



Famous hospital sued over failure to identify black lung disease

One of America's most renowned medical centres – the Johns Hopkins Hospital – intentionally defrauded hundreds of sick coal miners out of compensation and health benefits while pocketing large sums from coal companies, according to a class action lawsuit filed by families of two coal miners who died of black lung disease.

The lawsuit, which also targets a long-time Hopkins' doctor, draws heavily from revelations in an investigative report by the Center for Public Integrity in partnership with ABC News, about a team of radiologists who, for decades, provided coal companies x-ray readings that almost always said the miner didn't have black lung, helping the companies avoid paying benefits under a program administered by the federal government.

The Center investigation found that the long-time leader of the unit, Dr Paul Wheeler, had read x-rays in more than 1,500 cases since 2000 but never once found a case of severe black lung, despite the fact that other doctors looking at the same films found evidence of the disease hundreds of times.

Wheeler's credentials and long-time affiliation with Johns Hopkins often trumped those of all other doctors involved, and administrative judges credited his reports over those of other doctors and denied more than 800 claims.

The Center found that in more than 100 cases, biopsies or autopsies found Wheeler wrong.

Wheeler has retired and the hospital's unit disbanded following an internal review by the hospital.

Source: Public Integrity Center, 2 November 2016



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JANUARY 2017

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Legislative/regulatory matters

Erratum

Article, November 2016 Issue 5, Vol 20 of the *Monitor*.

The article on magnetite nanoparticles should have referred to particles less than 200 nanometres in diameter.

Magnetic nanoparticles Alzheimer's' Link

"Other sources of magnetite particles include open fires and poorly sealed stoves near their homes. **Particles smaller than 200 nm** are small enough to enter the brain directly after breathing air pollution through the nose."

Source: *AirQualityNews*, 6 September 2016

Update on draft legislation and regulations

After a relatively active year by both WorkSafe WA and the Department of Mines and Petroleum in the development of draft legislation and regulations for both general industry and the resources and major hazard sectors, all work ceased in November 2016 due to government priorities and the impending State election in March 2017.

The future progress of any legislation will be dependent upon the result of the election and the incoming Government's priorities. There is little likelihood of legislation being progressed until late 2017.

This delay in aligning occupational health and safety legislation with the model legislation first introduced in 2011 and adopted by most jurisdictions is disappointing, not only for occupational health and safety professions but perhaps more so for workers who do not have the same level of health protection available to most Australian workers.

The main object of the Model Work Health and Safety Legislation introduced in 2011 was to provide for a balanced and nationally consistent framework to secure the health and safety of workers and workplaces by (inter alia) maintaining and strengthening the national harmonisation of laws relating to work health and safety and to facilitate a consistent national approach to work health and safety in this jurisdiction.

The primary duty of care for employers included the duty to ensure, so far as is reasonably practicable, that the health of workers and the conditions at the workplace are monitored for the purpose of preventing illness or injury of workers arising from the conduct of the business or undertaking.

Sadly, this monitoring of both physical and psychological health enjoyed by employees in most Australian jurisdictions will not eventuate.

We can only hope that the incoming government of whatever persuasion will prioritise this urgently needed legislation and provide workers with the health protection available to workers elsewhere in Australia.

SAFETY

WOULD MORE SIGNIFICANT SENTENCING LAWS RESULT IN BETTER WORKPLACE SAFETY IN THE CONSTRUCTION INDUSTRY IN AUSTRALIA?

When a worker was killed on a building site in the UK, the company was fined £2.6 million, but if the same worker had died in Australia, the fine may have been just A\$170,000.

A new penalty system for health and safety violations has been implemented in the UK since February 2016 which links the level of safety and health fine to the turnover of the company.

As an example, the international infrastructure company Balfour Beatty, based in the UK, was fined £3.5 million this year. Not only are the fines heavier, but directors of negligent companies can be given custodial sentences or imprisonment, with sentences starting at 26 weeks.

With about 38 per cent of fines issued in 2016 from the construction industry nearly £8 million has been paid by construction companies since the implementation of the new sentencing guidelines.

The change in the UK prompts us to think about whether Australia has done enough in enforcing workplace health and safety. Australia's construction fatal injury rate is 1.5 times higher than the UK's, and Australia's workplace death rate is 3.5 times higher.

While only time will tell whether heavier fines and imprisonment for health and safety violations can reduce the number of workplace injuries and fatalities, the idea of linking the penalty to turnover of the company is worth considering by the Australian government. Most of the time, safety and health penalties are so negligible as to mean nothing to large companies. However, when the penalty is linked to company turnover the amount becomes so significant that it can possibly turn the company's net profit into a net loss.

Shareholders then feel the effects and they will pressure senior management to pay serious attention to workplace health and safety. Potential imprisonment of negligent senior management would also bring about a top down change in the importance of safety.

It is hard to anticipate whether more stringent laws, like the one in the UK, can effectively enforce workplace safety and health in construction in Australia, but it is worthy of consideration.

Source: sourceableindustrynews, 16 November 2016

Safety prosecutions of directors treble in a year in the UK

HSE figures show that 46 company directors and senior managers were prosecuted in the year to 31 March 2016.

Chris Morrison, a partner specialising in health and safety at law firm Clyde and Co, said "By making senior management responsible for the health and safety failings of their business and their staff, the increased enforcement is a serious boardroom issue. While health and safety has for many years featured pre-eminently on many board meeting agendas, time spent on the point has not necessarily been significant. However, with the risk of turnover related health and safety fines now being so large, they are now material from an accounting and governance perspective which demands that all directors, executives and non-executive alike, sit up and take note."

Source: TUC Risks, 775 5 November 2016

HORROR DEATHS IN PAKISTAN SHIPBREAKING YARD

At least 16 workers have been killed and more than 50 injured after a huge blast on 1 November ripped through an oil tanker being broken up for scrap in a Gadani shipbreaking yard in Pakistan.

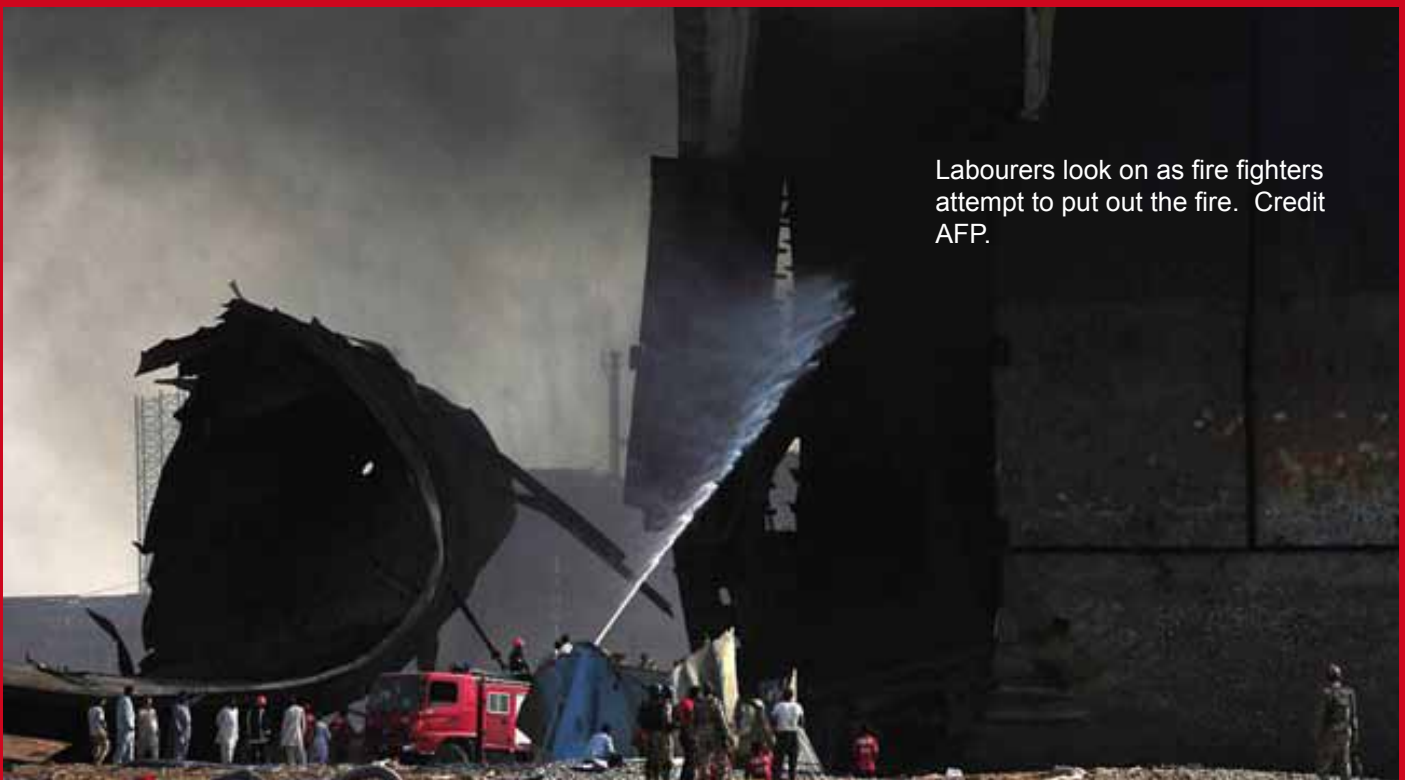
The National Trade Union Federation (NTUF) said it feared the death toll will increase as many workers are grievously injured and around 170 workers were trapped in the burning ship.

