Objectives We have established a clinical research fellows training initiative (CRFTI) to attract, encourage and support clinical trainees interested in undertaking postgraduate research. The CRFTI aims to (1) match potential fellows with appropriate supervisors to their research interests; (2) support the process of writing grant/fellowship applications; (3) advise on regulatory, intellectual, statistical and financial considerations; and (4) guide interview technique.
Methods We planned a session on ''Higher Degrees'' as part of the Respiratory Specialist Registrar NW Thames training programme. A pre-session questionnaire (Pre-Q) was sent to all trainees in order to tailor the session to their needs. Questions asked whether trainees planned to do research, their reasons, advice they needed and, for those who had undertaken research, what advice they would give. Pre-Q informed us to direct initial talks on funding opportunities, choosing supervisors, deanery issues and job prospects. Feedback was undertaken with a post-session questionnaire (Post-Q) to guide future talks and role of CRFTI.
Results 18/44 trainees (41%) responded to the Pre-Q where 39% (7/18) had previously undertaken and 62% (11/18) were planning research. Responses are grouped into themes listed by the number of times cited (table 1).
Conclusions Trainees require the necessary information at an early stage of their career to provide them with an informed decision to undertake research. Importantly, following our session, several trainees were considering undertaking research having previously felt they lacked ''academic capability''. The CRFTI is actively supporting 9/34 attending trainees (26%) towards research fellowships and will develop a website resource. We hope the initial experiences of our focused initiative may be a helpful model for other academic institutions to consider.

Details on CRFTI/questionnaires are available from o.usmani@imperial.ac.uk (Respiratory Lead) and emma.watson@imperial.ac.uk (Research Manager).

1. **Holgate**. *Thorax* 2007.
2. **Sheridan**, *et al*. *Lancet* 2009.
3. **Sheridan**. *Lancet* 2006.

P208 UK RESPIRATORY TRAINEES' VIEWS ABOUT IMPLEMENTING E-LEARNING INTO POSTGRADUATE TRAINING

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Background We have previously shown good acceptance of e-learning by undergraduates but more guarded acceptance by those in the first 3–4 years after graduation. This study specifically investigates respiratory SpRs' views about implementing e-learning into their postgraduate education.
Methods Semi-structured telephone interviews with specialist respiratory registrars were undertaken to discuss their views about medical postgraduate training and e-learning. Calls were recorded and interviews transcribed and themed.
Results 13 trainees took part (age 34±3 years; 11F, 2M). Ten (77%) were British medical school graduates and 6 (46%) graduated before 2000. All of the trainees stated that they had either minimal or no exposure to e-learning as undergraduates. All had internet access at home and 10 (77%) used the internet for educational purposes for 2–4 h per week. Three (23%) downloaded educational material to an iPod and 46% spent 2–4 h updating their knowledge per week. Nine (69%) thought that e-learning should be embedded into the training programme, although some suggested that initial piloting and training were required. Responses were varied (0–50%) when asked how many training days could be replaced by e-learning. Maintaining the social interaction of training days was emphasised, and need to use the full teaching day without gaps was highlighted. The ideal length of an e-module was thought to be <2 h (54%). Five (38.5%) suggested 2–4 h, but dependent on the topic and whether users could interrupt the module without loss. Nine (69%) thought that e-modules should be a compulsory component of postgraduate certification and, if this was put in place, 12 (92%) would complete the modules at home. Lack of free uninterrupted study time made e-learning difficult to complete at work. Specific diseases, bronchoscopic anatomy, physiology, lung function, radiology and interpretation of results were suggested as areas which would lend themselves to delivery via e-learning.
Conclusions Overall, postgraduates seem receptive to the positive benefits of using e-learning as part of their postgraduate training. However, the social interaction and face-to-face teaching on study days were highlighted as important. Most were willing to undertake e-learning in their own time, but as an adjunct rather than a replacement for training days.

P209 CAN DOCTORS CORRECTLY IDENTIFY THE CORRECT SITE FOR CHEST DRAIN INSERTION?

