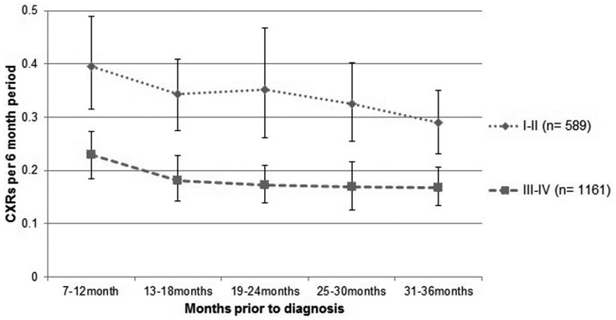


Abstract P166 Figure 1 CXRs per patient 6 month period prior to diagnosis

The number of CXRs performed during the 6 months leading up to diagnosis was much higher for both groups, but remained significantly higher for early vs late stage disease (1.32 vs 1.15, p = 0.009). This will include many CXRs which triggered referral to the lung cancer team.

The number of patients with no CXR in the three years before diagnosis (excluding the six months immediately before diagnosis) was higher in late stage (64.6%) than in early stage (45.0%).

Conclusion Differences are apparent in the frequency of CXRs many months prior to lung cancer diagnosis. We speculate that these changes are seen at a time when symptoms attributable to the lung cancer are unlikely to have been present. Instead, this may reflect differences in patient behaviour (threshold for seeking review for respiratory symptoms) and GP behaviour (threshold for requesting CXR). There may be a degree of incidental detection of more indolent early stage cancers (i.e. length-time bias).

A patient-GP relationship that results in increased frequency of CXR seems to be associated with increased detection of early stage disease.

P167 A 'VIRTUAL' LUNG NODULE CLINIC: A NOVEL APPROACH TO IMPROVE EFFICIENCY AND ACCURACY OF INDETERMINATE LUNG NODULE SURVEILLANCE

J Thomas, S Grundy. *University Hospital Aintree, Liverpool, UK*

10.1136/thoraxjnl-2015-207770.304

Background and objectives With increasing use and fidelity of CT scans the workload relating to surveillance of indeterminate lung nodules is ever increasing and is burdensome in terms of out-patients appointments and/or clinical administrative time. In July 2014 we established a 'virtual nodule clinic' (VNC) for reviewing indeterminate lung nodules. A proforma within our hospital electronic patient record is completed which automatically generates written communication for both the patient and the GP informing of the findings of the latest CT result and any follow-up required. The patients are not seen in clinic unless they request. The clinic template allows review of 40 cases per session.

The objectives of this study are to review the impact of the VNC on concordance with Fleischner guidelines and timeliness of communication of results.

Methods We retrospectively reviewed 50 consecutive nodule follow-up scans performed in November 2013 prior to establishment of VNC and 49 consecutive cases reviewed in VNC in November 2014. Concordance with Fleischner guidelines and date from CT scan to patient/GP being informed was reviewed.

Results Demographics were similar between groups.

The VNC has improved concordance with Fleischner guidelines in lung nodule surveillance by 40%. Prior to the VNC, 52% of patients had surveillance concordant with Fleischner guidelines. Following the introduction of the VNC, 92% of patients had follow-up concordant with Fleischner guidelines.

Median time from the date of CT scan to the patient/GP being informed of CT results was 5 weeks. None of the cases reviewed in VNC contacted us to request a face to face consultation despite this being offered within the written communication to patients.

Abstract P167 Table 1 A comparison between patients seen prior to the VNC and those reviewed in the VNC

	Prior to VNC *(November 2013)*	Reviewed in VNC *(November 2014)*
n	50	49
Age *(mean)*	63	65
Gender	Male 50%	Male 49%
	Female 50%	Female 51%
Mean Size of Nodule *(Diameter in cm)*	6.17	7.05
Concordance with Fleischner Guidelines	52% (26/50)	92% (45/49)

Conclusion The introduction of a virtual nodule clinic has significantly improved concordance with published guidelines for radiological follow-up of indeterminate lung nodules. It has also allowed a significant reduction in the number of 'unnecessary' out-patient appointments within the lung cancer service. VNC ensures effective and timely communication of scan results to patients and GPs.

