

UNIVERSITY OF MINNESOTA

2006-2007

Vascular Interventional, Neuroradiology, Thoraco- Abdominal Radiology Fellowship Information

**Policies, Guidelines,
& Reference Listings**

Department of Diagnostic Radiology

PART B

i. INTRODUCTION TO PART B

FELLOWSHIP MANUAL - RADIOLOGY PART B

The Chairman, Program Directors, faculty and staff welcome you to the University of Minnesota Department of Radiology. We hope that the time you spend with us will be both educational and enjoyable. This Manual (Part B) outlines benefits, policies, guidelines and other regulations that apply to all residency and fellowship training in the Department of Radiology.

Part A of this Resident/Fellow Policy Manual contains residency/fellowship policies, procedures and information that apply to all residents/fellows throughout the University of Minnesota Medical School. Part B is specific to each program. All materials are intended to be written in accordance with the Accreditation Council for Graduate Medical Education (ACGME).

Please note that the Manuals are designed to work together. Information contained in Part A is not replicated in Part B, although Part B might refer to Part A for clarification. Please note that should information in Part B conflict with Part A, Part A takes precedence.

All information outlined in this Manual is subject to periodic review and change. Revisions may occur at the Program, Medical School, or University of Minnesota level.

All physicians-in-training at the University are classified as Medical Residents/Fellows, are full-time University students and are registered as such for both clinical and research rotations.

All residents and fellows are subject to, and required to be familiar with and to comply with all policies and procedures of the University, the Department, the Training Program, the Accreditation Council for Graduate Medical Education (ACGME), and the American Board of Radiology (ABR).

The information contained in this Part B pertains to all residents and fellows in the Department's programs except as otherwise identified in the Part B Manual or addendum.

Throughout this Manual, individual institutions will be identified as follows:

- University of Minnesota Medical Center: UMMC
- Hennepin County Medical Center: HCMC
- Veterans Affairs Medical Center: VAMC

ii. DEPARTMENT MISSION STATEMENT

The mission of the Department of Radiology is to be a leader in enhancing the health of people through education, biomedical research, and clinical programs.

iii. PROGRAM MISSION STATEMENT

The Department of Diagnostic Radiology at the University of Minnesota School of Medicine, in conjunction with its affiliated institutions (University of Minnesota Medical Center, Veterans Affairs Medical Center, Hennepin County Medical Center and Regions Medical Center) provides graduate medical education in Diagnostic Radiology and its subspecialties:

- Diagnostic Radiology Residency Program;
- Neuroradiology Fellowship Program;
- Thoracoabdominal Radiology Fellowship Program;
- Vascular and Interventional Radiology Fellowship Program

Our educational mission is to provide an atmosphere of learning and academic curiosity, and to provide strong basic training in diagnostic radiology and its subspecialties including breast imaging, cardiac imaging,

gastrointestinal and genitourinary radiology, musculoskeletal radiology, neuroradiology, nuclear medicine, pediatric radiology, thoracic radiology, ultrasound and vascular and interventional radiology.

Administrative oversight of these programs is provided by the A.L.R.T. (a.k.a. "Alert") Administrative Center (Departments of **A**nesthesiology, **L**aboratory Medicine and Pathology, Diagnostic **R**adiology and **T**herapeutic Radiology). The mission of the A.L.R.T. Administrative Center, as part of the University of Minnesota School of Medicine, is to provide uniform service delivery to our departments and institutes. These services consist of human resources, payroll, communication, education, grants management, financial reporting and budget. Our goal is to provide exceptional service while balancing the expectations of the multiple constituents. To achieve this goal we will foster a community based on communication, cooperation and expertise by drawing on our individual backgrounds, strengths and unique histories.

Introduction**Department and Program Mission Statements****Section I. STUDENT SERVICES**

(Please refer to Part A for Medical School Policy on the following: Academic Health Center Portal Access, Child Care, Computer Discount, Credit Union, Disability Accommodations, legal Services, Library Services, Medical School Campus Map, Residency Assistance Program, Tuition Reciprocity, U card, University Recreational Sports Center, University Ticket)

- Universal University Pagers
- E-mail and Internet Access
- Campus Mail
- HIPAA Training

Section III. BENEFITS

(Please refer to Part A for Medical School Policy on the following: Boynton Health Services/Employee Health Service, FICA, Dental Insurance, Health Insurance, Life Insurance, Long-Term Disability Insurance, Short-Term Disability Insurance, Insurance Coverage Changes, Loan Deferment, Optional Retirement Contributions, Pre-Tax Reimbursement Program, Overview of Pre-Tax Flexible Spending Accounts, Professional Liability Insurance, Resident Leave Policy, Policy on Effect of LOA for Satisfying Completion of the Program, Stipends, Workers' Compensation Benefits, VA Benefits)

- Stipends
- Paychecks and Pay Periods
- Resident Leave
- Policy on Effect of Leave for Satisfying Completion of Program
- Vacation Leave
- Sick Leave
- Family Medical / Parental Leave, Childbirth, Adoption
- Department Policy Regarding Pregnancy for Residents, Fellows and Faculty
- Professional and Academic Leave
- Military Leave
- Jury Duty / Court Leave
- Personal Leaves of Absence
- Holiday Schedule and Block-out Dates
- Insurance Coverage
- Meal Program
- Laundry Services
- Book and Travel Fund
- Parking
- Contracts
- On-call Parking
- After-hours Parking

SECTION III. DISCIPLINARY AND GRIEVANCE PROCEDURES

Please refer to Part A for Medical School Policy on the following: Discipline/Dismissal of Residents/Fellows, Regents' Student Academic Grievance Policy, University Senate Policy on Sexual Harassment, Resident Procedure for Reporting Sexual Harassment and Discrimination, and Sexual Assault Victim's Rights Policy

- Discipline/Dismissal for Academic Reasons
- Discipline/Dismissal for Non-academic Reasons

Section IV. GENERAL POLICIES AND PROCEDURES

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Please refer to Part A for Medical School Policy on the following: Academic Health Center Policy on Student Background Checks, Blood Borne Diseases Policy, Classification Policy, Dress Code Policy, Duty Hours, On-Call Room Policy, Eligibility and Selection of Residents/Fellows, Evaluation of Residents/Fellows, E*Value Instructions, FMLA, GME Core Curriculum Seminar Series, GMEC Resident Representatives, Health Insurance Portability and Accountability Act Policy, Immunization and Vaccinations, Impaired Resident/Fellow Policy, Impaired Resident/Fellow Procedure, Institution E*Value Duty Hour Survey, Institutional and Program Requirements, International Medical Graduates, Jury Duty Policy, Licensure, Moonlighting Policy, New Training Program Policy, Observer Policy, Program Evaluation, Promotion of Residents/fellows, Residency Closure/Reduction Policy, Restrictive Covenants, Stipend Level Appointment Policy,

- Program Goals and Objectives
- Program Curriculum
- Diagnostic Radiology Core Rotations

Program Requirements
 Training/Graduation Requirements
 ACGME Competencies
 Duty Hours
 On-call Activities
 On-call Rooms
 Security/Safety
 Supervision/Graded Responsibility
 Steps in Evaluation Process
 E*Value (Electronic Evaluation System)
 Monitoring of Resident Well-being
 Program Schedules
 Resident Conferences
 Moonlighting
 Radiation Badges
 Support Services
 Laboratory Medicine/Radiology Services
 Health Information Management (Medical Records) / Radiology Film File Services
 Travel
 Libraries
 Institutional Libraries
 Departmental Libraries
 Rotations Involving Regions Hospital
 Secretarial Assistance

SECTION V. ADMINISTRATION

(Please refer to Part A for Medical School Policy on the following: University of Minnesota Physicians, Administrative Contact List, Medical School Organizational Chart, and GME Organizational Chart.)

Department and Program Administrative Contact Lists	
Central Graduate Medical Education Program Administration	
Diagnostic Radiology Graduate Medical Education Program Directors	
Affiliated Site Graduate Medical Education Directors	
Affiliated Site Addresses, Phone and Fax Numbers	
Diagnostic Radiology Graduate Medical Education Committee	
Support Staff	
Radiology Faculty	

SECTION VI. PROGRAM FORMS

Leave Request Form	
Moonlighting Approval Request	
Intra-Institutional Voucher Request (Book Voucher Request)	
Resident Parking Contract	

Information regarding the University of Minnesota School of Medicine, Graduate Medical Education and/or the Department of Radiology can be located at the following web sites:

Medical School Web Site: <http://www.med.umn.edu>
Graduate Medical Education Administration Web Site: <http://www.med.umn.edu/gme>
Department of Radiology Web Site: <http://www.radiology.umn.edu>

CAMPUS MAIL

Trainees may utilize the campus mail system at no charge. Outgoing campus mail can be left in the "Outgoing Hospital/Campus Mail" basket in Room B221 Mayo Memorial Building. Outgoing mail directed to Sande Hogan can be left in the "basket in mailroom – Sande Hogan. Residents may receive professionally related campus or U.S. Mail in their mailbox B-221 Mayo. The mailing address for the department is MMC 292, 420 Delaware St. SE, Minneapolis, MN. 55455 Trainees are not to send or receive personal mail through the University system. Outgoing U.S. mail may be left in the United States Postal Service mailbox located just outside the main entrance of the University of Minnesota Medical Center (on Harvard Street).

The mailbox at UMMC is the trainee's MAIN mailbox, but HCMC and VAMC also have mailboxes for residents and fellows. We are NOT RESPONSIBLE for moving mail between hospitals depending on your rotation. Trainees are responsible for checking their mailboxes frequently for Program, Medical School and University notices.

HIPAA TRAINING (HEALTH INFORMATION PORTABILITY AND ACCOUNTABILITY ACT)

The University of Minnesota is required to remain in compliance with the training component of the Federal Health Information Portability and Accountability Act (HIPAA) privacy regulations. All faculty, trainees and staff must be trained regarding this regulation as well as University-specific policies and procedures. Multi-media online training has been developed to facilitate this training as well as the required documentation in the regulation. Four courses have been developed and are available through the "My AHC" and "My U" portals.

All faculty, residents, fellows, staff and volunteers are required to take this training. There are *no* exemptions to this requirement. **There are severe penalties that will put the University at risk, and faculty and staff will be subject to University disciplinary procedures for failure to comply.** In an effort to assist individuals with their training, computers are available for use in the following areas:

- Departmental computers
- Coffman Memorial Union has a computer lab available to students.
- If you have a DSL line at home, you can log on and complete your training at home.

To access the Online HIPAA Courses:

- Go to <http://www.myahc.umn.edu>
- Select "Click here to sign in", located in the upper left-hand corner of the portal homepage.
- Authenticate using your University of Minnesota internet ID and password.
- Confirm that authentication was successful by looking for the "Signed-in as (your name)", in the upper left-hand corner where you selected "Click here to sign in".
- Select "My Toolkit".
- Go to the section titled "(Your name) Projects To Do Lists".
- Look for the title of the training courses that you need to complete. Select the course and a new window will open up. You are required to complete the following courses:
 - Introduction to HIPAA Privacy and Security Videotape;*
 - Safeguarding PHI on Computers;*
 - Privacy and Confidentiality in Research;*
 - Privacy and Confidentiality in Clinical Settings*
- After you complete the first course, close the window to return to your To Do list. You can then proceed with the next course, or, if you are finished, you can log out of the portal.
- If you need to stop the training in the middle of a course that is in WebCT, you can go back into the course and select the "Resume Course" button to get back to the page you were on.
- You will receive an E-mail confirming your completion of each course. **Print out the confirmation for your records, and forward a copy to Sande Hogan at hogan030@umn.edu for inclusion in your program file.** Your completion of the courses will also be tracked electronically.

- Please remember to LOG OUT of the portal when you are finished. If you leave the computer while you remain logged in, others could use your log-in to access your private information.

Residents are given a Departmental USB (“Flash”) drive for use during residency training and will be required to sign a contract agreeing to abide by HIPAA and Departmental policies. By accepting a Departmental USB (“Flash”) drive you are agreeing to the terms of the contract. This device is being temporarily loaned to you by the Department of Radiology. You are required to return the USB drive to Sande Hogan upon completion of (or departure from) the Program. This contract is subject to change without notice.

TERMS:

- Residents are required to submit at least two (2) teaching cases per month. Residents who fail to meet this requirement will not pass the rotation.
- Should you damage or misplace this device, you will be required to reimburse the Department in the amount of \$40.
- This Department strictly prohibits the downloading of any patient demographic data (or any information that could identify a patient). To download such information would be in violation of Federal Health Information Portability and Accountability Act (HIPAA) regulations.
- **Any resident found in violation of HIPAA regulations will be held solely responsible for any fines and/or penalties assessed. Improper use or disclosure of protected health information has the potential for both criminal and civil sanctions:**
 - Fines up to \$25,000 for multiple violations of a single privacy standard in a calendar year.
 - The penalties for intentional or willful violations of the privacy rule are much more severe with fines up to \$250,000 and/or imprisonment up to 10 years for knowing misuse of PHI.
 - There are more immediate risks of private lawsuits relying on the HIPAA standard of care.
 - The University will have sanctions that involve disciplinary action against employees and students up to termination and dismissal.
- Residents are responsible for removal of any and all protected health information from the device.

Sally Morris, Graduate Medical Education Manager, serves as the ALRT Center Privacy Coordinator. Questions and/or concerns can be directed to Sally at 612-625-3518 or sallyann@umn.edu.

SECTION II. BENEFITS

(Please refer to Part A for Medical School Policy on the following: Boynton Health Services, Dental Insurance, Health Insurance, Life Insurance, Long-term Disability Insurance, Short-term Disability Insurance, Coverage Changes, Loan Deferment, Optional Retirement Contributions, Pre-tax Reimbursement Program, Overview of Pre-tax Accounts, Professional Liability Insurance, Resident Leave Policy, Stipends, Worker’s Compensation Benefits.)

STIPENDS

Medical Residents and Fellows who meet Departmental, Medical School and University requirements are appointed to one-year training positions from July 1 through June 30 of the following year (unless otherwise agreed to in writing). Base stipend rates are as follows for the 2006-2007 academic year:

PGY-1	PGY-2	PGY-3	PGY-4	PGY-5	PGY-6
\$43,118	\$44,224	\$49,969	\$47,849	\$49,203	\$50,931

Chief Residents receive \$5,000 in addition to their base stipend above. Please note that although Chief Residents serve as PGY4s, augmentation is received during their PGY5 year. Medical Residents and Fellows are subject to withholding of Federal and State income taxes, as well as FICA taxes (Social Security). Medical Residents and Fellows pay insurance fees by payroll deduction over 26 pay periods.

