

Kansas City VA Hospital Radiology Resident curriculum UMKC School of Medicine Diagnostic Radiology Residency Program

(Revised: 11-28-09)

General Information:

UMKC (University of Missouri-Kansas City) Radiology residents will spend a total of 4 months of their residency at the KCVA (Kansas City Veterans Administration Medical Center), approximately 1 month per year, where they will be exposed to acute and chronic diseases in a unique, mostly geriatric, veteran patient population. Radiology rotations at the KCVA may include: (1) Body Imaging-Ultrasound and/or CT, (2) MR imaging (combined neuro and musculoskeletal) and (3) Body imaging-Plain radiographs and Gastrointestinal/Genitourinary (including fluoroscopy). All rotations will include interpretation of stat/ urgent/inpatient plain radiographs at the start of the day. Residents will spend no more than 2 months on a single rotation. Distribution of PGY2-5 year residents in KCVA Radiology rotation will be done in a systematic fashion and a good mix of junior and senior residents will be ensured by the UMKC Program Director.

Rotation coordination:

Daphne Urquhart (UMKC program coordinator), 816-932-2237, will coordinate the resident schedules at all UMKC affiliated institutions, including the KCVA. A copy of the yearly schedule will be provided to the KCVA electronically and by FAX. For everyone's convenience, the updated yearly schedule, call schedule, vacation schedule and conference schedule are available online at www.umkcradres.org, which is open to all for review. Updates to the schedule are made online weekly.

One radiology resident will rotate at the KCVA per month beginning Jan 2009 – July 2010. After that time, up to 2 UMKC radiology residents will rotate at the KCVA per month every month.

Online schedule:

The online schedule at www.umkcradres.org will track all off time (meetings, vacation, etc) for residents at all UMKC affiliated institutions, including the KCVA. Residents wishing to take time off during a KCVA rotation are subject to both UMKC and KCVA radiology department policies, as per the resident manual and orientation package.

Time off:

- Residents must submit time off requests in writing to the program coordinator. Each request during a VA rotation will be forwarded to the Radiology Program Director, and to KCVA Radiology Secretary, Ms. Rachel Brantley at Rachel.brantley@va.gov. Leave is approved at the VA only after the VA Residency Program Director concurs/ approves leave. No more than 1 week off (5 working days) are allowed during a one month rotation at the VA. This includes AL /vacation and education/meetings.
- The resident must inform Ms. Urquhart (or the Chief resident if Ms. Urquhart is not available, or Dr. Lisa Lowe, the program director if the Chief Resident is not available) and the supervising faculty at the KCVA of any sick days, or unexpected absences.
- If a resident is away for more than 30% of the KCVA month, i.e. more than 8 working days. (Approved leave and sick leave included) the rotation may be considered incomplete and may need to be repeated. Special circumstances may be considered by the KCVA Radiology program director, Dr. Gupta, or the UMKC radiology Program Director, Dr. Lisa Lowe.

KCVA specific requirements and Rotation specific details:

- UMKC residents assigned to the VA are required to meet with the Radiology Residency Program Director, Dr. Radhika Gupta for assignment of rotation, reporting/coding critical exams, QA requirements and meet thereafter at regular intervals for feedback. At the end of the month, and as needed, Dr. Gupta will be available to discuss the resident's concerns, performance and evaluation.
- At the beginning of the month, the resident will meet with the ADPAC Mr. Darryl Hardan who will ensure the computer access for the resident is working. The residents will also meet with the Administrative Officer, Radiology to ensure basic training; ID/HR/ISO requirements are fulfilled. Residents requiring Power scribe training will meet with IT staff which includes Ms. Matlack. These meetings will be coordinated from the Radiology Office by the Secretary, Ms. Brantley.
- A rotation schedule for residents will be provided. Daily sign in sheet is available in the Radiology Office for timekeeping purposes. The current disbursement agreement, renewed each academic year, will be the authority for attendance and leave issues.
- Resident evaluations are performed by KCVA faculty, and either completed electronically or Faxed to Daphne Urquhart, the Radiology Residency program coordinator, at 816-983-6912.

The KCVA Radiology office is located on the 2nd floor across from the main hospital elevators. The office can be reached when on campus at the KCVA by dialing 5-2425.