Global union federation director, Kan Matsuzaki, said that the government must immediately take practical measures to protect human lives at the yards, as well as fundamental workers' rights.



Rescue workers bring out a body from the burning vessel, MT Aces, White Star

Source: TUC Risks, 775, 5 November 2016



Labourers look on as fire fighters attempt to put out the fire. Credit AFP.



SHIPBREAKING WORKERS DEMAND JOBS AND SAFETY

Unions are demanding the deadly Gadani shipyard in Pakistan be reopened, with appropriate safety measures, because so many livelihoods depend on it. The Pakistani government closed the Gadani shipbreaking yard after the blast on 1 November. Two weeks after the explosion and fire at the yard, 28 workers had been confirmed dead and a further 60 workers injured, most in a critical condition. Many others are feared missing, with at least 20 families having approached Pakistan's National Trade Union Federation (NTUF) regarding a missing family member. It is uncertain how many of the informally employed workers were on the ship at the time of the explosion, as there are no records. Unions say instead of closing the yard, the government should ensure it operates safely and should provide compensation to those affected by the disaster. They estimate 12,000 workers depend on the Gadani yard for their livelihood. The unions are critical of the government for failing to ratify the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships and for not taking other measures to make shipbreaking safer. Apoorva Kaiwar, regional secretary for the global union for the sector, IndustriALL, said: "Closing the Gadani shipyard is a cynical attempt to divert attention away from the failure to make shipbreaking safer, and it amounts to the collective punishment of workers. The yards must reopen, and the government must work with unions to change the industry."

Source: TUC Risks, 777, 19 November 2016

Work-related hazards and incidents can now be reported online

WorkSafe WA has introduced a new system that allows the reporting of workplace hazards and incidents and work-related injuries and diseases online.

The system allows reports to be made 24 hours a day, seven days a week, removing the need to make a telephone call during business hours.

WorkSafe Acting Executive Director Chris Kirwin said today the online service would add a new level of convenience to the reporting system.

“Employers and employees are now able to report hazards, incidents and injuries at their convenience without being restricted to business hours,” Mr Kirwin said.

“Apart from the convenience factor, reports can be made from home or any other location if the person feels they need privacy.”

Source: Department of Commerce, November 2016

New Zealand health and safety laws ineffective in reducing workplace deaths

New health and safety laws that came into effect early in 2016 have had little impact on reducing workplace fatalities in New Zealand so far!

There have been 42 deaths in workplaces to the end of October 2016. In 2015 there were 43 deaths and in 2014 there were 48.

The agricultural industry continued to have the highest number of workplace deaths with 15 recorded so far.

Taranaki farm safety specialist, Bronwyn Muir, said that the varied nature of agricultural work and at times hazardous natural conditions, put farmers at greater risk of being hurt in the workplace.

Source: Stuff.Co NZ, 24 November 2016



New international standard (ISO45001) promotes workplace health and safety

With the International Labour Organization estimating more than two million workplace deaths worldwide every year, a new international standard for occupational health and safety is currently under construction.

The ISO 45001 standard focuses primarily on the prevention of illness and injury in the workplace, as well as effectively managing health and safety. It is being developed by the International Organization for Standardization, and the working group responsible has now moved to the second draft phase.

A key element of the draft standard is the concept of consultation, and companies are urged to seek the views of workers before any safety decision is made. This is based on the premise that in many instances, workers at the 'coal face' have greater capacity to determine which measures will be effective. Section 5.4 of the document further asserts that leaders need to genuinely connect with their staff and ensure all are involved in the safety process, by identifying and removing barriers to their participation if necessary.

The draft standard also advocates practising risk controls before implementing them. It suggests that providing opportunities for staff to practise potentially dangerous tasks in a safe environment is important.

Based on current progress and the latest information from the standard working group, if the current draft is approved then it could be finalised by October–November 2017. However, if a final draft international standard is required, publication is more likely to take place in March 2018.

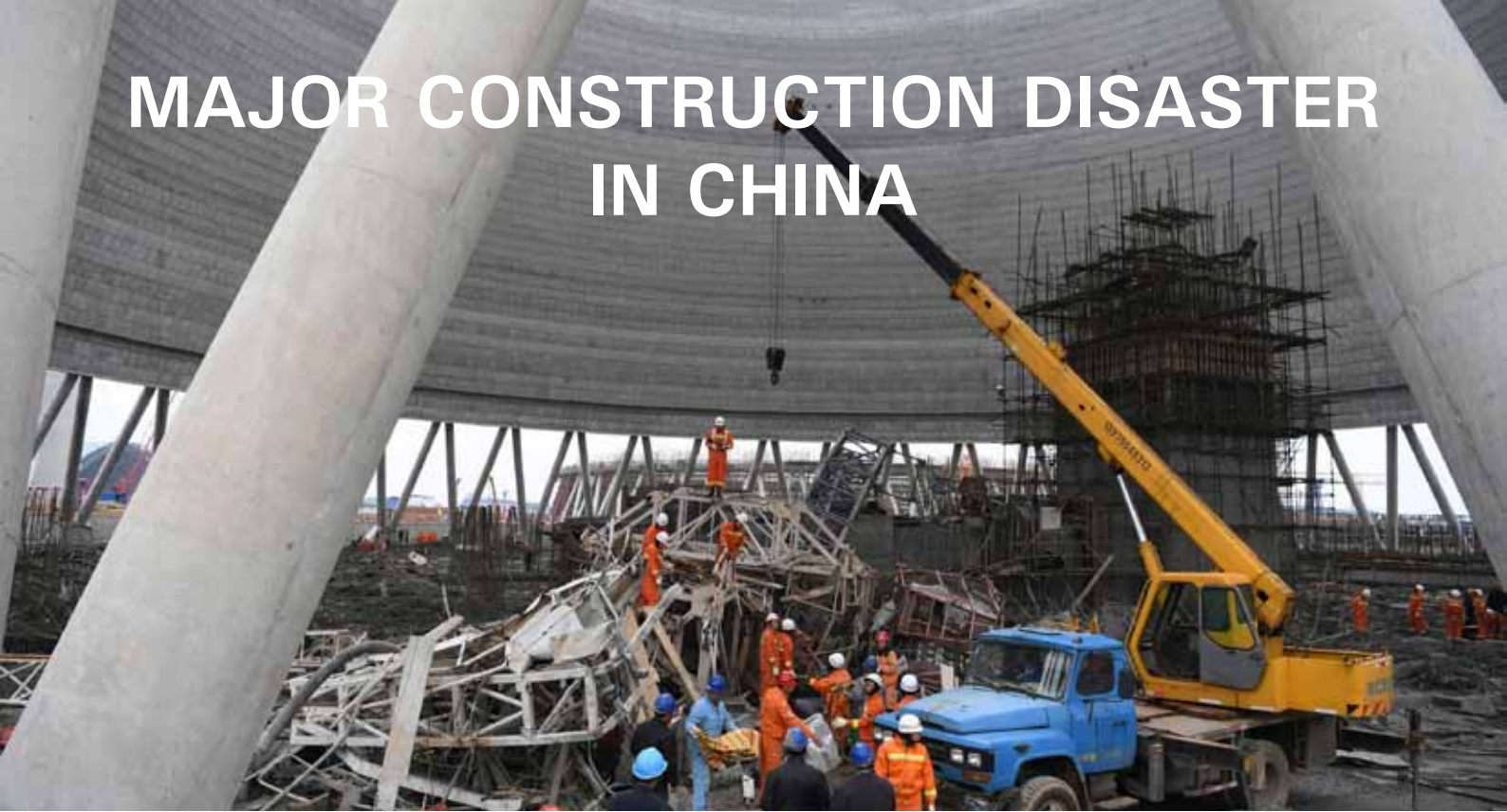
Source: Safety Solutions 2 December 2016

Company fined \$90,000 after customer injured

A Victorian company that operates building supply warehouses has been fined \$90,000 after a customer who had purchased a pack of steel roofing was injured. He was standing on the tray of his truck while a forklift loaded the roofing sheets when the pack fell from the forklift causing a leg injury.

