INTERNATIONAL CONFERENCE ON CHRYSOTILE

SPEAKERS

December 3rd and 4th, 2013
THE OBEROI HOTEL, NEW DELHI, INDIA

ICA
International Chrysotile Association

THE ASBESTOS CEMENT PRODUCTS MANUFACTURER'S ASSOCIATION

SPEAKERS

ABSTRACT

Dr. Ericson Bagatin (Brazil)

Title: Asbestos Exposure in Minning Activity in Brazil: Longitudinal Study - 1940-2010

A total of 2,075 asbestos mining workers were assessed, and 405 individuals were submitted to a longitudinal follow-up by high resolution computed tomography (HRCT). Results of cross-sectional evaluation by HRCT (n=1427) are as follows: i) The occurrence of pleural (Pl) or parenchymal (Asb) disease compatible with exposure to asbestos was substantially higher in the group exposed to chrysotile between 1940 and 1966 and in the group exposed between 1966 and 1976, but was markedly lower in individuals exposed from 1977, especially after 1980. Reduction in the occurrence of (Asb) and (Pl) is possibly due to the reduction of cumulative exposure to asbestos. ii) Two of the four cases with pleural plaques identified in the group exposed after 1980 had exposure to the asbestos cement industry prior to 1980. iii) Possible diagnosis of lung cancer was considered in 15 cases. In 8 cases (6 from this study and 2 from Project I), the diagnosis was confirmed, while diagnosis was presumed in the 7 remaining cases. Due to insufficient information, the causal association with occupational exposure, although considered, could not be verified in all individuals. During the longitudinal evaluation, patients who developed interstitial abnormalities compatible with asbestosis and pleural plaques had higher cumulative exposure and tended to be older with longer exposure periods than the subgroup that remained stable. A greater functional decline has been noted in individuals who progressed to interstitial changes compatible with asbestosis. Five new cases of pleural plaques were reported in individuals exposed after 1977, while 4 of them did not have any HRCT alterations in the initial study. No cases of interstitial changes compatible with asbestosis were identified in this group. In addition, no further changes or progression of pleural or interstitial markers were verified in individuals of the group exposed after 1980, who were submitted to HRCT in both studies. Assuming HRCT as a reference method, Chest X-ray (CXR) showed a high false positive rate for asbestosis and a false negative rate for pleural plaques in both transversal and longitudinal assessments of the cases considered abnormal in Project I.

Supported by: CNPq/MCT, Brazil, FUNAPE (GO), Brazilian Crysotile Institute.

CURRICULUM VITEA

Dr. Ericson Bagatin, MD; PhD

Associated Professor of Medical School of Jundiai – Sao Paulo – Brazil

Associated Professor of State University of Campinas – Sao Paulo – Brazil

Science Medical School / Occupational Health Area

On Charge of Research Group of Environmental and Occupational Respiratory Diseases in Brazil.

ABSTRACT

Kundiev Yu.I., Basanets A.V. (Ukraine)
Institute for Occupational Health (Ukraine)

Title: Genetic Predisposition to Asbestosis in Workers Exposed to Chrysotile Dust

Background: Use of asbestos is of burning worldwide concern Genetic testing conducted for risk definition of asbestosis could be a new approach in prevention of disease. Association of GSTM1, GSTT1 and TNF-α-308G/A genetic polymorphisms with the development of asbestosis has been investigated in workers populations of asbestos-cement enterprises.

Material and methods: Medical examination of 276 workers employed at 3 Ukrainian asbestos-cement plants which use chrysotile was conducted. The ratio between the polymorphic alleles of the genes encoding GSTM1, GSTT1, TNF-α were investigated in 93 healthy subjects (control group) and 71 persons with pulmonary fibrosis, among them – 31 patients with X-ray signs of asbestosis. The presence of GSTM1 and GSTT1 genes was determined using multiplex PCR. The polymorphism of TNF-α gene was identified by restriction fragment-length polymorphism (RFLP).

Results: HRCT was more sensitive method for diagnostics of pulmonary sclerosis and asbestos pleural plaques in comparison to X-ray: asbestosis was revealed in 11.2±1.8%, pleural plaques in 2.1±0.9% of examined workers. The frequency of A and G alleles in control group was not significantly different from the patients with pulmonary fibrosis ($p > 0.05$). The significant frequencies of TNF-α genotypes in the controls and in the patients groups has not been found ($p > 0.05$). A significant preponderance of the GSTT1(+);GSTM1(+) genotype among the persons with asbestosis was observed. The frequency of the said genotype in the patients group was 49.3%, and it was 26,6% in the controls ($p=0.011$).The frequency of the GSTT1(+);GSTM1(-/-) genotype in the control group was higher (56.2%) than in the patients with asbestosis (35.2%; $p=0.023$).

Conclusion: No cases of lung cancer or mesothelioma were revealed in chrysotile asbestos exposed workers. The GSTT1(+);GSTM1(+) genotype is associated with the risk of asbestosis, while the GSTT1(+);GSTM1(-/-) genotype can be used as biomarker of resistance to asbestosis in this sample. The approaches could be recommended on the use of predisposition genetic markers for prevention of occupational disease.

