



International Occupational Hygiene Association
NEWSLETTER

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Letter from the Editor

Dear Colleagues,

One more year has gone by and it is time to think about what has happened in occupational hygiene in 2003 and make plans for what we wish will happen in 2004. When I drive one of my grand -daughters, she likes to show me things on the way, which more often than not I cannot manage to look at and she says: “didn’t you see ? pity”and then, in the wisdom of children: “ *c’est pas grave*, you will see it tomorrow !” And I believe that is what we should do: whatever we could not achieve this year, let’s do it next year. Instead of thinking of this period as an end, let’s think of it as the beginning of a new period of exciting projects and achievements and, of course, renewed fights for our profession. Let’s rejoice in the victories of the past year, which were many, and not only learn from what did not work, but keep trying and we will certainly achieve it ”tomorrow”.

Occupational hygiene continues to grow and develop around the world, although not as fast as we would wish :-). We had some milestones this year, an outstanding one being the “*ICOH and IOHA Declaration to Strengthen the Position of Occupational Hygiene*”, signed at Iguassu Falls, in February. New occupational hygiene associations are being created, gaining momentum and joining IOHA. Occupational hygiene courses and certification schemes are being planned and implemented where they did not exist before. Collaboration between sister associations is always increasing, both within the same country or in different countries, as you may see in the exam ples provided by Japan and Brazil.

After 8 years, the ILO/WHO Joint Committee meets again; combined efforts of these key organizations greatly benefit the health of workers around the world.

In response to my request to readers, I have received valuable contributions on relevant occupational hygiene subjects, to be shared with colleagues from other parts of the world. Of course, I renew my request for comments, suggestions and contributions to the Newsletter and thank you in advance.

I would like to wish to all of you and your families a wonderful Holiday Season, followed by a new year 2004 full of Joy, Peace, Love, Health, Happiness and Success !

Berenice I. F. Goelzer
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Highlights from Meetings around the World

Brazil - August 2003: *Highlights of the 10th Annual Meeting of the Brazilian Occupational Hygiene Association (ABHO), by Osny Ferreira de Camargo and Stephen Reynolds*

The Brazilian Occupational Hygiene Association (ABHO) held its 10th Annual Meeting, comprising a Conference and Exposition, in São Paulo, Brazil, 23-28 August, 2003, with 300 participants. The occupational hygiene profession faces significant challenges and opportunities in Brazil, a country with the largest economy in Latin America (8th largest in the world) and a growing body of occupational health and safety legislation.

AIHA and ABHO have had a very close relationship over the past 9 years, and founders of the International Affairs Committee including Paul Olson (3M), Dr. Roy Buchan (Colorado State University), Debbie Dietrich (SKC) and Wilson Rodriquez (Quest) have been instrumental in providing guidance and support to foster educational and professional opportunities. A strong contingent from AIHA contributed to the success of the 10th Brazilian Occupational Hygiene Conference. Current AIHA President Tom Grumbles and former AIHA President, Dr. James Rock, provided a perspective on the history and future of our two organizations. Other technical speakers from AIHA included: Dr. Phil Bigelow (Colorado State University), Dr. Martin Harper (NIOSH), Dr. Gary Fugimoto, Dr. Steve Reynolds (Chair AIHA IAC and Colorado State University), Dr. Debbie Dietrich (SKC), Wilson Rodriquez (Quest), Dr. John Mulhausen (3M), Rafael Echavarría (Mexican Industrial Hygiene Association), and Patrick Dunn (Chair, IAC Americas Subcommittee).

AIHA members conducted four continuing education courses. Wilson Rodriquez taught *Industrial Hygiene Instrumentation* and Rafael Echavarría taught *Application of Calculations for Industrial Hygiene*. The courses on *Exposure Assessment Strategies*, and *Application-Interpretation of Threshold Limit Values* taught by John Mulhausen and Phil Bigelow were a particular success. Approximately 40 students attended Dr. Bigelow's course, while participation in Dr. Mulhausen's course exceeded 90 students.