The Court found that the company could have reduced the risk by designating appropriate driver and loading exclusion zones and implementing physical safety barriers.

MAJOR CONSTRUCTION DISASTER IN CHINA



At least 74 people have been confirmed dead after a platform of a power plant's cooling tower under construction collapsed in east China's Jiangxi Province in November 2016, in the country's worst work safety accident in over two years.

The cooling tower was being built in the city of Fengcheng in Jiangxi province when the scaffolding tumbled down, sending iron pipes, steel bars and wooden planks tumbling down on the workers,

About 500 rescue workers, including paramilitary police officers, dug through the debris with their hands, according to state broadcaster CCTV.

Almost all of those working on the scaffolding tower that was erected during the building of the cooling tower died when it collapsed into rubble, the latest deadly industrial accident in a country which has poor safety standards for workers.

Images posted online showed twisted steel, slabs of concrete and metal bars in a heap in a huge building that appeared to be a water tower.

Chinese authorities have detained 13 people over the incident. The focus of the investigation has turned to the power plant's operator, Jiangxi Ganneng, and a major engineering firm, Hebei Yineng, which has taken on multiple high-profile power plant projects and had a history of workplace fatalities.

Source: OHS Repts SafetyNetJournal, 389, 30 November 2016

Unions demand ILO action on deadly Chinese coal mines

The global union IndustriALL says that the ILO should intervene to improve safety in Chinese coal mines following the deaths of 86 coal miners in a matter of weeks.

The fatalities occur as pressure mounts to increase output during winter.

The union has requested the ILO to offer immediate technical assistance to China to help improve health and safety standards in the coal mines.

Source: Risks 781, 17 December 2016

Fatality rates in the USA mining industry fall to record low in 2015/16

Newly released US MSHA data shows that there was an all-time low in the number of deaths caused by mine-related injuries and that fatality and injury rates for the fiscal year 2015/16 represent the lowest rates ever recorded.

MSHA's "Data at a Glance" offers a complete historical profile of mining statistics, based on both calendar and fiscal years. It includes key indicator charts, dating back to 1978, with information on citations and orders issued, penalty assessment accounts, contested violations, fatality and injury rates and detailed information on dust exposures.

Source: MSHA News Brief, 17 November 2016



UK chemical firm fined £3 million for chemical blast death

The chemical company, Crystal, has been fined £3 million after a worker was killed in an explosion at a pigment plant.

An investigation by the HSE found the company had deviated from the normal operating procedures, which led to a dangerous build-up of titanium tetrachloride in parts of the plant. Its procedures were poorly designed and the company had not established robust safety management procedures and systems of work to assess and control the risks and to ensure these were followed.

The firm previously admitted three criminal health and safety offences.

Judge Jeremy Richardson QC said "a very serious dereliction of duty: exposed workers and members of the public to the risk of chemical poisoning.

Source: TUC Risks 777, 19 November 2016

Pic above: A container at the Stallingborough chemical plant exploded releasing toxic fumes, which killed a worker.

SMALL CONSTRUCTION SITES NEED REGULAR INSPECTION

In the UK small construction sites are health and safety 'basket cases' with half not meeting minimum legal standards according to a report from the Health and Safety Executive.

Of 1,840 sites visited by HSE inspectors, 49 per cent of sites did not meet safety standards. The report noted "In common with previous initiatives, inspectors had to deal with a number of immediate risks, especially poorly managed work at heights and also significant health risks where workers were exposed to asbestos and dusts, particularly silica and wood dust."

Union speaker, Brian Rye commented "This shows that safety standards on small construction sites remain a basket case. Safety laws are being ignored and workers placed in daily danger. It is frankly more by luck than judgment that more workers are not being killed at work. It also shows that HSE needs greater resources to conduct these initiatives 12 months of a year as they are only able to visit a tiny amount of sites."

Source: Risks 781, 17 December 2016

AIR POLLUTION



AIR QUALITY WORSENS IN GREECE AS RECESSION BITES

Greece's financial recession is leaving its footprint on the environment. This follows twenty years of huge improvements in Greece's air pollution. While most European countries struggle with the consequences of failure to control exhaust pollution from diesel vehicles, Greece benefitted from long-standing bans on diesel cars in the two biggest cities, Athens and Thessaloniki.

This allowed the country to reap the full benefits of technologies to control petrol exhaust, without these being offset by the poor performance of diesel cars. As a consequence nitrogen dioxide from traffic approximately halved alongside Greek roads between 1996 and 2006. (The ban was lifted in 2012)

However, a tripling in the cost of heating oil brought about larger changes as hard-pressed Greeks have switched to burning wood. Wintertime particle pollution increased by around 30% in Thessaloniki in 2013 and air toxicity worsened on evenings when fires were lit.

Analysis of wintertime air in Athens shows that it is not just logs that are being burnt. Along with chemicals from wood burning, scientists found lead, arsenic and cadmium particles, showing that people are burning painted and treated wood, and also their rubbish, to keep warm.

Pic above: An air pollution monitor at the National Observatory, in front of the Athens Acropolis. To keep warm Greeks are burning anything from branches to old furniture – which has helped create a blanket of smog over the Greek capital. Photograph: Yorgos Karahalidis/Reuters

Source: The Guardian, 31 October 2016

Reduction in air pollution levels in Europe but nowhere near enough

The European Environment Agency released a report on air quality in Europe in November which presents an analysis of air quality in Europe from 2000 to 2014 based on official monitoring stations across Europe.

Including more than 400 cities, **it shows that although air quality is improving, pollution remains the largest environmental health hazard in Europe.**

Exposure to fine particulate matter caused an estimated 37,930 premature deaths in the UK in 2013, behind France (45,120), Poland (48,270), Italy (66,630) and Germany (73,400).

Executive Director, Hans Bruyninckx said “Emission reductions have led to improvements in air quality in Europe but not enough to avoid unacceptable damage to human health and the environment. We need to tackle the root causes of air pollution, which call for a fundamental and innovative transformation of our mobility, energy and food systems.”

Source: *AirQualityNews*, 24 November 2016

Airborne contaminants and their control

The NSW Department of Industry Resources Regulator has issued a useful *Fact Sheet – Airborne Contaminants*, primarily directed at coal mining, which provides useful information on exposure to coal dust and crystalline silica and importantly spells out the health consequences of inhalation of smaller sized particles of dust contaminants.

The Fact Sheet is available at www.resourcesandenergy.nsw.gov.au

Nickel and its inorganic compounds: Health hazards and precautionary measures

The UK Health and Safety Executive has issued a comprehensive revised environmental hygiene guidance note which draws attention to the possible health hazards which could result from occupational exposure to nickel and its inorganic components.

The guidance note is particularly aimed at employers and managers. Other groups such as employees and health and safety professions will also find it useful.

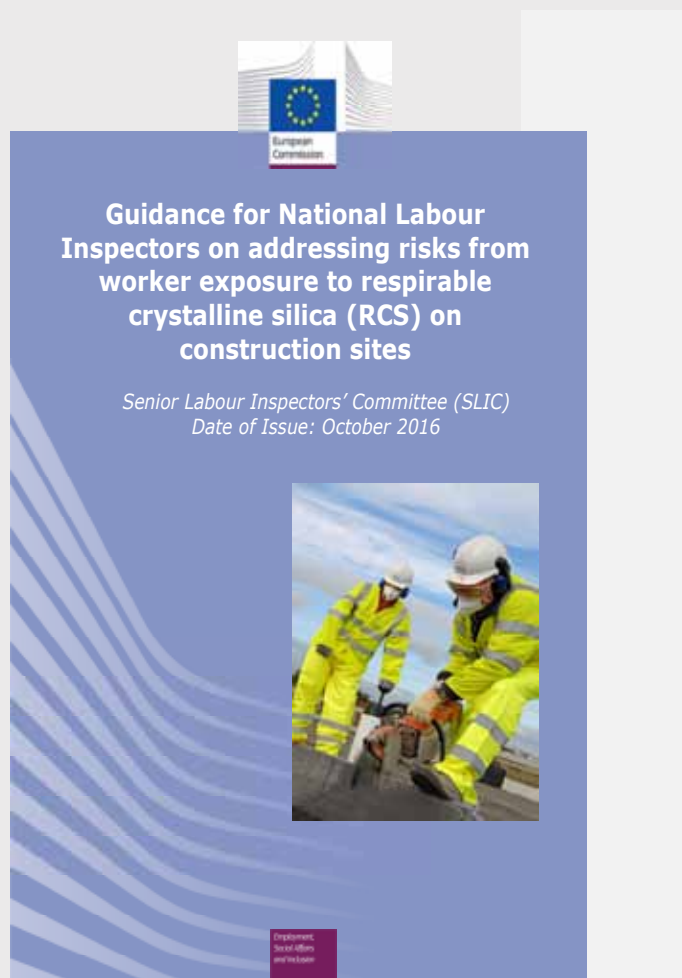
Source: *HSE*, September 2016

Exposure to respirable crystalline silica on construction sites

The European Commission has issued a comprehensive and most useful document titled *“Guidance for National Labour Inspectors on addressing risks from worker exposure to respirable crystalline silica (RCS) on construction sites”*.

