
INDOSHNEWS

Vol.11 No 1
January-March 2006
Published by the Directorate
General Factory Advice
Service & Labour Institutes,
N.S. Mankikar Marg,
Sion, Mumbai 400 022.
INDIA

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FROM THE DESK

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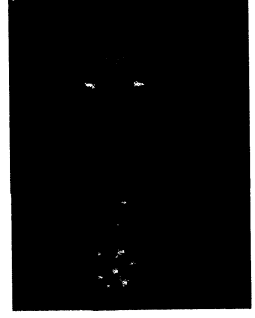
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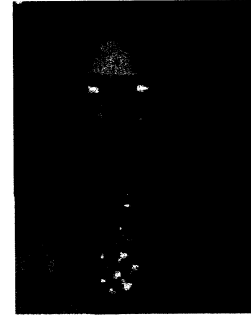
मेरी कलम से

कार्य से संबद्ध चोट में सबसे आम पीठ का दर्द है। यह परेशानी संचालकों से कार्यचालकों तक सभी को हो सकती है। जिन व्यवसायों में शारीरिक श्रम ओर बार बार लिफ्टिंग का काम होता है वहां पीठ के दर्द की अधिकतर संभावना होती है। जो व्यक्ति पूरा दिन बैठे रहते हैं और कंप्यूटर पर काम करते हैं अथवा पूरा दिन कुर्सी पर बैठे रहते हैं, उन्हें पीठ के दर्द का अधिक जोखिम होता है। पीठ के दर्द की एक महत्वपूर्ण विशेषता यह है कि एक्स-रे अथवा अन्य परीक्षणों में इस रोग का पता नहीं चलता है इसलिए रोगियों के रोगों का सही निदान नहीं हो पाता है ओर उचित उपचार नहीं मिल पाता है। कार्यस्थल पर पीठ के दर्द का असली कारण जानना तथा उसके लिए एर्गोनॉमिक समाधान की व्यवस्था करना जरूरी है ताकि कार्यस्थल पर किसी प्रकार की चोट अथवा पीठ के विकार की रोकथाम के लिए उचित व्यवस्था और कार्य मुद्रा रखी जा सके।

'कार्यस्थल पर पीठ दर्द और सुरक्षित कार्य व्यवस्था' लेख में कार्यस्थल पर पीठ दर्द की रोकथाम के लिए पीठ दर्द के कारण, पीठ दर्द के जोखिम तत्व और एर्गोनॉमिक दिशानिर्देश दिए गए हैं। मुझे आशा है कि उद्योग इस लेख में दी गई सूचना और पद्धतियों का लाभ उठाएंगे।

सुधी सक्सेना

(एस.के.सक्सेना)
मुख्य संपादक



FROM THE DESK

Back pain is one of the most common work-related injuries. It is a problem from the operators to executives. Occupations those are physically demanding and require repetitive lifting are at greatest risk of back problem. People who sit most of the day and work at the computer or sit in an office chair are also at high risk of back pain. The most significant feature of this back pain is that there is no evidence of disease on X-ray films or other tests and therefore patients are often misdiagnosed and proper treatment is not provided. It is important to understand the real cause of back pain at work place and provide ergonomics interventions so that proper workplace arrangement and working posture can be maintained in order to prevent any injury or disorder of back.

The article 'Back pain and safe work practice at workplace' contains causes of back pain, risk factors of back pain and ergonomic guidelines to prevent back pain at work place. I hope, industries will take advantage of the information and practices available in the article.

(S.K. SAXENA)
EDITOR -IN- CHIEF

BACK PAIN AND SAFE WORK PRACTICE AT WORKPLACE

DR R IQBAL

INTRODUCTION

Nowadays, back pain is an alarming health problem and it is a problem for workers of all the levels - from operators to executives. Back is a complicated part of the body and can tolerate great load. But once the load exceeds the tolerance limit, complication arises in the form of back injury or back pain. The back (spinal cord) is made up of individual bones called vertebrae. Two adjacent vertebrae are separated by soft shock - absorbing disks. The spine is held in proper position by large number of muscles and ligaments. Combined action of muscles and ligaments give the flexibility to spine for bending and twisting. Another function of spine is to protect the spinal cord and acts as a distribution center for the nerves that run between the brain and the other parts of the body.

Back supports the body in the upright position and is capable of a wide range of movements. In addition to bones, joints and cartilage, it has numerous small and large ligaments for stability and several layers of powerful muscles for movement.

The different components of the back are:

- Joints that act as a pivot for movement.
- Cartilage and discs that work as shock absorbers inside joints.
- Ligaments which are strong bands that stabilize joints.
- Muscles that move the bones around the joints.
- Nerves that relay messages from these structures to the brain. Blood vessels bring oxygen and nutrients to facilitate the work of these structures.

The back's complex structure enables it to tolerate great loads. In most cases, back pain is the result of strain on the soft tissues of the back, such as muscles, tendons and ligaments. These tissues can be injured if this tolerance is exceeded. It is often difficult to accurately pinpoint which muscles or ligaments have been damaged as a result of an injury.

It is important to remember that once injured, the back can become susceptible to re-injury especially if there are risk factors in the workplace that are not corrected. Risk factors are aspects of a task that are associated with an increased risk of developing an injury. The risk is increased further if there is a combination of two or more risk factors found in the same task.

BACK DISORDERS

Typical back disorders include:

Strains and sprains are damage to the tendons and ligaments caused by exertions such as lifting or carrying heavy objects. These can lead to noticeable back pain, but the pain usually begins to subside within a few days if properly addressed and managed (Ergonomics, Apple computers Inc, 2005).

Facet joint pain results from irritation of the area where the ribs meet the spinal column. Typically, there is muscle swelling in the affected area and it can become very painful to sit or stand up straight (Ergonomics, Apple computers Inc, 2005).

Disc erosion occurs from prolonged pressure on the spinal discs, which causes them to become permanently compressed. The space between the vertebrae becomes smaller, which can lead to impingement of the nerve roots leading out from the spine. Sitting puts more

COVER FEATURE

pressure on the spinal disks than standing, and sitting with the back unsupported can lead to high levels of disk pressure (Ergonomics, Apple computers Inc, 2005).

Sciatic nerve impingement, also called sciatica, is common in people who sit for prolonged periods of time. The sciatic nerve runs from the lower back down the back of the leg and down to feet. Swelling or tension in *certain muscles in the buttocks* can put pressure on the sciatic nerve, causing pain down the leg (Ergonomics, Apple computers Inc, 2005).

