(1) INTRODUCTION

Radiologists are physicians who specialize in radiology – the area of medicine that uses X-rays, high-frequency sound waves, high-strength magnetic fields, and radioactive compounds to diagnose and treat illness and injury. Radiologists read and interpret the images produced by radiological technologists and sonographers.

*Related career fields include Radiation Oncology, Nuclear Medicine and interventional Radiology. These careers are described in separate sessions.

**Diagnostic radiology** - diagnosing patients through the use of various imaging techniques - ultrasound (including echo and Doppler ultrasound), CT, and MRI. Diagnostic radiologists spend most of their time examining film and consulting with medical colleagues. There is not a lot of time spent in direct contact with patients. The five years of approved training require, at first, a closely supervised practice, with the opportunity for increasing responsibility in the final years, so that the resident near the end of training can function as a general radiology consultant, requesting help from staff radiologists when necessary. The **residency may be followed by one or more years of fellowship training in a subspecialty** discipline, as the residency training is not intended to provide a subspecialty level of expertise.

This period *must* include:

1. **One year of basic clinical training.**
   
   The purpose of this year is to give the resident a degree of independent responsibility for clinical decisions; an opportunity for further development of the skills required in making effective relationships with patients; the consolidation of competence in primary clinical and technical skills across a broad range of medical practice; and an understanding of the nature of the relationship between a referring physician and a clinical radiological consultant.

2. a. **Three years of approved resident training** in “general diagnostic imaging”; this *must include* respiratory, cardiovascular, gastro-intestinal and biliary, genito-urinary, musculoskeletal, mammography, neurological and pediatric radiology, **as well as the following** modalities: fluoroscopy, ultrasound, CT, MR imaging.

   Because of the varying training programs in the recognized university training centres, these 36 months may be allocated as block periods of at least three months or their equivalents.

   b. **One year of approved residency** that *may consist of* one to twelve month periods in any of the following, as long as these are appropriately integrated by the Residency Training Committee:
      i. further training in diagnostic radiology
      ii. diagnostic ultrasound
      iii. CT
      iv. MR
      v. nuclear medicine
vi. cardiac and/or vascular radiology  
 vii. interventional radiology  
 viii. neuroradiology  
 ix. pediatric radiology  
x. pathology or other clinical specialty relevant to the practice of radiology (for up to three months)  
x. a full-time research project, relevant to diagnostic imaging, and acceptable to the program director and the Credentials Committee.

*Note: In view of the amount and variety of radiology to be covered and the skills required at the time of the final examination, it will seldom be appropriate to spend the entire 12 months of the fifth year in any one of these areas.

(2) DIAGNOSTIC RADIOLOGY PROGRAMS ACROSS CANADA

100117 — Memorial University of Newfoundland  
150517 — Dalhousie University  
352517 — McGill University  
403017 — University of Ottawa  
453517 — Queen's University  
504017 — University of Toronto  
554517 — McMaster University  
605017 — University of Western Ontario  
655517 — University of Manitoba  
706017 — University of Saskatchewan  
756517 — University of Alberta  
807017 — University of Calgary  
857517 — University of British Columbia

(3) UNIVERSITY OF MANITOBA PROGRAM

Program Contact

Dr. Chris Preachuk  
Dept. of Radiology  
Health Sciences Centre  
Room GA216 - 820 Sherbrook Street  
Winnipeg MB R3A 1R9  
Tel: (204) 787-1328, Fax: (204) 787-2080  
E-mail: lsavoie@hsc.mb.ca
Approximate Quota: 4

Number of applicants 2005/2006: 58
Number of interviews 2005/2006:
Average out-of-town applicants matched 2004-2006: 42%

Resources

Facilities include the Health Sciences Centre and St. Boniface Hospital. Electronic medical resources are available.

Quick Facts

- Interprovincial and International electives can be taken.
- Ratio of residents to faculty is 1:1

*There are no mandatory rural rotations.

PGY-1

This year consists of a multi-disciplinary basic clinical training which will serve to prepare the resident for the MCCQE (Part II) and will solidify the extensive core knowledge required in the role of a consultant radiologist.

PGY-2 to 4

The resident is exposed to core training in all imaging disciplines organized in block rotations of 1-3 months duration. These include gastrointestinal, genitourinary, chest, and musculoskeletal radiology; computed tomography, angiography, neuroradiology, pediatric radiology, ultrasound, nuclear medicine, mammography, and magnetic resonance imaging. The resident receives instruction in image interpretation and procedural skills related to each discipline. A six week elective in radiographic pathologic correlation at the AFIP in Washington, D.C. is available during the PGY-4 year. Continuation in the program will be contingent upon successful completion of the MCCQE.

