



Report of Working Groups

Elimination of Asbestos-related Diseases

**ICOH 2012
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Cancun**

Report of WG Elimination of Asbestos-related Diseases

Dr. Sherson mail to ICOH President of 7 December 2011:

The following is the an update on the WG on the Elimination of Asbestos-related Diseases. The members of this WG are Yuki Kusaka (chairman), Eduardo Algranti, Sverre Langard, Allsendro Marinaccio, Ken Takashi and David Sherson (secretary).

As you know the Scientific Committee for Respiratory Disorders established an editorial Committee (Sherson D, Kusaka Y, de la Hoz R, Guidotti T, Takahashi K, Suganuma N, Langaard S, Phakthongsuk P, Kraus T.) at the Cape Town meeting. The purpose of this editorial committee was to produce an Executive Statement on Prevention of Asbestos-related Diseases. As you are also aware of this statement was reviewed by the ICOH Board at the midterm meeting in Milan. The Board's suggestions have been incorporated into the statement.

With this background we discussed how to proceed with the WG members. It was decided that there was a lot of overlap between the WG's planned activities and the SC Executive Statement. Thus it was decided, that the next step should be that the WG members should review SC Executive Statement and suggest revisions, additions and corrections. All suggestions from the WG have been incorporated into the final SC Executive Statement which is enclosed. Hopefully this Statement will be approved by the Board in Cancun.

Prevention of Asbestos-related Diseases: executive statement

Scientific Committee on Respiratory Disorders
International Congress on Occupational Health
Editorial Committee: Sherson D, Kusaka Y, de la Hoz R, Guidotti T, Takahashi K, Suganuma N, Langaard S, Phakthongsuk P, Kraus T. July 18, 2011

Summary

ICOH's Scientific Committee on Respiratory Disorders (ICOH-SCRD) recommends the elimination of asbestos use in order to prevent asbestos-related diseases. We suggest that all countries, who have not already done so, develop and implement total asbestos bans. To monitor progress towards the elimination of asbestos-related diseases at the national level, ICOH-SCRD encourages countries to regularly compile a National Asbestos Profile including information on asbestos use and worker risk as recommended by ILO.

Primary prevention: prevent disease development

1. Total asbestos ban

A consensus has emerged in many countries that a total ban of any form of asbestos (a "universal ban") is the best way to eliminate the occurrence of asbestos exposure-related diseases. The World Health Organization has issued the same recommendation. Universal bans have been adopted by governmental decision in some countries recognizing the health hazards caused by asbestos. Other countries have banned the use of amphibole fibres, predominantly crocidolite, but have not banned chrysotile asbestos. It is clear that amphiboles cause malignancies of the lung and pleura, as well as of the peritoneum. However, there is now strong evidence that chrysotile also causes these cancers. Therefore, amphibole-only bans are inadequate and asbestos bans need to include chrysotile as well.

Some countries have banned the production or the use of asbestos containing industrial products, but have continued to mine, sell, and export asbestos. This is an unacceptable policy and should be reconsidered by those countries. In order to be effective, a total ban of all asbestos forms should be achieved in every country. In order to achieve this goal, physicians and occupational health personnel should play a central role in expressing their concern and raising awareness regarding the need to prevent asbestos-related diseases.

2. Prevention of new cases of asbestos-related diseases by exposure reduction.

2.1 There is no threshold exposure value below which asbestos-related disease risk can be totally eliminated. Some level of protection of asbestos workers can be achieved by minimizing asbestos exposure levels. Reference exposure levels in the form of threshold limit value or occupational exposure limit should adhere to international norms and be fully observed. Currently, many public, governmental, and scientific organizations have adopted 0.1 fibre/cm³ for any asbestos. Achieving these exposure values will lessen, but will not eliminate, the risk of asbestos-related diseases. With the continued presence of asbestos in the workplace, there may be lapses in good practice resulting in increasing asbestos exposure. In order to achieve effective prevention, certain conditions must be met: monitoring asbestos fibre concentrations, reporting exposure levels to the appropriate authorities, assessing exposures according to the standards and ensuring the reduction of asbestos exposure levels when necessary. A social and political commitment to improving working conditions may be required. While substitution is the most effective measure to eliminate asbestos exposures, containment and ventilation are practical interim options.

