Clinical Screening Guidelines for Asbestos-Related Lung Disease

Introduction

A physician with expertise in the evaluation and management of asbestos-related lung diseases should screen patients who are now or have been in the past:

- Workers involved in:
  - Mining of asbestos or minerals contaminated with asbestos
  - Manufacturing or using asbestos-containing products
  - Custodial, maintenance and repair work in asbestos-containing buildings, or
  - Direct contact with asbestos-containing waste or dust emissions

- People:
  - Living in the vicinity of asbestos mines and asbestos-related industries such as a vermiculite processing plant
  - In direct contact with asbestos-containing waste or dust emissions

Medical history

The medical history interview should include:

- Reason for visit
- Past medical history
  - Include general respiratory, tuberculosis, lung infection and cardiac history, rib fracture, thoracic surgery
- Current respiratory health history
  - Progressive dyspnea on exertion, dry cough, fatigue, weight loss, tachypnea at rest
- Smoking history
  - Include history of past attempts and/or willingness to quit, need for intervention

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Medical history
(continued)

• General asbestos exposure history
  – Any direct contact with asbestos
  – Source, intensity, and duration of exposure
  – Age at first exposure and years since first exposure

• Occupational exposure history
  – Asbestos and other chemical exposures on the job or from hobbies
  – High-risk occupations such as construction, demolition, remodeling, mining, and shipbuilding
  – Source, intensity, and duration of exposure
  – Age at first exposure and years since first exposure

Comprehensive physical examination

The physical exam should include:

• Auscultation of heart and lungs
• End-inspiratory basilar rales
• Abdominal examination
• Extremity examination (including clubbing, pulses, peripheral edema, and cyanosis)

PA chest radiograph

Note that radiological evidence is typically not present until at least 5 years after first exposure. In addition to a clinical evaluation, the use of a B-Reader is recommended for radiographic rating of lung changes. The radiograph reader should look for:

• Pleural changes
  – Thickening and possible calcification of the parietal and visceral lung pleura
  – Benign pleural effusion

• Interstitial changes
  – Small, irregular opacities in lower lung fields, “ground glass” appearance
  – Diffuse, bilateral interstitial fibrosis

• Lung carcinoma/pulmonary nodules

Simple pulmonary function test (PFT or spirometry)

• Include FVC, FEV1, and FEV1/FVC ratio.
• Asbestosis and some diffuse pleural disease may be characterized by restrictive changes. Among smokers, a mixed pattern may be noticed.
• Consider pre- and post-bronchodilator, especially if obstructive component is evident.
Criteria for further evaluation

- If x-ray is normal or inconclusive and exposure history is positive, repeat x-ray in subsequent years as needed. Lateral and/or oblique view recommended for inconclusive pleural changes.

- Consider referring patients with possible restrictive lung disease, significant radiographic or pulmonary function abnormalities, or those with uncertain significance, to a pulmonary specialist for complete pulmonary function tests and further evaluation.

- CT scan: NOT a screening tool; recommended only if exam/PFT results suggest disease but x-ray does not correlate or if findings of uncertain significance are found on chest x-ray.

- CT may assist in differentiating pleural plaques from soft-tissue densities, cancer versus rounded atelectasis.

Some of the information is from the Minnesota Department of Health’s Clinical Screening Guidelines for Asbestos-Related Lung Disease