Education Graphic Usage Guidelines

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1. Intended Use:

 This graphic may be used for legislative efforts to educate legislators and others about the educational and training differences between diagnostic and interventional radiologists vs. nurse practitioners and chiropractors.

2. Alterations:

o Any modifications to the graphic must be approved by MRS before use.

3. Attribution:

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Contact for Questions

For questions or special requests, please reach out to Shannon Sage at shannon@michigan-rad.org or by phone at 989-627-6872.

DIAGNOSTIC RADIOLOGY TRAINING

Radiologist vs. NP

Radiology Board Core Exam (including Physics)

Year 8

Radiology Board (including Physics) *Certificate of Added

Year 10 - Year 12



Diagnostic Radiologist

MCAT - Medical College **Admissions Test**

USMLE - U.S. Medical **Licensing Exam**

ABR/AOBR - American Board of (Osteopathic) Radiology

USMLE (9 Hour Test) (8 Hour Test) Year 4 **Medical College** Year 3 Year 2 Cardiology MCAT (8 Hour Test) Year 1 **Medical Ethics Pulm/Crit Care Pediatrics Pathophysiology Family Geriatrics Neuroscience Psychiatry Renal System** Medicine Medical **Epidemiology** Cardiopulmonary **Neurology Intensive Care** Musculoskeletal Internal Medicine **Gross Anatomy** Radiology **Emergency Pathology GI/hepatobiliary Prerequisite** Infectious **Immunology** Medicine **Metabol & Nut** 4-Year Pharmacology Disease OB/GYN Microbiology **Premedical** Hematology **Genetics** Urology Surgery Bachelor's **Cell Biology Endocrinology**

Step 2 USMLE Σ **Internship** 3,000 Hours

Step 3 USMLE (16 Hour Test) Year 6 Year 5 **Thoracic** Neurology **Imaging Emergency Fluoroscopy** Medicine Neuroradiology **Nuclear Imaging General Surgery** Ultrasound Internal Musculoskeletal Medicine **Imaging (MSK RadiolSurgical Imaging)** Subspecialty **Pediatric** Radiology **Imaging (Peds) Family Medicine**

of Clinical

Experience

Thoracic Imaging Abd Imaging ER Radiology Neuroradiology **Nuclear Imaging Peds Imaging** Ultrasound **MSK** Imaging Vascular/IR

Year 7

MSK Imaging Abd Imaging Breast Imaging Nuclear Imaging **OB/Ultrasound Peds Imaging** Vascular/IR AIRP (rad-path) Vascular/IR **ER Radiology**

Residency

12,000 Hours of Radiology Experience

Vascular/ Interventional **Nuclear Imaging Neuroradiology** 0 **Elective ER Radiology** Ultrasound Vascular/IR **Breast Imaging** DIAGNOS

Year 9

Abdominal Imaging Breast/Women's Imaging Emergency Radiology *Interventional Radiology **Musculoskeletal Imaging** *Neuroradiology **Nuclear Imaging** *Pediatric Imaging **Thoracic Imaging** Fellowship 3.000-9.000 Hours of

Subspecialty Radiology Experience

Year 2 NP Certification Exam (4 Hour Test)

Medical School

5,000 Hours of Clinical Experience

Nurse **Practitioner**

(No radiology certification exists for NPs)

Year 1 (NP) App of Evidence **Pathophysiology FNP Core Comp Clin Reasoing** racticum Pr Care PRACTITIONER **Clinical Lab Healthcare Deliv** Parmacotherapy **Trans to Practice Prim Care Acult Adv Nurse Pract Clin Decision Prerequisite Health Access** Making **Immunology** 4-Year **Family Nurse** NURSE **Primary Care** Nursing **Preceptorship** Women **Prim Care** Prim Care Elderly Bachelor's **Pediatrics** Degree **NP School** 600 Hours of Clinical Experience

Biochemistry

Degree

12,000+ 20,000 **Years of** Radiologist 9+ graduate **Hours of dedicated Hours of clinical** education training **RADIOLOGY training ***0 600 **Years of** NURSE graduate **Hours of dedicated Hours of clinical PRACTIONER RADIOLOGY training** education training

*Curriculum may vary based on program. This graphic is based on available data.

