Delivery of a preliminary clinical evaluation web based short course in Finland

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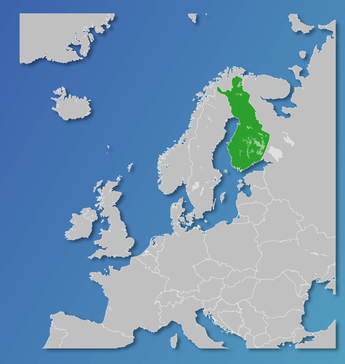
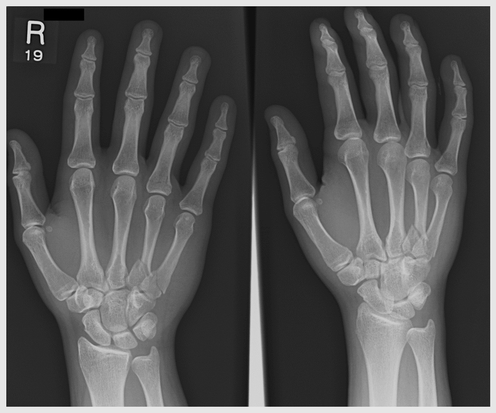


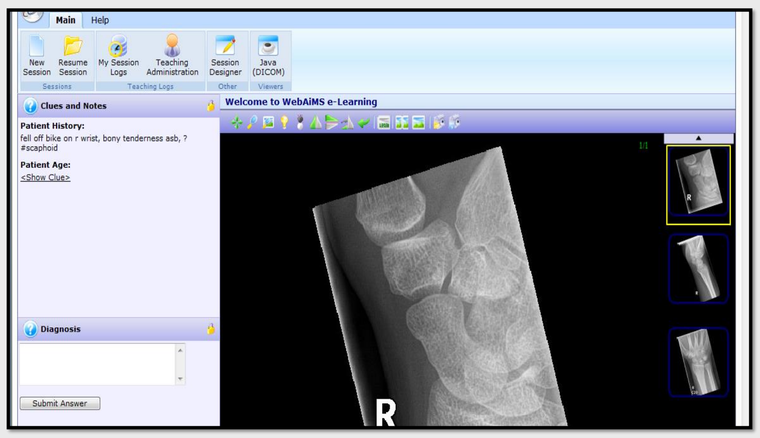
Background

As key members of the healthcare team radiographers are usually the first practitioners to see the diagnostic image.
Radiographer abnormality detection systems (RADS) where the radiographer performing the examination highlights suspicious findings to the treating clinician have been widely adopted across the UK for over 30 years[1,2].
This study examined the accuracy of radiographer preliminary clinical evaluation (PCE)[3] in an academic setting in Finland before and after an educational intervention using standardised image test banks comprised of anonymised radiographs.
PCE requires the radiographer to provide a brief written statement to describe and localise any relevant findings. It avoids the ambiguity of RADS by directing the referrer to areas of concern.



Course delivery

12 Finnish radiographers completed an online short course in PCE of X-ray examinations of the appendicular skeleton (shoulder to fingers, hip to toes).
The course consisted of an initial introductory day in Helsinki followed by online delivery. Learning materials were uploaded to the Blackboard VLE, students had access to anatomy resources and to a web based database of radiographs.



Delivery was scheduled to make new content available every week and included image banks for self assessment.
Feedback and feedforward advice was given by course tutors after completion of each test bank to highlight error trends.
Students also completed practice commentaries in their clinical workplace.
Assessment comprised of a test bank of 25 examinations of the appendicular skeleton completed prior to the initial teaching to ascertain baseline knowledge. At the end of the short course a final test bank of 25 examinations was undertaken. A small number of the cohort also participated in a delayed test.

Results

Chart 1: Pre and post test accuracy scores

Table 1: Average scores pre and post test banks

	Pre	Post	Delayed
Sensitivity	82.9	89.0	86.4
Specificity	78.6	87.1	84.0
Accuracy	73.0	80.2	80.3

Results for the cohort demonstrated an overall increase in sensitivity, specificity and agreement between the pre and post test. A delayed test was undertaken by 6 students after approximately 6 weeks which showed a slight decrease in sensitivity and specificity although still above baseline measures.

Conclusions and implications for practice

This small study showed that following a short course of study radiographers are able to improve their performance in PCE of the appendicular skeleton. This reflects the findings of other similar studies which also show reduced performance after a wash out period[4,5].
There is no known form of RADS in operation in Finland. Adoption of such practice has the potential to aid in patient management particularly in remote settings where there is limited radiologist support.
Web based learning has the advantage of easy accessibility to healthcare staff in a sparsely populated country however ongoing education must be factored in to ensure knowledge is sustained[5].

Student and staff feedback

The course was well received and feedback from students was good.
There was occasional confusion in translation from English to Finnish.
Staff enjoyed the international elements of teaching and discovering different ways of working.
Further development of e-learning materials and delivery was identified as an issue by academic staff.

References

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