Resident lockers:

The lockers are available in the staff lounge room for resident use. Residents need to provide their own combination locks. It is encouraged that residents not leave their valuables in the reading rooms. Key/Keypad access will be provided to residents into the lounge/reading rooms and conference room.

| UMKC Radiology core curriculum/morning conferences:

Conference attendance is mandatory and the UMKC radiology resident will be given adequate time to go to and return from UMKC morning conferences at UMKC (SLH/TMC/CMH). The residents have a morning teaching conference Monday through Friday at St. Lukes'/Truman/Children's. The residents should arrive at the KCVA by 9am after morning conference. The residents are not required to attend noon conference while in VA rotation and will attend the web linked teleconference in the Radiology conference room adjacent to the staff Lounge. The VA also offers CME Grand Rounds, chest conference, IR/Vascular conference and tumor boards.

| Daily resident supervision at the KCVA:

Each radiology report dictated by a resident is a result of careful review and interpretation in conjunction with a KCVA radiology staff member. No resident, regardless of training level, is allowed to verify and sign reports without reviewing them with a KCVA, UMKC faculty member. The attending MD supervising the radiology resident takes full responsibility of viewing all the images with the resident and the final version of the signed report. A statement to this effect is entered into the final report. The resident follows the reporting and communication of results/critical value protocols specific for KCVA.

| KCVA ID Badge:

KCVA I.D. badge and finger printing requirement is a must. Please contact Administrative Officer/ Radiology Secretary at extn 52425 if these have not been completed prior to starting your rotation.

KCVA CPRS, Vistarad and Powerscribe training is available from:

Residents will be required to call the Radiology Office at 816-861-4700 extension 52425 and confirm their upcoming monthly rotation with the Radiology Secretary 2-3 working days in advance of the rotation. Specific details required to obtain computer access for them will be obtained from them during this call. This includes: Full name, SSN, existence of previous access, Powerscribe Voice files etc;

It is critical to have the resident's information before they arrive as all new user applications must be accompanied by a successfully completed HIPPA and cyber-security training certificate before submission. The person may complete the training and print their certificate before arrival from their home computer (or the VA learning center or medical library) at <http://www.vcampus.com/vcekpvalo/>.

Failure to complete the training will further delay access upon their arrival. The following individuals will be providing computer access:

1. Darryl Hardan, in Nuclear Medicine suite. Extension 56237 or 56241 and pager 816-840-0634; email Darryl.hardan@va.gov and
2. Bonnie Matlack, at extension 52716 and pager 583 and email Bonnie.matlack@va.gov.

Resident voice files may be saved on CD and or emailed to IT-Radiology staff KCVA from other affiliated UMKC institutions.

Faculty evaluation of the resident:

- At the end of the month the resident will be evaluated by the KCVA faculty in a manner similar to that at the other affiliated institutions, described in the resident hand book. Evaluations are based on core competencies including Patient Care, Medical Knowledge, Professionalism, Practice Based Learning, Communications Skills and Systems Based Practice (See below).
- KCVA Radiology Program Director takes responsibility for ensuring that evaluations are completed in a timely fashion and sent to the program coordinator, Daphne Urquhart at durquhart@saint-lukes.org 816-923-3277, fax number = 816-983-6912.

Goals and Objectives by rotation at the VA:

Body imaging – Plain Radiographs and GI/GU Radiology – First rotation goals and objectives

- I. *Patient Care:* Residents should be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health in the KCVA population.
 - (a) Residents are required to complete an on line module on Patient Care available at UMKC. Completed on line module certificates are placed in the residents portfolio
 - (b) Residents should show ability to interact with referring clinicians when reviewing GI/GU studies.
 - (c) Residents should demonstrate the ability to recommend additional imaging studies as appropriate to better assess findings on GI/GU studies (e.g. CT/US/MRI).
 - (d) Residents should be able to use the PACS, Voice recognition systems and hospital information systems such as CPRS and IMED Consents.

