop your project including, but not limited to, personal conversations/correspondence, reports, online documents, published literature.

# Interdepartmental Problem-Solving as a Method for Teaching and Learning Systems-Based Practice

Ralph C. Panek, Linda A. Deloney, Jong Park, Whit Goodwin, Sarah Klein, and Ernest J. Ferris

**Rationale and Objectives.** Systems-based practice (SBP) has been the most difficult competency to implement in radiology residency programs, and methods for teaching and learning SBP concepts are needed. Because systems problems are usually multifactorial, a multidisciplinary approach is required. In our institution, survey data indicated patient dissatisfaction with emergency care. Prolonged wait times for radiology procedures were identified as a systems problem. When hospital administration asked the emergency medicine and radiology departments to work together to improve patient care, residents had a “real-world” opportunity to achieve the SBP competency.

**Materials and Methods.** Systems problems were identified and categorized. Data on patient transport were collected. Accurate time logs documenting when studies were ordered, performed, and interpreted were maintained. Data were analyzed at interdepartmental meetings and three improvements were planned and implemented.

**Results.** A direct line of communication was established between radiology and emergency medicine via a dedicated cellular telephone. A joint emergency medicine/radiology teaching conference was established. Additional transport personnel were employed. Residents in both departments increased their understanding of their role in the health care system, demonstrated an ability to identify systems problems and appropriately implement improvements, and enhanced their professional relationships.

**Conclusion.** This innovative method integrated educational goals with patient care goals, was grounded in “real-life” experience, and held residents accountable for results. Competence in SBP, patient care, professionalism, and interpersonal and communication skills were demonstrated. We recommend this approach as an efficient and effective way to integrate SBP into everyday clinical practice.

**Key Words.** Systems-Based Practice; Accreditation Council for Graduate Medical Education (ACGME); Residency Review Committee (RRC); Resident Education; Quality Improvement; Professionalism; Emergency Medicine; Interdepartmental Problem Solving.

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Systems-based practice (SBP) has been a difficult concept for faculty and residents across all medical specialties (1,2). A majority of diagnostic radiology program directors (78%) reported that SBP was the *most difficult* competency to implement in their residencies (2). Although physicians recognize their professional responsibility to improve the quality of patient care, few of them understand how the health care system operates or how to effectively promote systems change (3). Before 2003, SBP was not taught in traditional residency training or other educational venues for medical students and faculty (4). Once in practice, physicians typically function as “soloists”—clinical autonomists and occupational monopolists—in spite of the fact that they are delivering medical care in complex systems in collaboration with specialists from many disciplines.

**Acad Radiol 2006;** 13:1150–1154

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## Radiologic Education

In graduate medical education, there has always been a potential for conflict between educational needs and the efficiency of the health care system. Residents, who are accountable for the patient’s good, learn to “work around” systems to save time and take care of their patients.

This emphasis on clinical autonomy is no longer appropriate in complicated environments that depend on effective processes and efficient systems (5). An understanding of system interactions and strategies for promoting cohesion are especially important for assuring optimal patient care (5). Communication and teamwork in particular are known to be essential for delivery of high-quality, safe patient care (6,7). When SBP was introduced as a general competency, the Accreditation Council for Graduate Medical Education (ACGME) provided selected references and a “toolbox” of assessment methods, but no core content or curricula (8). If SBP is to become integrated into residency training, efficient methods for teaching SBP concepts are required. Health care improvements need not be sophisticated or elaborate or involve new devices or technologies. They can be initiated simply by learning how the work is done and reflecting on how it might be done differently (9,10). With the confluence of increasingly complex clinical needs and rapid advances in imaging technology, many “real-world” learning opportunities for the SBP competency exist in the daily routine of each resident and faculty member’s workday. As an example,

this article illustrates the educational potential of one interdepartmental problem-solving initiative as a resident learning opportunity for the SPB competency.

### **THE SYSTEMS PROBLEM**

Radiology and emergency medicine (EM) are two fast paced hospital-based specialties being practiced in an increasingly complex and fluid environment. As the demands on these health care systems multiply, improvements in the organization of work and access to timely clinical information are required to manage the workload in a safe and efficient manner (11). The main cause of patient dissatisfaction with emergency care, according to a recently published review of the emergency medicine literature, was lengthy waiting times (12). Our institutional experience supports this finding. Patient survey outcomes indicated dissatisfaction with emergency care. Prolonged wait time for radiology procedures, primarily computed tomography scans, was cited as a systems problem (13). These data suggested that improvements were needed, and hospital administration asked the radiology and EM departments to collaboratively manage the workload in an efficient manner.

### **THE SYSTEMS ANALYSIS**

An interdepartmental approach to problem solving was undertaken during the 2005 summer semester, providing an important learning opportunity for residents from both departments to participate in a systems-based project. Department chairmen, residency program directors, and chief residents met to identify systems problems. Identified problems were then categorized as interdepartmental communication, timeliness of interpretation, or professional relationship.

The analysis revealed that EM physicians requested radiology exams after-hours (5 PM–8 AM) by filling out a paper form and then paging the on-call resident. The radiology resident would then contact the appropriate technologist to provide patient information and the study protocol. Patients would then be transported from the emergency room to radiology by EM transporters or ancillary personnel. These transport personnel positions were often understaffed and had high turnover rates. Consequently, transport times of 1 hour or more were not unusual. After the radiographic study was performed, the technologist would contact the radiology resident via pager when the images were available for interpretation. After the study was interpreted, the preliminary or final result was electronically reported to the ordering EM physician by means of a dialog box which could be viewed on any of several clinical picture archiving and communication systems located in the emergency department. Next, an institutional review board–approved study was undertaken to accurately identify time parameters and common types of delays. Radiology residents were trained for data collection and maintained meticulous logs during a 4-month period. Logs were designed to record time involved in ordering, performing, and interpreting various studies as well as for patient transport between the emergency room and radiology. Study data was analyzed to identify the range, mean, and standard deviation of time involved for each of the aforementioned activities. Systems problems were discussed monthly at the resident level during regularly scheduled radiology resident meetings. Residents were asked to make constructive suggestions on how to improve the current failing system.

The chief residents from each department served as resident liaisons at the interdisciplinary EM/radiology meetings and presented resident suggestions at the administrative level.

### **RESULTS**

Study outcomes created a foundation for data-driven decision making by the interdisciplinary team. Results indicated that transport time between the EM and radiology department averaged 58.6 minutes. Interpretation time ranged from less than 5 minutes to 1.5 hours, with a mean interpretation time of 21.6 minutes. With accurate study data and constructive resident input, the interdepartmental team proceeded to plan systems improvements and achieve consensus regarding three initiatives. First, a direct line of communication was established between on-call radiology residents and an EM senior resident or attending using department-funded dedicated cellular telephones. This eliminated the outdated and inefficient alphanumeric paging system.

Second, study data clearly identified the impact created by inefficient patient transport. Additional transport personnel were employed in both departments. Ongoing informal anecdotal reports indicate departmental satisfaction with the improved transport services. Finally, an EM/radiology teaching conference was established to promote collegiality and increased communication among residents and staff of each department. The inaugural conference, held during the fall semester 2005, brought together residents from both departments to discuss typical clinical and radiographic presentations of right lower quadrant abdominal pain. To assess resident satisfaction with the new forum, one conference was randomly selected for evaluation. Participants evaluated the March 2006 conference using a standardized form and a 5-point Likert-type rating scale anchored by “5” for “exceptional” and “1” for “unsatisfactory.” Average ratings across six dimensions ranged from 4.40 to 4.00, indicating that the conference exceeded their expectations. Most highly rated aspects were the quality of cases presented for discussion (4.40) and the organization of the conference (4.33).



Resident learning outcomes included an appreciation of the potential for interdisciplinary problem solving in health care environments and enhanced awareness of their role in the health care system. Importantly, professional relationships improved as residents developed a better understanding of each others' specialty and particular difficulties in providing clinical services. Documentation of project participation has been included in the learning portfolios of participating residents.

## DISCUSSION

For SBP to become integrated into residency training and medical practice, residents need effective methods for learning SBP concepts in the course of their daily activities. When SBP was adopted as one of six competencies for residents across all medical specialties (1,2), the competency was loosely defined (eg, "awareness of and responsiveness to the larger context and system of health care" and "ability to effectively call on system resources to provide care that is of optimal value") (8) and the requisite knowledge and skills for SBP performance—resources, providers, and systems; cost-appropriate care, delivery systems, and patient advocacy—were unclear (14). It was not until 2005 that the Residency Review Committee for diagnostic radiology modified the broad ACGME definition for SBP and established specialty specific criteria to define the expected knowledge and skills pertinent to radiologists (Table 1) (15). Early recommendations to educate radiology residents and faculty about the SBP competency were to review appropriate literature; attend departmental and multidisciplinary conferences; interact with department administrators and faculty to gain an understanding of costs and reimbursements; view American College of Radiology (ACR)/Association of Program Directors in Radiology (APDR) videotapes; join and participate in radiologic societies; and schedule presentations on healthcare funding and regulation (16). This initiative incorporated many of the active learning recommendations.

**Table 1: The Residency Review Committee for Diagnostic Radiology's Definition of Systems-Based Practice**

- Understand how the components of the local and national health care system function interdependently and how changes to improve the system involve group and individual efforts.
- Optimize coordination of patient care both within one's own practice and within the health care system.
- Consult with other health care professionals, and educate health care consumers regarding the most appropriate utilization of imaging resources.

Across the medical education literature, SBP education has evolved from a combined didactic and experiential methods (4,17–22) to a more interactive approach. Clinical vignettes are used to trigger systems-based discussions on health care financing, administration, leadership, and political problems (23) and discharged patients are followed to gain information to improve discharge planning (24). SBP simulation is being used to practice coordination and teamwork (22), and a computer game has been designed to teach the principles and practical application of health economics (25). Recently, SBP was conceptualized using the metaphor of a village, made famous by then-First Lady Hillary Clinton when she said "it takes a village to raise a child," and the metaphor was supplemented experientially by multidisciplinary patient care rounds, nursing evaluations, and quality assessment systems improvement exercises (1). Each of these efforts, however, was limited by the time and faculty required to develop an effective curriculum tailored to the education and practice needs of radiology students.

Problem-solving teams are widely used in health care systems for continuous quality improvement. Approaches such as "plan-do-study/check-act" cycles have become a core element of many program and systems improvement initiatives as an application of the scientific method to implement and test the effects of change ideas on the performance of health care systems (4,9), and, increasingly, on medical education activities (26). These quality improvement activities not only provide "real-world" opportunities of daily work to teach and learn SBP concepts, but can result in significant systems improvements as well.

## CONCLUSION

This interdisciplinary team initiative provided significant opportunities for residents to participate in a system based project, a practice performance measure now required by the Residency Review Committee for diagnostic radiology (15). Residents had a practical experience that illustrated the capacity for effective change within the larger system based on data-driven decision making by professional colleagues from different disciplines. What made our approach novel was the intricate involvement of residents through each step of solving a systems-based problem. From identifying the underlying issues, gathering pertinent data, and implementing constructive ideas into a viable solution, residents played an essential role in improving patient care by fixing a broken system. It was an effective competency-based teaching and learning activity because it was explicit and clearly aligned with expected competencies, criteria-driven and focused on accountability, grounded in "real-life" experience, supportive of the residents' ability to self-assess; and individualized, providing opportunities for independent study (27). We recommend this method to other institutions seeking effective means to demonstrate resident competency in the conceptually difficult ACGME pillar of SBP.

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## **Introduction to the Resident Portfolio**

**Diagnostic Radiology Residency, Department of Radiology**  
**University of Missouri-Kansas City**

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The Resident Portfolio (RP) is a purposeful collection of materials, created over time that will demonstrate your acquisition of knowledge, skills, and attitudes by providing evidence of achievement of learning objectives or completion of specific learning activities. The RP will be both a process for formative and summative assessment, as well as a reference of experiences.

An effective portfolio will be a visual representation of your achievements. Your RP, based on your real experiences as a resident, will (1) document your learning over time, (2) encourage self-reflection in order to connect theory with practice, and (3) focus on your personal strengths and accomplishments (rather than deficiencies).

The RP will promote collaboration between residents and faculty. Prior to winter bi-annual Personal Performance Review, you will complete the self-assessment/reflection form and update your RP. During your scheduled meeting, the program director will review your RP and discuss your progress in achieving the general competencies, as well as your leadership development.

### Guidelines for the Resident Portfolio (Evidence-Based)

The RP will differ from the permanent file maintained by the program coordinator in that (1) it is your practical and intellectual property, (2) you are responsible for its creation and maintenance, and (3) you will control its contents.

The process of collecting and evaluating information for the RP will create opportunities for learning. To be a valuable addition to the training program, the purpose of the RP will be well defined and excessive complexity will be avoided.

RP exhibits will be derived from your actual work. Some parts will be required by the program; others you will self-select.

Exhibits will typically be written documents, but video or audio-recordings, clinical images, photographs, published manuscripts, power point files and other forms of information may be included. Be creative!

**The RP of a graduating resident must include a current CV and at least one exhibit of scholarly activity that is an abstract, poster, or manuscript, a Systems based practice project, and a practice based learning project.**

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Because the RP belongs to you, it can be the basis for documentation of professional development in the components of MOC. Creating and maintaining the RP will model the maintenance of certification process.

## **Independent learning and scholarly projects**

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Independent study by residents is guided and accomplished by several means. The residency program provides access to Stat Dx, RadPrimer, has copies of the ACR files, has an extensive collection of teaching DVD's, a complete updated library of books, on line journal access.

Residents who submit research proposals may request departmental support in the form of dedicated time for research, financial support and extra time off to present research. Editorial and media services are available and financial support is provided through UMKC, alumni/friends society and hospital foundations.

### **SCHOLARLY ACTIVITY:**

Residents are required to pursue scholarly activity. A specific description of scholarly activity is provided to all residents at orientation. R1 residents attend an introduction to research seminar (12–15 lectures).

**Residents are excused from clinical duties and expected to attend 80% of these conferences.**

Residents are provided funds to attend meetings to present their research. Additional time off, up to 1 week per year, may be used to present at various meetings as well.

