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36. E-learning in medical education

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What influences postgraduate trainees involvement with e-learning?

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Background: E-Learning features increasingly in training programmes but little is known regarding trainees views on its use.

Methods: We used the nominal group technique to elicit opinions of e-learning amongst 21 postgraduate trainees (3 sessions).

Results: On average, participants had 6 yr PG training (mean age 31; 11 M, 10 F). 38% had had moderate/high previous exposure to e-learning.

Summary: Ease of access to computers/internet was ranked highly by all groups and may be a significant barrier to trainees' use of e-learning. Cost was cited as a barrier by 2 of the 3 groups. This study confirms the pros and cons of e-learning and the need for optimal methodologies. Embedding modules within CPD programmes may enhance use.

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Do postgraduate trainees use e-learning in respiratory medicine?

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Background: Several studies have shown that acceptance of e-learning by undergraduates increases with use. Whether the same acceptance applies to postgraduate trainees (PG) is less clear

Methods: This study examined usage of e-learning modules by PG trainees. In Phase I trainees were contacted by email (n=77) 1 week prior to a PG respiratory training session and asked to access respiratory e-modules prior to the session. Because some PGs reported difficult accessing NHS emails, in Phase II both an email and letter was sent (n=21).

Results: The PG trainees (n=98), consisted of 66 females, 1 (57%) or 2 (30%) or other (13%) yrs post graduation. 13% had no previous experience and 22% minimal experience of e-learning whilst 63% had moderate/high experience. 12% had no internet access at home, 30% used the internet for educational purposes daily, whilst 55% used it 1-4 times per week. 65% spent between 1-4 hours per week updating their clinical knowledge using all modalities.

Overall 41% accessed the e-learning modules prior to respiratory teaching sessions. In Phase I 33% accessed the modules. In Phase II after both a letter and email

Abstract 188 – Table 1. What influences your use of e-learning?

Group 1	Rank	Group 2	Rank	Group 3	Rank
Wide range of modalities	1	Cost	1	Good for self testing / assessment	1
Availability of computers or internet access	2	Ease of access to a computer	2	Technical issues	2
Logical design	3	User friendly	3	Quality of authorship/information	3=
Difficulty reading on screen	4	E-learning for exams	4	Cost	3=
Credentials of the source	5	Recent/ new publications	5	Can use in own time	5
Speed of access, cross speciality information	6	How enjoyable it is	6	Easier than having notes and books scattered	6
Easier to use than carrying books	7	Do it at your own pace	7=	Can access anywhere with internet connection	7
Lack of personal interaction	8	More convenient	7=	Paper trail, proof of CPD	8
Learn in individual time	9	Fits my schedule well	9=	Prefer working in groups face to face	9=
Expect e-learning to be updated, textbook dated	10	Get objective self-assessment	9=	Lack of awareness of what is available	9=

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reminder, the rate was higher (71%). Similar results were found when comparing those with low/minimal (36%) and moderate/high previous exposure (44%).

Conclusions: Despite requests, not all PG trainees made use of e-learning materials prior to planned teaching sessions. This may in part reflect contact problems with employer based email accounts and encouragement to access elearning materials may need spoken and written reinforcement. However even with such methods usage was not universal and methods of embedding e-learning in the PG curriculum are required.

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Web-based collaborative training of clinical reasoning: a randomised trial

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Background: Clinical reasoning skills are essential for medical practice. Case-based learning is effective in fostering these skills. By merging this approach with computer technology, virtual collaborative learning can be implemented.

Objectives: This study assessed whether virtual collaborative learning in respiratory medicine is superior to traditional case-based learning regarding the acquisition of clinical reasoning skills.

Methods: Fourth-year medical students (n = 148) enrolled in a six-week cardio-respiratory course at Goettingen University were randomized in small groups to diagnose a patient complaining of dyspnoea either using a virtual collaborative online module or a traditional case-based learning session. Clinical reasoning skills were assessed in a key feature examination at the end of the course.

Results: No significant difference between the mean examination scores of both study groups was detected. In virtual learning groups, costs for diagnostic tests were significantly correlated to the number of contributions to group discussions (r = 0.881; p = 0.002). Students randomized to the intervention group lost their interest in the online module while using it. Evaluation data yielded better results for traditional teaching sessions than for virtual collaborative learning.

Conclusions: While virtual collaborative learning was neither superior nor inferior to traditional case-based learning regarding the acquisition of clinical reasoning skills, it was less well accepted by medical students than traditional teaching. Future research needs to determine the ideal format and time-point for computer-assisted learning in medical education.

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Studying respiratory medicine collaboratively online -do medical students perceive it an effort worth pursuing?

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We designed a web course for undergraduate medical students participating in the course of Respiratory Medicine at the University of Oulu. The teaching method used in the web course was problem based learning (PBL) and students were solving patient cases during online discussions.

Nine medical exchange students (ERASMUS-exchange programme) from central, eastern and southern Europe, and one Finnish medical student attended the web course. All students had prior experience of PBL method, but only three students had prior experience of e-learning. The prior medical knowledge of the students varied considerably, there were students that had studied two (1 student), three (4 students), four (4 students) or five (1 student) years of medicine.