The meeting also provided a valuable opportunity for members of the AIHA International Affairs Committee (IAC) to coordinate and move forward on several important projects, including the translation of the AIHA book "A Strategy for Assessing and Managing Occupational Exposures" into Portuguese and Spanish, as well as for strengthening the collaboration between FUNDACENTRO and NIOSH, and for intensifying contacts and involvement with occupational hygienists in Argentina, Chile, and Uruguay.

FUNDACENTRO, the Brazilian equivalent of NIOSH, plays a vital role in providing education, research and outreach to different industries in Brazil. Irene Saad (outgoing ABHO President) and Marcos da Silva (President ABHO), who are FUNDACENTRO staff, are among the leaders of the Occupational Hygiene profession in Brazil, and also important members of the AIHA International Affairs Committee.

ABHO is grateful for the support received from AIHA, ACGIH, IOHA, AMHI and several Universities in United States over the years.

Many Brazilian occupational hygienists, physicians and safety engineers also presented their work in the field of occupational hygiene and raised good and fruitful discussions on very sensitive changes in national regulations.

One important achievement by ABHO was the establishment, in 2002, of a Certification Scheme for Occupational Hygienists and Occupational Hygiene Technicians in Brazil. A high point during this meeting was the distribution of the Certificates to the first ABHO Certified Occupational Hygienists (32) and Occupational Hygiene Technicians (9).

During the meeting, the new ABHO Board for the period 2003–2006 took office and its members are: Marcos Domingos da Silva (President), Antonio Vladimir Vieira (Administration), José Pedro Dias Junior (Education), Jair Felício (Research), Maria Margarida Teixeira Lima (Public Affairs) and Osny Ferreira de Camargo (International Affairs).

It should be emphasized that the former ABHO Board did an excellent job, headed by Irene Saad, who was the association president for the second time during the 9 years of ABHO's history. Important challenges for the new ABHO Board will be to maintain the Association momentum, which is very favorable, and to fight for the recognition of the profession – an issue that has been raised since 1994 when ABHO was created.

The meeting was a success and, as Marcos Domingos da Silva, ABHO president, commented: “All presentations, debates and personal contacts brought so much knowledge, new ideas and encouragement that they will certainly contribute to enhance the development of the profession. We can say that all those who attended the 10th ABHO Meeting are better occupational hygienists today than before the meeting.”

UK – September 2003: *The BOHS Jubilee Conference*

The British Occupational Hygiene Society celebrated its 50th Jubilee (1953-2003) with an important Conference on “Hot Topics in Occupational Hygiene”, held in Ironbridge, 25-26 September 2003. This was a very successful event, both professionally, with excellent presentations on up-to-date subjects, and socially, with a beautiful Victorian dinner in an industrial museum. Topics discussed included: Control Banding, Occupational Exposure Limits (EU and New Approaches) Occupational Hygiene History (practice 1720-1920), Impact of Recent Physical Agents Directives (HAV, WBV and Noise), Asbestos (Certification of Surveyors, and Management in Buildings), Noise and Vibration (can health surveillance prevent disease?), the REACH European Chemicals Strategy, Respirable Crystalline Silica (health effects and regulatory developments), Work-Related Stress, among others. Presentations from the Hot Topics Conference are now available in the Online Library of BOHS (see BOHS site: <http://www.bohs.org/>).

Germany - September 2003: *European Asbestos Conference 2003*

The European Asbestos Conference 2003, co-sponsored by the International Labour Organization and the EU-Commission, was held at the BG-Akademie, Dresden, Germany, 3-6 September 2003, with the objective of promoting the exchange of experiences concerning the prevention of asbestos-induced illnesses at work. Its main outcome was the “*Dresden Declaration on the Protection of Workers against Asbestos.*” Information on this Conference, as well as the *Declaration* in English, German, French and Spanish, can be found online at: <http://www.asbestkonferenz2003.de/>

Japan - October 2003: *Joint Conference and Exhibition on Occupational Hygiene and Working Environment Measurement 2003*

The Japan Occupational Hygiene Association (JOHA) and the Japan Association for Working Environment Measurement (JAWE) held their “Joint Conference and Exhibition on Occupational Hygiene and Working Environment Measurement 2003”, in Sapporo”, 8-10 October, 2003.

