Occupational Safety, Health & Environment (OSHE) Bulletin.

Edition: APRIL 2009

(Created by: Associate Professor Abdul Shukor Abdullah)

Contents:

Sharing My Thoughts (SMT) on

SAFETY AND HEALTH HAZARDS AT CALL CENTRES AND OTHER AREAS AT WORK.

- Shocking news about call centres!
- Urgent Safety & Health reviews and newer guidelines must be performed.
- Whether the call centres are at banks, telcos, hospitals, TV networks, corporate offices, etc., the employees need better protection from safety and health hazards.

With the growth of the call centre industry, acoustic shock may become a major new occupational injury of the 21st century. In Europe call centre operators have seen a steady stream of claims from affected staff. In Australia, a review of workers' compensation claims for call centre stress and hearing injuries found a total of $3 million in claim costs from 1997-2000.

Acoustic shock injury can be caused by a sudden, loud or piercing sound at a high decibel level. Such noises can travel over telephone communication equipment due to electronic feedback, fax modems or even malicious callers who use devices such as whistles. **Acoustic shock may lead to:**

- **temporary or permanent damage to the inner ear;**
- **loss of hearing, tinnitus (ringing in the ear), earaches and reduced tolerance to noise;**
- **headaches and nausea;**
- **dizziness and impaired balance; and**
- **fatigue and anxiety.**

The Communication Workers Union in the UK and the Australian Council of Trade Unions have identified **acoustic shock as a significant risk.** Both have released educational kits for call centre workers. These organizations recommend preventive strategies such as the following:

- A detailed noise reporting procedure which calls for the supervisor to complete an incident report.
- Measures to reduce noise in the workplace; for example, isolation of call centres from other noisy work areas and machinery. **Often call**

CALL CENTER AND BPO'S-
WALK TOWARDS ILL-HEALTH

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centre agents will adjust their headsets to a higher volume to cope with the noise around them.

- Strict maintenance requirements for electronic equipment.
- Use of new technologies such as sound shields to filter narrow band tones which may cause acoustic shock

The 3 types of workplace sounds are **steady** (such as the continuous hum from a ventilation system or a computer), **intermittent** (sound which comes and goes), or **impact** (sounds of short duration, such as the snap of an electric stapler). **Sources of equipment-generated noise include telephones, photocopiers, computers, or other office equipment.** Equipment-generated noise is usually transient and the sensitivity to equipment sounds varies from person to person. For example, the noise generated by running a photocopier may not annoy the operator, but it may be distracting to people in adjacent work spaces.

If you plan to purchase new office equipment, keep in mind the amount of noise produced. High-quality office equipment should function with a minimum of noise. Some types of equipment (e.g. photocopiers) will produce a lot of noise no matter what model you buy. Noisy equipment should be grouped together in an area away from workstations, preferably in a separate room. Don't place noisy equipment against a hard wall or in a corner as the sound will be reflected back into the workplace.

Occupant-generated sounds can be a major source of noise in the office. They include in-person as well as telephone conversations, radios, and movement within the office. Occupant-generated sounds can usually be dealt with by no more than a friendly reminder to keep the volume down. Encourage people to speak in lowered voices and to carry on conversations where they will not disturb others.

Sound Pressure Levels (dB)	Source	Subjective Response
SAFE Range*		
0	**No sound**	
10	**Rustle of leaf**	
20	**Buzzing insect**	**Hearing threshold**
30	**Quiet whisper**	**Faint**
40	**Quiet office**	
50	**Window air conditioner**	
60	**Conversation**	
70	**Freight train**	**Moderate**
80	**Computer print room**	
RISKY Range*		
90	**Heavy vehicle**	
100	**Subway (LRT) stations**	**Limit of exposure for 8 hrs**
110	**Rock drill**	
HARMFUL Range*		
120	**Propeller plane**	*Pain threshold*
130	**Riveting hammer**	*Extreme feeling threshold*
140	**Jet engine at 30 meters**	*Danger*

* for average populations

What is dB?

Decibel (dB) - A unit to express differences in power. In acoustics, equal to ten times the logarithm of the ratio of one sound and lower-intensity reference sound. **One decibel indicates a difference of about 26% and is about the smallest change the ear can detect.** The dB level is a logarithm quantity; the maximum normal level is approximately 120dB.