INTERVENTIONAL RADIOLOGY (IR) TRAINING

IR vs. NP

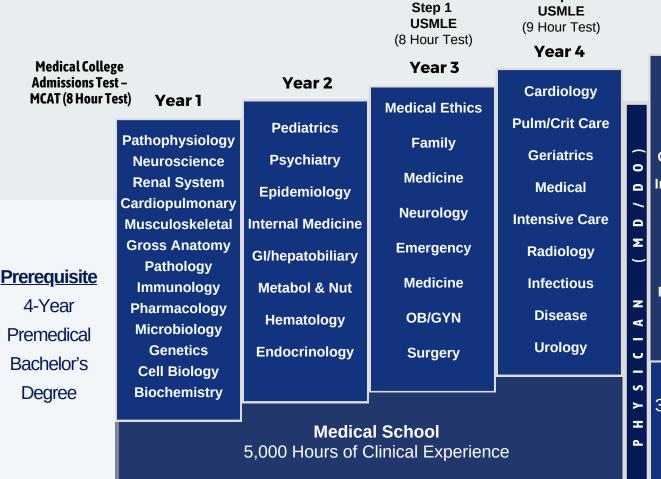


Diagnostic Radiologist

MCAT - Medical College Admissions Test

USMLE - U.S. Medical⊠Licensing Exam

ABR/AOBR - American Board of (Osteopathic) Radiology



Core Exam (including Physics) Year 9 Step 3 Year 8 USMLE Year 7 (16 Hour Test) Year 6 **MSK Imaging** Year 5 **Thoracic Abd Imaging** Thoracic Imaging Vascular/ **Imaging Breast Imaging** Neurology **Fluoroscopy** Interventional **Abd Imaging Nuclear Imaging Emergency** Neuroradiology **ER Radiology OB/Ultrasound** Medicine **Nuclear Imaging** Neuroradiology **General Surgery Peds Imaging Surgical Ultrasound** Nuclear Imaging Vascular/IR **Internal Medicine Elective** Musculoskeletal **ER Radiology** AIRP (rad-path) **RadiolSurgical Peds Imaging** Imaging (MSK Diagnostic Vascular/IR **Subspecialty Ultrasound Imaging**) Radiology **ER Radiology** Radiology **MSK Imaging** Pediatric Imaging **Family Medicine** Vascular/IR (Peds) Internship Residency 3.000 Hours of 12,000 Hours of Radiology Experience Clinical

Radiology Board

Radiology Board Core Exam (including Physics)

*Certificate of **Added Oualification** - CAQ Exam

Year 10 - Year 12



Year 2 NP Certification Exam (4 Hour Test)

Step 2

Experience

Nurse **Practitioner**

(No radiology certification exists for NPs)

Prerequisite 4-Year Nursing Bachelor's Degree





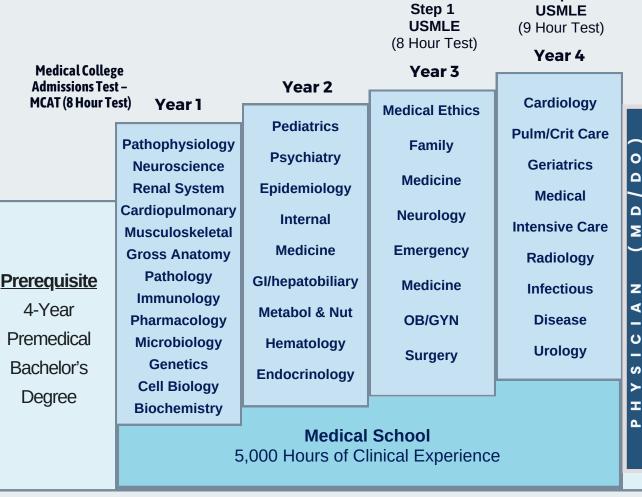
DIAGNOSTIC RADIOLOGY TRAINING Physicians vs. Chiropractors Step 3

