Multi-Institutional Assessment of Radiology Curriculum Adequacy

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2015 Joint Congress on Medical Imaging and Radiation Sciences
Montreal, Quebec
May 28-30, 2015

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Disclosures

• No author has any relevant disclosures
Objective

• There has been mounting evidence that medical students are not receiving sufficient education in radiology. We showed preliminary data from Dalhousie which prompted further investigation.

• The goal of this study was to determine if there is a perceived need for increased radiology teaching and exposure in undergraduate medical curricula among medical students in pre-clerkship and clerkship. In addition, medical student interest groups have asked for radiology lectures on various subjects.
Materials and Methods

• Surveys were distributed to students in three different schools of medicine. Respondents were asked to provide their impression of radiology education in the current undergraduate medical curriculum.

• Responses were gauged on a Likert-type scale (e.g. Critically Important, Very Important, Somewhat Important, Slightly Important or Not At All Important).
Radiology Education Survey For Medical Students

1. What year of medical school training are you currently in?
   - Med 1
   - Med 2
   - Med 3
   - Med 4

2. In your opinion, how important is the radiologist as a member of the health care team?
   - Critically important
   - Very important
   - Somewhat important
   - Slightly important
   - Not at all important

3. How important is a basic understanding of general radiology concepts to your future medical practice?
   - Critically important
   - Very important
   - Somewhat important
   - Slightly important
   - Not at all important

4. The amount of radiology teaching/education in the current medical school curriculum is:
   - Excessive
   - More than adequate
   - Adequate
   - Inadequate
   - Very inadequate

5. At the end of your medical school training, how confident will you feel in your ability to adequately interpret the findings on basic radiology studies, such as chest x-rays, abdominal x-rays, and bone x-rays.
   - Completely confident
   - Very confident
   - Somewhat confident
   - Slightly confident
   - Not at all confident

6. In terms of the amount of radiology education/teaching in the curriculum, which of the following statements do you agree with?
   - Much more teaching is needed
   - A little more teaching is needed
   - The current amount of teaching is enough. No more is needed.
   - Less radiology teaching should be done.

7. If you do want more radiology teaching incorporated into the curriculum, in what way should this be done? Please rank the options below.
   - Didactic lectures
   - Group learning sessions
   - Web based learning modules
   - Tutorial based cases
   - Other (please specify)
Results

- A total of 1,223 medical students responded to the survey for a response rate of 55%.

- The majority of students (91%) identified radiologists as a very or critically important member of the health care team and the majority of students (98%) believed an understanding of radiology concepts was very or critically important.

- 82% of respondents believed that radiology education was inadequate or very inadequate.
Results

• Over 91% of students believed there should be more radiology teaching in medical school.

• In terms of preferred methods of education on radiology, students preferred didactic lectures (26%), group learning sessions (28%) and web-based learning modules (34%).
How important is the radiologist as a member of the health care team?

- Institution 1 Pre-Clerkship
- Institution 1 Clerkship
- Institution 2 Pre-Clerkship
- Institution 2 Clerkship
- Institution 3 Pre-Clerkship
- Institution 3 Clerkship

Importance levels: Critically Important, Very Important, Somewhat Important, Slightly Important, Not at all Important
How important is a basic understanding of general radiology concepts to your future medical practice?
The amount of radiology teaching/education in the current medical school curriculum is:

- **Excessive**
- **More than Adequate**
- **Adequate**
- **Inadequate**
- **Very Inadequate**

[Bar chart showing the distribution of ratings for different institutions.]

- **Institution 1 Pre-Clerkship**
- **Institution 1 Clerkship**
- **Institution 2 Pre-Clerkship**
- **Institution 2 Clerkship**
- **Institution 3 Pre-Clerkship**
- **Institution 3 Clerkship**
At the end of your medical school training, how confident will you feel in your ability to adequately interpret the findings on basic radiology studies, such as chest x-rays, abdominal x-rays, and bone x-rays?
In terms of the amount of radiology education/teaching in the curriculum, which of the following statements do you agree with?

- Much more teaching is needed.
- A little more teaching is needed.
- The current amount of teaching is enough. No more is needed.
- Less radiology teaching should be done.

The bar chart shows the distribution of responses for each institution and phase of training.
Discussion

• There is a need to increase radiology teaching in medical school because medical students believe radiologists are vital members of the healthcare team and the amount of teaching is inadequate.

• Medical students prefer different methods of teaching, including lectures, group learning sessions and web-based learning modules.
Goals

• We believe every medical graduate should be able to identify the type of study they are attempting to interpret.

• In the case of plain radiographs, we also believe it is reasonable to expect any graduate to be able to describe how they are acquired and name standard projections.

• Moreover, an awareness of standard radiographic densities (i.e., air, fluid, soft tissue, bone, and metal) and the appearance of some normal anatomic structures was expected within the spectrum of basic abilities described to our students.
Seminars

• At some of our institutions, student-run radiology interest groups organized introductory radiology seminars consisting of basic radiology lectures
  – Allows residents to explore Educator CanMEDS role

• Designed to parallel the pre-clerkship curriculum:
  – Introduction to radiology as a specialty
  – Introduction to neuroimaging
  – Introduction to chest imaging
  – Introduction to abdominal imaging
  – Introduction to MSK imaging
Conclusions

• As postgraduate medical programs strive to keep attracting the strongest applicants to train in radiology, we feel that this assessment is particularly timely.

• Benefit should be gauged objectively, with assessments and feedback on progression and deficits in adequacy of students’ understanding of basic radiology concept and appropriateness criteria.

• Repeat assessment is feasible and the survey can be applied to most any medical school.
References


Radiology in the Undergraduate Medical Curriculum: Too Little, Too Late?

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Abstract: There is an essential need to increase radiology education in medical school. Surveys on medical schools do not mention radiology in the early curriculum, with a variety of factors contributing. The need for a better understanding of radiology in medical school is crucial for students entering radiology. A systematic review of radiology education in medical schools shows that many students are not satisfied with the current level of radiology in their education. A recent study showed that only 30% of medical students are satisfied with the amount of radiology in their education. The need for a better understanding of radiology in medical schools is crucial for the future of radiology. A systematic review of radiology education in medical schools shows that many students are not satisfied with the current level of radiology in their education. A recent study showed that only 30% of medical students are satisfied with the amount of radiology in their education. The need for a better understanding of radiology in medical schools is crucial for the future of radiology.