

**LOGAN**  
COLLEGE OF CHIROPRACTIC  
UNIVERSITY PROGRAMS



**DIAGNOSTIC IMAGING  
RESIDENCY  
HANDBOOK**

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## **PURPOSE OF THE DIAGNOSTIC IMAGING RESIDENCY**

The purpose of the program is to present an organized course of study in the field of Diagnostic Imaging for the Chiropractic Physician.

## **PROGRAM DESCRIPTION**

The program is a three (3) calendar year on-campus academic residency program. Upon successful completion of the program requirements, the resident is eligible to sit for the examination by the American Chiropractic Board of Radiology.

## **DEFINITION: DACBR**

Chiropractic diagnostic imaging is a referral specialty, which provides consultative services at the request of other physicians. Chiropractic radiologists provide consultation in health care facilities (private offices, hospitals, and teaching institutions) to meet the needs of referring physicians and their patients. The quality of the consultative services by the chiropractic radiologist in independent practice is reflected by the quality of their professional credentials. Members of the American Chiropractic College of Radiology are certified as diplomates by the American Chiropractic Board of Radiology (DACBR).

Radiologists supervise and interpret routine radiology as well as complex imaging procedures. They advise referring physicians on the necessity and appropriateness of radiology services as well as assisting in the clinical decision regarding the maximum benefits and yield to the patient.

A chiropractic radiologist makes available modern imaging to the public and to the referring physicians. In some instances, there is a need for the radiologist to act as a private practitioner. They pursue research and diagnostic applications and may be called upon to act as expert witnesses in matters of litigation.

The advance of the medical and the technological facets of Diagnostic Imaging is so rapid that only a qualified radiologist can reasonably be expected to maintain the high level of proficiency required to supervise and to interpret these procedures. The practice of radiology continuously involves the application of this technology to patient imaging and treatment.

As long as these modalities continue to evolve, it is not practical to prepare a static definition of the practice of radiology which cites every modality by name. However, it is now well recognized that radiology does include, but is not limited to, plain films, fluoroscopy, tomography, ultrasound, all nuclear medicine imaging including nuclear cardiology, computed tomography, digital radiography, magnetic resonance and interventional radiology. Individual practices may vary by intent, licensure, and scope of practice laws.

## **BENEFITS**

- A. Health, Dental, Life, Long-Term Disability Insurance – Logan College presently participates in a group insurance program, which includes certain life, long-term disability, health and dental insurance to eligible employees. Eligible employees shall pay a portion of the premium for coverage as determined by the College. For additional information please contact Human Resources Department.
- B. Each contract year, 10 paid vacation days shall be afforded, at a time approved by the resident's supervisor; this should approximate the period between trimesters.
- C. Resident Absences - conferences (Administrative Policies and Procedures Code: 3012): Residents may request leave time to attend conferences, seminars, or meetings related to their professional growth and development. The procedure outlined in the faculty handbook must be complied with. Funding approval will be made based on the current budget approved by the Board of Trustees. These funds must be provided for in the departmental budget each year.
- D. Sick Pay - Each employee is responsible for reporting sick days to the Supervisor/Department Head on the day of the absence. Upon return to work, the employee must complete the absence request form, to be signed by the Supervisor/Department Head and appropriate Vice President/President. A doctor's certificate is generally not required for absences of two days or less. However, for three consecutive absences or more or frequent sick leave requests, the employee must submit a doctor's certificate. Sick time accrues at .583 hours per month.

These benefits are subject to change by the College. The faculty and staff handbook and the Residency Agreement (contract) are incorporated as part of the Residents handbook and will be complied with. Salary will be determined by the Residency Committee, with approval by the President. The following salary structure is effective September, 2008.

**SALARY**

YEAR	\$30,996	A one time payment of \$750.00 will be forwarded
1		
YEAR	\$33,291	when proof of Missouri licensure is demonstrated.
2		
YEAR	\$36,734	
3		

1. Withdrawal from the program (except for illness or military service) shall cause forfeit of any salary due at the withdrawal.
2. Termination of the resident shall cause payment of any salary due, to the date of termination to be made.
3. An annual review of the salary schedule should be conducted by the Residency Committee.