The document warrants the attention of occupational health professionals and hygienists as well as individuals desirous of improving their understanding of the exposure risks.

The document is available at www.osha.europa.eu.



HEALTH - PHYSICAL

Long term effectiveness of eye drops now a reality

Researchers at McMaster University, Ontario, Canada have re-invented the eye drop with technology that can deliver medicine much more efficiently, making life easier for patients and the many people that regularly use eye drops to soothe sore eyes.

They have created microscopic packets of medicine that lodge themselves imperceptibly in the base of the tear film that makes up the wet surface of the eye.

There, the molecular packets, or depots, dissolve gradually, releasing medicine slowly and making it possible for people with conditions such as dry eye and glaucoma - which require daily drops - to receive the same degree of treatment from using drops just once a week.

Chemical engineer, Heather Sheardown said "The problem is that the eye does a good job of defending itself against foreign substances, making it difficult for the active ingredients in eye drops to do their work before the eye sheds them."

"With conventional drops, 95 per cent of the medicine is typically lost before it has a chance to work, a frustrating inefficiency, especially for patients."

"It's a lousy delivery system," Sheardown says. "If you can deliver drops to the front of the eye at lower concentrations that work over a longer period, it could be huge."

The research team is in the final stages of proving the safety and effectiveness of the new technology, which was described recently in the journal *Biomacromolecules*.

Source: *Science Daily*, 2 September 2016



Hand hygiene once again found deficient

A new study by NSW professor Mary-Louise McLaws has found compliance rates for hand hygiene at one major Sydney tertiary hospital are as low as 30 per cent.

Government officials have previously claimed that compliance rates are up to 85 per cent.

"Hand hygiene at this low level can place patients at risk of acquiring a life-threatening pathogen. It's softly killing the patients. You contaminate the patient and then they take several days to get ill. Then, nobody takes responsibility," said Dr McLaws.

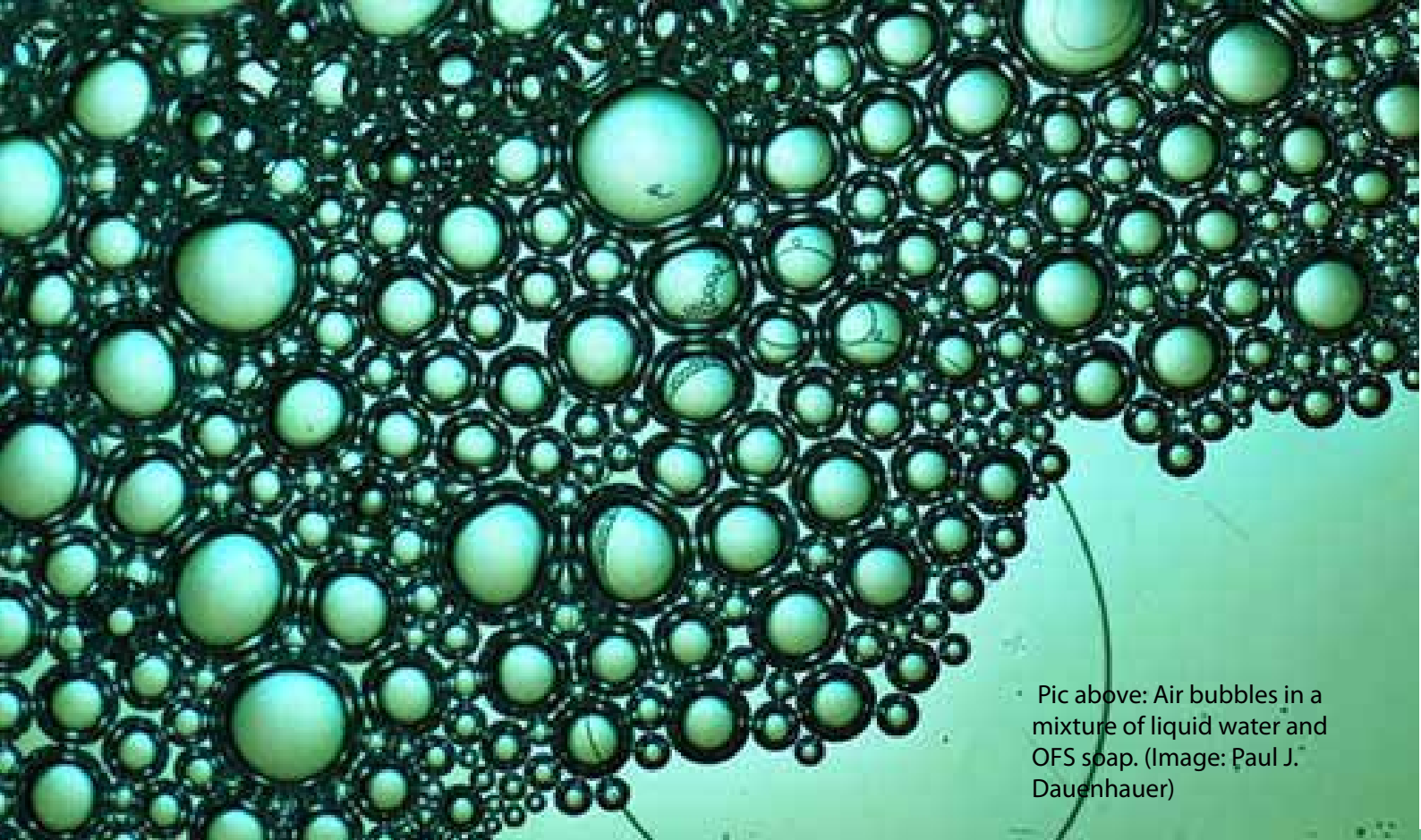
About 250,000 patients acquire an infection while in hospital every year, leading to over 8,000 deaths. Three quarters of these are preventable.

The study highlighted a "dysfunctional" culture when it comes to hand hygiene, and that the use of alcohol-based hand rub dropped significantly when health auditors were not present.

Readers may recall an article in the July 2015 edition of the *Monitor* which featured Indigo-Clean™ - a light fixture manufactured through an exclusive agreement with the University of Strathclyde, Glasgow, Scotland - which operates continuously and requires no operator, kills bacteria in the air and on all surfaces, and complies with all internationally recognised standards for patient safety.

Source: *SafeSearch OHS Career*, 7 November 2016





• Pic above: Air bubbles in a mixture of liquid water and OFS soap. (Image: Paul J. Dauenhauer)

“PERFECT” SOAP MOLECULE DEVELOPED TO CLEAN UP THE ENVIRONMENT

A team of researchers, funded by the US Department of Energy and led by the University of Minnesota, has invented a new soap molecule made from renewable sources that could dramatically reduce the number of chemicals in cleaning products and their impact on the environment.

The soap molecules also worked better than some conventional soaps in challenging conditions such as cold water and hard water.

Paul Dauenhauer from the University of Minnesota, a co-author of the study, said “Our team created a soap molecule made from natural products, like soybeans, coconut and corn, that works better than regular soaps and is better for the environment. This research could have a major impact on the multibillion-dollar cleaning products industry.”

The renewable soap molecule called Oleo-Furan-Surfactant (OFS) works well in cold water where conventional soaps become cloudy and gooey rendering them unusable. It was also engineered to work in extremely hard water conditions.

The researchers also use nanoparticle catalysts to optimise the soap structure for foaming ability and other cleaning capabilities. In addition to biodegradability and cleaning performance, OFS was shown to foam with the consistency of conventional detergents, which means it could directly replace soaps in existing equipment such as washing machines, dishwashers, and consumer products.

The technology has been patented by the University of Minnesota and is licensed to a new Minnesota-based start-up company, Sironix Renewables.

High fitness levels protects against health risks caused by stress at work

A recent study in US journal *Medicine and Science in Sports and Exercise* demonstrates that a high level of fitness can protect against health risks caused by stress at work.

The researchers recorded the fitness levels of almost 200 Swedish employees, with 51% men with a mean age of 39 years, using a so-called bicycle ergometer test. They also measured various known cardiovascular risk factors such as blood pressure, body mass index, cholesterol, triglycerides and glycated haemoglobin.

The participants were then asked to provide information on their current perception of stress.

The study illustrated that stressed individuals exhibit higher values of most cardiovascular risk factors. Furthermore, it was confirmed that cardiovascular fitness is linked to virtually all risk factors, with the risk factors being lower in people who are physically fit.

Professor Markus Gerber of the University of Basel said "Above all, these findings are significant because it is precisely when people are stressed that they tend to engage in physical activity less often."