### **Research Time:**

All PGY2 (R1) residents have the option to do 2-4 weeks of research. After the PGY2 year, residents may request additional research time by submitting a written proposal with a description of their project. The project must include a faculty mentor name, co-investigators names and the outcome measure that will be used for evaluation purposes during the rotation. The research elective will be granted based on the education committee's evaluation of individual submitted proposals and availability of coverage requirements. Up to 4 electives in research may be done.

## What is Scholarly Activity?

University of Missouri-Kansas City, Radiology Department

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Residents and fellows should take credit for ALL scholarly activity and keep CVs up to date. Below are comprehensive lists of various forms/types of scholarly activity.

### Discovery - finding new knowledge

- Participate in research, particularly projects that are funded following peer review and/or result in publications or presentations at scientific meetings
- Present/publish clinical, biomedical, health services, or medical education research
- Participate in the design/interpretation of research studies
- Receive peer-reviewed funding

### Dissemination (Integration/Teaching) - making connections

- Author a textbook chapter
- Prepare/present a meta-analysis
- Review an assigned clinical or research topic
- Prepare/present board review sessions or courses
- Prepare/present scientific papers at regional/national professional/scientific societies
- Prepare/provide teaching sessions to medical students, residents, faculty, allied health professionals, the public (evaluation, comparison to peers)

### Application - applying knowledge to significant problems

- Publish/present reports or clinical series at professional/scientific meetings - *essential features of a good case report: tells a "real" story, raises a thought-provoking issue, has elements of conflict, promotes empathy; lacks an obvious "right" answer; encourages learners to think and take a position; demands a decision, is relatively concise (Boehrer & Linsky, 1990; Lang, 1986)*
- Prepare/present Grand Rounds, state-of-the-art lectures on topics with a focus on recent scientific advances
- Prepare/participate in clinical discussions, rounds, and conferences
- Prepare/present radiology at multi-disciplinary case conferences
- Prepare/participate in journal and research clubs - critique and evaluate
- Critical analysis of systems/practice with action plans for improvement - M&M conferences, QA projects
- Develop curricula for undergraduate, graduate, and/or continuing medical education
- Develop enduring CME materials
- Develop evaluation forms and processes
- Participate in local/regional/national professional and scientific societies
- Prepare for and participate in community service that is related to medicine/radiology
- Participate in institutional GMEC governance

## **Conferences: Schedule and attendance policy**

### **Attendance at daily conferences is mandatory.**

The only excusable exceptions are (1) residents who are post-call, (2) residents on clinical rotations, (3) residents on approved time off such as vacation or AIRP, (4) resident involved in a procedure and cannot break away.

The ACGME requires that the program director monitor attendance and written proof of attendance is required at RRC site visits.

Sign the attendance book, since you will not be able to do it later. The program coordinator will compile attendance data for review during your semi-annual evaluation sessions. *Accurate documentation of attendance is the responsibility of each individual resident.*

***If you miss or are late conference for an “unexcused” absence, you must notify the PD via e-mail with an explanation.***

If this becomes a pattern (3+ incidences), then the PD will request a formal meeting to discuss appropriate professionalism and you may be at risk for being reprimanded or placed on probation. *Consequences may include additional weekend assignments, delay or lack of approval of vacation/meeting time, and denial of approval of use of funds to attend meetings.*

### **Attendance undergoes occasional random audits.**

The UMKC faculty demonstrate their commitment to resident education by presenting conferences on a regular basis. The faculty are experienced, knowledgeable and receptive to questions. Conferences are typically didactic and/or case-based discussions held in the Radiology conference rooms at 7:30am and 12pm via webconf.

The conference schedule available on line.

	<b>Mon</b>	<b>Tues</b>	<b>Wed</b>	<b>Thurs</b>	<b>Fri</b>
7:30am biweekly	IR-SLH NM-SLH	MSK-SLH Chest-SLH	Breast-SLH Neuro -SLH	Ped rad-CMH Peds case – CMH	Potpourri –TMC US/GI/GU – SLH
12:00pm webcast	Interesting cases	Interdisciplinary or research conf	Interdisciplinary or research conf	Med Students/ M&M	Journal club

Residents are excused from their assigned areas to attend specific conferences.

### **Conference series/tracts:**

- ***Didactic lecture series:*** Given by UMKC faculty at 7:30am Mon-Friday. These conferences cover core medical knowledge topics.
- ***Case based & interdisciplinary conference series:*** Given by various faculty and residents at 12:00pm. These conferences focus on individual interesting cases.

- **Introduction to research conf series:** PGY1 resident conferences teach basic research skills and concepts. Thursday nights Nov-Feb PGY1 year.
- **Physics conference series:** Annual 1 week/year physics conference with 40+ hours of lecture by a visiting speaker plus monthly topics by various faculty follows the Academy of Physicists in medicine and the Association of Program Directors in Radiology curriculum. Residents are free of clinical duties to attend and there is no charge.
- **Personal and professional development lecture series:** Occasional conferences for residents and spouses with guest speakers are provided. Reservations may be required.
- **UMKC Visiting professor series:** The goal of these lectures is to enrich the teaching, clinical and research experience of radiologists through exposure to internationally renowned expertise. On average 4-8 visiting professors are scheduled to lecture each year.
- **The Greater Kansas City Radiological Society** meets 4 times a year for lectures from visiting professors from across the country. Membership in KC Rads is paid on behalf of each resident by UMKC. Residents are required to attend all lectures.
- **Journal club, research presentation conference series:** A topic is presented by a resident or faculty and discussed as a group on a biweekly to monthly basis. Residents present their research at this conference.
- **Morbidity and Mortality conferences:** Quarterly case based presentations of difficult/missed cases or changed preliminary report cases are organized by the residents
- **Annual Business conferences:** Senior residents attend one day per year of basic medical business skills. Residents are excused from clinical duties and the course is free of charges.

#### **Interdepartmental conferences:**

Radiology is invited to many of the conferences held by our clinical colleagues to present the pertinent radiographic findings for the particular case. Residents should attend interdisciplinary conferences at the institution where they are rotating.

Conference presentations may be assigned to residents by faculty on their service. Residents should familiarize themselves with the cases to be presented, including the history, and be prepared to discuss the disease process and radiologic findings in the cases.

These conferences should be viewed as an opportunity to shine, as the resident learns about the clinical issues, complications and post-imaging events that transpired. He/she is reminded of the patient behind the interesting case and is challenged to look beyond the black and white of the images to shades of gray of the patient care.

**Radiology residents are required to keep logs**, on an excel worksheet, their interdisciplinary conference attendance on the thumb drive provided at matriculation. The log will be checked by the PD biannually.

**Research Conference presentations:** Residents who have prepared paper or posters or made presentations at a national conference are encouraged to share their research with their faculty and colleagues during this conference.

### **Journal club:**

Once each academic year, each resident presents an article he/she has chose from a recognized radiology journal. To prepare, the resident consults with a staff member who shares interest in the topic and gives a copy of the article in advance to the resident coordinator to be distributed to all the residents. The resident presents the article to the group, highlights the pertinent points, areas of controversy and is prepares to discuss the topic with the group.

Residents follow Evidence Based Medicine format performing a critical review of the article. ***Residents place a journal club work sheet (see below) in their portfolios and reviewed with the PD as their biannual review.***





**Radiology Journal Club Worksheet (rev 6/21/12)**

*Instructions: Fill in this form each time you do journal club. Bring the completed form with you to your biannual and/or semiannual program director review meeting. Be sure your mentor initials this form*

Resident name: \_\_\_\_\_

Date of Journal club: \_\_\_\_\_

Attending mentor (print name) \_\_\_\_\_ Initials: \_\_\_\_\_

Title & full citation of Journal article: \_\_\_\_\_

**Please comment on:**

1. Abstract: *(Ex – was it a concise overview? Did the conclusion match the aim? Were there discrepancies between the abstract and the body of the paper?)* \_\_\_\_\_  
 \_\_\_\_\_ Introduction: *(Ex – did it include reasonable rationale why to do the study? Were goals of study included? Does it explain how the authors aims fit into what is already known on the subject?)*  
 \_\_\_\_\_
2. Materials and Methods: *(Ex – Is this a good blueprint that another person could read and reproduce? Do the methods attempt to minimize bias and confounding factors? Are the patients included and excluded appropriately? Are correct statistics used?)* \_\_\_\_\_
3. Results: *(Ex- Do the results follow the order of the methods? Are there any unexpected results data sets? Are the results clear? Are all subjects and materials accounted for?)* \_\_\_\_\_
4. Discussion: *(Ex- Does it state if the hypothesis was verified? Does the discussion compare and contrast with prior literature? Is there an explanation of differences compared to prior literature? Are any unexpected results explained?)* \_\_\_\_\_
5. Conclusion: *(Ex – Given the limitations of the study, are the conclusions valid? Does the conclusion respond to or answer the question asked in the aim of the study? Are the conclusions proven in the manuscript?)* \_\_\_\_\_
6. What knowledge gap did this manuscript fill in (practice based learning improvement)?  
 \_\_\_\_\_  
 \_\_\_\_\_ Any other  
 comments? \_\_\_\_\_

**Glossary:**  
*Evidence based medicine – Deciding which clinical practice to use based on critical literature analysis*  
*Practice based learning improvement – Filling in knowledge gaps.*  
**Reference:** Budovek JJ. Evidence Based Radiology: A primer for reading scientific articles. AJR 2010;195:1-4

## **How to obtain Journal Articles and Books from the St. Luke's Health Sciences Library**

- Journal articles and books can be requested most easily by emailing the library at [library@saint-lukes.org](mailto:library@saint-lukes.org)
- It typically takes approximately 7 business days to obtain the article/book. The library can email you a pdf file of your requested article(s), if you request them to do so (this is easiest). Books can be picked up at the library located at 4141 Mill Street and typically need to be returned in approximately 3 weeks.

Library phone numbers and hours:

816.531.0560

816.531.6316 (Fax)

Monday - Thursday 7:30am - 8pm

Friday 7:30 am - 5pm

Saturday 9am - 1pm

Closed Sunday

## **How to obtain Journal Articles and Books from the UMKC School of Medicine Library**

Residents may access the UMKC library collection by following these links.

Go to "UMKC Health Sciences Library" and search the "online journals" holdings. After selecting the journal, you will be prompted to enter your UMKC I.D. number.

## **Evaluation process** (see sample evaluations at the end of this section)

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UMKC meets the ACGME requirement for a variety of valid and reliable evaluations of each competency. A 360° degree evaluation process is in place to assess all core competencies. Sample evaluations are described below.

**360° evaluation** - The 360 degree evaluation, with attention to the core competencies, includes the following:

1. Monthly *formative* faculty evaluation of residents
2. Bimonthly or quarterly *formative* technologist evaluation of residents
3. Yearly *formative* peer evaluation
4. Biannual *formative* patient evaluations (approximately 10-30 per year)
5. Semi-annual *formative* self reflection evaluation
6. Semi-annual program director *summative* evaluation
7. Completion of annual residency training evaluation

### **1. Monthly faculty *formative* (constructive) evaluation of residents:**

- Residents undergo monthly electronic evaluation by various faculty members that the resident is exposed to during each rotation. These evaluations include constructive criticism information on the six core competencies: patient care, medical knowledge and clinical performance, interpersonal/communication skills, practice-based learning and improvement, professionalism, and systems-based practice
- The evaluations are electronically submitted by the faculty member through the GME system software provided by UMKC. The PC is responsible for collating the data which will be discussed at quarterly education committee meetings, and with the PD biannually. The collated data are placed in the resident's portfolio.
- The evaluations will remain confidential, to be discussed with the resident as part of their semi-annual program director evaluation. Residents may view evaluations on line through GME system software at any time.

### **2. Technologist evaluation**

- Residents receive formative (constructive criticism) evaluations from selected technologists that they are exposed to during various rotations. These evaluations include information on the six core competencies (as already listed) as appropriate for a technologist's assessment of resident performance. Evaluation forms used are those recommended by the ACGME. Data collected will be collated biannually by the program coordinator, copied and shared with the residents in an anonymous format. The technologist reviewers are from TMC, SLH and CMH campuses and their identity is kept confidential.

### **3. Yearly peer review**

- Residents receive a yearly written formative peer evaluation from each of their fellow residents in the program. These evaluations include information on the six core competencies: patient care, medical knowledge and clinical performance, interpersonal/communication skills, practice-based learning and improvement, professionalism, and systems-based practice. The

evaluations are submitted to the PC who is responsible for collating the data and placing it in the resident's mailbox and portfolio.

- Peer evaluations remain confidential, to be reviewed with the resident as part of their semi-annual program director evaluation. Data collected will be shared with the resident annually in an anonymous format so that the resident peer reviewers identity is kept confidential.

#### **4. Patient evaluation**

- Residents will receive anonymous written formative survey evaluations of their performance from patients they care for during various rotations. The resident must receive at least ten survey evaluations per fluoroscopy/GI rotation. These evaluations include information relevant to the core competencies, specifically patient care, clinical performance, interpersonal/communication skills and professionalism.
- The evaluations are forwarded to the Resident Coordinator who is responsible for collating the results and placing them in the resident's portfolio. The evaluations remain confidential (the patient's or guardians name who filled out the survey will remain confidential). The patient evaluations are reviewed with the resident as part of their semi-annual program director evaluation.

#### **5. Semi-annual *formative* self assessment**

- Residents are asked to fill out a semi-annual self assessment *formative* evaluation where they reflect on their goals and accomplishments during the prior 6 month period. The resident discusses their self evaluation with the PD biannually. Plans for reaching new goals for the following year will be discussed.

#### **6. Program director *summative* evaluation**

- The PD conducts a biannual *summative* evaluation with each resident. At this meeting, the resident and program director discuss individual and collated evaluations that he/she has received. The resident signs the collated formative evaluation form stating they have reviewed them.
- The PD prepares a semi-annual *summative* evaluation that rates the resident as "outstanding", "good", "satisfactory", or "marginally" approved to remain in the program versus recommend to not remain in the program. The resident signs the evaluation form to document that they have participated in the process and understand the outcome of the evaluation review session.
- A rating of marginal approval is considered the equivalent of being on probation. Any resident being given that rating will be told that their performance must improve or they will not be retained in the program. In the case of receiving probation status, the resident will receive guidelines by which he/she will be later re-evaluated, usually within 3-6 months, to determine whether the resident will be taken off probation, remain on probation, or possibly be dismissed.