**DRESS CODE**

The professional image of the College is to be considered and maintained at all times. Appropriate attire, cleanliness and good grooming are expected of all Residents (the following are examples of unacceptable items: sundresses without jackets; sleeveless shirts [males]; flip flops; jeans; Capri's).

## SPECIFIC PERFORMANCE AND DUTIES

- A. The resident must abide by the rules and regulations set forth in the college policies. This includes:
  - 1. Spend a minimum of forty-eight (48) hours per week on duty, which includes six (6) days a week, and on call by the resident's supervisor.
  - 2. Perform required Health Center duties, including 24-hour assigned beeper duty.
  - 3. Conduct a research study following proper protocol acceptable to the resident's supervisor and the Director of Research.
  - 4. Perform the duties assigned by the Program Director.
- B. The resident should spend an average of 8 hours/week working directly with a staff Diplomate and/or designated radiologist.
- C. The duties in the Logan Health Center Radiology Department or other authorized sites assigned by the Program Director are as follows:
  - 1. Duties will correspond, as much as possible, to the phase of training in the residency program.
  - 2. Provision in technology, teaching in technology, and the actual performance of x-ray technology should not exceed:
    - a. First Year - twenty (20) hours
    - b. Second Year - fifteen (15) hours
    - c. Third Year - ten (10) hours
- D. The assignment to certain classes by the Program Director for specific teaching purposes, assistance to the instructor, or specific laboratory, assignments relating to courses taught in the Radiology Department.
- E. As scheduled, the resident will be present when film interpretation is done by the scheduled staff diplomate in radiology. Suitable quarters are supplied for film reading, in an area which facilitates and is out of the main stream of clinic traffic.
- F. Other duties may include supervision of assistant to the technologist on duty in the clinic, inventory of supplies and consultation with clinicians, staff Diplomate and/or the department chairman as necessary for appropriate patient care.

Reading assignments will correspond to the core curriculum, class syllabi and additions made from the listed books included in the required reading.

## DIAGNOSTIC IMAGING RESIDENCE SYLLABUS

The following is an overview syllabus for the three year Diagnostic Imaging Residency program. (Full syllabus is available at [www.accr.org](http://www.accr.org)) The topic is listed by area and the period of study in each. Exams will be scheduled within three weeks of the completion of a section.

I. Diagnostic Imaging Physics, Technology & Normal Anatomy	4 months
II. Musculoskeletal Imaging	9 months
III. Head and Neck Imaging	7 months
IV. Chest (Heart and Lung) Imaging	7 months
V. Abdomen Imaging (GI, GU, GYN)	7 months
VI. Review	2 months

## PROGRAM OUTLINE

The syllabus is to be followed and the core curriculum is to be covered in a systematic and timely fashion. The residency program is broadly divided into seven (7) phases:

- I. **DIAGNOSTIC IMAGING PHYSICS AND TECHNOLOGY: NORMAL ANATOMY (Cross Sectional)**
  - A. Essentials of Diagnostic Imaging Procedures and Diagnosis
    1. Radiology physics and technology; Advanced Imaging Modalities
    2. Normal radiographic anatomy (review) with anomalies
    3. Essentials of diagnostic interpretation and reporting
- II. **MUSCULOSKELETAL IMAGING**
  - A. Diagnostic Imaging of the Musculoskeletal System
    1. Congenital, development and related disorders of bone
    2. Traumatic alterations of bones and joints
    3. Bone and joint infections
    4. Tumors and tumor-like conditions of bone
    5. Miscellaneous conditions affecting bone
    6. Arthritides and related rheumatology
    7. Disorders of the superficial soft tissue