CURRICULUM VITEA

Professor Basanets Anzhela (Ukraine)
Head of the Clinic of Occupational Health

PERSONAL STATEMENT - EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
Kiev State Medical University, Ukraine	M.D.	06/91	Hygiene, epidemiology
Institute of Hygiene of work and Occupational Diseases	-	09/93	Specialization in General Medicine and Occupational Diseases.
Institute of Advanced Education (Kyiv)	Postdoctoral	06/93	Advanced Training Courses in medical statistics
Hospital Universitary Center MORVAN, Brest, France	Postdoctoral	02/96	Training in Respiratory Occupational Diseases
Institute for Occupational Health, Kiev	Ph.D.	12/97	Thesis of Doctorat in specialty "Occupational Diseases"
Institute of Advanced Education (Kharkiv).	Postdoctoral	11/00	Advanced Training Courses in internal medicine and occupational diseases.
University of Illinois, Chicago	Postdoctoral	09/00	NIOSH Approved Pulmonary Function Testing Course
Institute for Occupational Health, Lodz, Poland.	Postdoctoral	12/00	Training in occupational respiratory diseases
School of Public Health, University of Illinois, Chicago	Postdoctoral	05/01	Fogarty international training in Occupational and Environmental Safety and Health
Vienna School of Clinical Research	Postdoctoral	12/03	Course of Introduction in Good Clinical Practice
Institute of Advanced Education (Kharkiv).	Postdoctoral	09/11	Advanced Training Courses in internal medicine and occupational diseases.

POSITIONS AND HONORS

Positions and Employment

1993 - 1997 MD, Clinic of Occupational Diseases, Institute of Occupational Health, Kiev
1997 - 2001 MD, PhD Clinic of Occupational Diseases, Institute of Occupational Health, Kiev
2001 - 2010 MD, PhD, Head of Clinic of Occupational Diseases, Institute of Occupational Health, Kiev
2010 Professor, Head of Clinic of Occupational Diseases, Institute of Occupational Health, Kiev

Other Experience and Professional Memberships

1995 - Member, Ukrainian Allergist Association
1998 - Member, Commission in Occupational Medicine of the Health Ministry and National Academy of Medical Sciences
2006 - Head, Central medical commission in occupational diseases expertise
2009 Member, Commission on Advanced Training in the Ministry of Health

Honors

2000 Award of President of Ukraine for young scientists:
2001 Award for Best of Academy of Medical Sciences for scientific research "Occupational lung diseases caused by organic dust and chemical compounds: diagnostics, expertise and prevention"
2006 Award of the Prime Minister of Ukraine for development of OHS in Ukraine
2006 Award for Best of Academy of Medical Sciences for scientific research "A new approaches to diagnostics of coal workers pneumoconiosis"

ABSTRACT

Dr. David M. Bernstein, Ph.D. (Switzerland)
Consultant in Toxicology

Title: Health Risk of Chrysotile Revisited

This presentation summarizes the basis for substantiating both kinetically and pathologically the differences between chrysotile and amphibole asbestos. Chrysotile, which is rapidly attacked by the acid environment of the macrophage, falls apart in the lung into short fibers and particles, while the amphibole asbestos persist creating a response to the fibrous structure of this mineral. Inhalation toxicity studies of chrysotile at non-lung overload conditions demonstrate that the long ($>20\,\mu$m) fibers are rapidly cleared from the lung, are not translocated to the pleural cavity and do not initiate fibrogenic response. In contrast, long amphibole asbestos fibers persist, are quickly (within 7 days) translocated to the pleural cavity and result in interstitial fibrosis and pleural inflammation. The quantitative reviews of epidemiological studies of mineral fibers which have differentiated the potency of chrysotile and amphibole asbestos for causing lung cancer and mesothelioma have been reviewed in light of the frequent use of amphibole asbestos. The scientific basis for evaluating possible substitutes for chrysotile based upon IARC criteria are presented in terms of epidemiology, toxicology and biopersistence. As with other respirable particulates, there is evidence that heavy and prolonged exposure to chrysotile can produce lung cancer. The importance of the present and other similar reviews is that the studies they report show that low exposures to chrysotile do not present a detectable risk to health. Since total dose over time decides the likelihood of disease occurrence and progression, they also suggest that the risk of an adverse outcome may be low with even high exposures experienced over a short duration.

