Occupational Safety, Health & Environment (OSHE) Bulletin.

Edition: MAY 2009

(Created by: Associate Professor Abdul Shukor Abdullah)

Contents:

NEWS ALERT! Assoc. Prof. Abdul Shukor will deliver several OSHE Talks nation-wide including in Johore, Sabah and Sarawak (Borneo) from May to July 2009. Please refer to page 10 in this Bulletin for more details. Thank you.

Sharing My Thoughts (SMT) on

ERGONOMICS FOR THE OLDER AND AGING WORKERS.

- Aging Workforce Presents New Safety & Health Challenges.
- Trend of Hiring Older Workers Means Greater Call For Ergonomics
- Physically, older workers face a variety of time-induced limitations that may include failing eyesight, hearing, flexibility and dexterity, and slower response times and back problems.

Who is an older worker? Many definitions are currently in use, depending on the source of information. For instance, Statistics Canada, in its Spring 1998 issue of the *Labour Force Update*, defined older workers as "workers aged 55 or over"; the National Advisory Council on Ageing refers to individuals aged over 45, while the U.S. Age Discrimination in Employment Act applies to workers who are 40 years of age and more.

Furthermore, a distinction between different subgroups within the broader category of older workers has been widely established by researchers and is commonly used and accepted. Generally, studies on older workers subdivide the group into those aged 55 and over and those aged between 45 and 55. When discussing issues related to age groups, it would appear that the context determines the boundaries between one age group and another. In this discussion, an "older worker" is defined as an employee aged 45 or over, unless otherwise specified.

Physically, older workers face a variety of time-induced limitations that may include failing eyesight, hearing, flexibility and dexterity, and slower response times and back problems. The body itself starts to age at 30 and the eyes show signs of aging between 40 and 50, but workers may still plan to contribute effectively for another 20 years or even more. **Between the ages of 60 and 64, there**

OSHE Bulletin MAY 2009 is a knowledge sharing initiative created by Assoc. Prof. Abdul Shukor.
He can be contacted at prof.shukor@gmail.com and H/P: +60122731434. Your feedback is welcome.

are only 89 males for every 100 women; after age 80, 53 men remain for every 100 women. And strength and height become issues for almost every aging worker.

Employers should include older workers in the work design process and seek outside professionals for assistance in adapting the workplace, training, safety and health policies to fit the aging workforce.

For workplace designers, that means creating work environments that cater to aging eyes, tools that require less strength to operate, and workspaces positioned at heights appropriate for an aging body. Some professions, like teaching and nursing, may benefit most from ergonomics interventions since both fields are predominantly female, are aging, and are currently facing shortages of employees (currently, 21 percent of teachers in the U.S. are between the ages of 50 and 59). Older workers are both a viable and valuable commodity in the workplace.

U.S. Bureau of Labor Statistics data show that **aging workers have fewer workplace injuries, but diabetes, hypertension, and other age-related ailments are helping to increase employers' costs associated with medical insurance and lost work production;** nevertheless, businesses can help mitigate their losses by improving policies and workplace design to allow employees to continue to work in a safe and healthy environment, Minter said. "Older workers are highly valued by employers for their judgment, flexibility, experience, and creativity," she noted. "Fortunately, many of them will work beyond the traditional retirement age of 65, due partly to advances in health care. This presents both opportunities and challenges to businesses, which will need to adapt to maintain a safe work environment for these workers."

Although injury rates among older workers are lower than those of their younger counterparts, other factors can contribute to increased health and safety exposures: age-related chronic disorders and diseases, loss of hearing, impaired vision, and physical and cognitive limitations. Minter advised businesses to take action to address each of these risk factors. Some examples of what businesses can do include:

- **Allow for flexible work hours so that those with poor night vision can adjust their start and finish time to coincide with daylight hours;**
- **Encourage employees to use the health care system for preventative well visits;**
- **Eliminate heavy lifts, elevated work from ladders, and long reaches;**
- **Encourage employees working at a computer to take small breaks every 30 minutes;**
- **Don't rely on sound as the sole means of emergency communications, as employees with hearing loss may not hear announcements.**

Joint pain, stiffness and **swelling** become more frequent as cartilage breaks down and bones begin rubbing on bone. The hand may feel stiffer and the ability to perform fine motor activity is more challenging with these **arthritic joint changes**. The shoulders may become more stooped and rounded because of habitual work-related postures, as well as age-related changes (such as the gel-like discs between the spinal vertebrae becoming less fluid and thinner). **Reflexes begin to slow down** or may be lost as the nervous system loses cells and weight and transmits nerve impulses more slowly.