PAYCHECKS AND PAY PERIODS

Biweekly paychecks are issued every-other Wednesday, beginning July 20, 2005. *You are encouraged to have your checks automatically deposited to your banking institution to avoid loss or delay.* Your pay statement can be viewed online at <http://hrss.umn.edu>. If you do not have direct deposit you will receive a

check on payday. This check must be picked-up from Sande Hogan. *It cannot be placed in your mailbox or mailed to your home.* Please keep your pay statements for future reference, as they contain deduction amounts that you'll need when you prepare your tax returns. The Department of Radiology keeps *no* record of your deductions.

Payroll forms (i.e., automatic deposit, W4, duplicate W2, etc.), can be obtained online at <http://hrss.umn.edu> and/or at <http://www1.umn.edu/ohr/hrss/FormsLibrary.htm>. *A new W4 form must be completed each time a name or address change occurs.*

Questions pertaining to payroll, taxes, deductions, W2s, etc., are to be directed to the ALRT Center Payroll Office:

- Tammy Hagen 612-625-3682
- Sandy Conner 612-625-3682

RESIDENT LEAVE

Program policies regarding specific types of resident leave follow. For clarification and/or further information, contact Sande Hogan (612-626-5589; hogan030@umn.edu).

POLICY ON THE EFFECT OF LEAVE FOR SATISFYING COMPLETION OF PROGRAM

As is required by the American Board of Radiology (ABR), all resident leave is reported to the ABR on an annual basis. Per the ABR, *the following terms in regards to leave must be met in order to be eligible to sit for the Board examination:*

“Leaves of absence and vacation may be granted to residents at the discretion of the Program Director in accordance with local rules. Within the required period(s) of graduate medical education, the total such leave and vacation time may not exceed SIX CALENDAR WEEKS (30 WORKING DAYS) for residents in a program for one year, TWELVE CALENDAR WEEKS (60 WORKING DAYS) for residents in a program for two years, EIGHTEEN CALENDAR WEEKS (90 WORKING DAYS) for residents in a program for three years, or TWENTY-FOUR CALENDAR WEEKS (120 WORKING DAYS) for residents in a program for four years. If a longer leave of absence is granted, the required period of graduate medical education must be extended accordingly.”

[*Qualifications of Applicants for Certification by the American Board of Radiology, The American Board of Radiology, Inc. Booklet of Information for Diagnostic Radiology*].

VACATION LEAVE

Up to twenty (20) working days per year may be taken as vacation. Requests to exceed this limit must be approved by the Program Director in advance and must be taken as leave without pay. *While on leave without pay, the resident is responsible for payment of COBRA insurance (residents on unpaid leave of absence will be billed monthly).*

Unused vacation time may not be carried over to the next year. Depending on rotation (see below), up to five (5) vacation days may be taken during a given month. Requests to exceed this limit must be approved by the Program Director in advance.

To ensure adequate departmental coverage, the number of residents allowed to be on scheduled leave at any given time is as follows. Please note that some rotations are more restrictive than others.

- UMMC: 2 residents (up to 3 if one is a first-year resident)
 - 1) UMNE (Neuroradiology): Residents are allowed only one (1) week of vacation during their two-month UMNE rotation.
 - 2) UMVI (Vascular & Interventional Radiology): Residents are allowed only one (1) week of vacation during their two-month FUVI rotation.
- HCMC: 1 resident
- VAMC: 2 residents (up to 3 if one is a first-year resident). Residents are required to notify the Service Office (612-467-2038) of all vacation time as well as any other scheduled time away.
 - 1) VANE (Neuroradiology): Residents are allowed up to two (2) days of vacation per month. Vacation requests require the approval of Dr. Yung Kim.
 - 2) VASI (Special Imaging; CT/US): Residents are allowed up to two (2) days of vacation per month.
 - 3) VAVI (Vascular & Interventional Radiology): Vacation requests require the approval of Dr. Asad Irfanullah.

Residents are to use the Vacation Request Form (at the end of this manual) for all leave requests. The form is to be submitted to a Chief Resident. The Program Director must also sign the form to indicate his approval of the leave. Once the Chief Resident and Program Director have signed the form, it must be forwarded to Sande Hogan. A copy of this form will be kept in the resident's personnel file.

Any requests for more than the Chief Resident is allowed to grant should first be attempted to be settled among the residents interested in vacation at that time; otherwise, residents are required to obtain the approval of the site's Associate Program Director (below). Such approvals must be E-mailed to umradsvacation@yahoo.com.

- UMMC: Carol Steenson, M.D.
- HCMC: Anthony Severt, M.D.
- VAMC: Howard Ansel, M.D.

SICK LEAVE

Up to ten (10) working days per year may be taken as sick leave. Sick leave days exceeding this limit will be charged as vacation leave. In the event that a resident has exhausted all of his/her vacation leave, this time will be charged as leave without pay. *While on leave without pay, the resident is responsible for payment of COBRA insurance (residents on unpaid leave of absence will be billed monthly).*

When calling in sick, residents must inform both the Chief Resident and the Program Coordinator at the institution in question:

Chief Residents:

Scott Greenley, M.D.	Pager # 899-7791
Greg Rathmann, M.D.	Pager # 899-8029
Dave Nascene, M.D.	Pager # 899-8005

Coordinators:

UMMC:	Sande Hogan	612-626-5589
HCMC:	Hiltje Loyd	612-873-2718 or
	Pamela Thompson	612-873-2036
VAMC:	Judith Sikes:	612-467-2038

FAMILY MEDICAL LEAVE / PARENTAL LEAVE

A leave of absence for serious illness of the resident; serious health condition of a spouse, parent or child; or birth or adoption of a child shall be granted through formal request to the Chief Resident and Program Director. The length of leave will be determined by the Program Director based upon an individual's particular circumstances and the needs of the department, not to exceed twelve (12) weeks in any 12-month period. Residents taking family medical leave must submit the following documents to the Program Coordinator:

FMLA: Certification of Health Care Provider

FMLA: Leave Response/Notification

The above forms can be accessed online in the Forms Library under "Human Resources" at <http://www.fpd.finop.umn.edu/groups/ppd/documents/main/formhome.cfm>.

While on leave without pay, the resident is responsible for payment of COBRA insurance (residents on unpaid leave of absence will be billed monthly).

PARENTAL LEAVE - CHILDBIRTH

A female resident may, upon request, take up to six weeks paid maternity leave related to the birth of her child. The paid leave must fall within the term of appointment and must be taken consecutively and without interruption. After using paid maternity leave and all unused vacation, any additional leave will be without pay. *While on leave without pay, the resident is responsible for COBRA insurance payments (residents on unpaid leave of absence will be billed monthly).*

Disabilities associated with childbirth and pregnancy will be treated like any other disability.

A male resident or fellow may, upon request, take up to two weeks paid paternity leave related to the birth of a child. All leave time must fall within the term of appointment and must be taken consecutively and

without interruption. After using all unused vacation, any additional leave will be *without pay*. *While on leave without pay, the resident is responsible for payment of COBRA insurance (residents on unpaid leave of absence will be billed monthly).*

Questions regarding the above policy should be directed to the Program Coordinator, Sande Hogan or the ALRT Center GME Manager, Sally Sawyer (612-625-3518; sallyann@umn.edu).

PARENTAL LEAVE - ADOPTION

A female resident may, upon request, take up to two weeks paid leave and up to two weeks leave without pay related to the adoption of a child. All leave time must fall within the term of appointment. All leave must be taken consecutively and without interruption. After using all unused vacation, any additional leave will be without pay. *While on leave without pay, the resident is responsible for payment of COBRA insurance (residents on unpaid leave of absence will be billed monthly).*

A male resident may, upon request, take up to two weeks paid leave related to the adoption of a child. All leave time must fall within the term of appointment. All leave must be taken consecutively and without interruption. After using all unused vacation, any additional leave will be without pay. *While on leave without pay, the resident is responsible for payment of COBRA insurance (residents on unpaid leave of absence will be billed monthly).*

Questions regarding the above policy should be directed to the Program Coordinator, Sande Hogan or the ALRT Center GME Manager, Sally Sawyer (612-625-3518; sallyann@umn.edu).

DEPARTMENTAL POLICY REGARDING PREGNANCY FOR RESIDENTS, FELLOWS AND FACULTY

The Department of Radiology will not differentiate in the treatment of potentially pregnant or confirmed pregnant residents, fellows and faculty. Specifically, on-call and fluoroscopy assignments will not be modified solely on the basis of a female resident, fellow or faculty member being potentially pregnant or pregnant, in accordance with the official position of the American Association of Women in Radiology which states: "On the basis of available data, the elimination of fluoroscopy at any time during pregnancy cannot be justified on scientific grounds. Rationally, women of child-bearing age who enter the specialty of radiology should be willing to accept the theoretical risks involved in fluoroscopy."

PROFESSIONAL AND ACADEMIC LEAVE

Up to five (5) working days per year may be taken for academic leave and conferences. This time is in addition to regular vacation time and must be approved by the Program Director. The Department will cover up to three days of expenses for residents presenting at national meetings (see Section IV: Travel).

MILITARY LEAVE

Military leave is granted in full accordance with State and Federal regulations. The Program Director must be promptly notified in writing when a Medical Resident requires military leave.

JURY DUTY / COURT LEAVE

Jury duty and court leave will be authorized consistent with State and Federal Court requirements. The Program Director must be promptly notified in writing when a Medical Resident requires jury duty or court leave.

PERSONAL LEAVES OF ABSENCE

Upon the approval of the Program Director, a Medical Resident may arrange for a personal unpaid leave of absence away from the training program. Unpaid leave, for any reason, does not apply towards a Medical Resident's completion of the Program's graduation requirements or eligibility for the American Board of Radiology (ABR) certification. It is the responsibility of the Medical Resident to make appropriate arrangements with the Program Director to complete their training requirements in a manner prescribed by the Program Director.

The resident on unpaid leave of absence can continue to be included in the health and dental insurance policies, but will be responsible for payment of the COBRA insurance premiums (residents on unpaid leave of absence will be billed monthly).

HOLIDAY SCHEDULE AND BLOCK-OUT DATES

Holiday schedules vary, depending on the institution (see below). When rotating to a particular site, the holiday schedule for that institution must be followed. Residents on UMMC rotations follow the UMMC holiday schedule, not the University holiday schedule.

The residency and fellowship programs also follow a schedule of Block-out Dates (see below). These are dates during which staffing shortages are anticipated. Leave requests will not be granted during these periods without specific approval from the Program Director.

HOLIDAY SCHEDULE						
Date	Holiday	UMMC *	HCMC	VAMC	UMP	UofMN
Tuesday, July 4, 2006	Independence Day	Yes	Yes	Yes	Yes	Yes
Monday, September 4, 2006	Labor Day	Yes	Yes	Yes	Yes	Yes
Monday, October 9, 2006	Columbus Day	No	No	Yes	No	No
Friday, November 10, 2006	Veterans Day	No	Yes	Yes	No	No
Thursday, November 23, 2006	Thanksgiving Day	Yes	Yes	Yes	Yes	Yes
Friday, November 24, 2006	Day After Thanksgiving	No	Yes	No	Yes	Yes
Monday, December 25, 2006	Christmas Holiday	Yes	Yes	Yes	Yes	Yes
Tuesday, December 26, 2006	Floating Holiday	No	No	No	No	Yes
Monday, January 1, 2007	New Year's Day (Observed)	Yes	Yes	Yes	Yes	Yes
Monday, January 15, 2007	ML King Day (Observed)	No	TBA	Yes	Yes	Yes
Monday, February 19, 2007	Presidents' Day	No	TBA	Yes	No	No
Friday, March 16, 2007	Floating Holiday	No	No	No	No	Yes
Monday, May 28, 2007	Memorial Day	Yes	Yes	Yes	Yes	Yes

*** NOTE: Residents and fellows on UMMC rotations follow the UMMC holiday schedule.**

BLOCK-OUT DATES		
Event	From:	Through:
New Residents and Fellows	Monday, July 3, 2006	Friday, July 8, 2006
ABR Written Examinations	Sept 8, 2006	Sept 8, 2006
Radiological Society of North America Meeting	Sunday, November 26, 2006	Friday, December 1, 2006
Holiday Break #1 (UMMC Rotations Only)	Monday, December 18, 2006	Friday, December 22, 2006
Holiday Break #2 (UMMC Rotations Only)	Monday, December 25, 2006	Friday, December 29, 2006
ACR In-training Examination *	Thursday, February 1, 2007	Thursday, February 1, 2007
San Diego Review Course (Tentative dates)	Sunday, April 8, 2007	Friday, April 13, 2007
Duke Review Course	Sunday, April 15, 2007	Friday, April 20, 2007
Association of University Radiologists Meeting	Wednesday, April 25, 2007	Saturday, April 28, 2007
American Roentgen Ray Society Meeting	Sunday, May 6, 2007	Friday, May 11, 2007
Oral Mock Boards	1 month prior to Boards	1 month prior to Boards
ABR Oral Examination	June 3, 2007	June 6, 2007
2007 Graduation Banquet	June 8, 2007	June 8, 2007
Terminal Leave (Only Seniors Allowed Leave **)	Monday, June 25, 2007	Friday, June 29, 2007

*** MANDATORY examination for PGY2-4 -- Leave will not be granted.**

**** Terminal leave is charged as VACATION.**

NO LEAVE REQUESTS WILL BE GRANTED DURING BLOCK-OUT DATES WITHOUT PERMISSION OF PROGRAM DIRECTOR

INSURANCE COVERAGE

HEALTH INSURANCE, DENTAL INSURANCE, LONG-TERM DISABILITY INSURANCE, SHORT-TERM DISABILITY INSURANCE, PROFESSIONAL LIABILITY INSURANCE, LIFE INSURANCE

(Please refer to Part A for information regarding insurance plans.)

For clarification and/or further information, contact Sande Hogan at 612-626-5589.

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Questions regarding liability insurance should be directed to:

Pamela A. Ubel
Office of Risk Management and Insurance
1300 South 2nd Street
Suite #208 WBOB
Minneapolis, MN 55454

Phone: 612-624-5884
Fax: 612-625-7384
Email: novic002@umn.edu

MEAL PROGRAM

Residents on duty have access to adequate and appropriate food services at all institutions.