Workers should be informed about working conditions, provided with respirators, instructed in their use, and encouraged to wear them. Adequate fitting, change of filters and sanitary storage of masks are required for effective protection. Employers must consider the appropriateness of respiratory protection measures, take into account workers' comfort, and provide adequate respirator maintenance.

2.2 Primary prevention should also include the protection of workers who carry out demolition or removal of asbestos materials. Workers handling asbestos containing materials must be informed of possible risks. Considerations for monitoring air concentration of asbestos fibres and lowering them as well as providing respirators, are essentially the same as those for asbestos miners and production workers. Ambient air levels at the boundary of the demolition sites adjacent to residential areas should be strictly monitored and kept below the required exposure levels.

3. Smoking cessation

In view of the synergistic effect of smoking and asbestos exposure on lung cancer risk, smoking cessation should be recommended to more effectively reduce that risk for both current as well as previously asbestos exposed workers. There is additional benefit in preventing passive smoking among family members and neighbours. In view of its importance, smoking cessation programs for all currently and previously exposed should be covered by public and/or private health insurance systems or employers.

Secondary prevention: early diagnosis and treatment

Non-malignant asbestos-related diseases include asbestosis, pleural thickening and calcification, benign pleural effusions, and rounded atelectasis. Malignant asbestos-related diseases include lung cancer and mesothelioma. Elevated risks of colon and larynx cancer have been demonstrated, but

the causal association with asbestos remains controversial for extrathoracic cancers, with the exception of mesotheliomas.

1. Non-malignant asbestos-related diseases

The early diagnosis of asbestos-related disease requires knowledge of the presenting disease signs, recording of complete occupational histories, knowledge of the relevant occupations and their related exposures and hazards, and of the pathophysiology of asbestos in the body. The recognition of the role of asbestos in causing disease is important for early diagnosis and disease surveillance. When populations are being studied, the relative contribution of a specific cause or risk factor is called “attribution”. In individual cases, where the most likely cause is determined for the exposed worker the process is called “apportionment”. The ICOH Scientific Committee on Respiratory Disorders recognizes the basic elements of the revised set of guidelines for evaluation of individual patients developed by the American Thoracic Society in 2004, namely:

- Evidence of structural lesion consistent with asbestos-related disease,
- Evidence of causation by asbestos, and
- Exclusion of alternative diagnoses

Evidence of structural lesions can be demonstrated by imaging and histology. The International Labour Organisation’s (ILO) International Classification of Radiographs of Pneumoconioses is the recommended radiographic diagnostic tool. The International Classification of HRCT for Occupational and Environmental Respiratory Disease (ICOERD) should be added, particularly when the diagnosis is uncertain. When appropriate and feasible, and when the risk to the worker is acceptable, tissue or bronchoalveolar lavage may be obtained for histologic and cytologic studies, respectively.

Evidence of plausible causation by asbestos should be based on demonstrating one or more of the following: an appropriate occupational or environmental asbestos exposure history with a plausible latency time, markers of exposure (pleural plaques), or recovery of asbestos bodies or fibres from appropriate tissue or fluid samples.

Exclusion of alternative diagnoses: Other causes of pleural changes or fibrotic lung disease should be carefully investigated and reasonably excluded.

2. Malignant asbestos-related diseases

Lung cancer is a known consequence of asbestos exposure. Among non-smokers, lung cancer is sufficiently rare that an association with asbestos can be assumed if asbestos exposure has occurred. Powerful biological interactions between cigarette smoking and asbestos have been clearly demonstrated. Asbestos increases the risk of lung cancer among smokers up to a factor of 6. Thus, for purposes of apportioning cause, or for eligibility for compensation, asbestos exposure almost invariably contributes to risk among smokers to the extent that a relationship to work can be presumed.