#### **7. Completion of residency training evaluation**

- At the completion of the residency training program, the PD will sign and date a completion of residency training evaluation that rates the resident as either "outstanding", "good", "satisfactory", or "marginally" approved. This form will serve to document the successful completion of the residency training program.
- Should resident evaluation/performance result in a probationary status, this probationary status must be removed before any letters of recommendation for oral boards will be sent.

#### **8. Role of the UMKC resident education committee in evaluation**

- The education committee meets quarterly to discuss various resident issues and discuss the individual performance of each resident. Resident status and summative reports include the recommendations of the resident education committee. The PD makes all decisions on advancing residents in conjunction with the education committee.

## UMKC Radiology Resident Formative Evaluation by Faculty

Evaluator: \_\_\_\_\_

Rotation: \_\_\_\_\_

*This **formative** evaluation form is an important component of assessing the program's educational effectiveness and the resident's educational progress. Please indicate your evaluation rating of the resident's performance during this one month rotation with respect to the established rotation goals and objectives as they apply to the resident's individual level of training.*

### **PATIENT CARE (Resident should provide compassionate, and effective care for health problems)**

- |  |                    |                             |                       |                             |                         |     |
|--|--------------------|-----------------------------|-----------------------|-----------------------------|-------------------------|-----|
| 1) Develops a management plan based on radiologic findings and clinical information. | Poor<br>Competence | Below average<br>Competence | Average<br>Competence | Above Average<br>Competence | Excellent<br>Competence | N/A |
| 2) Demonstrates proper technique in planning and performing image-guided procedures  | Poor<br>Competence | Below average<br>Competence | Average<br>Competence | Above Average<br>Competence | Excellent<br>Competence | N/A |
| 3) Appropriately obtains informed consent  | Poor<br>Competence | Below average<br>Competence | Average<br>Competence | Above Average<br>Competence | Excellent<br>Competence | N/A |

### **MEDICAL KNOWLEDGE and CLINICAL PERFORMANCE**

#### **(Resident should be knowledgeable, scholarly, and committed to lifetime learning)**

- |   |                    |                             |                       |                             |                         |     |
|---|--------------------|-----------------------------|-----------------------|-----------------------------|-------------------------|-----|
| 4) Recognizes and describes relevant radiologic abnormalities   | Poor<br>Competence | Below average<br>Competence | Average<br>Competence | Above Average<br>Competence | Excellent<br>Competence | N/A |
| 5) Synthesizes radiologic and clinical information and forms a diagnostic impression                  | Poor<br>Competence | Below average<br>Competence | Average<br>Competence | Above Average<br>Competence | Excellent<br>Competence | N/A |
| 6) Utilizes information technology to investigate clinical questions and for continuous self-learning | Poor<br>Competence | Below average<br>Competence | Average<br>Competence | Above Average<br>Competence | Excellent<br>Competence | N/A |

### **INTERPERSONAL/COMMUNICATION SKILLS (Resident should communicate and teach effectively)**

- |   |                    |                             |                       |                             |                         |     |
|---|--------------------|-----------------------------|-----------------------|-----------------------------|-------------------------|-----|
| 7) Shows sensitivity to and communicates effectively with all members of the health care team             | Poor<br>Competence | Below average<br>Competence | Average<br>Competence | Above Average<br>Competence | Excellent<br>Competence | N/A |
| 8) Recognizes, communicates, and documents in the patient record urgent or unexpected radiologic findings | Poor<br>Competence | Below average<br>Competence | Average<br>Competence | Above Average<br>Competence | Excellent<br>Competence | N/A |
| 9) Produces radiologic reports that are accurate, concise, and grammatically correct                      | Poor<br>Competence | Below average<br>Competence | Average<br>Competence | Above Average<br>Competence | Excellent<br>Competence | N/A |
| 10) Effectively teaches residents, medical students and other health care professionals                   | Poor<br>Competence | Below average<br>Competence | Average<br>Competence | Above Average<br>Competence | Excellent<br>Competence | N/A |

### **PRACTICE-BASED LEARNING AND IMPROVEMENT (Resident should investigate and evaluate patient care practices, appraise & assimilate scientific evidence in order to improve practices)**

- |   |                    |                             |                       |                             |                         |     |
|---|--------------------|-----------------------------|-----------------------|-----------------------------|-------------------------|-----|
| 11) Recognizes and corrects personal errors | Poor<br>Competence | Below average<br>Competence | Average<br>Competence | Above Average<br>Competence | Excellent<br>Competence | N/A |
| 12) Accepts constructive criticism          | Poor<br>Competence | Below average<br>Competence | Average<br>Competence | Above Average<br>Competence | Excellent<br>Competence | N/A |

### **PROFESSIONALISM (Resident should be altruistic and accountable, and adhere to principles of medical ethics by respecting and protecting patients' best interests)**

- |   |                    |                             |                       |                             |                         |     |
|---|--------------------|-----------------------------|-----------------------|-----------------------------|-------------------------|-----|
| 13) Demonstrates a responsible work ethic with regard to attendance and work assignments. | Poor<br>Competence | Below average<br>Competence | Average<br>Competence | Above Average<br>Competence | Excellent<br>Competence | N/A |
| 14) Demonstrates acceptable personal demeanor and hygiene.                                | Poor<br>Competence | Below average<br>Competence | Average<br>Competence | Above Average<br>Competence | Excellent<br>Competence | N/A |
| 15) Demonstrates responsible handling of patient medical record confidentiality           | Poor<br>Competence | Below average<br>Competence | Average<br>Competence | Above Average<br>Competence | Excellent<br>Competence | N/A |

### **SYSTEMS-BASED PRACTICE (Residents should understand healthcare practices)**

16) Applies appropriateness criteria and other cost-effective healthcare principles to professional practice.	Poor Competence	Below average Competence	Average Competence	Above Average Competence	Excellent Competence	N/A
17) Demonstrates diligence in following hospital/department procedures and policies	Poor Competence	Below average Competence	Average Competence	Above Average Competence	Excellent Competence	N/A

**GENERAL**

Please provide comments regarding the resident's overall behavior: \_\_\_\_\_  
 \_\_\_\_\_

**This resident has effectively met the required goals and objectives of the month's rotation as described in the educational curriculum. (If not, please elaborate in the comment field.)**

Yes \_\_\_\_\_ NO \_\_\_\_\_

Comments: \_\_\_\_\_  
 \_\_\_\_\_

*If you feel comfortable, please discuss the above with the resident. Both the positive and negative.*

**I have discussed this evaluation with the resident.** (Please indicate date in comment field)

Yes \_\_\_\_\_ No \_\_\_\_\_ N/A \_\_\_\_\_

**Radiology Department, UMKC**  
**SELF EVALUATION AND REFLECTION (revised 6-24-14)**

DATE: _____ through _____	Date of evaluation _____
PGY    1    2    3    4    5	Resident/Fellow Signature: _____
Faculty mentor name: _____	Program Director Signature: _____

**MEDICAL KNOWLEDGE**

Reflect on this academic period: List 2 or 3 things you wish you would have known before this academic period. List information which you have learned this period that you think will be most helpful to the class of residents immediately below you.

1. \_\_\_\_\_  
\_\_\_\_\_
2. \_\_\_\_\_  
\_\_\_\_\_
3. \_\_\_\_\_  
\_\_\_\_\_

**Conference attendance** this period \_\_\_\_\_%                      **GOAL:** \_\_\_\_\_ %

**Milestone Assessment:** At level of training for all \_\_\_\_\_ Need to work on \_\_\_\_\_

**Comments** about Milestone Assessment: \_\_\_\_\_  
\_\_\_\_\_

***ACR In-Training and/or Written exam:***

Strengths \_\_\_\_\_  
 Weaknesses \_\_\_\_\_  
 Goal: \_\_\_\_\_  
 Plan to reach goal: \_\_\_\_\_

**Took USMLE part 3?**    Yes \_\_\_\_\_ No \_\_\_\_\_ Passed or Failed (circle one)

**Took COMLEX part 3?**    Yes \_\_\_\_\_ No \_\_\_\_\_ Passed or Failed (circle one)

**Took ABR core exam?**    Yes \_\_\_\_\_ No \_\_\_\_\_ Passed or Failed (circle one)

Are there any exams you plan to take in the next 12 months? \_\_\_\_\_

***Competency Forms: If you have done any of the following rotation(s), you should have a competency form:***

<b><i>Fluoro TMC competency form completed (by Dr. Jamoulis)?</i></b>	Yes _____ No _____ NA _____
FL Competency form in Portfolio?	Yes _____ No _____
<b><i>Nuc Med QA competency form completed at SLH by Nuc Tech?</i></b>	Yes _____ No _____ NA _____
NM Competency form in Portfolio?	Yes _____ No _____
<b><i>Interventional competency updated &amp; signe by IR staff?</i></b>	Yes _____ No _____ NA _____
IR Competency form in Portfolio?	Yes _____ No _____
<b><i>Ultrasound competency completed at KCVA &amp; signed?</i></b>	Yes _____ No _____ NA _____
US Competency form in Portfolio?	Yes _____ No _____
<b><i>Pediatric Radiology end of rotation exam completed?</i></b>	Yes _____ No _____ NA _____
If yes, did you complete written exam? _____ Image exam? _____	
Certificate of completion form in portfolio?	Yes _____ No _____



**Pediatric Radiology online modules completed** Yes, 32 Jr curriculum \_\_\_\_\_ Yes, 30 Sr curriculum \_\_\_\_\_  
 Module completion list in Portfolio? Yes \_\_\_\_\_ No \_\_\_\_\_ NA \_\_\_\_\_

**AIRP Date:** \_\_\_\_\_ (months/year) Not scheduled yet \_\_\_\_\_

**PATIENT CARE:**

**On line Patient care module completed?** Yes \_\_\_\_\_ No \_\_\_\_\_  
 Certificate in Portfolio? Yes \_\_\_\_\_ No \_\_\_\_\_  
**On line radiation safety module completed?** Yes \_\_\_\_\_ No \_\_\_\_\_  
 Certificate in Portfolio? Yes \_\_\_\_\_ No \_\_\_\_\_  
**On line lines and catheters module completed?** Yes \_\_\_\_\_ No \_\_\_\_\_  
 Certificate in Portfolio? Yes \_\_\_\_\_ No \_\_\_\_\_  
**MRI safety lecture attended?** Yes \_\_\_\_\_ No \_\_\_\_\_  
 Certificate in Portfolio? Yes \_\_\_\_\_ No \_\_\_\_\_

**Formative faculty evaluations:** Satisfied Needs improvement (circle one)  
 What areas could you improve? \_\_\_\_\_

**ACLS Status:** Currently certified? Yes \_\_\_\_\_ No \_\_\_\_\_

**Case Logs:**  
 # cases submitted to ACGME \_\_\_\_\_ Date of last entry \_\_\_\_\_  
 Interventional log in portfolio? Yes \_\_\_\_\_ No \_\_\_\_\_ #cases \_\_\_\_\_  
 Thyroid treatment log in portfolio? Yes \_\_\_\_\_ No \_\_\_\_\_  
 Required to have 3 of each: # <33mCi cases \_\_\_\_\_ # >33mCi cases \_\_\_\_\_

**Moonlighting?** Yes \_\_\_\_\_ No \_\_\_\_\_ **Permission form signed?** Yes \_\_\_\_\_ No \_\_\_\_\_

**COMMUNICATIONS SKILLS:**

**3 on line reporting modules completed (PGY1s/2s)?** Yes \_\_\_\_\_ No \_\_\_\_\_  
 Certificates in Portfolio? Yes \_\_\_\_\_ No \_\_\_\_\_

Score on biannual reporting/dictation report card? \_\_\_\_\_

**Formative faculty evaluations:** Satisfied Needs improvement (circle one)  
**Resident lecture prepared and given?** Yes \_\_\_\_\_ No \_\_\_\_\_ Other lecture? \_\_\_\_\_

Topic \_\_\_\_\_  
 Included in portfolio? Yes \_\_\_\_\_ No \_\_\_\_\_ If no, add & PD reviewed \_\_\_\_\_

Goals to improve communication skills: \_\_\_\_\_

**SYSTEMS BASED PRACTICE PROJECT (How radiology interacts with the medical community):**

**Do you have a project?** Yes \_\_\_\_\_ No \_\_\_\_\_ In progress \_\_\_\_\_ (date begun)  
 Topic : \_\_\_\_\_  
 Target Date: \_\_\_\_\_  
 Goal for SBPP: \_\_\_\_\_  
 Plan: \_\_\_\_\_

**Participation in medical student/resident selection (past 12 months or upcoming 6 months):**

Interview Day ambassador Yes \_\_\_\_\_ No \_\_\_\_\_ (include years)  
 Night before happy hour Yes \_\_\_\_\_ No \_\_\_\_\_ (include years)  
 Rank meeting Yes \_\_\_\_\_ No \_\_\_\_\_ (include years)

**Participation in any internal review?** Yes \_\_\_\_\_ No \_\_\_\_\_ Other depts. \_\_\_\_\_  
**Hospital Committee member?** Name of committee \_\_\_\_\_  
**Any committee memberships?** Name of committee(s) \_\_\_\_\_

**PRACTICED BASED LEARNING AND IMPROVEMENT (filling in knowledge gaps):**

**PBLI (M & M or interesting case) conference presenter/attender?** Yes \_\_\_\_\_ No \_\_\_\_\_  
 Interdisciplinary conference presentations? Yes \_\_\_\_\_ No \_\_\_\_\_  
 Name(s) of interdisciplinary conferences presented at? \_\_\_\_\_  
 Interdisciplinary conference log up to date? Yes \_\_\_\_\_ No \_\_\_\_\_ # attended? \_\_\_\_\_

Log reviewed by PD at this meeting? Yes \_\_\_\_\_ No \_\_\_\_\_ In portfolio? \_\_\_\_\_

**PBLI Project (Lecture, talk, or teaching topic to residents/medical students):**

Completed? Yes \_\_\_\_\_ No \_\_\_\_\_

Topic(s): \_\_\_\_\_

Target date: \_\_\_\_\_

**PROFESSIONALISM:**

**Pediatric professionalism handout read & signed?**

Yes \_\_\_\_\_ No \_\_\_\_\_

Certificate in Portfilio?