Since 1998, JOHA and JAWE have held a “Joint Conference and Exhibition”, in collaboration. The two organizations had previously held their annual conferences and exhibitions independently (JOHA, since 1963 and JAWE, since 1979).

The Joint Conference and Exhibition 2003 consisted of three parts, namely: presentations, symposium and exhibition. The presentations reported on recent research on occupational hygiene and working environment measurement. The symposium theme was the present status and problems regarding exposure measurement methods for the assessment of risk to workers' health. The manufacturers' exhibits presented new analytical instruments and apparatus for work environment measurements, such as particle size-selective sampling apparatus, sampling pumps, detector tubes, as well as personal protective equipment. There were more than 200 participants as well as guests including from the Headquarters of the Ministry of Health, Labour and Welfare and the Director General of Hokkaido Prefectural Labour Office. There were 95 presentations including 10 presentations by the manufacturers.

The next Joint Conference and Exhibition on Occupational Hygiene and Working Environment Measurement will be held in Tokyo, in November 2004, as part of the JAWE 25th Anniversary Event.



Photo 1 – A Scientific Presentation at the Conference

Romania - October 2003: *Report of a visit to the Annual Conference of the Romanian Occupational Hygiene Association (Asociata Română de Igienă Ocupațională, ARIO), by Paul Swuste and Ton Spee*

The annual conference of the Romanian Occupational Hygiene Association (ARIO) was held in Bucharest, on 25-26 October, 2003. This was the third conference of this young society. The conference took place in the building of the Faculty of Chemistry, University of Bucharest. There were about 40 participants.

There were three official guests from Romania: Prof. Vasile Magearu, Dean of the Faculty of Chemistry; Prof. Dr. Doc. Viktor Sahini, on behalf of the National Academy of Sciences, and Alessandra Cucu, Director for Working Conditions from the Ministry of Health. The interest from such officials greatly contributed to the status of the conference and demonstrated that occupational hygiene is flourishing in Romania.

There were invited speakers from the US, the UK and the Netherlands, namely:

- From the US:
 - Donna Doganiero, AIHA President-Elect, on behalf of the American Industrial Hygiene Association
 - Kenneth Olden, Director, National Institute of Environmental Health Sciences and the National Toxicology Programme
- From the UK: Melanie Brown, sales manager for SKC Europe

- From the Netherlands:
 - Paul Swuste, associate professor at Delft University and IOHA Board member,
 - Ton Spee, IOHA President-Elect, on behalf of IOHA.

On the first day there were eight presentations: three by Romanian speakers and five by speakers from abroad. The Romanian speakers were:

- Cristina Mandravel, who spoke on “Computation Methods for TLV’s from Physical and Chemical Data”
- Carmen Artenie, on “The GP HESME Concept”
- Dana Mates, on “Retrospective Exposure to Occupational Carcinogens”.

The other speakers were:

- Kenneth Olden, who spoke on “Toxicology in the Post-genome Sequence Era”
- Donna Doganiero, on “Partnership between the Occupational Hygienist and the Occupational Health Physician”
- Ton Spee, on “Hazardous Substances in the Construction Industry”
- Paul Swuste, on “Solutions and Control Measures for Occupational Hazards and Risks”
- Melanie Brown, on “Developments in Occupational Hygiene”.

Furthermore, ten posters were presented.

On the second day, there was a discussion about the new Romanian Working Conditions Act. In consideration of a future membership to the European Union, working conditions must be brought to the level of the EU Member States. The guests from abroad attended this discussion and explained the regulations in their respective countries.