### **III. HEAD AND NECK IMAGING**

#### **A. Skull**

1. Cranium and skull base
2. TMJ
3. Paranasal sinuses

#### **B. Brain**

1. Neuroanatomy
2. Disorders of the CNS

#### **C. Spinal Cord Disorders**

1. Extradural
2. Intradural

#### **D. Neurologic Imaging and Specialty Contrast Studies**

1. Myelography
2. Angiography
3. Magnetic Resonance Imaging
4. Computed Tomography

### **IV. CHEST IMAGING (HEART AND LUNGS)**

#### **A. Cardiovascular-Respiratory System**

1. Essentials of interpretation and imaging examination procedures
2. Malformations of the cardiovascular-respiratory system
3. Cardiovascular disorders
4. Pulmonary disorders (parenchymal)
5. Bronchial disorders
6. Diseases of the pleura, mediastinum and diaphragm

### **V. ABDOMEN IMAGING (GI, GU, GYN)**

#### **A. Gastrointestinal System**

1. General considerations and procedures of examination
2. Esophagus
3. Stomach and duodenum
4. Small intestine
5. Colon
6. Gallbladder

#### **B. Diagnostic Imaging of the Abdomen and Genitourinary System**

1. Review of anatomy and procedures
2. Disorders of the abdomen and viscera
3. Disorders of the upper urinary tract
4. Disorders of the lower urinary tract
5. Disorders of the reproductive system

### **VI. REVIEW SECTION**



## **TRAINING**

The Logan College of Chiropractic Diagnostic Imaging Residency Program is designed to develop and perpetuate special skills in the area of diagnostic imaging. The protocol of training offers the resident an opportunity to become a functional radiologist to an acceptable standard. These standards are commensurate with the expectations of specialty performance and reflect current academic standards.

## **DUTIES AND RESPONSIBILITIES OF FIRST YEAR RESIDENT**

### **Trimester I**

Tech Coverage: To be assigned (9-10 hours/week)

Attend: Overread Conference

Attend: Diagnostic Imaging Fundamentals, Radiographic positioning

Attend: Radiology Conferences on Campus

Perform Preliminary Reports

### **Trimester II**

Tech Coverage: Unchanged

Perform Preliminary Reports

Attend: Overread Conference

Perform dictation (1 day/week)

Guest Lecture: Diagnostic Imaging Fundamentals

### **Trimester III**

Attend: Diagnostic Imaging IV

Tech Coverage: Unchanged

Perform Preliminary Reports

Attend: Overread Conference Perform Dictation (1 day/week)

Attend: Diagnostic Imaging III

Guest Lecture: Diagnostic Imaging Fundamentals

Two (2) Publications Required

## **DUTIES AND RESPONSIBILITIES OF SECOND YEAR RESIDENT**

### **Trimester I**

Tech Coverage: To be assigned (6-8 hours/week)  
Perform Preliminary Reports  
Attend: Overread Conference  
Perform Dictation (1-2 days/week)  
Attend: Diagnostic Imaging II.  
Guest Lecture: Diagnostic Imaging I.

### **Trimester II**

Tech Coverage: Unchanged  
Perform Preliminary Reports  
Attend: Overread Conference Perform Dictation (1-2 days/week)  
Attend: Diagnostic Imaging III  
Guest Lecture: Diagnostic Imaging I, II

### **Trimester III**

Tech Coverage: Unchanged  
Perform Preliminary Reports  
Perform Dictation (2 days/week)  
Guest Lecture: Diagnostic Imaging 11  
Two (2) Journal Articles (SEE PUBLICATIONS)

## **DUTIES AND RESPONSIBILITIES OF THIRD YEAR RESIDENT**

### **Trimester I**

Perform Preliminary Reports  
Perform Dictation (2-3 days/week)  
Conduct: Resident Conference (1 hour/week)

### **Trimester II**

Conduct: Resident Conference (1 hour/week)  
Perform Preliminary Reports  
Perform Dictation (1-2 days/week)

### **Trimester III**

Perform Preliminary Reports  
Perform Dictation (1-2 days/week)  
Conduct: Resident Conference (1 hour/week)  
Two (2) Journal Articles (SEE PUBLICATIONS)  
One (1) Research Paper

## EVALUATION AND PERFORMANCE

At the end of each trimester, evaluation of performance is submitted to the chairperson of the Residency Committee. The Chairman of the Radiology Department will be responsible for reporting progress and/or violations to the residency committee and its chairman.

