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Title: Cumulative exposure to ionising radiation in adults with non-CF bronchiectasis

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Body: Background: As treatments improve and patients with non-CF bronchiectasis are surviving longer, the cumulative exposure to potentially carcinogenic ionising radiation is important. We looked at the amount of ionising radiation given to adults with this condition (n=66) attending our Respiratory clinic over a 12-month period. Method: All ionising radiation studies were reviewed for their impact on management. Radiation was calculated using standard reference doses and expressed as milliSievert [mSv]. Results: See Table. The average radiation dose was 11.43 mSv. Overall, only 15% of chest X-rays and 62% of Chest CT's resulted in a change in management. Those with more severe disease had a greater cumulative dose of radiation. Conclusion: Patients with bronchiectasis receive significant medical radiation each year, but most impacts on their management. Those colonised with Pseudomonas are associated with greater levels, in keeping with the more significant disease burden in these individuals. Care should be taken when ordering investigations associated with ionising radiation, to reduce the long term effects of potentially harmful investigations.

Radiation exposure and % impacting care

	Mean % predicted FEV1 [SD]	Mean Radiation Dose (mSv)	% impacting care
All patients (n=66)	68 [27]	11.4	56
Underlying COPD (n=27)	53 [21]	11.1	28
Pseudomonas (n=14)	56 [24]	13.6	25
Non-Pseudomonas(n=52)	59 [26]	10.9	34