- **UMMC:** Residents on-call are entitled to a fixed monthly meal allocation for each meal while on-call and are given swipe cards every six (6) months for use while on call at UMMC. Swipe cards are honored **ONLY** at the Bridges Cafeteria (University campus) or the East Side Market Café (Riverside campus). *No other cafeterias honor the meal program.* Meal Program swipe cards are to be picked-up from Sande Hogan each July and January. They cannot be left in your mailbox or mailed to your home.
 - The balance on the card can be obtained by asking the cashier at the register.
 - When the balance reaches \$0.00, the cashier will collect the card from the resident so that the card can be reprogrammed.
 - If the card is lost, please report the lost card to Sande Hogan (612-626-5589). Upon notification, Nutrition Services will cancel the missing card and issue a new card with the remaining balance.
 - If the card is not working at the register, the resident should ask to speak with a manager so that the manager can assess the situation and determine what the problem is.
 - At redemption residents **MUST** pay the cashier any amount exceeding the value of the swipe card (no exceptions, no IOUs)
 - If no food service is available, contact Nutrition Services at 612-273-5811.
- **HCMC:** Residents on-call are entitled to a fixed monthly meal allocation for each meal they are on call. This will be accomplished by using your HCMC identification badge and presenting it at the time of purchase. The cashier can give you a report of your account balance at any time. Upon reaching that monthly allotment, a resident will be required to pay cash for all meals purchased thereafter.
 - If no food service is available, contact Nutrition Services at 612-873-3383.
- **VAMC:** Residents on-call are entitled to a fixed monthly meal allocation for breakfast and dinner while on-call. This will be accomplished by going to the Hospital Cashier, presenting your VAMC identification badge, and collecting a fixed amount of cash to use toward meal purchases. Contact Judith Sikes at 612-467-2038 in the Department of Radiology Service Office for your allocation amount.
 - If no food service is available, contact Nutrition Services at 612-467-2004.

LAUNDRY SERVICES

No laundry services are provided for Radiology residents. Two lab coats will be provided at the beginning of your residency. Scrubs are provided at all three institutions when you are on an appropriate rotation for scrubs. These are the property of the institutions and are to be used for this purpose only.

- **UMMC:** Scrubs are available on a sign-out basis by using your UMMC identification badge in Room J2-104. The required bar code for the backside of your ID badge is provided by Kathy Monitor in Linen Services: 612-273-5793.
- **HCMC:** Scrubs are available by placing a \$10 deposit per pair (3 pair maximum) at the Cashier (First floor, North block), and then bringing your voucher to Outpatient Supply (Third floor, North block). In order to be reimbursed for your deposit, you must return your scrubs to Outpatient Supply. Blue scrubs are available in the Radiology Department, but only for use in Special Procedures or the Operating Room.
- **VAMC:** Lab coats and scrubs are available on a sign-out basis by providing your VAMC identification badge to the VAMC Laundry (Room 1N-104).

BOOK AND TRAVEL FUND

All PGY-2 through PGY-5 residents will be allotted \$500 each fiscal year for the purchase of medical books and professional journals. PGY-5 residents may also include travel to Board review courses in their allotment. Residents beyond their fifth clinical year are considered to be in fellowship positions and are not eligible for the reimbursement program. The University fiscal years run from July 1st through June 30th of the following year. There will be no carryover of unused funds from one year to the next. Residents are required to purchase books from the Coffman Memorial Union (CMU) Bookstore on the University campus. The process for accessing these funds will be as follows:

Complete an Intra-Institutional Voucher Request (see Section VI: Program Forms) and submit it to Sande Hogan in person, via E-mail, or via fax (612-626-5580). Please note that three (3) days are required to process this request. Once you've received your voucher, bring it to the CMU Bookstore to purchase your books. After making your purchase, **return the blue copy of your voucher to Sande Hogan**. Without the blue copy, Accounting personnel are unable to itemize the charges to your book fund and bring your account up to date. **NO FUTURE VOUCHERS CAN BE PREPARED FOR YOU UNTIL THIS BLUE COPY HAS BEEN RECEIVED.**

Available balances on your account may be obtained by calling Sande Hogan at 612-626-5589.

PARKING

CONTRACTS

The Department does not provide general parking for residents. However, a limited number of departmental parking ("key") cards for Parking Ramp C (Oak Street) are leased to residents at a rate of \$50 per month of UMMC rotation (i.e., if a resident is scheduled for five UMMC rotations during the year, he/she would pay up to \$250). This rate is subject to change as the University increases its rates. Parking key cards are issued by Sande Hogan on a first-come, first-served basis. Parking for the year is to be paid in full at the time a resident receives his/her key card. **DO NOT TAKE YOUR KEY CARD INTO ANY MRI FACILITY, AS THESE UNITS WILL ERASE THE CARD'S MEMORY.**

ON-CALL PARKING:

The Department covers parking expenses for residents taking departmental call. Each resident is assigned a parking key card for this purpose. Those leasing departmental parking cards will use the same card for on-call parking as for daily parking when rotating to UMMC.

AFTER-HOURS PARKING

Parking validation is available to residents for the sole purpose of attending Program-related conferences and activities while on rotations based away from UMMC (i.e., Diagnostic Radiology and Medical School Core Curriculum lectures, First-year Lecture Series, Physics Review, Senior Review and resident meetings). **When assigned to UMMC, residents do NOT qualify for parking validation.** Residents who inappropriately/fraudulently credit parking to the Department will be held financially responsible for all costs related to their misuse of the parking credit plan. Parking tickets can be validated by any of the following:

Sande Hogan:	Room B211 Mayo	Phone # 612-626-5589
Judy Lally:	Room B234 Mayo	Phone # 612-626-3342
Radiology Chief Resident:	Scott Greenley, M.D.	Pager # 899-7791
	Greg Rathmann, M.D.	Pager # 899-8029
	Dave Nascene, M.D.	Pager # 899-8005

SECTION III. DISCIPLINARY AND GRIEVANCE PROCEDURES

(Please refer to Part A for Medical School Policy on the following: Discipline/Dismissal of Residents/Fellows, Regents' Student Academic Grievance Policy, University Senate Policy on Sexual Harassment, Resident Procedure for Reporting Sexual Harassment and Discrimination, and Sexual Assault Victim's Rights Policy.)

A. Discipline/Dismissal for Academic Reasons

Trainee academic performance is determined by a review of evaluations and examination scores (see Section IV: Steps in Evaluation Process). If resident performance is felt to be below an acceptable

level, discipline and possible dismissal will follow guidelines set forth in the Part A Manual (see Disciplinary and Grievance Procedures).

Procedures: The resident/fellow will be given verbal notice of performance deficiencies by the Program Director, an opportunity to remedy deficiencies, and the notice of possible dismissal or contract non-renewal if the deficiencies are not corrected, and a record of this will be placed in the trainee's file.

When the resident/fellow continues to demonstrate a pattern of marginal or unsatisfactory academic performance, they will be placed on academic probation as specified in the Part A Manual. A Radiology Graduate Medical Education Committee will meet to discuss the outcome of the probation, and may recommend: Removal from probation with a return to good academic standing; Continued probation with new or remaining deficiencies sited; Non-promotion to the next level of training; Contract non-renewal and/or dismissal.

B. Discipline/Dismissal for Non-Academic Reasons

Discipline/dismissal for non-academic reasons will follow the guidelines set forth in the Part A Manual.

SECTION IV. GENERAL POLICIES AND PROCEDURES

(Please refer to Part A for Medical School Policy on the following: *Academic Health Center Policy on Student Background Checks, Classification Policy, Duty Hours, Dress Code Policy, On-Call Room Policy, Eligibility and Selection of Residents/Fellows, Evaluation of Residents/Fellows, E*Value Instructions, FMLA, GME Core Curriculum Seminars, Immunizations and Vaccinations, Impaired Residents/Fellows Policy, Impaired Resident/Fellow Procedure, Institutional and Program Requirements, International Medical Graduates, Jury Duty Policy, Licensure, Moonlighting Policy, New Training Program Policy, Observer Policy, Program Evaluation, Promotion of Residents/Fellows, Blood-borne Diseases, Restrictive Covenants, Supervision Policy, and Without Salary Appointments.*)

PROGRAM GOALS AND OBJECTIVES

This Program's goal is to develop a sturdy medical knowledge/skill base and professional attributes that allow residents and fellows to independently and competently practice diagnostic radiology with a life-long commitment to continued learning and excellence. Its mission is to provide strong basic training in diagnostic radiology and its subspecialties including breast imaging, cardiac imaging, gastrointestinal and genitourinary radiology, musculoskeletal radiology, neuroradiology, nuclear medicine, pediatric radiology, thoracic radiology, ultrasound and vascular and interventional radiology. Trainees, faculty and staff who identify areas for improvement should address their suggestions and concerns to the Program Director in a timely fashion.

VASCULAR AND INTERVENTIONAL RADIOLOGY FELLOWSHIP PROGRAM DESCRIPTION

The Interventional Radiology Fellowship is a one-year ACGME accredited program with an option for two years depending on eligibility. Full training is accomplished in one year by rotating the fellows through all the different areas of interventional radiology in the participating institutions. The second year is provided to enhance the training received in the first year and to encourage more in-depth research efforts. Five fellowship training positions have been approved. Interventional Radiology encompasses a variety of invasive diagnostic and image-guided therapeutic techniques, including all aspects of radiological diagnosis and treatment of a wide array of organs, including blood vessels, biliary ducts, urinary tract, gastrointestinal tract, as well as magnetic resonance and computed tomographic studies of blood vessels excluding the cerebral vessels. Our fellowship program offers a quality graduate medical educational experience of adequate scope and depth in all of these associated diagnostic disciplines. We offer an environment that encourages the interchange of knowledge and experience among fellows and faculty within the program and with residents, fellows and faculty in other major clinical specialties throughout the hospital.

Candidates for the Vascular and Interventional Radiology Fellowship Program must have completed a Diagnostic Radiology residency program or finished two (2) years of residency training in a medical or surgical specialty or are being accepted for the direct pathway.

During the training, the fellow is exposed to patients with diseases of the above-mentioned structures. Besides performance of image guided invasive procedures, time is also set to interpret the MR and CT vascular examinations.

The minimum curriculum requirements will be met by the first year, by rotating the fellows through the different areas predefined as required, by regular evaluation sessions with the fellows, daily monitoring of the fellows by the staff, and by completion of competencies predetermined and set by the program.

The majority of the fellowship is spent working in invasive procedures. All fellows learn how to prepare for each individual procedure.

A three-month rotation through the non-invasive vascular lab provides training and background in the hemodynamics of the peripheral vascular systems. During this rotation, the fellows are exposed to vascular ultrasound, magnetic resonance angiography, and computed tomographic angiography. A multispecialty approach to vascular disease is taught to the fellows during this rotation. At this time, the fellow also collects and presents to the staff radiologists specific cases in which the interventional radiology department has been or will be involved. Follow-up cases are also specifically presented to the staff members, including fellows and residents, to further understand the disease processes that are involved with and continue in some cases following interventional procedures.

During the non-invasive vascular rotation months, fellows also participate weekly in a peripheral vascular clinic. Many of the patients seen will have noninvasive testing prior to their procedure, allowing patients to be evaluated in a clinical setting. Discussion with the clinical staff at this time is done and further follow-up and therapy are discussed and formulated. Also in clinic, the fellows see patients pre-procedurally for evaluation to ensure continuity of care from the stage before the procedure, during the procedure, and then following the procedure in clinical follow-up.

INTERVENTIONAL RADIOLOGY PROGRAM GOALS AND OBJECTIVES

The interventional radiology curriculum allows for progressive scholarship and experience. Upon completion of the program, fellows will have knowledge in 1) basic imaging principles and physics including: radiation biology and safety; knowledge in radiographic techniques and their indications including, computed tomography of blood vessels, fluoroscopy, sonographic-guided needle access, and MR imaging of blood vessels; 2) understanding of radiographic, and cross-sectional imaging (sonographic, CT and MR) applied to the diagnosis and performance of interventional procedures; 3) ability to perform invasive procedures such as diagnostic angiography (arterial and venous, excluding the heart), diagnostic cholangiography, diagnostic pyelography; needle-placement under image guidance; arterial and venous percutaneous transluminal angioplasty, stent placement, catheter-directed thrombolysis, mechanical thrombectomy, embolization, foreign body retrieval; biliary, GU, GI, peritoneal,

extraperitoneal and thoracic drainage and sclerotherapy procedures; ureteral embolization procedures; biliary, GI and GU stricture dilation and stent placement; biliary and GU stone removal/manipulation; caval filter placement; central venous access placement; tracheobronchial intervention and 4)an understanding of emergency procedures, their indications and impact. Some limited training in MR-guided interventions is also provided.

Our principal philosophy is to educate, train, and supervise fellows during their fellowship with an emphasis that each fellow obtains the necessary attributes during their training. The expectations differ as each fellow progress through his/her fellowship and in most subspecialty divisions, teaching is scaled in a pyramid, building upon a base of information and adding to it with subsequent exposure.

Goals:

The goal of the Interventional radiology fellowship program at the University of Minnesota is to train fellows to be competent, skilled physicians in the subspecialty of Interventional radiology, whether in a community, private or academic setting. The training program will provide the fellow with the opportunity to develop, under supervision, progressively independent skills in the performance and interpretation of interventional imaging studies and invasive procedures. At the culmination of training, the fellow should be capable of independent and accurate clinical decision making in all areas of Interventional radiology.

Objectives:

What follows is a list of objectives for Interventional radiology procedures, CT and MRI vascular studies, research activities and for call.

CT Angiography (CTA) Objectives:

- Knowledge of indications for CTA of the blood vessels (excluding the brain).
- Protocol and supervise all CTAs.
- Understand factors that affect CT imaging and image quality and the differences in the different types of CT, i.e. multiplanar vs. non-multiplanar imaging.
- Supervise and teach residents on the Interventional Radiology service the basis of CTA.
- Interpret all vascular CTAs as a specialist.
- Effectively communicate with consulting physicians especially vascular surgeons, cardiologists and other vascular medicine specialists.

MR Angiography (MRA) Objectives:

- Knowledge of indications for MRA of the blood vessels (excluding the brain).
- Protocol and supervise all vascular MRAs.
- Understand factors that affect MR imaging and image quality i.e. field strength, coils, open vs. closed systems, NEX, etc.
- Supervise and teach residents on the interventional radiology service the basics of MRA.
- Interpret all vascular MRAs as a specialist.
- Effectively communicate with consulting physicians especially vascular surgeons, cardiologists and other vascular medicine specialists.

