

Radiographic Evidence of Nonoccupational Asbestos Exposure from Processing Libby Vermiculite in Minneapolis, MN

B.H. Alexander, *et al.*, EHP 120(1):45-49 (Jan., 2012)

Methods

- Community residents who never worked at facility examined
- Cumulative exposure based on air dispersion model data and activity-based exposure estimate
- Posteroanterior chest x-rays read by two B-reader radiologists, third reader to arbitrate for consensus
- Multiple logistic regression (associations between pleural abnormalities and exposure)

Nonoccupational Asbestos Exposure

Results

- 10.8% prevalence of pleural abnormalities(n=461)
- Pleural abnormalities associated with direct contact with waste pile OR=2.78 (95% CI=1.26, 6.10)*
- Pleural abnormalities associated with ever playing with waste pile OR=2.17 (95% CI=0.99, 4.78)*

(*adjusted for background exposure in fibers per cc months)

Nonoccupational Asbestos Exposure

Results

Pleural abnormalities associated with background (ambient) exposure from plant emissions

Linear model $\beta=0.331$ (95% CI=0.076,0.585)

IQR = OR =2.22(95% CI =1.34-3.68)

>75th %ile to <50th %ile

OR = 2.52 (95% 1.15-5.50)

Nonoccupational Asbestos Exposure

Conclusion

- Community exposure to asbestos-contaminated vermiculite originating from Libby, Montana is associated with pleural abnormalities on chest x-ray