Herniated discs occur when the inner portion of the disc protrudes, putting pressure on the *nerve roots leading from the spine*. Pain or numbness in the legs is a common symptom of herniated discs in the lower back (Ergonomics, Apple computers Inc, 2005).

BACK PAIN IN INDIAN INDUSTRIES

Back pain is a frequent complaint among *Indian industrial workers*. Studies conducted by DGFASLI show that frequency and intensity of back pain among industrial workers is more than any other health problem. Table 1 shows occurrence of back pain in three different categories of Industrial workers. Job profile of the IT professionals and electric assembly line operators are somewhat similar and their back pain is at an alarming level. Tyre building operation (Tyre industry) involves handling of heavy load and bending and twisting of back during work. *Often their working posture becomes awkward* and repeated load on the back develops back pain (Table 1). In most of the cases, back pain at work develops over a period of time as a result of improper working postures.

Table 1: Back pain among Indian Industrial workers.

| Industrial population | Low (%) | Moderate (%) | High (%) | Acute (%) | TOTAL (%) |
|---|---------|--------------|----------|-----------|-----------|
| IT industry (VDT users - male) <i>n = 142</i> | 23.3 | 23.3 | 9.8 | 0.7 | 57.1 |
| IT industry (VDT users - female) <i>n = 48</i> | 14.6 | 16.7 | 18.8 | 2.1 | 52.2 |
| Electronic assembly line (Female assembler) <i>n = 23</i> | -- | 34.7 | 30.4 | -- | 65.1 |
| Tyre industry (Tyre builder) <i>n = 8</i> | -- | 12.5 | 37.5 | -- | 50.0 |

CAUSE OF BACK PAIN

By far the most common cause of back and neck pain is poor posture at work place and also at home. The poor posture may result from slouching, or from a forward curvature of the upper spine known as hunchback or 'kyphosis', and all of those things tend to produce round shoulders where the head and shoulders are pushed forward and downwards like looking at the key board during typing. Many things can cause low back injuries—muscle strain or spasm, sprains of ligaments (which attach bone to bone), joint problems or a "slipped disk." The most common cause is using the back muscles in activities which the worker is not used to, like lifting heavy load.

A slipped disk happens when the disk between the bones bulges out and presses on nerves. This is mainly caused by twisting while handling load. But many people won't know what caused their slipped disk.

The most significant feature of this pain is that there is no evidence of disease on x-rays or other tests and therefore patients are often misdiagnosed and proper treatment is not provided. It is important to understand the real cause of this pain in order to treat it appropriately and prevent the development of injury or disease (MFL Occupational Health Centre, Inc., 2003).

RISK FACTORS FOR BACK INJURY

- Heavy physical work
- Prolonged standing or sitting
- Frequent bending and twisting
- Lifting, pushing and pulling
- Repetitive work
- Whole body vibration (e.g., truck driving)
- Poor work organization
- Low job control

ERGONOMIC GUIDELINES TO PREVENT BACK INJURIES

Work in neutral postures

- Sitting workstation / back rest of chair should be so designed that the back with its natural "S-curve" is maintained intact during work.
- Standing – use a footrest to keep the spinal column in proper alignment.
- Twisting or side bending should be avoided during lifting.
- Feet should be wide apart to keep body balance.
- **Straight Back Rule:** Avoid bending of the body, keep the back straight, legs to be bent, not the back. Tightening abdominal (stomach) muscles is beneficial during lift (Mary Rodts, 2004)

Keep everything in easy reach

- Deep shelves should not be kept in the stores to avoid over-stretching of shoulder and back.

Reduce excessive force

- Workers should be trained for proper lifting. Pushing of load is preferred to pulling of load. Pulling is easier than carrying.
- Split loads into smaller loads.
- **Belly button rule:** Loads that are held, lifted and carried should be kept closer to the belly button, avoid extended arm posture. Using whole hand will give the greatest grip area and strength. Load should be balanced evenly between both arms.
- Mechanical aids should be provided for lifting heavy loads.

COVER FEATURE

Keep everything in easy reach

- Arrange the objects within easy reach.
- Work surface should be adjusted as per body dimensions of the worker.

Move, exercise, and stretch

- Warm up is necessary to give gentle stretches to the muscles before the lift. This is very important if the workers have been sitting for more than 15 minutes before lifting ((Jacqueline 2003).
- Rotation of the workers should be allowed in jobs requiring heavy manual involvement.
- Regular exercise should be maintained to strengthen the muscles of back and to increase the flexibility.

Minimize fatigue and static load

- Frequent rest pause should be introduced for repetitive tasks. Alternate heavy tasks with lighter ones.

Improve work organization

- Workers should be educated on proper lifting, lowering, carrying, pushing and pulling techniques.
- Slippery surfaces and uneven floors should be completely eliminated at work place.
- Proper safety shoes should be provided for good foothold.
- Periodical service and repair of equipment and tools is essential.

SAFE LOAD HANDLING LIMIT

There is no single safe weight for lifting. The answer depends on many factors

- Physical profile (age, sex, height and weight) of worker.

- Physical fitness and strength of the workers
- Previous injury and type of injury
- Duration and frequency of lifting.
- Size and shape of the load

SAFE WORK PRACTICE

Laying posture

- Lie on back on the floor with pillows under your knees in case of back pain.
Or
- Bend with the hips and knees and place the feet on a chair. This takes the pressure and weight off your back. This practice should be followed for 2 days if there is hurt back. Resting longer than this can weaken the back muscles and delays recovery. Walking for short period of time with support for 1-2 hours would be beneficial (American Academy of Family Physicians, 2003).
- Heating pads can help to relax painful muscle spasms. Use heat for 20 to 30 minutes at a time as per tolerance level.
- Losing body weight would also be beneficial since being overweight can make back pain worse because of Kyphotic back posture.

Sitting

- Chairs should have straight back or low-back support. This takes the pressure and weight off the back.
- If the job requires sitting for long hours, frequent breaks should be taken – get up and move around (energy break).
- During driving, sit straight and move the seat forward. This helps you not to lean forward to reach the controls. A small pillow or rolled towel can be kept behind the lower back if driving is for a long time.

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Standing

- For the standing operator, a low stool should be provided so that alternately one foot can be rested on the stool for 10 – 15 min each.