Interventional Procedures Objectives:

- Knowledge of indications, contraindications, alternatives and techniques of procedures involving:
Vascular Diseases (Arterial and Venous)
 - Didactic instruction is provided to the fellows and residents multiple times during the week, including during the daily morning patient care conference. At this conference, the patient is presented by the fellows and residents to the staff physicians. At this time, the staff physicians, with the help of the fellows and residents depending upon their level and ability, formulate a plan and procedure for each individual patient. Associated with this are discussions by the staff of pertinent literature, as well as reviews of texts and other materials regarding each case. Expected procedural outcomes and follow-ups and possible complications are discussed based on past performance at this institution as well as relating this to the general interventional radiology literature and other printed material, including textbooks.
 - A three-month rotation through the non-invasive vascular lab provides training and background in the hemodynamics of the peripheral vascular systems. During this rotation, the fellows are exposed to vascular ultrasound, magnetic resonance angiography, and computed tomographic angiography. A multispecialty approach to vascular disease is taught to the fellows during this rotation. At this time,

the fellow also collects and presents to the staff radiologists specific cases in which the interventional radiology department has been or will be involved. Follow-up cases are also specifically presented to the staff members, including fellows and residents, to further understand the disease processes that are involved with and continue in some cases following interventional procedures.

- During the non-invasive vascular rotation months, fellows also participate weekly in a peripheral vascular clinic. As many of these patients will have noninvasive testing prior to these procedures, this allows patients to be evaluated in a clinical setting. Discussion with the clinical staff at this time is done and further follow-ups and further therapies are discussed and formulated. Also at this clinic, these fellows see patients pre-procedurally for evaluation and to ensure continuity of care from the stage before the procedure, through the procedure, and then following the procedure in clinical follow-ups and appointments.
- Fellow participation in cardiovascular and interventional radiology cases in the angiography suites allows the fellows to have exposure to complex vascular diseases, such as arteriovenous malformations, severe diffuse atherosclerotic vascular disease, operative complications, caval filtration and related thromboembolic disease endovascular grafting and treatment of aortic aneurysms. They are exposed to multiple types of studies, which include the following: diagnostic examination of peripheral vascular disease with angiography, MRI, and duplex ultrasound, angioplasty, complex revascularization (atherectomy, stents, etc.), thrombolysis (venous and arterial), embolization of malignancies and vascular malformations, embolization of traumatic and other bleeding problems, and sclerotherapy of varicoceles and ovarian veins for both infertility and pain respectively; also uterine artery embolization for fibroid disease. There are several conferences dedicated to more formal didactic presentations with regards to vascular diseases. This includes a vascular conference, which is given every other Friday morning and is attended by representatives from Vascular Medicine, Vascular Surgery, Hematology, the non-invasive laboratory, and the Magnetic Resonance Section. Every three months, there is a vascular forum, which includes a guest speaker as well as presentations of interesting cases and appropriate references pertinent to the discussion. Every other month, there is an Angio Club at which there is a guest speaker and once again, presentation of interesting cases. Every Tuesday morning there is a Surgery Conference, which includes didactic discussions of the pertinent literature with respect to surgical cases. Each week, there is at least one vascular/surgical case presented at this conference. Vascular Medicine Grand Rounds are held approximately 3 or 4 times each year. This usually encompasses a visiting professor that gives 3-4 presentations on vascular topics in a variety of forums around the hospital. There is a weekly Vascular Medicine conference that all staff and fellows are encouraged to attend.

Cardiac/Coronary Disease

- Acquired and congenital heart and great vessel disease are evaluated by the trainees, mostly during their noninvasive rotation with MR and CT angiography.

Dialysis Access Procedures/Disorders

- The trainees are involved in placement of both vascular and peritoneal dialysis catheters as well as diagnostic and therapeutic evaluation of arteriovenous fistulas and grafts for dialysis.

Vascular Aspects of Organ Transplantation

- The hospital has a large volume of organ transplants. The trainees are involved with the pre-operative evaluation of donors and recipients as well as the diagnosis of post-operative complications and their therapy. These include the treatment of lymphoceles, arterial occlusion/stenosis, leaks, biopsies and arteriovenous fistulas among others.

Urologic Diseases

- Patients are referred to the Interventional Radiology Department for urologic intervention from the Gynecologic/Oncologic Division, Transplant Division, and Division of Urologic Surgery. Didactic material, as noted above, comes from pre-procedural patient care conferences and post-procedural follow-up. Also as noted above, the staff physicians discuss, at the patient care meeting, pertinent information from recent journals as well as information regarding the procedure from journals and textbooks.
- Fellow participation in and interventional radiology cases in the procedure suites allows the trainee to have exposure to complex urologic diseases such as renal abscess, renal arteriovenous malformations, atherosclerotic diseases involving the renal artery and its branches, operative

complications involving the urogenital tract, complications of transplantation, and stone removals. The types of studies, which they do, include the following: diagnostic examination of the urogenital tract including angiography, MRI, and angiography. The procedures include, but are not necessarily limited to, the following: percutaneous nephrostomy, percutaneous stone removal, difficult access procedures and problems involving transplanted kidneys, and malrotated or other congenital abnormalities of renal placement, renal artery angiography, angioplasty, and stenting, placement of internal-external ureteral stents, placement of internal double-J stents, assisting with placement and/or post-procedural care of percutaneous cystostomies, dilatation of strictures involving the urologic tract, and embolization of arteriovenous malformations and renal neoplasms.

- The fellows and residents are exposed to clinical care and follow-ups with the urologic staff as well as the gynecologic and oncologic staff.

Oncology

- Extensive experience in oncologic/interventional technique is obtained, since a cancer hospital is part of the University of Minnesota Medical Center. Procedures performed include embolization of tumors and catheter placements for chemotherapy and drainage procedures (urinary, biliary, peritoneal, pleural).
- The trainees have ample experience in placement of central venous access catheters.
- Biopsies and diagnostic and therapeutic fluid aspiration under fluoroscopy, computed tomography, and ultrasound are performed by the cardiovascular and interventional radiology fellows.

Endocrine Disorders

- Fellows are involved in arteriographic and venographic evaluation of neoplasms such as in adrenal vein sampling.

Musculoskeletal Diseases

- Fellows are involved in percutaneous treatment of vertebral compression fractures malignant or benign, as well as joint or bone aspiration for inflammatory and infectious disorders.

Gastrointestinal Diseases

- Fellow participation in cardiovascular and interventional radiology cases in the angiography suites allows the fellow to have exposure to complex gastrointestinal diseases and procedures, including a wide range of experience in biliary and gallbladder intervention, transjugular intrahepatic portosystemic shunt (TIPS) procedures (pre-procedure evaluation, placement of TIPS shunts, aftercare following TIPS shunts, as well as evaluation of the shunts in the non-invasive vascular lab), stone extractions, stricture dilatation, fistula management, and stenting (both internal and external). Experience is also obtained at both hospitals in placement of percutaneous gastrostomy and gastrojejunostomy tubes. Vascular evaluation of the gastrointestinal tract is also obtained at both institutions. Embolization of bleeding vessels is done at both institutions for gastrointestinal bleeding.
- Be able to perform pre-procedure evaluation, including history and physical exam, order diagnostic tests, and obtain informed consent from the patient and/or family.
- Provide post-procedure patient care and follow-up, including being available to answer patients' questions.
- Consult with a wide array of referring physicians.
- At the conclusion of training, be able to independently perform all of the above.

Pediatric Objectives:

- Knowledge of differences between adult and pediatric anatomy, pathophysiology and development, as applied to interventional radiology.
- Recognize normal pediatric anatomy, normal variants and congenital anomalies.
- Understand indications for pediatric interventional imaging and appropriateness of the various imaging modalities.
- Understand indications for sedation.
- Interpret routine pediatric vascular and non-vascular imaging as applied to interventional radiology.

Ultrasound Objectives:

- Obtain the necessary skills for ultrasound-guided access to blood vessels, GI tract, biliary tract and GU tract. Obtain the necessary skills to perform US-guided biopsy and drainage procedures of solid organs (excluding heart and brain).

Research Objectives

- To teach the fellow the basics of research including:
 - Data collection
 - Data analysis
 - Literature review
 - Manuscript preparation.
- An active animal research facility is present and available to fellows and residents. This is under the direction of Dr. David W. Hunter.
- Fellows are encouraged to participate in at least one animal project and two to three clinical research projects per year. The objective is to submit papers to refereed radiology, radiology subspecialty, or associated clinical journals. Also encouraged are submissions of presentations to national and international meetings, including the Radiological Society of North America, Society of Cardiovascular and Interventional Radiology, Association of University Radiologists, American Roentgen Ray Society, and the Cardiovascular and Interventional Radiological Society of Europe.

Call Objectives:

- Understand indications for emergency diagnostic and therapeutic interventional radiology procedures (excluding the heart and brain).
- Be able to assess patients for possible interventional procedures.
- Interpret emergency vascular studies.
- Supervise and assist interventional radiology residents on call.

Academic Objectives

- Knowledge of current Interventional Radiology literature.
- Knowledge of the Society of Interventional Radiology guidelines and standards for procedure performance (both diagnostic and therapeutic).
- Present at least one abstract (poster or oral presentation) at a national or regional meeting as the first author.
- Prepare a manuscript for publication as a co-author or first author.
- Teach medical students on service and give at least one case conference to medical students per month.
- Teach residents on service.
- Present cases and review of the literature at the joint interventional radiology-vascular surgery meeting.

CLINICAL RESPONSIBILITIES OF A RADIOLOGY FELLOW

All patients are seen prior to the performance of any procedure. The procedure is explained to the patient and/or family in detail, a brief physical examination is done, laboratory values are checked, necessary medications are prescribed, and consent is obtained. Most of the patients are seen by either a resident or a fellow, usually working independently but occasionally working as a team, particularly on more difficult cases. In addition, the pre-procedure consent may be obtained on occasion by a team consisting of a staff member if the case is exceptionally difficult or politically troublesome. Almost all cases are discussed with a staff person prior to the resident or fellow leaving to obtain consent and do the preliminary work-up. As fellows become more proficient in their understanding of cases and demonstrate greater medical and procedural expertise, they are allowed to see patients without first discussing them with a staff person and in some cases, to assign residents to obtain consents. If any question or problem arises during the patient work-up the fellows are encouraged to call any of the staff available to solve the problem.

Intra-procedure: Most cases are performed by a resident and a fellow working under the direct supervision of a staff person who is in the room discussing the case with them continuously, but in most cases not scrubbed in. As fellows become more comfortable with the technical aspects of procedures, they are allowed to do much of the resident teaching and switch from being the primary operator, often assisted by the staff person who would on that occasion be scrubbed in, to the assistant for the resident assigned as primary operator. Some extremely routine cases will be supervised by and performed by a fellow who is either at the end of their first year or in their second year accompanied by a resident. In such instances, the staff person may

simply be present for the critical portions of the case but not for the entire case. The degree to which fellows and residents are allowed to work under their own recognizance is dependent upon careful ongoing assessment of their capabilities by the staff people who work with the fellows on a daily basis.

Post-procedure: Care is undertaken under the supervision of a staff interventional radiologist. This is coordinated with our nurse clinicians, nurse practitioners, the fellows, and residents. Follow-up procedures and examinations are discussed with the staff interventional radiologist. During these discussions further teaching regarding patient care and follow-up to the procedures performed are discussed with the nurse clinicians and nurse practitioners, fellows, and residents on the service. In addition, patients are occasionally admitted to the interventional radiology inpatient service. The fellow and residents, under the supervision of the staff physicians, admits and manages these patients. Daily rounds are done on these patients until their discharge. Appropriate follow-up is also arranged when necessary.

Communication with the referring physicians is also the responsibility of those involved in the case.

The fellows are constantly monitored by the staff that is working directly with them that day.

All patients are entered in a computerized database to help in future care and follow-up of patients. Accurate determination of the cases performed by the residents and fellows is maintained in the computer database. This is reviewed and discussed every other week by the program director and other staff and in conjunction with the quality assurance meetings.

In this way the residents and fellows keep track of the procedures they are involved with.

SCIENTIFIC MEETINGS DURING FELLOWSHIP

Trainees presenting scientific papers at national scientific meetings are fully funded by the Radiology Department. All trainees attend one major Radiology or Interventional Radiology conference or review course during their fellowship year.

Fellows are encouraged to participate in at least one animal project and two to three clinical research projects per year. The objective is to submit papers to refereed radiology, radiology subspecialty, or associated clinical journals. Also encouraged are submissions of presentations to national and international meetings, including the Radiological Society of North America, Society of Cardiovascular and Interventional Radiology, Association of University Radiologists, American Roentgen Ray Society, and the Cardiovascular and Interventional Radiological Society of Europe.

QUALITY ASSURANCE

- The department of Radiology Quality Assurance (QA) Committee receives reports from each section from Cardiovascular/Interventional Radiology on a monthly basis. The complications report is submitted to the departmental QA Committee through the hospital QA liaison.
- Every complication encountered during cardiovascular and interventional procedures are thoroughly reviewed and discussed by the staff and fellow after the procedure. A discussion is directed toward prevention of further occurrences of this complication.
- Every complication is reported in writing by the participating staff, fellow, and/or resident. The pre-procedure, procedural, and post-procedural aspects of the case are discussed. Causes of the complication as well as remedies to prevent this complication in the future are discussed by the participating staff.

PROGRAM GOALS

This program's goal is to develop a sturdy medical knowledge/skill base and professional attributes that allow fellows to independently and competently practice diagnostic radiology with a life-long commitment to continued learning and excellence. The Department's mission is to provide strong basic training in diagnostic radiology and its subspecialties including breast imaging, cardiac imaging, gastrointestinal and genitourinary radiology, musculoskeletal radiology, neuroradiology, nuclear medicine, pediatric radiology, thoracic radiology, ultrasound and vascular and interventional radiology. Trainees, faculty and staff who identify areas for improvement should address their suggestions and concerns to the Program Director in a timely fashion.

FELLOWSHIP PROGRAM IN NEURORADIOLOGY

CURRICULUM AND GOALS

“The body of knowledge and practice of neuroradiology comprises both imaging (plain film interpretation, computed tomography, magnetic resonance imaging, ultrasonography, nuclear radiology) and invasive procedures related to the brain, spine and spinal cord, head, neck, and organs of special sense (eyes, ears, nose) in adults and children. Special training and skills are required to enable the neuroradiologist to function as an expert diagnostic and therapeutic consultant and practitioner. In addition to knowledge of imaging findings, the resident must learn the fundamentals of pathology, pathophysiology, and clinical manifestations of the brain, spine and spinal cord, head, neck, and organs of special sense. The program must provide residents with an organized, comprehensive, and supervised full-time educational experience in the selection, interpretation, and performance of neuroradiologic examinations and procedures. The program must also provide residents with opportunities to conduct research in the field of neuroradiology. The training program must provide the resident with the opportunity to develop, under supervision, progressively independent skills in the performance and interpretation of neuroradiologic imaging studies and invasive procedures. At the culmination of training, the resident should be capable of independent and accurate clinical decision making in all areas of neuroradiology.” [Accreditation Council for Graduate Medical Education Program Requirements for Residency Education in Neuroradiology]

The Neuroradiology Section of the Departments of Radiology at the University of Minnesota Medical Center-Fairview and Hennepin County Medical Center (HCMC) offers one to two-year accredited neuroradiology fellowship positions leading to eligibility for Senior Membership in the American Society of Neuroradiology and eligibility for examination for the American Board of Radiology Certificate of Added Qualification in Neuroradiology. The University of Minnesota’s long standing Neuroradiology Fellowship Program dates back to 1965 when it was one of the first 11 programs in North America to be recognized and funded by the National Institute of Neurological Diseases and Blindness. This program was first accredited by the ACGME in 1993. Since then, at least 17 applicants have completed their fellowship training in this program.