During the first trimester, a resident has probationary status. A thorough evaluation at the conclusion of this period will determine his/her continued appointment.

An evaluation file will be kept on each resident and reviewed with the resident by the department head at the end of each academic trimester. At the time of evaluation, any deficiencies will be duly noted and a plan developed to correct the deficiencies in the following trimester.

Materials for evaluation shall include the following:

1. A written evaluation by the department head. This may include scores on oral examinations and consideration of the performance of all assignments.
2. Written evaluation by the instructors under whom the resident has served as a teaching assistant.
3. Scores on Sectional Examinations, which shall be given at the end of each section
4. Professional behavior as defined in the Health Center Handbook.
5. Documentation of current Missouri licensure.
6. Weekly Residency Logs.

## **COMPETENCY EVALUATION**

Oral examination will be given to the resident during selected departmental meetings, which will be scheduled on a weekly basis and during the one-on-one teaching sessions. Competency means, the practitioner possesses the knowledge, skills and attitude needed to function safely and effectively in practice and the practitioner is able to perform the tasks of a radiologist.

1. Performance, attendance, professional demeanor, and initiative of each of the residents are evaluated. These reports shall be submitted to the Residency Committee following each trimester.
2. Academic performance is to be assessed by means of sectional examinations as dictated by the residency syllabus. These examinations shall include both written and/or oral formats. A passing grade of 80% will be expected. Failure of a sectional exam shall result in an automatic academic probation. This status shall be maintained until residency completion. A second failure of a sectional exam shall result in dismissal from the program. Failed examinations must be completed before the end of the resident's three- year program.
3. Probation for reasons other than testing performance shall be dictated by the Residency committee. Infractions such as in professionalism, attitude, and initiative shall be reviewed by the Residency committee.

## **TERMINATION FROM THE RESIDENCY PROGRAM**

Residents who fail to demonstrate qualities of scholarship; ethical conduct, clinical ability or professional attitude will be placed on probation for one trimester. Any resident whose evaluation does not show satisfactory resolution of problems leading to probation during the probationary period will be dismissed from the program.

1. Failure of proper progress may necessitate further study.
2. There may be recommendation for termination of the resident by the Chairman of the Department to the Residency Committee.

The procedure for termination is as follows:

1. Written recommendation from the Radiology Department Chairman
2. Review of case by Residency Committee
3. Circumstance appeal by resident
4. Majority decision by committee
5. Written notification of decision sent to resident within 24-hours

## **COMPLETION**

Upon the successful completion of the residency program, the resident shall receive a Certificate of Residency Completion. Such certification shall not authorize the individual to hold himself/herself out as a specialist in the field of the residency.

## **RESIDENT EVALUATION AND REQUIREMENTS FOR CERTIFICATE**

The College shall certify the competency of each resident to sit for the Diplomate examinations given by the American Chiropractic Board of Radiology. Certification will be granted by the Residency Committee based upon evaluation as previously described.

## **CANDIDATE ELIGIBILITY REQUIREMENTS**

Candidate eligibility must be based upon the radiology syllabus approved by a federally approved accreditation agency and supervised by a Diplomate of the A.C.B.R. and/or A.C.O.R.

### **I. FACULTY**

#### **A. Program Director**

##### **1. Qualifications:**

- a. shall be a Diplomate of the American Chiropractic Board of Radiology or its equivalent
- b. shall be a current member of the American Chiropractic College of Radiology or its equivalent.
- c. shall be a full-time member of the Logan College of Chiropractic teaching faculty.