PGY-5

This year includes two months of ultrasound and ten elective periods in order to consolidate the residents training and consultative abilities. Dispensation for call is granted prior to the American and Canadian Board examinations.
(4) DIAGNOSTIC RADIOLOGISTS PHYSICIANS SURVEY

There are 65 radiologists in Manitoba. All were sent surveys, of which 18 responded.

RADIOLOGY

What is your special focus?

Diagnostic imaging
Neuropathology
Nuclear medicine 2
Ultrasound

How much do you interact professionally with other physicians?
(1-on my own most of the time, 10-as a part of a team most of the time)

Are you in a solo practice or group practice?

Solo  1   Group  17

If in a group, how many doctors do you share a practice with?

1 to 3  4
4 to 6  4
7 to 10  0
10+  8

How many patients do you see on an average per day?

1 to 5 patients  Scans per day:  50  2
6 to 10 patients  100  1
11 to 20 patients  200  1

How many hours per week do you work - not including call time?
(I.e. including CME, clinical work, administration, teaching)
How much do you need to use manual/mechanical activities for highly skilled tasks? (i.e. doing procedures, performing operations) (1-never 10- most of the time)

RADIOLOGIST JOB SATISFACTION

Overall, how satisfied are you with your career? (1- dissatisfied 10- very satisfied)

What is the most appealing aspect of your job?
- Variety 2
- Problem solving 3
- Patient interactions 3
- Staff rapport
- Diagnostic challenges Intellectually satisfying
- Technical and clinical challenges
- Feeling in control of my life
- Satisfying
- Innovation/ technical advancement
- Sense of accomplishment
- Challenging cases
- Interpretation of diagnostic images using advanced technology
- Solving medical problems in a non invasive manner
- Broad exposure to cutting edge medicine
- Helping to solve a clinical management problem with information from our studies
- Clinical problems related to diagnostic imaging
- Corporate product development
- I have an important direct impact on patient diagnostics
- Lifestyle- work hours
- Reduced patient contact
- Broad knowledge base required, I did emergency for seven years

What is the least appealing aspect of your job?
- Limited resources for the demand of my services 2
- Shortage of doctors therefore too much work
• Call 3
• Waste
• Hard to keep up to date with respect to resources
• Always trailing the rest of North America in equipment
• The government's lack of vision for health care
• Hard to keep up to date with respect to resources
• Workload 3
• Administration 3
• Inability to obtain state of the art equipment to do my job
• Politics/Bureaucracy 2
• Competitive cases
• Inappropriate tests
• Numerous interruptions each day causes fragmentation of thought process
• Lack of flexibility regarding days off

**Presenting complaints most often seen?**

Abdominal pain 5
Trauma 4
Headache 4
Back pain 2
Chest pain 2
CNS/HEAD/ Neck Tumor 2
Respiratory infections 2
Aspirate
Routine obstetrics 2
Leg swelling 2
Cough 2
Ectopic pregnancy
Seizures
Post MI risk
Sport injuries
Breast diseases
Stroke
Pelvic pain and bleeding
Early pregnancy assessment
Vascular diseases
Pediatric reflux
Pediatric hydronephrosis
Neurodegenerative diseases
Everything!

**What were the major factors that guided your decision to choose this specialty?**

Friend/family 3
Clerkship experience 3
Medical school experience 6
Doctor's example 8

Type of pt.
Lifestyle 10
Others income,
BSc med led to residency of Switched from FP

**MOST IMPORTANT**

• My own interest
• Med school experience
Performing procedures
Lifestyle
Uses physics and medicine
Nature of work
Experience during family practice
My elective

What qualities do you think a student needs for this specialty or area of practice?

- Be able to visualize 3D
- Being able to communicate well with other physicians
- Visual perception and skills
- Do some clinical medicine before doing radiology if possible
- Problem solving ability
- Like technology and techniques
- Very good memory
- Enquiring mind, curiosity
- Technical insight
- Strong work ethic
- Computer skills
- Analytical thinker
- Interest in education
- Pattern appreciation
- Dedicated (very demanding residency)
- Ability to multitask and work under stress
- Willingness to relocate
- Strong general medical knowledge

What advice would you have for a student considering this specialty or area of practice?

- Be aware of all the reading required
- Like procedures
- Exams are difficult
- C'mon in! You'll have a ball!
- Do it! It's great opportunity with something for everyone
- Independent and reliable work attitude
- Do an elective/ mini elective to experience the field
- Get at least three to four years of clinical work before entering a residency program
- Pursue this specialty by all means
- Consider if you like anatomy and physiology problem solving

Planning your future as a doctor in Manitoba
Careers in Diagnostic Radiology

✓ (1) Introduction
✓ (2) Diagnostic Radiology Programs Across Canada
✓ (3) University of Manitoba Program
✓ (4) Diagnostic Radiologists Physician’s Survey

October 30th, 2006