Fellows must have satisfactorily completed an accredited residency training program in diagnostic radiology in North America or a program of comparable quality and duration within their home country prior to beginning this neuroradiology fellowship and must be eligible for examination in diagnostic radiology by the American Board of Radiology (ABR).

The fundamental and underlying purpose of the fellowship program is to provide a stimulating and positive experience and training in all facets of modern clinical and research neuroradiology. Specifically, fellows are trained in all aspects of routine diagnostic MR and CT imaging of the brain, head and neck, and spine, neurovascular MR angiography and CT angiography, MR spectroscopy, diagnostic neuroangiography and myelography. As well, fellows are expected to learn and participate in Positron Emission Tomography (PET) studies of the brain and whole body, MR diffusion tensor imaging (DTI), functional MR imaging (fMRI) and intraoperative MR-guided therapy.

Resources:

Drs. Charles Truwit, Stephen Kieffer, Manfred Benson, Alex McKinney, Charles Krenzel, Jeff Brace, Christopher Palmer and Fred Ott are the neuroradiologists providing coverage at UMMC-F, HCMC and the Minneapolis Veterans Affairs Medical Center (VAMC). Teaching is typically one-on-one using the Socratic method, encouraging the curiosity and innovative thinking of the trainee and the development of sound clinical judgment, as well as motivating a strong interest in teaching and research. Supervision in performance of invasive procedures is tailored to the needs and abilities of the fellow. Drs. Michael Madison and Mark Myers of St. Paul Radiology provide neurointerventional coverage.

UMMC-F houses the Center for MR-guided Therapy (CMRgT), which has championed high-field intraoperative MR-guided neurosurgery since 1997. Similar work will be instituted by early 2004 on a new 3T MR scanner at HCMC as well. Neuroradiology fellows are expected to participate in this work.

Advanced MR studies, including functional MR imaging and diffusion tensor white matter fiber tracking are performed on four clinical 1.5T echoplanar MR scanners at FUMC and one at HCMC as well as on the whole body human 3.0T, 4.0T and 7.0T magnets at the Center for Magnetic Resonance Research (CMRR), an unique and world renowned high field MR basic research center of the University of

Minnesota. In addition, three animal-size dedicated research units are available at 4.7T, 5.0T and 9.4T, at the CMRR. In 2004, clinical 3.0T MR scanners start operating at both UMMC-F and HCMC.

UMMC-F is the major tertiary care center for the Twin Cities metropolitan area as well as for a very large portion of the Midwest and Northwest. HCMC is the metropolitan area's level 1 trauma facility with a strong radiological and neuroradiological faculty.

Facilities at UMMC-F include three 1.5T Siemens and one 1.5T Philips MR scanner, equipped with the latest hardware and software. The Philips 1.5T echoplanar-capable magnet is located in a dedicated interventional MR suite available for MR monitoring of thrombolytic therapy for stroke, as well as direct neurosurgical image-guided procedures. The Department is also equipped with three Siemens spiral CT scanners, one of which is a 16-slice multidetector CT (MDCT). A second 16-slice multidetector CT (MDCT) unit and a fourth 1.5T Siemens MR unit are in a new adjacent outpatient imaging center which opened in September 2003. Positron Emission Tomography (PET) scan of the brain and whole body is provided utilizing a mobile unit which resides at UMMC-F three days a week.

Neuroangiography and embolization and thrombolysis procedures at UMMC-F are performed on two biplane Toshiba angiographic units allowing superb visualization of intracranial and intraspinal arteriovenous malformation, aneurysms, and other abnormalities. One of the units is equipped with rotational DSA.

Facilities at HCMC include two Philips Intera MR scanners, one at 1.5T, another at 3.0T (December 2003) and two Siemens 4-slice multidetector CT scanners. An additional Intera 1.5T MR and a 16-slice MDCT scanner are located in a newly outpatient imaging center. There are also two state-of-the-art angiography suites at HCMC, both equipped with rotational DSA, one of which also has 3D rotational angiography.

Vital Images 3D workstations are present and actively utilized in clinical practice, teaching and research at both FUMC and HCMC. PACS is present at both sites, and all clinical image interpretation is performed on computerized workstations utilizing intuitive user-friendly software programs.

Educational Program:

The first year of fellowship training is devoted to clinical neuroradiology including diagnostic CT and MR imaging, MR spectroscopy, PET scanning and CT and MR angiography of the central nervous system and head and neck. This includes extensive experience in both pediatric and adult patients with disorders of the central nervous system, head and neck, and spine. In addition, there is hands-on supervised involvement in both cerebral and spinal cord angiography, as well as specialized cerebral blood flow studies utilizing perfusion CT and MR imaging techniques, and 3D assessment of CT and MR angiography.

Cerebrovascular and neurodegenerative diseases are major areas of interest in the University of Minnesota's Departments of Neurosurgery and Neurology. As well, neuro-oncology is a major focus of both Neurosurgery and Neuroradiology. Head and neck cancer is a significant program in the Department of Otolaryngology, with the Departments of Otolaryngology and Neurosurgery combining to form the Skull Base Center. Fairview-University Medical Center also houses a widely recognized bone marrow transplant center which has achieved worldwide recognition; the large number of patients with neoplastic; metabolic; and genetic disorders provides a most interesting additional clinical and research imaging opportunity.

There are multiple groups of PhDs who provide an exceptional research for the performance of both clinical and animal research work.. A group of twenty physicists and computer scientists are present at the CMRR that houses the dedicated human and animal research magnets. There are six physicists in the Department of Radiology dealing primarily with image processing projects. Lastly, we are closely aligned to the PhDs at the neurosurgical research center located three blocks from University of Minnesota Medical Center-Fairview University campus.

Several clinical research protocols are underway at all times under the supervision of the Neuroradiology faculty and with the assistance of the Radiology Department research coordinator, Karen Kowalik, RN, MBA.

Carotid/vertebral angiography forms a significant component of the fellowship, especially at HCMC. Fellows learn techniques in diagnostic angiography including the use of 3D rotational DSA. At HCMC, a Philips biplane Allura Siemens system with intraoperative capability is available for neuro work.

HCMC's primary focus is trauma and the fellow participates in the work-up of evaluation of all acute neurotrauma cases.

The fellow participates actively in all of the regularly scheduled conferences in adult neurology (daily); pediatric neurology (biweekly); brain tumor board (weekly); and head and neck oncology (weekly) at UMMC-F as well as in the weekly neurology-neurosurgery-neuroradiology conference at HCMC. A biweekly neuroradiology clinical science conference has been added with primary responsibility for topic presentation by the neuroradiology fellows and interested senior residents. Together with the neuroradiology faculty, the fellows are presenting the weekly neuroradiology review conference for the residents in diagnostic radiology.

During the optional second year, fellows focus on advanced neuroimaging techniques. This can include dedicated efforts in functional MRI, diffusion/perfusion MRI, MR spectroscopy, CT perfusion, and CT and MR angiography. The fellow may also elect to spend dedicated time in pediatric neuroradiology, head and neck radiology, and interventional MR-guided therapy. A correlative rotation in neuropathology can also be arranged. A basic research experience at the CMRR is also possible.

Evaluation:

Within the last year, the E-Val system has been implemented for formal evaluation of resident and fellow educational performance using the internet. This evaluation program provides a comprehensive and conveniently accessible methodology for quarterly fellow evaluations by the neuroradiology staff. The Program Director also meets at monthly staff meetings, one on one daily reviews and at least every quarter with each individual fellow to review his/her accomplishments and to respond to individual needs and problems. Fellows also provide evaluations of the Neuroradiology staff, which are kept hard copy and are anonymous.

PROGRAM REQUIREMENTS

This program is accredited by the Accreditation Council for Graduate Medical Education and follows the requirements set forth by the ACGME. To view these requirements, go to <http://www.acgme.org>.

TRAINING/GRADUATION REQUIREMENTS

This program adheres to the training requirements set forth by the American Board of Radiology. These requirements can be reviewed at <http://www.theabr.org>.

Program Directors, along with the Graduate Medical Education Committee, a faculty committee of the Department of Diagnostic Radiology, has the responsibility to evaluate candidates for admission to the training program, to evaluate trainees in the program, to promote those who are progressing satisfactorily and, ultimately, to make recommendations that trainees have met the criteria established by the faculty for completion of our training programs. The Graduate Medical Education Committee meets specifically at least twice per year for the purpose of evaluating the progress of each trainee, to make recommendations for evaluating his/her progress, and to make recommendations for advancement. These meetings are typically held in the fall and spring.

Graduation certificates are awarded to fellows who successfully complete all of the Program requirements, have shown satisfactory progress toward the competent, independent practice of Diagnostic Radiology, and demonstrate professional and personal attributes dedicated to the life-long learning process associated with the practice of medicine.

ACGME COMPETENCIES

All University of Minnesota Medical School Residency/Fellowship training programs define the specific knowledge, skills, attitudes, and educational experiences required by the Resident Review Committee (RRC) of the Accreditation Council for Graduate Medical Education (ACGME) to ensure its residents/fellows demonstrate the following:

- **Patient care** that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.

- Skills:
 - Gather essential and accurate information about patients.
 - Develop a diagnostic plan based upon the clinical question/s and relevant clinical, radiologic and pathologic information.
 - Oversee diagnostic imaging to ensure adequacy of studies performed.
 - Counsel patients concerning preparation for diagnostic testing.
 - Demonstrate a basic understanding of electronic patient information systems.
 - Demonstrate the ability to use the Internet as an educational instrument to expand medical knowledge.
 - Demonstrate knowledge of the levels of ionizing radiation related to specific imaging procedures and employ measures to minimize radiation dose to the patient.
 - Perform radiologic examinations appropriately and safely, assuring that the correct examination is ordered and performed.
- Education (with graduated faculty supervision and feedback):
 - Practical experience in developing a differential diagnosis and management plan based upon clinical data, imaging findings and other medical test results.
 - Active participation in journal reviews to determine the effectiveness of diagnostic imaging for specific diagnostic questions.
 - Graduated responsibility in performing radiologic procedures.
 - Didactic instruction in radiation safety.
 - Preparation and presentation of radiologic cases to other members of the health care team.
- **Medical knowledge** about established and evolving biomedical, clinical, and cognate (e.g., epidemiological and social-behavioral) sciences and the application of this knowledge to patient care.
 - Skills:
 - Demonstrate sufficient knowledge of medicine and apply this knowledge to radiological studies in a clinical context to generate meaningful differential diagnoses.
 - Demonstrate progressive acquisition of radiological knowledge.
 - Demonstrate knowledge of the principles of research design and implementation.
 - Generate a clinically appropriate diagnostic treatment plan.
 - Demonstrate the ability to use all relevant information resources to acquire evidence-based data.
 - Understand how radiologic equipment can be used to generate appropriate and diagnostic images.
 - Education (with graduated faculty supervision and feedback):
 - Didactic lectures and self-directed learning on the science and practice of radiology.
 - Participation in departmental and interdepartmental case conferences.
 - Participation in the clinical activities of the Radiology Department.
 - Departmental or institutional training programs on research design and implementation.
- **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.
 - Skills:
 - Analyze practices experience and perform practice-based improvement in cognitive knowledge, observational skills, formulating a synthesis and impression, and procedural skills.
 - Demonstrate critical assessment of the scientific literature.
 - Demonstrate knowledge of and apply the principles of evidence-based medicine in practice.
 - Use multiple sources, including information technology to optimize life-long learning and support patient care decisions.
 - Facilitate the learning of students, peers, and other health care professionals.
 - Education (with graduated faculty supervision and feedback):
 - Participate in critical assessment of the scientific literature through journal clubs, clinical conferences and independent learning.
 - Didactic lectures on the assessment of scientific literature, study designs and statistical methods.

- Teaching students, peers and other health care professionals, with graduated supervision and feedback from supervising faculty.
 - Active participation in departmental or institutional quality assurance (QA) / quality improvement (QI) activities with faculty supervision.
 - **Interpersonal and communication skills** that result in effective information exchange and teaming with patients, patient family members, medical students, other residents, supervising faculty, referring physicians, technologists, nurses and other members of the health care team.
 - Skills:
 - Provide a clear and informative radiologic report including a precise diagnosis whenever possible, a differential diagnosis when appropriate, and recommended follow-up or additional studies when appropriate.
 - Provide direct communication to the referring physician or appropriate clinical personnel when interpretation reveals an urgent or unexpected finding and document this communication in the radiologic report.
 - Demonstrate effective skills of face-to-face listening and speaking with physicians, patients, patients' families and support personnel.
 - Demonstrate appropriate telephone communication skills
 - Demonstrate skills in obtaining informed consent, including effective communication to patients of the procedure, alternatives and possible complications.
 - Education (with graduated faculty supervision and feedback):
 - Participation as an active member of the Radiology team by communicating face-to-face with clinicians, answering telephone, providing consults, problem-solving and decision-making.
 - Act as the contact person for technologists and nurses in managing patient and imaging issues.
 - Active participation in preparing and moderating multi-disciplinary conferences.
 - Practical experience in dictating radiological reports.
 - **Professionalism**, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.
 - Skills:
 - Demonstrate altruism (putting the interests of patients and others above own self-interest).
 - Demonstrate compassion: be understanding and respectful of the patients, patient families, and staff and physicians caring for patients.
 - Demonstrate excellence: perform responsibilities at the highest level and continue active learning throughout one's career.
 - Be honest with patients and all members of the health care team.
 - Demonstrate honor and integrity: avoid conflicts of interest when accepting gifts from patients and vendors.
 - Interact with others without discriminating on the basis of religious, ethnic, sexual or educational differences and without employing sexual or other types of harassment.
 - Demonstrate knowledge of issues of impairment (i.e., physical, mental and alcohol and substance abuse), obligations for impaired physician reporting, and resources and options for care of self-impairment or impaired colleagues.
 - Demonstrate positive work habits, including punctuality and professional appearance.
 - Demonstrate an understanding of broad principles of biomedical ethics.
 - Demonstrate principles of confidentiality with all information transmitted during a patient encounter.
 - Demonstrate knowledge of regulatory issues pertaining to the use of human subjects in research.
 - Education (with graduated faculty supervision and feedback):
 - Discussion of conflicts of interest and ethics of conducting research during Departmental or Institutional conferences and daily clinical work.
 - Training programs (i.e., videotapes) on the issues of harassment and discrimination.
 - Didactic presentations on the recognition and management of the "impaired physician".

