

Occupational & Environmental Health

**Address
by**

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Environmental Health**

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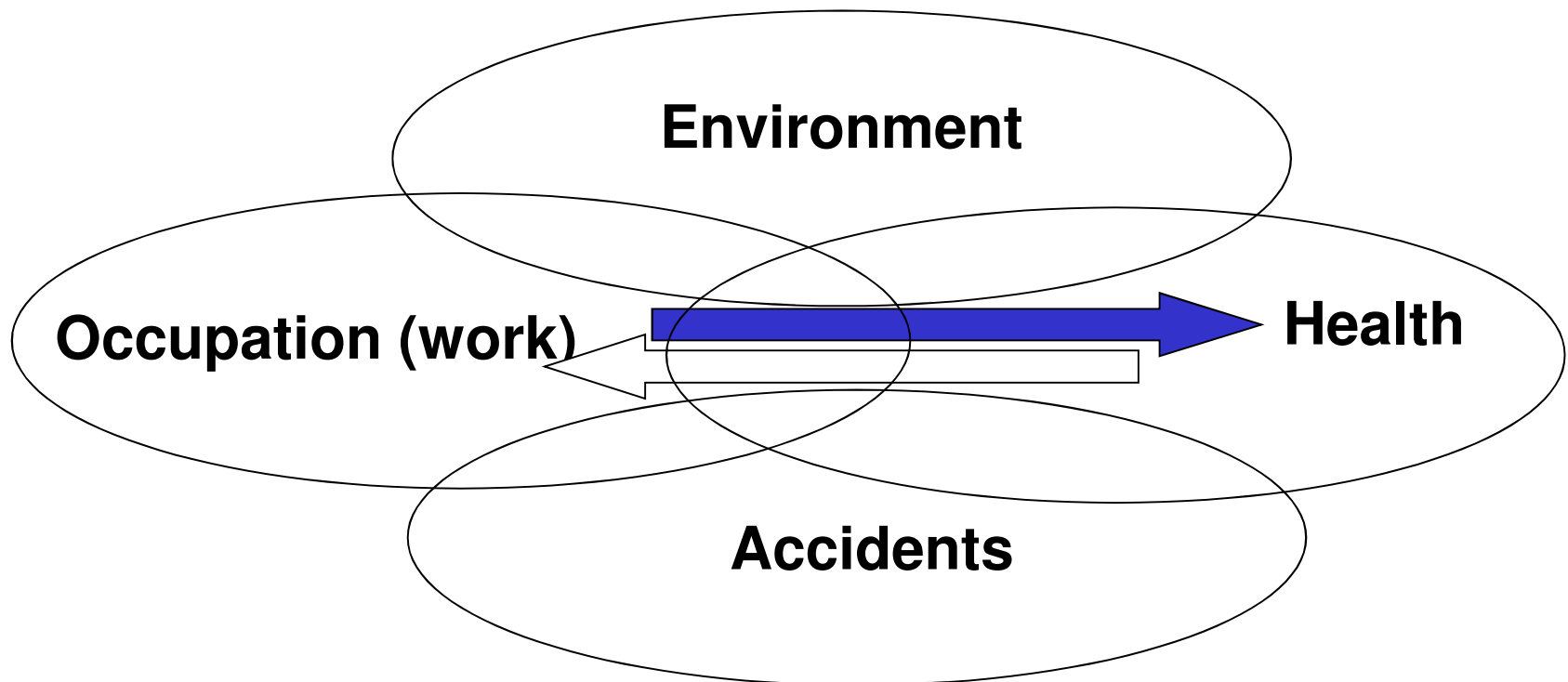
OCCUPATIONAL HEALTH

**PHYSICAL, MENTAL & SOCIAL WELL
BEING IN RELATION TO WORK AND
WORK ENVIRONMENT.**

Care Without Scare...!

What is Occupational Health?

- ❑ Health problems arising from or pertaining to work
- ❑ Health of people at work
- ❑ The Health of the gainfully employed
- ❑ Relationship between Occupation (work) & Health



Occupational Diseases

- ✓ All occupational diseases can be prevented.
- ✓ Occupational diseases have a long latent period.
- ✓ Some occupational diseases cannot be treated.