- II. *Medical Knowledge:* Residents should....
 - (a) Demonstrate knowledge of normal and abnormal anatomy as seen on Chest, Abdominal and Musculoskeletal radiographs and GI/GU studies.
 - (b) Show the ability to formulate a search pattern for plain radiographic evaluation. Locate abnormalities and recognize them as abnormal, recognize their significance and formulate a plan for further work-up or diagnosis.
 - (c) Show the ability to recognize and describe common medical conditions as depicted on GI/GU imaging studies.
 - (d) Discuss the proper clinical and radiological indications for the following studies:
 - 1) Video swallowing study
 - 2) Esophogram
 - 3) Upper GI series
 - 4) Single-contrast barium enema
 - 5) Air-contrast barium enema
 - 6) Small bowel follow-through
 - 7) ERCP
 - 8) Voiding cystourethrogram
 - 9) Retrograde urethrogram
 - 10) Contrast injections, including fistulograms, T-tube cholangiograms, loop-a-grams
 - (e) State the physiologic properties, proper concentrations and proper indications for the use of the following contrast media:
 - 1) Ionic intravenous contrast media
 - 2) Non-ionic contrast media
 - 3) Standard barium mixtures
 - (f) List the risk factors for allergic reaction to intravenous contrast media.
 - (g) State the proper assessment and treatment for allergic reactions to contrast media.

- III. *Practice Based Learning and Improvement:* Residents should.....
 - (a) Show evidence of independent study using textbooks from suggested reading list.
 - (b) Demonstrate appropriate follow-up of interesting cases.
 - (c) Research interesting cases as directed by faculty.

- IV. *Interpersonal Skills:* Residents must demonstrate the ability to.....
 - (a) Interact with radiology technologists, medical students, fellow residents, and attending radiologists.

- (b) Interact with clinicians when reviewing cases involving Radiographs and GI/GU imaging studies. Show ability to provide preliminary readings, follow up with attending radiologists, formulate a plan for follow up of complex cases and communicate any changes to the referring clinicians.
- V. *Professionalism:*
- (a) Residents are required to complete an on line module on professionalism available at UMKC. Completed module certificates are placed in the residents portfolio
 - (b) Residents must demonstrate the ability to interact with the patient/patient's family/clinicians when discussing significant radiology findings.
 - (c) Residents must be able to explain the impact of the radiology findings on patient care, including what imaging studies may or may not be appropriate.
- VI. *Systems Based Practice:* Residents should.....
- (a) Shows ability to interact with clinicians regarding cost effective and streamlined patient evaluation for differing clinical entities.
 - (b) Able and willing to participate in clinical conferences in which imaging studies used to guide patient care/evaluation.

Reading List: The following list includes suggested GI/GU reading for radiology residents:

1. Double Contrast Gastrointestinal Radiology by Laufer
 Chapter 2 – “Principles of Double Contrast Diagnosis”, pp. 9-54
 Chapter 3 - “Upper GI Tract: Technical Aspects”, pp. 59-77
 Chapter 12 – “Double Contrast enema: Technical Aspects”, pp. 423-437
2. Textbook of Gastrointestinal Radiology. 1984, Gore, Levine, Laufer
 Volume I, Chapters 4, 5, 6
3. *Review of the following basic radiology texts:*
Gastrointestinal Radiology, 1983. Gedgaudos-McClees
Gastrointestinal Radiology: The Requisites. Halpert and Goodman
Essentials of Uroradiology. 1991. Amis and Newhouse

Body imaging – Plain Radiographs and GI/GU Radiology – Second rotation goals and objectives

- I. *Patient Care* - Residents must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health in the KCVA population.
- (a) Shows ability to interact with clinicians when reviewing abdominal imaging studies.
 - (b) Shows ability to recommend additional imaging studies as appropriate to better assess GI/GU studies (e.g. CT/US/MRI).
 - (c) Shows ability to use PACS, Voice recognition and hospital information systems
 - (d) Are able and willing to assist lower level residents working at the KCVA
 - (e) Are able to consent high risk patients for contrast etc;
- II. *Medical Knowledge:* Residents should.....
- (a) Demonstrate knowledge of normal and abnormal anatomy as seen on GI/GU.
 - (b) Show the ability to recognize and describe common medical conditions as depicted on GI/GU studies.
 - (c) Be familiar with both common and uncommon GI/GU conditions and be able to formulate extensive differential diagnosis.
 - (d) Be able and willing to teach lower level residents.
 - (e) Be able to perform most GI/GU studies with staff supervision.

