Inside this issue: Pneumoconiosis and other related conditions

Validation of the international labour office digitized standard images for recognition and classification of radiographs of pneumoconiosis.  
Asbestos, asbestosis, smoking, and lung cancer. New findings from the North American insulator cohort.  
Chest computed tomography screening for lung cancer in asbestos occupational exposure: a systematic review and meta-analysis.  
Mesothelioma risk after 40 years since first exposure to asbestos: a pooled analysis.  
Pleural mesothelioma and occupational coexposure to asbestos, mineral wool, and silica.  
Occupational and non-occupational attributable risk of asbestos exposure for malignant pleural mesothelioma.  
Pleural plaques and their effect on lung function in Libby vermiculite miners.  
Pleural plaques and the risk of pleural mesothelioma.  
Occupational asbestos exposure and risk of esophageal, gastric and colorectal cancer in the prospective Netherlands Cohort Study.  
Exposure to chrysotile mining dust and digestive cancer mortality in a Chinese miner/miller cohort.

Articles selected and commented on by
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Coal mine dust lung disease. New lessons from old exposure

Authors: Petsonk EL, et al.
URL: http://www.ncbi.nlm.nih.gov/pubmed/23590267
Comments: This concise review provides a succinct and up-to-date summary on the respiratory health issues affecting coalminers, and highlights the wide spectrum of lung diseases as observed: coal worker's pneumoconiosis, silicosis, mixed dust pneumoconiosis, dust-related diffuse fibrosis and chronic airway diseases, including emphysema and chronic bronchitis. Millions of coalminers continue to be exposed to various levels of coal dusts and other toxic gases/particulates in their work environment, and existing regulatory standards are not fully protective even in the most developed countries. Heightened clinical awareness is required for early detection of occupational lung diseases, so that appropriate intervention could be introduced to reduce morbidity and mortality.

Validation of the International Labour Office digitized standard images for recognition and classification of radiographs of pneumoconiosis

Authors: Halldin CN et al.
URL: http://www.ncbi.nlm.nih.gov/pubmed/24507420
Comments: This study evaluated the use of the digitized standard images included under the 2011 International Labour Office (ILO) International Classification of Radiographs of Pneumoconioses in the classification of digital radiographs of 172 underground coal miners. Under optimal conditions of image capture and display, results of classification of small pneumoconiotic nodules using the 2011 ILO digitized standards are comparable to film-based ILO classifications. Digital radiography has been replacing conventional film-based radiography in many developed areas. Previous studies have already shown largely comparable reader visualization of small pneumoconiotic opacities between digital and conventional radiography, even though considerable inter-reader variability remains a challenge for both methods. The validation of the ILO digitized standards is likely to facilitate the use of digital technology in both field work and researches on pneumoconiosis.

New Impact factor and ranking for Respirology released July 2014

Edited By: Peter Eastwood

Impact Factor: 3.495
ISI Journal Citation Reports ©
Ranking:2013: 15/53 (Respiratory System)
Online ISSN: 1440-1843

NEW IF: 3.495!

Authors: Liu Y et al.
URL: http://www.ncbi.nlm.nih.gov/pubmed/24043436
Comments: Although crystalline silica has been classified as a human carcinogen by the International Agency for Research on Cancer, few, if any, of the individual studies have provided robust quantitative data on silica exposure, silicosis, and/or smoking. In this cohort involving follow-up of 34,018 Chinese workers without exposure to carcinogenic confounders for lung cancer deaths over a mean duration of 34.5 years, successive quartiles of cumulative silica exposure (using a 25-year lag) yielded hazard ratios of 1.26, 1.54, 1.68, and 1.70, respectively, compared with the unexposed group, and the joint effect of silica and smoking was close to multiplicative. For workers exposed from ages 20 to 65 years at 0.1 mg/m³ of silica exposure, the estimated excess lifetime risk was 0.51%, again indicating the current exposure limits in many countries are not fully protective.

Asbestos, asbestosis, smoking, and lung cancer. New findings from the North American insulator cohort.

Authors: Markowitz SB et al.
URL: http://www.ncbi.nlm.nih.gov/pubmed/23590275
Comments: This cohort analysis helped to elucidate the interactive effects of asbestos exposure, asbestosis, smoking and smoking cessation on lung cancer mortality among 2,377 male North American insulators and 54,243 non-asbestos-exposed blue collar male workers from Cancer Prevention Study II. Asbestos exposure alone, asbestosis without smoking, and smoking alone are associated with excess lung cancer mortality (rate ratios: 3.6, 7.4 and 10.3 respectively). The joint effect of smoking and asbestos exposure alone was additive (rate ratio = 14.4) and that of smoking and asbestosis, supra-additive but somewhat less than multiplicative (rate ratio = 36.8). Insulator lung cancer mortality halved by smoking cessation within 10 years and converged with that of never-smokers after 30 years.

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Chest computed tomography screening for lung cancer in asbestos occupational exposure: a systematic review and meta-analysis.

Authors: Ollier M Jr et al.


