



# Pakistan Oilfields Limited

## HSE Bulletin

### September, 2021

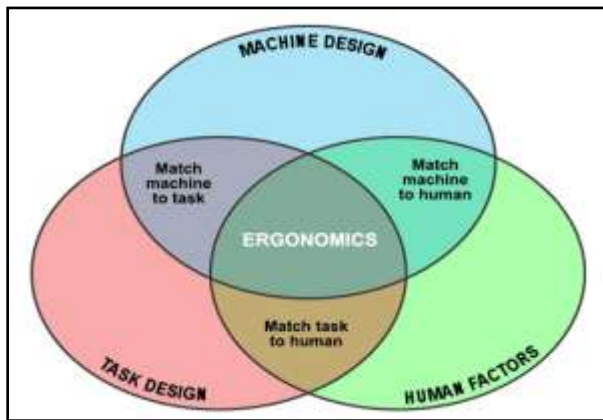
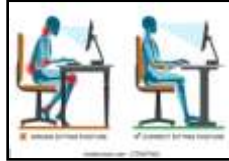


## "FORGET THE LOOK, IMPROVE THE ERGONOMICS"

### **WORKPLACE ERGONOMICS**

#### **What is Workplace Ergonomics?**

Workplace ergonomics is the science of designing the workplace, keeping in mind the capabilities and limitations of the worker. A workplace ergonomics improvement process removes risk factors that lead to musculoskeletal injuries and allows for improved human performance and productivity.



#### **Why Ergonomics is important**

Ergonomics is sometimes overlooked when thinking about potential hazards that exist in the workplace. The injuries caused by poor ergonomics are not as obvious as injuries caused from falls from heights or dangerous chemicals. However ergonomics injuries can be very serious and long term if left uncontrolled. Long term damage often leads to:

- Eye sight problems
- Hearing disabilities
- Persistent back injuries
- Musculoskeletal disorders (MSD)

A musculoskeletal disorder (MSD) is strain, sprain or inflammation that accumulates over time in the muscles, ligaments, tendons, joints or nerves and does not heal easily.

#### **Types of Ergonomics**

There are three types of ergonomics as follow: Physical, Cognitive and Organizational. If these are addressed then each of these contributes not only

to organizational success but also to worker satisfaction.

#### **Physical Ergonomics:**

Physical ergonomics focuses on injury prevention through design and evaluation of workplaces, including postures, manual tasks and repetitive movements. In addition to reducing injuries, physical ergonomics also focuses on how to increase productivity and reduce quality issues and error.



#### **Cognitive Ergonomics**

Cognitive ergonomics is the field of study that focuses on how well the use of a product matches the cognitive capabilities of users. It draws on knowledge of human perception, mental processing and memory.



#### **Organizational Ergonomics**

Organizational ergonomics refers to the optimization of social technical systems, including their organizational structures, policies and processes. It includes the study of technology's consequences on human relationships, processes and institutions.



#### **Hazards of Ergonomics**

Followings are details of some Ergonomic hazards:-

- **Improperly adjusted workstations and chairs**

An improperly adjusted workstation or chair or sitting for prolonged periods may leads to slouch. This posture creates a poor lumbar curve as well as a rounded upper back. This causes the head and shoulders to



move forward and places more pressure on the upper back and neck.

### Frequent lifting and repetitive movements:

Although most lifts and movements don't cause injury, however continual strain on the body from frequent lifting



and repetitive movements takes a toll. Over time, these repetitive actions can contribute to reduced work quality and productivity and can cause fatigue, injury and pain.

### Noise and Vibration:

There is evidence that workers who are exposed to vibration and noise at the same time are more likely to suffer hearing loss more than workers those are exposed to the same level of noise alone. Exposure to both vibration and noise increases musculoskeletal and hearing problems.



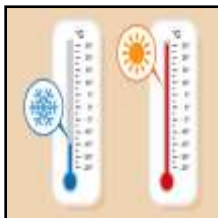
### Poor lighting

Poor lighting can affect the quality of work, specifically in situation where precision is required and overall productivity. Poor lighting can be a health hazard. Too low light cause eye discomfort and headaches.



### Thermal Discomfort

Thermal discomfort includes persistent working in poorly ventilated areas, direct sunlight without heating / cooling mechanism. Thermal discomfort is not just a lack of satisfaction with the ambient temperature but reflects a situation where there is risk to health when the temperature falls below 18 °C or rises above 24°C.



### Manual handling:

Manual handling means transporting or supporting a load by hand or bodily force. Manual handling refers to any activity requiring the use of force by a person to lift, lower, push, pull, hold or restrains something. Putting boxes on shelves, painting, gardening, cleaning, writing and typing are



some examples of manual handling tasks.

### Consequence of Ergonomic Hazards

- Musculoskeletal disorders.
- Back injuries muscle strains and low back injuries.
- Headaches and fatigue etc.
- Stiff neck.
- Trigger finger and Tendinitis.
- Rotator cuff injuries (affects the shoulder).
- Epicondylitis (affects the elbow).

### Safety Precautions Ergonomics

The workplace should be suitable for user. کام کی جگہ صارف کے لیے موزوں ہونی چاہیے۔
Use the frequent rest and breaks to avoid fatigues. تھکاوٹ سے بچنے کے لیے آرام اور وقفوں کا استعمال کریں۔
Refrain from carrying by hand items that are too heavy. بھاری چیزوں کو ہاتھ میں اٹھا کر لے جانے سے گریز کریں۔
Select tools that are ergonomically designed for comfort. ایسے آلات کا انتخاب کریں جن سے کام کرنے میں آسانی ہو۔
Use the lifting/ carrying device to lift and reposition heavy objects to limit force exertion. مشقت کو محدود کرنے کے لیے بھاری اشیاء کو اٹھانے اور انکی جگہ تبدیل کرنے کے لیے لفٹنگ مشینری کا استعمال کریں
Ensure that machinery and power tools are properly maintained to reduce excessive vibration and noise. یقینی بنائیں کہ مشینری اور برقی آلات کی مناسب دیکھ بھال کی جائے اور ہر استعمال سے پہلے تصدیق کریں
Wear appropriate clothing depending on the weather and ensure adequate amount of water intake in all seasons. موسم کے لحاظ سے مناسب لباس پہنیں اور ہر موسم میں پانی کی مناسب مقدار کو یقینی بنائیں۔
Replace faulty bulbs without delay and Add more light fixtures if you find difficulty in performing work. ناقص بلب کو تاخیر کے بغیر تبدیل کریں اور اگر آپ کو کام کرنے میں دشواری ہو تو مزید لائٹ فیکسچر شامل کریں۔
Use five (05) principles (plan, position, pick, proceed and place) to reduce the risk of manual handling. مینول ہینڈلنگ کے خطرے کو کم کرنے کے لیے پانچ (05) اصول (پلان، پوزیشن، اٹھاؤ، چلو اور رکھو) استعمال کریں