Both the attendance of official guests from Romania and of those from abroad have contributed to a successful conference. But most of all, the enthusiasm of the organisation and the quality of all presentations have made this conference a success. Let's hope that occupational hygiene in Romania has come closer to gaining legal status.

Geneva - December 2003: *Classification and Labelling of Chemicals (GHS)*

The Sub-Committee of Experts for the Classification and Labelling of Chemicals, of the United Nations Economic and Social Council, met (for the 6th time) in Geneva, 10-12 December 2003 in order to discuss the implementation of the Global Harmonized System for the Classification and Labelling of Chemicals (GHS). It is hoped that this will be operational in the majority of countries by 2008. Among the topics discussed were Guidelines for Safety Data Sheet, Labelling and Precautionary Statements. Working groups will finalize the final document, to be approved by the Sub-Committee by December 2004. One working group will discuss the issue of classification and labelling of Ozone Depleting Substances. The GHS Document ("Purple Book") is already available online in English and French (and will be, in Spanish, in the second semester of 2004) at the site: <http://www.unece.org/trans/main/dgdb/dgsubc4/c4age.html> Additional information on the GHS is also available on this site.

News from Member Associations

Japan Association for Working Environment Measurement

The Japan Association for Working Environment Measurement (JAWE), whose chairman is Mr. KUNIOKI KUBO (Senior Vice President of JFE Steel Corporation), created an "Expert Committee on Risk Assessment and Risk Management of Chemical Substances". The Committee was launched on 30 September 2003, in Tokyo, and will continue for several years. The first meeting of the Committee succeeded the preliminary meeting held on 4 June 2003.

The Committee consists of 10 experts and its first task in the fiscal year 2003 is to develop a new curriculum for a specialized continuing education training course for licensed Industrial Hygienists in the field of Working Environment Measurement. The objective is to improve the ability of these professionals in risk assessment and risk management of chemical substances, in order to properly cope with the recent needs in the fields of Occupational Health and Safety, and of Environmental Protection.

This Curriculum will cover broad fields of risk assessment and risk management for chemical substances, both in the workplace (for Occupational Health and Safety) as well as in the general environment (for Environmental Protection). It will include laws, standards and regulations, identification and evaluation of hazardous chemical substances, monitoring and evaluation of exposure to chemical substances, risk assessment, risk control, health surveillance, risk communication, related medical sciences (including occupational health, public health, toxicology, epidemiology, etc.), occupational health engineering, environmental protection engineering, among others.

The Chairman of the Committee is Dr. Haruhiko Sakurai, Director of Occupational Health and Research Centre, Japan Industrial Safety and Health Association (JISHA), Professor Emeritus of Keio University, and also Chairman of the Subcommittee on Occupational Safety and Health of the Labour Policy Council, Ministry of Labour, Japan.

Dr. Tsutomu Takata, Vice Chairman of JAWE, Professor Emeritus of Kitasato University, attended the opening session and addressed the keynote speech on the important role of this Committee.

As part of its continuing education and training system for licensed Industrial Hygienists in the field of Working Environment Measurement, JAWE is planning to organize a new course based on the curriculum developed by the Committee. JAWE is also planning to establish a new certification system open to those who completed this new continuing education course, passed the examination test and had a positive evaluation of their chemical assessment report (having for subject selected chemical substances). This certification will give the title of “Professional Industrial Hygienist, specialized in the field of risk assessment and risk management of chemical substances” (both for Occupational Health and Safety, and Environmental Protection). The aim is that this certification scheme will be approved as a Recognized Certification Board by IOHA in the near future. A certification maintenance mechanism is also envisaged.