Yes \_\_\_\_\_ No \_\_\_\_\_

Participation in **ACR** meeting/activity? Yes \_\_\_\_\_ No \_\_\_\_\_ Specify activity: \_\_\_\_\_

Participation in **AUR** meeting/activity? Yes \_\_\_\_\_ No \_\_\_\_\_ Specify activity: \_\_\_\_\_

Participation in **Intro Acad Radiol** meeting? Yes \_\_\_\_\_ No \_\_\_\_\_ Specify activity: \_\_\_\_\_

Participation in **MO Radiol Soc** meeting/activity? Yes \_\_\_\_\_ No \_\_\_\_\_

Participation in Personal Professional Development meeting? Yes \_\_\_\_\_ No \_\_\_\_\_ Specify Topic: \_\_\_\_\_

List one thing you have done/helped, or would like to do or help UMKC become a better place: \_\_\_\_\_

**SCHOLARLY ACTIVITY in last 6 months or upcoming 6 months:**

Publications? Yes \_\_\_\_\_ No \_\_\_\_\_ Submitted or other \_\_\_\_\_ (date/journal)

Posters? Yes \_\_\_\_\_ No \_\_\_\_\_ Submitted \_\_\_\_\_ (date/Meeting)

Oral presentations? Yes \_\_\_\_\_ No \_\_\_\_\_ Submitted \_\_\_\_\_

Other? Yes \_\_\_\_\_ No \_\_\_\_\_ Explain: \_\_\_\_\_

Comments of any of the above \_\_\_\_\_

Faculty mentor: \_\_\_\_\_ Co-authors/collaborators names: \_\_\_\_\_

Medical students you are mentoring? \_\_\_\_\_

Added to your CV? Yes \_\_\_\_\_ No \_\_\_\_\_

Add to portfolio? Yes \_\_\_\_\_ No \_\_\_\_\_ In no, Add and PD notified \_\_\_\_\_

Nominated for anything? Yes \_\_\_\_\_ No \_\_\_\_\_ If so, what? \_\_\_\_\_

Goals for scholarly activity: \_\_\_\_\_

**Journal Club presentation?** Yes \_\_\_\_\_ No \_\_\_\_\_ Topic: \_\_\_\_\_

Power point or paper reviewed in portfolio? \_\_\_\_\_

**Attendance at Meetings?** (List ALL meetings attended over past year & upcoming 6 months, including physics)

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

**Work hour log updated in NI?** Yes \_\_\_\_\_ No \_\_\_\_\_ Updated in portfolio? \_\_\_\_\_

**Career Planning:**

**Fellowship?** Yes \_\_\_\_\_ No \_\_\_\_\_ Undecided \_\_\_\_\_ Applying or will apply \_\_\_\_\_

Subspecialty? \_\_\_\_\_

Accepted into program? \_\_\_\_\_ (institution name/state)

**Practice goals:**

Academics \_\_\_\_\_ Private practice \_\_\_\_\_ Undecided \_\_\_\_\_

Copy of current CV (include printed or CD) in portfolio? Yes \_\_\_\_\_ No \_\_\_\_\_

**EVALUATIONS:**

On which rotations do you think you could improve? \_\_\_\_\_

Plans for improvement? \_\_\_\_\_

**Formative peer evaluations:** Satisfied Needs improvement NA (circle one)

What areas could you improve? \_\_\_\_\_

**Formative technologist/nurse evaluations:** Satisfied Needs improvement NA (circle one)  
 What areas could you improve? \_\_\_\_\_

**Formative patient evaluations?** Satisfied Needs improvement NA (circle one)  
 What areas could you improve? \_\_\_\_\_

Any comments about any evaluations? \_\_\_\_\_

**ANY OTHER COMMENTS ON ANYTHING?**

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

***Below this line to be filled by Program Director in at Semi-Annual Evaluation:***

Follow up activity/meeting required in the following areas:

<u>Item required to do:</u>	<u>Deadline</u>	<u>Sign off</u>
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4. _____	_____	_____
5. _____	_____	_____
6. _____	_____	_____
7. _____	_____	_____
8. _____	_____	_____

**Patient care Evaluation Sample:**

**PATIENT CARE SURVEY – SLH/TMC/CMH**

Please take a moment to evaluate the following UMKC radiology resident.  
 Fill in one circle for each point. We thank you for your time.

**PHYSICAN NAME:** \_\_\_\_\_

**Overall satisfaction (circle one; 1=very poor, 10=excellent):**

1      2      3      4      5      6      7      8      9      10

**Yes    No**

- 0    0    Introduced him/herself to you and your family
- 0    0    Was polite and considerate at all times
- 0    0    Was dressed professionally (clean, tidy, "business-like")
- 0    0    Behaved appropriately
- 0    0    Listened carefully to your concerns and questions
- 0    0    Explained risks and benefits of the procedure in a clear fashion
- 0    0    Discussed results of procedure to your satisfaction
- 0    0    Gave good, clear, accurate instructions for post-clinic care

**UMKC RADIOLOGY RESIDENT ANNUL PROGRAM EVALUATION**

---

1. On average, how many hours do you spend per week in assigned duties? \_\_\_\_\_/week
2. Do you average at least one day off per week? Yes \_\_\_\_\_ No \_\_\_\_\_  
If not, which rotation(s) did this occur? \_\_\_\_\_
3. Do you feel that the program director and faculty members are available to you for advice and counseling?  
Yes \_\_\_\_\_ No \_\_\_\_\_
4. Do you feel you get enough advice and counseling? Yes \_\_\_\_\_ No \_\_\_\_\_
5. Does the Staff radiologist at the beginning of each rotation review the written learning objectives and expectations with you?  
Yes \_\_\_\_\_ No \_\_\_\_\_  
If not, on which rotation(s) did this not occur? \_\_\_\_\_

---

4. Are you provided with written and verbal feedback at the end of each rotation? Yes \_\_\_\_\_ No \_\_\_\_\_  
If not, on which rotation(s) would you have liked to have had some feed back? \_\_\_\_\_

---

5. Does the residency program place excessive reliance on service vs education? Yes \_\_\_\_\_ No \_\_\_\_\_  
If yes, on which rotation(s) did this occur? \_\_\_\_\_

---

6. Is there a rapid and reliable system for you to communicate with your attending physicians?  
Yes \_\_\_\_\_ No \_\_\_\_\_  
If not, on which rotation(s) are there issues and what are the issues? \_\_\_\_\_

---

7. Are you provided an adequate work area (computer/place to hang coat facilities)? Yes \_\_\_\_\_ No \_\_\_\_\_  
If not, at which facilities? \_\_\_\_\_

---

8. Do you have any concerns regarding your safety while at SLH, TMC or CMH?  
Yes \_\_\_\_\_ No \_\_\_\_\_  
If yes, at which facilities? \_\_\_\_\_

---

9. Are the library facilities adequate? Yes \_\_\_\_\_ No \_\_\_\_\_  
If not, please comment: \_\_\_\_\_

---

10. Are you able to get enough procedures? Yes \_\_\_\_\_ No \_\_\_\_\_  
If not, please comment on why that may be or give your suggestions for improvement: \_\_\_\_\_

---

11. My least favorite parts of the residency program are: \_\_\_\_\_

---

12. My favorite parts of the residency program are: \_\_\_\_\_

---

13. What would you suggest be done to improve the radiology residency program at UMKC?  
\_\_\_\_\_

---

14. Please make any other comments here: \_\_\_\_\_

---

## UMKC Monthly *Formative* Radiology Resident Evaluation of Faculty

Rotation: \_\_\_\_\_

Staff name: \_\_\_\_\_

***Instructions:*** Please evaluate the faculty member by checking a number from 1 to 5 with 1 representing "almost never" and 5 "almost always" regarding how often the faculty member performs each behavior. **For parameters for which you have had no direct observation or those which do not apply to your interactions with the faculty, check "NA" (not applicable).** Your evaluation will be kept anonymous and only compiled data will be presented to the faculty. Comments may be given at the end of the form.

Staffs out studies early enough so that fellow/resident dictation can be completed by the end of the workday or the end of the scheduled call.

Almost never					Almost always	N/A
1	2	3	4		5	

2) Staff works efficiently without complaining about the amount of work to do and is considerate by attempting to avoid putting all the work on the fellow/resident.

Almost never					Almost always	N/A
1	2	3	4		5	

Staff regularly takes time out of work to teach fellow/resident how to recognize a diagnosis and associated imaging findings on an imaging study.

Almost never					Almost always	N/A
1	2	3	4		5	

2) Regularly attends scheduled conferences/lectures.

Almost never					Almost always	N/A
1	2	3	4		5	

3) At conferences, gives frequent high-quality teaching experience.

Almost never					Almost always	N/A
1	2	3	4		5	

4) Varies teaching methods (lectures, case presentations, slides, films, video, etc.).

Almost never					Almost always	N/A
1	2	3	4		5	

**AVAILABILITY:**

1) Is available to help referring clinicians.

Almost never					Almost always	N/A
1	2	3	4		5	

**Feedback:**

1) Gives the fellow/resident feedback *during the rotation* about how the fellow/resident is performing.

Almost never					Almost always	N/A
1	2	3	4		5	

**Expertise/clinical skills:**

1) Maintains updated expertise by citing recent literature and new technology to fellow/resident (e.g. new radiological procedures, alternative imaging studies and methods).

Almost never					Almost always	N/A
1	2	3	4		5	

2) Integrates imaging findings and clinical history to narrow the differential diagnosis.

Almost never					Almost always	N/A
1	2	3	4		5	

**Research:**

1) Helps fellow/resident design and overcome problems in pursuing the fellow's/resident's own research project.

Almost never					Almost always	N/A
1	2	3	4		5	

2) Staff makes him-/herself available to assist fellows/residents in writing manuscripts for publication or in preparing oral presentations for local or national meetings.

Almost never					Almost always	N/A
1	2	3	4		5	

**Professionalism:**

1) Speaks well of other staff in front of colleagues or fellows/residents.

Almost never					Almost always	N/A
1	2	3	4		5	

2) Disagrees with a fellow's/resident's interpretation without being insulting.

Almost never					Almost always	N/A
1	2	3	4		5	

### PEER EVALUATION

PEER EVALUATION (rev 6,28,12)

PATIENT CARE - Resident should provide patient care through safe, efficient, appropriately utilized, quality-controlled radiology techniques and effectively communicates results to the referring physician and/or other appropriate individuals in a timely manner

1. Develops a management plan based on radiologic findings and clinical information
2. Is helpful in orienting lower level residents new to the service or hospital

MEDICAL KNOWLEDGE - Resident should engage in continuous learning and apply appropriate state of the art diagnostic and/or interventional radiology techniques to meet the imaging needs of patients, referring physicians and the health care system

1. Recognizes and describes relevant radiologic abnormalities
2. Is available to and takes time to teach lower level residents when working together
3. Utilizes information technology to investigate clinical questions and for self-learning

INTERPERSONAL/COMMUNICATION SKILLS - Resident should communicate effectively with patients, colleagues, referring physicians and other members of the health care team concerning imaging appropriateness, informed consent, safety issues and imaging results

1. Shows sensitivity & communicates effectively with all members of the health care team
2. Effectively teaches non-radiology residents, students and other health care professionals
3. Takes time to explain to lower level residents how to dictate reports

PRACTICE-BASED LEARNING AND IMPROVEMENT - Resident should participate in evaluation of one's personal practice utilizing scientific evidence, "Best practices" and self-assessment programs in order to optimize patient care through lifelong learning

1. Participates in Journal Club, Morbidity and Mortality, Interesting Case Conferences or QI/QA activities
2. Appropriately accepts constructive criticism Without taking it personally and attempts to make improvements
3. Is insightful into own character, being able to recognize personal errors and correct them

PROFESSIONALISM - Resident should commit to high standards of professional conduct, demonstrating altruism, compassion, honesty and integrity, follows principles of ethics and confidentiality, and considers religious, ethnic, gender, educational and other differences when interacting with patients and other members of the health care team

1. Demonstrates a responsible work ethic including showing up on time and not leaving until the work is finished
2. Is willing to take a turn to help out when needed including being willing to switch rotations or take call if needed to cover for the other residents
3. Works professionally alongside other residents and faculty w/o complaining or gossiping

SYSTEMS-BASED PRACTICE - Resident should understand how the components of the local and national healthcare system functions interdependently and how changes to improve the system involve group and individual efforts

1. Dedicates time to study effectively, looks up answers to questions raised daily

OVERALL PERFORMANCE

How would you rate this resident overall as someone you would like to work with?

## **American College of Radiology information**

### **Guidelines and standards:**

The ACR periodically defines new practice guidelines and technical standards for radiologic practice to help advance the science of radiology and to improve the quality of service to patients throughout the United States. Existing practice guidelines and technical standards will be reviewed for revision or renewal, as appropriate, on their fifth anniversary or sooner, if indicated.

Each practice guideline and technical standard, representing a policy statement by the College, has undergone a thorough consensus process in which it has been subjected to extensive review, requiring the approval of the Commission on Quality and Safety as well as the ACR Board of Chancellors, the ACR Council steering committee, and the ACR Council. The practice guidelines and technical standards recognize that the safe and effective use of diagnostic and therapeutic radiology requires specific training, skills, and techniques, as described in each document. Reproduction or modification of the published practice guidelines and technical standards by those entities not providing these services is not authorized.

These guidelines are an educational tool designed to assist in providing appropriate radiologic care for patients. They are not inflexible rules or requirements of practice and are not intended, nor should they be used, to establish a legal standard of care. The ACR cautions against the use of these guidelines in litigation in which the clinical decisions of a practitioner are called into question.

The practice of medicine involves not only the science, but also the art of dealing with the prevention, diagnosis, alleviation and treatment of disease. The variety and complexity of human conditions make it impossible to always reach the most appropriate diagnosis or to predict with certainty a particular response to treatment. It should be recognized, therefore, that adherence to these guidelines will not assure an accurate diagnosis or a successful outcome. All that should be expected is that available resources, and the needs of the patient to deliver effective and safe medical care. The sole purpose of these guidelines is to assist practitioners in achieving this objective.

### **ACR Appropriateness criteria:**

ACR Appropriateness criteria are used by radiologists, radiation oncologists and referring clinicians throughout the United States to help make well-informed decisions about initial radiological tests and therapeutic procedures. Ten expert panels, comprising physicians from 15 medical specialties, participated in their development.

