

Surveillance Guidelines for State Health Departments

State Reporting Guidelines for Silicosis

State health departments should encourage physicians, including radiologists and pathologists, as well as other health-care professionals, to report all diagnosed or suspected cases of silicosis. These reports should include persons with:
A. A physician's provisional or working diagnosis of silicosis.
OR
B. A chest radiograph interpreted as consistent with silicosis.
OR
C. Pathologic findings consistent with silicosis.
State health departments should collect appropriate clinical, epidemiologic, and workplace information on reported persons with silicosis as needed to set priorities for workplace investigations.

Surveillance Case Definition for Silicosis

A. History of occupational exposure to airborne silica dust. *
AND EITHER OR BOTH OF THE FOLLOWING:
B1. Chest radiograph or other imaging technique interpreted as consistent with silicosis. **
B2. Pathologic findings characteristic of silicosis. ***

* Exposure settings associated with silicosis are well characterized and have been summarized in several reviews. The induction period between initial silica exposure and development of radiographically detectable nodular silicosis is usually >10 years. Shorter induction periods are associated with heavy exposures, and acute silicosis may develop within months following massive silica exposure.

** Cases can be classified as nodular or acute. Common radiographic findings of nodular silicosis include multiple, bilateral, and rounded opacities in the upper lung zones; other patterns have been described. Since patients may have mixed dust exposure, irregular opacities may be present or even predominant. To be considered consistent with silicosis, radiographs of nodular silicosis classified by NIOSH-certified "B" readers should have small opacity profusion categories of 1/0 or greater by the International Labour Organization classification system. If the largest opacity is >1 cm in diameter, progressive massive fibrosis [PMF] (also known as 'complicated' silicosis) is present. A bilateral alveolar filling pattern is characteristic of acute silicosis and may be followed by rapid development of bilateral small or large opacities.

*** Characteristic lung tissue pathology in nodular silicosis consists of fibrotic nodules with concentric "onion-skinned" arrangement of collagen fibers, central hyalinization, and a cellular peripheral zone, with lightly birefringent particles seen under polarized light. In acute silicosis, microscopic pathology shows a periodic acid-Schiff positive alveolar exudate (alveolar lipoproteinosis) and a cellular infiltrate in the alveolar walls.