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Background Chest drain insertion is a procedure commonly performed by doctors across a range of specialties. The British Thoracic Society (BTS) has guidance for the preferred site for insertion, the safe triangle.[1] Adherence to the guidance reduces complications. A previous smaller audit has shown that a high number of doctors fail to identify the correct site for insertion.[2]
Method This audit surveyed 111 doctors across a range of specialties in a university teaching hospital from F1 to consultant level. They were asked to mark a site on one of three photographs (anterior, lateral and posterior) as to where they would insert a chest drain to treat an uncomplicated pneumothorax in a non-emergency setting. Information was collected regarding training grade, specialty and competence.
Results Of the 111 responses, 3 did not mark a photograph. Of the 108 who identified a site, 55 (51%) correctly identified the safe area. Of those correct, 31/55 (56%) felt competent to perform the procedure independently. 24/53 (45%) who were outside the triangle also felt competent to insert a chest drain. The most common error was siting the drain too low. Only 16/29 (55%) of SpRs/STRs in all specialties were correct. The majority of these (28/29) felt competent to perform the procedure. Table 1 illustrates the percentage of doctors who correctly identified the safe triangle in a variety of specialties. F1/F2 doctors were excluded as considered generic training. Of doctors with previous respiratory medicine or cardiothoracic surgery experience, 24/39 (62%) and 7/12 (58%) respectively correctly identified the safe triangle. The majority of doctors (99/111) felt further teaching and training would be beneficial.
Conclusion Despite BTS guidance, almost half of the doctors would have incorrectly placed a chest drain. This is true of doctors within the medical directorate (where most intercostal drains are inserted) and of SpRs/StRs who are most likely to perform chest drain insertion independently. Respiratory or cardiothoracic experience does not ensure correct placement. Worryingly, most doctors felt competent despite inaccurate placement. Further education and

Abstract P209 Table 1

	Total number	Number correctly identified safe triangle	% Correct
Medicine	37	20	54
Surgery	8	5	63
Orthopaedics	8	7	88
A&E	5	5	100
ENT	5	0	0
GP	5	2	40
Anaesthesia	2	0	0

training is needed. Competency should be assessed before independent chest drain insertion.

1. **Laws D**, *et al*. BTS guidelines for the insertion of a chest drain. *Thorax* 2003;(Suppl II):ii53–9.
2. **Griffiths JR**, *et al*. Do junior doctors know where to insert chest drain safely? *Postgrad Med J* 2005;**81**:456–8.

P210 WAS THE NPSA ALERT ABOUT CHEST DRAINS JUSTIFIED?

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Introduction and Objectives Following the NPSA alert in May 2008 highlighting the potential risks relating to chest drain insertions, we looked retrospectively at 140 drains at the Royal Bournemouth Hospital (RBH) focusing on safety and complications. RBH is a medium-sized DGH serving a population of 500 000 people in the East Dorset area.

Methods This was a retrospective audit of clinical notes, laboratory results and imaging, looking at all chest drain insertions at RBH over a 1-year period from 1 April 2007 to 31 March 2008.

Results

- 37% of drains had a complication with more complications occurring in drains inserted out-of-hours (42%), particularly if these were non-urgent (49%), with a significantly increased risk of drains falling out or the patient experiencing ongoing pain (table 1).
- The more experienced the person inserting the drain, the lower the risk of complications.
- 60% of drains were inserted by junior doctors and the majority of these were unsupervised. All of the patients who required a further potentially avoidable drain on the same admission had their drain inserted by an unsupervised junior doctor.
- Image guidance halved the complication rate but was only used in 24% of chest drain insertions.
- Of the 10 infective complications, two had no documentation of aseptic technique, with potentially significant medicolegal implications.
- There was a significant increase in ongoing pain when a drain size greater than 12F was used.

Conclusions We found that potentially life-threatening complications were occurring with chest drain insertions at RBH as highlighted by the NPSA. Chest drains should not be inserted out-of-hours unless there is an urgent clinical need as more complications occur. As in many other hospitals, the majority of drains were inserted by unsupervised junior doctors with a clear link found between the experience of the doctor and complication rates. Radiological guidance dramatically reduced complication rates and should be used wherever possible. Based on these findings, we have already taken steps to improve local practice with a mandatory training course, a new patient information leaflet as well as new documentation to promote best practice and provide a robust tool for audit.