CURRICULUM VITEA

Dr. David M. Bernstein, Ph.D. (Switzerland)

Dr. Bernstein is a consultant in toxicology, specializing in inhalation toxicology residing in Geneva, Switzerland. Prior to this, he was the Managing Director of the Research and Consulting Company Ltd. (RCC), Geneva, Switzerland. RCC specialized in performing state of the art inhalation toxicology and lung pharmacology studies for industrial and regulatory (GLP) requirements. At RCC he was responsible for the design of the current protocols for evaluating the biopersistence and chronic inhalation toxicology of mineral fibers and performed numerous fiber biopersistence and chronic fiber inhalation carcinogenicity studies. Before that he was Manager of the Toxicology and Pathology Group in the Center for Toxicology and Biosciences of the Geneva Division of the Battelle Memorial Institute. His areas of expertise are inhalation toxicology, toxicology study design, monitoring and interpretation, risk assessment, and mineral fibre and chemical toxicity. Dr. Bernstein has a Ph.D. in Environmental Medicine/Toxicology from the Institute of Environmental Medicine, New York University Medical Center, New York.

Under mandate to the European Commission, he coordinated a scientific working group that evaluated the relationship between fiber biopersistence and chronic toxicity which led to the establishment of the EC's Synthetic Mineral Fiber Directive.

Recent publications in the field of asbestos and respirable fibres include "Health risk of chrysotile revisited" in Critical Reviews in Toxicology; "The health effects of chrysotile: current perspective based upon recent data" in Regulatory Toxicology and Pharmacology; "Synthetic Vitreous Fibers: A review toxicology, epidemiology and regulations" in Critical Reviews in Toxicology; "Quantification of the pathological response and fate in the lung and pleura of chrysotile in combination with fine particles compared to amosite-asbestos following short-term inhalation exposure" in Inhalation Toxicology; "The toxicological response of Brazilian chrysotile asbestos: A multidose sub-chronic 90-day inhalation toxicology study with 92 day recovery to assess cellular and pathological response" in Inhalation Toxicology;

Dr. Bernstein has more than 75 scientific publications in addition to authoring chapters on fiber toxicology in toxicology textbooks and numerous presentations and reports. He is a member of several professional associations, including the Society of Toxicology, American Conference of Governmental Industrial Hygienists, the British Occupational Hygiene Society, the British Association of Inhalation Toxicologists and the Association Suisse des Hygiénistes du Travail.

David M. Bernstein, Ph.D., Consultant in Toxicology, 1208 Geneva, Switzerland, e-mail: davidb@itox.ch

ABSTRACT

Dr. Somchai Bovornkitti (Thailand)

Title: Conclusions on the Asbestos Use in Thai Industries

For more than 70 years, 1 Thailand has imported asbestos, mainly from Brazil and Russia, for use in a variety of industries. It has done so following the strict control measures called for in the Convention Concerning Safety in the Use of Asbestos (ILO Convention No.162). 2 Fortunately, during this time there has not been a single proven human case of adverse health impacts in the country, which suggests that the risks from asbestos exposure are negligible for workers in factories using chrysotile, as well as among the general public. Although a few reports did describe very small amounts of indoor air concentration of asbestos in certain factories, 1,3,4 there have been no cases of asbestos-related illnesses among their workers. It may be confidently predicted therefore that more recent studies would likely furnish more innocuous data due to the application of strict government controls.

According to the information gleaned from more than 80 publications concerning asbestos in Thailand, only one document presented details of a single case of asbestosis, who possibly inhaled asbestos in contaminated material used in a talcum powder factory. 5,6 It is noteworthy that among the 79 known cases of mesothelioma in this country, only three of them gave a verbal history of working in factories using asbestos in the manufacture of cement tiles, 7-9 and none showed evidence of asbestos etiology.

Based on the views submitting by the 12 outstanding speakers on the theme “Various Views on the Use of Asbestos in Thai Industries,” 10 It may be concluded that, even though asbestos has been use by those industries for more than 70 years, asbestos has not posed any significant hazards of special concern. Hence, any appeal to ban asbestos use in the country must be considered on the basis of facts and in the spirit of righteousness.

References

1. Phanprasit W, Sujirarat D, Chaikittiporn C. Health risk among asbestos cement sheet manufacturing workers in Thailand. J Med Assoc Thai 2009; 92 (Suppl.7) : S 115-20.
2. Chayawong S. The Asbestos Convention 1986 / C162 Asbestos Convention 1986. J Siam Technol Univ 2013; 1:
3. Division of Occupational Health, Department of Health, Ministry of Public Health. Preliminary Studies on Occupational Use of Asbestos, 1983: 79 pages.
4. Division of Occupational Health, Department of Health, Ministry of Public Health. Report of Studies on Occupational Problems in Thailand, 1987: 28 pages.
5. Prijyanonda B, Maranetra N, Pacharee P, Pamol S. Talc pneumoconiosis. Siriraj Hosp Gaz 1977; 29: 771-82.
6. Pushpakom R. First asbestosis patient in Thailand. Buddhachinaraj Med J 2013; 30: 82.
7. Wongwitvichote S, Padungtod C. First occupational mesothelioma case in Thailand. J Clinic 2008; 28; 136-9.
8. Sirikulchayanonth V, Incharoen P. Mesothelioma : Pathological aspects and Report of 17 cases. Srisangwan Hosp J 2012; 21: 31-42.
9. Supanchart P, Tumvipat N, Siriratanapruk S. Asbestos-related diseases : Report of two cases and Literature Review. J Med Assoc Thai 2012; 95(Suppl. 8): S71-76.
10. Proceedings of the Forum : Various Views on the Use of Asbestos in Thai Industries. Bangkok: Krungthep Vejasarn Publishers; 2013; 74 pages.