Comments: Interest on lung cancer screening has been rekindled by a recent study showing 20% mortality reduction in the use of low-dose chest computed tomography (CT) screening for early detection of lung cancer among heavy smokers. In this meta-analysis of seven cohort studies involving 5074 asbestos-exposed workers, baseline CT screening detected 49 (>=18 in stage 1) asymptomatic lung cancers. The overall detection rate of 1.1% and the proportion of stage 1 diagnoses closely paralleled those observed among heavy smokers, thus suggesting a potential role of such screening among asbestos-exposed workers.

Mesothelioma risk after 40 years since first exposure to asbestos: a pooled analysis.

Authors: Reid A, el al.


URL: http://www.ncbi.nlm.nih.gov/pubmed/24842786

AND

Pleural mesothelioma and occupational coexposure to asbestos, mineral wool, and silica.

Authors: Lacourt A et al.


URL: http://www.ncbi.nlm.nih.gov/pubmed/23471464

Comments: In the first nested case-control analysis within 8 pooled cohorts, the median time since first exposure to asbestos for pleural mesothelioma was 38.4 (IQR 31.3-45.3) years. The risks of developing pleural and peritoneal mesothelioma increased following cessation of exposure, and the rates of increase only appeared to slow down after 40-50 years. In the second case-control study involving 1,199 males with pleural mesothelioma and 2,379 control subjects, mesothelioma was significantly associated with mineral wool exposure after adjustment for occupational asbestos exposure (OR: 1.6 and 2.5 respectively for subjects exposed to less than 0.01 fibers and 0.32 fibers per ml per year). Silica exposure alone showed no effect. Coexposure to either asbestos and mineral wool (OR: 17.6) or asbestos and silica (OR: 9.8) seemed to increase the risk of pleural mesothelioma, compared with occupational asbestos exposure alone (OR: 4.3).
**Occupational and non-occupational attributable risk of asbestos exposure for malignant pleural mesothelioma.**

**Authors:** Lacourt A et al.


**Comments:** In this population-based case-control study including 437 incident pleural mesothelioma cases and 874 controls, a clear dose-response relationship was observed between occupational asbestos exposure and pleural mesothelioma (OR: 4.0 and 67.0 for men exposed at less than 0.1 fibres and more than 10 fibres per ml per year respectively). Non-occupational exposure to asbestos was also associated with pleural mesothelioma. For occupational asbestos exposure alone, the population attributable risks due to occupational asbestos exposure were 83.1% for men and 41.7% for women respectively. Taking all kinds of asbestos exposure together, these increased to 87.3% for men and 64.8% for women, highlighting the greater contribution of non-occupational exposure in women. Under-estimation of the overall impact of asbestos is possible, taking into account the difficulty in assessing domestic or environmental asbestos exposure.

**Pleural plaques and their effect on lung function in Libby vermiculite miners.**

**Authors:** Clark KA, et al.


**AND**

**Pleural plaques and the risk of pleural mesothelioma.**

**Authors:** Pairon JC et al.


**Comments:** In the first study, asbestos-related pleural plaques alone as identified by high resolution computerized tomography have no significant effect on spirometry results, lung volumes, or DLCO in Libby vermiculite miners. In the second 7-year follow-up study of 5287 male asbestos-exposed workers evaluated for asbestos-related diseases by computed tomography at baseline, a total of 17 incident cases of pleural mesothelioma were diagnosed, and significant association was found between pleural plaques and mesothelioma (unadjusted hazard ratio (HR) = 8.9; adjusted HR = 6.8, after adjustment for time since first exposure and cumulative exposure index to asbestos). The excess risk of mesothelioma indicates a need for vigilance in the follow-up of asbestos-exposed workers with pleural plaques, but whether early detection would translate into survival benefit remains to be answered with the currently available modalities of treatment.
**Occupational asbestos exposure and risk of esophageal, gastric and colorectal cancer in the prospective Netherlands Cohort Study.**

Authors: Offermans NS et al.

**Exposure to chrysotile mining dust and digestive cancer mortality in a Chinese miner/miller cohort.**

Authors: Lin S et al.

Comments: Asbestos exposure has been associated with mesothelioma, lung cancer and ovarian cancer, but evidences for association with gastrointestinal malignancies have been rather limited. In the Netherlands Cohort Study that followed up 58,279 men aged 55-69 years for 17.3 years, prolonged high asbestos exposure was associated with overall gastric cancer, esophageal adenocarcinoma, gastric non-cardia adenocarcinoma, total and distal colon cancer, and rectal cancer after adjustment for age, family history of cancer, smoking and other lifestyle confounders. In the Chinese asbestos miner/miller cohort that followed up 1539 Chinese workers for 26 years, a clear exposure-response relationship was also observed between chrysotile dust exposure and mortality from stomach cancer, and the relationship persisted after adjustment for potential confounders. The results of the above prospective occupational cohorts therefore gave further evidences in support of the association between asbestos exposure and gastrointestinal malignancies.

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