Good physical conditions & mental health results in low occupational injury rates

OCCUPATIONAL HAZARDS

- Physical Hazards
- Chemical Hazards
- Biological Hazards
- Mechanical Hazards
- Psychosocial Hazards

“ What the mind does not know, the eyes do not see”

ROUTES OF EXPOSURE

- INHALATION
- INGESTION
- SKIN ABSORPTION



Gas, Vapour,
Aerosol, Dust,
Fume, Smoke,
Mist, Fog



Eating, Smoking

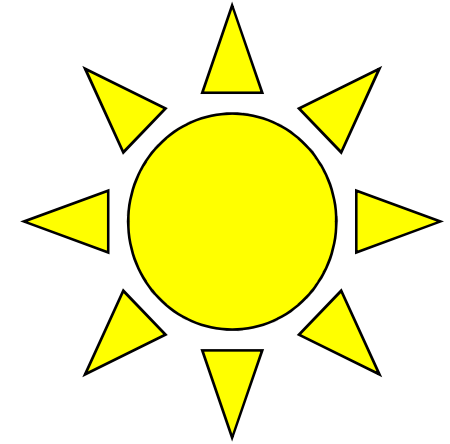


Primary irritants, Allergy,
Systemic toxicity

OCCUPATIONAL DISEASES

Diseases due to Physical Agents:

- **Heat** - Heat stroke, Burns
- **Cold** - Frost bite
- **Light** - Cataract
- **Pressure** - Caisson disease, Air embolism



Sound occupational Health is Industry's wealth

OCCUPATIONAL DISEASES

Diseases due to Physical Agents:

- **Noise** - Hypertension, Irritability, Stress
- **Vibration** - Neuromuscular diseases, Peripheral vascular diseases
- **Radiation** - Leukemia, Aplastic anemia
- **Mechanical** - Injuries, Accidents
- **Electricity** - Electric shock, Burns



OCCUPATIONAL DISEASES

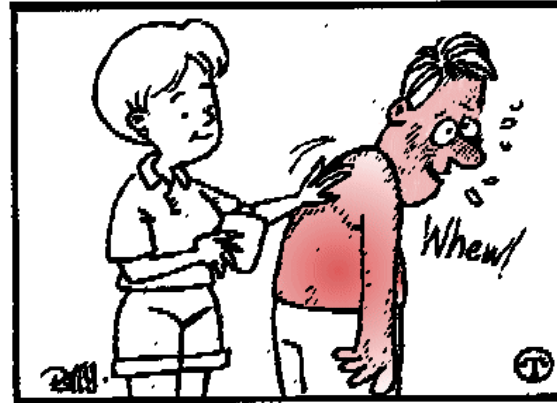
Diseases due to Chemical Agents:

- **Gases** - CO, CO₂, H₂S, Fuel Gas
- **Dusts** - Pneumoconiosis
- **Metals** - Lead
- **Chemicals** - Acids, Alkalies, Ammonia, DMDS
- **Solvents** - Benzene, Toluene, Naphtha

Disease due to dust (From Catalyst) - Asthama



Musculo-skeletal problems



- Due to Excessive load on the muscles, ligaments, tendons and bone.
- Due to Insufficient circulation to the Musculoskeletal system.
- Work that requires activity of a small group of relatively weak muscles (such as continuous use of fingers of the dominant hand in data entry).

Common sites for Musculo-skeletal problems

- Neck
- Forearm
- Wrist
- Fingers
- Back
- Knee

COMPUTERS / VDU

- Repetitive Strain Injury - Tenosynovitis, Tendinitis, Tennis Elbow, Carpal Tunnel Syndrome, Trigger Finger
- Musculoskeletal Problems in Neck, Shoulder & Upper Limbs
- Visual Fatigue & Eye Problems
- Bifocals & Computers
- Skin Diseases
- Low Back Pain
- Effects of Shift Work



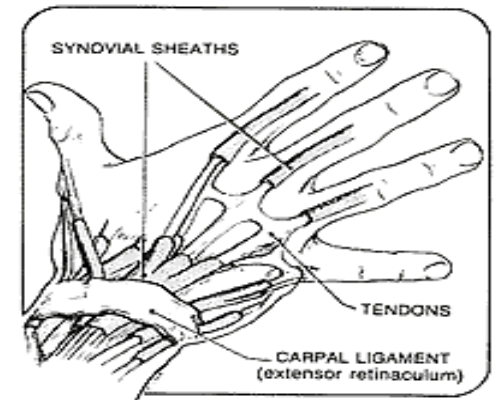
Occupational health & Computer work

- Musculo-skeletal problems
- Ocular problems
- Reproductive problems
- Skin problems
- Psychosocial problems
- Lifestyle problems



Repetitive Strain Injury

- Muscular stress caused by the frequent, repetitive use of the same muscle throughout the day.
- Accustomed and unaccustomed repetitive work with hands.
- Work that involves repeated wrist flexion or extreme extension, particularly in combination with forceful pinching.
- Repeated forces on the base of the palm or wrist.

