national 7.1%). Following this, an electronic alert was incorporated into a bespoke prescribing system to remind doctors to prescribe oxygen. This alert was triggered whenever the oxygen saturations of a patient were recorded on supplemental oxygen without an oxygen prescription.

Method Data was collected using the standard BTS oxygen prescribing audit proforma in October 2011 and October 2012. In 2012, 215 patients from six medical and respiratory wards were included; 40 were on supplemental oxygen. We used Fisher exact test to analyse our data.

Results The number of patients using oxygen with a valid prescription increased significantly from 42.9% in 2011 to 72.5% in 2012 ($p = 0.023$). The national average for oxygen prescriptions in 2012 was 52.3%. Oxygen is being signed for on drug rounds more often, 64.1% of the time compared with 13.5% the previous year. Despite the number of oxygen prescriptions increasing significantly, the proportion of patients with saturations in their target range actually decreased.

Conclusions The number of oxygen prescriptions have increased significantly with the introduction of an electronic alert system. Potential developments for the future would include an automatic prescription with 'opt out' facility and an alert for nursing staff when oxygen saturations are out of range to allow better titration of oxygen. This study shows that use of information technology and prescribing alerts and reminders can have a significant effect on number of prescriptions. What remains to be seen is if this will have an effect on patient outcomes.

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CONVENTIONAL AND INTERVENTIONAL BRONCHOSCOPY TRAINEE PRACTICE AND CHALLENGES

¹H Al-Najjar, ²H Lockman; ¹Southmead Hospital, Bristol, United Kingdom; ²Universiti Sains Islam, Kuala Lumpur, Malaysia

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Introduction Bronchoscopy, an integral skill for respiratory registrar training, has been challenged by changing work patterns. Exposure to interventional bronchoscopy has posed further challenges to trainees.

Objective To assess if UK respiratory trainee bronchoscopy practice and skills are in keeping with guidelines and whether their curriculum is being adhered to. We also gauged trainee attitudes and exposure to interventional bronchoscopy.

Methods A survey was designed by us to assess training opportunities, exposure, competency and practice in conventional bronchoscopy with a section dedicated to interventional bronchoscopy. This was piloted locally then expanded nationally with 15 deaneries participating.

Results 144 replies represented 24% of potential survey recipients. 13% had bronchoscopy experience outside specialist training such as fellowships or overseas experience.

53% were scheduled to attend bronchoscopy lists at least weekly although 27% achieved this (mainly due to on-call commitments). Just 70% of trainees had performed >200 bronchoscopies by their final training year. 97% kept a logbook, though only 62% recorded 'hit-rates'.

More scope via nose than mouth (53% vs 14%) and from the front than behind (44% vs 15%). Most right-handed (68%) and left-handed (73%) trainees preferred handling the control-lever with their dominant hand, 58% were influenced by their first trainer. 98% used midazolam and 52% opioids for sedation with 8% routinely using no sedation. Trainees tend to use midazolam rather than opioids first when using both (61% vs 24%).

By the final year of training, not everyone was completely independent with common diagnostic procedures, e.g. only 30% were for transbronchial biopsy. Almost all were trained on-the-job (figure). 62% of trainees rated flexible bronchoscopy training *excellent* or *good*.

Unfortunately most interventional bronchoscopy techniques weren't experienced by the vast majority. Only TBNA (36%) and EBUS-TBNA (22%) were performed by significant numbers of trainees. 24% had a definite interest in interventional bronchoscopy and of those 54% rated training *poor* or *very poor*.

Discussion The results have highlighted bronchoscopy training deficiencies and a substantial number of trainees' desire for exposure to interventional bronchoscopy techniques. Using e-portfolio akin to that already used for endoscopy and creating separate training pathways for interventional bronchoscopy may help in remedying this.

Trainee response when asked: How have you been trained in bronchoscopy?

Abstract P68 Figure 1.

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THE USE OF ASSESSMENT IN THE DELIVERY OF BRONCHOSCOPY SIMULATION- ARE SKILLS RETAINED AT ASSESSMENT?

¹F Chowdhury, ¹S Pathmanathan, ¹I Aslam, ²J Hogg, ¹J Kastelik; ¹Hull Institute of Learning and Simulation, Hull, UK; ²Pinderfields Hospital NHS Trust, Wakefield, UK

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Introduction Bronchoscopy simulation is becoming increasingly used as a tool to improve the confidence and knowledge of trainees, with the intention of increasing the speed of skill acquisition. Although this training has been shown to be effective, little research has been conducted into whether retention of skills occurs. Health Education Yorkshire and The Humber (HEYH) previously designed a mandatory programme to support the education of trainees and this has been extended to involve Anaesthetic trainees who often perform bronchoscopy.

Methods 8 Respiratory, 8 Anaesthetic and 8 bronchoscopy naive trainees underwent the simulation course. They participated in an assessment two months later. All trainees had access to the simulator to practice in the two-month period. Pre/post course and post assessment Likert scale questionnaires were carried out to assess confidence. Dexterity was assessed with data generated from the Simbionix Simulator including: final navigation scores, bronchial segments identified correctly and number wall hits in

Abstract P69 Table 1.