### **General competency**

### **ACR Code of Ethics:**

[http://www.acr.org/MainMenuCategories/about\\_us/committees/ethics/code\\_of\\_ethics.aspx](http://www.acr.org/MainMenuCategories/about_us/committees/ethics/code_of_ethics.aspx)

### **AMA code of ethics- gifts and principles:**

<http://www.ama-assn.org/ama/pub/physician-resources/medical-ethics/code-medical-ethics.shtml>

<http://www.ama-assn.org/ama/pub/physician-resources/medical-ethics/code-medical-ethics/principles-medical-ethics.shtml>

### **ACR in-training examination:**

*Residents are required to take the ACR In-Training Exam every February during the PGY2-4 years. The in training exam is optional to PGY5 residents in good standing. Registration for the exam is paid by the UMKC Radiology program. Residents are required to sign a release of their scores to be given to the program director. Residents may be on call the night before the exam and are NOT relieved of call duties to sit for the exam.*

Scores are used by individual residents to track trends in radiology subspecialties in order to determine their strengths and weaknesses. This may be used to guide areas of focused study.

**Scores are used by the Education Committee as an objective measure of resident progress during residency training.** There is no pass or fail designation from the ACR. The Education committee has set a score of 20% or greater as an indicator that the resident has achieved an adequate level of performance for level of training. However, overall scores <20% are considered by the Education Committee to be inadequate for the level of training. Any resident with a score of <20% will receive a letter of reprimand/consultation from the PD, and will be required to meet with the PD to discuss their score. Residents with repeated poor performance (<20%) on the in-service exam may be put on academic probation, required to extend their training or in rare cases this information may be used as part of a decision to dismiss a resident from the program. Each low score will be considered on a case by case basis by the PD and education committee. The resident's scores will be considered in the context of level of training, overall performance on all exams, conference attendance and 360 degree evaluations. Resident may be required to demonstrate improvement on the next in service, to avoid, or end periods of probation.

The American College of Radiology yearly in-service examination scores are tabulated comparing programs on a national level with other similar level radiology residents. The scores of the examination are received in spring and reviewed by the program director and education committee.

### **THE AMERICAN BOARD OF RADIOLOGY**

The American Board of Radiology (ABR) conducts the core and certifying exams for Diagnostic Radiology. Board certification is not required for completion of the Diagnostic Radiology residency. However, currently all residents take and pass the core exam before leaving residency. Residents entering the program in 2010 taking a core exam at the end of the R3/PGY4 year and receiving ABR certification 15 months after residency graduation.

Please check the ABR website at [www.theabr.org](http://www.theabr.org) for further information regarding the boards. Be sure to comply with application deadlines.



## **Residents as Teachers: Methods**

Teaching and learning in Radiology occur in many different ways. The most important is probably during one-on-one or small group discussions at the PACS station or in the procedure room. These occur every day. The resident is encouraged to develop his/her teaching skills by gradually assuming the role of teacher with medical students, technologists, clinicians and patients and families.

Formal didactic lectures are used to deliver information to many people at once. This type of lecture issued as many noon conferences. Residents will gain experience with this type of educational method by preparing a 1 hour lecture.

Each resident is required to prepare and present a lecture, journal club, M& M, and/or research conference on the topic of their choice. Some job interviews request formal conference presentation, so your prepared topic may come in handy.

Case presentations are also effective teaching tools in radiology. Residents develop case presentation skills while presenting at interdepartmental conferences. Residents may participate in data collection and presentation to the department and the resident group. This activity is part of resident education in Practice Based Management.

If any resident desires to take formalized courses in Educational Methods, these are available at UMKC and time to attend will be arranged.



In association with the University of California, Irvine  
College of Medicine

# Welcome



## The Residents' Teaching Skills Web Site

### What's New

- [Home](#)
- [Learn Your Teaching Style](#)
- [Watch the Videos](#)
- [What Others are Doing](#)
- [Resources](#)
- [About Us](#)
- [Contact Us](#)



Welcome to the Residents' Teaching Skills Web Site,  
a collaboration with the Graduate Medical  
Education (GME) Section of the Association of  
American Medical Colleges (AAMC).

Explore the  
Clinical Teaching Perception Inventory<sup>®</sup>  
-- a FREE online tool **CLICK  
HERE**

BEST Study Participants - [Click Here!](#)



**Resident sign off on medical student education training:**

All radiology residents are required to complete the following topics on the website on the prior page (just click on the URL and select the left tab that corresponds to the areas below):

1. Learn your teaching style section of the resident teaching skills website.
2. Click watch the Videos: Do "Introduction to teaching sessions"
3. Click watch the Videos: Do "View of teaching sessions in practice" #1 and #2
4. Click watch the videos and scroll to the bottom. Open and read "5 microskills in clinical teaching"

I attest that I have read and completed the 4 activities related to resident education and discussed any questions I have with my Program Director.

---

Signature

Date

---

Print full name

Return to:  
Daphne Urquhart  
Department of Radiology  
4401 Wornall Rd  
Kansas City, MO 64111  
816-932-2237  
FAX:

## **Time off policies:**

**Sick leave:** The Radiology Department follows the UMKC GME sick leave policy in addition to ABR, ACGME and UMKC Radiology Department specific parameters as follows.

*Residents should use sick days when they themselves are sick.* Residents are expected to cover for one another's sick days in equal proportion considering the amount of sick time off they have used as well. Residents at all levels should expect to be pulled to cover sick residents from time to time. This is most likely to be needed when several residents are away (sick, vacation, BLS, meeting, maternity, paternity leave, unexpected emergency) at the same time, when more than 1 resident is absent from the same rotation and when several residents are absent from the same institution at once.

*Sick time and personal time off may NOT be used to care for routine illness of a family member (i.e. spouse or child).* In such instances vacation time may be used. Developing a plan in advance to deal with routine minor spouse/child illness will allow residents to avoid such a use of vacation time. Rarely, catastrophic events/illnesses may require use of sick days.

Sick days are accumulated at a rate of 1 per month. These may be used for maternity and/or paternity leave.

For the UMKC GME policy, please refer to URL: [www.med.umkc.edu/education/default.html](http://www.med.umkc.edu/education/default.html)

**Rotations at Saint Luke's Hospital:** If a resident assigned to a Saint Luke's Hospital rotation is sick, he or she must notify **verbally** the radiology residency coordinator (Daphne Urquhart at 816-932-2237), and the faculty they are working with AND the chief resident.

**Rotations at TMC, CMH or KCVA:** If a resident assigned outside of Saint Luke's Hospital is sick, he or she must notify **verbally** the program coordinator's office (Daphne Urquhart at 816-932-2237) in addition to the supervising faculty, chief resident and the administrative assistant at the following:

CMH - Teri Carver 816-234-3273 [tcarver@cmh.edu](mailto:tcarver@cmh.edu)  
TMC - Andrea McQueen 816-404-0751 [andrea.mcqueen@tmcmcd.org](mailto:andrea.mcqueen@tmcmcd.org)  
KCVA – Rachel Brantley 816-861-4700, ext 52425 [Rachel.brantley@va.gov](mailto:Rachel.brantley@va.gov)

**Cardiovascular rotation at SLH:** If the resident is assigned to *Cardiovascular*, he or she must notify **verbally** the program coordinator's office (Daphne Urquhart at 816-932-2237) in addition to Sandy Meyer at:

(816) 303-3264 [smeyer@cc-pc.com](mailto:smeyer@cc-pc.com)

## **Vacations, meetings, personal, interview and other time off:**

The Radiology Department follows the UMKC GME sick leave policy in addition to ABR and UMKC radiology department specific parameters as follows. Please refer to the UMKC GME web site at [www.med.umkc.edu/education/default.html](http://www.med.umkc.edu/education/default.html)

### **1. Vacation time off:**

- One week of vacation equals five (5) working days.
- Residents receive 15 days of vacation, which must be used in the academic year given, between July 1 and June 30.
- Vacation & meeting time cannot be accumulated; days not utilized will be forfeited.
- Vacation time may be taken a day(s) or a week(s) at a time.

- PGY1, PGY2 and PGY3 residents are required to take 2 weeks of vacation prior to Jan 30. These vacations must be requested by mid July to prevent loss of time.
- PGY 4 and 5 residents are required to request 2 weeks of time off by the end of July in order to get it on the calendar. The last week can be taken anytime.
- All vacation requests must be processed at least 4 weeks prior to time off requested.
- Dates of vacation may be changed if approved by the staff at each location.
- Only senior residents may request time off in the last week of June. Exceptions will be considered on a case by case basis if needed.
- Residents on a clinical rotation may request time off proportionately. On rotations where 6 residents spend 1 month, approximately 3-4 days of vacation days may be requested in total for all 6 residents. Time off is per the clinical department policies and should be requested early.

## 2. Vacation departmental policies:

- At Saint Luke's, residents may be scheduled off at any time, but they may not be assigned to the same service or the same attending. Additional vacation requests will be approved if there is adequate coverage.
  1. Additional requests will be considered on a case by case basis.
- At Truman Medical Center and Children's Mercy Hospital, only one resident is typically scheduled off at any time, except when approved by the program director, associate program directors, or education committee as follows.
  - TMC—Lisa Lowe [lhlowe@cmh.edu](mailto:lhlowe@cmh.edu) or Natasha Acosta [Acosta\\_natasha@hotmail.com](mailto:Acosta_natasha@hotmail.com)
  - CMH, KCVA & SLH (except chest) – Lisa Lowe [lhlowe@cmh.edu](mailto:lhlowe@cmh.edu) 816-234-3273
  - SLH Chest – Melissa Rosadodechristenson [mrosado@saint-lukes.org](mailto:mrosado@saint-lukes.org)

## 3. To schedule vacation or meeting time off:

- Residents must fill out a vacation request form and submit it to the residency coordinator (Daphne Urquhart at 816-932-2237).
- Vacation will be granted on a seniority basis.
- PGY1-3 residents must take 2 weeks of vacation prior to Jan 30.
- These will then be submitted to the appropriate person for approval.
- Residents should review the residency online conference/vacation calendar prior to submitting requests in order to avoid weeks where too many residents are already off or there is inadequate coverage. The URL is [www.umkcradres.com](http://www.umkcradres.com)

## 4. Meeting time off:

- Residents receive five (5) working days to attend a national conference approved by the program director in advance of attending the meeting.
- Residents may use their educational stipend for meeting attendance if desired.
- Additional meeting time, up to 5 working days per year, may be approved for scholarly activity/research/presentations, for which residents may apply for additional GME funds. Residents must be 1<sup>st</sup> author on abstracts to apply for GME funds.
- A conference which is less than five days in length will merit those (<5) days leave, plus up to two travel days (if meeting starts and/or ends on weekdays), one to and one from the meeting.
- Travel days may only be used if there is no way the resident can get to and from the meeting on the day it starts and ends. For example travel days are NOT given if the meeting starts after 12:00pm or ends at or before 12:00pm.
- Conference longer than 5 days may be attended by using additional vacation days.

## 5. Time off for interviews:

- Residents in their PGY3, 4 and 5 years of training may elect to use up to a total of five (5) days of training for interviews/visits to other institutions. Interview days not used for interviewing for fellowships or employment cannot be used as vacation time.
- Additional days needed for such activities should be scheduled using resident vacation days as necessary.

#### **6. Time off for in Service and ABR exams:**

- Residents will be given 1/2 day off to take in service exams locally.
- If a resident chooses to take exams in a location outside of Kansas City, they will be given only the day of the exam off. Residents who repeat either exam will be given 1/2 day for the exam as described above.
- Any additional travel days can be scheduled using vacation days if available.

#### **7. Personal time off:**

- Up to 5 personal days may be used for emergency situations, such as attending a funeral or caring for catastrophic situations. These days are not to be used for routine issues with an ill parent or child. Personal days are taken from sick leave.
- Residents are not legally entitled to any holidays off as holiday time off is not part of the UMKC work contract. Time off on holidays is however, given to residents per the individual institutions.
- Personal days may not be used for non emergency situations, such as elective time off such as various family events or religious holidays.

#### **8. Time off to attend AIRP**

- To reinforce diagnostic radiology basics and patho-physiology of disease processes, each resident attends a 4 week AIRP Pathologic/Radiologic course at the ACR in Washington, D.C. The course allows residents to develop contacts with peers from other parts of the country, share their experiences and learn about other programs.
- Tuition to the AIRP is paid by the residency program.
- A \$1750 stipend is provided. Residents are responsible for arranging housing, and all other travel/living related expenses while away.
- No travel days off are given for the AIRP since it begins on Monday & ends on Friday. Weekends before & after should be used for travel.

#### **9. Incomplete rotations**

- If a resident is absent from more than 25% of working days on any core rotation (including post call days), the rotation may not qualify as core, but would rather be an "elective". See core curriculum for specific requirements per subspecialty.
- If a resident has incomplete rotations during the senior year and has not met the core requirement, then there may be a need to extend the period of the residency program per the Program Director and education committee's recommendation.

#### **10. Maternity leave and family medical leave:**

- Please refer to the UMKC GME web site for specific policies. The URL is: [www.med.umkc.edu/education/default.html](http://www.med.umkc.edu/education/default.html)
- The residency program follows guidelines set forth by UMKC policies.
- Residents on paternity leave must use all sick time and vacation time off before requesting FML. Sick time accumulates at a rate of 1 day per month.
- Residents must use all sick days and vacation time for maternity leave PRIOR to applying for family medical leave, which can be used for an extended absence if requested more than 30 prior to the time off.

**11. FML – family medical leave time off:**

- FML is ONLY available to residents who have exhausted sick and vacation days.
- Time off during FML is *unpaid*.
- FML time off must be requested 30 or more days prior to desired time off.
- The PD has the discretion to decide to extend residency training if time off to make up for FML.