To promote a physically active lifestyle, a high priority should be attached to the systematic measurement of cardiorespiratory fitness and the provision of theoretically sound and evidence-based physical activity counselling.

The researchers demonstrated for the first time that the relationship between the subjective perception of stress and cardiovascular risk factors is moderated by fitness. In other words, among the stressed employees, there were particularly large differences between individuals with a high, medium and low fitness level.

Source: *Safety Solutions*, 2 December 2016

Occupational hygiene explained

A new guide to occupational hygiene for HSR's has been published jointly by the British Occupational Hygiene Society and the TUC.

The organisations say the role of an occupational hygienist is 'extremely important' in ensuring that workers are protected and that necessary health tests and surveillance are carried out.

The Guide points out that 99 per cent of work-related deaths each year are the result of occupational diseases, with injuries contributing just 1 per cent to the occupational death roll.

TUC head of safety, Hugh Robertson says "Union health and safety representatives, working in partnership with occupational hygienists, are in a unique position to help spearhead important transformational change in workplaces to bring health on a par with safety and ensure that work-related health risks are no longer overlooked in Britain's workplaces.

The image shows the cover of a guide titled "Occupational hygiene explained: A guide for union health and safety representatives". At the top left is the BOHS logo (The Chartered Society for Worker Health Protection) and at the top right is the TUC logo. The title is prominently displayed in the center. Below the title is a collage of images showing various occupational settings: a person in a white lab coat in a laboratory, a person in a hard hat working with machinery, a person in a white lab coat holding a magnifying glass over a globe, a person in a hard hat working with a large pile of material, a person in a white lab coat working with a large piece of equipment, and a person in a white lab coat working with a large piece of equipment. At the bottom left of the collage is the website address www.bohs.org.

Available from <http://www.bohs.org/wp-content/uploads/2016/11/Occupational-Hygiene-Explained.pdf>

Source: *TUC Risks* 778, 26 November 2016

LEGAL/ILLEGAL DRUGS



Marijuana and its consequences for the brain

A new, large-scale study published in the *Journal of Alzheimer's Disease* finds there is abnormally low blood flow in virtually every area of the brain in current and former marijuana users compared to healthy controls. This includes areas known to be affected by Alzheimer's pathology, such as the hippocampus. The news of this study comes as several U.S. states' voters approved recreational or medicinal use of marijuana in November 2016.

Dr Elisabeth Jorandby, MD, co-author of the study, said "As a physician who routinely sees marijuana users, what struck me was not only the global reduction in blood flow in the marijuana users' brains, but that the hippocampus was the most affected region due to its role in memory and Alzheimer's disease. Our research has proven that marijuana users have lower cerebral blood flow than non-users." The most predictive region is the hippocampus, where brain SPECT imaging while the subject is concentrating shows low blood flow in the marijuana group.

"This work suggests that marijuana use has damaging influences in the brain – particularly regions important in memory and learning and known to be affected by Alzheimer's."

Co-author Dr Daniel Amen, MD said the research "demonstrates that marijuana can have significant negative effects on brain function. The media has given the general impression that marijuana is a safe recreational drug; this research directly challenges that notion. In another new study just released, researchers showed that marijuana use tripled the risk of psychosis. Caution is clearly in order."

Source: OHSOnline 8 December 2016

HEALTH - PSYCHOLOGICAL

Employee mental health now a priority in workplace wellness

A key finding of a study conducted by the Conference Board of Canada (CBC) released in late October 2016, was that mental health is now a high priority for companies seeking to improve overall employee health and, in turn, company performance.

The study found that mental health issues, including substance abuse and fatigue management, now take priority over chemical safety, emergency preparedness, ergonomics and workplace violence.

CBC director, Mary-Lou MacDonald said that "There are certainly high risks around not providing [mental health] programs, adding that mental health programs incorporating stress management, meditation and mindfulness are increasingly popular.

Occupational health and safety is also being incorporated more often into overall wellness plans.

"This is all about people," MacDonald said. "The silos are starting to break down."

Source: Bloomberg BNA, 18 November 2016

HEALTH - PSYCHOLOGICAL

Cognitive therapy – the most effective treatment for social anxiety disorders

Social phobia is the most common anxiety disorder of our time. However, the current treatment regimen for patients with this diagnosis has not proven very effective.

A team of Norwegian and British researchers now believe that they have found a potential cure for this common problem.

Hans M Nordahl, a professor of behavioural medicine at the Norwegian University of Science and Technology (NTNU), who led the research team of doctors and psychologists, said that until now, a combination of cognitive therapy and medication was thought to be the most effective treatment for these patients.

The researchers, who have just published in the *Journal of Psychotherapy and Psychosomatics*, show that cognitive therapy on its own has a much better effect in the long term than just drugs or a combination of the two.

Nearly 85 per cent of the study participants significantly improved or became completely healthy using only cognitive therapy.

“This is one of the best studies on social anxiety disorders ever” says Nordahl. “It’s taken 10 years to carry out and has been challenging both academically and in terms of logistics, but the result is really encouraging.”

Source: ScienceDaily, 21 December 2016



Metropolitan Fire and Emergency
Services Board (MFB)

A Review of the
MFB Employee Support Program (ESP)

Final Report
December 2016

Survey of mental health of Victorian firefighters finds shortcomings

An independent mental health review of the Metropolitan Fire Brigade (MFB) has found a high tolerance of poor behaviour, a mono-culture with elements of sexism and bullying, and a lack of screening for alcohol and drug use.

Clinical psychologist Dr Peter Cotton has spoken publicly about his review into the MFB, despite an attempt by the United Firefighters Union (UFU) to stop the report's release.

The review was triggered by the suicide of three firefighters earlier this year and involved interviews with 65 of 2,200 employees and further information from 220 staff.

Dr Cotton said the MFB has a mono-culture with few women or members from diverse backgrounds, making it difficult to assess the level of bullying and harassment.

The review found the MFB does not screen for alcohol or drug use, and has a lack of policies and procedures to address drug and alcohol issues.

The review also found the mental health of firefighters was comparable with Victoria Police and Ambulance Victoria, given mental health issues are more prevalent within the emergency services.

In a response from the Chief Executive Officer of the MFB he said that the report was both encouraging and challenging. He added that the firefighters are amongst the best in the world with world class training, facilities, appliances and protective wear, however “They deserve to also have world class support for the mental and emotional toll of their job, not only on them personally but also on their colleagues and very importantly, their families.

Source: ABC News, 12 December 2016

SLEEP/FATIGUE

DOCTOR BURNOUT AND PATIENT CARE

Current approaches to dealing with burnouts in doctors on an individual case-by-case basis are not effective and the issue should instead be tackled with organisation-wide initiatives, according to researchers at the University of Manchester and the University of Southampton.

A meta-analysis study, which brought together the results of previously conducted research, was carried out to explore the effectiveness of interventions in reducing burnout in doctors. It explored the comparison between doctor-directed interventions that target the individual and organisation-directed interventions that target the working environment.

The research concluded that while doctor-focused tactics such as mindfulness and cognitive behavioural therapy are important, **the greatest success at preventing and reducing burnout in doctors can be achieved through the adoption of organisation-directed approaches such as improved working environment and organisational culture.**