Photo 2 - The Expert Committee of 30 September 2003

News from the ILO and WHO

Thirteenth Session of the Joint ILO/WHO Committee on Occupational Health by G. Goldstein, WHO/HQ

The Thirteenth Session of the Joint ILO/WHO Committee on Occupational Health was held at the ILO headquarters in Geneva, from 9 to 12 December 2003. The agenda of the meeting, as determined by the Governing Body, and with the agreement of the World Health Organization (WHO) was as follows:

1. Integrated approach to occupational safety and health.
2. Occupational safety and health management systems.
3. Advice on priority fields in occupational health.

The Joint Committee is an expression of the determination of the ILO and WHO to cooperate in mobilizing the international community at all levels to achieve safe and healthy workplaces. Many participants emphasized that, by working together in a coordinated and complementary fashion, the ILO and the WHO could make a significant difference to making healthy workplaces a reality. In the last 12 sessions, the Committee had covered a variety of topics including education and training in occupational health, safety and ergonomics, scope and organization of occupational health, reporting of occupational diseases and occupational exposure assessment and establishment of permissible limits. Of the agenda items for this Thirteenth Session, those of the integrated (or strategic) approach and of occupational safety and health management systems were very important, and reflected the need to promote safety and health as an essential function of good management. These also reflected changes in member States, particularly the industrialized countries, from the prescriptive style of occupational safety and health legislation towards the more goal-setting standards and voluntary initiatives.

The WHO placed emphasis on work in the field of occupational health on three major elements: (1) the provision of evidence for policy, legislation and support to decision-makers; (2) the provision of tools and support for infrastructure development, including capacity building, human resources development and information dissemination; and (3) activities aimed at protecting and promoting workers' health. The important challenge was moving from knowledge to action.

Challenges that lay ahead included the need adequately to address health and safety in the informal economy, the needs of agricultural and migrant workers and vulnerable groups of workers such as women and adolescents, protecting illiterate and uneducated workers, preventing injuries at work including road traffic injuries, developing effective approaches to address preventable occupational diseases such as silicosis and chemical poisonings and the development and application of practical preventive approaches such as control banding. A particularly important issue from the WHO perspective was the need to protect health-care workers.

The Committee recognized the need to raise occupational health issues at the global, regional and national levels, and that the development of national OSH programmes was essential to achieving this goal. The Committee called for special attention to be given to the needs of vulnerable groups (children, women, and elderly at work and the growing informal sector).

There should be top-level commitment within the WHO and ILO for collaboration between the two organizations on occupational health, and this should be communicated to the regional and national levels.

The Committee recommended that WHO and ILO collaboration should focus on the following key areas:

(1) Guidance and support for national OSH programmes, including:

- providing basic occupational health services;
- promoting OSH management systems and tools, including control banding;
- developing national profiles and indicators;
- assessing the cost effectiveness of OSH interventions;
- establishing effective enforcement agencies.

(2) Enhancing regional collaboration and coordination, including:

- the development and dissemination of models for cooperation;

(3) Coordination and enhancement of information and educational programmes and materials, including:

- the development of a joint global portal;
- statistics.

4) Awareness-raising activities and instruments, such as campaigns, events and special days.

The Committee recognized that special attention should be paid to the following global occupational safety and health issues in future ILO/WHO collaboration:

- the elimination of silicosis and asbestos-related diseases;
- ergonomics;
- violence at work;
- list of occupational diseases;
- occupational injuries.

A complete copy of the meeting report is being posted on the ILO web-site, where details and papers are already available. Direct link:

<http://www.ilo.org/public/english/protection/safework/health/session13/index.htm>

The 10th International Conference on Occupational Respiratory Diseases (10th ICORD)

The 10th International Conference on Occupational Respiratory Diseases (10th ICORD) will be held in Beijing, China, from 19 to 22 April 2005. The Conference is organized by the International Labour Office (ILO) in collaboration with the Ministry of Health of China, with the participation of the World Health Organization (WHO), the International Commission on Occupational Health (ICOH) and the International Occupational Hygiene Association (IOHA). The nine previous Conferences were held respectively in Johannesburg (1930), Geneva (1938), Sydney (1950), Bucharest (1971), Caracas (1978), Bochum (1983), Pittsburgh (1988), Prague (1992) and Kyoto (1997).