Sleeping

- If there is back pain, one should sleep on the sides with bent knees as per comfort level. One pillow can be kept under the head for neck support. Pillow can also be placed between the knees.
- It is not possible to sleep on the sides for long time. Hence while sleeping on the back with pillows kept under the knees, a small pillow can be placed under the lower back. Use a firm mattress. If the mattress is too soft, use a board of 1/2-inch plywood under the mattress to add support.

Exercises for managing back pain

1. A complete aerobic exercise program should be followed. 30-40 min non-stop walking is beneficial, since it increases supply of oxygenated blood and nutrients to the exercising muscles that strengthen the muscles to withstand stretching and bending activities. Aerobic exercise can include walking, cycling, swimming, etc.
2. Lie on the back with knees bent and slowly raise the left knee to the chest. Press lower back against the floor.

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Assitant Director
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Hold for 5 seconds. Relax and the exercise with the right knee. Repeat the exercise for each leg, switching legs (American Academy of Family Physicians, 2003).

It is suggested that an ergonomics evaluation should be done at workplace and recommendation should be followed up to prevent as well as to manage back pain by improving working posture.

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**MANAGEMENT OF OCCUPATIONAL SAFETY AND HEALTH
INFORMATION**

Shri S.N BORKAR

Introduction

Information is essential for each and every human activity. The socio-economic development of a country depends, to a great extent, on the development of industries which generate resources. The decade has witnessed the growth in Industrial activities with new chemicals being used, inducing unknown hazards thereby posing threat to workers' life and environment. Therefore, safety approach has to change from the reactive post accident investigation to pro-active integration into all aspects of industrial working. This necessitates each organization engaged in industrial activity tracks, to monitor and control the hazards. Apart from causing risks to human life and environment, accidents also lead severe direct and indirect losses. Hence safety is not only a moral essentiality but also a economically sound proposition. Therefore the need of the hour is to have efficient an effective management information system within the organization and at the same time share the information with others in the field i.e. work together to exchange information and help each other.

The advent of computers has given a new direction to MIS in the organizations. Computers have become an essential part of the organizational information processing because of the power of the technology and the volume of the data to be processed. Conceptually, MIS can exist without computers, but it is the power of the computer which makes MIS feasible. The question is not whether computers

should be used in management information system but the extent to which information used should be computerized.

Management Information System (MIS)

Decision making is the process of selection of best of the alternatives and the course of action to achieve an objective. Indeed, decision making and information processing are so inter-dependent that they become inseparable, if not identical in nature. Information processing is a very important activity as significant part of an individuals' working time is spent in recording, searching for and absorbing information. It has been estimated that 80% of a typical executive's time is spent in the processing and communication of information.

Management Information System (MIS) is defined as a communication process wherein information is recorded, stored and retrieved for decision by the executives. The MIS for safety and health will comprise of diverse data pertaining to employees, job assigned to them, details of processes, identification of hazardous substances, medical data histories, accident and investigation reports. This together will provide an insight of the state of health, safety and environment in the organization and help management in taking necessary steps for improvement and control. The company is responsible for those it employs and therefore it is incumbent upon the company to carefully record and preserve data pertinent to employee health and workplace conditions.

ARTICLE

The levels of information handling can be divided as Decision Support System, Management Information System, Transaction Processing System and Office Automation System. The top level managers need Decision Support System. The output from this system comprises reports on management queries. The MIS process involves report generation, data management, simple models and statistical methods at the middle management level. The transaction processing system involves classification, codification, sorting, merging, adding, deleting and updating at the shop floor level. At the clerical level, office automation system will be applicable to mainly word processing type of activities.

Managing occupational safety and health (OS&H) in enterprises

Application of MIS for managing few important aspects of OS&H issues are briefly outlined below:

Safety & Health Policy

The safety & health policy is a statement which sets down in clear and unambiguous terms, the management's approach and commitment to safety and health with the responsibilities clearly defined at all levels. There is acknowledgement that people are an important resource to be protected in workplace against the risk of death or injury. It also ensures that enough resources are made available to achieve these objectives. The MIS for safety and health should help in ensuring that the policy is communicated to all with the responsibilities clearly defined at each level. The feedback through MIS will help in periodical review and amendment of the policy.

Safety Organization

It covers the organizational setup of safety department i.e. safety managers, Medical officers, etc. to achieve the objectives and commitments made in the safety & health policy. The safety organization also includes the composition of safety committees. The MIS will have the clearly defined charter with functions and responsibilities of the committee. The periodicity of the meetings, decisions and actions proposed, feedback and follow-up can be effectively monitored with the help of MIS.

Hazard Analysis

It provides a means whereby hazards or potential hazards are identified, evaluated and managed in a way that eliminates or reduces to an acceptable level the risk of an incident occurrence.

The MIS will help in identification and assessment of hazards. The data pertaining to known hazards and new hazards will help in analyzing the effects or potential effects to develop means to eliminate them or manage them to have low risk of incident. It will also include MSDS, which will give the safe-guards in transportation, storage and usage of the hazardous substances, emergency measures, etc. The system should ensure the tracking of hazards at all levels.

Personal Protective Equipment

Personal protective equipments are to be used to ensure that the workers using the equipment are adequately protected from the risk of exposure to the hazard. MIS should cover maintaining an inventory of PPE, periodicity of maintenance, details

ARTICLE

of its issue, etc. This will help in determining the effectiveness of the PPE and taking corrective actions.

Emergency Preparedness

The objective is to develop and communicate plans for effective management of emergency situations. MIS will have details of identification, description and response mechanism to emergency situations. The system will include work environment data files having details on survey reports on air, noise, stack emission, water radiation, under-ground storage tanks monitoring, reports on laboratory analysis, equipment inventories, work environment management etc. The system should also monitor the programme of drills and exercise to test and evaluate the emergency preparedness.

Motivation and Training

Accident and occupational disease prevention depends basically upon training and motivation of employees towards healthy practices. To achieve

this, training and re-training of employees to equip them with knowledge, skill, and attitude which will enable them to work safely is most important. MIS should include employee data files pertaining to their demographics, work histories, personal details, qualification, experiences, training, etc. This will help in job safety analysis and for the placement of right persons on the right jobs

Conclusion

An enterprise caring for safety and health needs to have an effective and efficient Safety Management System. This system like human body can be effective only if it has an efficient nervous system - the Management Information System. The MIS will deliver goods only if it is an open system and there is sharing of information between various departments internally and with different organizations externally.