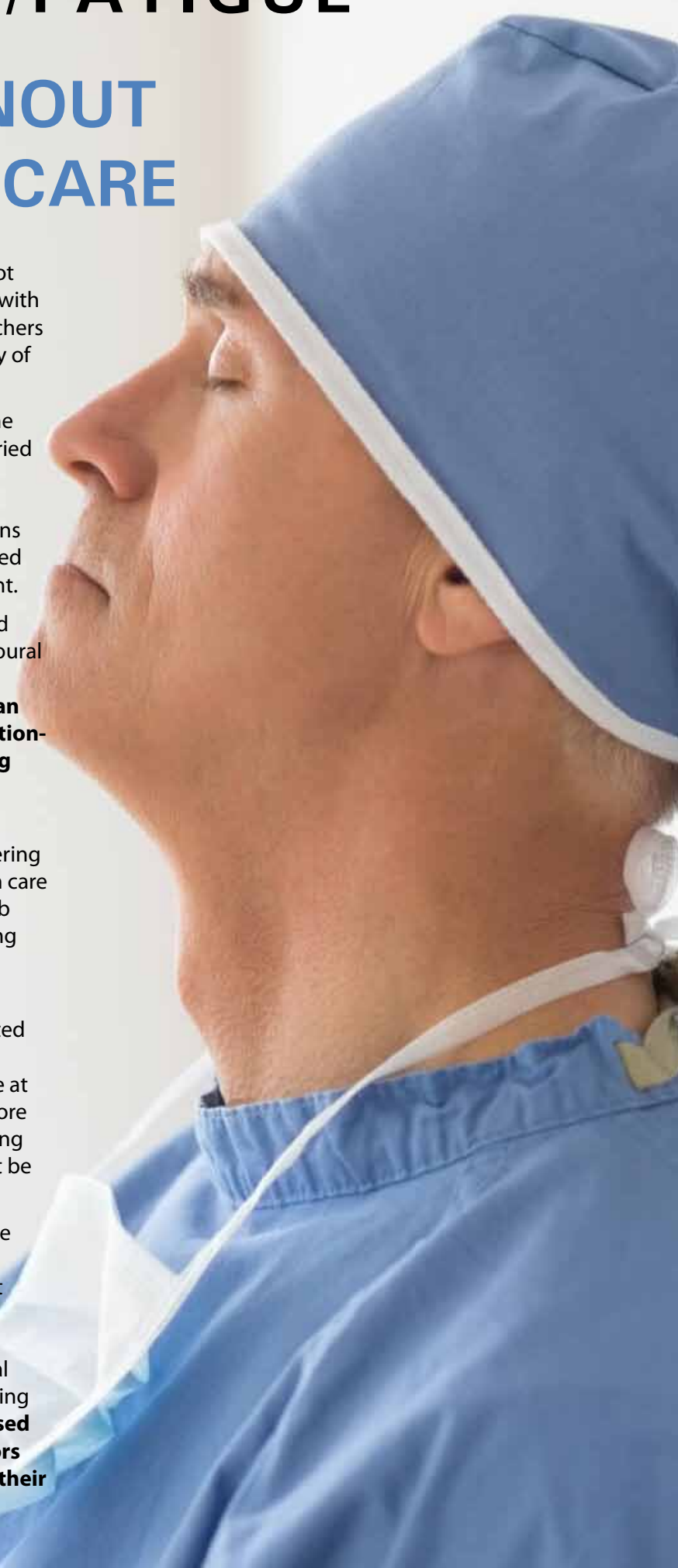
It was found that organisations that combined several elements such as structural changes, fostering communications between members of the health care team, and cultivating a sense of teamwork and job control tended to be the most effective in reducing burnout.

However, such intense organisation-directed interventions were rare and had not been evaluated sufficiently. What's more, the evidence indicated that young doctors starting out in their career, are at higher risk of burnout compared to those with more experience. So interventions focused on enhancing teamwork, mentoring, and leadership skills might be particularly suitable for this group.

George Lewith, Professor of Health Research at the University of Southampton who supervised the research, said: "This work suggests that if we want to retain safe and professionally competent NHS clinicians working in very demanding front line jobs we need to support their mental and physical health and create appropriate and enabling working environments for them. **Efforts need to be focused on finding appropriate ways of reaching doctors who work in stressful environments to ensure their wellbeing is taken care of. If we don't, patient safety could be at risk.**"

Source: ScienceDaily, 5 December 2016

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STUDY REVEALS THE DANGERS OF GETTING LESS THAN 7 HOURS OF SLEEP

Drivers who miss between one to two hours of sleep nearly double their risk for a crash, new research concludes.

Drivers who sleep slightly less – between four and five hours – have the same risk of crashing that is associated with driving over the legal limit for alcohol.

The AAA Foundation for Traffic Safety's report, *Acute Sleep Deprivation and Risk of Motor Vehicle Crash Involvement*, reveals that drivers missing 2-3 hours of sleep in a 24-hour period more than quadrupled their risk of a crash compared to drivers getting the recommended seven hours of sleep.



This is the same crash risk the National Highway Traffic Safety Administration associates with driving over the legal limit for alcohol.

The report found that in a 24-hour period, crash risk for sleep-deprived drivers increased steadily when compared to drivers who slept the recommended seven hours or more:

- 6-7 hours of sleep: 1.3 times the crash risk
- 5-6 hours of sleep: 1.9 times the crash risk
- 4-6 hours of sleep: 4.3 times the crash risk
- Less than four hours of sleep: 11.5 times the crash risk

"Managing a healthy work-life balance can be difficult and far too often we sacrifice our sleep as a result," said Jake Nelson, director of Traffic Safety Advocacy and Research for AAA.

"Failing to maintain a healthy sleep schedule could mean putting yourself or others on the road at risk."

Source: ScienceDaily, 6 December 2016

Airline pilot wins major legal victory over fatigue

An airline captain has accepted an apology from an airline after being sanctioned for refusing to fly due to fatigue as well as assurances that the company remains committed to passenger safety.

Thomas Cook Airlines suspended the pilot for six months and threatened him with dismissal after he refused to fly a Boeing 767 with over 200 passengers while he was fatigued.

He took the difficult decision not to fly after three extremely early starts in a row, including one 18 hour day and what would have been a 19 hour day to follow.

Thomas Cook's own fatigue monitoring software showed that if he had flown his rostered flight he would have landed at the end of his duty with a predicted performance loss similar to being four times over the legal alcohol limit for flying,

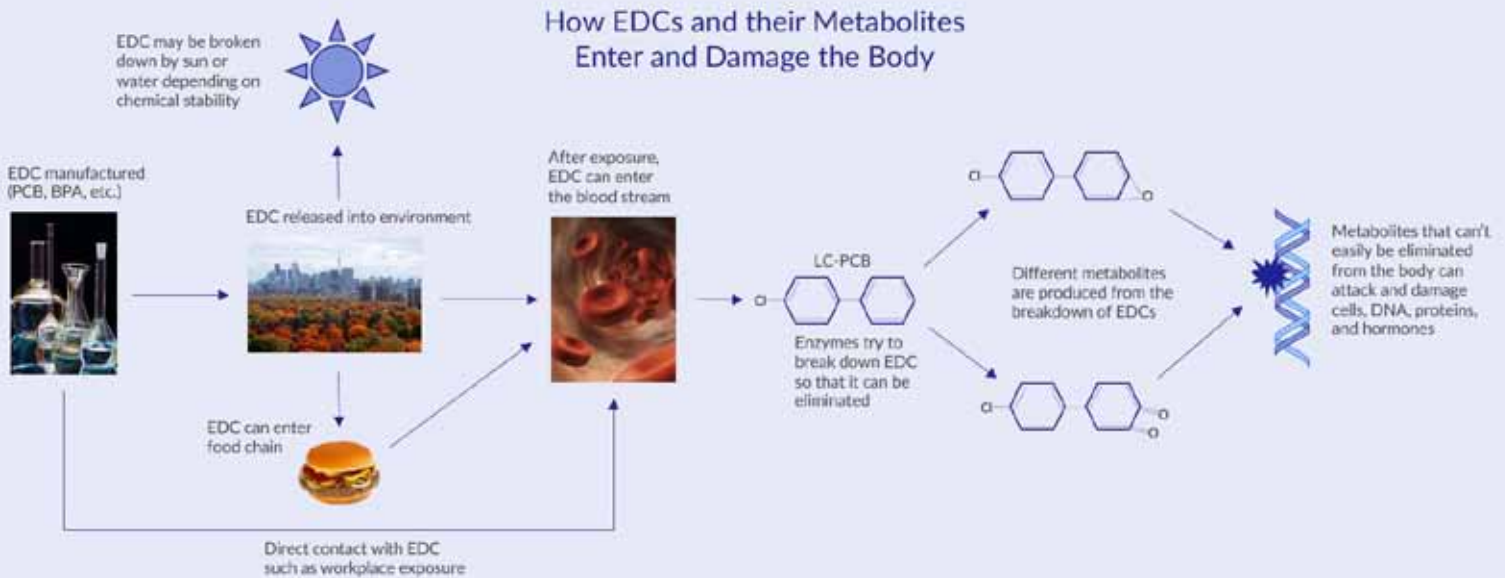
The pilot's union secretary said "Tackling fatigue remains the union's number one flight safety priority and we will continue to work with airlines and challenge them whenever necessary."

Source: TUC Risks, 781, 17 December 2016



HAZARDOUS MATERIALS

The cost of exposure to chemicals dangerous to hormone function (EDCs)



Annual healthcare costs and lost earnings in the United States from low-level but daily exposure to hazardous chemicals commonly found in plastic bottles, metal food cans, detergents, flame retardants, toys, cosmetics, and pesticides, exceeds \$340 billion, according to a detailed economic analysis by researchers at NYU Langone Medical Center.

The investigators who performed the calculations say the massive toll from everyday contact with endocrine-disrupting chemicals amounts to more than 2.3 percent of the country's gross domestic product.

According to researchers, EDCs have, for decades, been known to pose a danger to humans because the compounds can interfere with natural hormone function.