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A SIMPLE EXERCISE. (Check it with the hearing experts).
What is the READING of your workplace's NOISE THERMOMETER?

NOISE THERMOMETER

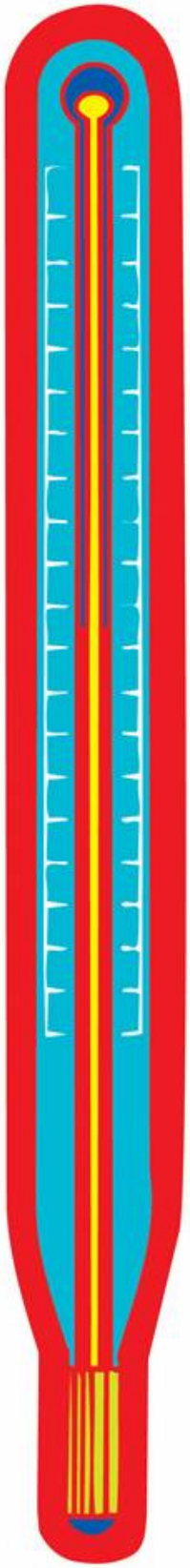
140 DECIBELS
Immediate danger to hearing
Gunshot, Jet engine at take-off

120 DECIBELS
Risk of hearing damage in 7.5 minutes
Rock concert, Sandblasting

110 DECIBELS
Risk of hearing damage in 30 minutes
Snowmobile from driver's seat

100 DECIBELS
Risk of hearing damage in 2 hours
Chainsaw, Stereo headphones

90 DECIBELS
Risk of hearing damage in 8 hours
Lawn mower, Truck traffic



125 DECIBELS
Pain threshold
Air raid siren, Firecracker

115 DECIBELS
Risk of hearing damage in 15 minutes
Baby's cry, Stadium football game

105 DECIBELS
Risk of hearing damage in 1 hour
Jackhammer, Helicopter

95 DECIBELS
Risk of hearing damage in 4 hours
Motorcycle, Power Saw

85 DECIBELS
Beginning of OSHA regulations

30 DECIBELS
Faint sound
Whisper

Sight & Hearing Association: 1-800-992-0424 * 674 Transfer Road, St. Paul, MN 55114 * www.sightandhearing.org

Effects of Workplace Hazards on Female Fertility.

Source: http://www.safeworkers.co.uk/effects-workplace-hazards-female-fertility.html.

The connection between certain workplace hazards such as working with chemicals, other hazardous substances and particular working practices have been well documented over the years in terms of the effects they can have on female fertility and reproductive health. And, depending on the length of exposure and the period of the pregnancy when the exposure occurs, the effects can be different.

Of course, that doesn't necessarily mean that all women will be affected by the same conditions or even that they will necessarily be affected at all but it is important to recognise what effects can occur and what are the agents that cause these effects.

Types of Hazards that can Effect Female Fertility.

Certain hazards that can affect female fertility in the workplace include working with lead, carbon disulphide, drug manufacture for cancer treatment, ionising radiation which can result from working with X-rays and gamma rays in addition to the physical effects of the job itself if it includes strenuous physical activity such as heavy lifting or intensely physical work or prolonged periods of standing (*see photo*).

Fertility can also be affected through being infected by other workers who may have contracted **German measles, chicken pox or hepatitis B,** for example, which is preventable providing the expectant mother has been vaccinated against these kinds of diseases.

Exposure to the likes of carbon disulphide and increased physical or emotional stress has been known to create an imbalance between the ovaries, brain and pituitary which can then affect oestrogen and progesterone levels which can cause changes to a woman's menstrual cycle pattern in terms of its length, regularity and ovulation.

Any kind of disruption or damage to the eggs can cause problems with fertility which can result in the malformed development of the foetus and perhaps problems of a physical nature occurring in the uterus and/or cervix.

Of course, it must also be said that many of these instances could have equally been caused by the mother's own choice of lifestyle and not necessarily as the result of workplace hazards so things like smoking, alcohol consumption and nutritional neglect could also be responsible for any baby's birth defects or developmental problems.❁❁❁❁❁

Call Center Noise Hazards Place Operators at Risk.