Objective indicators of sufficient asbestos exposure to cause lung cancer include a chest film classified by the ILO system as 1/0 or greater, or demonstration of pleural plaques or an exposure history roughly equal to or greater than 25 fibre/cm³-year. However, some countries compensate cases with levels of or above 10-15 fibre/cm³-year. The histology of asbestos-related and unrelated lung cancers does not differ significantly. Mesothelioma should be deemed causally related to asbestos in all cases when there is evidence of exposure to asbestos.

3. Disease surveillance

Disease surveillance should be considered for individuals or groups of workers with previous or current asbestos exposure. The majority of previously exposed are found among the general population. There are no specific international guidelines for recommended asbestos-related disease surveillance. Thus establishing a surveillance program is presently based on an appropriate evaluation of the particular situation. Individuals with current asbestos exposure or previous estimated exposure to or greater than 25 fibre/cm³-years may be included. The ILO classification of radiographs, standard respiratory questions and lung function tests should be included. Surveillance can be repeated annually or at other reasonable intervals. Due to the powerful biological interaction between cigarette smoking and asbestos, it is imperative that smoking cessation be strongly encouraged among asbestos-exposed workers as well as ex-workers previously exposed. Transferring of workers with more than 25 fibre/cm³-years exposure to non-exposed work areas should be considered.

Tertiary prevention: limit disease progression and disability

1. Inform the patient about the disease

The patient should be fully informed about the disease and its prognosis. In the case of asbestosis, survival following the diagnosis varies with the stage of the disease and accompanying conditions. Since the disease often requires decades to develop, there should be no time limit on recognition of the disease and qualification for compensation. The prognosis for mesothelioma is more predictable. Survival past five years is uncommon. Because mesothelioma in the absence of asbestos exposure is extremely rare, recognition of mesothelioma should be accepted grounds for qualification for compensation in every case.

2. Report the disease

Systems should be in place to report the disease to the appropriate authorities and public health registries, and promote its inclusion in death certificates. Information captured by registries, on the other hand, should guide timely and appropriate interventions to support disease prevention initiatives.

3. Disability and impairment evaluation

The disease should be objectively evaluated. Standard lung function testing should be performed. Impairment should be evaluated according to an appropriate standardized severity scale. Chest radiographs should be classified with ILO's standard radiographs adding the international HRCT classification (ICOERD) when appropriate. The ILO classification contributes to making the diagnosis and is used to classify disease stage.

4. Compensation and disability benefits

The worker/patient should be informed about eligibility for compensation, disability and death benefits and assisted in obtaining these.

5. Prevent disease progression

Generally the worker with asbestos-related disease should be removed from further exposure. However, the worker may continue at his or her usual work if exposure is minimal, at or below

permissible levels. This is important so as not to deprive the patient of his or her livelihood for no clinical benefit.

6. Immunization

Immunization against pneumococcal pneumonia and influenza should be provided to worker/patients with debilitating asbestos-related lung disease, because of the high risk of complications with these diseases.

7. Concurrent respiratory disorders and complications

The physician providing care for worker/patients with asbestos-related disease should effectively manage and treat concurrent diseases, like COPD, asthma, and respiratory infections when present, or secondary disorders like cor pulmonale, secondary polycythemia, and respiratory failure. Symptoms including breathlessness, pain, and psychological distress, should also be appropriately treated.

8. Pulmonary rehabilitation

Standard pulmonary rehabilitation may play a role in the management of individuals with non-malignant asbestos-related disease and related functional impairment and disability.

9. Coping with terminal cancer

As with other malignant diseases, healthcare providers should provide palliative and psychological support to the patient and family. The worker/patient should be made aware of the terminal nature of the disease. Disease management should include adequate pain management and maximize quality of life.