The Conference theme is ***“Occupational Respiratory Hazards in the 21st Century: Best Practices for Prevention and Control”***. It will provide an excellent opportunity for scientists, occupational physicians, health practitioners, occupational hygienists, engineers, management, workers and legislators to exchange scientific and technical information on the health effects of air pollutants at the workplace and on the prevention and control of occupational respiratory diseases. For more information, please visit www.ICORD2005.com or send an e-mail to executive@icord2005.com or write to:

The 10th International Conference on Occupational Respiratory Diseases (10th ICORD) Secretariat, c/o International Health Exchange and Cooperation Center (IHECC)

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Update on the Control Banding Approach (B. Goelzer)

Obstacles to the application of prevention and control principles include (among others): too much emphasis on exposure assessment, sometime blocking preventive action due to the impossibility of carrying out quantitative evaluations, and lack of pragmatic solutions applicable to small enterprises.

The Control Banding Approach was initially designed in the UK in order to meet the need for immediate preventive action without waiting for time-consuming, expensive and sometimes unfeasible (particularly for SME) quantitative evaluations. The principle is that types of control actions are determined from data, such as the hazard classification of the chemical in question, the amount used and its volatility, or dustiness. Detailed control advice for a number of operations is also part of the system. Learning how to apply the Control Banding Approach is already a good experience, which contributes tremendously to development of preventive knowledge.

This approach is applicable for chemicals and dusts that are used, not that are produced by the process or accidentally (e.g., gases which are accidentally formed due to chemical reactions, decomposition of materials, burning of fuels, or occur as impurities). There are many other hazards that should be controlled and Control Banding should be part of a more comprehensive Prevention and Control Programme. Nevertheless, tremendous amounts of chemicals, either in the solid or liquid state, are widely used everywhere, often with no controls (particularly but not exclusively in developing countries). Therefore, this pragmatic approach to control exposure constitutes a large step towards the protection of workers' health. Moreover, this basic idea can and should be expanded to deal with other types of occupational risk factors.

IOHA continues to collaborate with the ILO and WHO concerning activities aimed at testing, disseminating and, whenever necessary, adapting the Control Banding Approach.

As described on a previous IOHA Newsletter, one important IOHA activity was the development (for the ILO) of the **Workplace Chemicals Control "ToolKit" (WCCK)**, especially designed for small and medium-size enterprises. This was achieved through collaborative efforts of a team of experts from the ILO, IOHA, the USA, South Africa and the UK Health and Safety Executive (HSE). Detailed information on this Toolkit is found at:

http://www.ilo.org/public/english/protection/safework/ctrl_banding/index.htm

Readers interested in learning more about, or contributing to this important development are invited to contact Marilyn A. Fingerhut (E-mail: mfingerhut@cdc.gov), David Zalk (E-mail: zalk1@llnl.gov), Kerry Gardiner (E-mail: Kerry@IOH.uk.com), or this Newsletter.

The two previous IOHA Newsletters mentioned the "International Control Banding Workshop", held in London, November 2002. This extremely useful Workshop included presentations on the development of Control Banding in the UK, and on its practical application in different types of industries in other countries. The final Report from this Workshop, prepared by Heather Jackson (IOHA President) and Carolyn Vickers (IPCS), as well as other information on CB, is posted on the IOHA Web Site and the direct link is: http://www.ioha.com/topics/control_banding/index.htm

Slides from the presentations at the London Workshop are available on-line at the BOHS site: <http://www.bohs.org/>

Following up on these activities, the "**2nd International Control Banding Workshop**" will be held in Cincinnati, OH, USA, 1-2 March 2004, co-sponsored by NIOSH, OSHA, AIHA, ACGIH, WHO, ILO and the IOHA. The theme of the workshop is "Validation and Effectiveness of Control Banding". Information can be found at the Web Sites of IOHA (www.ioha.com), ACGIH (www.acgih.org), AIHA (www.aiha.org). Further details on this event may be obtained from Deborah Nelson (E-mail: imel@ou.edu), Co-Chair for AIHA, and David Zalk (E-mail: zalk1@llnl.gov), Co-Chair for ACGIH.

