

# Ergonomics at the Workplace

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**Abstract**—Ergonomics is based on the principle of building better workplaces. It is a stream of science which primarily deals with creating the jobs and the workplaces which match to the capabilities of people resulting in better working experience. The approach of Ergonomic principles helps in tackling various musculoskeletal issues of the employees working in various places. Ergonomics focus on creating the workplaces where the chances of various health issues such as the physical or cognitive issues can be minimized as the employees have to spend very longer periods of time in their workplaces subjecting them to face physical, cognitive, mental or morphological issues. Therefore Ergonomic principles can be used to design the workplaces which can aim at the convenient and people -friendly spaces which in turn can lead to the improved functioning of the workforce. Optimal Ergonomics and posture are essential components of physical well-being and workplace productivity. Proper posture reduces musculoskeletal strain, minimizes the risk of chronic pain, and enhances respiratory and circulatory efficiency. Ergonomics, when applied effectively in environments such as offices or industrial settings, helps in aligning workspace with human capabilities, thereby preventing injury and improving performance. Exercise plays a critical role in supporting ergonomic health. Strengthening the core, improving flexibility, and maintaining joint mobility contribute to better posture and reduced fatigue. Regular physical activity counteracts the detrimental effects of prolonged sitting or repetitive tasks. The effects of poor ergonomics and posture can be far-reaching, including back and neck pain, repetitive strain injuries, decreased concentration, and long-term disability. Conversely, good ergonomics and posture contribute to improved energy levels, better focus, and overall health.

## I. INTRODUCTION



Fig.1

The word Ergonomics stand for the Science of work. The word is derived from the Greek word Ergon (work) and Nomos (laws). Ergonomics is the process of designing or arranging workplaces, and systems suitable for the people who use them. Ergonomics applies to the design of anything that involves people – workspace, sports and leisure, health and safety. Ergonomics aims to improve workspace and environments to minimize the risk of injury or harm.



Fig.2

Maintaining good posture and proper ergonomics is crucial for reducing the risk of injuries in the workplace. When you prioritize ergonomics, you not only protect your body but also boost your productivity and performance at work. Many workers experience discomfort or injuries due to poor posture, which can lead to missed days and decreased efficiency. In today's fast-paced work environment, it's easy to overlook how your body position affects your overall well-being. Poor ergonomics can lead to musculoskeletal disorders, impacting your ability to work effectively. By learning about proper posture and ergonomic practices, you can create a healthier workspace that enhances your comfort and reduces the likelihood of injury. Understanding the importance of posture and ergonomics empowers you to take control of your work environment. Small adjustments to your seating arrangement, desk height, and computer setup can make a significant difference in preventing injuries. The present paper discusses some of the essential tips and strategies which can help the working people prioritize their health while

working while ensuring their long-term success. Poor workplace ergonomics can lead to a range of common injuries, including repetitive strain injuries, back pain, and neck stiffness, which are often caused by prolonged static postures and repetitive tasks without proper support. Conditions like carpal tunnel syndrome, tendinitis, and herniated discs are frequently preventable with ergonomic improvements. Incorporating regular movement and stretching throughout the workday—such as taking short breaks, using standing desks, or performing desk stretches—can greatly enhance circulation, reduce muscle tension, and boost focus. Creating an ergonomic workspace involves adjusting your chair for lumbar support, positioning your monitor at eye level, and keeping your wrists straight while using a keyboard and mouse. Adequate lighting also plays a vital role in reducing eye strain. Over time, good ergonomic practices can lead to reduced fatigue, fewer headaches, and improved energy levels. Companies that prioritize ergonomics often benefit from lower absenteeism and higher employee satisfaction. Ultimately, maintaining proper ergonomics is a continuous effort that pays off through better health and a more productive work environment which is the need of the day.



Fig.3

Poor posture can alter the natural 'S' shape of the spine. This causes excess pressure in the wrong areas, reducing the spine's shock-absorbing ability and increasing the risk of injury. Slouching strains the upper and lower back. Wrong body posture can lead to developing symptoms such as pain between the shoulder blades and in the lower back after prolonged sitting. Hunched shoulders and forward head posture can also strain the neck muscles triggering frequent headaches. Misaligned posture prevents full muscle relaxation during sleep. Mostly it has been observed

that the employees working in the workplaces generally ignore their body health due to the long working hours and workload notwithstanding the facts that by adopting the consistent wrong body postures and poor sitting habits can compresses abdominal organs. This can slow digestion and cause stomach problems. Bad posture can make the people feel physically uncomfortable and mentally disengaged. It's also linked to lower self-esteem and reduced productivity. Therefore, it becomes necessary to follow a physical health regime which can include stretching the body in specific ways and following the Yoga stretches and modules in order to keep the body fit and active. A few of such beneficial poses recommended for good health and physique are mentioned here.

Child's Pose:



Fig.4

## II. CONCLUSION

As already discussed, the implementation of Ergonomic principles while designing the workplace can go a long way in solving the various health related issues of the employees which in turn can result in the better productivity and improved performance. The absence of a well-designed work environment can certainly invite the hazards such as the extreme temperatures, and the awkward sitting positions from poorly designed work areas and tools can also badly impact the performance of work activities. Ideal posture is not about adhering to a rigid or ideal standard but about understanding how human bodies naturally adapt and interact with various environments and tasks. Each person's posture is influenced by factors such as body structure, movement habits, and occupational demands. Rather than striving to "correct" posture to meet a single definition of what is ideal, the focus should shift toward enhancing postural awareness, by encouraging frequent movement, and promoting postural variability. This approach supports the body's need for flexibility and responsiveness, which

are essential for preventing discomfort and injury. Fostering good posture should go hand in hand with broader efforts to support overall health, including regular exercise, stress management, and mindful workplace ergonomics. By embracing these principles, individuals can improve their comfort, efficiency, and long-term well-being in both professional and personal settings.

#### REFERENCES

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