Material and Methods: Using the institutional databases of 3 large UK Cancer Centres (Belfast, Glasgow and Leeds), patients who had curative intent thoracic radiation for NSCLC during 2010 were identified. Baseline demographics were collated, along with details of initial irradiation, relapse and subsequent management. Summary statistics were generated detailing the incidence of re-irradiation, treatment intent of re-irradiation and dose fractionation used.

Results: In total, 351 patients were identified who had curative intent radiation. Of these, 188 (54%) relapsed, 60 with local relapse only. Eleven patients (18% of those with local relapse) received palliative re-irradiation to thorax for specific symptoms, with fractionation schemes including 8Gy/1 fraction, 16Gy/2 fractions, 20Gy/5 fractions and 30Gy/10 fractions. Four patients (6%) received radical re-irradiation with curative intent using 55Gy/20 fractions (3 patients) or 55Gy/5 fractions (1 patient). Thirty-five patients (58%) had no treatment at relapse and most were categorised unfit. Four patients had salvage radical surgery. The remainder had systemic therapy or palliative supportive care. Median time between initial radiotherapy and local relapse was 13.5 months (3-49 months). Median time from initial radiation and re-irradiation was 24 months (6-41 months). No excessive radiation related toxicity was reported.

Conclusion: In this selected cohort, re-irradiation is used routinely for patients with NSCLC, both with palliative and curative intent for local failure following radical thoracic radiotherapy. Further investigation of re-irradiation is warranted to assess toxicity, optimise techniques used and improve patient accessibility.

EP-1239
Clinical outcome of SBRT of central, apical or paracostal tumors in the lung, a retrospective study
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Purpose or Objective: Stereotactic body radiotherapy (SBRT) of lung tumors gives excellent local control but with higher rates of toxicity for organs at risk located close to the tumor. Treating centrally located tumors with SBRT with 3 fractions increases the risk of severe side effects especially when located near the proximal bronchial tree (PBT) known from earlier studies. We aimed to evaluate our current practice using 56 Gy in 8 fractions for tumors located centrally in the lung or close to other organs at risk (OAR) located more peripherally in the lung.

Material and Methods: Medically inoperable patients treated with 56 Gy in 8 fractions from the 1st of June 2012 until the 1st of September 2014 were reviewed and analyzed. The patients were deemed unfit for SBRT in 3 fractions or normally fractionated radiotherapy. For three patients this treatment was part of the Nordic Hilus Study.

Results: Fifty patients were treated with a median follow up of 23.7 months (12.5-38.4). For baseline characteristics, see table 1. Not all tumors were centrally located; some tumors were close to columna, the apex of the lung or invaded the thoracic wall. Six patients had a locally recurrence (12%) and 15 distant recurrence (30%). Twenty-seven patients had died by the end of data analysis. Thirteen patients died of recurrent lung cancer. One patient died of another cancer. Two patients died suddenly without obvious cause. Eight patients died of other reasons, primary due to infections and/or known heart disease. Three patients died of hemoptysis probably due to bleeding from the main bronchus. Only one of these patients had an autopsy. This patient was re-irradiated with 30 Gy in 10 fractions because of recurrence overlapping the initial site. The 1 year survival was 76%, 2 year survival 41% and the 3 year survival was 38%. The median overall survival was 21.1 months (3.1 - 37.0).

Conclusion: SBRT with 56 Gy in 8 fractions for lung cancer in relation to OAR are tolerable with an acceptable local recurrence of 12%. The three patients who died of hemoptysis had their tumor located close to the main bronchus. Treatment of SBRT close to the PBT is known to cause damage to the bronchus. Due to the retrospective format of the trial some side-effects may be underreported. It is challenging to treat tumors close to organs at risk and in particularly the bronchial three with a dose to achieve local control and without harming the PBT or close to OAR.

EP-1240
Normal tissue exposure in SBRT: Retrospective QA on a prospective cohort - what have we learned?
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Purpose or Objective: Technique and indication of stereotactic fractionated radiotherapy (SBRT) has emerged rapidly during the last decade. Delineation, dose specification and constraints have been adjusted to updated evidence. Retrospective Quality Assurance (QA) of available prospective data was performed in order to reconsider recommendations and might reveal important insights for future treatment strategies.

Material and Methods: Within a prospective monocenter phase II study (STIPRE) 100 patients, elderly or unfit for surgery, have been treated with SBRT for 120 pulmonary lesions ≤5cm between 02/2011 and 12/2014. Applied doses were 3X12.5 Gy (85 lesions), 5X7Gy (30),7X5Gy (1) 406.5 Gy (1), 8X6.5 Gy (1), 8X7.5 Gy (1), 12X4.5 Gy (1), prescribed to 60% isodose in all but 2 patients. Delineation of organs at risk (OARs) was requested, however not specified in a detailed way in the trial protocol. Applying a moderate dose no constraints were provided in the protocol but derived from the evidence available at that time. SBRT plans had been evaluated by at least two experienced radiation oncologists before treatment. Within the retrospective QA process of the trial we now evaluated the maximal dose applied to OARs and analyzed those data with respect to the dose constraints of the recently launched EORTC 22113-08113 Lungtech trial. If