ABSTRACT

Dr. Somchai Bovornkitti, MD, DSc med, FRCP, FRACP, Hon. FACP

Title: Asbestos Studies in Thailand

Emeritus Professor of Medicine, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok;
Fellow of the Academy of Science, The Royal Institute, Thailand

Asbestos has been imported for use in Thai industries in the production of building materials for more than 75 years (since 1938). The most common use of this mineral is for making asbestos-cement sheets for roofing and siding panels and floor tiles, and other products including water-supply mainlines, brake lining, crutch, and asphalt.

Worthy of note is that the first diagnosed mesothelioma case in the country described in the 1936 in a pathological record book, together with the subsequent 78 reported cases in the literature had no history of exposure to asbestos and had no evidence of asbestos etiology. There was only one patient reported in 1977 as a case of talc pneumoconiosis, but later on was identified as having asbestosis concomitantly.

Regarding the research on asbestos, an investigation conducted during 1980-1985 to search for asbestos bodies in 330 autopsy lung specimens from general patients revealed 33 percent positivity; all of them had no history of asbestos exposure and no asbestos-related diseases.

In 1983-1987 air pollution studies were conducted by personnel of the Department of Health, Ministry of Public Health, in eight cement sheet factories and seven brake and crutch lining factories, all of which using asbestos materials. The findings showed the presence of asbestos fibers in slightly higher levels than the safety threshold, i.e. 2.47 percent in the cement sheet factories, 14.2-17.65 percent inside seven brake and crutch lining factories, and 7.10 percent outdoor around 20 factories. During the same period (1984) examination of 203 air samples from 10 different main streets in Bangkok during week-day rush hours showed absolute absence of asbestos fibers.

In 2002 researcher from the Faculty of Public Health, Mahidol University, Bangkok conducted analysis on airborne asbestos in four asbestos cement roof tile factories and found asbestos fibers 0.73 fiber/ml in roof fitting polisher areas. In 2008 they analyzed air samplings obtained during demolition of a building containing asbestos ceiling and roof and found only 0.1-0.4 fiber/ml in indoor air and lower negligible levels outside.

ABSTRACT (cont'd)

Dr. Somchai Bovornkitti, MD, DSc med, FRCP, FRACP, Hon. FACP

In 2010 a descriptive study was carried out, with the collaboration of Mahidol University's Faculty of Medicine Ramathibodi Hospital, Faculty of Public Health, Mahidol University and Bureau of Occupational and Environmental Disease, Ministry of Public Health, by analyzing brake dust in 14 garages using x-ray diffractometer which yielded the presence of chrysotile asbestos in 35.7 per cent among the 42 samples. Of the 128 workers 14.8 per cent gave history of respiratory symptoms; unfortunately there were no information on physical examination and chest radiography findings.

The knowledge from foreign reports that there have been asbestos contamination in vermiculite, a planting material sort of fertilizer, which caused mesothelioma in people exposed, have let to the investigation of four brands of imported vermiculite with the aim at detecting the asbestos contaminant; the results however were not conclusive.

Recently there have been information from the Ministry of Public Health investigation that asbestos contaminant was found in some brands of the body and face puffing products.

Having had been confronting with the inefficiency of the conventional methodologies and tests presently in use for the diagnosis of the diseases caused by asbestos, we undertook studies to search for biomarkers in the blood, and found that the determination of adipsin concurrently with peroxiredoxin and osteopontin being useful in verifying the asbestos etiology.

Another important study carrying out to detect the presence of asbestos bodies in bronchoalveolar fluid (BALF) disclosed that the samples 30 each from the deceased, general patients, and workers from a cement tile factory using asbestos, there was only one person in the group of general patient had revealed asbestos bodies in the BALF.

The present author would like to reiterate that some of the information deja vue in the past would likely be obsolete; it is possible that some of the findings should be updated with the presently high technologies for accurate data.

CURRICULUM VITEA

Dr. Somchai Bovornkitti, MD, DScMed, DTM&H (Liverpool), TDD (Wales), Hon. FRCP (Edinburgh), FRCP (London), FRACP, Hon. FACP

Doctor of Science in Medicine, Faculty of Medicine Siriraj Hospital,
Mahidol University, Bangkok; 1963

Tuberculous Diseases Diploma, Welsh National School of Medicine,
Cardiff; 1954

Diploma in Tropical Medicine & Hygiene, Liverpool School of Tropical Medicine,
Univ. of Liverpool, Liverpool; 1953

Doctor of Medicine, Faculty of Medicine, Siriraj Hospital, University of Medical Science,
Bangkok; 1952

Medical Practices:

Surgical House Officer, Ormskirk County Hospital,
Ormskirk, UK. ; 1953

Junior Registrar, Glan Ely Hospital,
Cardiff, UK, 1954-55

Pediatric Resident, NYU, Bellevue Hospital,
New York; 1955-57

Professor, Department of Medicine, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok;
1957- 1990

Emeritus Professor and Fellow of the Academy of Science, The Royal Institute,
Thailand 1991- present

ABSTRACT

Dr. Jacques Dunnigan (Canada)

Title: Risk Assessment and Risk Management of Chrysotile Asbestos

Part 1: From Past Experience to Modern Day Requirements and Accomplishments

Part 2: On the correct interpretation of the IARC classification of human carcinogens;

Professor Dunnigan's presentation will deal with two different but related issues.

