

## **Ergonomics in Hotels – The Need of the Day**

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### **Abstract**

*In this competitive market modern organizations set targets for their employees. The organizations operate for longer periods compared to they used to operate years back. Employees are given targets to achieve within set time frame. This situation leaves the human force with no choice for the working conditions. They get no time to think or evaluate about the situations they are working within. The management also, in most cases, overlooks the factors related to human comfort. For same surroundings two different employees may need different ergonomic solutions because no two persons are alike. Whenever there is a change in the working area in terms of employee, furniture, environment, new ergonomic solution is required. If not taken care, this would result in fatigue within the employees, both physically and mentally. Concept of Ergonomics deals with body friendly working situations. The employees may be willing to work but the unfavourable conditions make them tired within a very short period.*

*In the hotel industry employees work in different areas to provide the modern facilities to the guests. But while creating the facilities for the guests, they compromise with the adverse working conditions. The adverse condition may be created by forced awkward body posture, unhealthy movements, uncomfortable temperature, illumination, humidity, air-quality etc.*

*Most of the areas, which are considered major in the Hotel Industry, are reviewed from ergonomics point of view to find out suitable solutions to benefit both the employees and the employer. This would suggest the management with user friendly and easily implementable options as solutions. Overall evaluation of the working conditions followed by appropriate ergonomic solution would help to create a healthy organization.*

**Key words:** Ergonomics, Hotel, MSD, Employee, Comfort, Posture

### **1. Introduction**

The term ergonomics is derived from two Greek words ergo (work) and nomois (law). This indicates the relation between work and natural laws of well being. The concept of ergonomics, if properly implemented, human force would perform in much better way in any organization. Activities in any organization has few factors which may or may not be controlled. We can mould the controllable factors to fit the employees and benefit the organization in the long run.

Management of any organization can evaluate the working condition and modify the situation as per the guidance of an ergonomic expert. This may not involve huge investment but would result in great profit in future. By creating a situation friendly to the worker, the management not only wins the heart of the employees but also maximize the yield indirectly. Ergonomic changes have manifold benefits.

Hotel industry is also no exception from other industries. Rather, as it has varieties of activities performed under the same roof, thus, has more provisions for implementing ergonomics in various areas. It is observed that employees in hotel industry are generally always overloaded with work pressure. They compromise with their comfort level while providing comfort situation for the guests. The employees required to work for long hours. Situations become worse when they work in unhealthy working conditions for long periods. If these continue for days, the work force may collapse without prior notice. When properly monitored, management may get some hint from the report of injury level, sick leave etc. Simple ergonomic solutions may bring changes in the working conditions to benefit all. Employees would be able to perform in much better way without being fatigue. The ergonomic solutions may be of various kinds. It may consider change in body posture and position of the employees in some areas or changing the equipment orientation in some cases. It can be implemented with the help of small tools like extended rod, stool, foot rest etc. to make the worker comfortable at his/her work. Changing surrounding temperature, illumination, air-quality etc. can also benefit a lot.

All these changes may not invite huge investment but can create a positive working environment with maximum yield for the management.

## **2. Objective**

The main aim and objective of the topic are :

- To create awareness about Ergonomics
- To identify various Ergonomic Problems in the Hotel Industry
- To recommend possible ergonomic solutions against the problems

## **3. Review of literature**

Globally, a great deal of work is done on ergonomics. But unfortunately this area in our country is somehow little neglected. Literature on ergonomics found in our country generally lack in information related to hotel industry. Some of the books used the term ergonomics indirectly in some chapters without complete explanation of its benefits.

## **4. Research methodology**

After visiting various hotels and consulting with the employees, a great amount of information related to awareness of Ergonomics are collected. Mostly it is found that the Middle Level Management and the Operation Level Employees have almost no idea about ergonomics and its effect. But when explained, it is found that they are seriously eager to follow and experience these concepts for simple healthy reasons.

However, among the Top Level Management, the concept of ergonomics found to be mostly clear. But they never took it seriously and never visualised its future benefits. Cost factors for implementing ergonomical solutions also found to be grey area among the Top Level Management. On explanation, they also eagerly agreed to implement the same in the concerned areas.

## **5. Scope of study**

Providing facility for the guests in the main target in the hotel industry. But to create these facilities, the employees are forced to work in very difficult situations. In our country the rules, regulations and their monitoring system does not benefit the health of the employees in most cases. Generally ignorance about ergonomics among the employees may be its main cause.

