

1. Radiographers use x-ray equipment to produce images of the tissues, organs, bones, and vessels of the body to help in the diagnosis of disease or injury.
2. Students are educated in anatomy, patient positioning, examination techniques, equipment protocols, radiation safety, radiation protection, and basic patient care.
3. Students will have over 1,600 hours of supervised hands-on clinical experience working side-by-side in radiology departments with experienced radiographers at area UnityPoint Health hospitals.
4. Recent research has identified the issue of 'dose creep' in diagnostic radiography and claims it is due to the introduction of CR and DR technology.
5. A random selection of 50% of educational institutes ($n = 17$) which were affiliated members of the European Federation of Radiographer Societies (EFRS) were contacted via their contact details supplied on the EFRS website.
6. A response rate of 70% was achieved from the affiliated educational members of EFRS and a rate of 55% from the individual hospitals in 12 countries across Europe.
7. Ultrasound is one of many areas of specialism for radiographers to develop their skills in. As part of a wider suite of surveys, the European Federation of Radiographer Societies wanted to investigate the extent and scope of practice for radiographers practising ultrasound across Europe.
8. An electronic survey was sent to representatives of the 43 national radiographer societies who were members of the EFRS.
9. Forty individual responses were received, from a total of 27 countries, covering 62.8% of the EFRS member societies invited to participate.
10. Priorities for radiographer societies to assist in the development of ultrasound as a pathway for radiographer progression in countries, where it is not yet available, include education programmes, acceptance by medical professionals and changes to legislation.
11. Radiographers can elect to work within many different modalities, one being ultrasound. Within Europe there are differing opinions about how much of a role radiographers should take in relation to the ultrasound examination, particularly report writing.
12. In 2019 an electronic survey was disseminated to radiographer members by European Federation of Radiographer Societies (EFRS) national radiographer societies, following a pilot study.
13. The result shows that in 21 ($n = 25$) countries radiographers perform ultrasound, however not without challenges. Educational levels range from no formal education or short courses to an MSc in ultrasound.
14. Under an IAEA project, this work collected data on radiographer education for the Europe and Central Asia region with a particular focus on radiation protection gaps and potential actions.
15. Following piloting, an electronic questionnaire was distributed to all national counterparts for the IAEA Technical Cooperation (TC) Europe region ($n = 33$ countries) and nominated national representatives.



16. Radiographer education in the IAEA Europe region is heterogeneous with substantial differences in duration and quality of training programs between countries, which likely impact on quality of patient care delivered.
17. Radiographer education and training is diverse throughout the IAEA TC Europe region, with likely impacts on radiation protection practices applied.
18. More than half of the world's population live in Asia-Pacific. This region is culturally diverse, with significant disparities in terms of socio-economic status, provision of health care and access to advanced technology.
19. Rapid technological developments in medicine have taken place in the Asia-Pacific region over the last decades. Radiology, in particular, has seen enormous growth with the latest medical equipment and practices being commonplace in this region.
20. There were significant differences in access to modern treatment facilities, percentage of patients with lung cancer receiving radiotherapy, schedules of palliative RT, use of postoperative RT for early stages between both analysed groups of countries.
21. Patterns of care of lung cancer in the analysed countries differed in some part from existing, evidence-based data on lung cancer. In particular, this difference was observed between ex-USSR countries and the rest of European developing countries.