The first part will deal with what we have learned from the past experience when all asbestos fiber types were used, and what we have learned in the more recent years from the use of chrysotile-only at low exposure levels.

The success in the safe use of chrysotile will be illustrated with a number of published studies from different countries and in different workplace settings.

The second part will address the issue of the pervading confusion between the concepts of hazard and risk, and how this confusion can, and has led to a misrepresentation of the IARC classification of human carcinogens, which has been used systematically by the proponents of a worldwide ban of all asbestos fiber types, including chrysotile.

CURRICULUM VITEA

Dr. Jacques Dunnigan (Canada)

UNIVERSITY STUDIES

1951-1956	Collège Saint-Laurent, University of Montréal
1956-1960	Faculty of Sciences, University of Ottawa
1960-1963	School of Graduates, University of Ottawa

UNIVERSITY DIPLOMAS

B.A. (Section B):	University of Montréal - 1956
B.Sc. (Honors):	University of Ottawa - 1960
Ph.D. (Biology):	University of Ottawa - 1963

POST-DOCTORAL STUDIES

January 1963 to May 1964	Research associate, Department of Biochemistry, Faculty of Medicine, Laval University, Québec City (Grant from the National Cancer Institute of Canada)

PERMANENT FONCTIONS

Academic:

May 1964	Assistant Professor, Department of Biology, Faculty of Sciences, University of Sherbrooke
June 1968	Associate Professor, University of Sherbrooke
June 1973	Professor, University of Sherbrooke

Administrative:

December 1973	Vice-Dean for Research, Faculty of Sciences, University of Sherbrooke
September 1975	Assistant Vice-President for Research, University of Sherbrooke
June 1979	Director, Asbestos Research Program, University of Sherbrooke
February 1980	Director General, Asbestos Institute for Research and Development (IRDA), which became in 1984, the Research Division of the Asbestos Institute
June 1987	Director, Health and Environment Division of the Asbestos Institute
1993-1996	Chairman of the Graduate Program in Environmental Sciences, University of Sherbrooke
September 1996	Retired from the University of Sherbrooke.
1996 to present	President, Contacts / JD (consultant in toxicology)

ABSTRACT

PhD/ Doctor Le Thi Hang (Vietnam)
Director of Construction Hospital – Ministry of Construction

Title: The Result of Occupational Health and Environment Testing for Workers in Chrysotile Cement Roof Sheet Factories Within the Past Six Years (2008 -2013)

Having conducted this research in Vietnam, the author shows the statistics of Occupational Health and Environmental Testing Program within the past six years (2008 -2013) then assesses the real dust level situation at AC roof-sheets factories and worker's health (some typical X-ray films are shown as well).

In conclusion, she proposes solutions to protect worker's health such as educating employers and employees, monitoring the working environment, organizing annual health testing programs, doing researches on manufacturing, production line, etc.

CURRICULUM VITEA

Dr. Le Thi Hang (Vietnam)

Ph.D. graduated in Medicine, specialized in epidemiology, Dr. Le Thi Hang gained over 15- years experiences of working in labor health sector and of studying on occupational diseases of Ministry of Construction.

She was director and key-researcher in numerous scientific researches and its implementation programs accomplished by officers and employees in the Construction sector, such as:

A doctoral thesis dissertation in 2007 on "Research on characteristic of epidemiological on asbestosis and silicosis for workers in building materials factories and the methods of intervention".

"Survey and overall evaluation on working environment pollution at building materials factories and Proposal on intervention methods" - A research framed of "The National Program for Labor Protection, Safety and Sanitation" in 2009.

A scientific study on "Epidemiological characteristics of occupational pulmonary disease and bronchitis for workers in construction materials factories and the effects of intervention methods", awarded by Ministry of Construction in 2010.

A study on "Situation of working environment and workers' health in asbestos – cement plants during the period 2008 – 2010".

ABSTRACT

Dr. Thomas Hesterberg (USA)

Title: Health Risks of Low Exposure Levels of Chrysotile Asbestos

Doctor Hesterberg's presentation will review the recent scientific literature on chrysotile asbestos, which assesses the potential health effects of low exposures to chrysotile asbestos.

