10th Singapore Public Health and Occupational Medicine (PHOM) Conference

The College of Public Health and Occupational Physicians, Academy of Medicine, Singapore organised the 10th Singapore Public Health and Occupational Medicine (PHOM) Conference on 20-21 August 2015 at the Grand Copthorne Waterfront. The theme for the event is “The Health of A Nation: Celebrating Our Past, Embracing The Future”. Dr. Jukka Takala, Senior Consultant for Ministry of Manpower and WSH Institute presented a research poster on Mortality estimates of occupational injuries and ill health in Singapore.

Wearability tech a potential game-changer in workplace, healthcare

Singapore Power (SP) recently concluded a four-month trial, during which field employees used wearables in their work to boost productivity. This allowed, for instance, a supervisor to keep an eye on 10 engineers at locations such as power substations of HDB blocks.

Relevance: How can wearable tech be used to increase productivity at your workplace?

These giant robotic ants could one day replace factory workers.
Lessons learnt from recent process safety incidents

**Date of publication:** March 2015  
**Source:** American Institute of Chemical Engineers

This article examines how small mistakes and temporary lapses in judgement caused five incidents in the United States resulting in catastrophic disasters. It highlighted the critical importance of an effective process safety management system in the chemical and petrochemical industries. In one of the incident case studies at Hoeganaes facility in Gallatin, Tennessee, the 3 incidents (two iron dust flash fires and a hydrogen explosion) occurred within 2-month intervals. These three incidents claimed five lives and injured three others. Investigation revealed that the workers do not fully understand the hazards and risks of combustible dusts. Large quantities of combustible dust were present due to poor
housekeeping. The baghouse filtration systems that were installed in the facility were leaking and were frequently out of service. The ineffective dust control and housekeeping allowed dust layers to accumulate and resulted in the flash fires. These lapses reiterated the importance of good housekeeping practices and maintenance of equipment to ensure they were working properly. Other incidents presented in this article also emphasised the importance of:

(i) having safe operating procedures that cover all phases of operation;
(ii) following operating procedures and protocols intelligently;
(iii) obtaining necessary permits to ensure a safe work environment, particularly in the presence of hazardous chemicals; and
(iv) having an emergency response plan in place.

To read more, click here.

2 Long working hours and risk of coronary heart disease and stroke: a systematic review and meta-analysis of published and unpublished data for 603,838 individuals

Date of publication: August 2015
Source: The Lancet

This study looked into the association of working hours with cardiovascular disease. 25 studies from the U.S., Australia, Finland, Denmark, Sweden, the Netherlands, Belgium, Germany, U.K., Northern Ireland and Israel were included in the systematic review and meta-analysis of published studies and unpublished data. The meta-analysis of coronary heart disease involved data from 603,838 men and women who were free from coronary heart disease, and were observed for an average period of 8.5 years. 4,768 participants reported having coronary heart disease during the follow-up. The meta-analysis of stroke involved data from 528,908 men and women who were free from stroke, observed over an average
period of 7.2 years. 1,722 participants reported experiencing stroke during the follow-up. The findings revealed that individuals who worked 55 hours or more per week have a 33% higher risk of incident stroke compared with those who worked standard hours (35-40h per week). A positive dose-response relation was also found for stroke against the hours worked. However, the association between working hours and coronary heart disease is weaker. The study recommended closer monitoring of vascular risk factors in individuals who work long hours.

To read more, click [here](#).

### 3 Prevalence of work-related musculoskeletal symptoms of the neck and upper extremity among dentists in China

**Date of publication:** December 2014  
**Source:** BMJ Open

This study examines the prevalence of work-related musculoskeletal disorders (WMSDs) among dentists in China and identifies potential risk factors associated with their occurrence. A 62-item questionnaire was distributed to 304 dentists from 52 hospitals in Guangzhou, with a response rate of 89.5% (272 respondents). The questionnaire included sections on demographics, personal lifestyle factors, working conditions, the presence of WMSDs, job-related psychosocial factors and treatment received for WMSDs. The key findings include:

(i) 88% of respondents had at least one musculoskeletal disorder, with a high prevalence of symptoms of neck and shoulder pain;  
(ii) 83.8% of respondents suffered neck pain in the past 12 months;  
(iii) there was a correlation between working hours and the occurrence of neck pain;  
(iv) the failure to use the correct size for the dental instrument resulted in shoulder and wrist/hand pain;  
(v) high job demands resulted in higher chance of WMSDs;  
(vi) regular physical exercise helped to reduce neck pain.

With the high rate of WMSDs among the dentists in China, more needs to be done in the areas of continuous education, putting in place preventive measures, and having early intervention through a multidisciplinary approach.

To read more, click [here](#).
Leader-member exchange across two hierarchical levels of leadership: Concurrent influences on work characteristics and employee psychological health

**Date of publication:** March 2015  
**Source:** Work & Stress

The Leader-Member Exchange (LMX) theory suggests that the quality of the leader-employee relationship is critically important for employee psychological health and work-related outcomes (e.g., performance, attendance, satisfaction, and commitment). To test the theory, a study was conducted through a survey on a sample of 337 manual workers in a U.K. manufacturing organization. The survey explored the quality of employees’ relationships with their line managers (LMs) and senior management (SM) through various dimensions, which include communications, support, and feedback. It also looked into work characteristics covering rewards and recognition, workload management, quality of relationships with colleagues and physical environment. The findings highlighted the role of leadership for employee’s work experience, indicating a direct relationship between LMX and the employee psychological health. The perceptions of the physical work environment were a key influence for the LM level whereas workload management was the key factor for SM level. Thus, the study suggested that LMX should be applied differently at the different hierarchical levels.

To read more, click [here](#).

**Other Useful Resources**

- Mindfulness of work health and safety *(Safe Work Australia)*
- Health status and health-related quality of life of municipal waste collection workers: A cross-sectional survey *(Journal of Occupational Medicine and Toxicology)*
- Extreme heat and occupational heat illnesses in South Australia, 2001-2010 *(Occupational and Environmental Medicine)*
- Profiling contextual factors which influence safety in heavy vehicle industries *(Accident Analysis and Prevention)*

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