The activity of the students was evaluated by peer review, and 8/10 students scored good or excellent activity points. All students completed the final task successfully. The perceptions of the students were evaluated after the web course by a written questionnaire, and 9/10 students returned the questionnaire. All students had experienced the course as positive or very positive, and stated it had enhanced their learning. Students' perceptions and activity points were similar when comparing students with less medical studies (two or three years) to students with more advanced studies (four or five years). This suggests that students with varying amounts of prior knowledge were able to successfully work together and benefit from the course.

In conclusion, students' perceptions of studying respiratory medicine collaboratively online by PBL method were very positive, and we are continuing to further develop our web course.

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Development of online training for postgraduate respiratory medicine in Yorkshire: initial experiences

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Following a pilot study¹ an online resource has been launched to supplement respiratory medicine training in Yorkshire, United Kingdom. The modular pro-

gramme involves critical review of a recent peer reviewed journal article, multiple choice questions and completion of an online reflective assessment tool. Three months after the launch of the site trainees experiences were reviewed using a questionnaire. 27 of 40 trainees responded (68%)

11 of 27 trainees (41%) had not completed an e-learning module. 8 of these were 1st year trainees. Some trainees had difficulty accessing the site and obtaining the relevant journal articles. We anticipate these problems will reduce as familiarity with the site increases over time.

Trainees generally used protected teaching time and nights on call to complete articles. We had anticipated each module would take 1 hour to complete- the average time to complete modules was 58 minutes. Topics chosen were thought to be appropriate. 69% of trainees felt their practice would change after reading the articles and 25% did further reading on topics of interest. 62% found feedback from the MCQ's the most useful aspect of the site. Reflective assessment was felt to be the most helpful in only 13%. This is a skill which requires some practice and trainees may come to value this aspect more in the future. Discussion of the articles with colleagues was felt to aid learning and there was a suggestion to develop an online forum to facilitate discussion. Feedback will be used to develop the site further.

Reference: 1. Hardy A, Peckham D, Preferred methods for online training of respiratory specialists in the UK, Eur Respir J 2008; (Suppl): 364s: E4625.

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The impact of introducing local guidelines in improving the knowledge of junior trainees

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Introduction: It is well known that the use of non invasive ventilation (NIV) in the context of acute exacerbation of chronic obstructive pulmonary disease (COPD) remains suboptimal even in hospitals where the NIV service is available and this can be attributed to the lack of knowledge among junior trainees who deliver the immediate care when compared with their knowledge about managing cardiac emergencies.

Aim: This study investigates the role of introducing local guidelines for management of acute COPD exacerbators in raising the awareness among junior trainees and therefore improving the patient outcome.

Methods: Few months after making our local guidelines available on our hospital intranet and in the medical assessment unit (MAU), we tested the knowledge of forty junior trainees involved in providing direct care through two clinical scenarios based questionnaires looking at recognising the indications for NIV in COPD exacerbations and Thrombolysis in acute myocardial infarction.

Results: 27 trainees (67.5%) recognised the indication for thrombolysis for acute myocardial infarction and 26 (65%) recognised the role of NIV in acute COPD exacerbators which reflect increased awareness among juniors despite the historical low profile

COPD has suffered in the past.

Conclusion: Introducing local guidelines will enhance the postgraduate teaching among junior trainees and combined with the undergraduate curriculum will contribute to raise the COPD profile. Respiratory physicians have a major role to enhance the Respiratory education on national and international levels.

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Sarcoidosis in the global network

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The purpose of this presentation is to sort through the large number of web pages and present the more factual and accurate pages. Searches were performed using the following search engines with corresponding numbers of results parentheses: Yahoo (2876), Google (4388), Rambler (1090), Meta (459), and Look Smart (12079). After several hundred of the top listings, most remaining sites were only marginally related to the topic. Nevertheless, over a thousand web sites referring to sarcoidosis were reviewed initially. The rest were placed in categories to represent whether they were sites to sarcoidosis alone or part of larger more comprehensive site in which sarcoidosis was only a part. Results indicate that they were 239 academic and 78 non-academic sites 35 research studies, 31 listings by individuals interested in sarcoidosis and 90 bad links. In all there were 406 unique sites giving information about sarcoidosis. In addition there were 102 sites about related topics such as signs and symptoms, lab. tests, therapeutic agents, etc. that are applicable to sarcoidosis but not directed toward sarcoidosis. Among the sites, 78 universities, 39 other organizations, 23 journals and 36 countries were represented. Of the unique sites dedicated to sarcoidosis, physicians wrote only 14 and laymen wrote 26. Twenty-six pages were considered major pages with multiple aspects, 68 were excellent but spanned only a single page, and 32 consisted mostly of illustrations with little text. Of the academic sites, 75 contained general information about sarcoidosis, 21 were dedicated to coetaneous diseases, 15 to neurosarcoid, 14 to therapy, 17 to ocular, 12 each to pulmonary, cardiac, etiology, various imaging techniques, and associations with sarcoidosis.