**Shri S.N.Borkar, Deputy Director
(Productivity), Central Labour Institute,
DGFASLI, Sion, Mumbai-400 022.**

(Full article is available on our website)

CONSULTANCY/RESEARCH OCCUPATIONAL HEALTH STUDY IN A PESTICIDE AND FORMULATION FACTORY

This study was carried out by Regional Labour Institute, Chennai.

OBJECTIVE

The aim and objective of the study was to obtain an integrated picture of Occupational Health and working conditions of the Pesticide workers and to identify specific occupational health disorders. It was also aimed to put before the management, the required preventive and control measures derived out of and based on medical findings, for implementation by the management so as to improve upon the occupational well being and working conditions of the workers.

ABOUT THE FACTORY

This factory was engaged in both the manufacture as well as formulation of the technical pesticides into dusting powders, granules and liquid pesticides through BATCH-PROCESS. The nature of the task involved mixing, grinding, packing and handling of pesticide chemicals. The products manufactured and formulated included mostly the organophosphorus pesticides such as quinalphos, monocrotophos, phorate and phosalone. Organochlorine and synthetic pyrethroids groups of pesticides were also produced in small quantities. The company had a First Aid center with ambulance services. An arrangement for safety training and the conduct of the safety audit was also made.

METHODOLOGY

A total of 48 workmen from this factory were drawn from the exposed subjects of categories skilled, unskilled and supervisors. A sample of non-exposed control subjects was also selected for comparison. The selected workers were subjected to detailed clinical examination including special diagnostic tests such as lung function tests, ECG and blood test to measure cholinesterase enzyme activity. The Indian

insurance standard was used to assess the weight for height of the individuals. The ILO/WHO recommended staging criteria were used to categorize the affected individuals due to pesticide exposure and the WHO-HAZARD-CLASSIFICATION was used to classify the pesticides that caused the toxicity. Relevant Spirometric guidelines were used to assess lung function performance of the workers and the measurement of BCA activity in the blood as percentage of normal individuals by Levy-Bond was used to assess the exposure levels of the workers.

RESULTS

In the present study, 8% of individuals were identified affected with the pesticide toxicity, falling within the ILO/WHO recommended staging criteria. Such individuals belonged to both exposed and control groups.

The most common morbid signs and symptoms observed in workers were found to be joint pain/muscle pain (43%), abdominal pain (20%), dermatitis (20%), brisk/exaggerated reflexes (16%), weakness/easy fatigue and headache (8%).

RECOMMENDATIONS

It was suggested that workers showing reduction of their BCA activity levels in blood at the time of medical examination may be put under MEDICAL SUPERVISION and follow up at periodic intervals to be taken as a protective step. Recommendations were also made for reduction of their exposure levels by continuing the system of existing JOB-ROTATION, provision of PPE's and strict enforcement of simple rules of personal hygiene. Provision of adequate first aid facilities and availability of specific ANTIDOTES were also stressed upon. It was also advised to send the full time medical officer for acquiring the AFIH qualifications so as to enable the FMO in carrying out his functions more effectively and as per guidelines prescribed under relevant factory rules.

EDUCATION & TRAINING

WORKSHOP ON HAZARD & OPERABILITY (HAZOP) STUDY

PROGRAMME PERSPECTIVE

Accident in Hazardous Chemical Plants or installation results in injuries, fatalities, property loss within installation and also surroundings. It may also cause business interruptions and damage to the environment. Typical hazards include Fire, Explosion, Toxic release and other types of loss of containment. The first step in tackling such a problem is identification and assessment of these hazards.

Under the Rule 4 of Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 under Environmental Protection Act, 1986, an Occupier of Major Accident Hazard Installation is required to provide evidence that he has identified the Major Accident Hazards and taken adequate steps to prevent such hazards. The complexity of modern plant makes this exercise difficult unless systematically designed procedures are adopted.

HAZOP study is one of the techniques widely used world-over to identify hazards associated with various operations in plant or process. It is also used in the design of new plants or processes and plant extensions. The procedure involves finding out meaningful deviation from intended design for each line, vessel, etc., and to find out the consequences of the same and safeguarding against hazards that are associated.

OBJECTIVE

In recognition of worldwide acceptability of HAZOP techniques used for assessment of hazards associated with operation of a chemical plant, this workshop oriented comprehensive training programme is organized. The course provides knowledge in techniques of HAZOP and also provides information in the prevention and control of hazards. The aim is to train the participants to carry out HAZOP in their units and also to act

as a HAZOP study team leader. These leaders in turn act as a trainer who can also train others in their organization.

HIGHLIGHTS

- Principles and benefits of HAZOP studies
- Use of Guide Words
- HAZOP procedure
- Preparation for studies
- The role of study leader
- HAZOP examination using flow-sheet or P & I diagram
- Follow-up action

METHODOLOGY

Besides regular lecture, the participants will be exposed to exercises and case studies selected from the industries involving hazardous chemicals and process. The exercises will develop confidence amongst participants to conduct such studies in their own organizations.

PARTICIPANT

Participant should have knowledge of chemical plant operation and maintenance. They should be familiar with various components of P & I Diagram, Flow sheets, etc. The course is beneficial for the Plant Manager, Process Engineer, Maintenance Engineer, Instrumentation Engineer, Design Engineer, Chemist, Safety Professionals and Process Operators also.

MODE OF TRAINING

Audio Visual - Syndicate Exercises - Case Studies

Conducted by:

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**INTERNATIONAL OCCUPATIONAL SAFETY AND HEALTH
INFORMATION CENTRE (CIS)**

CIS (from the French name, Centre international d'Information de securite et d'hygiene du travail) i.e. International Occupational Safety and Health Information Centre, is a part of the International Labour Office, Geneva, Switzerland. The mission of CIS is to collect world literature that can contribute to the prevention of occupational hazards and to disseminate this information at an international level. CIS imparts to its users the most comprehensive and up-to-date information in the field of Occupational safety and health. The work of CIS is supported by a worldwide Safety and Health information exchange network which includes over 91 affiliated National Centres and 38 CIS collaborating Centres. Central Labour Institute, Mumbai has been designated as the CIS National Centre of India.

CIS can offer you rapid access to comprehensive information on occupational safety and health through:

- Microfiches on original documents abstracted in CIS DOC (CISILO)
- ILO CIS Bulletin "Safety and Health at Work"
- Annual and 5-year indexes
- The CIS Thesaurus
- The list of periodicals abstracted by CIS

EXCERPT FROM CIS DOC

Title: Effectiveness of a new back belt in the maintenance of lumbar lordosis while sitting: A pilot study.