The elderly are particularly susceptible to injuries that affect all workers, including carpal tunnel syndrome (CTS) and other repetitive stress injuries (RSI). Generally, the elderly have about 70% of the strength they did around the age of 25. Therefore, **primary concerns for older employees include minimizing gratuitous lifting, reaching, and carrying.** Ultimately, addressing these concerns will benefit all employees, since everyone risks injury when doing these activities.

As innovations are continually made in the field of ergonomics, accommodating a wider variety of workers becomes easier and easier. Thus addressing the needs of aging and elderly employees expands their opportunities to remain productive members of the workforce. In the end, all employees will benefit from awareness of elder ergonomic issues.

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TIPS TO ADDRESS ERGONOMICS ISSUES FOR THE OLDER AND AGING WORKFORCE.

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- Outfitting workstations with carousels and pullout shelves can minimize reaching distance, which should not exceed 18 inches. Reaching farther than 18 inches places stress on the back, shoulders, and neck.
- Workstations should be arranged so that frequently used items are conveniently, centrally located.
- Smart layout reduces not only overreaching, but also unnecessary twisting and leaning.
- Loads weighing more than two pounds should be distributed into smaller containers, to make the weight more manageable. This adaptation protects against back strain.
- Whenever possible, it is preferable to slide or roll loads weighing more than two pounds, which reduces the risk of back and shoulder injuries.
- Meanwhile, certain needs are unique to aging employees. Again, these conditions are simple to accommodate, and allowing for them will improve working conditions for the whole office.
- Ability to focus the eyes on distant objects deteriorates over time. Thus, visual tasks should be held closer to the eye; document holders next to the monitor minimize this risk. High-resolution monitors and large-print labels also prevent eyestrain.
- In addition to suffering from age-related hearing loss, elderly people are more vulnerable to noise-induced hearing loss as well. Workstations should be designed to isolate noisy equipment.
- Decreased manual dexterity often results from osteoarthritis. Tools with ergonomic handles or grip tape ease use and reduce stress to affected joints. Electronic staplers and letter openers eliminate joint stress altogether.
- Because older workers are more susceptible to cumulative traumas, it is beneficial to vary their job responsibilities and provide opportunities for micro breaks. This will reduce the risk of repetitive stress injuries.

Proper workplace design is necessary for the older workforce.

Continuous awareness and training on safety is crucial for the 'senior' employees.

The older workforce must be educated on workplace safety, health and environmental aspects.

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Heavy lifting leads to back pain for two Boots Alliance workers.

Poor health and safety practices at Boots Alliance have left two GMB members with severe back problems. The members have now received compensation after the GMB instructed its lawyers Thompsons Solicitors to pursue a claim for damages.

Nigel Williamson, 52, and Robert Cole, 56, both from Nottingham, were employed as depot workers for Boots, which runs a chain of chemists across the UK.

They both suffered back and shoulder strain after working at the Nottingham depot with inadequate equipment and without a risk assessment for more than two years.

No lifting equipment or training.

They were not given any heavy lifting equipment or training on how to do their job without causing back strain. No work risk assessment was carried out on the job until an injunction was threatened by Thompsons Solicitors.

Robert, who has had to take time off due to back pain and received £5,000 in compensation, said: "I have a bad back, shoulder and knee problems as a result of working in poor conditions for a number of years. I had no training whatsoever.

Nigel, who had to take four months off work and received £3,300 in compensation added: "The work was extremely physical. I have never had back problems before but I still suffer from pain now. I found the total lack of any manual handling assistance, safe working procedures and risk assessments extremely frustrating and depressing."

Employers have a duty of care to keep employees safe.

Andy Worth, Midlands and East Coast Regional Secretary of the GMB said: "Our members worked in appalling conditions for a number of years and it took the threat of an injunction for Boots to eventually undertake a risk assessment for their role. It is a sad day when you must sue for compensation in order to make a workplace safe."