- Participation in Medical School-sponsored core curriculum education activities (i.e., lectures, web-based programs).
 - Didactic lecture/training program on the broad principles of medical ethics.
 - Institutional web-based self-directed learning and assessment programs on human subjects research guidelines.
- **Systems-based practice**, as manifested by actions that demonstrate an awareness of an responsiveness to the larger context and system for health care and the ability to effectively call on system resources to provide care that is of optimal value.
 - Skills:
 - Demonstrate the ability to design cost-effective care plans based on knowledge of best practices.
 - Demonstrate knowledge of the sources of financing for U.S. health care including Medicare, Medicaid, the Veterans Affairs and Department of Defense, public health systems, employer-based private health plans, and patient's own funds.
 - Demonstrate knowledge of basic health care reimbursement methods.
 - Demonstrate knowledge of the regulatory environment including state licensing authority, state and local public health rules and regulations, and regulatory agencies such as Centers for Medicaid and Medicare Services (CMS) and Joint Commission for the Accreditation of Healthcare Organizations (JCAHO).
 - Demonstrate knowledge of basic practice management principles such as budgeting, record-keeping, medical records, and the recruitment, hiring, supervision and management staff.
 - Education (with graduated faculty supervision and feedback):
 - Systematic review of appropriate literature, including current American College of Radiology (ACR) Appropriateness Criteria, to develop knowledge of evidence-based indications for imaging procedures.
 - Attendance and active participation in Departmental and multi-disciplinary conferences where there is discussion of the imaging evaluation of specific and most appropriate and cost-effective methods for establishing a diagnosis.
 - Interaction with Department administration and knowledgeable faculty to gain an understanding of the costs of diagnostic examinations and the influence of the type of payer system on reimbursement.
 - American College of Radiology (ACR) and Association of Program Directors in Radiology (APDR) non-interpretive skills videotapes.
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Diagnostic Radiology, and demonstrate professional and personal attributes dedicated to the life-long learning process associated with the practice of medicine.

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 - Analyze practices experience and perform practice-based improvement in cognitive knowledge, observational skills, formulating a synthesis and impression, and procedural skills.

- Demonstrate critical assessment of the scientific literature.
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 - Interact with others without discriminating on the basis of religious, ethnic, sexual or educational differences and without employing sexual or other types of harassment.
 - Demonstrate knowledge of issues of impairment (i.e., physical, mental and alcohol and substance abuse), obligations for impaired physician reporting, and resources and options for care of self-impairment or impaired colleagues.
 - Demonstrate positive work habits, including punctuality and professional appearance.
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 - Demonstrate knowledge of basic health care reimbursement methods.
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 - Systematic review of appropriate literature, including current American College of Radiology (ACR) Appropriateness Criteria, to develop knowledge of evidence-based indications for imaging procedures.
 - Attendance and active participation in Departmental and multi-disciplinary conferences where there is discussion of the imaging evaluation of specific and most appropriate and cost-effective methods for establishing a diagnosis.
 - Interaction with Department administration and knowledgeable faculty to gain an understanding of the costs of diagnostic examinations and the influence of the type of payer system on reimbursement.
 - American College of Radiology (ACR) and Association of Program Directors in Radiology (APDR) non-interpretive skills videotapes.
 - Membership and active participation in local and national radiological societies.
 - Departmental or institutional presentations on health care funding and regulation.

DUTY HOURS

Duty hours are defined as all clinical and academic activities related to the training program, i.e., patient care (both inpatient and outpatient), administrative duties related to patient care, the provision for transfer of patient care, time spent in-house during call activities, and scheduled academic activities such as conferences. Duty hours **DO NOT** include reading and preparation time spent away from the duty site.

- Duty hours are limited to eighty (80) hours per week, averaged over a 4-week period, inclusive of all in-house call activities.

- Residents/Fellows are provided with one (1) day in seven (7) free from all educational and clinical responsibilities, averaged over a 4-week period, inclusive of call.
- The training program provides adequate time for rest and personal activities, which consists of a 10-hour time period provided between all daily duty periods and after in-house call.

Duty hours vary from rotation-to-rotation and institution-to-institution.

- UMMC: Generally, duty hours extend from 7:00 AM when conferences begin, until 6:00 PM or when the work is finished.
- VAMC: Duty hours are 7:00 AM when conferences begin, until 5:30 PM or when the work is done.

The Medical School has implemented an evaluation tool for residents and fellows to *confidentially* report their duty hours through a web-based evaluation system. In accordance with ACGME requirements regarding monitoring resident/fellow duty hours, all residents and fellows are required to participate in an eight-week Institutional E*Value Duty Hour Survey during each year of training. Those training programs that have pending accreditation site visits will be assigned based on the date of the review. All other programs will be assigned randomly. Trainees will be notified via E-mail to their University of Minnesota E-mail account that the Institutional Duty Hour Surveys are ready to be completed.

Fellows are required to submit timecards to the coordinator on a weekly basis. Fellows' duty hours will be tracked monthly by Coordinator and any concerns will be brought to the attention of the Program Director.

ON-CALL ACTIVITIES

In-house call is defined as those duty hours beyond the normal workday when residents/fellows are required to be immediately available in the assigned institution. In-house call must occur no more than every third night averaged over a four-week period. Continuous on-site duty, including in-house call, must not exceed 24 consecutive hours. Residents/Fellows may remain on duty for up to six (6) additional hours to participate in didactic activities, transfer care of patients, conduct outpatient clinics, and maintain continuity of medical and surgical care.

Vascular & Interventional Radiology fellows are assigned to call at UMMC and VAMC. Vascular & Interventional Radiology call is rotated with residents assigned to the service. Responsibilities include finishing the daily schedule and then taking pager call from home the remainder of the evening and/or weekend. Vascular and Interventional Radiology fellows typically take one weekend of call per month and one night of weekday call per week. Typically, an academic day will be assigned the day following the weekday call.

ON-CALL ROOMS

On-call fellows are eligible to use one of eighteen (18) Mayo Building call rooms provided by University of Minnesota Medical Center. All rooms have punch code security access changed daily, and a security monitor on duty daily from 2:00 PM – 7:00 AM. All rooms have a desk, television, radio clocks and air conditioning.

- Check-in can only occur during designated check-in hours: 2:00 PM – 7:00 AM.
- Go to the check-in desk located in the Resident Lounge (Mayo C-496). The check-in desk is staffed by a security monitor during set hours seven (7) days/week and will require you to present your ID badge.
- The security monitor will assign you a room, the room access code, and the locker room and lounge access codes.
- All individuals must be out of their room by 8:00 AM. Housekeeping will begin cleaning by 7:00 AM. If you wish to sleep past 7:00 or 8:00 AM, make sure your "Do Not Disturb" sign is indicated on your door.

SECURITY / SAFETY

Security and personal safety measures are provided to fellows at all locations including but not limited to parking facilities, on-call quarters, hospital and institutional grounds, and related clinical facilities (e.g., medical office buildings).

	UMMC University Campus	UMMC Riverside Campus	HCMC	VAMC	University of Minnesota
Escort Services/ Security	612-672-4544	612-672-4544	612-873-3232	612-467-2007	612-624-WALK

SUPERVISION/GRADED RESPONSIBILITY

The fellow's participation is one of active participation under direct supervision of full-time staff. The teaching staff determines the level of responsibility given to each fellow. Fellows receive direct supervision with graded degrees of responsibility relating to their level of training. However, at all times, final responsibility for patient care resides with the full-time staff. In this manner, the fellows receive excellent training in Vascular & Interventional Radiology with an appropriate degree of responsibility.

STEPS IN EVALUATION PROCESS

The Graduate Medical Education Committee, a faculty committee of Department of Diagnostic Radiology, has the responsibility to evaluate candidates for admission to the training program, to evaluate trainees in its programs, to promote those who are progressing satisfactorily and, ultimately, to make recommendations that they have met the criteria established by the faculty for completion of the Program.

The Graduate Medical Education Committee shall meet specifically at least two times per year for the purpose of evaluating the progress of each resident and fellow, to make recommendations for evaluating their progress and to make recommendations for advancement. These meetings should be in the fall and spring.

Quarterly evaluations of each fellow's progress are prepared by the faculty member(s) in that area. This is accomplished via a paperless and secured web-based reporting system (E*Value). Evaluations are accessible to fellows on-line. Fellows also evaluate faculty members and their rotations at the end of each quarter. The Program Director will meet with each individual fellow twice a year, in the spring and in the fall, to go over their monthly evaluations as well as to ascertain if there are any problems or concerns.

Fellows seeking confidentiality may discuss their concerns with the Department Chair or submit a written statement anonymously via one of the department secretaries.

E*VALUE: ELECTRONIC EVALUATION SYSTEM

This Program has integrated a web-based electronic evaluation system. Evaluations both of and by fellows are necessary parts of maintaining our status as an accredited fellowship program and producing superior fellow-physicians. While traditional paper-based systems allow for simple data tracking, they do not provide an easy means for improving the quality of the program. The information obtained from the analysis of evaluation data is instrumental in objectively assessing the quality of all aspects of the fellowship program and for identifying and continuously monitoring areas for improvement.

E*Value is a completely web-based computer system that allows us all to enter evaluations, receive rapid feedback, view reports, and compare teaching performance with other programs. The system is highly secure and flexible. Faculty and fellows are expected to complete evaluations on a quarterly basis.

The web address for the E*Value system is <https://www.e-value.net>. Please refer to the University of Minnesota Graduate Medical Education Part A manual for specific instructions on accessing E*Value. The E*Value Administrator for the Department of Radiology is Sande Hogan (612-626-5589).

MONITORING OF FELLOW WELL-BEING

The Program Director is responsible for monitoring fellow stress, including mental or emotional conditions inhibiting performance or learning, and drug-related or alcohol-related dysfunction. Both the Program Director and faculty are sensitive to the need for timely provision of confidential counseling and psychological support services to the fellows. Situations that demand excessive service or that

consistently produce undesirable stress on fellows are evaluated and modified. *Fellows feeling fatigued or stressed are encouraged to discuss their concerns with the Program Director, or to contact the Resident Assistance Program at 651-430-3383 or 1-800-632-7643, especially if unable to provide safe patient care.*

PROGRAM SCHEDULES

Program schedules are distributed to fellows via Email and/or hard copy, and some are posted on the Radiology Graduate Medical Education website: <http://www.radiology.umn.edu>. Schedules change frequently and fellows are required to stay abreast of changes.

MOONLIGHTING

Moonlighting requires a prospective, written statement of permission from the Program Director that will be made part of the fellow's file; Residents and fellows are not required to engage in moonlighting; Moonlighting activities will not be allowed to conflict with the scheduled and unscheduled demands of the educational program and its faculty; The Resident/Fellow's performance will be monitored for the effect of these activities upon performance and adverse effects may lead to withdrawal of permission; and internal moonlighting must be counted toward the 80-hour weekly limit on duty hours. There is no internal moonlighting in the University of Minnesota Department of Radiology.

Moonlighting is allowed only after the first year of Radiology residency and is allowed only in the field of Radiology. Moonlighting is allowed only during non-duty hours. Administrative time cannot be taken to moonlight. Moonlighting is not coordinated by the Department, but is supervised by the Program Director. Your University of Minnesota professional liability policy does not cover this activity.

Residents/fellows are required to notify the Program Director of their moonlighting activities (see Section VI: Program Forms). Failure to provide this information is grounds for discipline under Section VI of the Residency/Fellowship Agreement.

Residents/fellows on J1 visas are NOT permitted to be employed outside the residency/fellowship program.

RADIATION BADGES

Radiation badges must be worn in controlled radiation areas under penalty of State law. You may be fined by the State Health Department if found not wearing a badge during an inspection.

New badges will be placed in your mailbox at the institution to which you are assigned on the first working day of the month. Always keep your old badges until you get a replacement. Badges from the previous month must be returned to your mailbox by the 8th of each month. Under University policy, late badges will result in a fine of \$50 per badge (unless replacement badges have not arrived in time to make the exchange). *Fellows who plan to be away during the exchange period are required to make arrangements with someone to exchange their badges in their absence.*

Lost or stolen badges must be reported to Ms. Pamela Hansen at 612-626-6638 or hanse032@umn.edu.

SUPPORT SERVICES

A full range of patient support services are provided in a manner appropriate to and consistent with educational objectives and patient care. These include but are not limited to Care Management Services, Cardiopulmonary Services, Employee Health Service, Health Information Management, Infection Control, Laboratory Medicine and Pathology, Nursing Administration, Nutrition Services, Patient Relations, Patient Transport, Pharmacy Services, Radiology Film File Services, Rehabilitation Services, Security Services, Social Services, Spiritual Health Services, and Shuttle Service between the Riverside and University campuses.

LABORATORY / PATHOLOGY / RADIOLOGY SERVICES

Federal and state regulations and regulatory agencies mandate competency validation for testing personnel (including physicians), documentation, quality assurance, quality control, etc. The regulations cover hospitals, clinics, physicians' offices, nursing homes, and any site where testing is performed. Testing performed by physicians, practitioners, nursing staff, and laboratorians must meet regulatory guidelines. Failure to comply with the mandates can lead to suspension, revocation, or limitation of certification and denial of reimbursement.

HEALTH INFORMATION MANAGEMENT (MEDICAL RECORDS) / RADIOLOGY FILM FILE SERVICES

A medical record is available at all times to support quality patient care, the education of fellows, quality assurance activities, and provide a resource for scholarly activity. Additionally a provision of information systems is made for timely retrieval of medical records and radiologic information. For assistance in accessing these records, please contact Louann Singer or Dee Richards at 612-273-7631.

TRAVEL

The Department will cover up to three days of expenses for residents/fellows presenting at national meetings. Individuals traveling on University business are covered under the Worldwide Travel Accident Policy, providing they have obtained permission to travel before travel begins. Requests to travel are made via the University's Travel Authorization form. This form can be obtained from Coordinator.