International Journal of Industrial Ergonomics, Oct, 2003, Vol.32, No.4.

CIS ACCESSION NUMBER
CIS 03-1955

ABSTRACT

With the expanding use of video display terminals, a high incidence of low back pain is reported among operators working at screens in sitting postures. This study describes a new design of back belt for use by operators working at screens in seated postures and compares the conditions of wearing this belt with those of no belt wearing. Nine subjects performed a data entry task while sitting at a desk during 60-min periods, during which the trunk and lumbo-sacral angles were observed. Results showed that there were significant differences in trunk angle and lumbar posture when wearing or not wearing the belt (with an average difference of -14.1° in lumbar lordosis and 16.9° in trunk angle) during the final 10-min stage of the task. The belt seemed to provide support for the back by the counter-supporting force from the knees. The results suggest that the belt may be useful in seated tasks because of its maintenance of lumbar lordosis and erect trunk. (102922)

Note:

For details write to CIS National Centre for India, Central Labour Institute, Sion, Mumbai 400 022.

MSDS

The Library & Information Centre of Central Labour Institute has unique collection of Material Safety Data Sheet of about 1,20,000 chemicals/materials taken from Canadian Centre for Occupational Health & Safety. MSDS provides extensive coverage over safety perspective with detailed evaluation of health, fire and reactivity hazards. It also provides precaution as well as recommendation on handling, storage, personal protective equipment, accidental release, etc.

PRODUCT NAME(S) : CHLOROFORM

HAZARDS IDENTIFICATION

Emergency overview

Danger! May be fatal if swallowed, inhaled or absorbed through skin. Causes irritation to skin, eyes and respiratory tract. May affect central nervous system, cardiovascular system, liver and kidneys. Suspect cancer hazard. May cause cancer. Risk of cancer depends on level and duration of exposure.

POTENTIAL HEALTH EFFECTS

Inhalation: Acts as a relatively potent anesthetic. Irritates respiratory tract and causes central nervous system effects, including headache, drowsiness, dizziness. Exposure to higher concentrations may result in unconsciousness and even death. May cause liver injury and blood disorders. Prolonged exposure may lead to death due to irregular heart beat and kidney and liver disorders.

Ingestion: Causes severe burning in mouth and throat, pain in the chest and vomiting. Large quantities may cause symptoms similar to inhalation.

Skin Contact: Causes skin irritation resulting in redness and pain. Removes natural oils. May be absorbed through skin.

Eye Contact: Vapors cause pain and irritation to eyes. Splashes may cause severe irritation and possible eye damage.

Chronic Exposure: Prolonged or repeated exposure to vapors may cause damage to the

nervous system, the heart and the liver and kidneys. Contact with liquid has defatting effect and may cause chronic irritation of skin with cracking and drying, and corresponding dermatitis. Chloroform is a suspected human carcinogen.

Aggravation of Pre-existing Conditions: Persons with pre-existing skin disorders or eye problems, or impaired liver, kidney or respiratory function may be more susceptible to the effects of the substance.

FIRST AID MEASURES

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: If swallowed, **DO NOT INDUCE VOMITING**. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Skin Contact: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

Note to Physician: Because kidney and liver effects may be delayed, keep victim under observation for 24 to 48 hrs. Administration of fluids may help to prevent kidney failure. Obtain blood glucose, urinalysis, liver function tests, chest x-ray, and monitor cardiac function and fluid/electrolyte status. Monitor liver and kidney function for 4 to 5 days after exposure. Disulfiram, its metabolites, and a high carbohydrate diet appear to protect somewhat against chloroform toxicity. Do not give adrenalin! Tests may show increased bilirubin, ketosis, lowered blood prothombin, and fibrogen.

MSDS

FIRE FIGHTING MEASURES

Fire: Slight fire hazard when exposed to high heat; otherwise, practically not flammable.

Explosion: Sealed containers may rupture when heated.

Fire Extinguishing Media: Use any means suitable for extinguishing surrounding fire.

Special Information: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

ACCIDENTAL RELEASE MEASURES

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802. J. T. Baker SOLUSORB(R) solvent adsorbent is recommended for spills of this product.

HANDLING AND STORAGE

Keep in a tightly closed light-resistant container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Wear special protective equipment (Sec. 8) for maintenance break-in or where exposures may exceed established exposure levels. Wash hands, face, forearms and neck when exiting restricted areas. Shower, dispose of outer clothing, change to clean garments at the end of the day. Avoid cross-contamination of street clothes. Wash hands before eating and

do not eat, drink, or smoke in workplace. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product. Chloroform odor threshold: 250 mg/m³. The odor threshold only serves as a warning of exposure; not smelling it does not mean you are not being exposed.

Personal Respirators (NIOSH Approved): If the exposure limit is exceeded and engineering controls are not feasible, wear a supplied air, full-facepiece respirator, airlined hood, or full-facepiece self-contained breathing apparatus. Breathing air quality must meet the requirements of the OSHA respiratory protection standard (29CFR1910.134). This substance has poor warning properties.

Skin Protection: Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection: Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

TOXICOLOGICAL INFORMATION

Toxicological Data: Chloroform: oral rat LD50: 908 mg/kg; skin rabbit LD50: > 20 gm/kg; inhalation rat LC50: 47702 mg/m³/4H; irritation data: skin rabbit 10 mg/24H open mild; eye rabbit: 20 mg/24H moderate; investigated as a tumorigen, mutagen, reproductive effector.

NOTE

The above details constitute part information of MSDS taken from Canadian Centre for Occupational Health and Safety. For complete MSDS write to MIS division, Central Labour Institute, Sion, Mumbai.400022. MSDS on about 1,20,000 chemicals/materials are available with Central Labour Institute. Computer printout will be supplied on nominal charge basis.