Carol Wild from Thompsons Solicitors added: **"Employers have a duty of care to undertake a work risk assessment to ensure their employees are safe in the workplace. Where heavy objects must be moved the correct machinery must be provided to reduce the amount of manual handling and the correct training must be given.**

"It is appalling that such a large employer like Boots Alliance allowed its standards to slip in this way."

Source: http://www.thompsons.law.co.uk/ntext/back-injuires-work-compensation.htm

5 Quick Tips to Help Prevent Back Pain.

1. Get Up and Get Moving (Exercise daily).
2. See Your Doctor (Gets regular check-ups).
3. Maintain a healthy body weight.
4. Maintain good posture when working.
5. Rest easy and properly.

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Low Back Pain (LBP) – A common reason for workers to take medical leave!

What is low back pain?

Low back pain is pain and stiffness in the lower back. It is one of the most common reasons people miss work.

How does it occur?

Low back pain is usually caused when a ligament or muscle holding a vertebra in its proper position is strained. Vertebrae are bones that make up the spinal column through which the spinal cord passes. When these muscles or ligaments become weak, the spine loses its stability, resulting in pain. Because nerves reach all parts of the body from the spinal cord, back problems can lead to pain or weakness in almost any part of the body.

Low back pain can occur if your job involves lifting and carrying heavy objects, or if you spend a lot of time sitting or standing in one position or bending over. It can be caused by a fall or by unusually strenuous exercise. It can be brought on by the tension and stress that cause headaches in some people. It can even be brought on by violent sneezing or coughing.

Low back pain is one of the most common complaints people have today - and it's the single most frequent ailment that sends them to their doctors' offices. **Many complaints stem from sitting all day in an uncomfortable computer chair.** Back pain associated with desk chair discomfort is nothing to dismiss or take lightly. Right after the common cold, back pain is the second-leading cause of employee absenteeism. For the vast majority of those who complain of back pain, the primary location of the pain is the lower back - or the lumbar spine.

Nearly everyone will face low back pain at some point in his or her life, whether due to injury, arthritis, poor posture or weight considerations. **One of the most common causes of low back pain** is strain on the muscles, tendons or ligaments connected to the vertebrae in the lower back. In many people, low back pain may ease within a few days; however, in some cases, the pain persists or worsens. If low back pain lasts for more than twelve weeks, it is referred to as chronic back pain.

Treatments for low back pain can vary from pain medication to avoiding unnecessary stress to your back. Doctors rarely recommend bed rest, because resting in one position may contribute to - and could possibly be the cause of - low back pain. A healthy body can typically endure remaining in one position for about twenty minutes. If you stay in one position too long, strain on the muscles of the lower back diminishes their elasticity and results in muscle fatigue, which leads to low back pain. Relief is in sight, however.

Improper ways of doing a task like bending for a long period of time are major sources of LBP in factories and offices around the country (*see photo, above*).

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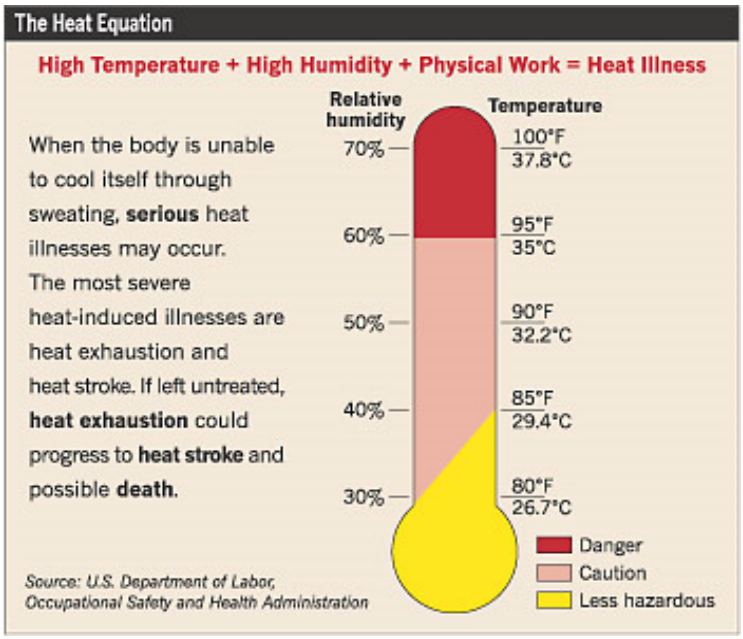
THE "HEAT STRESS".
(Working in HOT Temperatures)

What Is Heat Stress?