Diagnostic **Radiologist**

MCAT - Medical College Admissions Test

USMLE - U.S. Medical **Licensing Exam**

ABR/AOBR - American Board of (Osteopathic) Radiology



Part I NBCE (5-

Year 2

Part II NBCE

(5-Hour Test))

Year 3

Step 2

(including Physics) Year 9 Year 8 USMLE Year 7 (16 Hour Test) Year 6 Vascular/ **MSK Imaging** Year 5 **Thoracic Abd Imaging** Interventional Thoracic Imaging **Imaging Breast Imaging Neurology Nuclear Imaging Fluoroscopy Abd Imaging Nuclear Imaging Emergency** Neuroradiology Neuroradiology **OB/Ultrasound ER Radiology** Medicine **Elective Nuclear Imaging Peds Imaging** Neuroradiology **ER Radiology General Surgery** Ultrasound Vascular/IR **Nuclear Imaging** AIRP **Ultrasound** Musculoskeletal Internal Medicine **Peds Imaging** (rad-path) **Imaging (MSK** Vascular/IR RadiolSurgical **Ultrasound** Vascular/IR Imaging) **MSK Imaging Breast Imaging Subspecialty** ER Radiology **Pediatric Imaging** Vascular/IR Radiology (Peds) **Family Medicine** Residency

12,000 Hours of Radiology Experience

Radiology Board

Core Exam

Radiology Board Core Exam (including Physics) *Certificate of Added **Qualification – CAQ Exam**

RADIOLOGI

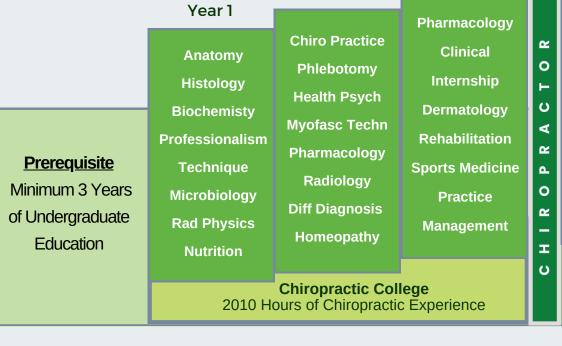
Year 10 - Year 12

Abdominal Imaging Breast/Women's Imaging **Emergency Radiology** *Interventional Radiology **Musculoskeletal Imaging** *Neuroradiology **Nuclear Imaging** *Pediatric Imaging **Thoracic Imaging**

Fellowship 3.000-9.000 Hours of Subspecialty Radiology Experience

Chiropractor

NBCME - National Board of Chiropractic Examiners ABCR – American Board of Chiropractic Radiology



Part III NBCE (4.5-Hour Test) Part I, II ABCR Year 6 + Physiotherapy (optional) Year 5 Year 4 **Special Topics Special Topics** College Educa **Neuroimaging Disturb of Bone Disturb of Bone** Cong Abnl **Chest Imaging Princ Diag Imag Chest Imaging Arthridities Teaching Pract Arthridities Neoplasms Neoplasms Exp Design GI/GU** Imaging **GI/GU Imaging Exp Analysis Neuroimaging Thesis Neuroimaging Derang of Joints Derang of Joints Business of** Physical Inj of Radiology **Physical Inj of Skel System Skel System Chiropractic Residency** 810 Hours of Chiropractic Radiology Experience

Internship

3.000 Hours

of Clinical

Experience

20,000 Radiologist **Hours of** 9+ Years of graduate clinical education training Chiropractor

