Undergraduate Radiology Education: Foundation Doctors’ Experiences and Preferences

Dr L Bell1, Dr O Dick2, Dr N Ali2, Dr D Little3
1Severn Deanery, 2East Midlands Deanery, 3Royal United Hospital (Bath)

Introduction

• Undergraduate radiology education in the UK has received relatively little attention in the literature over many years.
• Prevalence of radiology in undergraduate medical curricula varies widely.
• RCoR’s Undergraduate Radiology Curriculum (URC) aims to prepare “foundation doctors with the necessary knowledge and skills to routinely arrange and correctly interpret basic radiological investigations in the context of the individual patients, with understanding of applicability, limitations and impact on patient safety”.
• The most influential literature leading to and assessing the URC have focused on the opinions of consultants and medical students.
• Foundation doctors are in the uniquely advantageous position of having very recently been through undergraduate medical training, as well as presently working at the level that the URC is designed to prepare for.

Aims

• Assess the foundation doctors’ experiences of undergraduate radiology teaching within the UK.
• Assess their preferences for how undergraduate radiology teaching should be delivered and what should be included.

Methods and Materials

• Retrospective multi-centre study.
• Foundation year 1 and 2 doctors across four NHS trusts were asked to complete a questionnaire.
• The questionnaire was based on the RCoR’s Undergraduate Radiology Curriculum.
• Assessment of how well they felt their undergraduate medical training prepared them for image interpretation, was made using a 5-point Likert scale (1=Strongly agree, 2=Agree, 3=Neither Agree or Disagree, 4=Disagree, 5=Strongly Disagree).
• “Confidence” was defined as a mean Likert score of >3, thereby including those that “Agreed” or “Strongly agreed” with the statements.
• A mixture of open and closed questions were used to explore their preferences of how undergraduate radiology teaching should be delivered.

Results

Proportion that felt their medical school training gave them confidence to interpret different radiographs.

<table>
<thead>
<tr>
<th>Radiographs</th>
<th>Number of Doctors (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chest Radiographs</td>
<td>70%</td>
</tr>
<tr>
<td>Abdominal Radiographs</td>
<td>70%</td>
</tr>
<tr>
<td>Upper Limb Radiographs</td>
<td>60%</td>
</tr>
<tr>
<td>Lower Limb Radiographs</td>
<td>50%</td>
</tr>
<tr>
<td>Spine Radiographs</td>
<td>40%</td>
</tr>
<tr>
<td>Pelvic Radiographs</td>
<td>0%</td>
</tr>
</tbody>
</table>

Frequency of undergraduate radiology teaching received compared to teaching recommended by foundation doctors.

<table>
<thead>
<tr>
<th>Teaching Modality</th>
<th>Received Frequency</th>
<th>Recommended Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekly</td>
<td>0%</td>
<td>40%</td>
</tr>
<tr>
<td>Fortnightly</td>
<td>15%</td>
<td>60%</td>
</tr>
<tr>
<td>Monthly</td>
<td>30%</td>
<td>80%</td>
</tr>
<tr>
<td>Quarterly</td>
<td>25%</td>
<td>50%</td>
</tr>
<tr>
<td>Never</td>
<td>5%</td>
<td>10%</td>
</tr>
</tbody>
</table>

Top 3 preferred methods of teaching delivery.

1. Integration with clinical teaching (i.e. within a clinical environment)
2. Small group ‘hot seat’ tutorials
3. Integration into lectures/tutorials on other modular topics

Top 3 most important topics to be included in teaching.

1. Chest Radiograph Interpretation
2. CT Interpretation
3. Abdominal Radiograph Interpretation

Discussion

• The first study to assess the state of undergraduate radiology teaching within the UK against the latest URC.
• The first study to assess undergraduate radiology teaching using foundation doctors as the subjects.
• Foundation doctors felt that their undergraduate radiology teaching gave them confidence in interpreting chest, abdominal, upper and lower limb radiographs, but less for skeletal radiographs, and even less so for major trauma CT.
• Teaching of skeletal radiographs and major trauma CT should not be neglected and more frequent and improved teaching in these areas is necessary to meet the standards of the URC.
• Foundation doctors felt more undergraduate radiology teaching would be beneficial.
• Undergraduate radiology education should be delivered by radiologists in either small group sessions or integrated into clinical teaching.
• It is in the authors’ opinion that, because of their stage in career, foundation doctors can provide invaluable input in how undergraduate radiology education should be delivered, and so any collaboration in developing a curriculum should ideally involve them.

References