An examination of the human epidemiology studies of chrysotile asbestos clearly shows that workers in the asbestos mining and milling industries developed fibrosis and lung cancer. There were also some mesotheloimas found in these workers, which was likely due to tremolite contamination of the chrysotile asbestos used in these work settings. However, more recent epidemiology studies of friction product manufacturing workers and mechanics/brake workers did not show increases in any of these lung diseases. This is probably related to the fact that these workers were exposed to orders of magnitude lower levels of chrysotile asbestos in the workplace.

Recent animal inhalation studies have also shown that a low exposure to chrysotile asbestos (< 500 f/cc) does not cause any lung disease. This is likely due to the fact that, like all toxins, there is a threshold dose below which the protective mechanisms of the lung are able to prevent irreversible disease from occurring. Chrysotile asbestos has also been shown to be very biosoluble in the lung. In fact chrysotile has a weighted half-time of clearance from the lung that is comparable to that of synthetic vitreous fibers that were not categorized as carcinogens by the International Agency for Research on Cancer (IARC).

CURRICULUM VITEA

Tom Hesterberg, PhD, MBA
Center for Toxicology and Environmental Health, LLC

Dr. Tom Hesterberg is currently a Principal Toxicologist working for the Center for Toxicology and Environmental Health. Before this, he worked for Navistar, a major manufacturer of diesel trucks and engines, as Director of Product Stewardship, Sustainability, and Environmental Health.

While at Navistar, Dr. Hesterberg led the company's sustainability program, which was focused on ensuring the company's long-term success, while promoting the social, economic, and environmental welfare of employees and the general community. Part of this effort was to lead a team to enhance the sustainability of the renovations of Navistar's new World Headquarters resulting in an estimated savings of $470K per year related to reduced energy, water and other costs. Over the last three years he implemented a program at Navistar to address the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) regulations that were recently implemented in the European Union (EU). Compliance with REACH is required in order for Navistar to be able to sell products into the EU. He also helped prepare the company to apply for listing on the Dow Jones Sustainability Index (DJSI).

In his product stewardship role, Dr. Hesterberg oversaw the evaluation of the potential health, safety and environmental risks related to the use of diesel trucks and engines. He helped design and oversaw the conduct of an ongoing multimillion-dollar joint industry/government laboratory study to assess the potential health effects of emissions from the new low-emitting diesel engines. These emissions, which are now cleaner than those from natural gas powered vehicles, contain no black smoke and many of the potentially toxic components have been reduced by over 90 percent.

Before taking the position at Navistar, Dr. Hesterberg spent 14 years at Johns Manville (JM), where he was the Director of Health, Safety and Environment (HSE). While at Johns Manville, he directed a research program to assess the potential carcinogenicity of asbestos and man-made fibers, including fiberglass. This program ultimately led to an understanding that some man-made fibers were not carcinogenic because they were biosoluble and disappeared rapidly when deposited in the lung. Findings from this research program resulted in the downgrading of some man-made fibers to "not classifiable as carcinogenic in humans" by the International Agency for Research on Cancer. Also during his tenure leading the HSE team at JM, all of the manufacturing facilities were ISO 14001 certified.

Dr. Hesterberg has published over 100 peer-reviewed papers and book chapters (over 20 of them on diesel exhaust) on the potential health effects of chemicals and particles to which humans are exposed. He has also served on numerous health assessment and toxicology review panels for government agencies, including the International Agency for Research on Cancer, the US Environmental Protection Agency, the California Air Resources Board, the National Toxicology Program, the Department of Energy, the German MAK Kommission, and the UK Medical Research Council.

Dr. Hesterberg has a BA and MA in biology from UCLA, a PhD in pharmacology and toxicology from UC Davis, and an MBA from the University of Denver. He completed postdoctoral studies at the National Institute for Environmental Health Sciences (NIEHS) and served as a visiting scientist at the Chemical Industry Institute of Toxicology.

ABSTRACT

J.A. Hoskins, Independent Consultant (UK)

Title: Safety in the Production of Chrysotile Products

The safe production of products containing chrysotile asbestos today results from a wealth of information about possible and observed health effects collected over many decades. Because of the underpinning this wealth of information gives chrysotile is probably unique as a production material. However there is a down-side. In spite of the fact that health effects are few and nearly all relate to very early uncontrolled use, and that chrysotile has been found to be safer to use today than many other industrial materials a number of countries have curtailed its use. It has been discarded in favour of substitutes few of which have had any similar studies made regarding their possible health effects on those who use them. None of them have had such in-depth examination for their use as an alternative fibre source and for many substitute materials there are no regulations governing their use. Today chrysotile cement sheeting and other chrysotile reinforced cement and other products are manufactured in a controlled fashion. Fibre levels in the factories are governed by legislation and strict work practices. The evidence is clear that in a well-run factory chrysotile is a safe material to use. As importantly, products made using it are superior on most respects to those made using substitutes.

CURRICULUM VITEA

Dr. JOHN ANTHONY HOSKINS (U.K.)

