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## Post-1971 Uranium Industry Workers Have a Similar Radiologic Lung Disease Burden to Pre-1971 Workers

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First Page

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## Post-1971 Uranium Industry Workers Have A Similar Radiologic Lung Disease Burden To Pre-1971 Workers

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MIDUS Cohort

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**Rationale:** Workers employed in the uranium industry prior to 1971 are eligible for compensation benefits under the Radiation Exposure Compensation Act (RECA) but post-1971 workers are not. Our objective was to compare the prevalence of radiologic lung disease between pre-1971 and post-1971 uranium industry workers in New Mexico.

**Methods:** Workers were invited for screening examination at 'mobile' clinics held in New Mexico communities and a 'fixed' clinic at the University of New Mexico hospital between 2015 and 2016. A standard posterior anterior chest radiograph was obtained. The chest radiograph was interpreted by a NIOSH-certified B-reader using the International Labor Organization's International Classification of Radiographs for Pneumoconiosis. A B-read profusion score of small pneumoconiotic opacities of at least 1/0 was considered pneumoconiosis and defined as 'abnormal' pattern. The distribution of abnormal chest radiographs was compared between pre-1971 and post-1971 workers, using a Pearson's chi-squared test. A P- value of less than 0.05 was considered statistically significant.

**Results:** Of the 81 uranium industry workers who were evaluated (Table 1), 22 (27%) were pre-1971 and 59 (73%) were post-1971 subjects. The prevalence of abnormal chest radiograph was 68% and 66% in the pre-1971 and post-1971 groups respectively (p=1.0).

Table 1: Prevalence of radiologic disease among Uranium miners overall distinguished by Pre- or Post- 1971 employment.

	Pre-1971-n (%)	Post-1971-n (%)	Total - n (%)
<b>Abnormal Chest Radiograph</b>	15 (68%)	39 (66%)	54 (67%)
<b>Normal Chest Radiograph</b>	7 (32%)	20 (34%)	27 (33%)
<b>Total</b>	22 (100%)	59 (100%)	81 (100%)

**Conclusions:** Our results suggest that the prevalence of abnormal chest radiograph pattern is not significantly different between pre-1971 and post-1971 uranium industry workers. While we may have under-estimated the abnormal chest radiograph patterns in pre-1971 workers because they may already be compensated under RECA and may choose to no longer participate in our screening program, we still saw a substantial proportion of abnormal patterns in post-1971 workers. This argues that post-1971 uranium industry workers should be screened for the presence of respiratory diseases and that expansion of RECA to this group may be warranted.

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