Contributions from Members around the World

Highlights of the PhD thesis on “Respiratory health in construction workers exposed to silica containing dust”, by E.I.M. Tjoe Nij (November 2003)*

Background and Aims

Construction work is associated with workers' exposure to quartz containing dust. Especially tasks where powered tools are used to work on quartz containing materials are associated with exposure to high levels of respirable quartz containing dust. These exposures may cause silicosis. Associations are also found with chronic obstructive respiratory disease (COPD). Quartz is also a human carcinogen. Data on exposure to quartz in the construction industry, even though they are scarce, indicate a high risk of overexposure. Therefore, there is a need for effective control measures. However, developing and recommending effective control strategies is hampered by the lack of knowledge on determinants of exposure.

The magnitude of the quartz dust related risk of respiratory disease among construction workers has not been estimated. Exposure standards for quartz are based on studies among other quartz-exposed populations. Reliable prevalence and incidence data for silicosis among construction workers are not available, and neither are accurate exposure data.

The aim of the study was to evaluate the presence and magnitude of the risk of early signs of quartz dust related pneumoconiosis among construction workers with high cumulative exposure to quartz containing dust. Additionally, associations between radiographic abnormalities, respiratory symptoms and lung function changes were studied. For establishing exposure response associations, qualitative exposure estimates for all job titles of workers enrolled in the study were assessed by expert judgement. The implications of the inter- and intra individual variations on exposure response associations were determined. Effectiveness of control measures on full shift exposures was also evaluated. To determine whether dust from construction sites has specific characteristics that might influence the toxicological potency composition of dust and physical characteristics of particles were studied. A nested case-control study was performed four and a half year after the baseline study to explore the radiographic changes and associated changes in lung function in greater detail.

Conclusions

Eight-hour time weighted average exposure levels among construction workers often exceeded the MAC value for respirable quartz. Materials worked on mainly explained exposure, but a grouping strategy based on job title is more practical for epidemiological risk assessment. Dust characterisation showed that in dust from construction sites, factors, such as soluble aluminium, are present that may influence toxicological potency. Effectiveness of control measures is potentially high, but reducing eight-hour time weighted average exposure to levels below the MAC value for quartz is difficult to attain. Combined use of techniques to control exposures should be recommended, as performance of single measures is usually not satisfactory.

The baseline study suggested an elevated risk of radiographic abnormalities among construction and natural stone workers with expected high exposure. Nodular silicosis was observed in only 0.8% at baseline, but the results of the follow up study suggest that the prevalence could be a factor 10 higher (about 10%). The presence of mixed dust pneumoconiosis was not confirmed. The presence of parenchymal changes of profusion category \square 1/1, was associated with obstructive and restrictive lung function disturbances in the baseline study. In the follow up study, emphysema was associated with obstructive lung function disturbances. Emphysema was related to smoking habits, but it cannot be excluded that quartz exposure influenced the development of emphysema as well.

Risk assessment based on exposure data also indicates increased risks for silicosis and lung cancer for construction workers. The risk assessments need confirmation.

Recommendations

Silicosis is an incurable disease, but can be prevented completely by eliminating quartz exposure. Prevention of quartz dust related respiratory diseases should receive much more attention by all parties involved, such as employers, employees, governmental bodies and experts, including industrial hygienists and occupational health physicians, as implementing preventive measures is complicated. The World Health Organisation (WHO) recommends a preventive strategy, based on the primary prevention approach, i.e. control of silica hazard at source. Secondary prevention is recommended as well and should include surveillance of the working environment. Diagnosis and health surveillance are considered essential components for any programme aiming at eliminating silicosis, but should be complementary to control strategies. When early signs of silicosis are diagnosed, action should be taken to prevent further exposure and stop progression.