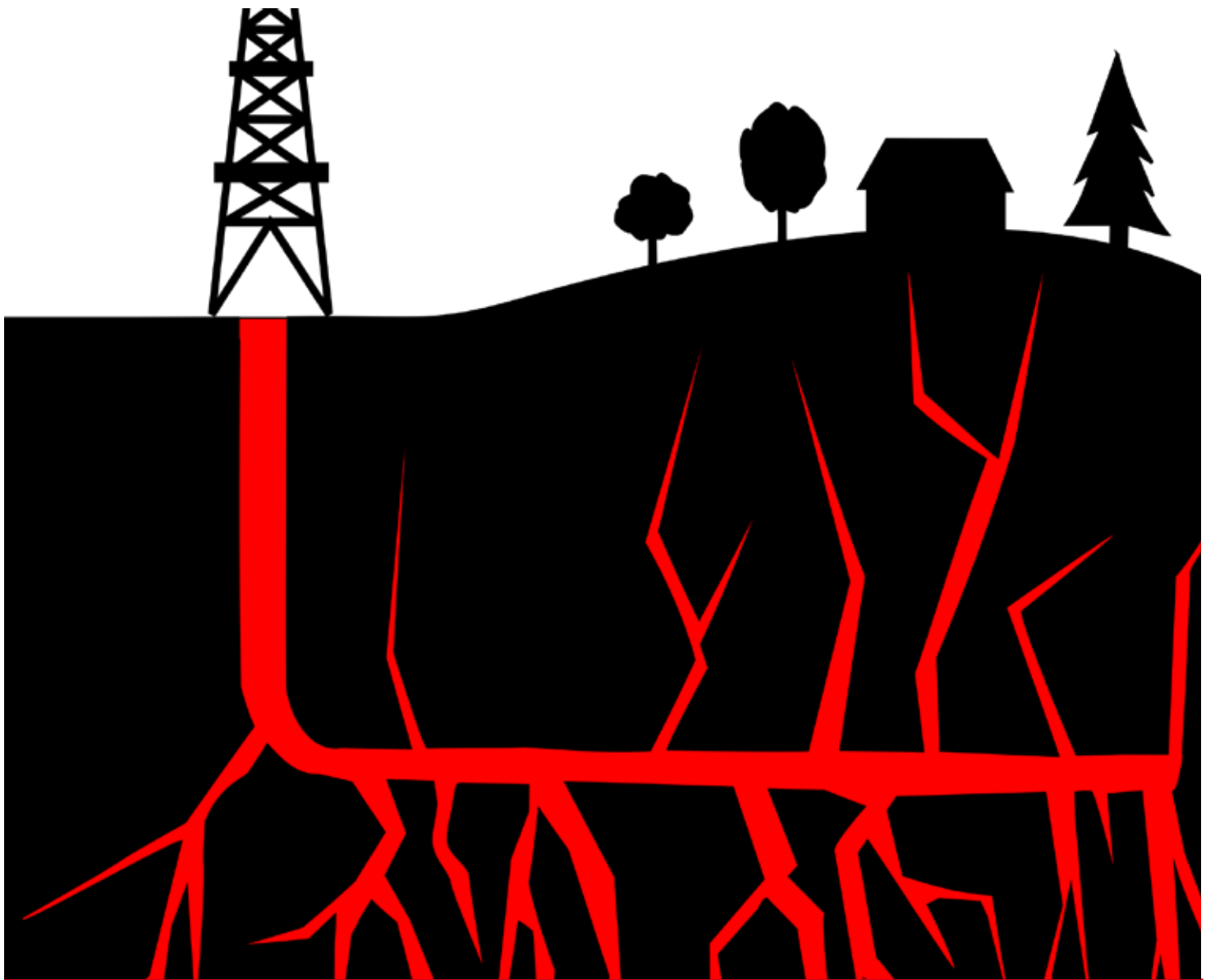
They say that yearly exposure to highly toxic chemical and pesticides accounted for nearly two-thirds of the total EDC disease burden, mostly from neurological damage those chemicals cause in the unborn.

Among the other key diseases attributed to endocrine-disrupting chemical exposure and factored into the team's calculations were over 1,500 estimated cases of autism and more than 4,400 cases of attention deficit hyperactivity disorder, or ADHD.

More specifically, phthalate exposure was estimated to contribute to some 5,900 adults developing obesity, 1,300 cases of diabetes and 86,000 cases of endometriosis.

Funding for the analysis was provided by NIOSH, the Endocrine Society and the Broad Reach Foundation.

Source: ScienceDaily 18 November 2016. Pic Copyright ALPCO.



PUBLIC HEALTH REGULATORS ILL-EQUIPPED TO POLICE FRACKING

According to research published in September, regulatory bodies in the UK are ill equipped to properly assess the public health risks posed by fracking.

The research from Stirling University has found that there is a serious question mark over Government claims that regulators will be able to ensure the safety of fracking.

Joint co-author of the report, Professor Andrew Watterson, said: "A constant refrain from a number of UK inquiries into fracking and from the industry itself is that everything will be fine as long as there is robust regulation and good industry practice. The evidence to support this view from our analysis is remarkably thin and nor is it supported in any way by Westminster's current de-regulatory regime."

"Our focus is very much public health so the environmental health aspect is strongly in the report when looking at air pollution, water pollution, noise and dust - so all the things Environmental Health Officers deal with," points out Prof Watterson.

"We believe there is a major issue about regulators understanding fracking so they can control or even identify the problems and there are big issues from our point of view about the capacity of regulators to check the development and for monitoring and inspection to occur."

The review looked at scientific and academic papers along with professional, government agency, industry and industry funded reports. Each case study is examined from the perspective of public health and regulation.

Readers will note the non-inclusion of occupational health as a concern.

Source: EHN Online, 12 October 2016

CANADA AGREES TO ASBESTOS BAN

The Canadian government is moving to ban the use of asbestos by 2018. Science Minister, Kirsty Duncan, announced in December 2016.

The ban will apply to the manufacturing of any products containing the substance, as well as imports and exports.

Canada's last asbestos mines closed in 2011 but political leaders have continued to drag their feet in meeting international anti-asbestos standards.

The Canadian Labour Congress estimates 150,000 Canadian workers are regularly exposed to asbestos through jobs in construction, waste management, auto maintenance and ship building.

Source: ETUI News, 16 December 2016

Do micro plastics pose a risk to human health?

Experts are concerned that millions of tons of tiny debris from plastic bags, bottles and clothes in the world's oceans could have potentially harmful effects on the body. The impact of micro plastics on human health will be investigated amid growing concerns that plastic pollution in the ocean is being eaten by marine creatures and then passed up the food chain.

The chief medical officer for England is to study the risks from eating seafood containing tiny particles of plastic.

In its response to a report by the House of Commons Environmental Audit Committee released earlier this year, the Government acknowledged that there is little evidence on the impact to human health from eating the plastic. However, it added that research has shown high concentrations could cause physical harm to marine worms and micro plastics could transfer along a simple food chain such as from a mussel to a crab.

The committee's report estimated that between 15 and 51 trillion micro plastic particles have accumulated in the oceans, with between 80,000 and 219,000 tonnes of micro plastics entering the sea from Europe each year.

Source: Chemwatch, 8 December 2016

Electronics industry standards not protecting the health and safety standards of workers

The Good Electronics Network and the International Campaign for Responsible Technology (IRCT) have issued a challenge to the electronics industry to adopt safer and more sustainable manufacturing practices with a focus on responsible chemical management.

They are calling on the industry to particularly reduce and eliminate the human rights violations associated with the use of process chemicals in the manufacturing of electronics products and components.

They say that electronic companies must develop and adopt safer alternatives to harmful substances and production processes in order to protect the health of workers, their communities and the environment.

Due to the use of hazardous chemicals, many electronics workers are suffering from cancer, miscarriages, birth defects and other problems, says the network.

The industry claims that it is making serious efforts to address these issues. It is committed to supporting the rights and well-being of workers and communities around the world that are affected by the global electronics supply chains.

Source: Good Electronics, Org. 11 November 2016

Russia applies economic pressure to delay asbestos ban in Sri Lanka

On-going pressure from the Russian government has secured a substantial delay to Sri Lanka's proposed ban on chrysotile asbestos.

A ban scheduled for 2018 has now been pushed back to 2024, after Russia warned the ban could damage relations between the countries.

Russian ambassador Alexander Karchava, said that Russia was willing to bring in a group of experts to Sri Lanka to educate the country on the 'safe use' of asbestos.

Meanwhile the Ambassador called on Sri Lankan business men to step up their activities in Russia.

Tea makes up about half of all Sri Lanka exports.

Source: OHS Repts SafetyNetJournal, SafetyNet 386, 2 November 2016

CANCERS

YALE SCHOOL OF HEALTH CLAIMS FRACKING LINKED TO CANCER CAUSING CHEMICALS



A new analysis by researchers at Yale University confirms that numerous carcinogens involved in the controversial practice of hydraulic fracturing have the potential to contaminate air and water in nearby communities.