The following is a partial list of University policies pertaining to travel. For additional information, refer to the University's "Traveling on University Business" website:

<http://www.fpd.finop.umn.edu/groups/ppd/documents/Policy/travel.cfm>.

- Travelers are expected to choose the least costly method of transportation that also meets their scheduling needs.
- The benefits of frequent flyer credits and plan bonuses for airfare, car rental, lodging and restaurants accrue to the individual's department when acquired at University expense (per Minnesota State Statute 15.435, Section 20).
- Expenses incurred by a spouse or personal guest are not reimbursable expenses.
- The University will not reimburse for first-class travel. Business class may be reimbursed on flights lasting eight (8) hours or longer.
- Employees traveling on University business will be reimbursed for actual meal expenses up to but not exceeding the Federal State Department per Diem daily amounts. Per Diem amounts range from \$31-\$51, depending on the city (including tax and tip):
-

Per Diem Amount	\$39	\$44	\$49	\$54	\$59	\$64
Breakfast	\$10	\$11	\$12	\$13	\$14	\$15
Lunch	\$11	\$12	\$13	\$15	\$16	\$18
Dinner	\$18	\$21	\$24	\$26	\$29	\$31

- Expenditures for alcoholic beverages are not reimbursable.
- If a meal is prepaid as part of the cost of lodging or conference registrations and the employee chooses to dine elsewhere, the cost is not reimbursable.
- **ITEMIZED receipts are required. Receipts and a copy of the meeting itinerary are to be submitted to Coordinator within two (2) weeks of return.**

LIBRARIES

INSTITUTIONAL LIBRARIES

- University of Minnesota Biomedical Library (Diehl Hall)
Hours of operation:
 - Monday through Friday: 7:00 AM – 12:00 AM
 - Saturday: 8:00 AM – 8:00 PM
 - Sunday: 12:00 PM – 12:00 AM
- University of Minnesota Medical Center (Riverside Campus)
Hours of operation:
 - Accessible with UMMC identification badge 24 hours per day, 7 days per week
- Veterans Affairs Medical Center
Hours of operation:
 - Monday through Friday: 8:00 AM – 4:30 PM
 - Accessible with VAMC identification badge 24 hours per day, 7 days per week

DEPARTMENTAL LIBRARIES

- University of Minnesota Medical Center Radiology Department (University Campus)
Eugene Gedgudas Learning Center (Radiology Library)

Hours of operation:

Monday through Friday: 8:00 AM – 4:30 PM

Accessible via combination lock 24 hours per day, 7 days per week

In addition to the departmental library, there are subspecialty libraries in each reading room.

Books and journals can be signed out for one month. An exception to this rule is the ACR Book and/or CD-ROM series, which can only be signed out by PGY5 residents between the months of December and June of each year. Then only five (5) books can be signed out per trainee at a time, for a duration not to exceed one month. Videotapes can only be signed out for two (2) weeks.

Located on a shelf in the library, just outside the Rigler Conference Center, is a BLUE BINDER. This binder contains a listing of the books, journals and videotapes that can be found in the library. Books are color-coded according to the section in which they can be found. A color-coded chart categorizing the books can be found in the front of the binder.

- University of Minnesota Medical Center Radiology Department (Riverside Campus)
There is no formal departmental library. There are subspecialty libraries in each reading room.
- Veterans Affairs Medical Center

Hours of operation:

Monday through Friday: 7:00 AM – 4:30 PM

A key is available after-hours

SECRETARIAL ASSISTANCE

The secretary assigned to Interventional Radiology is Ms. Zalika Muskat:

Office: B228 Mayo Memorial Building

Phone: 612-626-5388

Fax: 612-626-5580

The secretary assigned to Neuro-Radiology is Ms. Rhonda Dragan:

Office: B226 Mayo Memorial Building

Phone: 612-626-7741

Fax: 612-626-8844

The secretary assigned to Thoraco-abdominal and Pediatric Radiology is Ms. Bibi Husain:

Office: B230 Mayo Memorial Building

Phone: 612-626-5566

Fax: 612-626-5505

SECTION V. ADMINISTRATION

(Please refer to Part A for Medical School Policy on the following: University of Minnesota Physicians, Administrative Contact List, Medical School Organizational Chart, and GME Organizational Chart.)

DEPARTMENT AND ADMINISTRATIVE CONTACT LISTS

Please see the following.

CENTRAL GRADUATE MEDICAL EDUCATION (GME) PROGRAM ADMINISTRATION					
ASSOCIATE DEAN FOR GRADUATE MEDICAL EDUCATION: LOUIS LING, M.D.					
Office: B644 Mayo	Phone: 612-625-7634	Fax: 612-624-0150	Pager: 612-336-0716	MMC#: 293	Email: lingx002@umn.edu
CHAIRMAN, DEPARTMENT OF RADIOLOGY: CHARLES A. DIETZ, JR., M.D.					
Office: B234 Mayo	Phone: 612-626-3345	Fax: 612-626-3366	Pager: 612-899-7591	MMC#: 292	Email: dietz004@umn.edu
DIRECTOR, RADIOLOGY GRADUATE MEDICAL EDUCATION: CHARLES A. DIETZ, Jr., M.D.					
Office: B234 Mayo	Phone: 612-626-3345	Fax: 612-626-3366	Pager: 612-899-7591	MMC#: 292	Email: dietz004@umn.edu
DIRECTOR, RADIOLOGY RESIDENCY PROGRAM, VAMC: TIM H. EMORY, M.d.					
Office: B238 Mayo	Phone: 612-626-5529	Fax: 612-626-5580	Pager: 612-899-1424	MMC # 292	Email: emory002@umn.edu
ASSOCIATE DIRECTOR, RADIOLOGY RESIDENCY PROGRAM, VAMC: HOWARD ANSEL, M.D.					
Office: 1Q-109	Phone: 612-725-2038	Fax: 612-727-5635	Pager: 612-660-7016	Mail Stop # 114	Email: howard.ansel@med.va.gov
ASSOCIATE DIRECTOR, RADIOLOGY RESIDENCY PROGRAM, HCMC: ANTHONY SEVERT, M.D.					
Office: 2E-20 HCMC	Phone: 612-873-2036	Fax: 612-904-4567	Pager: 612-530-8654	Mail Stop # 822	Email: sever025@umn.edu
ASSOCIATE DIRECTOR, RADIOLOGY RESIDENCY PROGRAM, UMMC: CAROL STEENSON, M.D.					
Office: B212 Mayo	Phone: 612-626-5566	Fax: 612-626-5505	Pager: 612-899-1505	MMC#: 292	Email: colem012@umn.edu
DIRECTOR, ALRT ADMINISTRATIVE CENTER: LINDA KENNY					
Office: 763 Mayo	Phone: 612-625-0441	Fax: 612-626-2696	Pager: 612-740-0840	MMC#: 609	Email: kenny001@umn.edu
MANAGER, ALRT ADMINISTRATIVE CENTER FINANCIAL OPERATIONS: KATHLEEN OLIVER					
Office: 763 Mayo	Phone: 612-625-7401	Fax: 612-626-2696	Pager: ---	MMC#: 609	Email: dockt001@umn.edu
MANAGER, ALRT ADMINISTRATIVE CENTER HUMAN RESOURCES: JEAN NIEMIEC					
Office: 763 Mayo	Phone: 612-626-6353	Fax: 612-626-2696	Pager: ---	MMC#: 609	Email: denha001@umn.edu
MANAGER, ALRT ADMINISTRATIVE CENTER GRADUATE MEDICAL EDUCATION MANAGER: SALLY SAWYER					
Office: 763 Mayo	Phone: 612-625-3518	Fax: 612-626-2696	Pager: ---	MMC#: 609	Email: sallyann@umn.edu
COORDINATOR, RADIOLOGY GRADUATE MEDICAL EDUCATION: SANDE HOGAN					
Office: B228-F Mayo	Phone: 612-626-5589	Fax: 612-626-5580	Pager: ---	MMC#: 292	Email: hogan030@umn.edu

DIAGNOSTIC RADIOLOGY GRADUATE MEDICAL EDUCATION PROGRAM DIRECTORS

DIAGNOSTIC RADIOLOGY RESIDENCY PROGRAM: TIM EMORY, M.D.					
Office: B238 Mayo	Phone: 612-626-5529	Fax: 612-626-5505	Pager: 612-899-1424	MMC#: 292	Email: emory002@umn.edu
MUSCULOSKELETAL RADIOLOGY FELLOWSHIP PROGRAM: QUENTIN ANDERSON, M.D.					
Office: 1Q-105 VAMC	Phone: 612-725-2038	Fax: 612-727-5635	Pager: 612-269-8902	MMC#: 114	Email: ander256@umn.edu
NEURORADIOLOGY FELLOWSHIP PROGRAM: STEPHEN A. KIEFFER, M.D.					
Office: B226-A Mayo	Phone: 612-626-4471	Fax: 612-626-8844	Pager: 612-899-8865	MMC#: 292	Email: kieff012@umn.edu
THORACOABDOMINAL RADIOLOGY FELLOWSHIP PROGRAM: CHARLES A. DIETZ, JR., M.D.					
Office: B234 Mayo	Phone: 612-626-3345	Fax: 612-626-3366	Pager: 612-899-7591	MMC#: 292	Email: dietz004@umn.edu
VASCULAR & INTERVENTIONAL RADIOLOGY FELLOWSHIP PROGRAM: DAVID W. HUNTER, M.D.					
Office: B228-A Mayo	Phone: 612-626-5570	Fax: 612-626-5580	Pager: 612-899-7349	MMC#: 292	Email: hunte001@umn.edu

AFFILIATED SITE GRADUATE MEDICAL EDUCATION DIRECTORS

UNIVERSITY OF MINNESOTA MEDICAL CENTER: TIM EMORY, M.D.					
Office: B238 Mayo	Phone: 612-626-5529	Fax: 612-626-5505	Pager: 612-899-1424	MMC#: 292	Email: emory002@umn.edu
ASSOCIATE DIRECTOR, UNIVERSITY OF MINNESOTA MEDICAL CENTER: CAROL STEENSON, M.D.					
Office: B212 Mayo	Phone: 612-626-5566	Fax: 612-626-5505	Pager: 612-899-1505	MMC#: 292	Email: colem012@umn.edu
HENNEPIN COUNTY MEDICAL CENTER: ANTHONY SEVERT, M.D.					
Office: 2E-20 HCMC	Phone: 612-873-2718, 612-873-2036	Fax: 612-904-4567	Pager: 612-530-9882	Mail Stop #: 822	Email: sever025@umn.edu
ASSOCIATE DIRECTOR, RADIOLOGY RESIDENCY PROGRAM, VAMC: HOWARD ANSEL, M.D.					
Office: 1q-109	Phone: 612-725-2038	Fax: 612-727-5635	Pager: 612-660-7016	Mail Stop # 114	Email: howard.ansel@med.va.gov
REGIONS HOSPITAL: JOSEPH H. TASHJIAN, M.D.					
Office: ---	Phone: 651-254-3766	Fax: 651-254-5680	Pager: 612-580-0523	Mail Stop #: ---	Email: joseph.h.tashjian@healthpartners.com

AFFILIATED SITE ADDRESSES, PHONE & FAX NUMBERS

UNIVERSITY OF MINNESOTA MEDICAL CENTER 420 Delaware Street S.E. / 500 Harvard Street S.E. Minneapolis, MN 55455 Radiology Phone: 612-273-6004 / 612-626-3343 Radiology Fax: 612-626-3366	HENNEPIN COUNTY MEDICAL CENTER 701 Park Avenue South Minneapolis, MN 55415 Radiology Phone: 612-873-2036 Radiology Fax: 612-904-4258
VETERANS AFFAIRS MEDICAL CENTER One Veterans Drive Minneapolis, MN 55417 Radiology Phone: 612-725-2038 Radiology Fax: 612-727-5635	REGIONS HOSPITAL 640 Jackson Street St. Paul, MN 55101 Radiology Phone: 651-221-3793 Radiology Fax: 651-221-2849 ----- Education Office Phone: 651-254-3725 Education Office Fax: 651-254-5044