- III. *Practice Based Learning and Improvement:* Residents should.....
 - (a) Show evidence of independent study using textbooks from suggested reading list.
 - (b) Demonstrates appropriate follow up of interesting cases.
 - (c) Be able and willing to make detailed presentations of GI/GU studies at intra and interdepartmental conferences.
 - (d) Participates in teaching of medical students and fellow residents.

- IV. *Interpersonal Skills:* Residents must demonstrate the ability to.....
 - (a) Interact with radiology technologists, medical students, fellow residents, and attending radiologists
 - (b) Interact with clinicians when reviewing cases involving GI/GU studies.
 - (c) Can participate in administrative and scholarly committees when asked.

- VII. *Professionalism:*
 - (d) Residents must demonstrate the ability to interact with the patient/patient's family/clinicians when discussing significant radiology findings.
 - (e) Residents must be able to explain the impact of the radiology findings on patient care, including what imaging studies may or may not be appropriate.

- VI. *Systems Based Practice:* Residents should.....
 - (a) Show the ability to interact with clinicians regarding cost effective and streamlined patient evaluation for differing clinical entities.
 - (b) Able and willing to participate in clinical conferences in which imaging studies used to guide patient care/evaluation.
 - (c) Be able and willing to organize and present case conferences/didactic sessions as directed and supervised by radiology staff.

Reading List:

1. Begin regular reading of articles from *Radiology* and *American Journal of Roentgenology*.
2. *Radiology of the Kidney*. 1985. Davidson
3. *Genitourinary Radiology: The Requisites*. 1997. Zagoria and Tung

Goals and Objectives by rotation at the VA:

Body imaging – Ultrasound

General overview

Radiology resident rotations at the KCVA in diagnostic ultrasound consist of at least 1, and sometimes 2, months experience over the 4 year radiology training. The learning of ultrasound is accomplished equally from theoretical knowledge and practical hands-on experience. As such, the requirements are stated as specific goals and objectives required for every level of training with graded supervision both by the attending faculty and sonographer. Specific focus is placed on ultrasound imaging and findings of acute and chronic disorders in the veteran and geriatric patient population at the KCVA.

Resident responsibilities:

1. The resident is involved in the daily conduct of KCVA ultrasound services. At the start of every working day, the resident should be familiar with the patient schedule and anticipate needs for any procedures. The resident will check requisitions for next working day to evaluate for appropriateness of requested procedure or if additional exams/protocol needs to be performed. Absent clinical indication or seemingly in-appropriate requests will be clarified and discussed with attending MD.
2. He/she is expected to be available for consultation by Sonographers, clinicians and other health care professionals during regular office hours except during conference times.
3. Examinations should be checked by the resident before the patient leaves the department if requested to do so by the supervising faculty.
4. Any questions should be referred to the attending supervising faculty on ultrasound.
5. Preliminary reports are written/dictated as for emergency room referrals and patients who are going to clinic appointments on the same day of the examination when appropriate. This is communicated to attending radiologist and documented in the final report with name, date and time of such a communication.
6. Review of cases with the supervising faculty will be conducted as many times in the day as necessary to keep an efficient work flow.
7. All examinations should be dictated by the end of every working day.
8. The resident will check his/her reports daily prior to final verification by supervising faculty.

Staff responsibilities:

1. Supervising faculty should be available at all times for any questions or consultations needed by the resident.
2. Supervising faculty should review all cases with the resident before the end of the working day.
3. Supervising faculty should provide the resident with constructive feedback in any problem areas encountered during the rotation.
4. Supervising faculty should verify resident-generated reports in a timely manner and inform the resident of any major changes he/she made.

Body imaging – Ultrasound goals and objectives

I. Patient care:

- (a) The resident should have knowledge of indications for the examinations requested. When the reason for the examination is not clear, the resident should effectively communicate with the patient or referring physician until this is clarified.

- (b) The resident should be familiar with available medical records and how to access them for purposes of patient care.
- (c) All studies should be reviewed with supervising faculty attending.
- (d) Preliminary reports should be made available to all referring clinicians if needed prior to final review of cases. When there is a significant discrepancy between the preliminary reading and final reading, the resident should notify the referring clinician immediately.