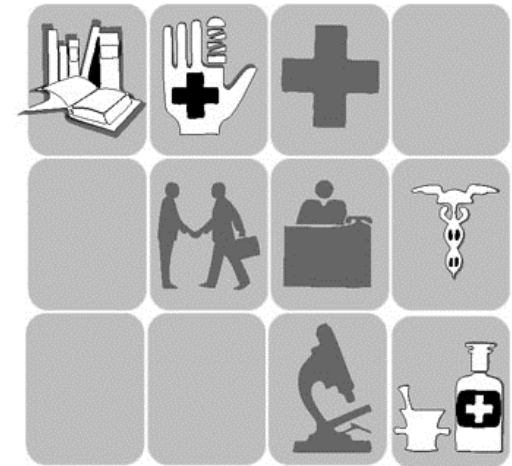


Elements of Occupational Health Services

- Medical treatment
- Assessment and control of work environment
- General preventive health measures
- Preventive medical examinations

Prevention of Occupational Health Hazards

- Administrative Measures
- Engineering Measures
- Ergonomics
- Medical Measures



Ergonomics

The IEA divides ergonomics broadly into three domains:

- **Physical ergonomics:** working postures, materials handling, repetitive movements, work related musculoskeletal disorders, workplace layout, safety and health.
- **Cognitive ergonomics :** mental workload, decision-making, skilled performance, human-computer interaction, human reliability, work stress and training as these may relate to human-system design.
- **Organizational ergonomics:** communication, crew resource management, work design, design of working times, teamwork, community ergonomics, cooperative work, new work programs, virtual organizations, telework, and quality management.

Goals Of Ergonomics

- ✓ Improve quality of working environment engineered to the capabilities of the human body
- ✓ Increase efficiency and productivity by reducing fatigue.
- ✓ Prevention of Occupational injury & illness.
- ✓ Work quality improvement.

➤ Proactive Ergonomics

Vs

➤ Reactive Ergonomics

MEDICAL MEASURES – OISD-GDN-166

- Pre-employment medical check up
- Periodic medical examination
- Health promotion
- Health education
- Specific protection
- Assessment of risk by supervision of working environment

a healthier workforce will be a safer workforce

Pre-employment Medical Examination

- To determine the physical and emotional capacity of the individual to perform the job.
- To provide base line health data for epidemiological and legal purposes.
- To counsel the person for correction of diseases / habits which may harm later.
- Assessment of pre-existing toxicity / impairment due to past exposure, if any.



Pre-placement Medical Examination

HAZARD

UNDESIRABLE CONDITIONS

Lead

Anaemia, Hypertension, Peptic ulcer

Dyes

Asthma, Skin & Kidney disease

Solvents

Liver & Kidney disease, Alcoholism

Silica

Tuberculosis, Chronic lung disease

X rays / Radium

Blood diseases

Periodic Medical Examination

- Evaluation of general health status.
- Earliest detection and prevention of work related disorders.
- Early detection, control and prevention of any health disorder which may affect the ability to perform the job.
- To detect deviation in health status from base line data.
- Detection of infectious / communicable diseases which may affect others.

Common Concerns

- Shift Work
- Emotional Stress
- Ergonomic
- Slips, trips, falls
- Violence ?

Preventive Measures

- ✚ Universal Precautions
- ✚ Training & Education
- ✚ Medical Surveillance
- ✚ Immunization
- ✚ Identify, Monitor & Control exposures
- ✚ Stress Management
- ✚ Violence Prevention Program

Occupational & Environmental Health

To Summarize

Personal Health & Personal Safety

Each essential to a productive worker & to a productive work place & effectively combined in a symbiotic manner that increases their impact on overall health & productivity.

Activity is to be incorporated in workplace health protection are

- Assessing workers health status
- Addressing personal health risk.
- Early recognition & treatment of injury or illness.
- Job Safety Initiative & efforts to create culture of health & safety
- Promoting overall health & preventing workplace injuries & illness

HEALTHIER WORKFORCE BECOMES A SAFER WORKFORCE & VICE VERSA