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**Title:** Does PET-CT predict the results of CT-guided core biopsy in the diagnosis of peripheral lung lesion?

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**Body:** Introduction: Percutaneous CT-guided transthoracic needle biopsy (CT-Bx) and Positron emission tomographic scanning (PET-CT) aids in the diagnosis of a peripheral pulmonary lesion (PN) where bronchoscopy is unhelpful. Our aim was to evaluate the diagnostic yield of CT-Bx in relation to standardised uptake value (SUV) on PET-CT. Method: A retrospective analysis was performed of all patients who had PET-CT and CT-Bx from Jan 2008 to June 2010. CT-Bx was performed with a Temno biopsy needle by an experienced radiologist. The SUV on the PET-CT, size of nodule and diagnosis were recorded. Results: 95 subjects who had the PET-CT and CT-Bx were included. The mean age was 66.05 years (range 30-90years). 48 (51%) were male. 61 (64%) had diagnostic CT-Bx where as 34 (36%) subjects had non diagnostic CT-Bx. The mean size of lesion was 2.47cm in subjects with diagnostic CT-Bx where as it was 2.38cm in non-diagnostic subjects, the difference which was not statistically significant (p value 0.37). The Mean SUV on PET-CT was higher in subjects where the CT-Bx was diagnostic compared to, where CT-Bx was non-diagnostic (12.750 Vs 7.982; p value 0.002). Conclusion: The SUV on PET-CT may predict the diagnostic yield of CT-Bx. The high value of SUV may result in diagnostic outcome of CT-Bx.