Source: http://ehstoday.com/news/ehs_imp_37279/

Acoustic shock is a sudden spike of noise; a hazard faced by 1 million call center operators. **It can lead to physical problems such as tinnitus, and emotional problems, such as anxiety and depression.** Many employers are unaware of the hazard of acoustic shock, despite the fact that up to 300,000 victims have been paid over $15 million worldwide.

Research by the UK's Health and Safety Executive (HSE) showed 30 percent of call center employees interviewed claimed symptoms of acoustic shock. Potentially this suggests that 300,000 UK operators may be acoustic shock victims.

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"Call center operators are becoming the modern victims of noise at work. In a study we conducted, 39 percent of operators were concerned that their hearing was damaged as a result of noise exposure at work and 30 percent said that work tasks left them with tinnitus," said Keith Broughton, former principal specialist inspector for Noise and Vibration, HSE. He noted that the call center workers said they were given little information about noise at work, and were told nothing about acoustic shock.

In fall 2000, a 34-year-old woman, exposed to acoustic shock several months before, **complained of tinnitus, sleep disturbance and an increase in a pre-existing migraine condition.** In summer 2001, she was absent from work with persistent tinnitus and anxiety relating to working at a call center. By spring 2002, her anxiety had reduced with medication and she had returned to work, though not on the phones, but she continued to complain of persistent, intrusive tinnitus. In early summer 2004, she continued to have tinnitus, disrupted sleep and ongoing problems with migraines. Litigation against her employer is now in progress.

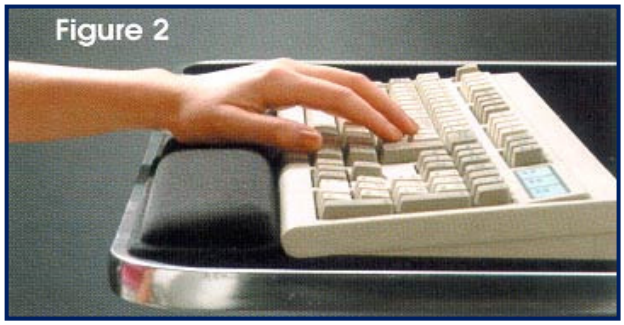
"The health of operators has been at risk for far too long and there is a great misunderstanding between what constitutes acoustic shock as opposed to trauma, and to what extent employers are required by law to mitigate against this risk," said Marcus Quilter, chairman of the UK's Call Centre Management Association (CCMA). ❁❁❁❁❁

LESSON ON ERGONOMICS

WHAT IS 'CONTACT STRESS'?

CONTACT STRESS results from occasional, repeated or continuous contact between sensitive body tissue and a hard or sharp object. Contact stress commonly affects the soft tissue on the fingers, palms, forearms, thighs, shins and feet. This contact may create pressure over a small area of the body (wrist, forearm) that can inhibit blood flow, tendon and muscle movement and nerve function. Examples of contact stress include resting wrists on the sharp edge of a desk or workstation while performing tasks, pressing of tool handles into the palms, especially when they cannot be put down, tasks that require hand hammering, and sitting without adequate space for the knees.

A common example of 'contact stress'.



A way to minimise 'contact stress'.

Mechanical friction (pressure of a hard object on soft tissues and tendons) causes contact stress, which is increased when tasks require forceful exertion. The addition of force adds to the friction created by the repeated or continuous contact between the soft tissues and a hard object. It also adds to the irritation of tissues and/or to the pressures on parts of the body, which can further inhibit blood flow and nerve conduction.

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There are two ways in which contact stress can occur when working surfaces are too high or low. The incorrect height can create contact points that would not exist if the surface was at the correct height. In addition, contact stress can occur when employees, whose arms and shoulders are fatigued from prolonged awkward and static postures, end up resting their forearms, wrists or hands on hard or sharp edges in order to rest their arms and shoulders.

Although contact stress that occurs from prolonged sitting is not directly related to the occurrence of musculoskeletal disorders (MSDs), **contact stress can increase discomfort and awkward postures.** For example, where the seat pan is not padded at the edge, is too big or too high, it can create contact stress on the back of the thighs, which may result in constriction of blood flow to the legs. If employees sit forward to relieve this stress, the back is not supported and the employee may have a hard time maintaining the back in a neutral position.