The team examined an extensive list of more than 1,000 chemicals that may be released into air or water as a result of fracking. "Previous studies have examined the carcinogenicity of more selective lists of chemicals," said lead author Nicole Deziel, Ph.D. **"To our knowledge, our analysis represents the most expansive review of carcinogenicity of hydraulic fracturing-related chemicals in the published literature."**

According to the findings, the majority of chemicals (>80 percent) lacked sufficient data on cancer-causing potential, highlighting an important knowledge gap. Of the 119 compounds with sufficient data, 44 percent of the water pollutants and 60 percent of air pollutants were either confirmed or possible carcinogens.

Because some chemicals could be released to both air and water, the study revealed a total of 55 unique compounds with carcinogenic potential. Furthermore, 20 chemicals had evidence of increased risk for leukaemia or lymphoma specifically.

This analysis creates a priority list of carcinogens to target for future exposure and health studies.

Source: Science of the Total Environment, October 2016

Key mechanisms of cancer, aging and inflammation uncovered

A team of researchers at the University of Pittsburgh has uncovered new details about the biology of telomeres, "caps" of DNA that protect the tips of chromosomes and play key roles in a number of health conditions, including cancer, inflammation and aging.

Telomeres, composed of repeated sequences of DNA, are shortened every time a cell divides and therefore become smaller as a person ages. When they become too short, telomeres send a signal to the cell to stop dividing permanently, which impairs the ability of tissues to regenerate and contributes to many aging-related diseases, explained lead study author Patricia Opresko, Ph.D., associate professor of Environmental and Occupational Health at the University of Pittsburgh, and member of the University of Pittsburgh Cancer Institute Molecular and Cellular Cancer Biology program and Carnegie Mellon University Center for Nucleic Acids Science and Technology.

In contrast, in most cancer cells, levels of the enzyme telomerase, which lengthens telomeres, are elevated, allowing them to divide indefinitely.

"The new information will be useful in designing new therapies to preserve telomeres in healthy cells and ultimately help combat the effects of inflammation and aging. On the flip side, we hope to develop mechanisms to selectively deplete telomeres in cancer cells to stop them from dividing," said Dr Opresko.

The findings were published in the journal *Nature - Structural and Molecular Biology*.

Source: Science Daily, 8 November 2016



HIGHER RISK OF DEATH EVEN FOR CASUAL SMOKERS

Low intensity smokers who puff on 10 or less cigarettes per day over their lifetime still have higher risks of death than individuals who never smoke, providing further evidence that there is no safe level of cigarette smoking according to a study published online by JAMA Internal Medicine.

Tobacco smoking is a public health issue around the world, estimated to cause 5 million deaths annually. However, there is little data on the effects of long-term low-intensity smoking and a perception among some people that such a level can be safe.

Former smokers who had been consistently low-intensity smokers had progressively lower risks of death the younger they were when they quit, the authors report.

“These findings provide further evidence that there is no safe level of cigarette smoking. All smokers should be targeted for smoking cessation, regardless of how few cigarettes they smoke per day.”

Further studies are needed to examine the health risks of low-intensity nicotine delivery systems and other tobacco products, the study concludes.

Source: ScienceDaily, 5 December 2016

NANOTECHNOLOGY

Sampling strategy to help identify potential nanomaterial exposure in an occupational setting

In the USA, the National Institute for Occupational Safety and Health (NIOSH) published a blog item entitled “Never fear! NEAT 2.0 is here!” which describes how to perform nanomaterial exposure assessment in the workplace.

NIOSH notes that in 2009, it developed and was the first to recommend using the nanoparticle emission assessment technique (NEAT). According to NIOSH, NEAT made use of a condensation particle counter to identify tasks that result or can result in the emission of nanoparticles into the surrounding air. Task-based filter samples were then used to confirm the presence of nanoparticles, using both laboratory elemental analysis and electron microscopy.

NIOSH says that this initial approach did not effectively address the potential for background contamination from incidental nano-sized particles or exposure over a full workday. It was also heavily dependent on the use of direct reading instruments (DRI), which are nonspecific aerosol monitors and subject to interferences such as background incidental particles.

Based on these limitations NIOSH has updated NEAT which is a more robust sampling strategy that places a stronger emphasis on full workday exposures, incorporates background monitoring, and emphasises the importance of integrated filter sampling in the worker’s breathing zone over the use of DRIs.

NEAT 2.0 consists of the following steps:

1. Collect Basic Workplace Information:
 - Work flow, number of workers, tasks performed, materials used, other indicators of potential exposure;
2. Design and Implement the Sampling Plan:
 - Full-shift and task-based integrated filter sampling, DRIs, evaluate engineering controls;
3. Risk Assessment:
 - Evaluate data: Background, engineering controls;
 - Use hierarchy of controls to develop mitigation strategies for exposure potential; and
 - Communicate potential risks;
4. Risk Management:
 - Confirm ongoing control of risk by performing additional measurements, if necessary.

NIOSH states that the NEAT 2.0 “will guide facilities in determining exposure potential for workers who are handling or using engineered nanomaterials. By determining exposure potential, the facility can then work to control exposure making use of mitigation strategies and the hierarchy of controls.”

Pic above: NIOSH field team member setting up integrated filter-based samples

Source: Environmental Expert, 3 November 2016

WORKERS' COMPENSATION

Injury predictive tool speeds up return to work

Disability service provider, Outlook Victoria Inc, has developed an early reporting tool for identifying employees who might be at risk of physical or mental injury by looking at absence rates, changes in behaviour, accident rates, near misses, poor concentration and job satisfaction.

The aim is to identify and avert problems before they reach 'crisis point'.

CEO Anne McCormick says "The tool has increased early reporting and reduced lost-time injuries, long term claims and overall claims and costs.

According to McCormick, Outlook's program provides support for both work and non-work related injuries, illnesses and medical conditions, including mental health issues. She says the program is successful because it is "consultative, transparent and encourages team participation at all levels. Employees are engaged and empowered in participating and creating solutions."

Outlook Victoria was a finalist for 2016 WorkSafe Victoria award for employer excellence in return to work (RTW).

Source: OHS Alert, 22 November 2016

Employer fine increased by more than 700% in County Court

Following a successful appeal by the Victorian Director of Public Prosecutions over an incident in which a truck driver could have been killed by a falling wool bale and which initially attracted a fine of just \$7,000 with costs, the company has been convicted and fined \$50,000 in the County Court.

After the judgement, Marnie Williams, WorkSafe Victoria's executive director said it was a source of frustration for the regulator when a company had a safe system on paper but didn't put it into action. In this case, a man suffered serious and potentially fatal injuries when he was hit by a 185 kg wool bale "Because the company did not act on the system they had set up."

Source: OHS Repts SafetyNetJournal, 387, 16 November 2016

Workers' compensation scheme trends 2015/16

WorkCover WA has released its report Workers' Compensation Scheme Trends 2015/16 which includes some useful statistics and information.

Some examples:

- The proportion of long duration claims has steadily increased from 26 per cent to 34 per cent over the last four years, whereas claims with shorter duration decreased.
- Stress-related lost time claims numbers have increased by 25 per cent over the four years to 2015/16. The top three industries for stress related claims are:
 - health care and social assistance
 - public administration and safety
 - education and training
- Between 2012/13 and 2015/16, the number of claims lodged fell by 17 per cent with the decrease primarily driven by a 26 per cent reduction in the number of claims without lost time.

In 2015/16 the all-industry average rate for claims frequency of 8.6 was exceeded by the following sectors:

Agriculture, Forestry, Fishing	26.4
Manufacturing	15.7
Construction	13.7
Healthcare and Social Assistance	11.8
Transport, Postal and Warehousing	11.8
Arts and Recreation Services	11.3
Wholesale Trade	10.0

The full report is available from <http://www.workcover.wa.gov.au/content/uploads/2014/09/November-2016-Publication-Web-version.pdf>





Occupational Health Society of Australia (WA)



Membership of the Society is open to all those interested in occupational health and safety.

\$50 ordinary membership

\$20 student membership.

Simply email safety@marcsta.com with your details.

Incorporated in 1978, the Occupational Health Society of Australia (WA Branch) is a non-profit association which provides a forum for the wide range of disciplines engaged in the occupational health profession in Western Australia.

The aims of the Society are:

- to develop effective occupational health practice within Western Australia
- to encourage awareness by individuals, organisations and other bodies, of the role of occupational health
- to provide a forum for professional contact between persons interested in, and working in, occupational health
- to express an independent, professional viewpoint on all aspects of occupational health considered desirable in the public interest
- to seek the improvement or an extension of the existing legislation for the promotion of safety and health at work in order to ensure uniform principles are applied in all occupational activities.

Visit www.ohswa.marcsta.com for more information.

Membership Fees

Current fees:

\$50 for ordinary members

\$20 for students.



Occupational Health Society of Australia (WA)

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Miss Al-Shymaa Adroub		Mr Ralph Keegan	Frontline Safety & Training
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