Working or playing where it is hot puts stress on your body's cooling system. When heat is combined with other stresses such as hard physical work, loss of fluids, fatigue or some medical conditions, it may lead to heat-related illness, disability and even death.

Heat exposure may occur in many workplaces. Furnaces, bakeries, smelters, foundries and heavy equipment are significant sources of heat inside workplaces. For outdoor workers, direct sunlight is the main source of heat. In mines, geothermal gradients and equipment contribute to heat exposure. Humidity in workplaces also contributes to heat stress.



How We Cope With Heat?

Your body is always generating heat and passing it to the environment. The harder your body is working, the more heat it has to lose. When the environment is hot or humid or has a source of radiant heat (for example, a furnace or the sun), your body must work harder to get rid of its heat.

If the air is moving (for example, from fans) and it is cooler than your body, it is easier for your body to pass heat to the environment. Workers on medications or with pre-existing medical conditions may be more susceptible to heat stress. These workers should speak to their personal physicians about work in hot environments.

Heat Stress Hazards.

	Cause	Symptoms	Treatment	Prevention
Heat Rash	Hot humid environment; plugged sweat glands.	Red bumpy rash with severe itching.	Change into dry clothes and avoid hot environments. Rinse skin with cool water.	Wash regularly to keep skin clean and dry.
Sunburn	Too much exposure to the sun.	Red, painful, or blistering and peeling skin.	If the skin blisters, seek medical aid. Use skin lotions (avoid topical anaesthetics) and work in the shade.	Work in the shade; cover skin with clothing; apply skin lotions with a sun protection factor of at least 15. People with fair skin should be especially cautious.
Heat Cramps	Heavy sweating drains a person's body of salt, which	Painful cramps in arms, legs or stomach which occur suddenly at work or	Move to a cool area; loosen clothing and drink cool salted water (1 tsp.	Reduce activity levels and/or heat exposure. Drink fluids regularly.

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	cannot be replaced just by drinking water.	later at home. Heat cramps are serious because they can be a warning of other more dangerous heat-induced illnesses.	salt per gallon of water) or commercial fluid replacement beverage. If the cramps are severe or don't go away, seek medical aid.	Workers should check on each other to help spot the symptoms that often precede heat stroke.
Fainting	Fluid loss and inadequate water intake.	Sudden fainting after at least two hours of work; cool moist skin; weak pulse.	GET MEDICAL ATTENTION. Assess need for CPR. Move to a cool area; loosen clothing; make person lie down; and if the person is conscious, offer sips of cool water. Fainting may also be due to other illnesses.	Reduce activity levels and/or heat exposure. Drink fluids regularly. Workers should check on each other to help spot the symptoms that often precede heat stroke.
Heat Exhaustion	Fluid loss and inadequate salt and water intake causes a person's body's cooling system to start to break down.	Heavy sweating; cool moist skin; body temperature over 38℃; weak pulse; normal or low blood pressure; person is tired and weak, and has nausea and vomiting; is very thirsty; or is panting or breathing rapidly; vision may be blurred.	GET MEDICAL AID. This condition can lead to heat stroke, which can kill. Move the person to a cool shaded area; loosen or remove excess clothing; provide cool water to drink; fan and spray with cool water.	Reduce activity levels and/or heat exposure. Drink fluids regularly. Workers should check on each other to help spot the symptoms that often precede heat stroke.
Heat Stroke	If a person's body has used up all its water and salt reserves, it will stop sweating. This can cause body temperature to rise. Heat stroke may develop suddenly or may follow from heat exhaustion.	High body temperature (over 41℃) and any one of the following: the person is weak, confused, upset or acting strangely; has hot, dry, red skin; a fast pulse; headache or dizziness. In later stages, a person may pass out and have convulsions.	CALL AMBULANCE. This condition can kill a person quickly. Remove excess clothing; fan and spray the person with cool water; offer sips of cool water if the person is conscious.	Reduce activity levels and/or heat exposure. Drink fluids regularly. Workers should check on each other to help spot the symptoms that often precede heat stroke.