ANNOUNCEMENTS

**TRAINING PROGRAMMES
APRIL TO JUNE 2006
CENTRAL LABOUR INSTITUTE, SION,
MUMBAI-400 022**

| <i>Programme title</i> | <i>Contact person</i> |
|---|---|
| Associate Fellowship of Industrial Health | Director (Medical) & Incharge Indl. Medicine Division |
| Management of Occupational Stress for improving Safety, Health & Productivity at Work. | Director (Physiology) & Incharge Indl. Physiology Division |
| On the job Counselling Skills | Director (Indl. Psychology) & Incharge Indl. Psychology Division |
| Workshop on Industrial Ventilation | Director (Physiology) & Incharge Environmental Engg. Division |
| Effective Supervision for Results | Director (Staff Trg./Productivity) & Incharge Productivity Division |
| Selection & Quality Assurance for effective use of PPE. | Director (Indl. Hygiene) & Incharge Indl. Hygiene Division |
| Refresher course for Safety Officers | Director (Safety) & Incharge Indl. Safety Division |
| Risk Management in Process Industries | Director (Indl. Hygiene) & Incharge Major Accident Hazard Advisory Division |
| Industrial Fatigue- its evaluation & management for ensuring Safety, Health & Productivity at Work. | Director (Physiology) & Incharge Indl. Physiology Division |
| Motivation for Safety, Health and Productivity | Director (Indl. Psychology) & Incharge Indl. Psychology Division |
| Training Methodology for Trainers | Director (Staff Trg./Productivity) & Incharge Staff Training Division |

INDOSHNEWS JANUARY-MARCH 2006

ANNOUNCEMENTS

| <i>Programme title</i> | <i>Contact person</i> |
|--|---|
| Workshop on Industrial Noise | Director (Physiology) & Incharge Environmental Engg Division |
| Industrial Hygiene Techniques | Director (Indl.Hygiene)&Incharge Indl.Hygiene Division |
| Industrial Fitness, a Key to Improve Safety,Health & Productivity at work | Director (Physiology) & Incharge Indl.Ergonomics Division |

**TRAINING PROGRAMMES
APRIL TO JUNE 2006
REGIONAL LABOUR INSTITUTE , NO.1,SARDAR PATEL ROAD
ADYAR, CHENNAI-600 113**

| <i>Programme title</i> | <i>Contact person</i> |
|---|-----------------------|
| Safety in Chemical Industries | Director In-charge |
| Refresher Course on Occupational Health | Director In-charge |
| Training Programme on Safety Management in Engineering Industries | Director In-charge |
| Workshop on Monitoring of Work Environment | Director In-charge |
| Training Programme on Management of Hazardous Substances | Director In-charge |
| Diploma in Industrial Safety | Director In-charge |
| Safety Audit | Director In-charge |
| Major Accident Hazard Control in industries | Director In-charge |
| Certificate Course in Safety & Health for Supervisory Personnel engaged in Hazardous Process | Director In-charge |

INDOSHNEWS JANUARY-MARCH 2006

ANNOUNCEMENTS

| | |
|--|--------------------|
| Lifting Tackles | Director In-charge |
| Identification, Assessment & Control of Major Hazards | Director In-charge |

**TRAINING PROGRAMMES
APRIL TO JUNE 2006
REGIONAL LABOUR INSTITUTE , LAKE TOWN
KOLKATA-700 089**

| Programme title | Contact person |
|---|-------------------|
| Associate Fellowship of Industrial Health | Director Incharge |
| Prevention and Control of Fire in Industry for Worker Members of Safety Committee | Director Incharge |
| Workshops on Monitoring of Work Environment | Director Incharge |
| Safety Engineering and Environment Management | Director Incharge |
| Techniques of Hazards Identification & Assessment | Director Incharge |

**TRAINING PROGRAMMES
APRIL TO JUNE 2006
REGIONAL LABOUR INSTITUTE, SARVODAYA NAGAR
KANPUR- 208 005**

| Programme title | Contact person |
|--|-------------------|
| Training programme on Prevention & Control of Fire in Industry | Director Incharge |
| Training programme on Personal Growth for Safety & Health in Industry | Director Incharge |

INDOSHNEWS JANUARY-MARCH 2006

इंडोश्नेट

भारत सरकार का श्रम मंत्रालय व्यवसायिक सुरक्षा और स्वास्थ्य सूचना प्रणाली पर इंडोश्नेट नामक राष्ट्रीय नेट वर्क का विकास कर रहा है। श्रम मंत्रालय का एक संबद्ध कार्यालय, कारखाना सलाह सेवा एवं श्रम संस्थान महानिदेशालय इस नेट वर्क प्रणाली के सफल कार्यान्वयन में सहायता देता है। इस नेट वर्क का उद्देश्य व्यवसायिक सुरक्षा और स्वास्थ्य संबंधी राष्ट्रीय जानकारी सुदृढ़ करना और लाभहानि रहित आधार पर इसका आदान-प्रदान करना है ताकि हमारे समग्र सूचना स्रोतों का परस्पर लाभ के लिए उपयोग हो सके। आपस में सूचना या जानकारी की यह सहभागिता केवल राष्ट्रीय स्तर तक ही सीमित नहीं होगी बल्कि इसमें अंतर्राष्ट्रीय स्रोत भी शामिल होंगे। इस जानकारी का आदान-प्रदान ई-मेल के साथ-साथ डाक/कुरियर सेवा द्वारा किया जाएगा। यदि औद्योगिक संगठनों, संस्थानों, उद्योग संघों, मजदूर संघों, व्यवसायिक निकायों और गैरसरकारी संगठनों के पास व्यवसायिक सुरक्षा स्वास्थ्य संबंधी कोई जानकारी हो और वे राष्ट्रीय और अंतर्राष्ट्रीय स्तर पर उक्त जानकारी बाँटना चाहते हों तो कारखाना सलाह सेवा एवं श्रम संस्थान महानिदेशालय की ओर से इस नेट वर्क के सदस्य के रूप में भाग लेने के लिए उनका स्वागत है। इच्छुक इकाइयों संगठनात्मक रूपरेखा संबंधी प्रोफार्मा के लिए महानिदेशक, कारखाना सलाह सेवा एवं श्रम संस्थान महानिदेशालय, केंद्रीय श्रम संस्थान भवन, एन.एस.मंकीकर मार्ग, सायन, मुंबई-४०० ०२२ से संपर्क करें।

टिप्पणी : जिन इकाइयों ने हमारे पहले आग्रह के संदर्भ में संपर्क किया है और निर्धारित प्रोफार्मा में रूपरेखा भेज दी है, वे दुबारा आवेदन न करें।