P168 THE 'REAL WORLD' IMPACT OF THE NEW BTS LUNG NODULE SURVEILLANCE GUIDELINES

J Thomas, S Grundy. *University Hospital Aintree, Liverpool, UK*

10.1136/thoraxjnl-2015-207770.305

Background and objectives The BTS published new guidelines for the investigation and management of pulmonary nodules in June 2015. These replace the Fleischner guidelines and are based on an improved evidence base produced predominantly from recent lung cancer screening trials.

The BTS guidelines suggest no radiological follow-up for nodules smaller than 5 mm or <80 mm^3 and limit CT follow-up to 12 months when volumetric analysis is used. The guidelines recommend use of the Brock Model (full with spiculation) to estimate the probability of malignancy in nodules ≥ 8 mm. The Brock group also published a parsimonious model which requires fewer clinical variables to calculate risk with almost equivalent accuracy.

The objectives of this study are to establish the impact of the new guidance on the number of patients requiring radiological follow-up and the total number of scans recommended. We also studied any differences between the 2 Brock risk models.

Methods We retrospectively reviewed 99 consecutive patients who were reviewed for indeterminate lung nodules. Their follow-up recommendations were calculated using 3 methods: 1)

Fleischner, 2) BTS guidelines using Brock (full), 3) BTS guidelines using Brock (parsimonious).

When using the Brock model we assumed worse case scenario if clinical information was not available (i.e. family history of lung cancer present). We assumed all nodules stayed stable in size and that volumetric analysis was performed.

Results 23% fewer patients (75 vs. 99) required surveillance when using the BTS guidelines with Brock models rather than Fleischner.

38% fewer CT scans (132 vs. 214) would be performed in total when using Brock (full) compared with Fleischner.

31/99 patients had nodules ≥8 mm. Using the Brock (full) model 9/31 would have PET-CT compared with 6/31 with the Brock (parsimonious) model.

Abstract P168 Table 1 Lung nodule follow-up when using the 3 different surveillance methods

	No. (%) of patients requiring CT follow-up	Total no. CT scans performed in all patients requiring follow-up
Fleischner	97 (97%)	214
BTS with Brock- Full with Spiculation	75 (75%)	132
BTS with Brock- Parsimonious with Spiculation	75 (75%)	129

Conclusion The new BTS guidelines will significantly reduce both the number of patients requiring radiological follow up for indeterminate nodules and also the total number of scans required overall.

Even assuming worst case scenario in terms of clinical risk factors there is very little difference between Brock (full) and Brock (parsimonious). This needs assessing in a larger population with clinical outcomes evaluated.

P169 FDG PET-CT SCANS – WHO BEST USES THIS EXPENSIVE RESOURCE?

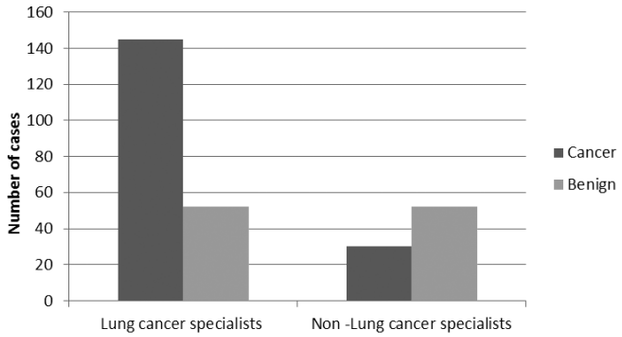
[1]N Nwosu, [2]M Ledson, [1]MJ Walshaw. *[1]Royal Liverpool University Hospital, Liverpool, Merseyside; [2]Liverpool Heart and Chest Hospitak, Liverpool, Merseyside*