Above: **Pressure points due to contact stress at 1) shoulders, 2) fingers, and 3) wrist.**

***Photo, left*: Pressure points due to contact stress at 1) left-hand's fingers, 2) right-hand's fingers, 3) right-leg's toes, and 4) shoulder joint.**

Poor tool design is often the cause of contact stress in the use of operating tools. For example, gripping handles that are small may press the handle or handle edge into the skin, resulting in contact stress. Knurls (indentations in handles) may result in contact stress if they push into the fingers because they do not fit the operator's hand.
Using a screwdriver with edges on the handle to tighten bolts on an assembly line
Using a small wire clippers (handles press into the palm) to remove component lead after wave solder

If the object being held has a sharp edge or knurls (that force the fingers into slots), then the object may dig into the skin and can restrict the motion of the tendons and bruise or reduce blood flow to the muscles. Examples inluced:

- Holding a pane of glass while attaching hardware
- Using the knee to position a pump while making the electrical connection
- Holding onto a nut while turning the bolt

Many bulky gloves bunch and cause pressure to small areas of the hands. Gloves that are supposed to provide protection from vibration and those with thick leather on the palm side are examples of gloves that may cause pressure points. When gloves are too small, they may impede the movement of the fingers and may reduce the blood supply. Examples include:

- Wearing latex gloves that are too tight
- Selecting cases in a frozen foods warehouse while wearing knit gloves under thermal gloves

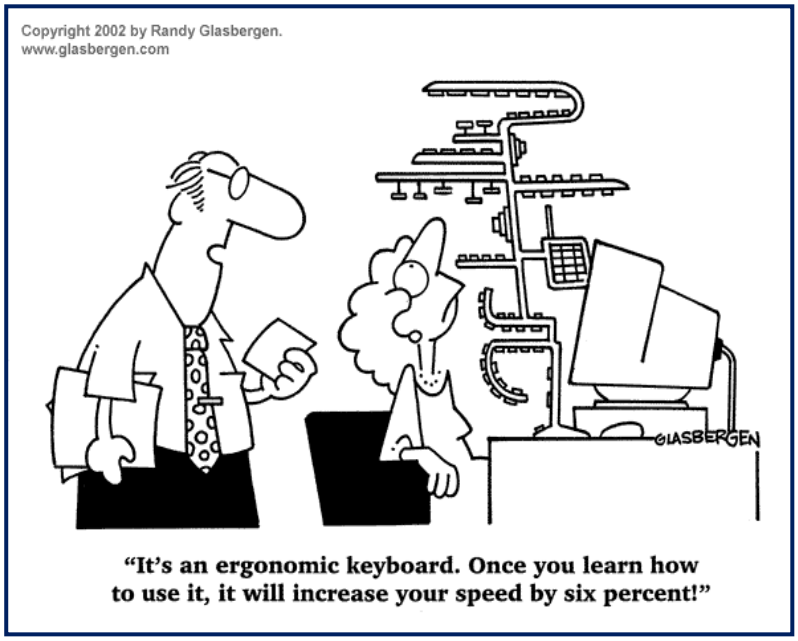
In some workplaces there are sharp edges or corners that press into the workers' skin during the course of their job. Workers who, because of the job and workstation design, must rest their arms or lean against a table with a hard, squared edge, exemplify this situation. Contact stress generally causes musculoskeletal disorders when the compression occurs against tendons that are being used or

against nerves or blood vessels in vulnerable locations. Contact stress can restrict the movement of the tendon (more resistance), which requires more force and leads to inflammation of the tendon and surrounding tissues. Contact stress that pushes sharply into deeper tissues may reduce blood flow and result in early muscle fatigue. Tissue that is compressed for prolonged periods of time may be damaged. Nerves that are exposed to contact stress in multiple locations are especially vulnerable.

The problem of contact stress among the employees becomes worse with extended or repeated exposure.

- **Extensive use of shears or scissors**
- **Using a tool with a small, thin handle that digs into the palm**
- **Using tools with grooved handles that press against the side of fingers**
- **Leaning against a metal work bench with a square edge**
- **Using a keyboard on a standard table or desk with unrounded edges**
- **Sitting in a bench or chair that does not have a padded seat**

When the hand is used to strike something, extreme contact stress may be created. This is sometimes done to avoid damage to the product, but the result of using the hand as a hammer is damage to the worker. Striking a hard object with the base of the palm to align, seat, release or move a part is the type of job where the hand is most likely to be used as a hammer. Even occasional hammering with the hand can cause problems, but repeated activity of this sort will result in serious damage to the tissues of the hand. ❁❁❁❁❁



May be a potential Public's Safety and Health Hazard on the road?