By educating the Top Level Management of the Hotel Industry in light of ergonomics would help to achieve a solution for this problem. Once the Top Level Management is convinced, the concept would percolate to the other levels as required. Related Workshops, Seminars, Training Sessions etc. may be very helpful.

## **6. Discussion**

Employees of different departments work in different situations. Sometimes they work with equipment which makes them uncomfortable. Comfort of the employees is generally overlooked. Considering the situation, we can modify the working environment and condition fit for the employees.

In hotel industry employees work in various types of environments. Sometimes these are not very friendly for the physical working conditions. Actions may be taken to make the unfavourable conditions suitable for working. Ergonomics readjusts the existing working conditions to fit the persons working there. One would find too many variations in working conditions in a hotel. Considering the core areas of Hotel Industry, some suitable ergonomic solution are suggested for the employees.

### **8.1 Front Office**

Staffs of Front Office require standing for long hours in confined work place. It is advised to rest one leg by keeping that on an elevated platform designed at the back side of the counter which is not visible to the guests standing at the front side of the counter. A foot rail is ideal for this purpose. The employee should alternate the leg by keeping the other foot on the footrest. Height of the counter should be such that the employee can do the desk work (writing) with his/her spine straight. In the work station the height of the table and chair should be adjusted with the physical structure of the employee. In seating position the feet should rest flat on the floor or on the foot board. Back of the chair should give full support to the back bone so that the spine is straight and in upright position. Thigh bone should be at 90° to the back and ankle joint also should be at 90°. Head should be comfortably straight. Arms should be positioned with the support of the arm rest. A sliding tray for computer key board is advised. Working table should be arranged in such a way that the most useful items are kept within 25 cm from the body. Next priority items should be kept within the distance of 50 cm. beyond this level generally we should keep items which we seldom require for operation.

### **8.2 F&B Service**

From ergonomic point of view, staffs of F&B Service department face similar situation compared to Front Office staffs during working hours. They also require standing for long hours depending on the need. The staffs should maintain proper body posture to avoid unnecessary musculoskeletal disorder. While standing for long hours during duty in the

Banquets or in the Restaurant, body weight should be shifted from one leg to other even if foot rest / rail is not available. While carrying the load, the article should be held close to body as far as possible. This would create less strain on the muscle & bones.

### **8.3 Housekeeping**

Housekeeping staffs work under various working conditions. They approach to all corners of the hotel for cleaning and maintaining job. Sometimes the Housekeeping staffs engage themselves for lifting and shifting heavy articles. Working in uncomfortable body posture for long duration is also very common. The staffs should be trained and guided for their job properly so that they keep their body in comfortable position for the long working hours. This can be achieved by changing the working styles or sometimes the equipment. For example, broom with long handle helps to keep the body posture straight which prevent from developing back pain. Instead of bending forward, sitting down to reach lower level e.g. floor, would also protect from back pain.

Various chemicals in the form of cleaning & polishing agent are handled by housekeeping staffs. The staffs should be guided properly regarding the composition of the material they are using. Safety devices like gloves, masks etc. should be used.

### **8.4 Kitchen**

Food production area is a place where employees should work very cautiously. They deal with hot utensils, hot liquids (water based & oil based) and even fire. Beside these, various sharp equipments are also used. Within this area the staffs are supposed to do repetitive work in extreme environmental condition. This area should be controlled by skilled professionals who would also train the juniors so that work can be performed with ease and causes less musculoskeletal disorder. Kitchen is a place where temperature fluctuation is also noticed (Hot ranges, ovens and Walk-in-Coolers). Chef's Uniform protects the staffs from all these adverse situations that they may face here.

### **8.5 Uniform**

Uniform creates uniformity. It should be designed keeping the nature and profile of the job in mind. Training should be arranged to motivate staffs for use of uniform. The staff should develop a sense of respect towards his/her uniform. A well tailored uniform not only makes the staff look smart, but also protects them from the occupational environment which may not be very comfortable. Uniform should fit individuals so that each person can work without any discomfort.

Though shoe is a part of uniform, special care should be taken while selecting it for the employees. Depending on the working area and nature of work, shoe should be chosen. Protective shoes are required in areas like kitchen, maintenance, laundry, store etc. whereas in other public areas formal shoes are preferred. Throughout the shift, employees are required to wear the shoes. They should fit well and be comfortable.