Controlling Heat Stress.

When it is hot, consider the following engineering and administrative controls.

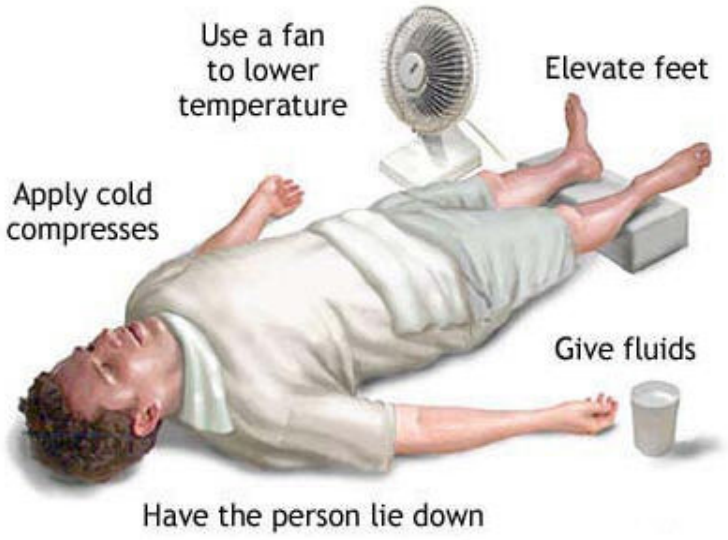
Modifying Work and the Environment.

Heat exposures may be reduced by several methods. Selection of appropriate workplace controls will vary, depending on the type of workplace and other factors. Some measures may include:

Engineering Controls.

- Control the heat at its source through the use of insulating and reflective barriers (e.g. insulate furnace walls).
- Exhaust hot air and steam produced by operations.
- Reduce the temperature and humidity through air cooling.
- Provide air-conditioned rest areas.
- Provide cool work areas.

- Increase air movement if temperature is less than 35°C (fans).
- Reduce physical demands of work task through mechanical assistance (hoists, lift-tables, etc.).



Heat emergencies are of three types: heat cramps (caused by loss of salt), heat exhaustion (caused by dehydration) and heat stroke (shock). Remove the victim from the heat and have him lie down. Apply cool compresses, elevate the feet, drink fluids and use a fan to blow cool air. Get medical help if needed.

Administrative Controls.

- The employer should assess the demands of all jobs and have monitoring and control strategies in place for hot days and hot workplaces.
- Increase the frequency and length of rest breaks.
- Provide cool drinking water near workers and remind them to drink a cup every 20 minutes or so.
- Caution workers to avoid direct sunlight.
- Assign additional workers or slow down the pace of work.
- Make sure everyone is properly acclimatized.
- Train workers to recognize the signs and symptoms of heat stress and start a "buddy system" since people are not likely to notice their own symptoms.
- Pregnant workers and workers with a medical condition should discuss working in the heat with their doctor.
- First Aid responders and an emergency response plan should be in place in the event of a heat-related illness.
- Investigate any heat-related incidents.

Personal Protective Equipment (PPE).

- Light summer clothing should be worn to allow free air movement and sweat evaporation.
- Outside, wear light-coloured clothing.
- In a high radiant heat situation, reflective clothing may help.
- For very hot environments, air, water or ice-cooled insulated clothing should be considered.
- Vapour barrier clothing, such as chemical protective clothing, greatly increases the amount of heat stress on the body, and extra caution is necessary.

What helps to prevent heat stress?