Confidence levels in:	Number of trainees	Mean Improvement (SD)	% Improvement	P Value
Knowing the indications for thoracoscopy	Pre=11, Post=11	1.27(0.65)	31.82	0.004
Knowing the contra-indications for thoracoscopy	Pre=11, Post=11	1.36(0.67)	34.09	0.004
Consenting the patient and quoting accurate complication rates	Pre=11, Post=11	1.36(0.5)	34.09	0.002
Being aware of the complications of thoracoscopy	Pre=10, Post=11	1.3(0.67)	32.50	0.006
Knowing the limits of safe conscious sedation and the complications	Pre=11, Post=11	1.54(0.93)	38.64	0.004
Technical ability in handling the thoracoscopy equipment	Pre=11, Post=11	2.54(0.82)	63.64	0.004
Knowing the indications for IPC insertion	Pre=10, Post=11	2.1(1.1)	52.50	0.007
Technical ability in performing an IPC insertion	Pre=11, Post=11	2.45(1.69)	61.36	0.007

Figure 1. Trainee improvement in confidence after attending the Medical Thoracoscopy and IPC insertion

the large airways. Knowledge testing was carried out using a preparing the patient metal algorithm taught during the course. The data generated was recorded on an assessment proforma entitled the Basic Bronchoscopy Simulation Assessment Tool (BBSAT).

Results Statistically significant confidence levels were found in 9 domains in all trainees after the course. Confidence levels fell significantly after assessment in the majority of domains (Table 1). Dexterity was retained at assessment, but a small fall in anatomical knowledge was demonstrated in Anaesthetic and Respiratory trainees. MCQ knowledge also showed a general decrease at assessment. The average BBSAT score was 67.2/72 (93%) indicating that all trainees had retained the basic level of skills required to perform bronchoscopy in a simulated environment.

Conclusion Overall, skills and knowledge are retained to a level required to perform bronchoscopy in a simulated environment, however confidence of trainees is significantly affected at assessment two months later. We propose that trainees are provided with mandatory bronchoscopy simulation training accompanied by assessment to ensure that skills are retained. We believe that basic bronchoscopy should be mastered before diagnostic bronchoscopy is broached; hence the use of a mastery assessment similar to the BBSAT may helpful in guiding simulation-based assessment.

P70 MANAGEMENT OF PLEURAL EFFUSIONS: ARE HEALTHCARE PROFESSIONALS ADEQUATELY TRAINED?

CL Ross, R Dimock, A Chotai, R Meeajan, T Wan, L Finney, SL Elkin; *Imperial College Healthcare NHS Trust, London, UK*

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Introduction and Objectives Management of pleural effusions is evolving with the introduction of a Best Practice Tariff for unilateral effusions and increasing use of thoracic ultrasound. However, transitions have been slow to filter through to clinical practice. This improvement project investigated the current management of pleural effusions within our Trust.

Methods We conducted: 1) An audit of all procedures for pleural effusions between 01.09.12 and 30.11.12; 2) A survey of junior doctors to establish their training provision, current practice and knowledge; and 3) A survey of acute medicine, respiratory, cardiothoracic and oncology nurses who regularly care for patients with effusions.

Results The audit reviewed 52 chest drains and 20 aspirations across 3 sites. Documentation of consent occurred in 39% of cases. Ultrasound was used in 79% of drains, but 26% of cases still used a remote 'X marks the spot' approach. 27% of procedures were done out-of-hours and 34% of patients waited over 12 hours for a chest x-ray following drain insertion. 61 junior doctors responded to the survey: 44% did not use sterile gowns when inserting drains; 11% did not use sterile gloves. No medical doctors had acquired level 1 ultrasound competence. Of the

31 nurses surveyed: 19% did not know the significance of a 'bubbling' drain; 39% did not know what 'swinging' indicated; 48% did not equate closing a 3-way tap with clamping a drain; and 26% were not aware chest drain bottles should be kept below the insertion point. 54% had never received any training regarding chest drain management. 45% of doctors and 58% of nurses were unaware of local guidelines.

Conclusions It is unlikely our findings are grossly different to practice in other inner city Trusts. With high staff turnaround, regular training for those caring for people with pleural effusions is clearly needed. Training should focus on aspects of patient safety such as image-guidance, aseptic technique and drain management. This study has led to the introduction of new local guidelines and pathways, creation of a pleural procedure kit to include aseptic equipment, implementation of an effusion bundle, and training sessions for doctors and nurses.

P71 TRAINING OF JUNIOR DOCTORS INTO THORACIC ULTRASOUND AND PLEURAL PROCEDURES—IMPACT OF A DEDICATED RESPIRATORY CONSULTANT—SUPERVISED ADVANCED NURSE PRACTITIONER-SUPPORTED SESSION

F Thaivalappil, D O'Neill, A Ionescu; *Royal Gwent Hospital, Newport, UK*

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The BTS made recommendations on pleural services. In order to stream-line the elective pleural procedures (other than thoracoscopy) a mid-week session was initiated on the pleural unit at a teaching hospital providing for over 500,000.

Aims To review the impact of a mid-week dedicated pleural session (DPS) Consultant-led and advanced nurse practitioner (ANP)-supported on the ward-based thoracic ultrasound (US) and pleural procedure training of respiratory trainees and impact on other hospital services.

Methods This is an analysis of data collected prospectively at the time of the US and procedures over 1 year. US referred to radiology were obtained from a search on radiology database. Changes over a period of six months after the DPS was started were assessed against the six months before. SPSS programme and Chi² test were used.

Results The numbers of US and procedures over 6 months was similar before and after the DPS (N = 297 vs. 260). Procedures performed on a Monday were less after DPS (Chi² = 9.21, p < 0.01), but not for Thursdays and Fridays.

Procedures done by trainees under Consultant supervision increased with the DPS (Chi² = 5.45, p = 0.019), so did those performed by the ANP (from 25 to 66 procedures, Chi² = 23.4, p < 0.001).

The proportion of chest drains inserted out of hours was 1.8% all were done by trained respiratory juniors. 20% US and procedures were referred by other departments.