It is a major challenge to protect construction workers from overexposure to quartz. Increasing worker awareness and insight in determinants of exposure to develop effective control strategies are necessary. Because of the high risk of exposure to levels above the MAC value and the high prevalence of workers with early signs of silicosis, the declaration of intent (covenant) between employers and employees in the construction industry as well as the policy regulations should be re-evaluated for effectiveness of control of quartz exposure. A quantitative and scientifically sound evaluation of the effectiveness of the control measures is urgently needed.

For screening of silicosis, chest x rays give satisfactory results when read according to ILO guidelines. However, expertise on assessment of silicosis needs to be developed in the Netherlands.

Further research is needed to verify whether exposure to high levels of quartz containing dust from construction sites is associated with an increased lung cancer risk and to estimate its magnitude directly. To assess the magnitude of the silicosis risk and associated impairment, incidence and prevalence of silicosis and other quartz dust related lung disorders should be determined among workers who have left the construction industry as well. For more accurate risk assessments, the expert judgement of exposure has to be validated by more extensive exposure surveys. A broad exposure assessment programme on all construction workers subgroups should be designed and executed. Determinants of exposure and effectiveness of control measures have to be determined by full shift exposure measurements studies.

*** - Further information, including on Methods and detailed Results, may be obtained from the author, E.I.M. Tjoen Nij, E-mail: evelyn.tjoenij@wur.nl**

Request to Readers

Exchanges of Information - Request from Jouni Surakka, Sweden

This request concerns mainly exposure assessment for welding fumes: measuring procedures and sampling of welding fumes inside the welding helmet. There is an international standard (SS-EN ISO 10882-1) that recommends measurement inside the welding helmet. The main difficulty encountered has been to perform such sampling when the welder is wearing a modern welding helmet with automatic welding glass. Since I am developing a guideline, for occupational hygienists, on how to measure exposure to welding fumes, I would like to ask if colleagues from other countries have faced this problem in measuring metal fume exposure inside welding helmets (and eventually, carrying out parallel sampling outside) based on the above-mentioned or similar standards, and if and how they have solved it.

Other projects I am involved with, and on which I would like to share information and experiences, are:

- exposure to dust, mold spores and exhaust gases in harvesting machines (report is almost finalized, in Swedish)
- exposure to mold spores during the loading of residues from harvesting (the residues from trees lay a long time in the forest and get moldy thus posing risk for workers) (this project will continue for another year)
- flour dust exposure assessment (ongoing)
- dermal exposure (this was the main topic of my thesis)
- development of a WEB-based information source (ongoing).

Thank you very much in advance.

Jouni Surakka, Ph.D. (Tech.), M.Sc. (OEH)
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Future Events

AIHA and ACGIH

As every year, the two associations will hold their joint American Industrial Hygiene Conference and Exposition (AIHCE). The theme of the 2004 Conference, to be held in Atlanta, GA, 8-13 May, is "Promoting OEHS Excellence". Detailed information is available online at: <http://www.aiha.org/aihce04/aihce.htm>

During this Conference, the William P. Yant Award will be given and you will be glad to learn that the recipient of the 2004 Award is someone very close to IOHA, Kurt Lechnitz, Past President and, for many years until presently, member of the IOHA Board and of the Executive Committee. This is a highly deserved honour as Kurt has, over the years, greatly contributed to the development of occupational hygiene worldwide and to the strengthening of IOHA.

IOHA 6th International Scientific Conference

Let's keep in mind the *IOHA 6th International Scientific Conference*, to be held in the Pilanesberg National Park, North West Province, South Africa, 19-23 September 2005. Detailed information and updates online at: <http://www.saioh.org/ioha2005/>

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