smoking habit. A number of point-of-care urine cotinine tests are used to validate self-reported smoking and in some instances, provide feedback to improve smoking cessation. Urine testing is inappropriate in some instances, and while saliva testing is more acceptable, it is more difficult because cotinine is in lower concentrations compared to urine. A prototype saliva test was developed and evaluated, but the colorimetric assay was deemed inadequate. A new, more sensitive assay has been developed and evaluated in a group of healthy volunteers.

Method Volunteers (n=117), aged between 22 and 67 years (36% female), including 61 smokers with a cigarette consumption of five or more cigarettes/day, (mean 16.0), provided a saliva sample using a manufactured collecting device. One ml of saliva was eluted using the test’s fixed-volume syringe. The sample was introduced onto freeze-dried reagents and quickly shaken. A sample positive for nicotine metabolites would be expected to turn pink within 1 min, but 4 min were allowed for full colour development. The resultant colour was compared with a four-point colour chart and the level of smoking recorded. Samples from non-smokers should remain unchanged.

Results A positive colour change was obtained from 56 of the 61 smokers and a negative result from 54 of the 56 non-smokers, giving a sensitivity of 92% and specificity of 96%. The semi-quantitative results correlated with daily cigarette consumption; with light smokers (5–10 per day, n=15) mean 2.3, 11–15 per day (n=14) mean 2.8, 16–20 per day (n=19) 3.4 and more than 20 per day (n=8) mean 3.0 (p<0.05).

Discussion The new test was found to be superior to the prototype, being quicker and the final colour easier to read. The saliva collection device was also an improvement on previous methods. The sensitivity and specificity were comparable with the other commercial saliva cotinine test available. A dedicated colorimeter to quantify the result is under development. This test could be an important adjunct for treating smoking-related disease.

Abstract P189 Table 1

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>OR/OR (Odds of benefit from breathing retraining)</th>
<th>95% CI of OR</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (per 10 years)</td>
<td>1.12</td>
<td>0.87 to 1.45</td>
<td>0.39</td>
</tr>
<tr>
<td>Men</td>
<td>0.37</td>
<td>0.13 to 0.99</td>
<td>0.05</td>
</tr>
<tr>
<td>Nijmegen score</td>
<td>0.97</td>
<td>0.94 to 1.01</td>
<td>0.11</td>
</tr>
<tr>
<td>Cardio/respiratory disease</td>
<td>0.49</td>
<td>0.24 to 0.98</td>
<td>0.05</td>
</tr>
<tr>
<td>Spirometry</td>
<td>2.81</td>
<td>0.88 to 6.63</td>
<td></td>
</tr>
<tr>
<td>Obstructive</td>
<td>1.07</td>
<td>0.33 to 3.16</td>
<td></td>
</tr>
<tr>
<td>Smoking status</td>
<td>&lt;0.001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ex-smoker</td>
<td>0.60</td>
<td>0.27 to 1.33</td>
<td></td>
</tr>
<tr>
<td>Current smoker</td>
<td>0.08</td>
<td>0.01 to 0.33</td>
<td></td>
</tr>
</tbody>
</table>

Conclusion Our sample size was comparatively small as reflected in the wide CI, and the outcome measure was subjective. Nevertheless, smoking status is strongly associated with physiotherapist-assessed treatment efficacy following breathing retraining. Smokers, but not-ex-smokers are much less likely to benefit from breathing retraining. Therefore referral for smoking cessation rather than breathing retraining may be more appropriate in this patient group. It was not possible to assess long term benefit from this retrospective study.
Cancer Foundation, Glasgow, UK; National Lung Cancer Forum for Nurses, UK; MacMillan Cancer Support, London, UK; Royal College of Physicians, London, UK.

However, relatively little is currently known in this area. For the patient experience is extremely important in this group, background lung cancer survival rates are poor and the vast majority of patients receive palliative treatment only. Assessment of the patient experience is extremely important in this group, however relatively little is currently known in this area. For the first time at a national level the Improving Lung Cancer Outcomes Project (ILCOP) will collect patient reported experience data using a tool specifically for lung cancer patients and carers. We describe the development of this measure, in particular the key areas of the patient experience as identified by lung cancer patients and carers.