## 7. Ergonomics & Musculoskeletal Disorder (MSD)

We work in various conditions of environments which may not be suitable to our body. The conditions may involve repeated action (physiological), improper position, uncomfortable temperature, unhealthy air quality, noise and also improper illumination. Inappropriate time in relation to our body's biological clock may have significant effect. All these conditions force our body to compromise with unhealthy conditions. If any remedial action is not taken, these factors would affect various parts of human body like muscle, joints, tendons, ligaments, nerves etc. This would create a situation called Musculoskeletal Disorder. Due to wrong posture or non ergonomic situations, our body or its parts may show symptoms like pain, fatigue or discomfort. This may be noted as the first signal of MSD.

Beside these, due to compromised working conditions, our eyes and ears may also be affected. Together all these uneasiness and discomforts would multiply in the long run and may result in other complications like Blood Pressure Disorder, Spondylitis, Spondylosis and even Diabetes.

Employees face MSD in various parts of their body. These include joints like neck, shoulder, back bone, elbow, finger, knee, ankle etc. By changing posture, position of the body or of the tools and equipment, fatigue of some muscle and joints can be avoided. Taking a break from the repetitive nature of job is also very helpful.

Various reasons which develop MSD are as follows :

- Applying Force
- Lifting & Carrying Weight
- Pushing & Pulling heavy article
- Awkward prolong posture
- Repetitive activities
- Overhead works
- Stretching body to reach difficult places
- Vibration (from machines)
- Temperature Variations

To overcome MSD, following measures can be taken in the Hospitality industry :

<b>Situation / Body Parts</b>	<b>Possible Solution</b>	<b>Concerned Areas in Hotel</b>
Bent spine & awkward posture	<ul style="list-style-type: none"> <li>• Straight posture to reduce pressure on the back</li> <li>• Extension of equipment handle</li> <li>• Try to work within effective reach of the body (25cm to 50cm)</li> </ul>	<ul style="list-style-type: none"> <li>• Kitchen</li> <li>• House Keeping</li> <li>• Maintenance</li> <li>• F&amp;B Service</li> <li>• Front Office</li> </ul>
Seat	<ul style="list-style-type: none"> <li>• Chair with proper under support</li> <li>• Back seat with lumber support</li> <li>• Arm rest at comfortable height</li> </ul>	<ul style="list-style-type: none"> <li>• F&amp;B service (Room Service)</li> <li>• Back Office</li> <li>• Front Office (Back Side)</li> </ul>
Long standing hours / Foot	<ul style="list-style-type: none"> <li>• Foot Rest or Foot Rail for long hour standing jobs in confined area</li> </ul>	<ul style="list-style-type: none"> <li>• Front Office</li> <li>• F&amp;B Service</li> </ul>
Extended Arm & Bent Wrist	<ul style="list-style-type: none"> <li>• Modified equipment handle for straight wrist</li> </ul>	<ul style="list-style-type: none"> <li>• Kitchen</li> <li>• House Keeping</li> </ul>

		<ul style="list-style-type: none"> <li>• F&amp;B Service</li> </ul>
Lifting & Carrying Weight	<ul style="list-style-type: none"> <li>• Ask for help or use device like trolley</li> <li>• Try to carry with both hands. It balances the pressure equally</li> </ul>	<ul style="list-style-type: none"> <li>• Kitchen</li> <li>• House Keeping</li> <li>• F&amp;B Service</li> </ul>
Tilted Head & Neck	<ul style="list-style-type: none"> <li>• Keep them straight and upright position</li> </ul>	<ul style="list-style-type: none"> <li>• Front Office</li> <li>• F&amp;B Service</li> </ul>
Repetitive movement of Muscle	<ul style="list-style-type: none"> <li>• Change posture, position of body to engage different sets of muscle</li> </ul>	<ul style="list-style-type: none"> <li>• Kitchen</li> <li>• House Keeping</li> <li>• F&amp;B Service</li> </ul>

## 8. Intangible factors

Besides MSD, employees may be exhausted due to other intangible factors like illumination, noise, temperature, humidity etc.