A case of 1 Roundabout with 5 kids..... well, 5 mini roundabouts!

Above: 1 big roundabout with another 5 small roundabouts around it! Peak hours traffic, anybody?

Location: Swindon, England.

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Common cases of health hazard at basement's car parking areas.

This situation could happen at your workplace too!

Imagine working inside at a basement car park where the air is hot and stuffy with no air-conditioning, and the air you breathe is mixed with vehicle fumes. This is the environment car park attendants of Sogo shopping complex endure for nine hours daily.

"It is difficult to work in such a place but it's something that I had to get used to as I have no choice," said one car park attendant who only wished to be known as Halim.

"Sometimes it is difficult to cope as the air reeks of fumes and smoke from the vehicles that come in and out of this area daily."

Caged In: Parking attendants at Sogo basement car park (left) working in an environment with fumes and hot stuffy air

A check by ***Malay Mail*** showed the working conditions for these attendants were poor as there is no clean air circulating at the basement.

Another parking attendant, who declined to be identified, said he would immediately go out to get some fresh air during his breaks.

Even shoppers at the shopping complex felt that the conditions for the car park's attendants booth could be improved.

"I wonder why the management can't build a proper booth for the staff here. When I park and walk in the basement, I feel quite uncomfortable because of the fumes and hot stuffy air," said Allen Tan Lim Yip, 27, a businessman.

"It is pitiful to see that they have to work in such an environment every day. I'm sure this could be dangerous to health," said Nur Fatimah, 33, a shopper at Sogo.

Department of Occupational Safety & Health (DOSH) deputy director general (operations) Mr. Rosli Hussin said the Sogo complex management has to make the working conditions for their parking attendants more conducive. "We conducted several tests at the parking areas on the ground and basement floors and found there is room for improvement," he said, following enquiries from Sogo patrons who had called ***Malay Mail*** to say parking attendants were holed up in a small kiosk without much ventilation and exposed to fumes from the basement car park.

"We have alerted the management on our findings and told them to improve ventilation at the basement car park," said Rosli, adding that the **heat generated** from the basement was not conducive for anyone to be working in.

A consultant on environmental and worker safety, G. Parameswaran, said the workers could be at risk of occupational exposure which could result in long-term adverse health effects.

"Workers in confined areas, such as basements must be allowed to take a 15-minute break every hour, so that they can inhale fresh air," he said, adding the management is duty-bound to inspect all confined areas before workers start work.

"There were instances where workers were found dead in manholes because of exposure to poisonous gases," said Parameswaren, who is often consulted by the private sector on health and safety issues.

Source:
http://www.mmail.com.my/Health_hazard.aspx

DOSH's website:
http://www.dosh.gov.my/wps/portal

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A message from the OSHE Bulletin's author.

Salam and Good Day!

(26th March 2009, Tokyo, JAPAN.)

I'm offering a revised and high impact series of Occupational Safety & Health training module for your organizations. These courses are highly practical with on-site group project focusing on job hazards analysis. They can be tailored to your organizations' specific needs and functions. In addition, participants will be able to learn and discuss recent cases involving ergonomics and occupational safety & health which might increase their understanding about the various topics. Regards.

Assoc. Prof. Abdul Shukor Abdullah

A HIGH-IMPACT COURSE ON "OFFICE ERGONOMICS"

"Office Ergonomics" is **a practical** course specifically for training those personnel responsible for managing and administrating various activities at the office.

Benefits of this high-impact course include:

- Understanding the ergonomics principles through actual case studies
- How to recognize and evaluate ergonomics risks factors at the office
- Correcting errors and weaknesses due to poor workstation design
- Improving workers' productivity and increase in cost $$$ savings
- Enhancing quality outputs and healthy working environment.