6.5+ Years of graduate

education

2010 Hours of clinical training

12,000+ **Hours of RADIOLOGY** training

810 **Hours of RADIOLOGY** training

DIAGNOSTIC RADIOLOGY TRAINING Step 3 USMLE

Radiologist vs. NP

Radiology Board Core Exam (including Physics)

Year 8

Radiology Board (including Physics) *Certificate of Added

Year 10 - Year 12



Step 2 USMLE **USMLE** (9 Hour Test) (8 Hour Test) Year 4 Year 3

Cardiology **Medical Ethics** Pulm/Crit Care **Family Geriatrics** Medicine Medical **Neurology Intensive Care** Radiology **Emergency** Infectious Medicine

Disease

Urology

Year 5 **Thoracic** Neurology **Imaging Emergency Fluoroscopy** Medicine Neuroradiology **Nuclear Imaging General Surgery** Ultrasound Internal Musculoskeletal Medicine **Imaging (MSK** Σ **RadiolSurgical Imaging)** Subspecialty **Pediatric** Radiology **Imaging (Peds) Family Medicine**

Internship

3,000 Hours

of Clinical

Experience

(16 Hour Test)

Thoracic Imaging Abd Imaging ER Radiology Neuroradiology **Nuclear Imaging Peds Imaging** Ultrasound **MSK Imaging** Vascular/IR

Residency

12,000 Hours of Radiology Experience

Year 7

Year 6

MSK Imaging Abd Imaging Breast Imaging Nuclear Imaging **OB/Ultrasound Peds Imaging** Vascular/IR AIRP (rad-path) Vascular/IR **ER Radiology**

Vascular/ Interventional **Nuclear Imaging** Neuroradiology 0 **Elective ER Radiology** Ultrasound Vascular/IR **Breast Imaging** DIAGNOS

Year 9

Abdominal Imaging Breast/Women's Imaging Emergency Radiology *Interventional Radiology **Musculoskeletal Imaging** *Neuroradiology **Nuclear Imaging** *Pediatric Imaging **Thoracic Imaging** Fellowship

3.000-9.000 Hours of Subspecialty Radiology Experience

MCAT - Medical College **Admissions Test**

USMLE - U.S. Medical **Licensing Exam**

ABR/AOBR - American Board of (Osteopathic) Radiology

Nurse

for NPs)

4-Year

Premedical Bachelor's

Degree

Medical School 5,000 Hours of Clinical Experience

Metabol & Nut

Hematology

Endocrinology

Year 2 NP Certification Exam (4 Hour Test)

OB/GYN

Surgery

Year 1 (NP) App of Evidence **Pathophysiology FNP Core Comp Clin Reasoing** racticum Pr Care PRACTITIONER **Clinical Lab Healthcare Deliv** Parmacotherapy **Trans to Practice Prim Care Acult Adv Nurse Pract Clin Decision Prerequisite Health Access** Making **Immunology** 4-Year **Practitioner Family Nurse** NURSE **Primary Care** Nursing **Preceptorship** Women **Prim Care** (No radiology Prim Care Elderly Bachelor's **Pediatrics** certification exists Degree **NP School** 600 Hours of Clinical Experience

Pharmacology

Microbiology

Genetics

Cell Biology

Biochemistry

12,000+ 20,000 **Years of** Radiologist 9+ graduate **Hours of dedicated Hours of clinical** education training **RADIOLOGY training ***0 600 **Years of** NURSE graduate **Hours of dedicated Hours of clinical PRACTIONER RADIOLOGY** training education training

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INTERVENTIONAL RADIOLOGY (IR) TRAINING



Year 2

Pediatrics

Psychiatry

Epidemiology

Radiology Board Core Exam (including Physics)

*Certificate of **Added Oualification** - CAQ Exam





Medical College Admissions Test -MCAT (8 Hour Test)

Year 1 **Pathophysiology Neuroscience Renal System** Cardiopulmonary Musculoskeletal **Gross Anatomy Pathology Prerequisite**