Methods
The views of a wide range of lung cancer patients and carers on their healthcare experience from diagnosis through to treatment were obtained by the Roy Castle Lung Cancer Foundation and the National Lung Cancer Forum for Nurses via telephone interviews, email and postal questionnaires, and a targeted focus group. Key themes were identified and mapped to previously validated questions from the national cancer survey (with permission of Picker Institute). Macmillan Cancer Support advised on questionnaire design and the final version was tested by a further group of patients.

Results
The key areas of the patient experience were reported as communication, privacy, respect and dignity, support for emotional and physical symptoms, and information. These domains were mapped to 12 multiple choice type questions from the national cancer survey. Two free text questions relating to areas of good practice and areas for improvement were added. Testing demonstrated that the questionnaire was straightforward, easy to understand and covered the areas that were most important to patients and carers. The six questionnaires sent out in the pilot phase were completed appropriately and returned the correct address.

Conclusions
We have identified the key areas of the patient experience for a wide range of lung cancer patients and carers which we have successfully incorporated into a new lung cancer patient reported experience measure. In addition to guiding quality improvement work in the national ILCOP, this questionnaire could be used by local lung cancer teams to assess the patient experience at trust level.

REFERENCE

Clinical studies in lung cancer

Development of a new patient reported experience measure for the improving lung cancer outcomes project

doi:10.1136/thx.2010.151043.42

Background
Lung cancer is the commonest form of malignant disease in the Western World, and 95% of patients die within 5 years of presentation. Palliation of symptoms is therefore an important aspect of the treatment: up to 30% will develop large airway obstruction due to tumour with ensuing distressing breathlessness and this may be life threatening. Protection of the airway by stenting may be difficult and is traditionally carried out under general anaesthesia and fluoroscopy. In our national unit we have developed a service for the insertion of self-expanding Gianturco stents under local anaesthesia using the fiberoptic bronchoscope (FOB) and direct vision for the treatment of malignant airway tumours, and we now report our 20-year experience.

Methods
A review of all stenting procedures carried out in our unit between 1990 and 2009, looking for tumour type, number and site of stents, procedure complications, and survival.

Results
236 patients (mean age 64 years (range 21–89)) had 414 stents inserted during 242 procedures (mean 1.7 stents/procedure (1–4)); 184 patients for primary lung tumours (49% squamous cell, 25% small cell, 15% adenocarcinoma, 11% unknown), 33 for secondary malignancy, and four for benign conditions (following fully informed consent). There were no operative deaths, but four patients developed a pneumothorax, three haemoptysis, and two procedure-related chest infections. Mean survival of patients with primary lung cancer improved from 103 days (range 1–488) between 1990 and 1999 to 150 days (5–910) between 2000 and 2009.

Conclusion
We conclude that Gianturco stents are safe in relieving malignant airway obstruction, with a low complication rate: higher complication rates reported in others studies may be due to poor informed consent. There were no operative deaths, but four patients developed a pneumothorax, three haemoptysis, and two procedure-related chest infections. Mean survival of patients with primary lung cancer improved from 103 days (range 1–488) between 1990 and 1999 to 150 days (5–910) between 2000 and 2009.

Abstract P192 Table 1 Site of airway narrowing, stent insertion and size

<table>
<thead>
<tr>
<th>Site</th>
<th>No. of pts</th>
<th>Stent size</th>
<th>Stent size</th>
<th>Stent size</th>
<th>Stent size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>20–25</td>
<td>20–50</td>
<td>30–25</td>
<td>30–50</td>
</tr>
<tr>
<td>T</td>
<td>65</td>
<td>14</td>
<td>20</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>RMB or LMB</td>
<td>109</td>
<td>108</td>
<td>3</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>T and LMB</td>
<td>16</td>
<td>12</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RMB and LMB</td>
<td>14</td>
<td>11</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T and both B</td>
<td>10</td>
<td>18</td>
<td>3</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

1. Trachea; RMB, Right main bronchus; LMB, left main bronchus; B, Bronchi.
P190 Attitudes of health care professionals towards smoking cessation

S Pearce, J Maycock, C McCauley, D Nazareth and P Stockton

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