After completing this course, participants will be able to:

- Identify potential causes of injuries to workers
- Develop ergonomic solutions that can be applied to reduce these injuries
- Encourage correct and better workstation design and layout as to minimise injuries and pains
- Use ergonomics principles to re-design manual handling tasks, work areas and work equipment

A HIGHLY EFFECTIVE "MANUAL HANDLING & JOB HAZARDS ANALYSIS" COURSE.

"Manual Handling & Job Hazards Analysis" is **a highly effective** course specifically for training those employees or members responsible for performing manual handling activities. The course includes a thorough description of the Manual Handling Operations and the Ergonomics principles that that should be applied to reduce the risk of manual handling injury. This approach not only delivers legal compliance, but will help reduce body-related sickness and absenteeism, lower healthcare costs, insurance premiums and compensation claims and improve the productivity of the workforce.

After completing this course, participants will be able to:

- Identify potential causes of manual handling back injuries.
- Develop ergonomic solutions that can be applied to reduce these injuries .
- Encourage correct lifting postures, techniques and principles that minimise injuries to workers
- Use ergonomics principles to re-design manual handling tasks, work areas and work equipment.
- Complete a manual handling checklist to prioritise levels of risk .

'Stress, overwork and office hazards top workers' safety concerns.'

Source: http://www.africa-news.eu/news/immigration-news-u.k./stress-overwork-and-office-hazards-top-workers-safety-concerns.html

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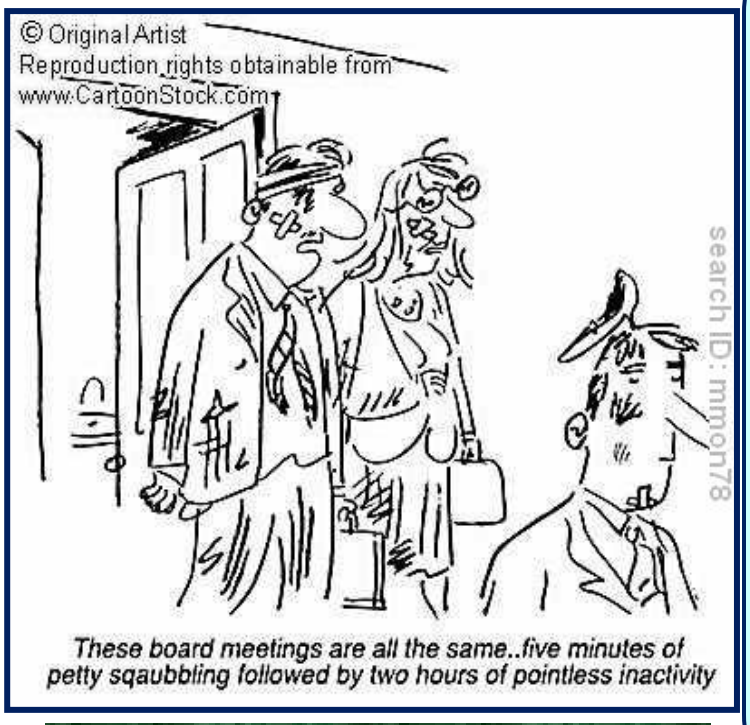
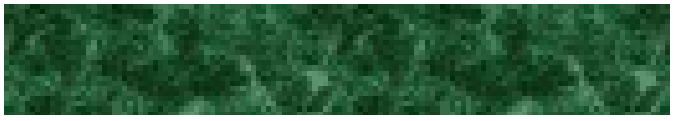
A Picture of 1000 Words on RISKS and HAZARDS at Work.

From the top management to the shop floor workers, the need to exercise Safety and Health procedures must be the top priority. Avoid pointless instructions or infightings.





ABOUT THE AUTHOR.

Associate Professor Abdul Shukor bin Abdullah is a leading researcher, trainer, consultant and speaker on occupational safety, health and environment in the country. He has contributed in assisting over 1000 Safety & Health Officers (SHOs) in obtaining their certification process with NIOSH Malaysia. His areas of training and consultancy include Workplace Ergonomics, Confined Space Analysis, Hazards Identification and Verification as well as Workplace Stress Management. Among his list of clients' companies are Honda, NAZA, Perodua, BATC-UTM, UIAM, MINDEF, RMAF, Petronas, BHPetrol, ExxonMobil, PDRM, TM, Klang Port Authority, RapidKL, PLUS, and DOSH of Malaysia.

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