नेशनल रेफरल डायग्नोस्टिक सेंटर

भौतिक, रासायनिक, जैविक तथा मनो-सामाजिक जैसे विभिन्न कारणों से कामगारों पर होने वाले विपरीत स्वास्थ्य प्रभावों की रोकथाम और नियंत्रण करने के लिए व्यावसायिक स्वास्थ्य विकार और व्यावसायिक रोगों की शीघ्र पहचान और उसका निदान एक प्रमुख पहलू है। व्यावसायिक रोगों का शीघ्र पता लगाने और निदान करने के लिए केंद्रीय श्रम संस्थान, मुंबई के औद्योगिक चिकित्सा प्रभाग के अधीन 'नेशनल रेफरल डायग्नोस्टिक सेंटर' कार्यरत है जो व्यावसायिक स्वास्थ्य समस्याओं / व्यावसायिक रोगों की रोकथाम / नियंत्रण के लिए आवश्यक उपायसुझाता है। प्रभावित कामगारों की चिकित्सीय जाँच के लिए यह निदान केंद्र पूर्णतया सज्जित है और यहाँ श्वास/धमनी संबंधी जाँच, श्रव्यता मापन, ई.सी.जी., टिट्मस दृष्टि जाँच, जैविक निगरानी आदि के लिए सुविधाएँ उपलब्ध हैं। कारखाना चिकित्सा अधिकारी, ई.एस.आई. डॉक्टर, कारखानों के चिकित्सा निरीक्षक सहित व्यावसायिक चिकित्सक तथा मेडिकल कॉलेज और अस्पतालों के प्रमाणित शल्य चिकित्सक और डॉक्टर व्यावसायिक रोगों के संदेहास्पद रोगी, निदान और परामर्श के लिए इस केंद्र में भेज सकते हैं। इस मामले में अधिक जानकारी के लिए महानिदेशक, कारखाना सलाह सेवा एवं श्रम संस्थान महानिदेशालय, केंद्रीय श्रम संस्थान भवन, एन.एस.मंकीकर मार्ग, सायन, मुंबई-४०० ०२२ से संपर्क करें।

INDOSHNET

Ministry of Labour, Government of India, is developing a National Network on Occupational Safety and Health information system known as INDOSHNET. Directorate General Factory Advice Service & Labour Institutes (DGF ASLI), an attached office of the Ministry of Labour will act as a facilitator of the network system. The objective of the network is reinforcement and sharing of national occupational safety and health (OS & H) information on no-profit no-loss basis with a view to pooling our information resources for mutual benefit. The sharing of information will not only confine to the national level but also includes international sources. The communication of information will be through E-mail as well as postal/courier service. DGFASLI invites industrial organisations, institutions, industry associations, trade unions, professional bodies and non-governmental organisations having information on OS & H and willing to share the same with others at the national and international level to participate as members in the network. Interested agencies may please write for proforma of organisational profile to Director General, DGFASLI Central Labour Institute Bldg., N.S. Mankikar Marg, Sion, Mumbai 400 022.

Note: Those who have responded to our earlier communication and sent organisation profile in the prescribed format need not write again

NATIONAL REFERRAL DIAGNOSTIC CENTRE

Early detection and diagnosis of occupational health disorders and occupational diseases is one of the most important factors in the prevention and control of adverse health effects on workers due to various factors - physical, chemical, biological and psycho-social. The Industrial Medicine Division of Central Labour Institute, Mumbai runs a National Referral Diagnostic Centre (N.R.D.C.) for early detection and diagnosis of occupational diseases and recommends necessary measures for prevention/control of occupational health problems/occupational diseases. The diagnostic centre is well equipped for medical examination of the exposed workers and facilities are available for carrying out special investigation, e.g. Pulmonary function tests, Audiometry, ECG, litmus vision test, Biological monitoring, etc. Medical professionals including Factory Medical Officers, ESI Doctors, Medical Inspectors of Factories and Certifying Surgeons, Doctors from Medical Colleges and Hospitals can refer suspected cases of occupational diseases to N.R.D.C. for diagnosis and advice. The communication should be addressed to the Director General, DGFASLI, Central Labour Institute Bldg., N.S. Mankikar Marg, Sion, Mumbai -400022 for further details.

‘इंडोश्न्यूज़’ एक त्रैमासिक समाचार पत्र है जो व्यावसायिक सुरक्षा और स्वास्थ्य के क्षेत्र में अनुसंधान, ध्यान और सर्वेक्षण के माध्यम से उपलब्ध जानकारी तथा तत्संबंधी विचार विनिमय में अत्यंत सहायक है । कारखाना सलाह सेवा एवं श्रम संस्थान उन व्यक्तियों, उद्योगों, औद्योगिक संगठनों, मज़दूर संघों और व्यावसायिक निकायों से लेख आमंत्रित करता है जिनके पास व्यावसायिक सुरक्षा एवं स्वास्थ्य संबंधी जानकारी है तथा जो उसे स्वेच्छा से दूसरों में बाँटना चाहते हैं ।

१. प्रकाशन के लिए पांडुलिपि की दो प्रतियां 'डबल स्पेस' में ए-४ आकार के कागज़ पर एक ओर टाइप किए गए लेख जो ३ या ४ पृष्ठ से अधिक न हों, मुख्य संपादक के पास भेजी जानी चाहिए । कोई फ़ोटो छपा नहीं जाएगा ।
२. प्रकाशन के लिए स्वीकृत पांडुलिपियों में प्रकाशन की दृष्टि से आवश्यक संपादकीय परिवर्तन रने का अधिकार प्रकाशक का है । प्रकाशक बिना कोई कारण बताए लेख का प्रकाशन नहीं भी कर सकता है ।
३. लेखक अपने लेख में दिए गए आँकड़े तथा संदर्भ स्वयं सुनिश्चित करने में सावधानी बरतें ।

INDOSHNEWS is a quarterly newsletter that facilitates exchange of ideas and data developed through research, study and surveys in the areas of occupational safety and health. DGFASLI invites articles from individuals, industry, industrial associations, trade unions, professional bodies etc. having information on OS & H and willing to share the same with others at the national and international level.