10.1136/thoraxjnl-2015-207770.306

Introduction and objectives FDG PET-CT scans are a valuable tool in the diagnosis and staging of lung cancer, but their growing use in other diseases can cause resource issues, and in some cases they may be ordered by non-specialists further congesting the patient pathway. To study this further, we looked at referral patterns for PET-CT scans in the diagnosis of lung cancer at our hospital, paying particular attention to the reason for the scan and the referring clinician.

Methods A retrospective audit was undertaken of all PET-CT scans performed for the investigation of suspected lung cancer in 2014 by the Liverpool Lung Cancer Unit (LLCN). The LLCN consists of Liverpool Heart and Chest Hospital, a specialist cardiothoracic centre in the North West of England and the Royal Liverpool University Hospital, a teaching hospital.

Results All 253 PET-CT scans (186 for outpatients) carried out during 2014 for the investigation of suspected lung cancer were reviewed. One hundred and seventy five (69%) found malignancy. Scans ordered by lung cancer specialists were more likely to demonstrate a cancer diagnosis (145 cancer versus 52 benign) compared to those requested by non-specialists (30 cancer versus 26 benign), (Chi2 = 8.21, P < 0.01) (Figure 1).



Abstract P169 Figure 1 Difference in PET-CT cancer diagnosis between lung cancer specialists and non-lung cancer specialists

The commonest causes for a negative scan result were mass 27 (34%), nodule follow up 17 (22%) and new nodule assessment 14 (18%) respectively. Of 31 patients (39%) who had a PET-CT scan for nodule assessment, 8 (26%) were <10 mm in diameter. Overall, 22% of all negative scans were for nodule surveillance.

Conclusions We have shown that scans arranged by lung cancer specialists are more likely to give a positive yield, and also that the guidance for their use in nodule investigation is not being strictly followed. The results indicate that there is a need for better guidelines and patient pathways to ensure the most appropriate use of expensive resources.

P170 OUTCOMES FOLLOWING PURSUIT OF A TISSUE DIAGNOSIS IN ELDERLY PATIENTS WITH SUSPECTED LUNG CANCER

[1]S Crawley, [2]J Butler, [3]G Lumsden, [3]N O'Rourke, [1]S Sheridan, [1]M Sproule, [1]C Carlin. *[1]NHS Greater Glasgow & Clyde, Glasgow, UK; [2]Golden Jubilee National Hospital, Clydebank, UK; [3]Beatson Oncology Centre, Glasgow, UK*

10.1136/thoraxjnl-2015-207770.307

Background 40% of cases of lung cancer are diagnosed in patients aged 75 years and over. Comorbidities, frailty and poorer tolerance of therapy are challenges for diagnosis and management. We explored clinical outcomes and survival in a cohort of elderly patients in which a tissue diagnosis was pursued.

Methods 43 patients aged 75 and older who attended between 01/11/2013 and 30/04/2014, where a West Glasgow MDT decision was made to pursue tissue diagnosis were identified from audit data. Survival was reviewed at April 2015.

Results Mean age was 80 ± 4 yrs; 21 male/22 female; WHO Performance Status (PS) of 0 (2 pts), 1 (27 pts), 2 (5 pts), 3 (5 pts), Not Documented (4 pts). 17 patients had Bronchoscopy +/- EBUS-TBNA, 19 CT-guided lung biopsy, 5 other core biopsy, 2 positive pleural aspiration. Histology was non-small cell lung cancer in thirty-two (74%) patients, small cell lung cancer in three (7%) patients, mesothelioma in three (7%) patients, other malignancy in 3 (7%) patients and non diagnostic in 2 patients (diagnosis registered as clinical lung cancer). Seventeen (40%) patients were treated with *curative* intent (surgery, radical