II. Medical Knowledge:

- (a) Become comfortable with Doppler evaluation of the liver, Carotids, Reno vascular and extremity deep venous systems with particular reference to the geriatric population.
- (b) Become familiar with common geriatric diseases detected by ultrasound in the upper abdomen and know the diagnostic criteria for: cholecystitis (acute and chronic), cholelithiasis, biliary dilation, pancreatitis, hepatic parenchymal disease, renal parenchymal disease, hydronephrosis and splenomegaly
- (c) The resident should be familiar with the anatomy of the organs examined in every case. An atlas of cross-sectional anatomy should be consulted when there is any doubt.
- (d) Depending upon the indication of the examination, the resident should be familiar with ultrasound findings in the disease entity suspected.
- (e) In cases where the resident is not familiar with the disease entity or expected findings on ultrasound, he/she should recognize that limitation and consult with supervising faculty or appropriate reading material.

III. Practice Based Learning and Improvement:

- (a) The resident should demonstrate evidence of independent reading and learning through the use of printed and electronic sources.
- (b) Follow-up of abnormal or interesting studies should be accomplished through personal communication with the referring physician or patient medical records.
- (c) The resident should be competent in using the ultrasound PACS in the daily accomplishment of the work load and instruct others in its use.

IV. Interpersonal Communication Skills:

- (a) The resident should be able to communicate effectively results of studies to referring clinicians whenever needed. For emergent studies, this should be done in a timely manner.
- (b) The resident should be able to effectively convey the findings of examinations through accurate dictation of reports.

V. Professionalism:

- (a) Residents should be able to explain the nature of the examination or findings in an examination to patients and their families when needed.
- (b) Residents should observe ethical principles when recommending further work-up for cases.
- (c) Promptness and availability at work are expected of every resident.
- (d) Residents should dress appropriately when coming to work.
- (e) Sonographers and other health workers should be treated with respect and part of the health care team.
- (f) Patient confidentiality should be observed at all times.

VI. System Based practice:

- (a) Residents should be familiar with departmental procedures necessary in the performance of the examination.
- (b) Residents should learn appropriate language to be used in communicating to clinicians through reports or consultations so proper management decisions can be made.
- (c) Proper dictations should be made with indications, technique, findings and conclusions
- (d) Residents should dictate and correct their reports in a timely fashion to avoid delay in patient disposition.

- (e) Residents should assist in facilitating examinations whenever possible.
- (f) Resident should recognize the role that ultrasound plays in the management of patient's illness and make proper recommendations when needed
- (g) Suggestions to improve methods and systems utilized in radiology should be made whenever appropriate.

Reading list:

1. Textbook of Diagnostic Ultrasound – Rumack CM, Wilson SR and Charboneau W (eds). Mosby-Year Book. St Louis, 2004
2. ACR Ultrasound Learning File 2004
3. Ultrasound: The Requisites – Kurtz AB, Middleton WD. Taylor and Francis, Inc. St. Louis, 1996

Checklist Resident Competency in Performance of Diagnostic (Non-Vascular) Sonography at the KCVA (rev. 11-27-09)

Resident name _____ **Date** _____

- Washes hands and follows universal precautions
- Confirms patient identity and that US Abdomen is the correct procedure for the history/indications given
- Introduces him/herself to patient/guardian properly and includes a brief explanation to the patient/guardian. Addresses questions and/or concerns, if any, before doing the procedure.
- Images the following organs in different planes (check against the name in the list):
 - Liver and GB
 - Spleen
 - Kidneys
 - Pancreas
 - Bladder
- Recognizes abnormalities and normal appearances on the study.
- Is polite and clear in instruction to the patient during the procedure
- Dictates accurate report in timely fashion

Based on direct observation of the above performance, I certify that this resident:

- is appropriately trained to perform Abdominal Sonography.
- is not appropriately trained and needs further supervised experience with (explain) _____

Faculty member signature _____

Goals and Objectives by rotation at the VA:

Cross- Sectional Imaging-CT and MR - Goals and Objectives

General overview:

The KCVA CT and MR imaging rotation provides supervised training and clinical experience that will prepare the resident to protocol and read CT and MR imaging studies in the veteran and geriatric population. During this rotation the resident will assist with both CT and MRI interpretation, and teaching medical students and other residents assigned to CT and MRI. The resident will work in CT during their first rotation and MRI during their second rotation of cross-sectional imaging at the KCVA

Resident's Responsibilities:

1. The resident (not the technologist), in consultation with the attending, has primary responsibility for making sure that the entire examination is appropriate and of sufficient quality to address the clinical concerns of the patient and referring physician.
2. The resident should be initiated into scanning protocols and parameters that are used by the technologist. This is essential in being able to assist with solving problems that the technologist may have from time to time.
3. The resident should be able to consult with the technologist, referring physician, look up clinical data and assess issues such as contrast to be used, dosage etc; The resident should be familiar with the contrast screening protocols, MRI screening protocols and use them for his/her decision making.
4. The resident should be able to consent patients at high risk for contrast such as prior allergies and reactions.
5. The resident should be able to use relevant clinical information and previous pertinent examinations (CT/US/MRI/PET) to help determine the appropriate protocols to be used and determine the urgency and priority of all cases.
6. The resident should consult with the CT and MRI attending about eliminating or changing sequences as needed. Resident should not add additional sequences unless approved by the supervising attending.
7. Residents should monitor cases as needed, including checking series to determine that sufficient anatomy is covered, with sufficient spatial resolution, to match the clinical questions. Residents should consult with the CT/MRI attending whenever needed.
8. Residents should preview cases whenever possible, before reading with supervising faculty.
9. Residents should dictate studies and verify reports only after reviewing them with a faculty member. If appropriate. Residents should inform the referring clinicians of the results (i.e., if requested or if findings might impact on management that day. Residents should include in the dictation a brief description of the scan technique. Residents should always include in the report the anatomic regions imaged, contrast agents used, presence of contrast associated reactions and treatments, CTA, MRA, MRCP, 3D reconstructions and/or other post-processing performed.
10. Residents should review requisitions for the next week or as provided by the CT/MRI schedulers and review them for appropriate clinical history, script protocol, use of contrast etc and clarify any concerns of appropriateness of the exam requested with the referring physician/practitioner.

Staff responsibilities:

1. Supervising faculty should be available at all times for any questions or consultations needed by the resident.

2. Supervising faculty should review all cases with the resident before the end of the working day.
3. Supervising faculty should provide the resident with constructive feedback in any problem areas encountered during the rotation.
4. Supervising faculty should verify resident-generated reports in a timely manner and inform the resident of any major changes he/she made.

I. Patient care:

- (a) The resident should have knowledge of indications for the examinations requested. When the reason for the examination is not clear, the resident should effectively communicate with the patient or referring physician until this is clarified.
- (b) The resident should be familiar with available medical records and how to access them for purposes of patient care.
- (c) The resident should be able to protocol cases, in consultation with the attending, to assure that the CT/MRI examination is appropriate and of sufficient quality to address the clinical concerns of the patient and referring physician.
- (d) The resident should review all studies with the supervising faculty attending.
- (e) The resident should provide preliminary reports to all referring clinicians if needed prior to final review of cases. When there is a significant discrepancy between the preliminary reading and final reading, the resident should notify the referring clinician immediately.

II. Medical Knowledge: Residents should.....

- (a) Be able to identify pulse sequences with a high level of accuracy when presenting to the attending.
- (b) The resident should be familiar with the anatomy of the organs examined in every case.
- (c) Become familiar with imaging findings of common acute and chronic geriatric diseases evaluated with CT and MRI
- (d) Be able to identify pathology in order to interpret routine CT and MR musculoskeletal and body imaging studies with 60% accuracy when presenting to the attending.
- (e) Be able to distinguish between normal and abnormal musculoskeletal, chest, cardiac, abdomen and pelvis anatomy, particularly as seen on CT and MR images, with at least average accuracy according to level of training when presenting to the attending.

III. Practice Based Learning and Improvement:

- (a) The resident should demonstrate evidence of independent reading and learning through the use of printed and electronic sources.
- (b) The resident should follow-up on abnormal or interesting studies through personal communication with the referring physician or patient medical records.
- (c) The resident should be competent in using PACS, CPRS, and Voice Recognition systems in the daily accomplishment of the work load and instruct others in its use.

IV. Interpersonal Communication Skills:

- (a) The resident should be able to communicate effectively results of studies to referring clinicians whenever needed. For emergent studies, this should be done in a timely manner.
- (b) The resident should be able to effectively convey the findings of examinations through accurate dictation of reports.