**Moonlighting policy:**

Please refer to the UMKC GME web site for specific and additional policies. The URL is: [www.med.umkc.edu/education/default.html](http://www.med.umkc.edu/education/default.html)

1. All residents are given a copy of the radiology moonlighting policy and moonlighting permission form upon arrival at UMKC. Additional copies can be obtained from the program coordinator, Daphne Urquhart ([durquhart@saint-lukes.org](mailto:durquhart@saint-lukes.org) or 932-2237).
2. All residents who wish to do external moonlighting must fill out the moonlighting permission form specifying the date, place and medical liability coverage during the moonlighting activity. Residents must submit the request in writing to the program director for approval. The program director has discretion to decide if the resident may or may not moonlight.
3. Moonlighting is not an official part of the education process and the university *will not* supply malpractice insurance nor allow use of the temporary institutional medical license for such activity.
4. All internal moonlighting is counted in the residents normal duty hours. All regulations apply including 80 hour work week, 10 ours off between shifts and no more than a 24 hour work week averaged over a 3 week period.

**Department of radiology  
Moonlighting Request Form**

As a resident in the radiology residency program, I understand and will abide by the attached requirements for moonlighting activities. I understand that the performance of these activities will not interfere with my ability to achieve the goals and objectives of my residency program. I am aware of work hour limits and understand that moonlighting time counts in the 80 hour work week.

I request permission to engage in moonlighting activities.

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Name (print) Signature Date

---

Signature Program Director Date

Place in Resident's file



## **ON CALL RESPONSIBILITY:**

- On-call experience is crucial radiology resident training. On-call coverage is in-house with backup by staff radiologists. On call residents are available for consultation to other subspecialty areas while on call.
- The call schedule is prepared by the Chief residents.
- 2 night float residents cover sun-thurs night call in house for 2 weeks at a time.
- Weekends (Fri and Sat) will be covered by residents working 24 hour shifts.
- All ACGME duty hour guidelines are strictly followed.
- Residents are off for at least 10 hours between shifts on night float.
- On weekends, call begins at 8:00am and is an in-house 24-hours for one day.
  - TMC call includes in house radiology studies. A night hawk service reads emergency CT imaging.
  - SLH includes in patients and neuroradiology studies. A night hawk service assists with ED study interpretation.
  - KCVA and CMH do not require call coverage.
- Residents are prepared for call by working half days Sat and Sunday with the upper level on call resident and faculty member, and are given graded supervision.

## **WORK HOUR POLICY:**

- Residents are required to log all work hours and follow ACGME and UMKC GME guidelines on work hours. The PD will sign off on work hours at biannual resident evaluations.
  - Duty hours must not exceed 80 hour work week Av over 4 weeks
  - Shifts must not to exceed 24 hours
  - Time off between shifts to be at least 10 hours.
  - Residents must be given at least 1 day in 7 free of clinical duties averaged over 4 weeks.

## **FATIGUE training and policy:**

### **How to recognize resident fatigue:**

**Lisa Lowe, MD, Professor, Program Director and Academic Chair  
Department of Radiology, University of Missouri-Kansas City**

**The recent focus by our certifying agencies on resident work hours is only one manifestation of a growing awareness in many sectors of the harmful effects of workplace fatigue on employee performance. In residency training, impaired performance means missed opportunities for learning and, at worst, hazards to patients.**

### **Fatigued residents typically have difficulty with:**

Appreciating a complex situation while avoiding distraction  
Keeping track of the current situation and updating strategies  
Thinking laterally and being innovative  
Assessing risk and/or anticipating consequences  
Maintaining interest in outcome  
Controlling mood and avoiding inappropriate behavior

### **More specifically, signs of fatigue include:**

Involuntary nodding off  
Waves of sleepiness  
Problems focusing  
Lethargy  
Irritability  
Mood liability  
Poor coordination  
Difficulty with short-term recall  
Tardiness or absences at work

### **High risk times for fatigue-related symptoms are:**

Midnight to 6:00 AM  
Early hours of day shifts  
First night shift or call night after a break  
Change of service  
First 2 to 3 hours of a shift or end of shift  
Early in residency or when new to night call  
Fatigue can be modeled as the result of forces producing fatigue and forces reversing it, i.e. recovery.

### **Moves to limit fatigue-related problems include:**

The 80-hour limitation to which our programs are held will certainly help reduce the total number of hours worked.

In general, the residency workload should allow for as little variation in work schedules as is feasible. Rapid or frequent shifts from day to night work are known to increase the risk of fatigue.

Individual residents may need individualized schedules to accommodate idiosyncratic energy cycles.

Many physical illnesses can present as fatigue and should be ruled out when daytime fatigue seems out of proportion to the resident's workload. The resident should be encouraged to consult his/her primary care physician. Sleep studies may be warranted.

Depression and other psychiatric syndromes may first be manifest as fatigue. Proper diagnosis and treatment should be recommended.

**University of Missouri-Kansas City  
Diagnostic Radiology Residency Program  
Resident Fatigue Policy**

We are committed to preventing and counteracting the potential negative effects of fatigue in this training program. Faculty and residents are educated about sleep loss and fatigue. The program director and supervising faculty monitor the demands of individual rotations and call and make scheduling adjustments as necessary to mitigate excessive service demands and/or fatigue.

In the event a resident experiences fatigue severe enough to interfere with his/her ability to function normally or to impair patient care or safety, the resident, another resident or a faculty member will contact the Program Director. If the Program Director is not available, the report may go to the faculty member in charge of the rotation, or the director of resident education at that facility (SLH-Dr. Andresen, or neuro/Dr. Holloway, TMC-Dr. Acosta).

The resident will nap in the radiology call room until they can return to their clinical duties or safely drive home. The faculty member or PD who receives the original report of resident fatigue will notify the chief resident who will arrange coverage if needed. The chief resident will also report the incident to the PD by telephone or e-mail, if the PD was not involved in the original report.

In the event a resident experiences recurrent problems with sleepiness/fatigue, the PD will refer the resident for medical evaluation or counseling as appropriate.

Policy last revised on 4/2/13

I attest that I have read the UMKC fatigue policy.

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Signature

Date

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Print full name

Return to:  
Daphne Urquhart  
Department of Radiology  
4401 Wornall Rd  
Kansas City, MO 64111  
816-932-2237  
FAX: 816-932-5179

## Resident Selection

Please refer to the UMKC GME web site for specific policies. The URL is: [www.kc-med-web.umkc.edu/residency/radiology/](http://www.kc-med-web.umkc.edu/residency/radiology/)

### Selection:

- Applicants interested in the UMKC radiology residency training should enroll in the NRMP match as well as the ERAS computer-based application system. Applications outside of these national residency application service systems are not typically considered. Additional application materials include a Dean's letter from the applicant's medical school, official medical school transcript, national standardized board examination scores, a minimum of two recommendation letters from faculty members familiar with the applicant's character and talents, and a personal statement from the applicant stating why they chose radiology.
- The program director will review the compiled application materials, which should be submitted by October 1. Interviews will be granted by invitation based on academic background, academic achievement, written letters of recommendation, medical school scores, class ranking, and USMLE scores. Applicants accepting and scheduling an interview will be responsible for their own transportation and housing. The best-qualified applicants will be assessed with regard to academic excellence, experience, and character, regardless of race, color, ethnic origin, handicap or age, as required by law.
- The interview process will involve meeting with at least one faculty member from SLH, TMC and CMH in addition to at least one resident. Following the individual interviews, the interviewing faculty members and selected residents will evaluate each candidate assessing candidates academic record, personality/enthusiasm, communication/interpersonal skills, maturity, ability to fit into the residency team and 'overall score'. The resident selection committee (associate program directors, chief residents and/or resident designee) will meet and generate a rank order list of candidates for the match in accordance with NRMP guidelines. There are 6 positions available per year for our fully accredited radiology residency training program (numbers subject to change over time per ACGME approval). The interview season starts at the end of October and goes through mid-January.

## Promotion Guidelines

### UMKC Radiology Department (rev June 24,14)

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Residents will progress through a core curriculum in radiology including many areas listed below. On each rotation, there are specific guidelines detailing the goals and objectives, competency milestones and evaluation process for the rotation. Residents must meet the goals and objectives and milestones before being advanced to the next level in each section. If a resident chooses to exceed the core requirement in any area, they will be held accountable for the highest level of core rotation requirements. *See complete resident manual for details.*

Residents must pass Step 2 of the USMLE exam prior to the end of their PGY1 year. Residents must pass step 3 of the USMLE exam prior to the end of their PGY2 year.

Residents must complete all hospital records in a timely fashion to maintain hospital privileges.

#### **CORE Radiology Rotations** *(Revised: 5/24/12 by education committee)*

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1. Abdomen (GI/GU) – CT/MR and/or Fluoro/US	4	rotations
2. Chest -	4	rotations
3. Musculoskeletal -	3	rotations
4. Nuclear Medicine -	4	rotations
5. Neuroradiology & Neuro IR -	4	rotations
6. Pediatric Radiology -	3	rotations
7. Interventional -	4	rotations
8. Breast imaging -	3	rotations
9. Cardiovascular -	1	rotations
10. Emergency Radiology	4	rotations (q 13 days)
11. Electives		up to 16 rotations
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12. Clinical rotations	10	rotations

**Radiology residents must complete the following rotations each year. Note that the radiology rotations include the core rotations listed above.**

<b>PGY1</b>	7 blocks Radiology- Chest, MSK, Neuro, Intervention, US/Nuc, GI/GU, ER/Fluoro 2 blocks Internal Medicine – ICU and General Medicine 2 blocks Emergency Medicine 1 block Neurology - KCVA
<b>PGY2</b>	11 blocks Radiology – various rotations 1 block Surgery, Orthopedic - KCVA 1 block OB - SLH
<b>PGY3</b>	12 blocks Radiology – various rotations 1 block Pediatrics - CMH
<b>PGY4</b>	11 blocks Radiology – various rotations 1 block Pediatrics – CMH; 1 block OB - SLH
<b>PGY5</b>	12 blocks Radiology – various rotations

## **Resident DISMISSAL:**

- Resident dismissal will be done according to the provisions and guidelines outlined in the resident employment contract. More specifically, the decision to dismiss the resident will be based on 360 degree resident monthly and semi-annual performance evaluations, ability to achieve milestones, academic performance and compliance with institutional rules and regulations. A resident who exhibits poor performance will be counseled as to improving any identifiable deficiencies or correcting improper behaviors or attitudes. The counseling may occur at the regular semi-annual performance evaluations or may occur separately. In either case, the resident will be given an opportunity to improve their performance. The nature of the opportunity will depend on the exact reason(s) of the nature of poor performance and will include elements such as appointment of a mentor, reading assignments, and/or academic tasks to complete, and psychological counseling.
- The exceptions to these guidelines include residents who fail to obtain or maintain required licensure, who fail to comply with program and institutional rules/regulations, or who exhibit sufficiently unprofessional behavior. Such exceptions may be subject to dismissal without remediation.
- In the event that a decision is made to terminate a resident for academic reasons, failure to maintain licensure, non-compliance with rules/regulations, or unprofessional behavior, an opportunity to utilize the grievance procedures provided in the employment contract and participating institutions will be offered.

If the Radiology Education Committee decides to recommend that a resident be suspended for more than 30 days or dismissed outright, the Council of Graduate Medical Education at UMKC will be notified and their guidance requested. The Associate Dean for Graduate Medical Education at UMKC will review the information obtained during the grievance procedure and will make recommendations to the institution regarding adjudication of the matters, specifically determining if the grievance process is fair, appropriate, and followed correctly. In the event of a resident termination, the final determination evaluation will be completed by the program director to include dates of training and a summary of the resident's performance. This will be done for non-re-appointment or termination for cause during the program year.

## Diagnostic Radiology Resident Supervision Policy Department of Radiology University of Missouri – Kansas City School of Medicine

Dec 12, 2013

The following faculty members will supervise all 30 radiology residents during rotations at *Saint Luke's Hospital (SLH)*, one of the primary teaching facilities of their residency program:

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- Jeff Kunin, MD
- Chairman, Saint Luke's Hospital(SLH) Radiology Department and former Associate Program Director, UMKC Radiology residency
- Kelli Andresen, MD, Associate Program Director TMC and Director Abdominal Imaging
- Christopher Walker, MD, Chair of Milestones committee and Thoracic Imaging faculty
- Melissa Rosado de Christenson, MD, Director, Thoracic imaging
- Brandt Wible, MD, Interim Director, Interventional Imaging
- Ken Cho, MD, Director, Interventional Imaging
- Naveed Ahktar, MD, Director, Neuroradiology
- Brenden Coleman, MD, Director of Ultrasound
- Shaya Ansari, MD, Director of Magnetic Resonance Imaging
- Ruby Meierotto, MD, Co-director, Breast Imaging
- Amy Soetaert, MD, Co-director, Breast Imaging
- Gwen Arnett, MD, Breast Imaging
- Ian McGhie, MD, Curriculum director, Cardiac Imaging
- Tim Bateman, MD, Cardiac Imaging
- Santiago Martinez, MD, Thoracic Imaging faculty
- Pablo Delgado, MD, Abdominal Imaging faculty
- William Holloway, MD, Neuroradiology imaging and interventional imaging
- Brian Chin, MD, Neuroradiology imaging
- Coleman Martin, MD, Neurointerventional imaging faculty
- Nick Saucier, MD, Interventional imaging faculty
- Jessica Sanchez, MD, Musculoskeletal Imaging faculty

The following faculty members will supervise all 30 radiology residents during rotations at *Truman Medical Center (TMC)*, one of the primary teaching facilities of their residency program:

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- Larry Ricci, DO, Chairman, Truman Medical Center(TMC) Radiology Department
- Natasha Acosta, MD, Associate Program Director TMC and Neuroradiology Section Chief
- Joe Witham, MD, Body and Musculoskeletal Imaging
- Jean Dykstra, DO, Chest and Body Imaging faculty
- Socrates Jamoulis, MD, Chest and Body Imaging faculty
- Stephanie Reid, MD, Chest and Body imaging faculty
- Chad Ruble, MD, Musculoskeletal Radiology faculty

- Gerry Finke, DO, General Radiology faculty
- Neb Betesellasi, MD, Body and Musculoskeletal radiology

The following faculty members will supervise all 30 radiology residents during rotations at *Children's Mercy Hospitals and Clinics(CMH)*, one of the primary teaching facilities of their residency program:

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- Douglas C. Rivard, DO, Chairman, Department of Radiology, Children's Mercy Hospital
- Lisa Lowe, MD, PD & Academic Chair, UMKC Radiology Dept & Pediatric Radiologist, Children's Mercy
- Kristin Fickenscher, MD, Pediatric Radiology Fellowship Director & Director, Fetal Imaging, Children's Mercy
- Amy Dahl, MD, Assoc PD, Pediatric Radiology fellowship, Dept of Radiology, Children's Mercy Hospital
- Brent Cully, MD, Pediatric interventionalist, Radiology, Children's Mercy Hospital
- Stephanie Bolger-Thuett, DO, Pediatric interventionalist, Radiology, Children's Mercy Hosp
- Josh Knowlton, MD, Director Med Student education & Cardiac, Pediatric Radiologist, Radiology, Children's
- Brenton Reading, MD, Pediatric radiologist, Department of Radiology, Children's Mercy
- Tim Zinkus, MD, Director Pediatric Neuroradiology, Radiology, Children's Mercy Hospital
- Jim Brown, MD, Pediatric Radiologist, Children's Mercy Hospital
- Neil Mardis, DO, Director Pediatric MRI, Department of Radiology, Children's Mercy
- Megan McDonald, MD, Director Ultrasound, Department of Radiology, Children's Mercy
- Brian Dunoski, MD, Pediatric Radiologist, Children's Mercy Hospital
- Chris Keup, MD, Pediatric Radiologist, Children's Mercy Hospital
- Emily Kucera, MD, Director Quality Improvement, Radiology, Children's Mercy South
- Cindy Taylor, MD, Director Quality Improvement, Radiology, Children's Mercy Hospital
- Steve Welch, MD, Director of fluoroscopy and CT, radiology, Children's Mercy Hospital
- David Nielsen, MD, Director of MSK & IS; and Pediatric Radiologist, Dept of Radiology, Children's Mercy
- Ann Moore, MD, Pediatric Radiologist, Department of Radiology, Children's Mercy
- Laura Dineen, MD, Pediatric Radiologist, Children's Mercy Hospital
- Kay North, MD, Pediatric Radiologist, Department of Radiology, Children's Mercy Hospital
- Jason Tobler, MD, Pediatric Radiologist, Department of Radiology, Children's Mercy Hospital
- Sherwin Chan, MD, Pediatric Radiologist, Department of Radiology, Children's Mercy Hospital
- Daniel Davignon, DO, Pediatric Radiologist, Department of Radiology, Children's Mercy Hospital

The following faculty members will supervise all 30 radiology residents during rotations at *Kansas City Veterans Administration Medical Center (KCVA)*, one of the primary teaching facilities of their residency program:

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- Delores Tizol-Blanco, MD, Chairman, Dept of Radiology, Kansas City Veterans Administration Medical Center
- William Reed, MD, Asso PD & General radiologist, Dept of Radiology, KC VA Med Center
- Yash Sethi, MD, Body Imaging, Dept Radiology, KC Veterans Administration Medical Center
- Mike Roys, MD, Director, Interventional Radiology, Department of Radiology, KCVA Medical Center
- Craig Smith, MD, Interventional radiologist, Department of Radiology, KCVA Medical Center
- Radhika Gupta, MD, Cardiac and MR imager, Department of Radiology, KCVA Medical Center
- Amit Verma, MD, Body Radiologist, Department of Radiology, KCVA Medical Center
- Alvaro Magalhaes, MD, Director Neuroradiology, Department of Radiology, KCVA Medical Center

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*Supervision policy*



Residents at all levels are always supervised by faculty, not upper level residents.

(1) Following the ACGME-mandated levels of supervision, attendings will provide “direct supervision” during performance of and interpretation of all radiology imaging studies for all PGY1-5 residents.

- (a) Attendings will demonstrate to residents how to perform various radiology studies during GI/GU, interventional, ultrasound, nuclear medicine and fluoroscopy rotations. In addition, attendings will demonstrate to residents how to protocol various studies using US, CT and MR imaging. Residents will take an active role in daily protocols. Residents will demonstrate competency in these hands on areas (see goals and objectives for specific rotation milestones/competencies) and their competency will be documented as milestones in their radiology portfolios.
- (b) Reading out imaging studies at the PACS station & learning how to interpret images, document results in a written report, understand when to make contact with physicians regarding imaging study protocols/results, know how to use on line resources and textbooks within a specified time period must be done with the resident & the attending working together. Residents are also taught various methods of dictation for cases and are given regular feed-back on their dictations.
- (c) Residents will dictate radiology reports that will be reviewed by the supervising attending radiologist. The resident report will only be made available to the clinicians caring for patients after the attending radiologist has reviewed the study.
- (d) Interventional procedures are performed with an attending present to instruct & inform the resident on exactly how to perform the procedure safely. Residents are also taught indications for various exams, how to obtain informed consent, and how to interpret these studies.
- (e) Residents will be instructed in radiation and contrast administration safety by an attending radiologist. They will be given simulation situations in order to evaluate their ability to deal with these issues if they arise.
- (f) On-call supervision (Radiology residents must complete 12 months of core training prior to beginning call) on interventional radiology will involve direct communication on the telephone plus direct observation in person if performance of an interventional procedure is needed. The attending may choose the procedure alone or if may involve the resident in which case the attending will do these procedures together with the resident in person.

(2) “Indirect supervision with direct supervision immediately available” will be provided to PGY2-5 residents on emergency radiology night float rotations at Truman and Saint Luke’s Hospitals. Residents will dictate preliminary reports on in-patients overnight. These reports will be reviewed with staff the following morning and will become available at that time for clinician review. Faculty have access to radiology imaging studies from outside the hospital via the internet. This will allow faculty to address resident on call questions as they arise via telephone.

Radiology residents are assigned to TMC, SLH, CMH or the KCVA to work with the divisional supervisor, faculty members and imaging technologists. An associate program director is designated for each site, as noted above. Additionally, subspecialty faculty members are designated at each site, as listed above. Each attending teaches residents through one-on-one daily interaction at the PACS station, in the imaging suites throughout the department of radiology, as well as during morning conferences.

(3) "Indirect Supervision with direct supervision available" becomes more available to residents as they progress. This becomes especially true in performance of fluoroscopy. Resident who have passed their milestone competency in performance of fluoroscopic procedures and radiation safety training may be sent to the fluoroscopy suite alone to perform cases. The images will be reviewed with an attending radiologist in the radiology department after the exam is completed. A similar procedure is followed for residents completing milestone competencies.

(4) "Oversight supervision" in radiology pertains primarily to research. Resident work "independently," once a project has been approved by a sponsoring attending. Residents may help develop research through preparation of IRB documents, mentoring medical students, serving as co-author and/or co-principal investigator during submission of and preparation of abstracts, articles, posters, oral presentations and grant proposals. Residents are given final feedback on these projects via their mentors.

Updated: 6/24/2014

TO: GRADUATING SENIOR RESIDENTS

RE: HOW TO BECOME AN AUTHORIZED USER

If you think there is any chance you will read/be involved with Nuclear Medicine in your career (which will require you to write orders for radioactive material), you should become an authorized user (AU). If you do not become an AU, and want to do it later on, it is a major pain. However, once you are an authorized user, it is easy to transfer your AU status from one job to another. So, I suggest all of you strongly consider becoming an AU unless there is some compelling reason not to.

*Being board certified, by the ABR, DOES NOT MAKE YOU AN authorized user.* However, to apply for AU status, you must pass your ABR exams (be board certified in radiology), which includes passage of the entire Nuclear Medicine section of the oral boards.

Here's what you need to do to apply to be an AU:

1. Become board certified, including passing entire nuc med section of orals.
  - a. Your board stuff will say "you are AU eligible right above the ABR seal". If you're not sure if you are, call ABR and ask them for clarification.
2. Go to [www.nrc.gov](http://www.nrc.gov) and get the authorized user application from the website.
3. Fill out the following forms:
  - a. 313A (aud)
  - b. 313A (aus)
  - c. 313A (aut)
4. Give the forms to the Radiation Safety Officer or Medical health physicist at the hospital where you work and say "I want to be an authorized user". They can help with the process.
5. The Radiation Safety Officer (RSO) will take it from there.

If you need anything signed saying you had specific nuclear training at UMKC, Larry Ricci signs all those forms. You can send directly to him at TMC or send to Daphne and she'll take care of getting Larry to sign for you.

For a tutorial on this topic, see [www.umkcradres.org](http://www.umkcradres.org), click on educational resources, click on nuclear medicine, look for power point on NRC topic.



Lisa H Lowe, MD, FAAP  
Professor, Academic Chair and Program Director, UMKC Radiology

## **Glossary of terms for Radiology Residents**

**Accreditation** A self-regulatory process by which governmental, non-governmental, voluntary associations or other statutory bodies grant formal recognition to educational programs or institutions are measured against certain standards by a review of written information, self-studies, site visits to the educational program, and thoughtful consideration of the findings by a review committee. Whereas programs or institutions are accredited, individual physicians are licensed or certified.

**Accreditation council for graduate medical education (ACGME)** An association formed by five member organizations-American Board of Medical Specialties, American Hospital Association, American Medical Association, Association of American Medical Colleges, and Council of Medical specialty Societies. This council develops requirements for and oversees the accreditation of residency programs.

**American Board of Radiology (ABR)** The American Board of Radiology certifies medical doctors to practice radiology in North America. Certificates are issued to candidates who have demonstrated their knowledge and proficiency by successfully completing comprehensive written and oral examinations.

Five primary certificates are offered in three fields of radiology: Diagnostic Radiology, Radiation Oncology, 3 separate certificates covering Radiologic Physics and its subfields. Four subspecialty certificates (CAQs) are offered: Neuroradiology, Nuclear Radiology, Pediatric Radiology, and Vascular and Interventional Radiology.

**American College of Radiology (ACR)** With more than 30,000 members, the ACR is the principal organization of radiologists, radiation oncologists, and clinical medical physicists in the US. The College is a nonprofit professional society whose primary purposes are to advance the science of radiology, improve radiologic services to the patient, study the socioeconomic education for radiologists, radiation oncologists, medical physicists, and persons practicing in allied professional fields.

**Missouri State Medical Board** The medical Board serves as the State licensing and regulatory agent for those occupations in the State of Missouri. The Medical Board's mission is to protect the public and act as their advocate by effectively regulating the practices of Medical Doctors, Osteopathic Medical Doctors, Physician Assistants, Medical corporations, Respiratory Therapists, Occupational therapists and Occupational therapy Assistants.

**Assessment** A system of evaluation of professional accomplishments using defined criteria and usually including an attempt at measurement either by grading on a rough scale or by assigning numerical value. The purpose of assessment in an educational context is to make a judgment about the level of skills or knowledge, to measure improvement over time, to evaluate strengths and weaknesses, to rank students for selection or exclusion, or to motivate. Assessment should be an objective and reproducible as possible. A reliable test should produce the same or similar scores on two or more occasions determined by the extent to which it measures whatever it sets out to measure. One can distinguish three types of assessment:

**Formative assessment (constructive criticism)** is testing that is part of the developmental or ongoing teaching/learning process. It should include delivery of feedback to the student.

**Summative assessment (go vs no go – decision to proceed to next level)** is testing which often occurs at the end of a term or course, used primarily to provide information about how much the student has learned and how well the course was taught.

**Associate Dean for Graduate Medical Education** The Dean's designee who is responsible for administering the institutional response abilities of graduate medical education.

**Certificate of Added Qualification (CAQ)** Subspecialty certificates (CAQs) are offered by the ABR in Neuroradiology, Nuclear Radiology, Pediatric Radiology, and Vascular and Interventional Radiology. Candidates must successfully complete one year of fellowship training (after residency) in a program approved and accredited by the ACGME or RCPSC and one year of practice or additional training in the subspecialty.

**Certification** The process for determining whether an individual physician has met established requirements within a particular specialty. The standards for certification are determined by the appropriate member specialty board recognized by the American Board of Medical specialties (ABMS).

**Competence** Possession of a satisfactory level of relevant knowledge and acquisition of a range of relevant skills that include interpersonal and technical components at a certain point in the educational process. Such knowledge and skills are necessary to perform the tasks that reflect the scope of professional practices. Competence may differ from "performance", which denotes actions taken in a real life situation. Competence is therefore not the same as "knowing" on the contrary, it may well be about recognizing one's own limits. The more experienced the professional being tested, the more difficult it is to create a tool to assess their actual understandings and the complex skills of the tasks they undertake. A holistic integration of understandings, abilities and professional judgments i.e. a "generic" model, is one where competence is not necessarily directly observable, but rather can be inferred from performance.

**Curriculum** An educational plan that spells out which goals and objectives should be achieved, which topics should be covered and which methods are to be used for learning, teaching and evaluation.

**Dean** The chief administrative and academic officer of the College of medicine who recruits and appoints all departmental chairs, associate and assistant deans and all committees.

**Designated institutional official (DIO)** The person who has the authority and responsibility for the oversight and administration of the Sponsoring Institution's ACGME-accredited programs and who is responsible for assuring compliance with ACGME Institutional Requirements. The Associate Dean for GME serves this role in the College of Medicine.

**Duty hours** All clinical and academic activities related to the residency program; i.e., patient care (both inpatient and outpatient), administrative duties relative to patient care, the provision for transfer of patient care, time spent in-house during call activities, and scheduled activities such as conferences. Duty hours do not include reading & preparation time spent away from the duty site.

**Educational or Instructional objectives** Statements that describes what learners should be able to master. A major aim is the acquisition of facts, concepts and principles. Developing instructional objectives involves learning the fundamentals and vocabulary of each discipline and developing a logical progression of concepts in each discipline. Resources and materials are more effectively deployed when instructional objectives are explicit. It is important to assure that objectives are measurable and that they delineate a specific level of competence. One can and should distinguish between knowledge, skill and attitude objectives.

**Ethics** The branch of philosophy that deals with distinctions between right and wrong and with the moral consequences of human actions. Examples of ethical issues that arise in medical practice and research include informed consent, confidentiality respect of human rights, and scientific integrity.

**Evaluation** A process that attempts to systematically and objectively determine the relevance, effectiveness, and impact of activities in light of their objectives. Evaluation can be related to structure, process, or outcome and can be used to provide information about individual or programs performance.

**Formative (feedback) evaluations** generally require the least amount of rigor, whereas **summative** individual and summative program **evaluation** for external use (e.g., certification of competence) requires the greatest amount of rigor. When a high degree of methodological rigor is required, the measurement instrument must be appropriate in terms of content, reliability, validity, and practicality.