DIAGNOSTIC RADIOLOGY GRADUATE MEDICAL EDUCATION COMMITTEE					
COMMITTEE CHAIR / PROGRAM DIRECTOR: TIM EMORY, M.D.					
Office: B238 Mayo	Phone: 612-626-5529	Fax: 612-626-5505	Pager: 612-899-1424	MMC#: 292	Email: emory002@umn.edu
RADIOLOGY CHAIRMAN, UMMC: CHARLES A. DIETZ, JR., M.D.					
Office: B234 Mayo	Phone: 612-626-3345	Fax: 612-626-3366	Pager: 612-899-7591	MMC#: 292	Email: dietz004@umn.edu
RADIOLOGY DIRECTOR, HCMC: CHARLES TRUWIT, M.D.					
Office: P4.222	Phone: 612-873-2718, 612-873-2036	Fax: 612-904-4567	Pager: 612-530-4656	Mail Stop#: 822	Email: truwit@umn.edu
RADIOLOGY DIRECTOR, VAMC: EARL BENDER, M.D.					
Office: 1Q-110 VAMC	Phone: 612-725-2038	Fax: 612-727-5635	Pager: ---	Mail Stop#: 114	Email: bende006@umn.edu
ASSOCIATE PROGRAM DIRECTOR, UMMC: CAROL STEENSON, M.D.					
Office: B212 Mayo	Phone: 612-626-5566	Fax: 612-626-5505	Pager: 612-899-1505	MMC#: 292	Email: colem012@umn.edu
ASSOCIATE PROGRAM DIRECTOR, HCMC: ANTHONY SEVERT, M.D.					
Office: 2E-20 HCMC	Phone: 612-873-2718, 612-873-2036	Fax: 612-904-4567	Pager: 612-530-9882	Mail Stop #: 822	Email: sever025@umn.edu
ASSOCIATE DIRECTOR, RADIOLOGY RESIDENCY PROGRAM, VAMC: HOWARD ANSEL, M.D.					
Office: 1Q-109	Phone: 612-725-2038	Fax: 612-727-5635	Pager: 612-660-7016	Mail Stop # 114	Email: howard.ansel@med.va.gov
BREAST IMAGING: TIM EMORY, M.D.					
Office: B238 Mayo	Phone: 612-626-5529	Fax: 612-626-5505	Pager: 612-899-1424	MMC#: 292	Email: emory002@umn.edu
GASTROINTESTINAL/GENITOURINARY RADIOLOGY: HOWARD ANSEL, M.D.					
Office: 1Q-109	Phone: 612-725-2038	Fax: 612-727-5635	Pager: 612-660-7016	Mail Stop # 114	Email: howard.ansel@med.va.gov
MUSCULOSKELETAL RADIOLOGY: EARL BENDER, M.D.					
Office: 1Q-110 VAMC	Phone: 612-725-2038	Fax: 612-727-5635	Pager: ---	MMC#: 114	Email: bende006@umn.edu
NEURORADIOLOGY: STEPHEN A. KIEFFER, M.D.					
Office: B226-A Mayo	Phone: 612-626-4471	Fax: 612-626-8844	Pager: 612-899-8865	MMC# 292	Email: kieff012@umn.edu
NONINVASIVE CARDIAC IMAGING: CAROL C. STEENSON, M.D.					
Office: B212 Mayo	Phone: 612-626-5566	Fax: 612-626-5505	Pager: 612-899-1505	MMC#: 292	Email: colem012@umn.edu
NUCLEAR MEDICINE: JERRY FROELICH, M.D.					
Office: P4.131	Phone: 612-873-2718, 612-873-2036	Fax: 612-904-4567	Pager: 612-530-8714	Mail Stop #: 822	Email: roel005@umn.edu
PEDIATRIC RADIOLOGY: CHARLES A. DIETZ, JR., M.D.					
Office: B234 Mayo	Phone: 612-626-3345	Fax: 612-626-3366	Pager: 612-899-7591	MMC#: 292	Email: dietz004@umn.edu
THORACIC RADIOLOGY: JAMES BALTZELL, M.D.					
Office: B231 Mayo	Phone: 612-626-5513	Fax: 612-626-5505	Pager: 612-899-5186	MMC #: 292	Email: baltz004@umn.edu
ULTRASOUND: ANTHONY SEVERT, M.D.					
Office: 2E-20 HCMC	Phone: 612-873-2718, 612-873-2036	Fax: 612-904-4567	Pager: 612-530-9882	MMC#: 822	Email: sever025@umn.edu
VASCULAR & INTERVENTIONAL RADIOLOGY: Fared Siddiqui, M.D.					
Office: 1Q-121 VAMC	Phone: 612-725-2038	Fax: 612-727-5635	Pager: 612-660-7719	Mail Stop #: 114	Email: Siddi0004@umn.edu
CHIEF RESIDENT, DIAGNOSTIC RADIOLOGY: Scott Greenely, M.D.					
Office: ---	Phone: ---	Fax: 612-626-5580	Pager: 612-899-7791	MMC#: 292	Email: gree0485@umn.edu
CHIEF RESIDENT, DIAGNOSTIC RADIOLOGY: Greg Rathmann, M.D.					
Office: ---	Phone: ---	Fax: 612-626-5580	Pager: 612-899-8029	MMC#: 292	Email: grathman@umn.edu
CHIEF RESIDENT, DIAGNOSTIC RADIOLOGY: David Nascene, M.D.					
Office: ---	Phone: ---	Fax: 612-626-5580	Pager: 612-899-8005	MMC#: 282	Email: nasc0001@umn.edu

SUPPORT STAFF					
ALRT CENTER PAYROLL COORDINATOR: SANDY CONNER					
Office: 763 Mayo	Phone: 612-625-3682	Fax: 612-626-2696	Pager: ---	MMC#: 609	Email: schap002@umn.edu
ALRT CENTER GME COORDINATOR SUPPORT: TAMERA "TAMMY" HAGEN					
Office: 763 Mayo	Phone: 612-625-3682	Fax: 612-626-2696	Pager: ---	MMC#: 609	Email: hage0382@umn.edu
RESEARCH COORDINATOR: KAREN KOWALIK, R.N., M.B.A.					
Office: B-228-D Mayo	Phone: 612-626-6087	Fax: 612-626-5580	Pager: 612-899-6578	MMC#: 292	Email: kowal008@umn.edu
SECRETARY TO THE CHAIRMAN: LINDA MEYER					
Office: B234 Mayo	Phone: 612-626-3343	Fax: 612-626-3366	Pager: ---	MMC#: 292	Email: meyer019@umn.edu
SECRETARY TO THE CHAIRMAN: JUDY LALLY					
Office: B234 Mayo	Phone: 612-626-3342	Fax: 612-626-3366	Pager: ---	MMC#: 292	Email: lallyj@umn.edu
GRADUATE MEDICAL EDUCATION COORDINATOR: SANDE HOGAN					
Office: B228-F Mayo	Phone: 612-626-5589	Fax: 612-624-3188	Pager: ---	MMC#: 292	Email: hogan030@umn.edu
SECRETARY Neuroradiology, Assistant FELLOWSHIP COORDINATOR, Neuroradiology: Rhonda Dragan					
Office: B226 Mayo	Phone: 612-626-7741	Fax: 612-626-8844	Pager: ---	MMC#: 292	Email: draga001@umn.edu
SECRETARY/FELLOWSHIP COORDINATOR, THORACOABDOMINAL & PEDIATRIC RADIOLOGY/MSK/Neuroradiology:: BIBI HUSAIN					
Office: B230 Mayo	Phone: 612-626-5566	Fax: 612-626-5505	Pager: ---	MMC#: 292	Email: husai002@umn.edu
SECRETARY/FELLOWSHIP COORDINATOR, VASCULAR & INTERVENTIONAL RADIOLOGY: ZALIKA MUSKAT					
Office: B228 Mayo	Phone: 612-626-5388	Fax: 612-626-5580	Pager: ---	MMC#: 292	Email: murro0300@umn.edu

**RADIOLOGY FACULTY
2006-2007**

CLINICAL FACULTY		RESEARCH FACULTY
<p>Breast Imaging Tim H. Emory, M.D. Michael Nelson, M.D. James Roelofs, M.D. Fareed Siddiqui, M.D.</p> <p>Interventional Eric Cressman, M.D., PhD Charles A. Dietz, M.D. Olga Duran-Castro, M.D. David W. Hunter, M.D. Asad Irfanullah, M.D. Fareed Siddiqui, M.D. Carol Steenson, M.D. Jason Wong, M.D.</p> <p>Musculoskeletal Robert DeCosta, M.D. Jutta Ellermann, M.D. Herbert Jones, M.D. Shelly A. Marette, M.D.</p> <p>Neuroradiology Manferd T. Benson, M.D. Jeffery R. Brace, M.D. Stephen Kieffer, M.D. Charles Krenznel, M.D. Alexander McKinney, M.D. Frederick Ott, M.D. Christopher Palmer, M.D. Charles L. Truwit, M.D.</p> <p>Nuclear Medicine Jerry Froelich, M.D. Thiruvenkatasamy Dhurairaj, M.D.</p>	<p>Pediatrics Gary Amundson, M.D. Charles A. Dietz, M.D. Charles L. Truwit, M.D. James Short, M.D., Ph.D.</p> <p>Thoracoabdominal Imaging UMMC James Baltzell, M.D. Namarta Chandra, M.D. Kenneth Cram, M.D. James Short, M.D. Marvin Goldberg, M.D. Bart Hovey, D.O. Edward Juodis, M.D. Michael Mongeon, M.D.</p> <p>HCMC Michael Cumming, M.D. Connie Emerson, M.D. Philippe L'Heureux, M.D. Robert Miller, M.D. Christopher Palmer, M.D. Prateek Sahgal, M.D. Anthony Severt, M.D. Charles Truwit, M.D.</p> <p>Thoracoabdominal Imaging VAMC Quentin N. Anderson, M.D. Howard Ansel, M.D. Earl Bender, M.D. Donovan Reinke, M.D. Neil Wasserman, M.D.</p>	<p>Cardiac MR Xudong Hu, M.D. Neeta Panse, M.D. Prasad Panse, M.D.</p> <p>Center for MR Research Wei Chen, Ph.D. Michael Garwood, Ph.D. Rolf Gruetter, Ph.D. Dae-Shik Kim, Ph.D. Kamil Ugurbil, Ph.D. J. Thomas Vaughan, Ph.D. Pierre Giles Henry, Ph.D. Pierre Francois Van de Moortte, Ph.D. Gulin Oz, Ph.D. Ezza Yacoub, Ph.D. Gregory Metzger, Ph.D. Ivan Tkac, Ph.D. Noam Harel, Ph.D. Patrick Bolan, Ph.D. Shalom Michaeli, Ph.D.</p> <p>Outcomes Assessment Karen J. Kowalik, R.N., M.B.A.</p> <p>Pet Imaging Eyup Akgun, Ph.D. Jeih-San Liow, Ph.D.</p> <p>Physics Bruce Hammer, Ph.D. Kelly Rehm, Ph.D. E. Russell Ritenour, Ph.D. Jie Zhang, Ph.D.</p> <p>Interventional Radiology Myra Urness, B.S.</p>

SECTION VI. PROGRAM FORMS

(The following pages contain forms specific to the Diagnostic Radiology Residency & Fellowship Programs.)

**DIAGNOSTIC RADIOLOGY RESIDENCY PROGRAM
BOOK FUND**

INTRA-INSTITUTIONAL VOUCHER REQUEST

NOTE: Three (3) working days are required to process request.

PLEASE PRINT CLEARLY

Name: _____ Date: _____

BOOK(S) BEING PURCHASED
(All information required. Vouchers will not be prepared for incomplete requests.)

Price information can be obtained from the Health Sciences Bookstore:

Phone #: 612-625-8600

Website: <http://www.bookstore.umn.edu/index.html>

Author: _____ Price: \$ _____
Title: _____

Author: _____ Price: \$ _____
Title: _____

SUBMIT TO:
Fellowship Coordinator
Department of Radiology, MMC 292 University of Minnesota School of Medicine
420 Delaware Street S.E. Minneapolis, MN 55455
FAX #612-626-5505 E-mail: hogan030@umn.edu
Thank you.

DIAGNOSTIC Radiology
GRADUATE MEDICAL EDUCATION

MOONLIGHTING NOTIFICATION FORM

Residents/fellows are required to notify the Program Director of each of their moonlighting activities. Failure to provide this information is grounds for discipline under Section VI of the Residency/Fellowship Agreement.

PLEASE PRINT CLEARLY -- ALL INFORMATION MUST BE INCLUDED

Name: _____

Date Submitted: _____

Facility Name: _____

Facility Address - Street: _____

City & State: _____

Zip: _____

Contact Name: _____

Phone #: _____

MOONLIGHTING DATES:

Start Date: _____

End Date: _____

Phone number where you can be reached while moonlighting: _____

- Moonlighting is only allowed after the first year of radiology residency and is only allowed in the field of radiology
- Your University of Minnesota professional liability policy does not cover this activity.
- Residents and fellows on J-1 visas are not permitted to be employed outside the residency/ fellowship program. A resident/fellow on an H-1B visa wishing to moonlight must obtain a separate H1-B visa for each facility where the resident/fellow works outside the training program.

APPROVED by:

Program Director's Signature

Date

A COPY OF THIS SIGNED DOCUMENT MUST BE FORWARDED TO:

Your Residency or Fellowship Coordinator
Radiology Graduate Medical Education Office, MMC 292
University of Minnesota School of Medicine
420 Delaware Street S.E.
Minneapolis, MN 55455
FAX: 612-624-3188

UNIVERSITY OF MINNESOTA

Twin Cities Campus

Mayo Mail Code 292
420 Delaware Street S.E.
Minneapolis, MN 55455

RESIDENT PARKING CONTRACT RAMP C (OAK STREET)

By accepting a University of Minnesota computer access ("key") card you are agreeing to the terms of this letter. This space is being temporarily rented to you by the Department of Radiology. The Department pays for departmental parking contracts, and you are required to reimburse the Department. This contract requires one annual payment, **due in full** at the time of application. You will be charged a rate of \$50 per month of FUMC rotation. This amount is subject to change without notice in the event the University increases its parking rates.

Please circle your months of FUMC rotations during the academic year 2004-2005:

JULY AUG SEPT OCT NOV DEC JAN FEB MAR APR MAY JUNE

Number of months circled = _____ x \$50 = \$_____. Checks should be made out to the **University of Minnesota**.

TERMS:

- This card is to be used only during FUMC rotations, *except* when taking call.
- MRI units will erase the memory on the access card. Do not take your card into any of these areas.
- You must use the access card every time you enter or leave the ramp, even if the arm is raised or missing. If you fail to do so, the gate will fail to open the next time you attempt to use your card.
- Should you damage or misplace this card, you will be responsible for any charges assessed by the University of Minnesota. You are responsible for contacting Parking and Transportation Services as soon as possible to arrange for a replacement.
- Reciprocal parking is not available for University departmental contracts.
- Only one vehicle per contract is permitted to park at any one time. Violation may result in tagging, towing and revocation of the parking contract.
- The University of Minnesota reserves the right to move or reassign cars to other locations when necessary.
- Residents who inappropriately/fraudulently credit parking to the Department will be held financially responsible for all costs related to their misuse of the parking credit plan.
- When terminating this contract, written notice must be received in the Radiology Graduate Medical Education Office ten days prior to your effective cancellation date. Parking charges will continue until the access card is returned.

I FULLY ACCEPT AND AGREE TO THE TERMS OF THIS CONTRACT.

Signature _____

Date _____

Name (Please Print)

Card Number

Department of Radiology, Fellowship Programs

WEEKLY TIME SHEET

First Name: _____ **Last Name:** _____

Pager Number: _____

WEEK OF: _____ **to** _____

	DATE	IN	OUT	IN	OUT	IN	OUT	TOTAL
MONDAY								
TUESDAY								
WEDNESDAY								
THURSDAY								
FRIDAY								
SATURDAY								
SUNDAY								
TOTAL:								

****PLEASE REPORT CALL, ACADEMIC DAYS, VACATION and SICK TIME****

Employee's Signature: _____

Employee's Phone #: _____ **DATE:** _____

Supervisor's Name: _____

Supervisor's Signature: _____

Supervisor's Phone #: _____ **DATE:** _____

**** REMINDER:** Timecards can be signed by Program Director; Assistant Program Director or Coordinator, Program Coordinator

****DELIVER COMPLETED TIME CARD TO COORDINATOR -MAYO BLDG**

**Department of Radiology, Fellowship Programs
Vacation Request**

Name _____

Dates Vacation Requested:

First Date of Vacation _____

Last Date of Vacation _____

Number of vacation days requested _____

Hospital and service you are scheduled for during this vacation request:

Hospital _____

Service _____

Return to: Coordinator
University of Minnesota, Department of Radiology
420 Delaware Street SE, MMC# 292
Room B-228 – Mayo Bldg.
Minneapolis, MN 55455

Facsimile: 612-626-5580

Site/Service Approval Date _____

Request Denied Date _____

cc: File: _____
Coordinator: _____
Fellow: _____
Calendar: _____