Biochemistry

Year 1

Internal Medicine **GI/hepatobiliary Immunology Metabol & Nut Pharmacology** Hematology Microbiology Genetics **Endocrinology Cell Biology**

Step 1 USMLE (8 Hour Test) Year 3

Medical Ethics

Family

Medicine

Neurology

Emergency

Medicine

OB/GYN

Surgery

Medical School

5,000 Hours of Clinical Experience

Step 2 USMLE (9 Hour Test) Year 4

Cardiology **Pulm/Crit Care**

Geriatrics Medical **Intensive Care**

Radiology Infectious Disease

> **Urology** Internship 3.000 Hours of 모 Clinical

Year 7 Year 6 **Thoracic** Thoracic Imaging

Neurology **Fluoroscopy Emergency** Neuroradiology Medicine **Nuclear Imaging General Surgery Ultrasound Internal Medicine** Musculoskeletal **RadiolSurgical** Imaging (MSK **Subspecialty**

Imaging)

(Peds)

(16 Hour Test)

Year 5

Radiology

Family Medicine

Experience

Neuroradiology Nuclear Imaging **Peds Imaging Ultrasound MSK Imaging** Pediatric Imaging Vascular/IR

Imaging

Abd Imaging

ER Radiology

Breast Imaging Interventional **Nuclear Imaging OB/Ultrasound Peds Imaging Surgical** Vascular/IR **Elective** AIRP (rad-path) **ER Radiology** Diagnostic Vascular/IR Radiology **ER Radiology**

Year 9

Vascular/

Radiology Board

Core Exam (including Physics)

Year 8

MSK Imaging

Abd Imaging

Residency 12,000 Hours of Radiology Experience RADIOLOGIST Vascular/Interventional Radiology **Elective** Fellowship 0 2 0 3,000-9,000 Hours of Subspecialty Radiology Experience

> https://medicine.umich.edu/dept/radiology/ specialties/vascular-interventional-radiology/irresidency/curriculum

Diagnostic Radiologist

MCAT - Medical College Admissions Test

USMLE - U.S. Medical⊠Licensing Exam

ABR/AOBR – American Board of (Osteopathic) Radiology

4-Year

Premedical Bachelor's

Degree

Year 2 NP Certification Exam (4 Hour Test)

App of Evidence **Pathophysiology FNP Core Comp** Clin Reasoing Practicum Pr Care **Clinical Lab Healthcare Deliv Parmacotherapy Prim Care Acult Trans to Practice Adv Nurse Pract Clin Decision Health Access** Making **Immunology Family Nurse Primary Care** Women **Preceptorship Prim Care Prim Care Elderly Pediatrics**

Nurse **Practitioner**

(No radiology certification exists for NPs)

Prerequisite

4-Year Nursing Bachelor's Degree

NP School 600 Hours of Clinical Experience

20,000 **Years of** 12,000+ Interventional graduate **Hours of clinical Hours of dedicated Radiologist** education training **RADIOLOGY training** 600 0 **Years of** Nurse graduate Hours of dedicated **Hours of clinical Practitioner** education **RADIOLOGY training** training

DIAGNOSTIC RADIOLOGY TRAINING Step 3 USMLE

Physicians vs. Chiropractors

Year 1

Pathophysiology

Neuroscience

Renal System

Step 2 USMLE Step 1 USMLE (9 Hour Test) (8 Hour Test) Year 4 Year 3

Medical Ethics

Family

Medicine

Neurology

Emergency

Medicine

Cardiology

Pulm/Crit Care

Geriatrics

Medical

Intensive Care

Radiology

Infectious

Year 5 Thoracic Imaging **Neurology Fluoroscopy Emergency** Neuroradiology Medicine **Nuclear Imaging General Surgery Ultrasound** Musculoskeletal Internal Medicine **Imaging (MSK** RadiolSurgical