**Fellow** - A term used by some sponsoring institutions and in some specialties to designate participants in subspecialty GME programs. The GME director and the ACGME use “residents” to designate all GME participants in ACGME-accredited programs.

**Graduate Medical Education (GME)** The second phase following undergraduate medical education or the medical school phase, which prepares physicians for practice in a medical specialty. GME focuses on the development of clinical skills and professional competencies and on the acquisition of detailed, factual knowledge in a medical specialty. This learning process prepares the physician for the independent practice of medicine in that specialty.

**Graduate medical education committee** A standing committee of the School of Medicine which supervises, coordinates, reviews and assures the quality education of residency programs.

**Health care Services** provided to individuals or communities by a health care system or by professionals to promote, maintain, monitor or restore health. Health care contains a broad spectrum of services and activities delivered by a team of health personnel. This contrasts with

medical care, which concentrates on diagnostic and therapeutic actions performed by or under the supervision of an individual physician.

**HIPPA institutional core curriculum** - A set or course of learning activities (e.g. lectures, computer modules) arranged to impart knowledge and skills in fundamental domains (e.g. communication skills, legal issues, ethics). The curriculum is designed and implemented at the institutional level.

**Intern** Historically, “intern” was used to designate individuals in the first year of GME; less commonly it designated individuals in the first year of any residency program. Since 1975 the GME directory and the ACGME have not used this term, instead referring to individuals in their first year of GME as residents.

**Internal Review** The formal process undertaken by a sponsoring institution or its individual ACGME-accredited programs in conformity with the institutional requirements to evaluate the sponsored programs.

**In-training exam** A multiple-choice exam developed by an external vendor. In radiology, this exam is developed and administered by the American Board of Radiology.

**Licensure** The governmental process through which an individual physician is given permission to practice medicine within a particular licensing jurisdiction. Medical licenses are granted by the Board of Medical Examiners (or the equivalent) in each licensing jurisdiction (the 50 states). Individuals in training programs in the State of Missouri are required to have at least a temporary training license while rendering services within the training program. This is distinct from both accreditation and certification.

**Maintenance of Certification (MOC)** As the applications, technologies, and methodologies of radiology continue to expand and develop, the ABR understands that lifelong learning is critical to ensure new information and knowledge are incorporated into clinical practice. The Maintenance of Certification process (ABR-MOC) is designed to be a comprehensive vehicle through which all diplomats can ensure the public and the radiologic community that they are incorporating new information into their practices, thereby delivering excellence in care. Diplomats with time-limited certificates are automatically enrolled in the process. Those with lifetime certificates should consider ABR-MOC as an investment that will ensure continuing education, instill confidence, and promote the best interests of the patient.

**Participating institution** An institution to which residents rotate for a required experience and/or those that require explicit approval by the appropriate RRC prior to utilization. At UMKC the participating institutions are Truman Medical Center, Saint Luke’s Hospital of Kansas City, Children’s Mercy Hospitals and Clinics and the Kansas City Veterans Administration Medical Center.

**Patient-centered care** A philosophy of care that encourages (a) shared control of the consultation, decisions about interventions or management of the health problems with the patient and/or (b) a focus in the consultation on the patient as a whole person who has individual

preferences situated within social contexts (in contrast to a focus in the consultation on a body part or disease).

**Peer Review or Peer Evaluation** Method for evaluating professional attitudes and behavior, used by trainees to assess each other and also used by supervisors, nurses and patients to assess trainees. Typical measurement tools for this form of testing are checklists and questionnaires.

**Professionalism** Adherence to a set of values comprising both a formally agreed-upon code of conduct and the informal expectations of colleagues, clients and society. The key values include acting in a patient's interest, responsiveness to the health care needs of society, maintaining the highest standards of excellence in the practice of medicine and in the generation and dissemination of knowledge. In addition to medical knowledge and skills, medical professionals should present psychosocial and humanistic qualities such as caring, empathy, humility and compassion, as well as social responsibility and sensitivity to people's culture and beliefs. All these qualities are expected of members of highly trained professions.

**Program** The unit of specialty education, comprising a series of graduated learning experiences in GME, designed to conform to the program requirements of a particular specialty.

**Program Coordinator** The administrative assistant who assists the Program Director in maintaining and completing the written documentation of the program.

**Program Director** The faculty member who is directly responsible for all of the educational and administrative aspects of a specific residency or fellowship program.

**Quality Assurance** A system of procedures, checks, audits, and corrective actions to ensure that all research, testing, monitoring, sampling, analysis and other technical and reporting activities are of the highest achievable quality. Quality assurance serves to benefit the *Quality of care*.

**Radiology** A branch of medicine which encompasses the diagnostic and therapeutic applications of radiant energy and radiation safety as include in each of these subfields as specified below.

Radiation Oncology is that branch of clinical medicine concerned with the causes, prevention, and treatment of cancer and certain non-neoplastic conditions utilizing ionizing radiation.

Radiologic physics is that branch of medical physics which includes therapeutic radiological physics, diagnostic radiological physics, and medical nuclear physics.

**Radiology information systems (RIS)** RIS provide electronic management of medical information: they streamline scheduling and ordering of appointments, patient registration, work lists, billing, medical and management reporting.



**Research** Scientific inquiry or an organized quest for new knowledge and better understanding, such as of the natural world or determinants of health and disease. Research can take several forms: empiric (observational), analytical, experimental, theoretical and applied.

**Residency training program** A specialty program that is based in a hospital or other health care institution and, in most specialties, utilizes both inpatient and ambulatory settings. GME programs, including transitional year programs, are called residency programs and the physicians being educated in them are called residents.

**Resident** For the purposes of the policies of the Graduate Medical Education Committee of the UMKC School of Medicine, the term resident refers to any one in a GME program sponsored by the UMKC School of Medicine, at PGY1 level and above. This includes all other terms such as intern, fellow or house staff member or house officer.

**Review of patient chart/record** Involves abstraction of information from patient records, such as tests ordered, and comparison of findings against accepted patient care standards.

**Scholar** Scholars are considered to be those academics who conduct research, publish, and then perhaps convey their knowledge to students or apply what they have learned. What is urgently needed today is a more inclusive view of what it means to be a scholar – a recognition that knowledge is acquired through research (discovery), through synthesis (integration), through practice (application) and through teaching (E.L. Boyer 1990).

**Sponsoring institution** the institution that assumes the ultimate responsibility for a program of GME. The sponsoring institution of all programs at UMKC is the School of Medicine.

**Standard** A model, example or rule for the measure of quantity, weight, event, value, or quality, established by authority, custom or general consent. It is also defined as a criterion, gauge or yardstick by which judgments or decisions may be made. A meaningful standard should offer realistic prospect of determining whether or not one actually meets it.

Standards may be *mandatory* (required by law), *Voluntary* (established by private and professional organizations and available for use), or *de facto* (generally accepted by custom or convention, such as standards of dress, manners, or behavior).

**Teaching, clinical** Teaching that occurs in medical settings and addresses issues related to resident' current patient cases or clinical responsibilities.

**Teaching, computer modules** Computer-based instructional units that present medical knowledge or clinical tasks, etc, that resident work through independently. These modules are developed either by the institution/program or purchased from commercial vendors.

**Teaching, departmental conferences, lectures or discussions** Formal, classroom instruction on a specific topic or method, led by one or more faculty, residents, or staff, etc.

**Teaching, individual or group projects** Multi-step, multi-component tasks performed as vehicles for learning and applying knowledge and skills. Projects should result in a product. Examples are literature reviews, research, clinical quality improvement projects, and community health advocacy work.

**Teaching, performance feedback** Information provided to a resident that describes what (s)he has done well or poorly and provides specific guidance as to how performance might be improved.

## USMLE/COMLEX part 3 guide (rev 2014):

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### Basic Information:

The current Step III examination is a two day exam consisting of multiple choice questions and computer based case simulations. The first day consists of 336 multiple choice questions divided into 7 blocks. The second day consists of 144 multiple choice questions in 4 blocks and 12 computer based case simulations. You have a total of 8 hours each day (including breaks).

For the 2014-2015 cycle there will be a change in the examination format. Applications submitted after July 18, 2014 will be taking the new restructured Step III exam. Applications for the new exam will be accepted starting on August 4, 2014. No step 3 examinations will be administered during most or all of October 2014. Administration of the new exam will begin on November 3, 2014. There will be a score delay for those taking the restructured exam on or after November 3, 2014 and the estimation is that these scores will be released in April, 2015.

What are the changes that will take place with the restructured format? You would be given the option to take the two day exam on non-consecutive days. As far as exam content is concerned you would “See increased numbers of items that assess an expanded range of competency-based content, including foundational science essential for effective healthcare; biostatistics, epidemiology, and population health; literature interpretation; medical ethics; and patient safety.” The new titles for the exam will be Step 3 Foundations of Independent Practice (FIP) and Step 3 Advanced Clinical Medicine (ACM).

If you register for Step III during your PGY-1 year, UMKC will pay for the exam and help you with the paperwork. **The fees for the exam are around \$800. So it is to your financial benefit to get this done during your first year!** (Note: as long as you register your first year, it will be paid for. You can register at the end of PGY1, and take it the beginning of your PGY2 year.)

### How to apply:

As of 06/2014, this is your contact person in the UMKC Graduate Medical Education (GME) office:

Tani Daumas  
(816) 235-6628  
daumast@umkc.edu

If this should change, look on the UMKC GME website under the “key contacts” page (<http://www.med.umkc.edu/gme/contact.shtml>). The GME office employees have descriptions under their names with their assigned duties, and one of them is “Step #3 applications”.

When the time is right (see below), you will email her, simply stating you are a first year resident here, and need to schedule Step III. She will send you a pdf of the forms you need to fill out. It is probably easiest to drop off the completed forms in person, as they must be notarized, and there are numerous notaries in the GME office. Do not sign the forms until you are there (you have to sign in the physical presence of the notary). Also, you will need a photo to attach to your application. You can also get this in the medical school when you drop your completed forms off. The photo office is right next to the GME office (they will show you where). They will still have your photo on file from orientation, and can print you off an appropriately sized photo on the spot.

The actual GME office is on the 2<sup>nd</sup> floor of the medical school (M2-302). Go to the main medical school elevators, then go to the second floor. Go left out of the elevator, then immediately left again. It should be on your right.

### Timing:

The scheduling process for Step III is a lengthy one. Once you turn your forms in to the GME office, they will request a check for funds (1 week give or take). Then she will submit it to the Federation of State Medical Boards. They will take 6-7 weeks to process your application. They will then email you your scheduling permit, which gives you a 90-day window to take the exam. **So, you should turn your application in about 8 weeks before you want your 90-day window to begin.**

The actual administration of the exam is done by Prometric. It is a good idea to try to schedule your exam date with Prometric as soon as you get your permit, as available dates can fill up fast. The email you receive with your scheduling permit will have specific instructions on scheduling the exam date with Prometric.

Ideally, you will schedule your exam following a period of time where you have had some time to study. The following rotations are conducive to studying: TMC ED, SLH ED, VA Neurology, and VA CT/MRI. It's not that you can't find time to study on other rotations, those are just the ones where it will be easiest to study.

In an ideal situation, you would schedule the exam date on a clinical rotation, as someone will likely have to cover for you if you are on a radiology month. If that is not possible, you can still do it when you are on a radiology month. A few things to keep in mind if you need to schedule it while on a radiology rotation:

- o One person is allowed to be scheduled "away" from Truman at a time.
- o The seniors take boards at the end of May, which leaves fewer residents, making finding coverage difficult.
- o No one will have to cover for you if you are at the VA.
- o Keep an eye out for board reviews and physics courses, which also leaves us with fewer residents.
- o Check with Daphne and Dr. Lowe prior to scheduling the actual day for approval, so you don't have to reschedule.

**Studying:**

Do what works for you. If you did question banks for Step I and II, do that. If you read First Aid, and that worked, do that. For the most part, I think residents tend to use the USMLE World question bank and case simulation software.

It is a good idea to practice doing the case simulations on the computer, so you are familiar with the system on the actual test day. USMLE World has software and an interface that is nearly identical to that you will see on test day. A few sample cases with their software can be downloaded from the USMLE website.

## COMLEX Level 3 GUIDE

**Basic Information:**

COMLEX Level III is a one day exam consisting of multiple choice questions. The examination consists of 400 questions divided into 8 blocks administered as two 4 hour test sessions consisting of 4 blocks of 50 questions each. This is the same format as COMLEX Level 1 and 2.

**Registration:**

COMLEX registration is different than for the USMLE. To register for the COMLEX Level 3 visit [www.nbome.org](http://www.nbome.org). This website allows you to view the days the test is offered, and allows you to log in to your NBOME account to access the NBOME's online registration system with your username and password to register and pay for the examination. Once you have registered and purchased the exam through the NBOME, the system will direct you to schedule an appointment with Prometric. You will be able to choose the test location by state, and seat availability by month or specific date. You must confirm the appointment and obtain a 16-digit confirmation number to complete the scheduling process.

**Reimbursement:**

The UMKC GME department will reimburse the COMLEX LEVEL 3 exam fee if the resident registers for the exam during PGY1. In order to receive reimbursement for the examination fee complete the UMKC Resident Physician Reimbursement Request Form (same form as for educational funds). When selecting expense type mark Office of GME funds. Then, attach a copy of the receipt from the NBOME and submit the form to the radiology program coordinator. The funds will be reimbursed by direct deposit into your account on file with the GME in approximately 4-6 weeks.

**Timing:**

The same advice above applies for the COMLEX.

**Studying:**

Do what worked for you on COMLEX Level 2. Comquest, Combank, and Usmleworld are popular question banks. Popular review books include Kaplan Master the Boards Step III, Crush, First Aid, and Savarese OMT Review.

## **RadPrimer requirements for PGY1 & PGY2 (rev. 6,2014)**

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Complete all of the basic lessons in the following modules. Do them in order of your rotations. You must have these done by the end of the PGY1 year....

Chest  
MSK  
GI  
GU  
Neuroradiology  
Nuc Med  
Ultrasound  
Vasc/Interventional

Prior to beginning call (18-20 months into training), you must have completed the basic lessons in the following categories...

Peds  
OB  
Cardiac