

# Radiology: A Video Overview

Sean G. Desilva, William Ji, Maziar Sighary

The purpose of this video is to educate medical students on the current scope of practice in radiology, the various sub specialties of radiology, a typical day in the life of an academic radiologist, as well as NRMP data for prospective residency applicants and up-to-date compensation reports.

First, the scope of practice in radiology. Radiology is the branch of medicine utilizing imaging modalities to diagnose and treat diseases [1]. It encompasses diagnostic and image-guided procedures involving five main modalities: X-rays including conventional radiography as well as fluoroscopic techniques, computed tomography or CT, magnetic resonance imaging or MRI, ultrasound, and nuclear medicine. Radiologists are mainly hospital based, but they can also practice in independent clinics, outpatient centers, or even from the convenience of their homes through “virtual radiology”. Radiologists are highly trained, highly skilled, technologically-advanced experts whose primary function is that of a consultant; meaning we guide other clinicians in the management of their patients [1]. We are the true “doctors doctor”. The era of radiologists sitting in a dark room in isolation are over, as modern radiologists play an integral role in the care of patients, and are intimately involved in face-to-face interactions with their clinical colleagues. Furthermore, procedures can be a major component of many radiologists’ typical day. Interventional radiologists perform almost exclusively procedures. However, even

diagnostic radiologists perform procedures. Breast radiologists, for example, perform ultrasound guided breast biopsies, needles localizations, and stereotactic breast biopsies.

Next the sub-specialties of radiology. Most radiologists pursue fellowship training and choose to specialize in one of the following areas: neuroradiology, cardiothoracic radiology, abdominal radiology, breast imaging or mammography, nuclear radiology, pediatric radiology, or interventional radiology [1]. Following a one-year internship and four years of radiology residency training, all fellowships with the exception of interventional radiology are one year in duration.

Next, a day in the life of an academic radiologist. A typical radiologist can find themselves involved in educating their clinical colleagues on the appropriate study for their patients, building image optimization protocols to simultaneously obtain the most informative clinical images while minimizing radiation exposure to patients; they will spend most of their time interpreting radiological images in any of the modalities previously discussed, and will often do so amongst interdisciplinary teams in the form of tumor boards to manage the most complex oncological and surgical patients.

Sean G. Desilva<sup>1</sup>, William Ji<sup>2</sup>, Maziar Sighary<sup>3</sup>

**Affiliations:** <sup>1</sup>MD, State University of New York (SUNY) Downstate Medical Center, 450 Clarkson Avenue, Brooklyn, New York.

<sup>2</sup>MD, State University of New York (SUNY) Downstate Medical Center, 450 Clarkson Avenue, Brooklyn, New York.

<sup>3</sup>BS, State University of New York (SUNY) Downstate Medical Center, 450 Clarkson Avenue, Brooklyn, New York.

**Corresponding Author:** Sean G. Desilva, MD, State University of New York (SUNY) Downstate Medical Center, 450 Clarkson Avenue, Brooklyn, New York, 11213; Email: sean.desilva@downstate.edu

Received: 12 July 2018

Accepted: 07 August 2018

Published: 24 August 2018



**Video 1:** A video overview on radiology

**Video 1 URL:** [http://www.videojournalofbiomedicalscience.com/archive/2018-videos/100001VAM01SD2018\\_1.mp4](http://www.videojournalofbiomedicalscience.com/archive/2018-videos/100001VAM01SD2018_1.mp4)

**Access Video  
on other devices**



Furthermore, with the consultative nature of radiology, many radiologists find themselves in administrative and leadership positions within hospitals and other medical organizations; the chief medical officer at Kings County Medical Center, Dr. Steven Pulitzer, for example, is a neuroradiologist turned academic leader at our institution.

Finally, NRMP data and compensation in radiology. The ideal radiologist is well-rounded and excelled in medical school [2, 3]. The mean USMLE step 1 score is 238, and mean step 2 CK score is 245; clinical excellence in anatomy, physiology, and radiology clerkships is noted, as well as letters of recommendation from individuals that know you well. A commitment and dedication to independent, life-long learning is a necessary skill in radiology. AMCAS reports that the average radiologist in academics earns approximately \$375,000, and roughly \$475,000 in private practice, with significant regional variation across the United States [4]. Radiologist are, therefore, amongst the highest paid physicians, earning more than the average surgeon or average anesthesiologist.

## REFERENCES

1. American College of Radiology (ACR). [Available at: <https://www.acr.org/>]
2. NRMP Data. [Available at: <https://www.nrmp.org/main-residency-match-data/>]
3. Medscape Physician Salary Information by Subspecialty. [Available at: <https://www.medscape.com/slideshow/2018-compensation-overview-6009667>]
4. KQED Science image gallery. [Available at: <https://www.kqed.org/stateofhealth/24926/the-hidden-cost-of-mammograms-more-testing-and-overtreatment>]

\*\*\*\*\*

**Keywords: Biopsy, Diagnosis, Radiology, Radiologists**

### How to cite this article

Desilva SG, Ji W, Sighary M. Radiology: A Video Overview. Video J Biomed 2018;1:100001VAM01SD2018.

Article ID: 100001VAM01SD2018

\*\*\*\*\*

doi: 10.5348/100001VAM01SD2018ED

\*\*\*\*\*

### Author Contributions

Sean G. Desilva – Substantial contributions to conception and design, Acquisition of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

William Ji – Substantial contributions to conception and design, Acquisition of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Maziar Sighary – Substantial contributions to conception and design, Acquisition of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

### Guarantor of Submission

The corresponding author is the guarantor of submission.

### Source of Support

None.

### Conflict of Interest

Authors declare no conflict of interest.

### Copyright

© 2018 Sean G. Desilva et al. This article is distributed under the terms of Creative Commons Attribution License which permits unrestricted use, distribution and reproduction in any medium provided the original author(s) and original publisher are properly credited. Please see the copyright policy on the journal website for more information.

Access full text article on  
other devices



Access PDF of article on  
other devices