QUALIFICATIONS

M.Tech. (Brunel, London), Ph.D.(ANU,Canberra), C.Chem., FRSC

EDUCATION

1951-1959	Varndean Grammar School for Boys, Brighton, Sussex.
1959-1962	Queen Mary College, London.
1962-1969	Brunel University, Acton, London.
1969-1972	John Curtin School of Medical Research, ANU, Canberra, Australia

POST-DOCTORAL WORK

1972-1973	Post-doctoral Fellow at the University College of North Wales, Bangor

EMPLOYMENT

1973-1978	Scientific staff member (analytical chemist/mass spectroscopist) in the MRC Unit for Metabolic Studies in Psychiatry, University of Sheffield.
1978-1997	Transferred to the MRC Toxicology unit, first at Carshalton then University of Leicester where work was carried out on fibre and particle toxicology. In charge of inhalation toxicity facility which allowed in vivo inhalation studies using custom built high containment chambers.
1997-present	Took early retirement from MRC to develop other activities as an independent toxicologist with particular interest in inhalation work.

COMMITTEE WORK AND OTHER ACTIVITIES

1994-95	Appointed as Scientific Advisor to the House of Commons Select Committee on the Environment. Advised on report on VOCs.
1995-97 - current	Chairman of Royal Society of Chemistry, Toxicology Group. Committee member of the Toxicology Group and the Environment, Health and Safety Committee, both of the Royal Society of Chemistry.

INVITED TALKS AND LECTURES

I am invited to speak at national and international meetings from the Americas, through Europe to Asia. My usual subject matter concerns chrysotile asbestos although I have addressed other mineral fibres as well as air pollution and sustainability of materials. I have represented the Chrysotile Institute (Montréal, Canada) in discussion with the governments of several countries.

ABSTRACT

Dr. Sergey Kashansky (Russia)

Title: Health Risks of Low Exposure Levels of Chrysotile Asbestos

Need of development of national programs for the elimination of asbestos-related diseases was pointed out in Global plan of action on workers' health 2008-2017 endorsed at the 60th World Health Assembly and Parma Declaration on Environment and Health adopted by the Ministers and representatives of Member States in the European Region of the World Health Organization (WHO) at the Fifth Ministerial Conference on Environment and Health (2010).

In XX century Russian Federation was the largest producer and consumer of chrysotile asbestos on the world. More than 90% of chrysotile was used for production of high-density materials (slate), and fibers may liberate only in trace amount and in conditions of intense destruction.

In 2008 the Ministry of Public Health and Social Development of Russian Federation decoded to develop the Program for Elimination of Asbestos-related Diseases taking into account national features.

After several years of warm work early in 2013 Russian "Concept of implementing the state policy for elimination of asbestos-related diseases for the period until 2020 and further perspectives" was approved by Russian Government.

CURRICULUM VITEA

Dr. Sergey Vladimirovich Kashansky (Russia)

PRINCIPAL OCCUPATIONAL: Hygiene of Labor, medicine doctor

SECONDARY OCCUPATION: researcher

EDUCATION: Earned Degree No. 40; SCHOOL, No.40;
CITY – Ekaterinburg; STATE – Russia; YEAR(S) 1968 – 1978

HONORARY DEGREE – school of young of biologist attached to Urals State University;
CITY – Ekaterinburg; STATE – Russia; YEAR – 1977 – 1978

Student of Sanitary and Hygienic Faculty of the Sverdlovsk State Medical Institute;
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Sergey V. Kashansky is a Candidate of Medical Sciences
CITY – Saint-Petersburg; STATE – Russia; YEAR – 1997 (Labor hygiene in the production of asbestos-containing heat-insulating materials. Thesis for attaining the degree of Candidate of Medical Sciences. St.-Petersburg, 1997. - 21 p. (in Russian)

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ABSTRACT

Dr. Satoshi Kitamura (Brazil)

Title: Risk Assessment for Asbestos-Related Diseases Among a Population Living Under Asbestos-Cement Roofs: a Trial in a Developing Country

Asbestos-cement roof tiles are in use throughout Brazil, a developing country. This is the first study relating to the potential health risk due to this environmental asbestos exposure in Brazil. Until 1960-70, nearly 60% of all buildings in the country had been covered by asbestos-cement tiles. Currently, large low-income districts are common in the major cities and thousands of these houses are roofed with non-protected asbestos-cement tiles. The aim of this study was to measure the airborne concentrations of asbestos fibres inside these houses and outdoors in nearby neighborhoods. Thirty five indoor air samples were collected from 35 houses, all of them with roof tiles that had been in place for more than 20 years, in five different districts. Nineteen outdoor samples were also taken. The air sampling and analysis followed "ISO 10312, 1995 Method: Ambient air – determination of asbestos fibres - transmission electron microscopy method". Analysis of the indoor samples showed only 2 chrysotile fibres ≥5 μm, in only 1 out of 30 houses (0.00083 f/cc). Analysis of the nineteen outdoor samples showed 7 fibres ≥5 μm in the immediate neighborhoods of the houses (0.00059f/cc). These concentrations were similar to those described for large cities (0.00042 to 0.00084 f/cc). It was concluded that indoor asbestos exposure in houses covered by unprotected asbestos-cement roof tiles for an extended period of time is similar to the background exposures occurring in large cities worldwide.