Subspecialty

Radiology

Family Medicine

Internship

3.000 Hours

of Clinical

Experience

(16 Hour Test)

Thoracic Imaging Abd Imaging ER Radiology Neuroradiology **Nuclear Imaging Peds Imaging Ultrasound MSK Imaging Pediatric Imaging** Vascular/IR

Year 7

Year 6

Imaging)

(Peds)

Nuclear Imaging OB/Ultrasound Peds Imaging Vascular/IR AIRP (rad-path) Vascular/IR ER Radiology

Residency

12,000 Hours of Radiology Experience

Radiology Board

Core Exam

(including Physics)

Year 8

MSK Imaging

Abd Imaging

Vascular/ Interventional **Breast Imaging Nuclear Imaging** Neuroradiology **Elective ER Radiology Ultrasound** Vascular/IR **Breast Imaging**

Year 9

Radiology Board Core Exam (including Physics)

*Certificate of Added **Qualification – CAQ Exam**

RADIOLOGI

Year 10 - Year 12

Abdominal Imaging Breast/Women's Imaging **Emergency Radiology** *Interventional Radiology **Musculoskeletal Imaging** *Neuroradiology **Nuclear Imaging** *Pediatric Imaging **Thoracic Imaging**

Fellowship 3.000-9.000 Hours of Subspecialty Radiology Experience

Diagnostic **Radiologist**

MCAT - Medical College Admissions Test

USMLE - U.S. Medical **Licensing Exam**

ABR/AOBR - American Board of (Osteopathic) Radiology

<u>Prerequisite</u>

Medical College

Admissions Test -

MCAT (8 Hour Test)

4-Year **Premedical** Bachelor's Degree

Pathology Immunology Pharmacology Microbiology **Genetics Cell Biology Biochemistry**

Musculoskeletal **Gross Anatomy**

Cardiopulmonary

Psychiatry Epidemiology Internal Medicine **GI/hepatobiliary Metabol & Nut** Hematology **Endocrinology**

Part I NBCE (5-

Year 2

Year 2

Pediatrics

OB/GYN Disease **Urology** Surgery

Part II NBCE

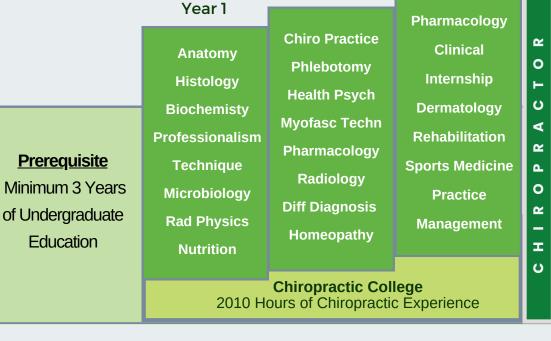
(5-Hour Test))

Year 3

Medical School 5,000 Hours of Clinical Experience

NBCME - National Board of Chiropractic Examiners ABCR – American Board of Chiropractic Radiology

Chiropractor



Part III NBCE (4.5-Hour Test) Part I, II ABCR Year 6 + Physiotherapy (optional) Year 5 Year 4 **Special Topics Special Topics** College Educa **Neuroimaging Disturb of Bone Disturb of Bone** Cong Abnl **Chest Imaging Princ Diag Imag Chest Imaging Arthridities Teaching Pract Arthridities Neoplasms Neoplasms Exp Design GI/GU** Imaging **GI/GU Imaging Exp Analysis Neuroimaging Thesis Neuroimaging Derang of Joints Derang of Joints Business of** Physical Inj of **Physical Inj of** Radiology **Skel System Skel System Chiropractic Residency** 810 Hours of Chiropractic Radiology Experience

20,000 Radiologist 9+ Years of graduate education Chiropractor 6.5+ Years of graduate

education

Hours of Hours of clinical **RADIOLOGY** training training

2010 Hours of clinical training

810 **Hours of RADIOLOGY** training

12,000+