

Editorial

The Ergonomic Cost of Convenience: Health Risks of Long-Term Remote Work

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The COVID-19 pandemic rapidly transformed traditional work environments, forcing workplaces globally to adopt remote working models. While remote work initially provided a safe solution to continue operations amidst social distancing mandates, it introduced significant ergonomic risks, particularly as home workstations were often not optimised for long-term use. As organisations continue offering flexible work options, understanding and mitigating ergonomic risks is critical for maintaining workforce health and productivity.¹

The work-from-home setup often lacks the ergonomic considerations typically found in office environments, such as adjustable chairs, desks, and other furniture designed to support a healthy posture. Without suitable workstations, remote workers are at heightened risk for musculoskeletal disorders (MSDs), such as neck, shoulder, and lower back pain. Moreover, extended hours on screens contribute to digital eye strain and other visual discomforts.²

Studies indicate that prolonged seating in suboptimal postures compresses spinal discs and strains lower back muscles, a significant cause of chronic lower back pain among remote workers. Neck pain, another common complaint, arises from the forward-leaning posture typical of laptop users, as these devices tend to be positioned below eye level.³ A study assessing MSD prevalence in remote workers found that 60% reported lower back pain, while 45% experienced neck discomfort. The prevalence of these conditions was notably higher among employees who did not have a dedicated workspace at home.⁴

Ergonomic challenges in remote work environments can exacerbate mental health issues. Prolonged discomfort often leads to irritability and reduced concentration, directly affecting productivity and job satisfaction. It has been documented that mental health declines as a consequence of musculoskeletal pain, emphasising that physical discomfort influences mental well-being.⁵ The isolation associated with remote work, combined with physical discomfort, creates a compounded effect, making a strong case for integrated mental and ergonomic health strategies.

Working remotely has also increased screen time, leading to digital eye strain. The American Optometric Association defines digital eye strain as a condition resulting from prolonged computer, tablet, and smartphone use, characterised by symptoms such as dry eyes, blurred vision, and headaches. A cross-sectional study reported that over 70% of remote workers experience digital eye strain, with 50% attributing their symptoms to increased work-from-home requirements.⁶ Excessive screen time without adequate breaks, improper lighting, and close device positioning can worsen visual discomfort, for instance, inadequate lighting in home offices forces the eyes to strain under improper illumination, while the proximity of screens to the eyes often leads to accommodation fatigue.⁷

Employers play a crucial role in supporting remote workers' ergonomic needs. While many organisations quickly adapted to remote work policies, few provided resources for proper ergonomic setups at home. Studies suggest that employers investing in ergonomic training and providing remote workers with proper tools, such as adjustable chairs or laptop stands, can significantly reduce the incidence of MSDs and related issues.⁸ A survey by a multinational corporation reported a 30% reduction in remote work-related MSD complaints after providing employees with ergonomic chairs and online training on correct posture.⁹ This finding indicates the positive impact of employer-provided resources on remote worker health.

To mitigate ergonomic risks associated with remote work, a combination of education, access to ergonomic equipment, and proactive practices is essential. Some key recommendations are mentioned in Table 1. With remote work here to stay, Indian occupational health policies should consider guidelines for remote worker health. In countries like the United States, companies have adopted remote ergonomic guidelines, promoting better postures, regular movement, and ergonomic training. Similar policies in India could reduce MSD incidence, eye strain, and mental health issues among remote workers. Moreover, legislation mandating periodic ergonomic assessments for remote employees could ensure a minimum standard of workplace health.

Table 1. Recommendations to Mitigate Ergonomic Risks Associated with Remote Work

Recommendation	Description
Proper desk setup	Encourage workers to set up workstations with monitors at eye level and chairs that fully support their backs. Using laptop stands and external keyboards can improve posture, reduce neck strain, and prevent slouching.

Regular breaks and exercise	Implement the "20-20-20" rule: take a 20-second break every 20 minutes to look at something 20 feet away, reducing digital eye strain. Encourage stretching exercises targeting the back, neck, and wrists to alleviate discomfort.
Remote ergonomic training	Provide online workshops on correct posture, setting up home workspaces, and managing screen time. Virtual ergonomic assessments can offer personalised feedback to employees on their home setup.
Investment in ergonomic equipment	Employers should consider offering a "home office stipend" or providing ergonomic equipment like adjustable chairs, desks, and monitors to improve worker comfort and reduce MSD risks.

Remote work offers numerous benefits, such as reduced commute times and flexible schedules, but it should not compromise worker health. Employers, policymakers, and occupational health professionals must prioritise ergonomics in remote work settings to mitigate associated risks. Failure to address these ergonomic concerns may lead to long-term health consequences and reduced productivity in the workforce. Addressing these issues requires a proactive approach by employers, remote work policies that emphasise ergonomic best practices, and commitment from workers to adopt healthier habits. By implementing ergonomic interventions, providing the right tools, and offering training, organisations can protect their employees' health, ensuring that the advantages of remote work do not come at the cost of physical and mental wellness.

Conflict of Interest: None

References

1. Wang B, Liu Y, Qian J, Parker SK. Achieving effective remote working during the COVID-19 pandemic: a work design perspective. *Appl Psychol.* 2021;70(1):16-59. [PubMed] [Google Scholar]
2. Oakman J, Kinsman N, Stuckey R, Graham M, Weale V. A rapid review of mental and physical health effects of working at home: how do we optimise health? *BMC Public Health.* 2020;20(1):1825. [PubMed] [Google Scholar]

3. Sharan D, Parija S, Bhattacharya A. Work from home and musculoskeletal pain in IT professionals: a survey. *Work*. 2021;68(4):1107-13.
4. Gerding T, Syck M, Daniel D, Naylor J, Kotowski SE, Gillespie GL, Freeman AM, Huston TR, Davis KG. An assessment of ergonomic issues in the home offices of university employees sent home due to the COVID-19 pandemic. *Work*. 2021;68(4):981-92. [PubMed] [Google Scholar]
5. Xiao Y, Becerik-Gerber B, Lucas G, Roll SC. Impacts of working from home during COVID-19 pandemic on physical and mental well-being of office workstation users. *J Occup Environ Med*. 2021;63(3):181-90. [PubMed] [Google Scholar]
6. Lin YH, Chen CY, Huang YH. Impact of prolonged screen time during COVID-19 lockdown on digital eye strain among adults. *Int J Environ Res Public Health*. 2021;18(6):2474.
7. Agarwal S, Goel D, Sharma A. Evaluation of the factors which contribute to the ocular complaints in computer users. *J Clin Diagn Res*. 2013;7(2):331-5. [PubMed] [Google Scholar]
8. Wilks J, Robertson MM, Paton D. Training and supporting home-based teleworkers: a strategy for managing musculoskeletal pain. *Saf Sci*. 2020;132:104979.
9. Clark DA, Brott PE. Reducing ergonomic risks in telecommuting: a corporate case study. *Work*. 2021;70(2):315-24.