- 1. Manuscripts for publication should be typed in double space within 3 to 4 A4 size sheets only on one side of the paper and sent in duplicate to the Editor-in-Chief. No photographs can be published.**
- 2. Once the manuscripts are accepted for publication, publisher reserves the right to make editorial changes as may be necessary to make the article suitable for publication; and publisher reserves the right not to proceed with publication for whatever reason.**
- 3. Authors should take care to ensure the accuracy of data and reference.**

भारत सरकार, श्रम मंत्रालय
कारखाना सलाह सेवा एवं श्रम संस्थान महानिदेशालय

कारखाना सलाह सेवा एवं श्रम संस्थान महानिदेशालय इंडीजीफासलीट भारत सरकार के श्रम मंत्रालय का एक संबद्ध कार्यालय है। कारखानों और गोदी में व्यावसायिक सुरक्षा और स्वास्थ्य संबंधी नीति बनाने के लिए तथा कार्य स्थलों पर कामगारों की सुरक्षा, स्वास्थ्य, दक्षता संबंधी मामलों पर राज्य सरकारों और कारखानों को परामर्श देने की दृष्टि से १९४५ में भारत सरकार के श्रम मंत्रालय के अधीन डीजीफासली की स्थापना की गई थी। यह महानिदेशालय देश के प्रमुख पत्तनों में सुरक्षा एवं स्वास्थ्य संबंधी नियम भी लागू कराता है।

कारखाना सलाह सेवा और श्रम मंत्रालय संस्थान महानिदेशालय इंडीजीफासलीट के निम्नलिखित अंग हैं:

- मुंबई स्थित मुख्यालय;
- मुंबई स्थित केंद्रीय श्रम संस्थान और
- कोलकाता, चेन्नई, फरीदाबाद और कानपुर स्थित क्षेत्रीय श्रम संस्थान।

मुंबई स्थित केंद्रीय श्रम संस्थान समाजार्थिक प्रयोगशाला के रूप में कार्य करता है और यह मानवीय पहलुओं से संबंधित औद्योगिक विकास के सभी पक्षों के वैज्ञानिक अध्ययन का एक राष्ट्रीय संस्थान है।

पिछले ३३ वर्षों में केंद्रीय श्रम संस्थान का केवल आकार की दृष्टि से ही नहीं बल्कि महत्ता की दृष्टि से भी विकास हुआ है और इसने राष्ट्रीय तथा अंतर्राष्ट्रीय स्तर पर मान्यता प्राप्त की है। एशिया और पैसिफिक क्षेत्र में व्यावसायिक सुरक्षा और स्वास्थ्य पर सर्वोत्कृष्ट प्रशिक्षण केंद्र के रूप में अंतर्राष्ट्रीय श्रम संगठन ने मान्यता प्रदान की है। यह सीआईएस अंतर्राष्ट्रीय व्यावसायिक सुरक्षा और स्वास्थ्य सूचना केंद्र टके राष्ट्रीय केंद्र तथा राष्ट्रीय सुरक्षा एवं स्वास्थ्य जोखिम सतर्कता प्रणाली के केंद्र के रूप में कार्य करता है। राष्ट्रीय स्तर पर सरकार को अनुसंधान और प्रशिक्षण सुविधा उपलब्ध कराने और श्रम मंत्रालय के तकनीकी सहायक के रूप में कार्य करने के अलावा यह संस्थान अध्ययन, तकनीकी परामर्श, प्रशिक्षण और सूचना प्रसार के माध्यम से औद्योगिक पत्तन सेक्टर को गहन और बहु-आयामी सेवा उपलब्ध कराता है। इसके अधीन, व्यावसायिक विकारों की शीघ्र पहचान और उसके नियंत्रण और रोकथाम के लिए रेफरल डायग्नोस्टिक सेंटर कार्यरत है। सुरक्षा और स्वास्थ्य से संबंधित स्तरीय यू-मैटिक वीडियो फिल्मों के निर्माण के लिए परिष्कृत उपकरणों से सज्जित एक आधुनिक ऑडियो विजुअल स्टूडियो उपलब्ध है। केंद्रीय श्रम संस्थान के लघु रूप में क्षेत्रीय श्रम संस्थान हैं जो अपने संबद्ध क्षेत्रों की आवश्यकता पूरी करते हैं।

निरंतर बढ़ती माँग को देखते हुए, इस संगठन का आगे विकास हो रहा है। किसी विकासशील देश में विभिन्न और जटिल प्रकृति के उद्योगों की बढ़ी संख्या को देखते हुए, कामगारों की सुरक्षा और स्वास्थ्य एक चुनौतीपूर्ण कार्य है। तकनीक, औद्योगिक समाज की साख और समर्पित कर्मचरियों से सज्जित यह संगठन भविष्य की चुनौतियों का सामना करने में सक्षम है। कार्य स्थल सुरक्षित बनाने के अपने लक्ष्य के लिए यह संगठन प्रतिबद्ध है।

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ABOUT DGFASLI

GOVERNMENT OF INDIA, MINISTRY OF LABOUR & EMPLOYMENT DIRECTORATE GENERAL FACTORY ADVICE SERVICE & LABOUR INSTITUTES

The Directorate General Factory Advice Service & Labour Institutes (DGFASLI) is an attached office of the Ministry of Labour & Employment Government of India. DGFASLI organization was set up in 1945 under the Ministry of Labour, Government of India to serve as a technical arm to assist the Ministry in formulating national policies on occupational safety and health in factories and docks and to advise State Governments and factories on matters concerning safety, health, efficiency and well-being of the persons at workplace. It also enforces safety and health statutes in major ports of the country.

The Directorate General Factory Advice Service & Labour Institutes (DGFASLI) comprises:

- * Headquarters situated in Mumbai
- * Central Labour Institute in Mumbai
- * Regional Labour Institutes in Kolkata, Chennai, Faridabad and Kanpur

The Central Labour Institute in Mumbai functions as a socio-economic laboratory and is a national institute dealing with the scientific study of all aspects of industrial development relating to the human factors.

Over the years the Central Labour Institute has constantly grown not only in size but also in stature and has earned national and international recognition. It has been recognised by the International Labour Organisation as a Centre of Excellence in training on Occupational Safety and Health in the Asian and Pacific Region. It also functions as a National Centre for CIS (International Occupational Safety and Health Information Centre) and the Centre for National Safety and Health Hazard Alert System. At the national level, apart from providing research and training support to the Government and functioning as a technical arm of the Ministry of Labour, the institute provides comprehensive and multi-disciplinary services to the Industrial Port sector through studies, technical advice, training and dissemination of information. It also runs National Referral Diagnostic Centre for early detection of occupational disorders and thereby controls and prevents them. It has a modern Audio Visual Studio fully equipped with sophisticated video production equipment to produce quality U-matic video films on Safety and Health. The Regional Labour Institutes are a scaled-down version of the Central Labour Institute and cater to the needs of their respective regions.

The organization is poised to grow further, and meet the increased demands on it. In a developing country with a large number of industries having diverse and complex nature, the task of protecting safety and health of workers is an uphill task. Armed with the technology, good will of the industrial society and the strength of the dedicated staff, the organization is well prepared to meet the challenges of tomorrow. It is committed to the goal of making the workplace safer.

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INDOSHNEWS JANUARY-MARCH 2006