Abstract P210 Table 1 Complications with chest drains

	Out-of-hours drains		Working-hours drains	
Complications	**N**	**%**	**N**	**%**
Drain fell out	5	13.16	7	6.86
Tension pneumothorax			1	0.98
Ongoing severe pain	6	15.79	8	7.84
Drain in wrong place	1	2.63	5	4.90
Entry site injury	1	2.63	3	2.94
Entry site infection	1	2.63	5	4.90
Intrapleural infection	1	2.63	3	2.94
Pulmonary oedema			3	2.94
Drain failure			2	1.96
Damage to lung or mediastinum	1	2.63	1	0.98
Total number of complications	16 in 38 drains		36 in 102 drains	
Complication rate	42.11%		35.29%	

Evaluating interventions in COPD

P211 SAFETY AND TOLERANCE OF NEBULISED ADC4022 (LOW-DOSE THEOPHYLLINE) IN HEALTHY VOLUNTEERS AND COPD PATIENTS

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Background Chronic obstructive pulmonary disease (COPD) and severe asthma are considered to be relatively corticosteroid-resistant; this is hypothesised to be due to reduced histone deacetylase (HDAC) activity which, in preclinical studies, can be upregulated by low-dose theophylline.[1] We have administered nebulised low-dose theophylline (ADC4022) to healthy volunteers (HV) and patients with COPD; here we present the safety, tolerance and pharmacokinetic findings from these studies.

Methods Study 1: a randomised, placebo-controlled, single rising dose (12.5 mg and 20 mg) and multiple-dose (12.5 mg twice daily up to 5 days) study in HV. Subsequently the 12.5 mg twice daily dose was studied in combination with placebo or inhaled budesonide. In total, 28 HV were exposed to ADC4022.[2] Study 2: a 4-week double-blind randomised comparison of nebulised ADC4022 12.5 mg twice daily or placebo, both in combination with nebulised budesonide 1 mg twice daily, in 91 patients with moderate-severe COPD.

Results Safety: ADC4022 was well tolerated in both studies. In the HV study no adverse events (AEs) were considered drug-related. There were no clinically significant changes in lung function or laboratory parameters. In the COPD study there was a similar incidence of side effects and laboratory abnormalities in the active and placebo groups; only one serious AE occurred (pneumonia in an ADC4022 subject, considered unrelated to drug). FEV_1 declined in placebo patients but was maintained in ADC4022 patients ($p = 0.045$). In HV, theophylline was measurable in the blood within 15 min of nebulisation. After 5 days' dosing median Tmax was 0.25 h and mean Cmax 0.191 mg/l (range 0.112–0.346). In 10 COPD patients, median Tmax was 0.5 h, mean Cmax 0.323 mg/ (range 0.122–0.603), mean $T_{1/2}$ 8.9 h.

Discussion Nebulised ADC4022 appeared to be safe and well tolerated both in HV and COPD patients. Plasma theophylline concentrations were far below those usually associated with systemic side effects (>10 mg/l).[3] Evidence of clinical benefit and anti-inflammatory effects has been shown in study 2,[4] and further clinical studies are planned.

1. **Fox JC,** *et al*. *Am J Respir Crit Care Med* 2008;**177**:A621.
2. **Moyses C,** *et al*. *Am J Respir Crit Care Med* 2008 **177**:A65.
3. **Hardy C,** Smith J. *Prescribers' J* 1997;**37**:96–101.
4. **Snape S,** *et al*. *Eur Respir J* (in press).

P212 FAST ONSET OF EFFECT OF ACLIDINIUM BROMIDE, A NOVEL LONG-ACTING MUSCARINIC ANTAGONIST, IN PATIENTS WITH COPD

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Introduction Aclidinium bromide is a novel long-acting inhaled muscarinic antagonist in development for the treatment of chronic