V. Professionalism:

- (a) Residents should be able to explain the nature of the examination or findings in an examination to patients and their families when needed.
- (b) Residents should observe ethical principles when recommending further work-up for cases.
- (c) Promptness and availability at work are expected of every resident.
- (d) Residents should dress appropriately when coming to work.

- (e) CT/MRI technologists, nurses and other health workers should be treated with respect and part of the health care team.
- (f) Patient confidentiality should be observed at all times.

VII. **System Based practice:**

- (a) Residents should be familiar with departmental procedures, Contrast safety, MRI safety and sedation required in the performance of the examination.
- (b) Residents should use appropriate language in communicating to clinicians through reports or consultations so proper management decisions can be made.
- (c) Thorough dictations should be made with indications, technique, findings and conclusions
- (d) Residents should dictate and correct their reports in a timely fashion to avoid delay in patient disposition.
- (e) Resident should recognize the role that CT/MRI plays in the management of acute and chronic diseases with special reference to geriatric population and make proper recommendations when needed
- (f) Residents should make suggestions to improve methods and systems utilized in radiology whenever appropriate.

Reading list:

1. MRI Principles (2nd edition) by Donald G. Mitchell; ISBN: 0721600247; November 2003; W. B. Saunders (Elsevier Science)
2. ACR Disks: Neuroradiology, Musculoskeletal and Body MRI cases
3. Computed Body Tomography with MRI correlation by Lee and Sagel.

UMKC Resident evaluation for KCVA rotations

Rotations: Body imaging-Plain Radiographs-GI/GU Fluoroscopy; Body imaging-ultrasound; Cross-Sectional Imaging –CT and MR imaging

Each of the following numbered items are rated on a scale of 1 to 5, with 1=well below average, 2=somewhat below average, 3=average, 4=somewhat above average, 5=well above average.

Patient Care:

- (a) Communicates effectively and demonstrate caring and respectful behavior when interacting with patients and families
- (b) Gathers essential and accurate information about patients when appropriate (reviews old imaging studies, chart, lab work, calls referring MD)
- (c) Uses information technology to support patient care decisions and patient education (looks up needed information in books, on-line)
- (d) Works effectively with other health care professionals including other disciplines to provide patient focused care (interpersonal skills, calls reports when needed, affable on call)

Knowledge:

- (a) Demonstrates an investigatory and analytic thinking approach to clinical situations (after gathering necessary history and clinical information, tailors studies to answer clinical questions)
- (b) Knows and applies basic and clinical sciences Physics (uses physics and radiation biology in daily practice, i.e.: short as possible Fluoro times; proper collimation; appropriate repeat of studies)
- (c) Know and applies basic and clinical sciences - Is familiar with proper use of various contrast agents
- (d) Knows and applies basic and clinical sciences - Appropriate knowledge of common disease processes
- (e) Has good visual perception
- (f) Has the ability to formulate a differential diagnosis
- (g) Knows necessary anatomy
- (h) Performs completely all procedures appropriate for level of training (manual skills)

Practice-Based Learning and Improvement: Residents should.....

- (a) Locate and assimilate evidence from scientific studies related to patient problems (showing evidence of independent study and journal reading)
- (b) Demonstrate appropriate follow-up of interesting cases as directed by faculty
- (c) Facilitate learning of students and other health care professionals (teaches others in the reading room - students, other service residents, techs, nurses, etc.)

Interpersonal and Communication Skills: Residents should.....

- (a) Work effectively with others as a member of the imaging team (pitch in where and when needed - not a clock watcher, comes on time, stays late, timely return from conf.)
- (b) Dictate written reports that are correct, concise, meaningful, quality of dictation - timeliness of signing reports

Professionalism: Residents should.....

- (a) Consider the well-being of patients and the department ahead of their own personal needs (availability)
- (b) Make a commitment to the ethical principles (in patient confidentiality, in obtaining informed consent and in business practices)
- (c) Maintain appropriate professional demeanor in patient care areas and reading room

Systems-Based Practice: Residents should.....

- (a) Understands how their patient care and image interpretation affects patient care and other professionals (and vice versa). Residents should demonstrate timely reporting, faxing, calls to referring physicians.
- (b) Show concern for cost-effective operation of department, patient imaging work-up, effect on hospitalization, etc. Residents should add on studies late when needed, should have timely reporting, and should use most efficient modality to obtain needed information)
- (c) Assist patients with complexities of medical system when possible