### 10.1 Illumination

Insufficient light in the working area may be responsible for accidents. If the work stations are not properly illuminated, employees would develop eye strain which in turn would result in headache. Similarly too much glare may also irritate the eye and is equally uncomfortable.

It is advised to use soft, indirect light with proper reflector and shade depending upon the need of the area and activity. Position of the light should be such that working area gets illuminated but no glare reaches to eyes. It is also suggested to use natural light as far as possible during day time.

### 10.2 Noise

Unpleasant sound is termed as noise. Within the hotel building, in some areas like Air Conditioning Plant, Generation Room etc, the sound level is found to be too high. Some times in some public entertainment areas also the sound level is very high. These loud noises damage the health of all persons within the range in different ways. Even if the sound is not very loud, but continuous for hours, irritates the persons who have to work in that area. These result in distraction of mind, difficulty in concentration, fatigue, stress, blood pressure etc. More pressure on larynx as staffs required to shout in noisy area.

Noisy areas can be isolated by sound absorbing barriers. Machines should be regularly checked and serviced so that they produce less noise. Awareness should be created among the staffs and even the guests about ill effect of sound pollution. Staffs should be provided with ear plug to protect auditory system.

### 10.3 Temperature and humidity

Temperature and humidity have direct control over the comfort feeling of human being. We feel comfortable within the temperature range of 23°C to 26°C in summer and 20°C to 23.5°C in winter (as generally we put on woolen garments in winter). But this is highly relative and varies from person to person. This factor depends on the origin, up-bringing,



body weight, structure and other physical factors. Physical fitness and illness may also have direct effect on the comfort feeling. If the temperature is too low, we tend to sit with an un-relaxed posture. These postures may be responsible for MSD in future. High temperature would make us exhausted. Body fluid would be lost. Thus again we would feel uncomfortable. Humidity level, if maintained at 30% to 60%, it would be very comfortable. But again the temperature should also be maintained within comfort zone. Low relative humidity causes uneasiness like thirst, eye irritation, nose irritation, dry and cracked lips etc. If relative humidity is on the higher side, it would be very uncomfortable as we would sweat a lot. For this reason only Air Conditioning is not enough for maintaining comfortable environment. Management of any organisations should understand and implement proper HVAC (Heating Ventilation Air Conditioning) system.

#### **10.4 Indoor air quality**

Indoor Air Quality is of great concern nowadays in any organization. Employees work in confined areas for hours. If purified air is not supplied, the staffs will be exhausted within very short period of time. Air quality in closed area may deteriorate due to release of various chemicals from surfaces like furniture paint, wall finish, carpet, doormat etc. Dampness, which may cause due to improper ventilation and faulty Air Conditioning system, also accelerate growth of moulds within closed areas. The poor quality air thus created becomes responsible for the following irritations among the staffs :

- Eye, nose and throat irritation
- Headache
- Dry skin
- Mental fatigue, trouble in concentrating
- Nausea, dizziness etc.

The air quality can be checked and purified to make the staffs comfortable in their working area. Ergonomic solution can be done by taking measures in the following areas :

- Proper HVAC system
- Installing Air purifier
- Identify possible sources of dampness and rectifying them
- Using Eco-Friendly paints & Cleaning agents

### **9. Advantages of implementing Ergonomic solutions**

Implementation of Ergonomic solutions has manifold advantages. Some which are listed below :

- Reduces accidents
- Less MSD & injuries
- Healthy employees
- Increases effective working hour
- Increases productivity as the employees are less sick
- Moral value of the employees increases
- Strengthen Employer – Employee relationship
- Reduces cost in the long run

The management enjoys benefit, both directly and indirectly. Payment towards insurance premium and treatments are the direct costs for the management. Where as payment for

overtime, extra staff hiring, new staff training which may be required to compensate injured or sick employees are considered as indirect cost. Both can be reduced with proper implementation of Ergonomic solutions.

## 10. Conclusion

Creating awareness about Ergonomics would benefit both the Employer and Employees. The environment in the organization would be a healthy one. Employees would love to work in such an environment and Management would find it very easy to control and satisfy the Human Force. Implementation of ergonomic solution is only possible when the environmental condition is combined with proper training and practices. The management should design the furniture and surrounding with the help of professional ergonomic experts. At the same time Seminar, Workshop, Training Sessions etc. should arranged for the employees so that they can enjoy the total benefit of the changes in the working environment.

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