##### **2. Responsibilities:**

- a. shall be directly responsible for the physical condition of all the radiographic equipment, and its accessories, to insure that the equipment will perform at its rated capability, to produce diagnostic quality radiographs.
- b. shall assume the responsibilities for radiation safety when any form of ionizing radiation is used within or in conjunction with, the Department of Radiology, to assume these duties and responsibilities provided this person possesses the proper credentials.

- c. shall establish and cultivate interdepartmental clinical relationships.
- d. shall determine the quality controls for the Department of Radiology in the teaching institution and its clinics. This includes the standards of diagnostic film quality and the number and type of film studies for every-area of the body.
- e. shall maintain continuing dialogue between the residents in Diagnostic Imaging, the clinic interns and the radiology department staff.
- f. shall review and attest to the quality of the personnel who teach radiology on a part-time or full-time basis in either or both the graduate and postgraduate courses.
- g. shall in cooperation with the Academic Dean and the Chairperson of the Residency Team determine the number of hours of teaching and the course content in the graduate and postgraduate courses.

## **PUBLICATIONS**

Submission requirements are:

YEAR 1: Two (2) Publications

YEAR 2: Two (2) Journal Articles

YEAR 3: Two (2) Journal Articles and 1 Research Paper

Primary authorship is required for fulfillment of the requirements. The designation journal articles refer to refereed journals. Authorship of publications in other material does not meet the publication requirement. Residents with Grants-In-Aid Program must satisfy requirements as stated in the grant agreement.

## **GRANTS**

### THE FOLLOWING INFORMATION IS TAKEN FROM ACA COUNCIL ON DIAGNOSTIC IMAGING RESIDENCY GRANT PACKAGE

The Council on Diagnostic Imaging began a Grant-in-Aid program to assist Diagnostic Imaging residents in 1971. In the years since, the grant program has grown in accord with the Diagnostic Imaging Residency Programs in our profession's accredited chiropractic colleges and the number of Residents that have been assisted by those Grants will soon be over the 100 mark.

## **MOONLIGHTING**

Moonlighting is permitted only with the written permission of the Residency Committee.

## **FACILITIES**

Logan College of Chiropractic operates a health center system. The student health center located in the main building of the Chesterfield Campus, serves the health needs of the student population and their families. The Logan Health Center is a modern health care facility, which was dedicated on June 18, 1982. In addition to the Logan Health Center, the college operates multiple satellite chiropractic health care facilities.

Variable conferences and resources of hospitals, centers and other sites are available for residents by invitation, under the direction of the Chairman of the Department of Radiology.

## **LIBRARY**

There is an adequate quantity of textbooks, periodicals, and visual aids of current, acceptable quality, available for general use by the undergraduate students and residents for their study of diagnostic radiology and radiation safety. Currently the Library carries Radiology related journals, available for residents and students, access to radiology teaching slide carousels, and the most recent textbooks. There is also available, significant material in the radiology department library as determined by the Chairman of the Department of Radiology.

## **RESIDENT TEACHING LIBRARY**

This collection of case materials, texts, journals and educational material is maintained by the Department of Radiology. Each resident has unlimited access to the library. Materials in this library are to remain in the radiology library. Itemized checkout of material is available in special instances as approved by the department chairman. The film collection is catalogued using the ACR index. All films are expected to be reshelfed after use. Personal film copying is allowed in only certain instances under the directed supervision of the department chairman. The material is available for photographing. Cases for inclusion to the teaching file are to be approved by the staff radiologists. Copying of the new material shall be routed through the technologist for proper film logging. The area is to be maintained in a library atmosphere. Eating or drinking is not allowed. Use is restricted to residents, staff or by permission of the Department Chairman.



## AGREEMENT

My signature below certifies that I have read the Residency Handbook and agree to abide by the guidelines set forth therein.

I understand that failure to sign and return this agreement to Logan College of Chiropractic in a timely fashion will be construed as my wish to withdraw my application as a Diagnostic Imaging Resident of Logan College of Chiropractic.

### DIAGNOSTIC IMAGING RESIDENT

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**Printed Name:**

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**Today's Date**

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**Signature**