It is obviously more difficult for the employer to control the environment for outdoor work, than for indoor work. However, if work has to be done outdoors then employers must be responsible in taking steps that are available to protect workers. These include:

- Providing **canopies or awnings** over sections of the site where work is currently being carried out, to shield workers from the ultra-violet rays of the sun, as well as from the direct heat of the sun.
- **Providing regular rest breaks**. A ten minute break every hour, in a cooler area, helps the body to cool off, especially where the work is hard, physical work. The length of the break should be increased if the temperature is very high. As a practical guideline, the following measures can be followed in most workplaces:

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Temperature	Rest Period
30 to 32º	10 minutes
32 to 35º	15 minutes
more than 35º	at least 30 minutes

- **Providing air-conditioned sheds or vehicles for rest breaks.** These must obviously be near each area where work is being done, or break time will be spent walking to and from the shed or vehicle. Also, the nearer the shed or vehicle, the more likely it is to be used.
- **Provision of cold (non-alcoholic) drinks**. Frequent small drinks of cooled water will help replace the water lost to your body through sweat, before dehydration begins. This is better than infrequent large drinks. Again, the cold water supplies should be near each working position, to encourage frequent drinks. Alcoholic drinks should not be taken as replacement fluids. Alcohol stimulates the body to eliminate fluids, and will increase your risk of dehydration. For example, if you drink one can of beer, you will lose more than that volume of urine.
- **Salt tablets** should **not** be taken - more water will be required by the body to help it get rid of the salt - this will increase the amount of work the kidneys must do and increase the risk of dehydration.
- Salt tablets also increase the risk of high blood pressure. Drinking water will not give you stomach cramps, as some people believe.

"OCCUPATIONAL SAFETY AND HEALTH IN AVIATION" COURSE.

Conducted by: Assoc. Prof. Abdul Shukor.
Date: 16-17 April 2009.
Location: Aerospace Institute of Technology,
Royal Malaysian Air Force (RMAF), Kedah, MALAYSIA.

The 2-day course was organized as a partial fulfillment of the aircraft maintenance engineers' advance skills program. Participants were given the opportunity to learn and practice the technique of workplace risk assessment and ergonomics.

A major component of the course is the practical session whereby participants were asked to perform actual investigation of workplace hazards using tools like **Job Safety Analysis (JSA)** and **Body Pain Symptom (BPS)** survey created by Assoc. Prof. Abdul Shukor.

The responses received from the participants are, indeed, encouraging. They agreed that safety and health issues in aviation are a serious matter and must be solved accordingly.

They wished that they can continue to perform similar workplace risk assessment when they are attached to their respective air bases in future.

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"SPECIAL ANNOUNCEMENT & A CHANCE TO MEET."

This is to inform that

ASSOCIATE PROFESSOR ABDUL SHUKOR ABDULLAH,

❁The author of OSHE Bulletin❁
(Winner of the 2003 UNESCO ICEE Director's Award, AUSTRALIA)

will deliver an interesting presentation at the following venues:

22 May 2009.

Venue: NIOSH (Malaysia) in Bangi, Selangor, Malaysia. (Part of Occupational Safety & Health Officers' Certification Program).
Title of presentation: "Ergonomics."
http://www.niosh.com.my/

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29 May 2009

By A Special Invitation.
Venue: Dewan Tunku Ibrahim Ismail, Universiti Tun Hussein Onn in Batu Pahat, Johore, Malaysia.
Title of presentation: "Ergonomics & Occupational Stress."

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8 June 2009

1st BORNEO Convention & Exhibition On Occupational Safety and Health,
Venue: 1Borneo Grand Ballroom, Kota Kinabalu, Sabah, Malaysia.
Title of presentation: "Trends and Critical Factors in Enhancing Ergonomics at Workplaces."
http://www.niosh.com.my/bosh/index.html

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29 July 2009

Global Strategy On OSH Seminar.
Venue: Medeka Palace Hotel, Kuching, Sarawak, Malaysia.
Title of presentation: "Managing Violence At The Workplace."
http://www.niosh.com.my/seminar/2009seminar-global-sarawak.html

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Associate Professor Abdul Shukor bin Abdullah – ***Author of the OSHE Bulletin*** - **is a leading researcher, trainer, consultant and speaker on occupational safety, health and environment in the country. Among his list of clients' companies are Honda, CTRM Aero Composite, NAZA, Perodua, BATC-UTM, UIAM, OUM, Ministry of Finance, MINDEF, RMAF, Petronas, BHPetrol, ExxonMobil, PDRM, TM, and Klang Port Authority**

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