CURRICULUM VITEA

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Key words: asbestos exposure, transmission electron microscopy, fibre analysis, asbestos cement corrugated roofing sheets.

ABSTRACT

Dr. Robert Nolan (U.S.A.)

Title: Pleura Mesothelioma Death from Asbestos Comparison of Exposure by Type to the General P opulation

A comparison will be made between the percentage of deaths from pleural mesothelioma (not including peritoneal mesothelioma) in cohorts with occupational exposure to asbestos and the general population in similar geographic regions and time periods.

The six different types of asbestos have been used in commerce and for the simplicity of regulation; all have generally been treated similarly, although their ability to cause mesothelioma varies widely. The cohort studies with occupational exposure to specific asbestos types were selected and the percentage of pleural mesothelioma deaths was calculated. The percentage of pleural mesothelioma deaths in the different cohorts was then compared with the percent of mesothelioma deaths in the general population and a Risk Ratio (RR) was calculated for each asbestos-type. The results are primarily for males (the dominant asbestos workers) and for pleural mesothelioma (the dominant site of mesothelioma in the general population). The numerators in the RR are taken directly from the occupational studies, while the denominator is derived from a more complex calculation. This inevitably produces an uncertainty in addition to the statistical sampling error that is particularly important when the RR is small.

The pleural mesothelioma RR for workers exposed to crocidolite and amosite is 19 and 4.4 respectively while vermiculite miners with exposure to tremolite-actinolite asbestos had a RR of 10. Finnish anthophyllite asbestos miners have a RR of 4 based on 3 pleura mesothelioma cases. There is an inconsistent pattern among the chrysotile cohorts; where the pleural mesothelioma mortality is known the mean RR is 1.8 or less, if no correction for simultaneous exposure to fibrous tremolite or amphibole asbestos or for non-statistical uncertainty in comparing exposed to unexposed, is applied.

The background for human pleural mesothelioma in males varies in different geographic areas and periods of time, while for females, it is similar in all the areas and times studied, except for being higher in Australia. The lower confidence interval of the RR of pleural mesothelioma from high exposures to crocidolite, amosite and tremolite-actinolite does not include two, while for anthophyllite asbestos the increase is only marginally statistically significant and chrysotile is never greater than twice the background risk in the general population.

CURRICULUM VITEA

Dr. Robert Noland (U.S.A.)

Robert P. Nolan, Ph.D. received a doctoral in chemistry from the The City University of New York in 1986. He has been awarded fellowships from the Stony Wold-Herbert Fund, National Research Council, Fulbright and the International Union for Pure and Applied Chemistry. He is a member of the doctoral faculty in Chemistry and Earth and Environmental Sciences at The Graduate School and University Center of The City University of New York. He is the author of more than fifty scientific papers and is internationally recognized as an expert in the characterization and health hazard evaluation of asbestos and other minerals.

CURRICULUM VITEA

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EDUCATIONAL BACKGROUND

LEVEL	BOARD / UNIVERSITY	YEAR
SSC	Central Board of Secondary Education, New Delhi	06/91
HSSC	Central Board of Secondary Education, New Delhi	09/93
MBBS	Indira Gandhi Medical College, Nagpur Nagpur University, Nagpur	06/93
MD (Preventive & Social Medicine)	Government Medical College, Nagpur Nagpur University, Nagpur	
M A (Public Administration)	Government Medical College, Nagpur	
M A (Economics)	Nagpur University, Nagpur	
M A (Sociology)	Nagpur University, Nagpur	
PhD (Life Sciences)	Gujarat University, Ahmedabad	

PROFESSIONAL ORGANIZATIONS' MEMBERSHIP

1. Life member of Indian Association of Occupational Health
2. Life member of Indian Society for Medical Statistics
3. Life member of Agricultural Medicine and Rural Health in India
4. Life member of Indian Association of Preventive and Social Medicine
5. Life member of Indian Association of Epidemiologists
6. Life Member of Indian Public Health Association
7. Life Member of Indian Clinical Epidemiology Network

EMPLOYMENT HISTORY

DESIGNATION	DEPARTMENT	COLLEGE/ INSTITUTE	PERIOD
Assistant Lecturer	Community, Medicine	Jawaharlal Nehru Medical College, Sawangi (Meghe), Wardha	17.12.96 – 31.05.97
Lecturer	Community, Medicine	Jawaharlal Nehru Medical College, Sawangi (Meghe), Wardha	01.06.97 – 31.12.97
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Research Officer	Occupational, Medicine	National Institute of Occupational Health, Ahmedabad	26.06.00 – 15.02.04
Senior Research Officer/ Scientist C	Occupational, Medicine	National Institute of Occupational Health, Ahmedabad	16.02.04 – 31.08.09

ABSTRACT

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NOTES

THE ASBESTOS CEMENT PRODUCTS
MANUFACTURER'S ASSOCIATION